DECISION DOCUMENT

Steel Treaters, Inc.
Voluntary Cleanup Program
Troy, Rensselaer County
Site No. V00578
October 2017

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

DECLARATION STATEMENT - DECISION DOCUMENT

Steel Treaters, Inc.
Voluntary Cleanup Program
Troy, Rensselaer County
Site No. V00578
October 2017

Statement of Purpose and Basis

This document presents the remedy for the Steel Treaters, Inc. site, a voluntary cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and applicable guidance.

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

Description of Selected Remedy

The elements of the 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. Cover System

A site cover will be required to allow for commercial or industrial use of the site in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). The site cover may consist of paved surface parking areas, sidewalks, or a soil cover. Where a soil cover is to be used it will be a minimum of one foot of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d). In areas where building foundations or building slabs preclude contact with the soil, the requirements for a site cover will be deferred until such time that they are removed.

The upper one foot of exposed surface soil in the grass and wooded areas, which are mostly located in the southern wooded/undeveloped portion of the site, as depicted in Figure 2, meets the applicable SCOs. Therefore, a site cover would not be required in those areas to allow for commercial or industrial use.

3. Groundwater Treatment

The groundwater remedy includes:
- Installation of a Permeable Reactive Barrier (PRB) treatment wall in the northern portion the site to reduce contaminant concentrations in groundwater and mitigate, to the extent practicable, offsite migration of impacted groundwater. A PRB consists of treatment media, typically installed via trenching or injection, that treats contaminated groundwater as it flows through the media. The PRB would be keyed into the confining bedrock unit; and
- Installation of sealed sheet pile shoring along the eastern/northeastern portion of the site to direct groundwater towards the proposed PRB. The sheet pile shoring would be keyed into the confining bedrock unit.

Prior to the full implementation of this technology, studies will be conducted to more clearly define design parameters. If the studies determine that the treated groundwater does not or will not meet standards, criteria and guidance values (SCGs) using this technology alone, additional treatment will be conducted using other appropriate technologies.

4. 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 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.

5. Site Management Plan

A Site Management Plan is required, which includes the following:
a) An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Section 4 above.

Engineering Controls: The soil cover discussed in Paragraph 2 above, and the groundwater treatment discussed in Paragraph 3 above.

This plan includes, but may not be limited to:
- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- a provision should redevelopment occur to ensure no soil exceeding protection of groundwater concentrations will remain below storm water retention basin or infiltration structures;
- descriptions of the provisions of the environmental easement including any land use, and/or groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any buildings on the site or in areas of off-site contamination, 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 consistent with that described in Paragraph 2 above will be placed in any areas where the upper one foot of exposed surface soil exceeds the applicable soil cleanup objectives (SCOs);
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls 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 buildings 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 Department notification; and

- providing the Department 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.

10/13/17

Date

Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

Steel Treaters, Inc.
Troy, Rensselaer County
Site No. V00578
September 2017

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 Voluntary Cleanup Program (VCP) is a voluntary program. The goal of the VCP is to enhance private sector cleanup of brownfields by enabling parties to remediate sites using private rather than public funds and to reduce the development pressures on "greenfields." 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 repositories:

Troy Public Library
100 Second Street
Troy, NY 12180
Phone: 518-274-7071

NYSDEC
Attn: Javier Perez-Maldonado
625 Broadway
Albany, NY 12233
Phone: 518-402-9768

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 site is approximately 1.13 acres located in a suburban area of the City of Troy. The site is bounded by Campbell Ave. to the north, beyond which are commercial properties, a strip mall to the west, a wooded, steeply sloping lot to the east and a residential property to the south.

Site Features: The subject site formerly consisted of an 8,400 square foot building and associated paved parking and landscaping areas. The southern portion of the site remains wooded and undeveloped. The building, which was heavily damaged in a fire, was located approximately 20 feet from the eastern property boundary. A former pad mount transformer was located on the eastern portion of the parcel. The building has been demolished, but the concrete slab remains. The area is served by municipal water.

Current Zoning/Use(s): The subject site is zoned for industrial use and is located within an industrial district. The immediate neighborhood is comprised of a mixture of uses including commercial, industrial, and residential. The site has been vacant since a 2005 fire.

Past Use of the Site: Steel Treaters was a steel heat treating facility that began operations in 1966 as a manufacturer of a variety of specialty steel products. For a limited time, the company used chlorinated solvents in a small part of its manufacturing process.

Site Geology and Hydrogeology: Overburden at the site consists of several feet of granular fill material overlying silty and clayey lacustrine deposits. Shale bedrock at the site occurs at depths ranging from 4.5 to 25.8 feet below ground surface. The water table is in the overburden and ranges from just below ground surface to 6 feet below grade. The groundwater flow direction is northward, towards Campbell Avenue and Wynants Kill (creek).

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, at a minimum, alternatives (or an alternative) that restrict(s) the use of the site to commercial use

(which allows for industrial use) as described in DER-10, Technical Guidance for Site Investigation and Remediation were/was evaluated.

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 Department and Steel Treaters, Inc. (STI) entered into a Voluntary Cleanup Agreement VCA) on September 29, 2003. The property ownership was transferred to ESCO Corporation, STI's parent company and current property owner in 2012. The VCA obligates the Volunteer to implement activities designed to address environmental contamination at the site to ensure protection of human health and the environment. If identified, the Volunteer will also address any site-related contamination found off-site as appropriate.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

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

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

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

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or

that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. 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 contaminant(s) of concern identified at this site is/are:

1,1,1-trichloroethane (TCA)	trichloroethene (TCE)
cis-1,2-dichloroethene (cis-1,2-DCE)	tetrachloroethene (PCE)
barium	lead
cadmium	nickel
copper	

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

- groundwater
- soil

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document. IRMs have been conducted at the site during the course of the RI (2007 - 2017).

The IRMs outlined below have been completed at this site based on conditions observed during the RI. Initial investigation results identified significantly elevated TCE (main constituent of concern) concentrations in the vicinity of the former degreasing pit within the building (source area). However, the IRMs significant reduced soil and groundwater concentrations in the source area as follows: Maximum TCE soil concentration dropped from 1,700 part per million (ppm) to 2.1 ppm (vs. protection of groundwater soil cleanup objective of 0.47 ppm); maximum TCE groundwater concentrations dropped from 219,000 parts per billion (ppb) to 3,400 ppb (vs. groundwater standard of 5 ppb). Although the post-IRM sampling did not identify significant contamination concentrations in soil in the former degreasing pit, the most recent investigation showed the presence of TCE up to 120 ppm in samples from borings located northeast (downgradient) of the former degreasing pit and generally at depths below the water table.

In-Situ Chemical Oxidation IRM

Approximately 13,000 pounds of a proprietary chemical oxidant (RegenOX) was injected into three zones in the subsurface in the vicinity of the former degreasing pit (*i.e*, the source area). RegenOX is a chemical reducing agent that was injected into the subsurface to destroy the contaminants in the source area.

Soil Vapor Extraction (SVE) IRM

A SVE was implemented to remove volatile organic compounds (VOCs) from the subsurface in the vicinity of the former degreasing pit/source area. VOCs were physically removed from the soil by applying a vacuum to temporary extraction wells that were installed into the vadose zone (the area below the ground but above the water table). The vacuum draws air through the soil matrix which carries the VOCs from the soil to the SVE well. The air extracted from the SVE wells was then treated by passing it through activated carbon to absorb contamination in the extracted vapor prior to discharge to the atmosphere.

Soil Excavation IRM

Unsaturated soils from beneath the base of the degreasing pit, approximately four feet below the floor surface, were excavated to a depth of 8 feet. The excavation was backfilled with clean backfill, consisting of #2 stone. Excavated soil was placed in a dumpster and shipped to a permitted off-site disposal facility. A total of 16.76 tons of contaminated soil was delivered to the disposal facility.

6.3: Summary of Environmental Assessment

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

Nature and Extent of Contamination:

The site surface and subsurface was investigated for volatile organic compounds (VOCs), semi-VOCs (SVOCs), metals, polychlorinated biphenyls (PCBs), and pesticides. The primary contaminants of concern at the site include metals (primarily barium, cadmium, copper and lead) and volatile organic compounds (VOCs). Previous environmental investigation in the area revealed concentrations of metals and VOCs exceeding Standards, Criteria, and Guidance values in the soil and/or groundwater.

Post-IRMs soil samples were analyzed for VOCs, SVOCs, metals, PCBs and pesticides. Based on investigations to date, surface (0-2") and subsurface soils are contaminated with several

metals and VOCs (1,1,1 trichloroethane [TCA], tetrachloroethane [PCE], trichloroethene [TCE], and cis 1,2 dichloroethene [DCE]). Most metals contamination in soils is likely related to the presence of fill. Several surface soil samples taken from unpaved (e.g., wooded and grassy areas) portions immediately adjacent to the former building structure revealed maximum detections vs. applicable commercial soil cleanup objectives (CSCO) as follows: barium at 730 parts per million (ppm) vs. 400 ppm, cadmium at 15 ppm vs. 9.3 ppm, copper at 530 ppm vs. 270 ppm, lead at 7,400 ppm vs. 1,000 ppm, and nickel at 880 ppm vs. 310 ppm. Subsurface soil samples taken from the former degreasing pit and nearby downgradient areas, beneath the existing building slab, revealed maximum detections vs. applicable protection of groundwater soil cleanup objectives (PGWSCO) as follows: TCA at 1.8 ppm vs. 0.68 ppm, PCE at 2.2 ppm vs. 1.3 ppm, TCE at 120 ppm vs. 0.47 ppm, and DCE at 10 ppm vs. 0.25 ppm. Soil contamination has not extended off-site. The remaining analytes (SVOCs, PCBs, pesticides did not exceed applicable SCOs.

Groundwater sampling indicates VOCs (TCA, PCE and associated breakdown products) exceed Class GA groundwater standards. Post-IRMs groundwater samples were analyzed for metals and VOCs. Maximum groundwater detections currently on-site vs. standards are as follows: TCA at 690 parts per billion (ppb) vs. 5 ppb, PCE at 37 ppb vs. 5 ppb, TCE at 3,400 ppb vs. 5 ppb, and DCE at 310 ppb vs. 5 ppb. PCE and breakdown products above groundwater standards are migrating off site. The highest concentration of site-related VOCs found off-site was 26 ppb of cis-1,2-DCE (a breakdown product of TCE) (vs. 5 ppb groundwater standard). Metals did not exceed standards.

Elevated levels of VOCs were detected in soil vapor. Prior to the IRMs, the maximum concentrations of PCE and TCE in soil vapor were detected in vicinity of the former excavation area (former degreasing pit area) of the site at the respective concentrations of 2,100 micrograms per cubic meter (ug/m^3) and 1,200,000 ug/m^3. Post-IRMs soil vapor were not taken in the vicinity of the pit area. Post-IRMs soil vapor sampling detected concentrations of PCE and TCE at the property line at the respective concentrations of 200 ug/m^3 and 0.9 ug/m^3. Off-site soil vapor sampling showed concentrations of PCE and TCE in the northern sidewalk of Campbell Avenue at the respective concentrations of 21 ug/m^3 and 2.31 ug/m^3.

Additional sampling is planned for this heating season to determine whether actions are needed to address exposures related to soil vapor intrusion in off-site buildings.

6.4: Summary of Human Exposure Pathways

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

People who enter the site could contact contaminants in the soil by walking on the site, digging or otherwise disturbing the soil. People are not drinking the contaminated groundwater because 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 the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process,

which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. Environmental sampling suggests that off-site soil vapor intrusion may be a concern. Additional sampling has been recommended to evaluate this potential exposure pathway.

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 groundwater contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation exposure to contaminants volatilizing from soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater 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.

The selected remedy is referred to as the groundwater treatment and cover system remedy.

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

1. Remedial Design
A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;
- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Cover System
A site cover will be required to allow for commercial or industrial use of the site in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). The site cover may consist of paved surface parking areas, sidewalks, or a soil cover. Where a soil cover is to be used, it will be a minimum of one foot of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d). In areas where building foundations or building slabs preclude contact with the soil, the requirements for a site cover will be deferred until such time that they are removed.

The upper one foot of exposed surface soil in the grass and wooded areas, which are mostly located in the southern wooded/undeveloped portion of the site, as depicted in Figure 2, meets the applicable SCOs. Therefore, a site cover would not be required in those areas to allow for commercial or industrial use.

3. Groundwater Treatment
The groundwater remedy includes:
- Installation of a Permeable Reactive Barrier (PRB) treatment wall in the northern portion the site to reduce contaminant concentrations in groundwater and mitigate, to the extent practicable, offsite migration of impacted groundwater. A PRB consists of treatment media, typically installed via trenching or injection, that treats contaminated groundwater as it flows through the media. The PRB would be keyed into the confining bedrock unit; and

- Installation of sealed sheet pile shoring along the eastern/northeastern portion of the site to direct groundwater towards the proposed PRB. The sheet pile shoring would be keyed into the confining bedrock unit.

Prior to the full implementation of this technology, studies will be conducted to more clearly define design parameters. If the studies determine that the treated groundwater does not or will not meet standards, criteria and guidance values (SCGs) using this technology alone, additional treatment will be conducted using other appropriate technologies.

4. 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 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.

5. Site Management Plan

A Site Management Plan is required, which includes the following:
a) An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Section 4 above.

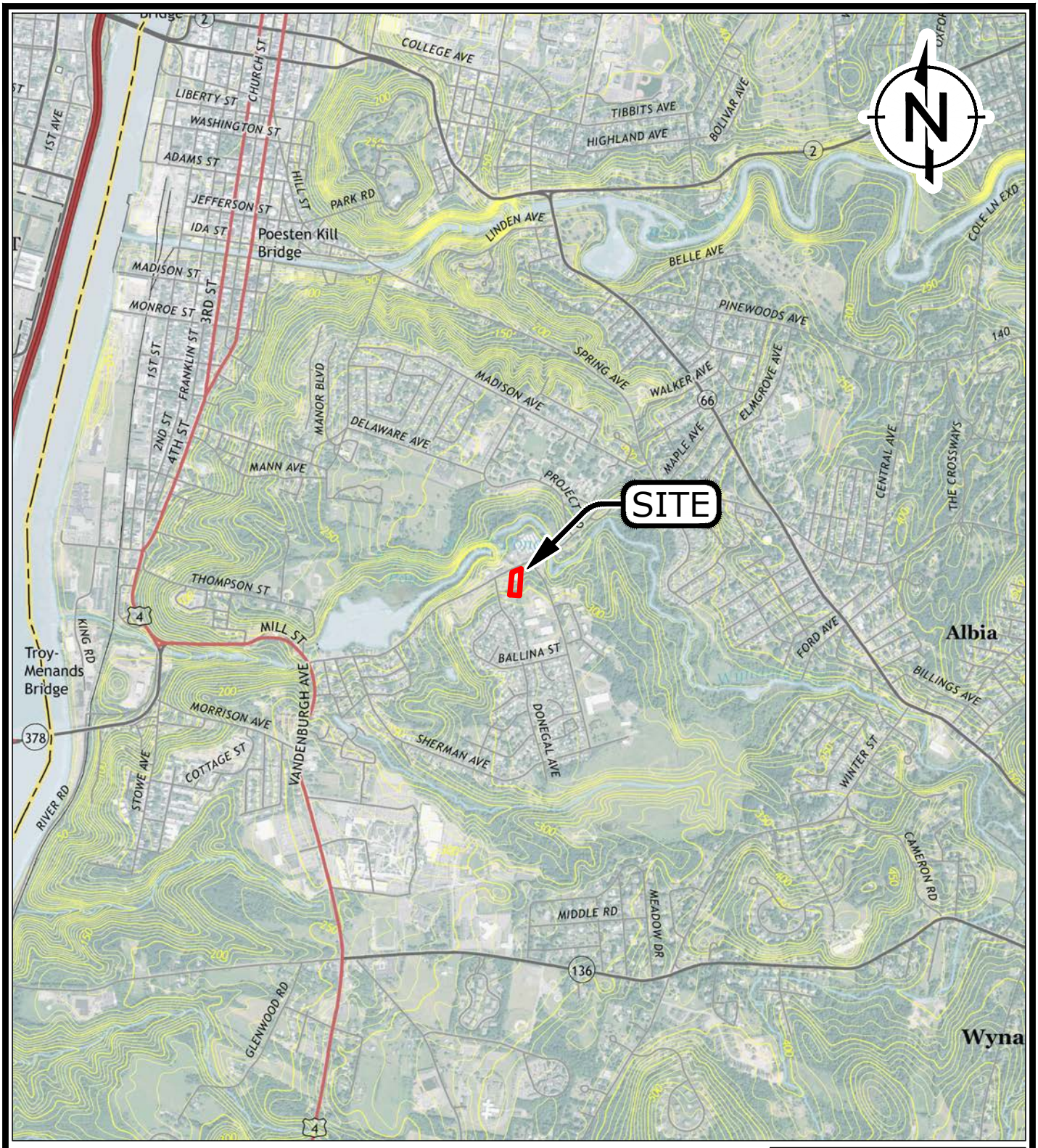
Engineering Controls: The soil cover discussed in Paragraph 2 above, and the groundwater treatment discussed in Paragraph 3 above.

This plan includes, but may not be limited to:
- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- a provision should redevelopment occur to ensure no soil exceeding protection of groundwater concentrations will remain below storm water retention basin or infiltration structures;
- descriptions of the provisions of the environmental easement including any land use, and/or groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any buildings on the site or in areas of off-site contamination, 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 consistent with that described in Paragraph 2 above will be placed in any areas where the upper one foot of exposed surface soil exceeds the applicable soil cleanup objectives (SCOs);
- provisions for the management and inspection of the identified engineering controls;

- maintaining site access controls 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 buildings, 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 Department notification; and
- providing the Department access to the site and O&M records.

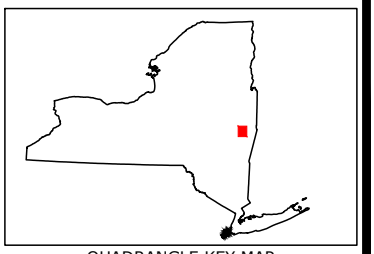


LEGEND:

PROPERTY BOUNDARY (APPROXIMATE)

0 1/2 1
SCALE IN MILES

2000 0 2000 4000
SCALE IN FEET



QUADRANGLE KEY MAP

SOURCE:
USGS 2016 TROY SOUTH, NY 7.5 MINUTE SERIES TOPOGRAPHIC QUADRANGLE.
MAP SCALE: 1:24,000. SITE LOCATION: N: 42.706999° W: 73.677401° WGS84.

ENVIRON
ENVIRON Engineers of North Carolina, PC
CERTIFICATE NUMBER: 0012568

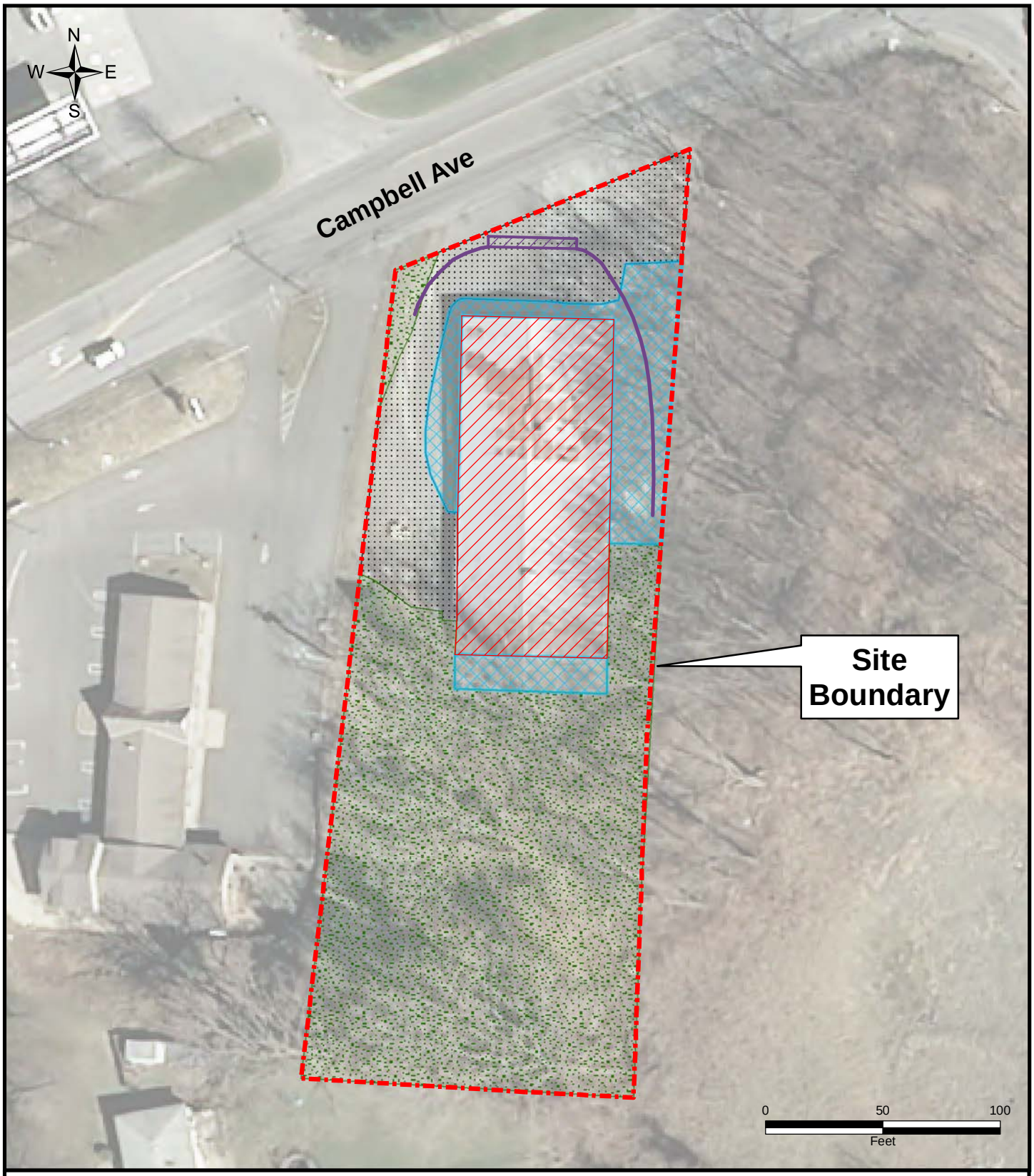
SITE LOCATION MAP

520 CAMPBELL AVENUE
CITY OF TROY, NEW YORK

FIGURE 1

DRAFTED BY: KPM | DATE: 06/15/2017 | PROJECT: 0239035A

KMAUGHAN 6/16/17 F:\0239035_ESCO STEEL_PDI_RAWP < SITE LOCATION_0239035 >



Legend

- PRB
- Sheet Pile
- Property Line
- Concrete Slab
- New Soil Cap
- Woods
- Grass
- Pavement

Figure 2 .

Conceptual Remedy Plan

Steel Treaters, Inc. Site
City of Troy, Rensselaer County
Site No. V00578