PROPOSED REMEDIAL ACTION PLAN

Former Adirondack Steel
Operable Unit Number 02: Off-site Drainageway
State Superfund Project
Colonie, Albany County
Site No. 401039
February 2016

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

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SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the above referenced site. The disposal of hazardous wastes at the site has resulted in threats to public health and the environment that would be addressed by the remedy proposed by this Proposed Remedial Action Plan (PRAP). The disposal of hazardous wastes at this site, as more fully described in Section 6 of this document, has contaminated various environmental media. The proposed remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This PRAP identifies the preferred remedy, summarizes the other alternatives considered, and discusses the reasons for the preferred remedy.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this document in accordance with the requirements of 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 document is a summary of the information that can be found in the site-related reports and documents in the document repository identified below.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all PRAPs. This is an opportunity for public participation in the remedy selection process. The public is encouraged to review the reports and documents, which are available at the following repository:

Watervliet Public Library
1501 Broadway
Watervliet, NY 12189
Phone: (518) 274-4471

A public comment period has been set from:

2/26/2016 to 3/27/2016

A public meeting is scheduled for the following date:

March 08, 2016 at 7:00 PM

Public meeting location:

Watervliet Senior Center

At the meeting, the findings of the remedial investigation (RI) and the feasibility study (FS) will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP.

Written comments may also be sent through 3/27/2016 to:

Ian Beilby
NYS Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233
ian.beilby@dec.ny.gov

The Department may modify the proposed remedy or select another of the alternatives presented in this PRAP based on new information or public comments. Therefore, the public is encouraged to review and comment on the proposed remedy identified herein. Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

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 located in the Town of Colonie, Albany County, NY at 191 Watervliet-Shaker Road at the corner of Lincoln Ave and Watervliet-Shaker Road. It is the location of an abandoned steel mill called the "Adirondack Steel Casting Co. Inc." The site is located within a mile of six other sites in New York State remedial programs. It is approximately 0.5 miles to the north of "Al Tech Steel" and the "Former Bearoff" property, and 0.25 miles to the west of "Perfection Plating" and the "Watervliet Arsenal Siberia Area"; all current or former Class 2 Inactive Hazardous Waste Disposal Sites; 0.75 miles to the northwest of an Environmental Restoration Project site, "Schuyler Heights Fire District"; and is adjacent to a Class 3 site, "Passonno Corp. Roof Coating Facility," situated immediately to the west.

Site Features:
The site currently occupies 4.2 acres of the 38.5 acre former industrial property. The property contains eight dilapidated unoccupied buildings (two of which are located on the Class 2 site), foundation slabs of the original production buildings, deteriorating access roads and emerging tree growth. Drainageways border the eastern and northern boundaries of the property. The off-site drainageway to the east (OU-02) is largely stagnant and is located between the site and an active rail line owned and operated by Canadian Pacific. The on-site drainageway to the north of the former production area (OU-03) flows to the east between the site and an industrial landfill. The landfill (not a part of the Class 2 site or the subject of this remedy) is comprised largely of foundry sands originating from past operations of the steel plant.

Current Zoning/Use(s):
The area surrounding the property is mixed industrial-residential use. The property borders on undeveloped land to the west and an active rail line to the east. The site itself is zoned "industrial" and has been recently acquired by a private party who is actively developing the property surrounding OU-03 into an industrial park. A composting facility has been constructed on the off-site, western portion of the property.

Past Use of the Site:
Adirondack Steel Casting Co. produced steel castings for various industrial customers. The site contained transformers associated with the steel mill that were the source of the known PCB contamination. A variety of tenants also occupied the property while it was known as the Adirondack Industrial Park after the steel mill was shuttered. Those occupants included asphalt paving companies, auto body shops, and an aluminum smelter.

There are three likely scenarios for the polychlorinated biphenyls (PCBs) to have reached the soils at the site; routine maintenance, poor handling of used fluids, and/or unauthorized scavenging. The electrical components generally required little maintenance but could become damaged or require service that would provide the opportunity for the fluids to leak from the components to the ground. Poor handling or on-site dumping of spent fluids may have contributed to the releases and subsequent contamination. These two scenarios may have taken place any time after the installation of the power stations, likely in the 1960's. Finally, the abandonment and poor security of the plant also led to the opportunity for unauthorized scavenging of the equipment for the copper

contained in the transformers. Reportedly, the fluid would be drained from the transformers directly to the ground during scavenging. The scavenging took place at various times during the 1980's and 90's.

The USEPA responded to the spilled PCBs and soil contamination in 1993 by excavating soil and storing it in a secured building at the property. Due to a lack of cooperation by the then owner, this stored soil was unable to be removed and disposed of until 1999. Significant PCB soil contamination remained.

Operable Units:
The site has been divided into two on-site operable units Operable Unit 1 (OU-01) and OU-03. There is a third OU, OU-02 that is off-site. An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination.

OU-01: The soil in the vicinity of the North Power Station and the South Power Station where electrical equipment containing fluid with PCBs and volatile organic compounds (VOCs) was maintained or damaged resulting in releases of the fluid to the ground surface. These releases resulted in contamination of the soil and historic fill in three locations totaling less than 0.5 acres over a portion of the Adirondack Steel Property. OU-1 remedial work has been completed and a No Further Action Record of Decision was signed on March 31, 2010.

OU-02: The off-site drainageways to the east of the Adirondack Steel property extend north of the former Adirondack Steel Property. Sediment and soil and historic fill along the banks of the drainageways are contaminated with PCBs originally released from OU-03. Extensive investigation into the full extent of the contamination in these drainageways has been performed. OU-02 is the subject this document.

OU-03: This OU is comprised of portions of the property that contain PCB contaminated soil and fill not included in OU-01 as well as the on-site drainageway. A Record of Decision was issued in March of 2015 and the remedy is currently under design.

Site Geology and Hydrogeology:
Non-native soils and fill comprise a large area of the site and the property. The underlying native soil is primarily composed of grey and brown clays with some fine sand. Thickness of the overburden varies across the entire property from 28 feet to less than 1 foot. Bedrock at the site is Snakehill Shale and as such, it is typically grey or black and is highly fractured with a high density of folding and faults.

Two groundwater bearing zones were investigated. The overburden groundwater is shallow, generally within 5 feet of the ground surface. Bedrock groundwater is also shallow, within five feet below ground surface (bgs) down to 17 feet bgs. Flow direction for each bearing zone is to the east-northeast. Groundwater elevations appear to indicate that the groundwater in the bedrock flow regime is confined as the elevations are often above the top of bedrock. This is borne out through hydraulic testing which indicated a vertical gradient with groundwater flowing from

bedrock to overburden in the western wells. Wells on the east of the study area indicated groundwater flowing from overburden to bedrock at slow rates.

Operable Unit (OU) Number 02 is the subject of this document.

A Record of Decision was issued previously for OU-01 and OU-03.

A site location map is attached as Figure 1. Figure 2 defines the Operable Units.

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 residential use (which allows for commercial use and industrial use) as described in Part 375-1.8(g) are/is being evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site, documented to date, include:

Timmons Corporation

The PRPs for the site declined to implement a remedial program when requested by the Department. After the remedy is selected, the PRPs will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRPs, the Department will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the state for recovery of all response costs the state has incurred.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- surface water
- soil
- sediment

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. The tables found in Exhibit A list the applicable SCGs in the footnotes. 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 hazardous waste 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 in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified for this Operable Unit at this site is/are:

polychlorinated biphenyls (PCB)

As illustrated in Exhibit A, the contaminant(s) of concern exceed the applicable SCGs for:

Soil
Sediment
Surface Water

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 Record of Decision.

There were no IRMs performed on OU-02 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.

Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary for OU-02.

Nature and Extent of Contamination:

Soil, sediment and surface water located on OU-02 were analyzed for PCBs only due to the known migration pathway from OU-03.

PCBs in soil are present up to 20 ppm while concentrations in sediment have been detected up to 860 ppm. Significant portions of the top 2 feet of drainageway sediment contain greater than 1 ppm. Isolated areas along the drainageway banks contain greater than 1 ppm.

Surface water in the drainageway downgradient of the site exhibits detectable PCBs. The detections appear attributable to suspended solids in surface water that gradually erode from up-stream locations.

The extremely coarse nature of the large diameter material used for erosion limits the presence of wildlife habitat in the drainage way.

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.*

Contact with contaminated soil on-site is not expected within Operable Unit 1 because that portion of the site has been remediated to meet soil cleanup objectives for commercial and industrial use. There is a potential for contact with contaminants in soil, surface water, and sediment on-site within Operable Unit 3 and off-site within Operable Unit 2.

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:

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated 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.

Surface Water

RAOs for Public Health Protection

- Prevent ingestion of water impacted by contaminants.
- Prevent contact or inhalation of contaminants from impacted water bodies.

RAOs for Environmental Protection

- Restore surface water to ambient water quality criteria for the contaminant of concern.

Sediment

RAOs for Public Health Protection

- Prevent direct contact with contaminated sediments.

RAOs for Environmental Protection

- Prevent releases of contaminant(s) from sediments that would result in surface water levels in excess of (ambient water quality criteria).
- Restore sediments to pre-release/background conditions to the extent feasible.

SECTION 7: SUMMARY OF THE PROPOSED REMEDY

To be selected, the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives identified for the site, which are presented in Section 6.5. Potential remedial alternatives for the Site were identified, screened and evaluated in the FS report.

A summary of the remedial alternatives that were considered for this site is presented in Exhibit B. Cost information is presented in the form of present worth, which represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved. A summary of the Remedial Alternatives Costs is included as Exhibit C.

The basis for the Department's proposed remedy is set forth at Exhibit D.

The proposed remedy is referred to as the Excavation and Off-Site Disposal for Residential Use.

The cost to construct the remedy is estimated to be $1,562,000 with no additional annual costs anticipated.

The elements of the proposed 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. Excavation
- To the extent feasible, as limited by the proximity of the active railroad, soil, sediment, and fill from the operable unit area which exceeds 1 ppm of PCBs will be excavated and disposed off-site.
- Diversion of surface water will implemented as needed to facilitate access to drainageway sediment.
- Materials exceeding the Toxic Substances Control Act (TSCA) threshold for PCB concentrations of 50 ppm will be disposed or treated at a facility permitted to accept hazardous waste.

- Soil with PCB concentrations below 50 ppm will be disposed or treated at a facility permitted to accept PCB-contaminated soil.
- Approximately 2,100 cubic yards of material will be removed from the site. Where necessary, material will be treated prior to disposal; and
- Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for residential use will be brought in as needed to replace excavated material and complete the backfilling of the excavation to establish the designed grades at the site.
- Samples of soil from the bottom and sidewalls of excavation areas will be collected and analyzed to ensure remedial goals are achieved. Surface water sampling will be conducted to ensure that removal of the waste has addressed migration of contaminants to surface water.

3. Site Management Plan

If the Department determines that remedial goals cannot be met due to proximity to the active rail line, a Site Management Plan for OU-01 will be updated to provide specific requirements for site maintenance, development and Use for the OU-02 area.

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination.
For each medium for which contamination was identified, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics (metals and cyanide). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, if applicable, the Restricted Use SCGs identified in Section 4 and Section 6.1.1 are also presented.

Waste/Source Areas

No waste or source areas were found on OU-02. Source areas are confined to OU-01 and OU-03.

Groundwater

Groundwater was investigated as part of the OU-01 investigation and is not impacted by site-related contaminants of concern (COCs).

Soil

Surface and subsurface soil samples were collected during the investigation of OU-02. Surface soil was collected from downgradient residential properties while subsurface soil was collected from the banks of the drainageway and soil that was greater than two feet below the drainageway channel surface. PCBs are the primary on-site COC and chemical analysis of the soil was limited to only PCBs. Summaries of the findings are presented in Tables 1a and 1b.

Off-site residential surface soil samples were collected due to known historical flooding of the drainageway into the downgradient neighborhood. These samples were collected from the top two inches of soil below the root zone. Ten samples were collected from eight separate properties and one from the railroad right-of-way. No PCBs are present at these residential sampling locations that exceed the residential SCO of 1 ppm. The surface soil sample from the railroad right-of-way, where access by the public is prohibited, is 2.4 ppm. Detected results are shown on Figure 3.

Table # 1a - Surface Soil (Residential)

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted Use SCG (ppm)[b]	Frequency Exceeding Unrestricted Use SCG	Restricted Use SCG (ppm) (Residential)[c]	Frequency Exceeding Residential Use SCG
Pesticides/PCBs Part 375					
Total PCBs	ND to 0.41	0.1	1/10	1	0/10

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Residential Use, unless otherwise noted.

Subsurface soil were samples were collected along the entire length of the drainage way banks and native soils more than 2 feet below the drainage way bottom's surface. Samples were collected at several depth intervals in each location to determine whether PCBs had migrated laterally from the drainage way. Data show that contamination is not present in the upland subsurface soils at elevations that correspond to the higher, in-channel sediment PCB contamination and that PCBs tend to be confined within the drainageway sediment and underlying native soil. The highest concentrations of PCBs are found relatively close to the intersection of OU-02 and OU-03 (the on-site drainageway).

Hazardous waste-level concentrations of PCBs are found only on the northern half of OU-02 downgradient of the source area (OU-03). The majority of PCB concentrations exceeding the residential SCO are also found primarily in the northern half. The unrestricted SCO for PCBs is exceeded sporadically in both the northern and southern half of OU-02. The concentrations of PCBs in subsurface soil are summarized in Table 1b while the vertical and areal extent, as well as the concentration ranges, are shown in Figures 4a and 5b.

Table # 1b - Subsurface Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted Use SCG (ppm)[b]	Frequency Exceeding Unrestricted Use SCG	Restricted Use SCG (ppm) (Residential)[c]	Frequency Exceeding Residential Use SCG
Pesticides/PCBs PART 375					
PCBs (Total)	ND to 20	0.1	23/160	1	8/160

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Residential Use, unless otherwise noted.

The primary soil contaminants are PCBs originating from dielectric fluid formerly contained in on-site transformers and other electrical equipment used for power distribution at the plant. Based on the findings of the Remedial Investigation, the presence of PCBs has resulted in the

contamination of surface and subsurface soil on OU-02. The site contaminants identified in soil which are considered to be the primary contaminants of concern, to be addressed by the remedy selection process, are PCBs.

Surface Water

Surface water samples were collected during the OU-01 RI from locations upstream, on-site and downstream from the site. Three sample locations from the OU-01 RI are relevant to the OU-02 PRAP. The samples were collected to assess the surface water conditions on and off-site. The results indicate that contaminants in surface water on OU-02 exceed the Department's SCG for PCBs.

Table #2 - Surface Water

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG (ppb)[b]	Frequency Exceeding SCG
Pesticides/PCBs			
Aroclor 1260	ND to 0.73	0.09	2/3

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b-SCG: Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1) and 6 NYCRR Part 703: Surface Water and Groundwater Quality Standards.

The primary surface water contaminants are PCBs associated with known, up-stream sources and high OU-02 PCB concentrations in sediment and soil that become suspended in the surface water.

Based on the findings of the Remedial Investigation, the presence of PCBs has resulted in the contamination of surface water. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of surface water, to be addressed by the remedy selection process, are PCBs.

Sediment

Sediment samples were collected during the RI from the OU-02 drainageway. Surface water flows through OU-03 (the source of PCBs) into the northern half of the OU-02 in the drainageway and continues north into the City of Watervliet storm sewer system. Surface water on the southern half of OU-02 flows in the opposite direction (south) and into a separate storm sewer.

The sediment samples were collected along the entire length of the drainageway to assess the degree of impact to drainageway sediment from OU-03. Table 3 provides a summary of the PCB analysis results while the vertical and areal extent, as well as the concentration ranges, are shown in Figures 4a and 4b. The results indicate that concentrations of PCBs in OU-02 sediment exceeds the Department's Class A sediment guidance values.

Table #3 - Sediment

Detected Constituents	Conentration Range Detected (ppb)[a]	Freshwater Sediments Guidance Value (SGV)[b]	Frequency of SGV above Class A	Frequency of SGV above Class B
Pesticides/PCBs				
Aroclor 1260	ND - 860,000	A<100 (B) 1000 < C	57/75	42/75

a - ppm: parts per million for Inorganics, which is equivalent to milligrams per kilogram, mg/kg, and parts per billion for Pesticides/PCBs which is equivalent to micrograms per kilogram, ug/kg, in sediment;
b - SGV: Sediment Guidance Value from the Department's "Screening and Assessment of Contaminated Sediment, 2014." Class A sediments are considered to be of low risk to aquatic life. Class B sediments are slightly to moderately contaminated and additional testing is required to evaluate the potential risks to aquatic life. Class C sediments are considered to be highly contaminated and likely to pose a risk to aquatic life.

The primary sediment contaminant is PCBs associated with the disposal of dielectric fluid from OU-01; the on-site transformers and other electrical equipment. As noted on Figures 4a and 4b the primary sediment contamination is found in OU-02.

Based on the findings of the Remedial Investigation, the presence of PCBs has resulted in the contamination of sediment. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of sediment, to be addressed by the remedy selection process, are PCBs.

Exhibit B

Description of Remedial Alternatives

The following alternatives were considered based on the remedial action objectives (see Section 6.5) to address the contaminated media identified at the site as described in Exhibit A.

Alternative 1: No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative leaves the site in its present condition and does not provide any additional protection to public health and the environment.

Alternative 2: Site Management

The Site Management Alternative requires only institutional controls for the site. This alternative includes institutional controls, in the form of an environmental easement and a site management plan, necessary to protect public health and the environment from any contamination identified at the site.

Present Worth:.....*$116,000*
Capital Cost:.....*$0*
Annual Costs:.....*$10,000*

Alternative 3a: Soil/Sediment Excavation to meet Part 375 Residential SCOs with Off-site Disposal

This alternative includes excavation of all PCB-contaminated soil and sediment that exceeds a concentration of 1 ppm. Drainageway sediment is excavated to achieve a concentration of 1 ppm or less ("Class B" SGV). The contaminated soil and sediment are excavated, stockpiled, characterized, and properly disposed of at an off-site, permitted facility. Material containing PCBs at concentrations greater than or equal to 50 ppm, are considered hazardous and are to be disposed at a facility permitted to accept hazardous waste, while material with PCB concentrations less than 50 ppm is considered non-hazardous and is to be disposed at a solid waste facility permitted to accept PCB-contaminated soil. To meet Part 375 residential SCOs, all PCB concentrations greater than 1 ppm, regardless of depth must be removed. The quantity of soil and sediment containing greater than 1 ppm of PCBs at non-hazardous concentrations is estimated to be 1,700 cubic yards while the quantity of soil and sediment containing greater than 1 ppm of PCBs at hazardous concentrations is estimated to be 400 cubic yards.

To the extent feasible, in areas adjacent to the active rail road, off-site PCB-contaminated soil will be excavated to achieve a maximum PCB concentration of 1 ppm. Clean fill meeting the

requirements of 6 NYCRR Part 375-6.7(d) for residential use will be imported to replace excavated material in off-site areas.

Confirmation sampling is required at all locations of soil/fill excavation to assure adequate removal of contaminated media. Sampling is performed at the bottom and sidewalls of each excavation site.

Present Worth: *$1,562,000*
Capital Cost: *$1,562,000*
Annual Costs: *$0*

Alternative 3b: Soil Excavation to meet Unrestricted SCOs with Off-Site Disposal

This alternative includes excavation of all PCB-contaminated soil and sediment that exceeds a concentration of 0.1 ppm. Drainageway sediment is excavated to achieve a concentration of 0.1 ppm ("Class A" SGV) or less. The contaminated soil and sediment are excavated, stockpiled, characterized, and properly disposed of at an off-site, permitted facility. Material containing PCBs at concentrations greater than or equal to 50 ppm, are considered hazardous and are to be disposed at a facility permitted to accept hazardous waste, while material with PCB concentrations less than 50 ppm is considered non-hazardous and is to be disposed at a solid waste facility permitted to accept PCB-contaminated soil. To meet Part 375 unrestricted SCOs, all PCB concentrations greater than 0.1 ppm, regardless of depth must be removed. The quantity of soil and sediment containing greater than 0.1 ppm of PCBs at non-hazardous concentrations is estimated to be 3,000 cubic yards while the quantity of soil and sediment containing greater than 0.1 ppm of PCBs at hazardous concentrations is estimated to be 400 cubic yards.

To the extent feasible, in areas adjacent to the active rail road, off-site PCB-contaminated soil will be excavated to achieve a maximum PCB concentration of 0.1 ppm. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for unrestricted use will be imported to replace excavated material in off-site areas.

Confirmation sampling is required at all locations of soil/fill excavation to assure adequate removal of contaminated media. Sampling is performed at the bottom and sidewalls of each excavation site.

Present Worth: *$2,063,000*
Capital Cost: *$2,063,000*
Annual Costs: *$0*

Exhibit C

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
No Action (1)	0	0	0
Site Management (2)		10,000	116,000
Off-Site Disposal – Residential (3a)	1,562,000	0	1,562,000
Off-Site Disposal – Unrestricted Residential (3b)	2,063,000	0	2,063,000

Exhibit D

SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternative 3a, excavation and off-site disposal of soil and sediment that exceeds 1 ppm PCBs in soil and sediment as the remedy for this site. Alternative #3a achieves the remediation goals for the site by removing grossly contaminated PCB impacted soil and all sediment with PCB concentrations greater than 1 ppm and replaces contaminated material with appropriate clean soil. The elements of this remedy are described in Section 7. The proposed remedy is depicted in Figures 4a and 4b.

Basis for Selection

The proposed remedy is based on the results of the RI and the evaluation of alternatives. The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375. A detailed discussion of the evaluation criteria and comparative analysis is included in the FS report.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

The proposed remedy (Alternative 3a) would satisfy this criterion by removing contaminated soil and sediment from the site. Alternatives 1 (No Action) and 2 (Site Management) do not provide any protection to public health and the environment and will not be evaluated further. Alternatives 3a and 3b achieve the same level of protection for uses consistent with local zoning.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

Alternative 3a satisfies this criterion by addressing all soil and sediment above applicable SCGs, via removal and off-site disposal. Alternative 3b also satisfies this criterion as it would exceed SCGs for the intended site use. Each alternative achieves off-site compliance with SCGs to the same degree.

The next six "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

Long-term effectiveness is best accomplished by those alternatives involving excavation and off-site disposal of the contaminated overburden soil and drainageway sediment (Alternatives 3a and 3b). Each alternative achieves the same degree of long-term effectiveness.

4. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Alternatives 3a and 3b control potential exposures through the removal of contaminated soil and sediment and eliminate the potential for future migration. Treatment of existing non-hazardous materials found in the drainageway, including riprap, to remove contaminated solids would permanently reduce the volume of contaminated material.

5. Short-term Impacts and Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

Alternatives 3a and 3b both have short-term impacts which can be controlled. Alternative 3b has a slightly greater short-term impact on green remediation goals since it would require transportation of an additional 2,600 cubic yards of soil (removal and backfill).

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

Alternative 3a is likely to be more implementable than 3b. Both require consideration of deep excavation in close proximity to the adjacent railroad to remove hazardous soil thereby requiring coordination with the rail company on the approach and design of this area of excavation. However, 3b would require more soil to be removed than could be accessed because of its proximity to the rail road.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

The costs of the alternatives vary with respect to the amount of soil and sediment that is to be excavated and removed as part of the remediation. Alternative 3b costs are approximately 30% more than alternative 3a but does not achieve additional benefits thereby limiting the cost effectiveness.

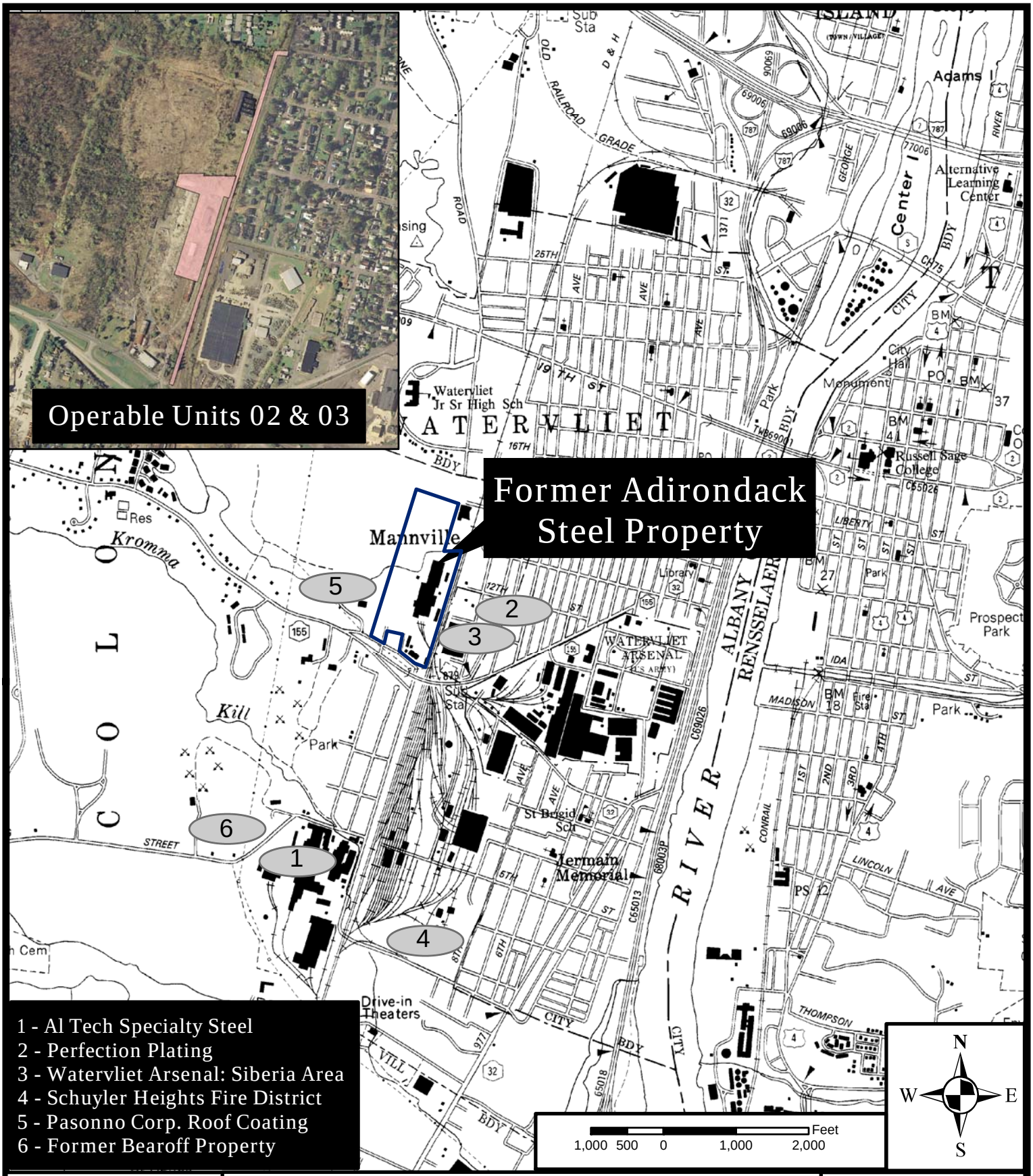
8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

Alternatives 3a would allow residential, restricted residential, commercial, or industrial use of the property once implemented. Alternative 3b would allow unrestricted use of the property.

The final criterion, Community Acceptance, is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP are evaluated. A responsiveness summary will be prepared that describes public comments received and the manner in which the Department will address the concerns raised. If the selected remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

Alternative 3a is being proposed because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.



SITE LOCATION

Former Adirondack Steel Site
4-01-039

FIGURE 1

Legend

- Operable Unit 1
- Operable Unit 2
- Operable Unit 3
- Former Adirondack Steel Property Boundary

Notes:

1. Acreage
OU-1 = 0.37 Acres
OU-2 = 2.09 Acres
OU-3 = 3.77 Acres
Site = 4.14 Acres

2. The Site is comprised of OU-1 and OU-3

500 250 0 500
Feet

New York State
Department of Environmental
Conservation

Division of
Environmental Remediation

FIGURE 2

Operable Units

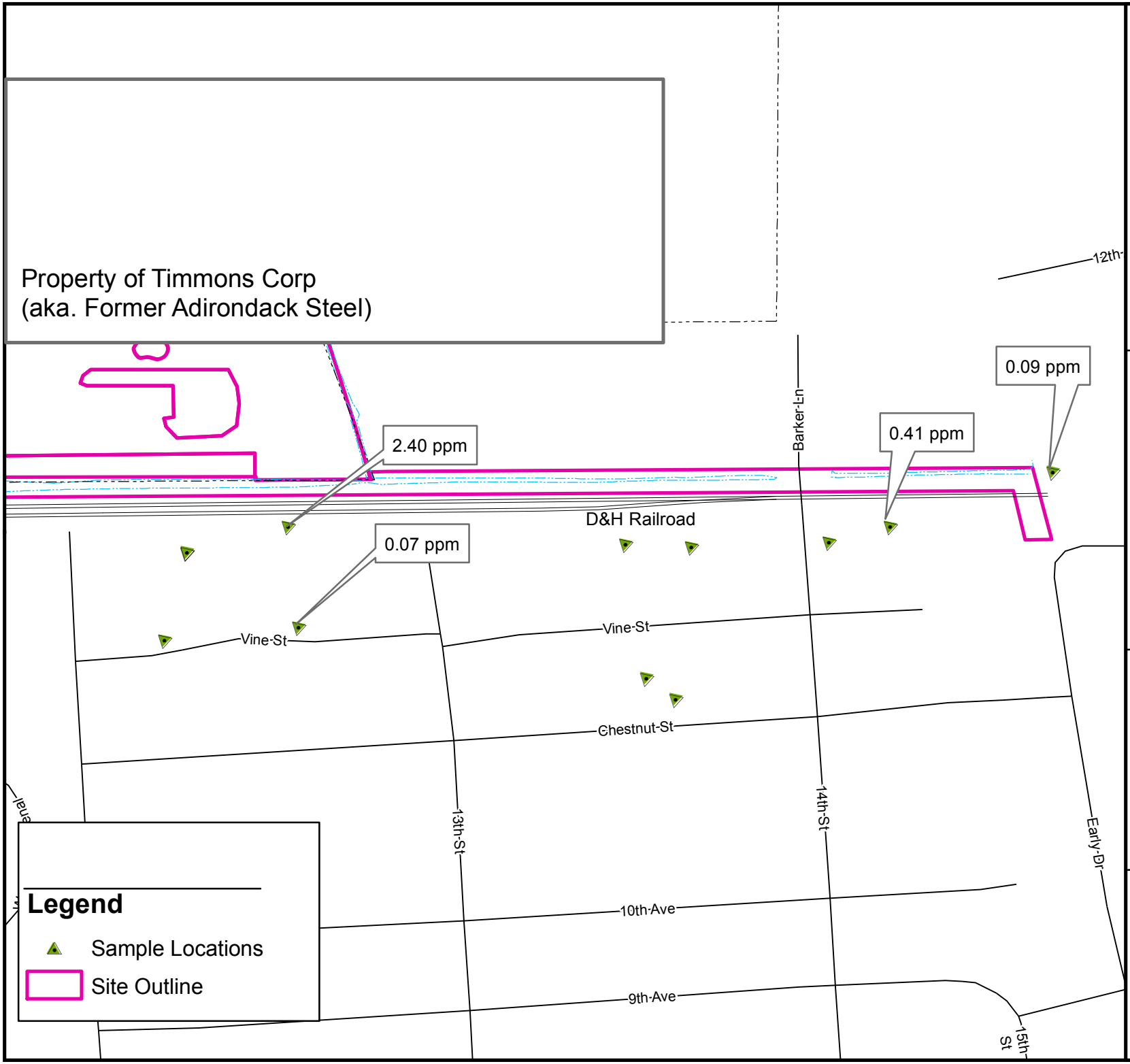
Former
Adirondack Steel

DEC Site No.: 4-01-039

Map Details

Created in ArcMap 10.1
Date of Last
Revision: 01.23.2013

North American Datum 1983
UTM Zone 18



New York State
Department of Environmental
Conservation

Division of
Environmental Remediation

Former
Adirondack Steel

DEC Site No.: 4-01-039

FIGURE 3

**PCB Dections From
Residential Sampling**

Map Details

Created in ArcMap 9.3
Date of Last
Revision:01.08.2016

N

North American Datum 1983
UTM Zone 18

LEGEND

OU2_North-Exceed Unrestricted

- 1
- 2
- 3 - 4
- 5 - 10

OU2_North-Exceed Restricted Residential

- 1
- 2
- 3 - 4
- 5 - 10

OU2_North-Exceed TSCA

- 1
- 2
- 3 - 4
- 5 - 10

NOTES:

- Hazardous waste threshhold is 50 ppm.

- Residential SCO: Part 375 Soil Cleanup Objective - PCBs Concentrations must be less than or equal to 1 ppm at all depths.

- Unrestricted SCO: Part 375 Soil Cleanup Objective - PCBs Concentrations must be less than or equal to 0.1 ppm at all depths.

Volume Unrestricted
622 CuYRDs

Volume Restricted Residential
1301 CuYRDs

Volume TSCA
398 CuYRDs

SITE
(OU-03)

MATCHLINE

OU-02

100 50 0 100 200 300 400 500 Feet

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FIGURE 4a

Areas of PCB Impacted
Soils and Sediments

Former Adirondack Steel
OU-02 (NORTH)
Remedial Investigation

DEC Site No.: 4-01-039

Figure Details
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Date of Last
Revision: 01-08-2016

Norht American Datum 1983
UTM Zone 18

N

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FIGURE 4b

Areas of PCB Impacted
Soils and Sediments

Former Adirondack Steel
OU-02 (SOUTH)
Remedial Investigation

DEC Site No.: 4-01-039

Figure Details
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N