RECORD OF DECISION

Shulman's Salvage Yard
State Superfund Project
Elmira, Chemung County
Site No. 808013
March 2015

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

DECLARATION STATEMENT - RECORD OF DECISION

Shulman's Salvage Yard
State Superfund Project
Elmira, Chemung County
Site No. 808013
March 2015

Statement of Purpose and Basis

This document presents the remedy for the Shulman's Salvage Yard site, a Class 2 inactive hazardous waste disposal 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, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Shulman's Salvage Yard site and the public's input to the proposed remedy presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

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. Excavation and Off-Site Disposal
All on-site and off-site areas where soil exceeds 1 ppm PCBs in the surface (top 1 foot of soil) and 10 ppm in the subsurface (deeper than one foot below ground surface), as defined by CP-51 Soil Cleanup Guidance, will be excavated and transported off-site for disposal at an appropriately permitted facility. All off-site areas where soil exceeds commercial standards for PCBs as defined by 6 NYCRR Part 375-6.8(b), will also be excavated and transported off-site for disposal. Approximately 25,000 cubic yards of PCB contaminated soil is estimated to be removed from the on-site and off-site areas. On-site and off-site excavation areas will be backfilled with material meeting the requirements of 6 NYCRR Part 375-6.7(d) for commercial use. These areas will be re-graded to accommodate installation of a cover system as described in remedy element 4. Soil derived from the re-grading meeting commercial standards may be used to backfill the on-site excavation. Removal of contaminated surface soil will eliminate sources of surface water runoff contamination.

3. On-site Consolidation
On-site soils which marginally exceed commercial-use SCOs for metals but which do not exceed 10 ppm for PCBs will be excavated and consolidated among excavated areas in the sub-surface on-site above the water table. Off-site soils which exceed commercial soil cleanup standards for metals will also be excavated and consolidated among excavated areas in the sub-surface on-site above the water table. Prior to consolidation, samples from remaining metals-contaminated soil will be analyzed using the Toxicity Characteristic Leaching Procedure (TCLP) to ensure that these soils do not pose a risk to groundwater due to leaching. Additional soils will be disposed off-site if risks to groundwater are identified. Approximately 22,000 cubic yards of soil are estimated to be excavated and consolidated on-site. On-site and off-site excavation areas will be backfilled with material meeting the requirements of 6 NYCRR Part 375-6.7(d) for commercial use.

4. Cover
A site cover will be required to allow for commercial 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 one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial 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. Institutional Control
Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- Requires a 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.) 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 5 above, periodic review reports, groundwater use restrictions.
• Engineering Controls: The soil cover discussed in Paragraph 4 above.

This Site Management Plan also includes, but may not be limited to:
o An Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
o Descriptions of the provisions of the environmental easement including any land use, or groundwater use restrictions;
o Maintaining site access controls and Department notification; and
o The steps necessary for the periodic reviews and certification of the institutional controls.

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

• expansion of the groundwater monitoring network as necessary and monitoring of groundwater to assess the performance and effectiveness of the remedy;
• monitoring of soil cover to assure cover remains in place and effective; and
• a schedule of monitoring frequency of submittals to the Department;

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

March 31, 2015

Date

Robert W. Schick, P.E., Director
Division of Environmental Remediation

RECORD OF DECISION

Shulman's Salvage Yard
Elmira, Chemung County
Site No. 808013
March 2015

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 hazardous wastes 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 hazardous wastes at this site, as more fully described in this document, has contaminated various environmental media. The remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This Record of Decision (ROD) identifies the selected remedy, summarizes the other alternatives considered, and discusses the reasons for selecting the 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 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

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

Steele Memorial Library
Attn: Chris Corter
101 East Church Street
Elmira, NY 14901
Phone: 607-733-9173

A public meeting was also conducted on March 24, 2015. At the meeting, the findings of the

remedial investigation (RI) and the feasibility study (FS) were presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period was held, during which verbal or written comments were accepted on the proposed remedy.

Comments on the remedy received during the comment period are summarized and addressed in the responsiveness summary section of the ROD.

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 Shulman's Salvage Yard Site is located at One Shulman Plaza in a mixed residential and commercial area in the City of Elmira, Chemung County. The 7.34 acre property is located along the intersection of Eastern Washington Avenue and Clemens Center Parkway.

The site is located approximately 1,200 feet northwest of the Former Diamond Cleaners Inactive Hazardous Waste Disposal Site (ID No. 808030) located at 717 Lake Street and directly adjacent to the Triple Cities Metal Finishing site (ID No. 808045) located at 926 Stowell St.

Site Features:
The property includes four permanent buildings along with a weigh station and a scale house trailer. The gated main entrance to the property is locked after business hours, and fencing surrounds much of the property. With the exception of an asphalt surface along the southern portion of the site, the majority of the site is unimproved and used for the storage and handling of salvage materials. A rail-spur on the northern end of the property connects to Norfolk Southern Railroad for shipment of materials by rail.

Current Zoning and Land Use:
The property is zoned commercial and used primarily for industrial and commercial metal recycling operations. These operations include weighing, processing, sorting, and shipping of scrap metal. Paper and NYS deposit cans and bottles are also received and processed on-site for recycling. The property is bordered immediately to the west and south by a combination of residential and commercial properties. Clemens Center Parkway borders the property immediately to the east and the Norfolk and Southern Railway borders the site to the north.

Past Use of the Site:

The property has operated as the Shulman's Salvage Yard for various metal salvaging operations since the 1970's. Data collected during initial site characterization activities at the site in 1984 and 1987 indicate that metal salvaging operations had resulted in polychlorinated biphenyls (PCBs) and metals contamination in soil, groundwater, and surface water, as well as volatile organic compound (VOC) contamination (mainly trichloroethylene) in groundwater. The PCB contamination was suspected to be linked to a shipment of drained transformers processed on-site in 1982.

The 1984 and 1987 site characterizations were executed pursuant to orders on consent between the Department and Shulman and Son, Inc. These orders on consent referenced the fact that as a result of dismantling and salvaging of parts and material from various transformers and capacitors by Shulman "during the past 25 years", some PCB contamination has been found at the Site. Based on the initial findings of the 1984 investigation, the site was classified as a Class 2 inactive hazardous waste disposal site in 1986 and a remedial program for the site was prepared under the direction of the Department. This program was revised based on additional data received during the 1987 investigation. The remedial party challenged their requirement to conduct these additional activities, which conflicted with original remedial requirements specified in the consent order. The remedial party's challenge, which took years to reach resolution, was upheld and the remedial program was not implemented. A remedial investigation at the site was conducted by the Department under the State Superfund Program in 2012.

Site Geology and Hydrogeology:
The site geology is mapped as outwash sand and gravel and consists of fine to coarse sand and gravel with occasional silty clay lenses. Bedrock was not encountered on-site at depths up to 25 feet below ground surface. Groundwater occurs at a depth of approximately 2 to 8 feet beneath the ground surface and flows in a northeast direction toward the Sullivan Street water supply wells and Newtown Creek. The Sullivan Street water supply wells, located approximately 4,000 feet northeast of the site, have not been used since the late 1990's and are not planned to be used in the foreseeable future according to the Elmira Water Board.

The nearest surface water body is a small pond located approximately 2,200 feet east of the site, identified as Weyer Pond. Newtown Creek is located approximately 500 feet further to the east of Weyer Pond and is located approximately 3,000 feet east of the Shulman's Salvage Yard site. Newtown Creek flows to the south and drains into the Chemung River. The majority of surface water runoff from the site is captured by a stormwater collection system that drains into the Chemung River. The site is located over a primary aquifer.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to commercial use (which allows for industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the 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 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:

Shulman Company, Inc.
Norfolk Southern and its predecessor railroad companies

The PRP for the site (Shulman) declined to implement a remedial program when requested by the Department. After the remedy is selected, the PRPs will 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.

A 1986 Order on Consent between the Department and Shulman identified a remedial program that was never implemented by Shulman. The selected remedy in the ROD amends and supersedes the remedial program contemplated by the 1986 Order and is the final remedy for this site.

The Department has determined that Volatile Organic Compound (VOC) contamination found at the Shulmans Salvage Yard site is associated with an off-site source. The extent of on-site and off-site VOC contamination, as well as associated human exposure assessments and abatement actions, will be addressed separately by the Department as part of the remedial program for the Triple Cities site (Site No. 808045).

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:

- groundwater
- surface water
- soil

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 at this site is/are:

PCB-AROCLOR 1254	ARSENIC
LEAD	CADMIUM
PCB-AROCLOR 1242	COPPER
PCB-AROCLOR 1260	MERCURY
PCB-AROCLOR 1016	TRICHLOROETHENE (TCE)
PCB-AROCLOR 1248	

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

- groundwater
- surface water
- 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 Record of Decision.

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

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

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 01.

Nature and Extent of Contamination

Based upon investigations conducted to date, the primary contaminants of concern (COCs) at the site include polychlorinated biphenyls (PCBs) present in site soil, metals lead, cadmium, arsenic, mercury and copper present in site soil, groundwater and catch basin water, and trichloroethylene present in groundwater. Several other volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) were detected in groundwater and catch basin water, respectively, but not at levels warranting designation as COCs.

Soil:
PCBs and the metals lead, cadmium, arsenic, mercury, and copper have been detected in site soil above commercial use SCGs. The majority of the contamination was found in the main portion of the scrapyard (the processing and rail transit areas) from zero to four feet below ground surface (bgs). At these depths, PCBs, lead and copper were also found above commercial SCGs at few locations in the outlying parcel. PCBs and copper were also found in surface soils above commercial SCGs at one location in the recycling area, on the east side of the main office building. PCBs and all metal COCs exceeded unrestricted SCGs at depth (up to 12 ft bgs), but only PCBs, copper, and arsenic were found above commercial SCGs. PCBs and metals contamination also extended off-site to the northwest onto to the Norfolk Southern Railroad property. Contamination above commercial SCGs was limited mainly to locations just beyond the property-line. No trichloroethylene (TCE) or other volatile organic compounds were detected in on-site or off-site soils.

Groundwater:
Volatile organic compounds (VOCs), primarily TCE, were detected in groundwater screening samples collected near and northwest of the office building, at a maximum concentration of 120 parts per billion (ppb). These VOCs, which include breakdown products of TCE, exceeded SCGs

at three locations at depths ranging from 10 to 30 ft bgs. The highest concentrations appear between the office building and the northwest property line adjacent to the hill, at a depth of 10-14 ft bgs. Various metals were found at concentrations exceeding groundwater standards in most screening locations and at various depths, including COCs lead (5 locations) and arsenic (2 locations). Concentrations of metals and VOCs appear lower in hydraulically downgradient samples. Two SVOCs (phenol and benzo(a)pyrene) were also detected at levels slightly above groundwater standards. PCBs were not detected above standards in site groundwater.

The groundwater data suggests the metals and SVOC impacts to groundwater are due to contamination found in on-site soils. However, based on off-site investigations performed on the adjacent property hydraulically upgradient to the site, the suspected source of VOC groundwater contamination is from the Triple Cities Metal Finishing site (ID No. 808045). Further investigation of the extent of this VOC contamination and any subsequent remediation will be done under the Triple Cities site investigation.

Catch Basin Water:
Two water samples were collected from catch basins at the site which direct surface runoff into city sewers discharging to the Chemung River. Results show various metals and several semi-volatile organic compounds (SVOCs) above surface water standards, including COCs lead and copper. Although PCBs do not have a surface water standard, they were also detected in the catch basins. No TCE or other VOCs were detected in surface water.

Soil Vapor:
Attempts were made to evaluate soil vapor intrusion (SVI) in the on-site office building in January/February 2014 via sub-slab soil vapor sampling, but access for this was denied. The suspected source of the VOC contamination that could lead to VI was determined to be offsite on the adjacent Triple Cities property.

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 are not drinking contaminated groundwater because the area is served by a public water supply that is not affected by site-related contamination. The majority of the site is fenced, which restricts public access. However, persons who enter unfenced portions of the site could contact contaminants in the soil by walking on the site, digging or otherwise disturbing the soil. 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. A potential exists for the inhalation of site contaminants due to soil vapor intrusion in the on-site buildings and in any buildings developed on-site in the future. Previous attempts were made to evaluate the potential for soil vapor intrusion to occur in the on-site office building, however, access to the building was denied and the evaluation was not

completed. An evaluation is needed to determine whether soil vapor intrusion is a concern for any off-site buildings.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.

RAOs for Environmental Protection

- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

Surface Water

RAOs for Environmental Protection

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

SECTION 7: SUMMARY OF THE SELECTED 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 feasibility study (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 remedy is set forth at Exhibit D.

The selected remedy is referred to as the Excavation, Consolidation, Off-Site Disposal, and Site Cover remedy.

The estimated present worth cost to implement the remedy is $6,390,000. The cost to construct the remedy is estimated to be $6,317,000 and the estimated average annual cost is $14,600.

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. Excavation and Off-Site Disposal
All on-site and off-site areas where soil exceeds 1 ppm PCBs in the surface (top 1 foot of soil) and 10 ppm in the subsurface (deeper than one foot below ground surface), as defined by CP-51 Soil Cleanup Guidance, will be excavated and transported off-site for disposal at an appropriately permitted facility. All off-site areas where soil exceeds commercial standards for PCBs as defined by 6 NYCRR Part 375-6.8(b), will also be excavated and transported off-site for disposal. Approximately 25,000 cubic yards of PCB contaminated soil is estimated to be removed from the on-site and off-site areas. On-site and off-site excavation areas will be backfilled with material meeting the requirements of 6 NYCRR Part 375-6.7(d) for commercial use. These areas will be re-graded to accommodate installation of a cover system as described in remedy element 4. Soil derived from the re-grading meeting commercial standards may be used to backfill the on-site

excavation. Removal of contaminated surface soil will eliminate sources of surface water runoff contamination.

3. On-site Consolidation
On-site soils which marginally exceed commercial-use SCOs for metals but which do not exceed 10 ppm for PCBs will be excavated and consolidated among excavated areas in the sub-surface on-site above the water table. Off-site soils which exceed commercial soil cleanup standards for metals will also be excavated and consolidated among excavated areas in the sub-surface on-site above the water table. Prior to consolidation, samples from remaining metals-contaminated soil will be analyzed using the Toxicity Characteristic Leaching Procedure (TCLP) to ensure that these soils do not pose a risk to groundwater due to leaching. Additional soils will be disposed off-site if risks to groundwater are identified. Approximately 26,000 cubic yards of soil are estimated to be excavated and consolidated on-site. On-site and off-site excavation areas will be backfilled with material meeting the requirements of 6 NYCRR Part 375-6.7(d) for commercial use.

4. Cover
A site cover will be required to allow for commercial 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 one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial 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. Institutional Control
Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- Requires a 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.) 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 5 above, periodic review reports, groundwater use restrictions.
• Engineering Controls: The soil cover discussed in Paragraph 4 above.

This Site Management Plan also includes, but may not be limited to:
o An Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
o Descriptions of the provisions of the environmental easement including any land use, or groundwater use restrictions;
o Maintaining site access controls and Department notification; and
o The steps necessary for the periodic reviews and certification of the institutional controls.

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

• expansion of the groundwater monitoring network as necessary and monitoring of groundwater to assess the performance and effectiveness of the remedy;
• monitoring of soil cover to assure cover remains in place and effective; and
• a schedule of monitoring frequency of submittals to the Department;

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 four categories: 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, the applicable restricted use SCGs identified in Section 4 and Section 6.1.1 are also presented.

Groundwater

During the Remedial Investigation (RI), seven groundwater screening points were installed in soil boring locations to collect groundwater samples from various depths on the subject site. Locations of these samples are depicted in Figure 2. Reports from previous investigations indicated five monitoring wells had been installed on the subject site, however none of these wells could be located. It is assumed these wells were buried or destroyed over time by salvage yard site operations.

Groundwater samples collected from on-site boring screens were analyzed for PCBs, metals, VOCs, and SVOCs. Screens were installed to depths ranging from 8-12 feet to 26-30 feet. A total of 13 groundwater screening samples were collected. Of these samples, 12 were analyzed for VOCs, eight for SVOCs, 11 for PCBs, and nine for metals. Six VOCs (notably trichloroethene and 1,1,1-trichloroethane), seven metals (notably lead and arsenic), and two SVOCs (benzo(a)pyrene and phenol) were detected at concentrations that exceed the groundwater SCGs for these compounds.

The following table (Table 1) presents the findings of the groundwater screening samples related to the Shulman's Salvage Yard site.

Table 1 - Groundwater

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
VOCs			
Benzene	**0.42**	**1**	**0/12**
1,1,1-Trichloroethane	**2.1 - 120**	**5**	**1/12**
1,1-Dichloroethane	**0.47 – 8.6**	**5**	**2/12**
1,1-Dichloroethene	**0.81 - 36**	**5**	**1/12**
1,1,2-Trichloroethane	**0.91**	**1**	**0/12**

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
Trichloroethene	**0.87 - 110**	**5**	**4/12**
Cyclohexane	**0.95 - 30**	**5**	**2/12**
cis-1,2-Dichloroethene	**0.91 - 13**	**5**	**1/12**
SVOCs			
Benzo(a)pyrene	**0.5**	**0**	**1/8**
Phenol	**1.3**	**1**	**1/8**
Bis(2-ethylhexyl)phthalate	**2.1 - 2.8**	**5**	**0/8**
Inorganics			
Arsenic	**0.0063 – 0.049**	**0.025**	**1/9**
Barium	**0.15 – 0.73**	**1**	**0/9**
Cadmium	**0.00081 – 0.0023**	**0.005**	**0/9**
Chromium	**0.0041 – 0.18**	**0.05**	**1/9**
Copper	**0.0077 – 0.16**	**0.2**	**0/9**
Iron	**7 – 154**	**0.3**	**9/9**
Lead	**0.004 – 0.19**	**0.025**	**7/9**
Manganese	**0.55 – 4.1**	**0.3**	**9/9**
Mercury	**0.0004**	**0.0007**	**0/9**
Nickel	**0.004 – 0.23**	**0.1**	**1/9**
Sodium	**13 – 254**	**20**	**8/9**
PCBs			
None			

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

The primary groundwater contaminants are trichloroethene (TCE), 1,1,1-trichloroethane (1,1,1-TCA), lead, and arsenic. As shown in Figure 2, low level metals contamination was found at most screening locations, and is attributed to years of scrap metal processing activities at the site. TCE and 1,1,1-TCA contamination were found mainly upgradient on the western edge of the property, consistent with historic groundwater

data collected in 1987, and concentrations decrease quickly in downgradient samples. Concentrations of TCE have also decreased significantly (two orders of magnitude) compared to historic concentrations.

Groundwater data collected in August 2013 from the adjacent and upgradient property, Triple Cities Metal Finishing, suggests the source of the TCE and other VOC contamination at Shulman's Salvage Yard are from the Triple Cities site (Site No. 808045). The remedy for these VOC contaminants is being deferred to the Triple Cities Metal Finishing remedial program.

Based on the findings of the RI, the presence of SVOCs and metals has resulted in contamination of the groundwater. The primary contaminants of concern to be evaluated by the remedy selection process are: lead and arsenic.

Soil

Shallow soil (0 to 2 feet) and subsurface soil samples were collected in three phases during the RI on the subject site. Two phases were conducted onsite during the initial RI and a third was performed at the adjacent Norfolk Southern property as a supplemental investigation.

During the on-site investigation, a total of 130 surface soil samples were collected. 62 of these samples were collected at 0-1 feet and analyzed for PCBs only, while 68 of these samples were collected at 1-2 feet and analyzed for both PCBs and metals. A total of 111 subsurface soil samples were also collected on-site from soil borings at 2-4 feet, 4-8 feet, and 8-12 feet depth intervals (with exception of a refusal at 6 feet bgs in one location and three locations where depth was extended to 16 feet bgs to sample within the saturated zone). All of the samples were analyzed for PCBs and metals. 41 of these samples were also analyzed for VOCs and SVOCs. One soil sample was also collected from a catch basin on the property and analyzed for PCBs, metals, VOCs, and SVOCs.

The on-site soil investigation indicated widespread PCB and metals contamination across the Processing and Rail Transit areas of the site. Concentrations exceeding commercial use SCGs were mainly at depths of 0-4 feet bgs, with a limited number of samples exceeding SCGs at depths down to 12 ft bgs. PCB contamination consisted of mainly aroclors 1242, 1254, and 1260, with a limited number of samples detecting aroclors 1016 and 1248. The distribution of metals concentrations exceeding commercial use SCGs was largely consistent with that of PCBs. The catch basin soil sample indicated 2 VOCs and 4 SVOCs exceeding protection of groundwater SCGs.

In an additional phase of investigation, 84 soil samples were collected from the adjacent off-site Norfolk Southern property at 0-1 feet, 1-2 feet, and 2-4 feet intervals. Samples were analyzed for PCBs and metals.

The Norfolk Southern (NS) investigation indicated total PCBs exceeding 1 ppm SCGs in only one of 84 samples, located immediately adjacent to the Shulman site. Metals contamination at the NS property is more widespread, however concentrations above commercial use SCGs are generally limited to samples collected near the site property line. Metals that exceed unrestricted use SCGs are found across much of the rest of the NS property.

The following tables (Tables 2a, 2b, and 2c) present the findings of the soil investigation at the Shulman's Salvage Yard site.

Table 2a – On-site Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
VOCs					
Acetone	0.000055 – 1.9	0.05	21/41	500	0/41
1,1,1-Trichloroethane	0.016	0.68	0/41	500	0/41
Methylene Chloride	0.012	0.05	0/41	500	0/41
1,1-Dichloroethene	0.0059	0.33	0/41	500	0/41
2-Butanone (MEK)	0.0000068 – 0.48	0.12	10/41	500	0/41
Trichloroethene	0.0016 – 0.16	0.47	0/41	200	0/41
Toluene	0.00035 – 0.0018	0.7	0/41	500	0/41
Cis-1,2-Dichloroethene	0.0036	0.25	0/41	500	0/41
Methyl Tert-Butyl Ether	0.0011 – 0.012	0.93	0/41	500	0/41
SVOCs					
Benzo(a)pyrene	0.018 – 0.69	1	0/41	1	0/41
Dibenzo(a,h)anthracene	0.034 – 0.058	0.33	0/41	0.56	0/41
Benzo(a)anthracene	0.098 – 1.2	1	1/41	5.6	0/41
Acenaphthene	0.004 – 1	20	0/41	500	0/41
Phenanthrene	0.007 – 1.1	100	0/41	500	0/41
Fluorene	0.0082 – 0.58	30	0/41	500	0/41
Napthalene	0.0094 – 0.29	1.2	0/41	500	0/41
Detected Constituents	**Concentration Range Detected (ppm)[a]**	**Unrestricted SCG[b] (ppm)**	**Frequency Exceeding Unrestricted SCG**	**Restricted Use SCG[c] (ppm)**	**Frequency Exceeding Restricted SCG**
Anthracene	0.0061 – 0.34	100	0 of 41	500	0 of 41
Pyrene	0.0084 – 5.3	100	0 of 41	500	0 of 41
Dibenzofuran	0.0037 – 0.31	7	0 of 41	350	0 of 41

Benzo(g,h,i)perylene	**0.0089 – 0.26**	**100**	**0 of 41**	**500**	**0 of 41**
Indeno(1,2,3-cd)pyrene	**0.0075 – 0.36**	**0.5**	**0 of 41**	**5.6**	**0 of 41**
Benzo(b)fluoranthene	**0.0081 – 2.1**	**1**	**1 of 41**	**5.6**	**0 of 41**
Fluoranthene	**0.0081 – 5.7**	**100**	**0 of 40**	**500**	**0 of 40**
Benzo(k)fluoranthene	**0.012 – 2.8**	**0.8**	**1 of 40**	**56**	**0 of 40**
Acenaphthylene	**0.03 – 0.1**	**100**	**0 of 41**	**500**	**0 of 41**
1,2-Benzphenanthracene	**0.018 – 1.8**	**1**	**1 of 41**	**56**	**0 of 41**
Inorganics					
Arsenic	**1.5 - 179**	**13**	**92 of 179**	**16**	**62 of 179**
Barium	**19.5 - 1380**	**350**	**22 of 179**	**400**	**20 of 179**
Beryllium	**0.059 – 1.2**	**7.2**	**0 of 179**	**590**	**0 of 179**
Cadmium	**0.046 – 108**	**2.5**	**73 of 179**	**9.3**	**45 of 179**
Chromium	**3.5 – 1240**	**30**	**76 of 179**	**1500**	**0 of 179**
Chromium (Hexavalent Compounds)	**0.28 – 6.9**	**1**	**10 of 103**	**400**	**0 of 103**
Copper	**13.3 – 27300**	**50**	**105 of 179**	**270**	**70 of 179**
Lead	**2.4 – 18600**	**63**	**106 of 179**	**1000**	**49 of 179**
Manganese	**70.2 – 10100**	**1600**	**12 of 179**	**10000**	**1 of 179**
Mercury	**0.0086 – 116**	**0.18**	**79 of 179**	**2.8**	**22 of 179**
Nickel	**4.6 – 764**	**30**	**86 of 179**	**310**	**9 of 179**
Selenium	**0.45 – 80.7**	**3.9**	**16 of 179**	**1500**	**0 of 179**
Silver	**0.26 – 123**	**2**	**38 of 179**	**1500**	**0 of 179**
Zinc	**10.3 - 15300**	**109**	**110 of 179**	**10000**	**3 of 179**
Detected Constituents	**Concentration Range Detected (ppm)[a]**	**Unrestricted SCG[b] (ppm)**	**Frequency Exceeding Unrestricted SCG**	**Restricted Use SCG[d] (ppm)**	**Frequency Exceeding Restricted SCG**
PCBs					
Aroclor 1260	**0.11 - 14**	**0.1**	**113 of 241**	**1 / 10**	**17 of241**
Aroclor 1254	**0.14 – 59**	**0.1**	**133 of 241**	**1 / 10**	**43 of241**

Aroclor 1248	**1.3 – 6.7**	**0.1**	**4 of 241**	**1 / 10**	**1 of 241**
Aroclor 1016	**360 - 410**	**0.1**	**3 of 241**	**1 / 10**	**2 of 241**
Aroclor 1242	**0.069 - 180**	**0.1**	**116 of 241**	**1 / 10**	**33 of 241**
Total PCBs	**0.071 – 416.6**	**0.1**	**143 of 241**	**1 / 10**	**71 of 241**

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 Commercial Use, unless otherwise noted.
d – SCG: CP-51 Soil Cleanup Guidance for PCBs, 1 ppm in surface soils (0-1 ft bgs) and 10 ppm in subsurface soils (>1 ft bgs)

Table 2b – Catch Basin Soil

Detected Constituents	**Concentration Range Detected (ppm)[a]**	**Unrestricted SCG[b] (ppm)**	**Frequency Exceeding Unrestricted SCG**	**Restricted Use SCG[c] (ppm)**	**Frequency Exceeding Restricted SCG**
VOCs					
Acetone	**0.110**	**0.05**	**1 of 1**	**0.05**	**1 of 1**
2-Butanone (MEK)	**0.019**	**0.012**	**1 of 1**	**0.012**	**1 of 1**
SVOCs					
Benzo(a)pyrene	**5.8**	**1**	**1 of 1**	**22**	**0 of 1**
Benzo(a)anthracene	**6.4**	**1**	**1 of 1**	**1**	**1 of 1**
Phenanthrene	**4.5**	**100**	**0 of 1**	**1000**	**0 of 1**
Anthracene	**1.5**	**100**	**0 of 1**	**1000**	**0 of 1**
Pyrene	**7.8**	**100**	**0 of 1**	**1000**	**0 of 1**
Benzo(g,h,i)perylene	**1.9**	**100**	**0 of 1**	**1000**	**0 of 1**
Indeno(1,2,3-cd)pyrene	**1.9**	**0.5**	**1 of 1**	**8.2**	**1 of 1**
Benzo(b)fluoranthene	**8.8**	**1**	**1 of 1**	**1.7**	**1 of 1**
Fluoranthene	**10**	**100**	**0 of 1**	**1000**	**0 of 1**
1,2-Benzphenanthracene	**6.4**	**1**	**1 of 1**	**1**	**1 of 1**
Inorganics					

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
Arsenic	**11.8**	**13**	**0 of 1**	**16**	**0 of 1**
Barium	**128**	**350**	**0 of 1**	**820**	**0 of 1**
Beryllium	**0.33**	**7.2**	**0 of 1**	**47**	**0 of 1**
Cadmium	**2.5**	**2.5**	**1 of 1**	**7.5**	**0 of 1**
Chromium	**97.4**	**30**	**1 of 1**	**NE**	**-**
Copper	**228**	**50**	**1 of 1**	**1720**	**0 of 1**
Lead	**306**	**63**	**1 of 1**	**450**	**0 of 1**
Manganese	**828**	**1600**	**0 of 1**	**2000**	**0 of 1**
Mercury	**0.15**	**0.18**	**0 of 1**	**0.73**	**0 of 1**
Nickel	**69.1**	**30**	**1 of 1**	**130**	**0 of 1**
Selenium	**1.2**	**3.9**	**0 of 1**	**4**	**0 of 1**
Zinc	**487**	**109**	**1 of 1**	**2480**	**0 of 1**
PCBs					
Aroclor 1260	**0.19**	**0.1**	**1 of 1**	**3.2**	**0 of 1**
Aroclor 1254	**0.44**	**0.1**	**1 of 1**	**3.2**	**0 of 1**
Aroclor 1242	**0.35**	**0.1**	**1 of 1**	**3.2**	**0 of 1**
Total PCBs	**0.98**	**0.1**	**1 of 1**	**3.2**	**0 of 1**

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 Groundwater.
NE - not established

Table 2c – Off-site Soil (Norfolk Southern Property)

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG[c]
Inorganics					
Arsenic	**2.4 – 54.7**	**13**	**18 of 84**	**16**	**11 of 84**

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG[c]
Barium	**29.2 – 584**	**350**	**2 of 84**	**400**	**2 of 84**
Beryllium	**0.075 – 1**	**7.2**	**0 of 84**	**590**	**0 of 84**
Cadmium	**0.075 – 5.2**	**2.5**	**1 of 84**	**9.3**	**0 of 84**
Chromium	**4.9 – 179**	**30**	**14 of 84**	**1500**	**0 of 84**
Copper	**9.5 - 472**	**50**	**36 of 84**	**270**	**2 of 84**
Lead	**9.2 – 851**	**63**	**40 of 84**	**1000**	**0 of 84**
Manganese	**135 - 1940**	**1600**	**1 of 84**	**10000**	**0 of 84**
Mercury	**0.01 - 51**	**0.18**	**9 of 84**	**2.8**	**2 of 84**
Nickel	**7.5 – 62.3**	**30**	**8 of 84**	**310**	**0 of 84**
Selenium	**0.41 – 2.2**	**3.9**	**1 of 84**	**1500**	**0 of 84**
Silver	**0.47**	**2**	**0 of 84**	**1500**	**0 of 84**
Zinc	**11.4 - 1160**	**109**	**7 of 84**	**10000**	**0 of 84**
PCBs					
Aroclor 1260	**0.12 – 0.44**	**0.1**	**17 of 84**	**1**	**0 of 84**
Aroclor 1254	**0.11 – 0.78**	**0.1**	**9 of 84**	**1**	**0 of 84**
Total PCBs	**0.11 – 1.04**	**0.1**	**19 of 84**	**1**	**1 of 84**

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 Commercial Use, unless otherwise noted.

The primary soil contaminants are PCBs, lead, copper, cadmium, mercury, and arsenic. The primary soil contamination is believed to be associated with historic processing activities and operations at the site. The original source of PCB contamination is said to be from the on-siteprocessing of transformers containing PCB oils. Figures 3 and 4 depict the extent of contamination of PCBs and metals.

Based on the findings of the Remedial Investigation, the presence of PCBs and metals has resulted in the contamination of soil. 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, lead, copper, cadmium, mercury, and arsenic.

Catch Basin Water

Water samples were collected from catch basins on the subject site during the Remedial Investigation, in order to better understand the potential of the site's drainage network acting as a pathway for soil contamination. Catch basins at the site direct surface water runoff into storm sewers to the city sewer, which discharges to the Chemung River.

During the investigation, two surface water samples were collected from two catch basins on the site. Sample locations are shown in Figure 2. The samples were analyzed for VOCs, SVOCs, PCBs, and metals. The results of this analysis found four SVOCs (Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, 1,2-Benzphenanthracene) and seven metals (aluminum, copper, iron, lead, sodium, zinc) whose concentrations exceeded SCGs.

The following table (Table 3) presents the findings of the surface water investigation at the Shulman's Salvage Yard site.

Table 3 – Surface Water

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
VOCs			
Carbon Tetrachloride	**14 - 16**	**50**	**0/2**
1,1-Dichloroethane	**0.51**	**0.7**	**0/2**
SVOCs			
Benzo(a)pyrene	**1.4**	**0.002**	**1/2**
Phenanthrene	**0.85**	**50**	**0/2**
Anthracene	**0.46**	**50**	**0/2**
Pyrene	**2.9**	**50**	**0/2**
Benzo(b)fluoranthene	**1.9**	**0.002**	**1/2**
Fluoranthene	**0.43-2.5**	**50**	**0/2**
Benzo(k)fluoranthene	**1.3**	**0.002**	**1/2**
1,2-Benzphenanthracene	**1.5**	**0.002**	**1/2**
PCBs			
Aroclor 1260	**1.1**	**NE**	**-**
Aroclor 1254	**0.4-2.3**	**NE**	**-**
Inorganics			
Aluminum	**500-2400**	**87**	**2/2**

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
Barium	**80-110**	**1000**	**0/2**
Cadmium	**0.92-1.3**	**3**	**0/2**
Chromium	**2.9-13**	**122**	**0/2**
Cobalt	**0.97-2**	**5**	**0/2**
Copper	**46-130**	**15**	**2/2**
Iron	**1700-5200**	**300**	**2/2**
Lead	**28-96**	**7**	**2/2**
Magnesium	**7800-9100**	**35000**	**0/2**
Nickel	**16-25**	**87**	**0/2**
Sodium	**45800-54400**	**20000**	**2/2**
Vanadium	**4.9**	**14**	**0/2**
Zinc	**120-300**	**196**	**1/2**

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.
NE – not established

The primary surface water contaminants are lead and copper. The metals concentrations found in the catch basins were similar to concentrations found in site groundwater. The four SVOCs detected in the catch basins are not considered contaminants of concern, as they were not elevated in site groundwater and only detected in a limited number of soil samples.

Based on the findings of the Remedial Investigation, the presence of metals 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: lead and copper.

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. It does not include any institutional controls or monitoring, and leaves the site in its present, unremediated condition. This alternative does not provide any additional protection to public health and the environment.

Alternative 2: Excavation and Off-Site Disposal

Alternative 2 achieves all of the SCGs discussed in Section 6.1.1 and Exhibit A, and soil meets the unrestricted soil cleanup objectives listed in Part 375-6.8 (a). This alternative would include excavation of approximately 131,100 cubic yards of contaminated soils exceeding unrestricted use soil cleanup objectives (SCOs) from onsite and offsite impacted areas, backfilling and restoration of excavated areas, and transportation of debris and contaminated soils to an off-site treatment and/or disposal facility. A pre-design investigation would be conducted prior to implementation to refine the extent of contaminated soil to be addressed by this alternative. Site preparation activities would also be performed to demolish and/or remove existing site structures (e.g. railroad tracks) and debris piles on the surface that would prevent excavation. Confirmation sampling for PCBs and metals would be conducted during excavation activities, with analytical results verifying attainment of remediation goals. An interim groundwater use restriction would be put in place until appropriate groundwater use standards at the site are achieved. Following contaminated soil removal, excavated areas would be backfilled with clean fill, and structures removed during site preparation activities would be restored. Excavated soil would be sampled for characterization prior to transportation for off-site treatment and/or disposal. Implementation of this alternative would take approximately seven to nine months.

Present Worth: *$23,971,000*

Capital Cost: *$23,971,000*

Alternative 3: Excavation, Off-Site Disposal, On-Site Consolidation, and Site Cover

Alternative 3 includes excavation and off-site disposal of PCB contaminated soils and on-site consolidation of remaining metals contaminated soils above SCOs. All on-site areas where soil exceeds 1 ppm PCBs in the surface (top 1 foot of soil) and 10 ppm in the subsurface (deeper than one foot below ground surface), as defined by CP-51 Soil Cleanup Guidance, will be excavated and transported off-site for disposal at an appropriately permitted facility. All off-site areas where soil exceeds commercial standards for PCBs, as defined by 6 NYCRR Part 375-6.8(b), will also be excavated and transported off-site for disposal. Approximately 25,000 cubic yards of PCB contaminated soil will be removed from the site. On-site soils which exceed commercial-use SCOs for metals but which do not exceed commercial-use SCOs for PCBs will be excavated and consolidated among excavated areas in the sub-surface on-site above the water table. Off-site soils which exceed commercial soil cleanup standards for metals will also be excavated and consolidated among excavated areas in the sub-surface on-site above the water table. Approximately 26,000

cubic yards of soil will be excavated and consolidated on-site along with approximately 25,000 cubic yards of clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d), which will be brought in to replace excavated soil and complete the backfilling of the excavation to establish the designed grades at the site.

A site cover will be required to allow for commercial 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 one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial 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).

Alternative 3 will protect human health and the environment by removing impacted soils on-site and off-site to eliminate pathways to exposure. This alternative assumes that through the removal of the bulk of metals contaminants in soil, the remaining minimally impacted soils will not pose an undue risk to groundwater due to leaching. Prior to consolidation, samples from remaining metals-contaminated soil will be analyzed using the Toxicity Characteristic Leaching Procedure (TCLP) to ensure that these soils do not pose a risk to groundwater due to leaching. Additional soils will be disposed off-site if risks to groundwater are identified. Post-remediation, the groundwater monitoring network will be expanded as necessary to monitor the effectiveness of the remedy and ensure no off-site impacts. In addition to excavation, off-site disposal, consolidation, and soil cover installation, costs for this alternative include a pre-design investigation, site preparation and restoration activities, post excavation sampling, groundwater quality monitoring, and design of institutional controls for groundwater use, site cover maintenance, and unexcavated areas that exceed unrestricted use SCOs.

Present Worth: *$6,390,000*

Capital Cost: *$6,317,000*

Annual Costs: *$73,000*

Alternative 4: In-Situ Solidification and Stabilization

Alternative 4 would include in-situ solidification and stabilization of soils exceeding commercial-use SCOs. This alternative includes the treatment of approximately 44,100 cubic yards of contaminated soil.

In-situ solidification/stabilization (ISS) will be implemented on all on-site and off-site areas with contaminated soils exceeding commercial cleanup standards for metals and PCBs. ISS is a process that binds the soil particles in place creating a low permeability mass. The contaminated soil will be mixed in place together with solidifying agents (typically portland cement) or other binding agents using an excavator or augers. The soil and binding agents are mixed to produce a solidified mass resulting in a low permeability monolith. The solidified mass will then be covered with a cover system to prevent direct exposure to the solidified mass. The resulting solid matrix reduces or eliminates mobility of contamination and reduces or eliminates the matrix as a source of groundwater contamination.

Prior to implementation, treatability studies will be performed to determine an appropriate treatment agent for the soil. This alternative assumes that these studies can find a mixture appropriate for site use requirements. Costs associated with this alternative include a pre-design investigation, treatability studies, site preparation and restoration activities, in situ stabilization/solidification of contaminated soils, cover

system, and design of institutional controls for restricting groundwater use and use of site for untreated areas that exceed unrestricted use SCOs.

Present Worth: *$7,095,000*

Capital Cost: *$7,027,000*

Annual Costs: *$73,000*

Exhibit C

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
No Action	0	0	0
Excavation and Off-Site Disposal	23,971,000	0	23,971,000
Excavation, Off-Site Disposal, On-Site Consolidation, and Site Cover	6,317,000	73,000	6,390,000
In-Situ Solidification and Stabilization	7,027,000	73,000	7,095,000

Exhibit D

SUMMARY OF THE SELECTED REMEDY

The Department has selected Alternative 3, Excavation, Off-Site Disposal, On-Site Consolidation, and Site Cover as the remedy for this site. Alternative 3 will achieve the remediation goals for the site by excavating and consolidating contaminated soils to eliminate exposure routes and remove sources of groundwater contamination. The elements of this remedy are described in Section 7. The selected remedy is depicted in Figure 5.

Basis for Selection

The selected 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 selected remedy Alternative 3 satisfies this criterion by removing the PCB contaminated soils along with the bulk of metals contaminated soils which are hazardous to human health and the environmental. Surface exposure to any contaminated soils left onsite will be eliminated by consolidating soils in the subsurface underneath clean fill. Soils will be tested to ensure no threat to groundwater remains. Soils in off-site areas will be remediated to commercial standards, with metals contaminated soils being consolidated on-site in the subsurface and PCBs being transported off-site for disposal. Alternative 4 satisfies this criterion by solidifying and stabilizing the impacted soils to eliminate exposure pathways in the soil and in leaching to groundwater. Institutional controls will ensure proper use of the site to prevent exposure at the surface of the solidified mass. Alternative 1 (No Action) does not provide any additional protection to public health and the environment and will not be evaluated further. Alternative 2, by removing all soil contaminated above the unrestricted soil cleanup objective, meets the threshold criteria, assuming groundwater maximum contaminant levels (MCLs) are achieved after soil contamination is removed. Alternatives 3 and 4 rely on a commercial use restriction of the site and a restriction of groundwater use to protect human health, whereas Alternative 2 provides for unrestricted use of the site. Alternative 2 may require a short-term restriction on groundwater use until groundwater meets appropriate use standards.

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.

Both Alternatives 3 and 4 comply with SCGs to the extent practicable. Alternative 3 will meet commercial use SCOs and groundwater standards, through the removal and off-site disposal or consolidation of contaminated soils above commercial standards. Alternative 4 will meet the same soil and groundwater objectives by rendering contaminants immobile in treated soils, and reducing leachability on contact with water. Alternative 2 complies with this criterion to a greater extent by meeting the unrestricted use soil cleanup objectives and eliminating all sources of possible groundwater contamination. Because Alternatives 2, 3, and 4 satisfy the threshold criteria, the remaining criteria are particularly important in selecting a final remedy for the site.

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.

Alternative 2 is considered the most permanent solution, as it provides for the removal of all on-site contaminated soils. Alternative 3 similarly provides for permanent removal of the bulk of contaminated soils through excavation. Due to the nature of the site as a scrap yard, the remaining low-level metals impacted soils are most effectively addressed over the long-term via on-site consolidation. Alternative 4 is considered an effective long-term solution, but leaves contamination in place rather than removing it permanently from the site. Alternative 4 may require additional controls unfavorable to current site operations to prevent degradation or damage to the treated area. Alternatives 3 and 4 would require groundwater use restrictions, as well as property use restrictions due to the remaining contaminated soils left on site that exceed unrestricted standards.

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 2 and 3 would reduce the toxicity, mobility, and volume of on-site waste by transferring the material to an approved off-site facility. However, depending on the disposal facility, the volume of the material would not be reduced. The mobility of low-level metals impacts consolidated on-site under Alternative 3 would likely be unchanged but acceptable given site use and conditions. Alternative 4 would not destroy contaminants, but would significantly reduce the mobility and surface area of exposure of PCBs and metals contaminants through encapsulation. The volume and toxicity of metals contaminants may also be reduced to varying degrees based on the composition of the mixing agents used. However, the volume and toxicity of PCBs would not be reduced under Alternative 4.

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 2, 3, and 4 would all have significant on-site impacts due to activities performed on-site during implementation. However, the time to achieve remedial goals is shortest for Alternative 3. Alternative 4 would have the least possible impact to the community due to all activities being performed on-site, whereas Alternatives 2 and 3 would increase traffic on and near the site due to the need for off-site disposal of contaminated soils. Alternative 3 would involve less disturbances outside the site than Alternative 2 due to the lower volumes of soil be removed from the site. Short term impacts will be readily mitigated through the use of engineering controls.

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.

Alternatives 2 and 3 are favorable in that they are readily implementable. Alternative 4 is also implementable, although specialized equipment and careful planning and oversight would be required to ensure effective mixing of the S/S agent with contaminated soils. Ease of implementation and feasibility

under Alternative 4 are also dependent on the nature of the soils and the ability to find an effective mixture of treatment agents through bench-scale studies. The presence of scrap metal in the subsurface soils could also further complicate this factor. Alternatives 3 and 4 would require an administrative mechanism to implement institutional controls to maintain the status of the Site.

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.

Alternatives 3 and 4 have comparable costs, with Alternative 4 being 11% more costly than Alternative 3. However, the present worth costs for Alternative 4 assume a standard mix for the S/S. The actual material costs may vary significantly depending on the outcome of the treatability studies, meaning there is significant uncertainty in the actual cost for Alternative 4. In the event the leachability tests under Alternative 3 present concerns for consolidation of low-level metals impacted soils, additional excavation costs could increase up to 9.62 million, or up to 37% higher than Alternative 4. However, additional excavation is not likely given the low concentrations of contaminated soils that will remain on site. Alternative 2 provides for a more extensive cleanup than Alternatives 3 and 4, but has a much higher present worth cost (about four times as much as Alternative 3).

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.

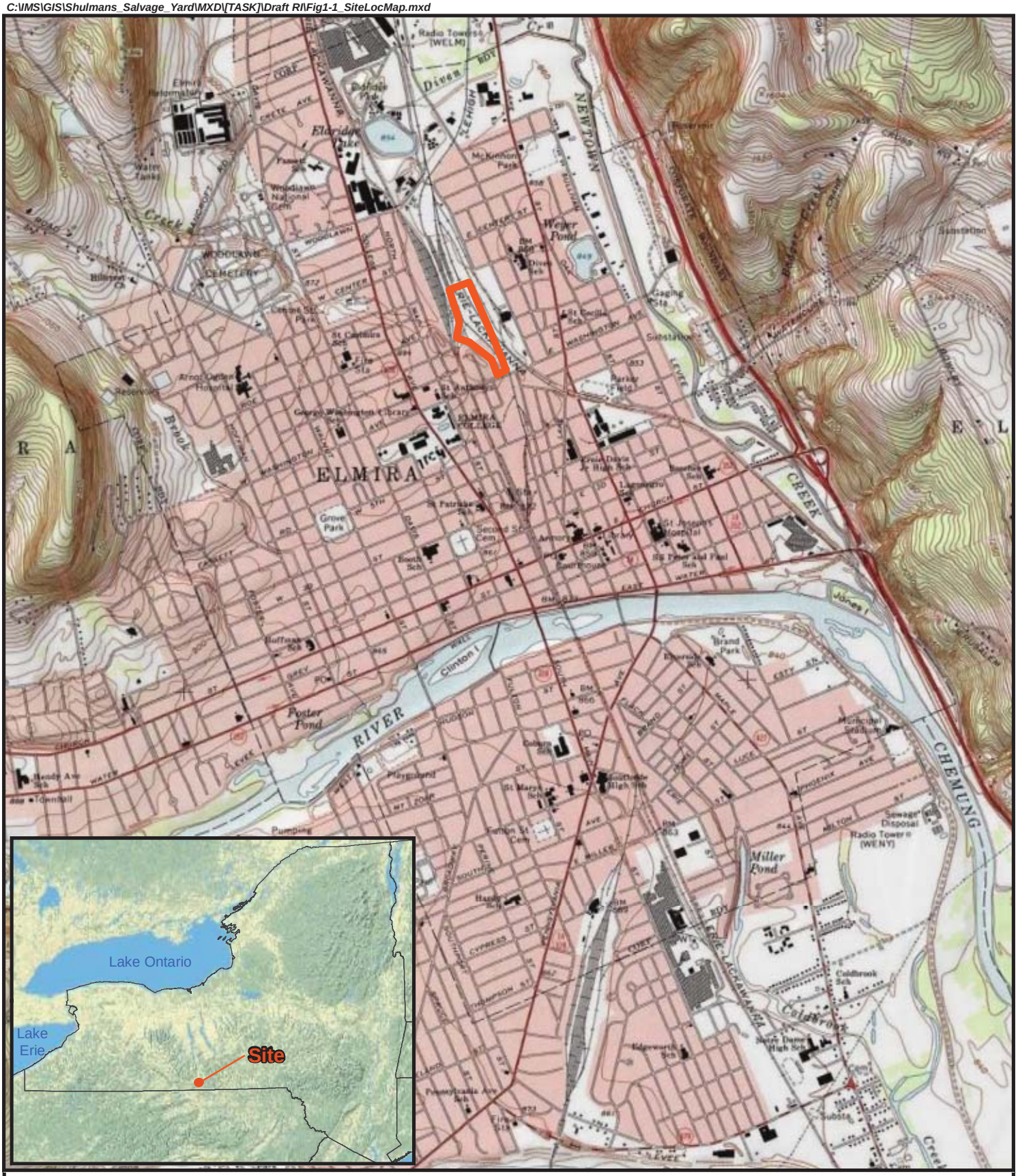
Since the anticipated use of the Shulman's Salvage Yard site is commercial, Alternatives 2, 3, and 4 would all address the contaminated soil to appropriate cleanup objectives. However, the residual contamination with Alternatives 3 and 4 would need to be controlled with the implementation of a Site Management Plan. Under Alternative 2, all of the contaminated soil would be removed and restrictions on the site use would not be necessary. In addition, off-site areas would also meet unrestricted use under Alternative 2, while Alternatives 3 and 4 would address the off-site contamination to commercial standards.

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 have been evaluated. A responsiveness summary was prepared that describes public comments received and the manner in which the Department will address the concerns raised.

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

C:\IMS\GIS\Shulmans_Salvage_Yard\MXD\[TASK]\Draft RI\Fig1-1_SiteLocMap.mxd



Site Boundary

N

0 0.25 0.5 1 Miles

Figure 1
Site Location Map
Shulman's Salvage Yard
Elmira, New York

CDM Smith

CATCH BASIN - SURFACE WATER	
Chemical Name	Site Specific Surface Water Criteria
Semi Volatile Organic Compounds (µg/l)	
1,2-Benzphenanthracene	0.002
Benzo(a)pyrene	0.002
Benzo(b)fluoranthene	0.002
Benzo(k)fluoranthene	0.002
Metals (mg/l)	
Aluminum	0.087
Copper	0.015
Iron	0.3
Lead	0.007
Manganese	0.3
Sodium	20
Zinc	0.196

GROUNDWATER	
Chemical Name	New York State Class GA Criteria
Volatile Organic Compounds (µg/l)	
1,1,1-Trichloroethane	5
1,1-Dichloroethene	5
1,1-Dichloroethane	5
Trichloroethene	5
cis-1,2-Dichloroethene	5
Semi-Volatile Organic Compounds (µg/l)	
Benzo(a)pyrene	0
Phenol	1
Metals (mg/l)	
Arsenic	0.025
Chromium	0.05
Iron	0.3
Lead	0.025
Manganese	0.3
Nickel	0.1
Sodium	20

GWS-50-15-19	
4/2/2013	
15-19 ft bgs	
Metals (mg/l)	
Iron	14.5
Manganese	0.59

GWS-50-26-30	
4/1/2013	
26-30 ft bgs	
Metals (mg/l)	
Iron	25.1
Lead	0.035
Manganese	1.9
Sodium	37.4

GWS-09-8-12
4/4/2013
8-12 ft bgs
No Exceedances

GWS-09-24-28	
4/3/2013	
24-28 ft bgs	
Volatile Organic Compounds (µg/l)	
1,1-Dichloroethane	5.9
Trichloroethene	6.9
Metals (mg/l)	
Iron	18.5 J
Lead	0.033
Manganese	0.89
Sodium	165

GWS-4-7-11	
3/28/2013	
7-11 ft bgs	
Semi Volatile Organic Compounds (µg/l)	
Phenol	1.3 J
Metals (mg/l)	
Iron	8.8
Lead	0.028
Manganese	1.7
Sodium	45.2

GWS-4-16-20	
3/28/2013	
16-20 ft bgs	
Metals (mg/l)	
Iron	17.6
Lead	0.044
Manganese	0.68
Sodium	88.6

BASIN-3-20130408	
4/8/2013	
0-0.5 ft bgs	
Metals (mg/l)	
Aluminum	0.5
Copper	0.046
Iron	1.7 J
Lead	0.028
Manganese	0.32 J
Sodium	54.4

GWS-3-7-11	
3/27/2013	
7-11 ft bgs	
Semi Volatile Organic Compounds (µg/l)	
Benzo(a)pyrene	0.5 J
Metals (mg/l)	
Iron	54
Lead	0.19
Manganese	0.62
Sodium	44.6

GWS-3-17-21	
3/27/2013	
17-21 ft bgs	
Metals (mg/l)	
Iron	44.1 J
Lead	0.078
Manganese	1.7
Sodium	103

GWS-903-17-21	
Duplicate of GWS-3-17-21	
3/27/2013	
17-21 ft bgs	
Metals (mg/l)	
Arsenic	0.045 J
Chromium	0.087 J
Iron	83.4 J
Lead	0.14
Manganese	1.9
Sodium	98.4

BASIN-4-WS-20130408	
4/8/2013	
0-0.5 ft bgs	
Semi Volatile Organic Compounds (µg/l)	
1,2-Benzphenanthracene	1.5 J
Benzo(a)pyrene	1.4 J
Benzo(b)fluoranthene	1.9 J
Benzo(k)fluoranthene	1.3 J
Metals (mg/l)	
Aluminum	2.4
Copper	0.13
Iron	5.2 J
Lead	0.096
Manganese	0.47 J
Sodium	45.8
Zinc	0.3

GWS-2-20-24	
03/26/2013	
20-24 ft bgs	
Volatile Organic Compounds (µg/l)	
Trichloroethene	69
Metals (mg/l)	
Arsenic	0.049
Chromium	0.18
Iron	154
Lead	0.19
Manganese	4.1
Nickel	0.23
Sodium	254

GWS-2-26-30	
03/26/2013	
26-30 ft bgs	
Volatile Organic Compounds (µg/l)	
Trichloroethene	25

GWS-1-10-14	
03/26/2013	
10-14 ft bgs	
Volatile Organic Compounds (µg/l)	
1,1,1-Trichloroethane	120
1,1-Dichloroethene	36
1,1-Dichloroethane	8.6
Trichloroethene	110
cis-1,2-Dichloroethene	13

GWS-08-8-12
4/3/2013
8-12 ft bgs
No Exceedances

GWS-08-26-30	
4/3/2013	
26-30 ft bgs	
Metals (mg/l)	
Iron	7 J
Manganese	0.55
Sodium	166

OUTLYING PARCEL
NORFOLK SOUTHERN PROPERTY
RAIL TRANSIT AREA
PROCESSING AREA
RIGHT OF WAY
RECYCLING AREA
GRAVEL DRIVE
RAILROAD SIDINGS
DEBRIS PILES
CRUSHER #2
BUILDING #3
TIRE PILE
STOCKPILE AREA
CRUSHER #1
SWALE
OFFICE BUILDING
SCALE
TRAILER
MAINTENANCE BUILDING
RECYCLING
LOT
100
GWS-50
GWS-04
GWS-03
GWS-09
GWS-08
GWS-02
GWS-01
MW-3S
MW-4S
MW-1D
MW-1S
MW-2S
BASIN-4
BASIN-3

Site Boundary
Norfolk Southern Property
Site Areas (as defined for RI discussion)
Historic Structures
Catch Basin
Manhole
Former Wells
Debris Piles
Fenceline

RI Sample Locations
Groundwater Screening Soil Boring
Surface Water/ Sediment Location

Notes:
1. Results that are highlighted yellow exceed the screening criteria.
2. Organic results are presented in ug/l or ug/kg.
3. Inorganic results are presented in mg/l or mg/kg.

Figure 2
Groundwater Screening and Catch Basin Water Exceedances
Shulman's Salvage Yard
Elmira, New York

N
0 62.5 125 250 Feet

CDM Smith

SOIL SAMPLES COLLECTED BETWEEN 0 AND 2 FEET BGS

SOIL SAMPLES COLLECTED BETWEEN 2 AND 4 FEET BGS

SOIL SAMPLES COLLECTED BETWEEN 4 AND 8 FEET BGS

SOIL SAMPLES COLLECTED GREATER THAN 8 FEET BGS

Site Boundary
Norfolk Southern Property
Site Areas (as defined for RI discussion)
Historic Structures
Catch Basin
Manhole
Former Wells
Debris Piles
Fenceline

Total PCBs in Soil Samples

- <1,000 ug/kg
- 1,000 - 10,000 ug/kg
- 10,000 - 100,000 ug/kg
- > 100,000 ug/kg

Total PCB Isocontours

- 1,000 - 10,000 ug/kg
- 10,000 - 100,000 ug/kg
- >100,000 ug/kg

N

0 75 150 300 Feet

Notes:
1. Results for total PCBs are presented in micrograms per kilogram (µg/kg).
2. Each plot presents the concentration of the specified contaminant in soil samples and interpolated isocontours meant to represent an approximate extent of contamination based on the current data.

Figure 3

Soil Sampling Results - April 2013 Data Total PCB Isocontours

Shulman's Salvage Yard
Elmira, New York

CDM Smith

0 to 1 feet
below ground surface

1 to 4 feet
below ground surface

4 to 8 feet
below ground surface

>8 feet
below ground surface

OUTLYING PARCEL
NORFOLK SOUTHERN PROPERTY
RAIL TRANSIT AREA
PROCESSING AREA
RECYCLING AREA
RIGHT OF WAY
GRAVEL DRIVE
RAILROAD SIDINGS
DEBRIS PILES
TIRE PILE
STOCKPILE AREA
OFFICE BUILDING
CARDBOARD/METAL RECYCLING
SCALE
TRAILER
GRAVEL PARKING LOT

Site Boundary
Norfolk Southern Property
Site Areas (as defined for RI discussion)
Former Structures
Former Wells
Catch Basin
Debris Piles
Manhole
Fenceline

Sample Results

- Samples below Unrestricted Use Standards
- Samples above Unrestricted Use Standards
- Samples above Commercial Standards

Contaminated Areas

- Areas above Unrestricted Use Standards
- Areas above Commercial Standards

Notes:

1. The indicated areas include site areas that are impacted by both PCBs and metals.
2. Areas that exceed unrestricted use standards would be addressed under presumptive remedy; other remedies would address areas that exceed commercial standards but would have to be combined with institutional control measures for areas that are below commercial standards but still exceed the unrestricted use standards.

N

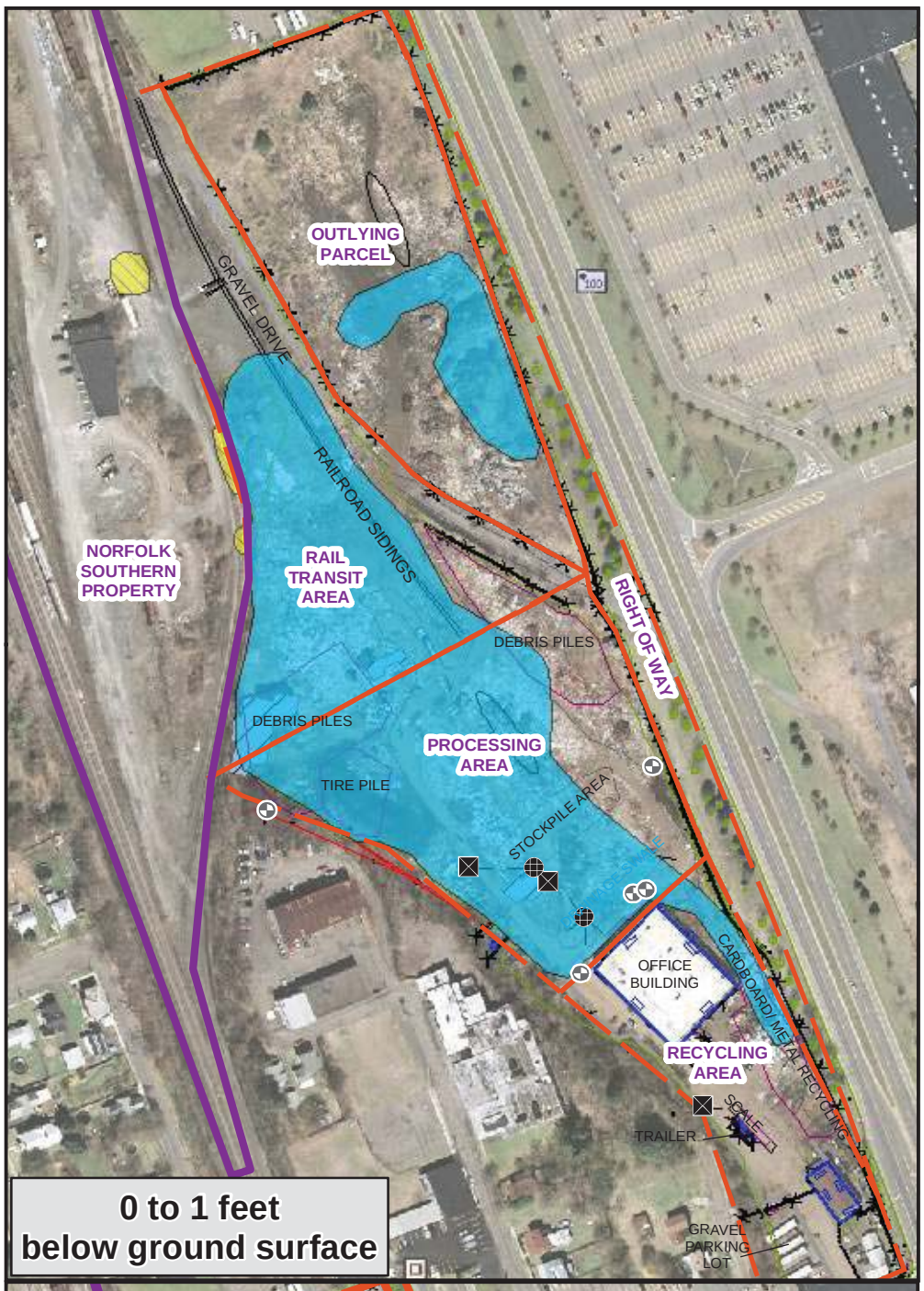
0 125 250 500 Feet

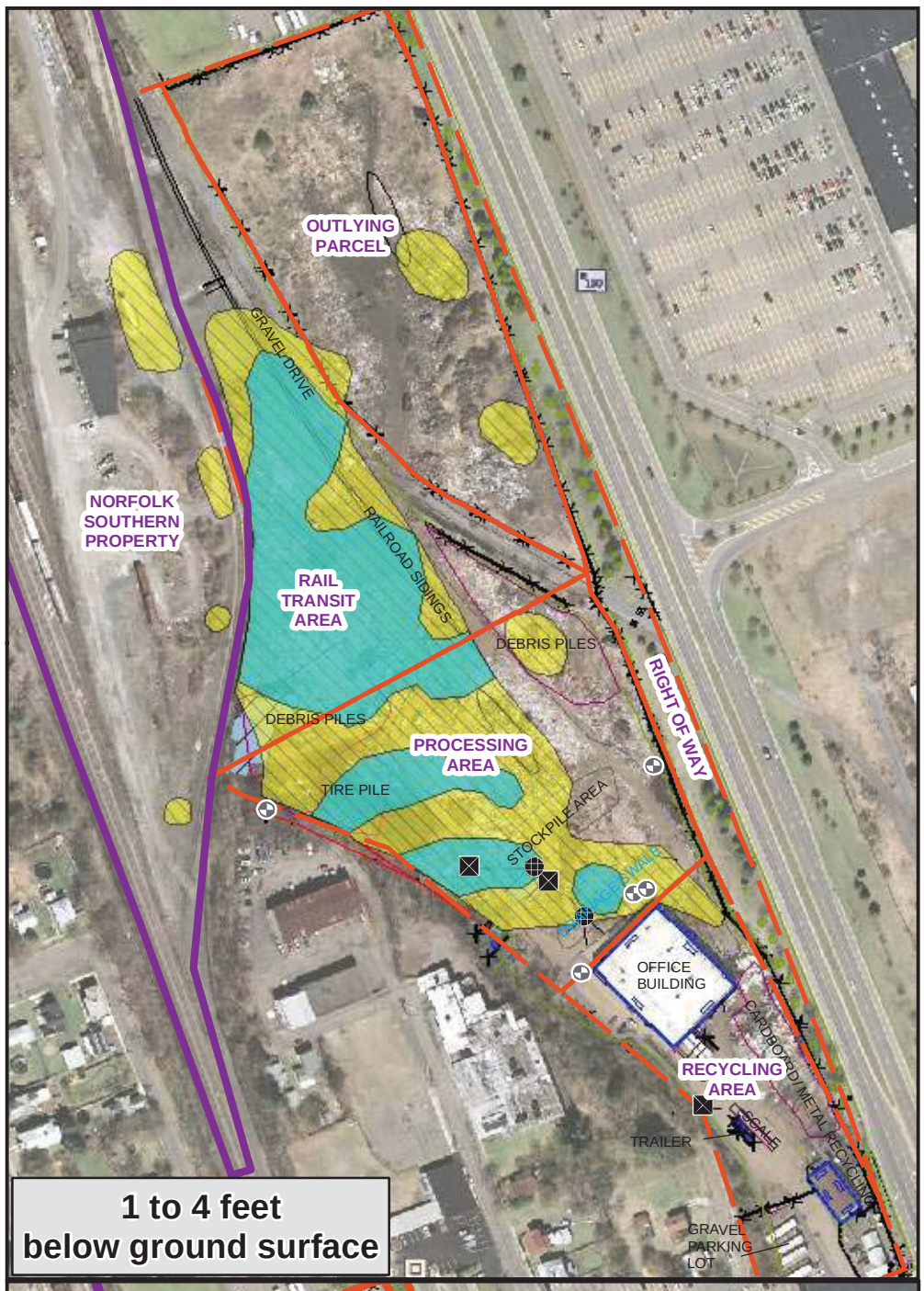
Figure 4

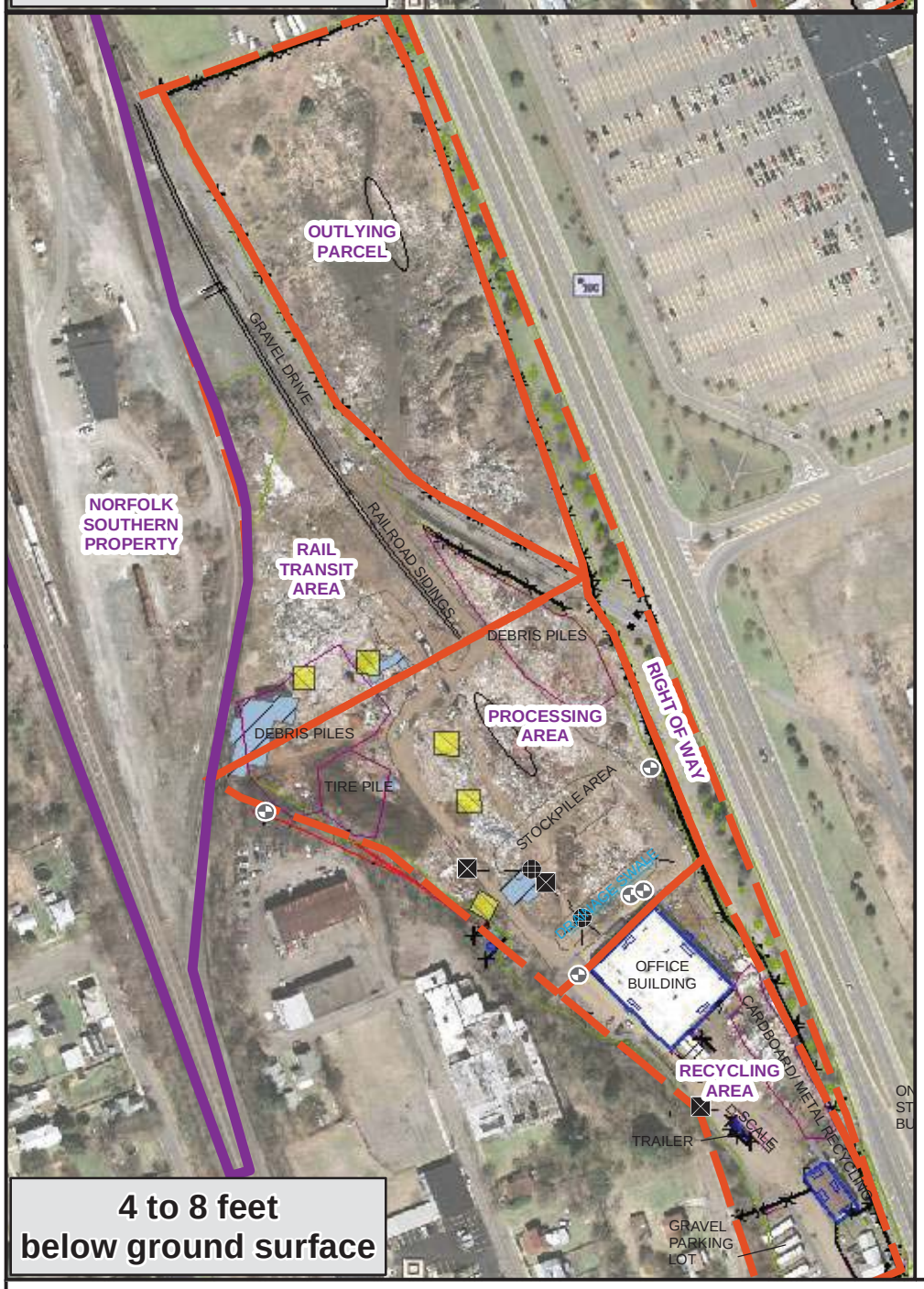
Soil Sampling Results - April 2013 Data
PCBs and Metals Contamination

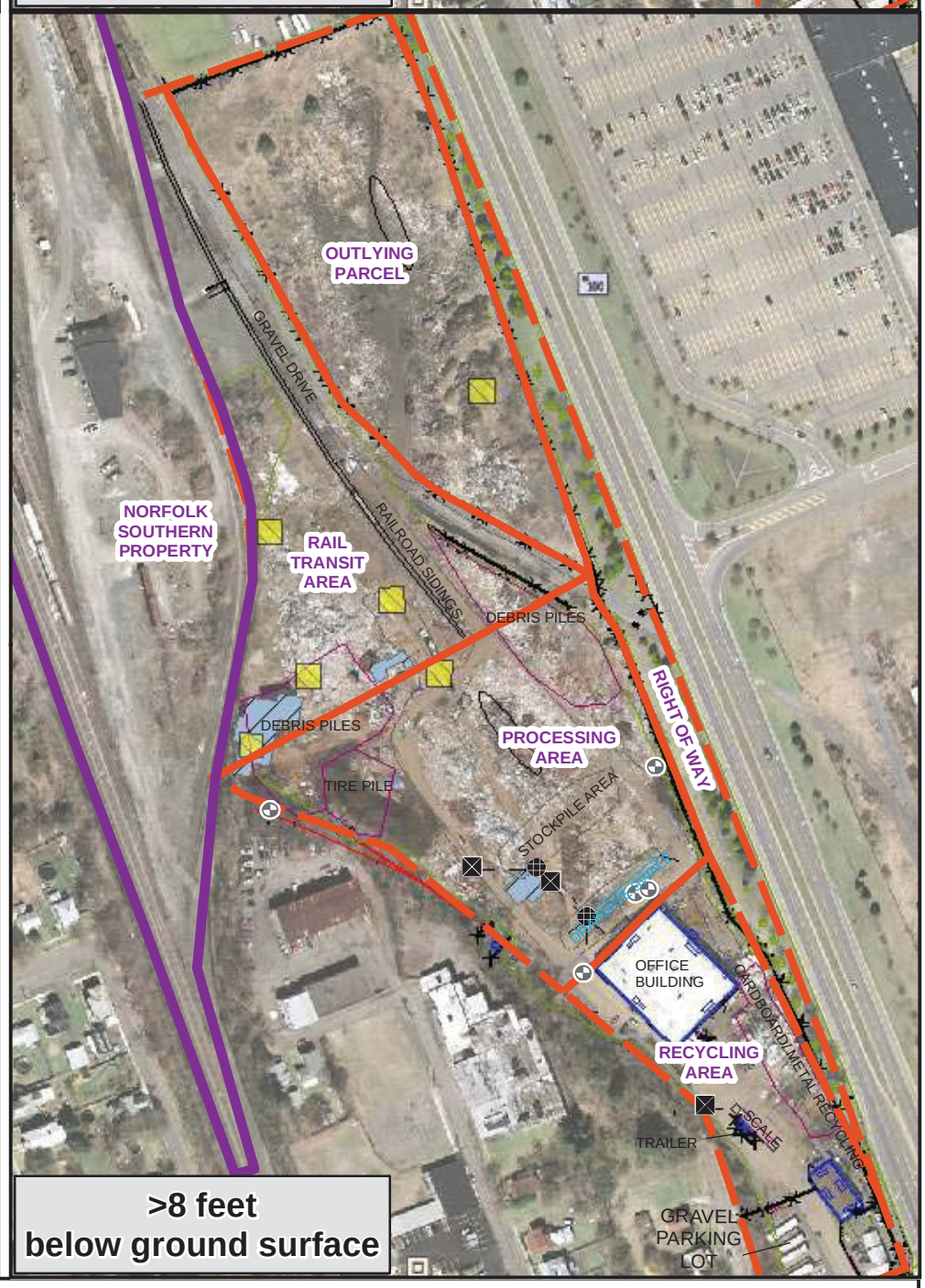
Shulman's Salvage Yard
Elmira, New York

CDM Smith









Site Boundary
Norfolk Southern Property
Site Areas (as defined for RI discussion)
Historical Structures
Former Wells
Catch Basin
Debris Piles
Manhole
Fenceline

N

0 125 250 500 Feet

Remediation Areas

PCB-Impacted Areas

Metals-Impacted Areas

Notes:

1.Alternative 3 would address all soils that exceed commercial standards for metals, that exceed 1 ppm PCBs at 0 to 1 feet depth, and that exceed 10 ppm PCBs at >1 feet depth
2. All PCB-impacted soils (shown in blue-colored areas) would be excavated and disposed of off-site.
3. All metals-impacted soils (shown in yellow-colored areas) outside of the PCB-impacted areas would be excavated, consolidated along with clean fill and backfilled in all area impacted by PCBs and metals.
4. Prior to consolidation, leachate testing would be performed to ensure that there are no risks to groundwater due to the metals-impacted soils that are consolidated on-site. If leachate testing indicates that on-site consolidation would pose risks to groundwater, then the metals-impacted soils would also be disposed of off-site.

Figure 5
Conceptual Design for Alternative 3
Excavation, Consolidation
Off-Site Disposal and Soil Cover

Shulman's Salvage Yard
Elmira, New York

CDM Smith

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Shulman's Salvage Yard Site
State Superfund Project
City of Elmira, Chemung County, New York
Site No. 808013

The Proposed Remedial Action Plan for the Shulman's Salvage Yard site was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 27, 2015. The Proposed Remedial Action Plan outlined the remedial measures proposed for the contaminated soil, groundwater, and catch basin water at the Shulman's Salvage Yard site.

The release of the Shulman's Salvage Yard was announced by sending a notice to the Chemung county listserv, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on March 24, 2015, which included a presentation of the remedial investigation feasibility study (RI/FS) for the Shulman's Salvage Yard site as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the Proposed Remedial Action Plan ended on March 30, 2015.

This responsiveness summary responds to questions and comments raised during the public comment period. The following are the comments received, with the Department's responses:

Comments 1 through 20 were submitted to the Department via a formal letter.

COMMENT 1:
According to DEC's February 2015 Fact Sheet, the property has operated as a salvage yard for nearly 50 years – since the late 1960s/early 1970s (Fact Sheet, p. 4). In fact, in 1978, the Shulman Company was located primarily east of its current location. This property was condemned by the State by eminent domain for the construction of a Clemens Center Parkway. To prevent the company from locating to Pennsylvania and to keep the business in New York, the State vigorously pursued a local relocation on Shulman's behalf. The current Salvage Yard sits on the former locations of the following:

- The Chemung Canal. Parts of this property were deeded to Shulman Company from the State of New York. When the Canal outlived its usefulness, it was filled by local governments with debris and waste materials. The Reformatory Sewer was also put in the canal, adding more debris until the ground was level.

- The site of railroad yards, having 5 spurs (switching yards of Erie Lackawanna, Lehigh Valley, Conrail, and Penn Central – later all absorbed by NS). Most of these properties were secured and deeded to Shulman by the State of New York to compensate for and facilitate Shulman's relocation to its present site.

Chemung Supply Co. leased property from NS and subsequently from Shulman after it was deeded to Shulman by the State. Chemung Supply stored used tanks (containing waste materials?) and used railroad cars with the ends removed.

RESPONSE 1: Comment noted. DEC will accept any information Shulman may provide to substantiate these allegations and if substantiated will pursue additional responsible parties. Identified responsible parties, including Shulman, will be given an opportunity to implement the selected remedy in the ROD pursuant to an agreement with the Department. One additional potentially responsible party, Norfolk Southern and its predecessor railroad companies, have been added to the potentially responsible party list in the ROD.

COMMENT 2:

- The current remedial program is similar to the one developed in 1986 (based on the 1984 site characterization) and later revised based on data obtained in a 1987 site characterization. Attorneys for Shulman successfully challenged the additional requirements imposed by DEC "which conflicted with original remedial requirements specified in [an initial] consent order." [PRAP, p. 3]. The PRAP characterizes the result of the earlier court action as nothing more than a "postponement" of the remedial program, and the current action as no more than a "resumption." The PRAP indicates (p. 3) that data collected during the initial site characterization activities in 1984 and 1987 initially evidenced that metal salvaging operations resulted in PCB and metals contamination in soil, groundwater, and surface water – the same issues referenced in the current PRAP and Final Remedial Investigation Report.

RESPONSE 2: Comment noted. The Department has revised Section 5 of the ROD in response to this comment. The remedial program detailed in a 1986 Order on Consent between the Department and Shulman was never implemented by Shulman. The selected remedy in the ROD amends and supersedes the remedial program contemplated by the 1986 Order and is the final remedy for this site.

COMMENT 3:

- The current PRAP acknowledges (p. 4) that groundwater "flows in a northeast direction toward Sullivan Street water supply wells and Newtown Creek." The groundwater flow gradient is important because at least two significant upgradient sources of contaminants attributed to Shulman are located directly adjacent to the Shulman site on the west: Tri-Cities Metal Finishing (TCMF) and Norfolk Southern Railway (NS). Earlier reports indicated a diametrically opposite groundwater flow gradient: "Previous investigations estimated groundwater flow direction to be approximately northwest, generally following the topography." [CDM Smith, Sept. 2014, p 3-3]. Figure 3-1 [Topographic Contours] of the Final Investigation Report shows that surface drainage along the TCMF site is toward the Shulman property. While, along the NS property, there is a component of surface flow toward the Shulman property, much of the flow is semi-circular, in multiple directions).

RESPONSE 3: The statement in the CDM Smith Remedial Investigation Report was an error. DEC has accepted the previous investigations which determined the groundwater flow direction to be approximately northeast, following the topography. The Department acknowledges that the

TCMF property is hydraulically upgradient to the Shulman site. However, the data shows groundwater flow runs in parallel with the property line that borders Norfolk Southern.

COMMENT 4:

- The PRAP concedes [p. 4] that the Sullivan Street water supply wells have been inactive since the late 1990s and are not planned to be reactivated in the foreseeable future.

RESPONSE 4: Comment noted.

COMMENT 5:

- DEC acknowledges (PRAP, p. 4) that Volatile Organic Carbon (VOC) contamination found at the Shulman Salvage Yard is "associated with an off-site source" – the TCMF site – and asserts that this TCMF contamination (both onsite and offsite) "will be addressed separately by the Department as part of the remedial program for the [TCMF] site…" However, in estimating the cost of remediating the aggregate contamination on the Shulman site, there has been no adjustment to take account of the VOC contamination contributed by TCMF. Concentrations of heavy metals are also lower in hydraulically downgradient samples (PRAP, p. 7), similarly suggesting an offsite [upgradient] source (i.e., TCMF).

RESPONSE 5: The VOC contamination (mainly TCE) on the Shulman site that is attributed to TCMF was not included in the scope of the cleanup for the PRAP, and therefore was not included in the cost estimate for the selected remedy. Thus no adjustment is needed. As stated in the PRAP and now the ROD, the VOC contamination (and the costs for any remedy proposed for addressing this contamination) will be addressed by the ongoing remedial program for the TCMF site (Site No. 808045). Metals contamination has not been attributed to the TCMF site, as the investigation and site data suggest it is linked to on-site sources.

COMMENT 6:

- Despite acknowledging that TCMF is responsible for some of the onsite contamination – both VOCs and metals – the PRAP [p. 4] lists "Shulman Company, Inc." as the only PRP [Potentially Responsible Party] "documented to date."

RESPONSE 6:

The PRAP identifies TCMF as potentially responsible solely for the chlorinated VOC contamination (TCE) present in on-site groundwater, clearly stating the suspected source of this contamination is upgradient on the TCMF property. TCMF was not identified as a potentially responsible party for the metals and PCB contamination on the Shulman site, thus TCMF is appropriately not identified as a PRP for the Schulman site (DEC #808013). The PRAP, and now the ROD, clearly identifies that the Department will address the VOC contamination as part of the remedial program for the separate TCMF class 2 site (Site No. 808045). See also Response 5.

COMMENT 7:

- Despite the previous co-location of NS (and predecessor railroad switching yards) at, and its current upgradient location to, the current Shulman site, and the well-known presence of hydraulic fluids and transformers at railroad facilities, neither NS nor its predecessors were listed as PRPs.

- Neither was the General Electric Foundry or the Chemung Supply CO. – despite their proximity to and connections with the site. Nor was the State of New York – a previous owner of a majority of the current Shulman site.

- Other presumptive PRPs include: Westinghouse Corporation; Trayer Products; Ann page Corporation; NYSEG; Ingersoll-Rand; Kennedy Valve; Elmira Heat Treat; Ward Diesel Filter-No Smoke; American LaFrance; Corning Inc.; Seneca Army Depot; City of Elmira; Chemung County; and Square Deal Machine.

RESPONSE 7: See Response 1. As stated, Norfolk Southern and its predecessor railroad companies, have been added to the potentially responsible party list in the ROD.

COMMENT 8:

- The on-site soil investigation is said [PRAP, p. 14] to have "indicated widespread PCB and metals contamination across the [Shulman] Processing and Rail Transit areas of the site" and that "[t]he distribution of metals concentrations exceeding commercial use SCGs [Soil Cleanup Guidelines] was largely consistent with that of PCBs." Although only one of 84 samples at the NS site indicated total PCBs at higher than the 1 ppm SCG, "metals contamination at the NS property is more widespread," with concentrations above commercial-use SCGs especially near the Shulman property line, and concentrations above unrestricted-use SCGs "found across much of the rest of the NS property" [PRAP, p. 14]. Although the hydrologic gradient goes to the east-northeast, the implication seems to be that the metals are being carried from the Shulman site to the NS site, rather than vice-versa. And once again, there is no adjustment in computing remediation costs for contamination contributed by the NS site. The PRAP acknowledges [p. 3] that "[t]he PCB contamination was suspected to be linked to a shipment of drained transformers [sent to the site by American LaFrance] processed on-site in 1982." See also Fact Sheet, p. 4.

RESPONSE 8: Metals in soil are not attributed to groundwater flow. Additionally, Norfolk Southern and its predecessor railroads may have contributed metals contamination to the site. However, as admitted by Shulman in Orders on Consent from 1984 and 1986, for a period of at least 25 years Shulman received PCB transformers and capacitors and dismantled this waste for metal salvaging, making Shulman a significant contributor of PCB contamination at the Site. See also Responses 1 and 3.

COMMENT 9:

- Although the current NS site is located west of the Shulman site, the entire Shulman property was formerly the site of 5 railroad spurs / switching yards that were all absorbed by NS. Most of these properties were deeded to Shulman by NYS, to compensate for former Shulman property (located further east) that was condemned for the construction of a highway. Railroads are known to use and handle PCB-contaminated oils. The Shulmans contend that any transformer shells brought into their yard were previously drained offsite. As noted above, the PRAP [p. 3] seems to accept the suspicion that the PCB contamination was linked to "Drained transformers."

RESPONSE 9: See Responses 1 and 8.

COMMENT 10:

- The contamination found on or about the Shulman property has little or no potential to adversely affect human health or the environment. As noted in the PRAP:
    a) Fish and wildlife impacts are not considered to be a significant exposure pathway [PRAP, p. 6].
    b) Catch basin water is considered indicative of a pathway for soil contamination to impact surface water because catch basins on the site direct surface water runoff into storm sewers to the city sewer, which discharges to the Chemung River. The primary surface water contaminants are considered to be lead and copper [PRAP, p. 21]. This is based on two sample results. (Copper is not a primary contaminant of concern at the Shulman site, and lead is not of major concern in surface waters.)
    c) Although contaminated groundwater flows toward the Sullivan Street water supply wells, those wells have not been used since the 1990s and there are no plans to use them in the foreseeable future [PRAP, p. 3-4].
    d) The site is said to be located "over a primary aquifer" [PRAP, p. 4] but there is no indication that contaminants leaching from the site are endangering the potability of the aquifer.
    e) PCBs were not detected above standards in site groundwater [PRAP, p. 7]. According to the Final Remedial Investigation Report (p. 4-1): "… [I]t would appear that the PCB's at the Shulman site are not mobile in the subsurface environment and are not significantly impacting groundwater quality." This is not surprising because PCBs do not dissolve in water and tend to remain immobile in soil.
    f) Concentrations of metals and VOCs appear lower in hydraulically downgradient samples [PRAP, p. 7] –i.e., they are of offsite origin. The primary metal contaminants of concern are "lead and arsenic." [PRAP, p. 14].
    g) "People are not drinking contaminated groundwater because the area is served by a public water supply that is not affected by site-related contamination." [PRAP, p. 8].
    h) "The majority of the site is fenced, which restricts public access. However, persons who enter unfenced portions of the site could contact contaminants in the soil by walking on the site, digging or otherwise disturbing the soil." [PRAP, p. 8]. This is an exaggerated concern. Digging could be restricted through institutional controls surficial contact by walkers could be avoided through a thin cap of uncontaminated soil or gravel in areas frequented by walkers. This is a commercial site that is not frequented by visitors and certainly not by susceptible young children.
    i) The only plausible route of human exposure discussed in the PRAP (p. 8) is soil vapor intrusion – which is entirely attributable to VOC contamination which DEC acknowledges to have originated offsite at the TCMF site.

RESPONSE 10: As stated in the PRAP, and now the ROD, the PCB and metals levels exceed SCOs for commercial use of the site indicating the potential for exposure. See the Remedial Action Objective for Public Health Protection [PRAP, p. 8]. Section 6.4 (Summary of the Human Exposure Pathways) of the PRAP addresses scenarios in which people may come into contact with contamination at the site in its current condition. The current human exposure

assessment for the site will reflect current conditions at the site until the site's remediation is complete.

COMMENT 11:

- As further evidence of the absence of public health risks at the Shulman site, an unannounced inspection of the Site by the Syracuse Office of OSHA in 1984 found "no health or safety violations" and issued no citations.

RESPONSE 11: OSHA is not applicable to exposure to the public to contaminated soils which may, as identified for this site, represent a significant threat to public health. Also see Response 10.

COMMENT 12:

- The selected Remedial Alternative is referred to as the "Excavation, Consolidation, Off-Site Disposal, and Site Cover remedy." [PRAP, p. 9]
    a) While it would not be unreasonable to remediate onsite areas contaminated with PCBs, if any, which were shown to be the result of onsite polluting activities, it defies logic to also require remediation of offsite PCB soil contamination – since the low soil mobility of PCBs is unlikely to result in spillover from onsite to offsite. It especially makes no sense to require cleanup of offsite PCB contamination to unrestricted-use levels – a much more stringent cleanup endpoint.

RESPONSE 12: In this instance, spillover from on-site to off-site would not be the result of PCB mobility but would result from the physical moving of soil due to facility process activities and regrading at the site. Off-site cleanup was proposed to residential standards, not unrestricted-use levels. There would be no change in the extent of the necessary cleanup of PCBs off-site under this requirement since the SCO for PCBs is the same for commercial and residential use, 1 ppm. However, the Department acknowledges the current and reasonably foreseeable future use of the off-site Norfolk Southern property is as a railroad, and has therefore modified the ROD to require cleanup to commercial standards.

COMMENT 13:

b) It should similarly not be necessary to excavate and consolidate off-site soils which exceed residential (i.e., unrestricted-use) soil cleanup standards.

RESPONSE 13: See Response 12.

COMMENT 14:

c) It is unfair and illogical to hold Shulman accountable for offsite contamination to unrestricted use levels – meaning suitable for residential, daycare, and nursing home uses – when the area is zoned Commercial and used primarily for industrial and commercial purposes.

RESPONSE 14: See Response 1 and Response 12.

COMMENT 15:

d) The costs of a new Remedial Alternative should be assessed that includes only (i) excavation and off-site disposal – or in-place capping – of only on-site soil contamination, and (ii) only of contamination in excess of Commercial SCOs.

RESPONSE 15: This ROD addresses the full extent of contamination attributable to the site. The suggested alternative is not compliant with the requirements for a remedial program set forth in 6 NYCRR Part 375 and thus was not developed and evaluated previously.

COMMENT 16:

e) It is also grossly unfair to hold the Shulman Salvage Yard, which has served the Elmira region for decades with beneficial recycling operations, and which occupies land conveyed by the State of New York to induce it to remain in the State, as the sole Responsible Party in this heavily industrialized area.

RESPONSE 16: See Response 1.

COMMENT 17:
In consideration of the foregoing, we respectfully request that NYSDEC take all of the following actions in generating its Record of Decision and promulgating a Final Remedial Action Plan for the Shulman Salvage Yard Site:

- assemble as complete a list as possible of Potentially Responsible Parties (PRPs) who caused or contributed to the contaminants of concern currently present on or around the Shulman Site, including all past or present Generators, Owners, Operators, Transporters, and/or Arrangers.
- notify all PRPs of their status and request documentation of their connections and contributions to contamination found on and around the Shulman Site.

RESPONSE 17: See Response 1.

COMMENT 18:

- defer completion of a final Record of Decision, identification of Remedial Alternatives, and finalization of a Remedial Action Plan for the Shulman site until parallel actions are completed for the TCMF and NS sites – since the allocation of cleanup responsibilities and costs for the Shulman Site cannot be separately determined without reference to these two adjacent upgradient properties.

RESPONSE 18: TCMF has not been identified as a PRP for this site, the VOC contamination attributable to that site is being handled under a separate investigation as a separate site (Class P, Site No. 808045). See also Response 1, Response 5, and Response 6.

COMMENT 19:

- consider sub-alternatives to Remedial Alternative #3, and associated capital and annual costs, that expressly: address elimination of “unrestricted use” cleanups for contamination located outside of (and especially upgradient of) the Shulman Site: allocate appropriate shares of cleanup costs on the Shulman Site to cleanup made necessary by TCMF and NS; and substitute institutional controls in-place capping and

isolation of immobile and harmless subsurface metal and PCB contamination for more stringent and expensive remedial measures.

RESPONSE 19: See Responses 12, 14, and 15.

COMMENT 20:

- redo the analysis of Remedial Alternative #3 to link every element of the proposed remedy to (a) a clearcut risk of specific harm to health or the environment; and (b) a specific dollar cost (capital and annual) for that element.

RESPONSE 20: The detailed cost estimates for each element are included in the FS which is available at the document repositories identified in the PRAP. Risks to public health and the environment were presented in section 6.4 of the PRAP, and now the ROD.

COMMENT 21:
Will an updated figure showing the cleanup of offsite areas to residential standards be provided?

RESPONSE 21: No update needed. See response 12.

COMMENT 22: Due to former land uses, it can be properly deduced that those lands secured and conveyed to us by the State of New York, were contaminated in the many years prior. It is that property on which we operate today.

RESPONE 22: See Response 1

COMMENT 23: The years that have transpired [since clean up at the property was pursued] have proven that the property, in fact, does not pose a health threat. No one, neither an employee, customer, nor neighbor has suffered health issues related to the land on which our company operates.

RESPONE 23: The assertion that people have not suffered health issues as a result of exposure to site-related contamination does not preclude the need to address contamination at the site. In 2006, the NYSDEC and the NYSDOH developed legislatively mandated soil cleanup objectives (SCOs) for priority chemicals at contaminated sites. The SCOs to be achieved by the selected remedy are protective of public health for the intended use of the site. Furthermore they are also considered protective of the environment in this case since no ecological resources have been identified on the site.

COMMENT 24: The transformers referred to in the PRAP were drained and received from the former American LaFrance site. If the transformers were drained off-site, as the State correctly asserts, then these transformers cannot be suspect of polluting our property. The PCBs were from our predecessors, as the Shulman Company property is the former home of many railroad yards for many years, known for having used PCB's in their operation.

RESPONE 24: See Responses 1 and 7.

COMMENT 25: The State's report alleges that we processed transformers in a "car flattner". It has never been a common practice to purchase and/or receive transformers. However, if a

transformer were to be processed, a “car flattner” would not be an appropriate means of processing.

RESPONE 25: Comment noted.

COMMENT 26: Shulman Company adheres to all environmental regulations, on both the state and federal levels. All items delivered to our property are examined by personnel for contaminants. Employees are trained by management to assure environmental compliance. If an item is deemed unacceptable it is refused. If an item is questionable, we defer to the NYS DEC as to its acceptability. In that instance, the decision to purchase or not is strictly based upon the advice of the DEC. Any items that had previously contained a hazardous substance cannot be purchased by our company without written verification that the hazardous substance was properly disposed.

RESPONSE 26: Comment noted. This comment does not speak to any past practices by Shulman. Additionally, see Response 9.

COMMENT 27: I don’t know what the Record of Decision will infer as to the liability on Shulman to bear the cost of the selected remedy…..I can only assume the company will be obligated to fund the entire cost of remediation.

Having lived in the downtown Elmira area, and being familiar with the commercial activity that was once along the upper State and Baldwin Streets (prior to becoming the Clemens Center Parkway) I’m very much in agreement with the remarks made during the Public Meeting on March 24, 2015, that a number of other business’ were most certainly contributors to the issue now found in the Shulman soil; in those days, decades ago, it was the unwritten practice to “dump” the spent compounds from their various processes “out back” much of which found its way to the area of concern. So I agree that to imply that Shulman is wholly responsible for the pollution simply ignores local history, and while “implication” may not be quite right, the tenor of the Public Meeting presentation, the facts laid out in the findings, and the presumed outcome of the DEC action would lead most folks to think that way.

RESPONSE 27: Comment noted. Please also see Response 1.

APPENDIX B

Administrative Record

Administrative Record

Shulman's Salvage Yard
State Superfund Project
City of Elmira, Chemung County, New York
Site No. 808013

1. "Proposed Remedial Action Plan for the Shulman's Salvage Yard site", dated February 2015, prepared by the Department.

2. "Fact Sheet, Proposed Remedy for Shulman's Salvage Yard Site", dated February 2015, prepared by Department.

3. "Feasibility Study Report", dated March 2015, prepared by CDM Smith.

4. "Technical Memorandum on Additional Option for FS Alternative 3", dated October 17, 2014, prepared by CDM Smith.

5. "Remedial Investigation Report", dated September 2014, prepared by CDM Smith.

6. Referral Memorandum dated May 31, 2011 for State funded remedial investigation/feasibility study and remedial design/remedial action.