RECORD OF DECISION

Union Fork & Hoe
State Superfund Project
Frankfort, Herkimer County
Site No. 622011
March 2018

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

DECLARATION STATEMENT - RECORD OF DECISION

Union Fork & Hoe
State Superfund Project
Frankfort, Herkimer County
Site No. 622011
March 2018

Statement of Purpose and Basis

This document presents the remedy for the Union Fork & Hoe 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 Union Fork & Hoe 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) 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) All on-site soils in the upper one foot which exceed the commercial soil cleanup objectives (SCOs) as defined by 6 NYCRR Part 375-6.8 will be excavated and transported off-site for disposal or reused on-site below the cover. Excavated surface soils which exceed the hazardous waste threshold will be treated on-site as described in remedy element 3 below, and then transported off-site for disposal at a permitted facility. Excavated non-hazardous surface soils which exceed the commercial SCOs (for PAHs and other metals including arsenic, barium, copper, and chromium) will be either transported off-site for disposal at a permitted facility or reused on-site under the site cover as described in remedial element 6 below. Approximately 4,000 cubic yards of surface soil are expected to be excavated. Confirmation samples will be collected from all excavated surface soil areas in accordance with DER-10. Excavation of surface soils will continue on-site until commercial SCOs are met. Volumes of excavated surface soil may vary based on confirmation sampling.

3) Off-site soil in areas adjacent to four on-site excavation locations will be excavated if confirmation samples from the on-site excavation boundaries exceed the soil cleanup objectives for residential use for site-related contaminants. Excavated off-site soils will be handled as described in Paragraph 6 below. Approximately 100 cubic yards of off-site soil are anticipated to be excavated and managed.

4) Ex-situ stabilization will be implemented to treat excavated soil which exceeds the hazardous waste threshold for metals. Approximately 1,600 cubic yards of soil are expected to require this treatment. Ex-situ stabilization is a process that uses a stabilizing agent to decrease the leachability of contaminants, eliminating the hazardous characteristic of the contaminant and allowing the material to be disposed of as a non-hazardous solid waste. Under this process the contaminated soil will be excavated and mixed in a temporary mixing facility with stabilizing agents prior to being disposed of at an appropriately permitted off-site facility.

5) Excavation and off-site disposal of identified subsurface contaminant source areas, including:

- soil exceeding the 6 NYCRR Part 371 hazardous criteria for metals; and
- soil which exceeds 500 ppm for the total polycyclic aromatic hydrocarbons (PAHs) as defined in Commissioner Policy CP-51.

6) On-site soil which does not exceed the excavation criteria in element 4 or the protection of groundwater SCOs for any constituent may be used anywhere beneath the site cover, including below the water table, to backfill to existing grades. On-site soil which does not exceed the above excavation criteria but does exceed the protection of groundwater SCOs may be used below the cover system but must be placed above the water table. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling and establish the design grades. The site will be re-graded to accommodate installation of the site cover. Brick debris from the former site buildings will also be utilized as backfill material. For off-site excavation areas, backfill must meet the residential SCOs.

7) A site cover will be required to allow for commercial use of the site in areas where the upper one foot of exposed surface soil will exceed the applicable SCOs. The site cover may include paved surfaces, parking areas, sidewalks or a soil cover. Where a soil cover is used it will

be a minimum of one foot of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative cover. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d). In areas where building foundations or building slabs preclude contact with the soil, the requirements for a site cover will be deferred until such time that they are removed.

8) Groundwater contamination (remaining after Interim Remedial Measures) Groundwater will be monitored for site related contamination periodically which will provide an understanding of the breaking down of contamination. It is anticipated that contamination will decrease to beneath groundwater standards without further active remediation.

9) Institutional Control

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

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3);
- allow the use and development of the controlled property for commercial or industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- require compliance with the Department approved Site Management Plan.

10) Site Management Plan

A Site Management Plan is required, which includes the following:

a) an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The environmental easement discussed in paragraph 9 above.

Engineering Controls: The site cover discussed in remedial element 7 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater use;
- a provision for evaluation of the potential for soil vapor intrusion for any new buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in remedy element 7 above will be placed in any areas where the upper one foot of exposed surface soil exceed the applicable soil cleanup

objectives (SCOs)

- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- monitoring of the public well field and groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department; and
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

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 28, 2018

Date

Michael J. Ryan, P.E., Director
Division of Environmental Remediation

RECORD OF DECISION

Union Fork & Hoe
Frankfort, Herkimer County
Site No. 622011
March 2018

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 repositories:

Village of Frankfort
110 Railroad Street
Frankfort, NY 13340
Phone: (315) 895-7651

NYSDEC
Attn: William Bennett
Division of Environmental Remediation, 11th Floor
625 Broadway
Albany, NY 12233-7014
Phone: (518) 402-9662

A public meeting was also conducted. 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 Union Fork and Hoe site is located in a suburban area in the Village and Town of Frankfort, Herkimer County. The site consists of a rectangular-shaped area of approximately 29 acres along East Main Street. The site is approximately one half mile southwest of the Mohawk River.

Site Features: The site is currently vacant with no structures. All site buildings were demolished in 2012 after a fire destroyed several buildings in the northern portion of the site. The majority of the site is currently covered by building slabs and open areas with some more densely vegetated areas along the site boundaries. A public water supply well field is located adjacent to and northeast of the site.

Current Zoning/Use: The site is currently inactive, and is zoned for commercial and industrial use. The surrounding area has a mix of industrial, commercial, and residential zoned properties.

Past Use(s) of the Site: The site has been used for industrial purposes for over 100 years. In the late 19th and early 20th centuries, railroad operations took place in the central portion of the site. For most of the 20th century, the site was used for the manufacture of hand tools such as hoes, shovels, and forks. Manufacturing processes included forging, stamping, painting, varnishing,

and milling. In 2006, the site was acquired by Ames True Temper, and manufacturing operations were discontinued.

The site has been the subject of several environmental investigations. Several removal actions have been performed at the site to address impacts to site soils over the last 30 years. In 1991, a treatment system was placed on the nearby municipal wells due to the discovery of volatile organic compounds (VOCs). Ongoing monitoring indicates the influent to the treatment system meets water quality standards prior to treatment. In 2011, Ames True Temper signed a Consent Order with the Department to complete a remedial program at the site. The area around the site is serviced by the municipal well field and there are no known private wells in the vicinity of the site.

Site Geology and Hydrogeology: The site lies on relatively flat terrain one half mile southwest of the Mohawk River. Site soils primarily consist of glacial till, which increases in density with depth. Overburden groundwater is encountered at approximately 15 feet below grade. Bedrock is mostly at depths greater than 50 feet. Groundwater flow is primarily northeast towards the Mohawk River.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to 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:

Union Fork & Hoe Co.

Ames True Temper

The Department and Ames True Temper entered into a Consent Order on August 15, 2011. The Order obligates the responsible parties to implement a full remedial program. After the remedy is selected, the Department will approach the PRPs to implement the selected remedy. If an

agreement cannot be reached with the PRPs, the Department will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the state for recovery of all response costs the state has incurred.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

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

The following general activities are conducted during an RI:

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

The analytical data collected on this site includes data for:

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

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. 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:

arsenic	benzo(a)pyrene
barium	chrysene
copper	dibenz[a,h]anthracene
lead	indeno(1,2,3-CD)pyrene
benzo(a)anthracene	tetrachloroethene (PCE)
benzo(b)fluoranthene	trichloroethene (TCE)

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

- groundwater
- soil

6.2: Interim Remedial Measures

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

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

IRM Soil Removal

In April 1985, approximately 65 cubic yards of soil impacted by waste paint and solvents from an area east of former Building 215 were excavated and disposed of off-site. The limits of the excavation were determined in the field based on visual inspection. Work was completed subject to a work plan entitled Proposal Plan of Action - Surficial Clean Up of Spill dated April 9, 1985 and disposal was documented in a project memorandum dated June 19, 1985.

IRM Source Removal

A source removal IRM was undertaken from March 2009 until January 2010 to remove soil impacted by volatile organic compounds (VOCs) and petroleum hydrocarbons. The IRM included removal and off-site disposal of approximately 119 cubic yards of VOC impacted soil from an area within former Building 213, approximately 87 cubic yards of VOC impacted soil from an area within former Building 203, and approximately 2,780 cubic yards of petroleum impacted soil from a former fuel oil spill area near former Building 16. Confirmation samples

met protection of groundwater soil cleanup objectives (SCOs) for VOCs. The IRM is documented in the February 24, 2010 IRM Completion Report.

IRM Building Demolition

This Interim Remedial Measure took place from May 2012 to April and consisted of the demolition of all on-site buildings. Initially, asbestos abatement and asbestos air monitoring were conducted, following by asbestos removal. Buildings were then stripped of all material besides wood, brick, block, steel, and concrete. Buildings were then characterized for contamination and demolished in place. Contaminated debris was disposed of off-site. Uncontaminated wood was segregated and reclaimed and steel was recycled. Uncontaminated brick, block, and concrete was ground into pieces less than 3 inches in diameter, and this material remains on-site for possible use as on-site fill material. The IRM is documented in the May 15, 2015 Construction Completion Report and November 10, 2015 Construction Completion Report addendum.

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.

Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), and pesticides. Soil vapor, sub-slab vapor, and indoor air samples were analyzed for VOCs. Based upon investigations conducted to date, the primary contaminants of concern are SVOCs and metals in shallow soil, VOCs in groundwater, and VOCs in soil vapor.

Soil - SVOCs and metals are found in shallow soil (0-1 foot in depth) in several areas of the site exceeding soil cleanup objectives (SCOs) for both commercial and unrestricted use. Polycyclic aromatic hydrocarbons (PAHs), a subset of SVOCs, are also present in soil in several areas around the site exceeding SCOs. Arsenic is present in shallow soils throughout the site at levels that exceed SCOs. Lead concentrations exceeding the SCO are primarily located in the north-central portion of the site. Barium and copper exceedances are limited, and generally coincide with elevated detections of arsenic and lead. Arsenic was observed at a maximum concentration of 180 parts per million (ppm) in shallow soil and lead was observed at a maximum concentration of 220,000 ppm in shallow soil as compared to their SCOs of 13 ppm and 63 ppm for unrestricted use, and 16 ppm and 1,000 ppm for commercial use, respectively. SVOCs and metals exceed SCOs for subsurface soil in several areas of the site, however SVOCs and metals present in subsurface soils have not migrated into groundwater. Samples collected along the boundary of the site indicate that PAHs and metals (arsenic, copper, and lead) may exceed unrestricted and residential SCOs in off-site shallow soil.

Groundwater - Tetrachloroethene (PCE) is found in groundwater slightly exceeding the groundwater standard of 5.0 part per billion (ppb) in two wells. A PCE concentration of 7.5 parts per billion (ppb) was detected in shallow monitoring well near the southern boundary of the site and A PCE concentration of 5.1 ppb was detected in an intermediate monitoring well to the east of the site. PCE was also detected below the groundwater standard at several other shallow and intermediate wells on-site and to the east of the site, but was not detected in deep wells. A public water supply well field is located adjacent to and northeast of the site which was impacted by site contamination. In 1991, a treatment system was placed on the municipal wells. Recent sampling of the well field has shown PCE concentrations in the influent meeting groundwater standards.

Soil Vapor, Sub-slab Vapor, and Indoor Air - Prior to building demolition, sub-slab vapor and indoor air samples were collected from the on-site buildings. Analytical results from this sampling indicated mitigation was needed, however the buildings were subsequently demolished. The VOCs PCE and trichloroethene (TCE) were detected in soil vapor samples collected from the site following building demolition. The results of on-site soil vapor and environmental sampling indicate further evaluation of soil vapor intrusion for any future buildings on the site is warranted. Off-site soil vapor intrusion sampling data did not indicate a need to implement abatement or monitoring actions to address exposures related to soil vapor intrusion.

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 a treatment system has been installed on the Village of Frankfort municipal wells. The site is completely fenced which restricts public access. Contact with contaminated groundwater and soil is unlikely unless one digs below the ground surface. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because the site is vacant, the inhalation of site related contaminants due to soil vapor intrusion does not represent a current concern. However, the potential does exist for people to inhale site contaminants in indoor air due to soil vapor intrusion in any future on-site building occupancy or site redevelopment. Sampling indicates soil vapor intrusion is not a concern for off-site buildings.

6.5: Summary of the Remediation Objectives

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

contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.

Soil

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

Soil Vapor

RAOs for Public Health Protection

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

SECTION 7: 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, On/Off-site Disposal, Site Cover, Institutional Controls remedy.

The estimated present worth cost to implement the remedy is $1,336,000. The cost to construct the remedy is estimated to be $1,090,000 and the estimated average annual cost is $16,000.

The elements of the selected remedy are as follows:

1) 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) All on-site soils in the upper one foot which exceed the commercial soil cleanup objectives (SCOs) as defined by 6 NYCRR Part 375-6.8 will be excavated and transported off-site for disposal or reused on-site below the cover. Excavated surface soils which exceed the hazardous waste threshold will be treated on-site as described in remedy element 3 below, and then transported off-site for disposal at a permitted facility. Excavated non-hazardous surface soils which exceed the commercial SCOs (for PAHs and other metals including arsenic, barium, copper, and chromium) will be either transported off-site for disposal at a permitted facility or reused on-site under the site cover as described in remedial element 6 below. Approximately 4,000 cubic yards of surface soil are expected to be excavated. Confirmation samples will be collected from all excavated surface soil areas in accordance with DER-10. Excavation of surface soils will continue on-site until commercial SCOs are met. Volumes of excavated surface soil may vary based on confirmation sampling.

3) Off-site soil in areas adjacent to four on-site excavation locations will be excavated if confirmation samples from the on-site excavation boundaries exceed the soil cleanup objectives for residential use for site-related contaminants. Excavated off-site soils will be handled as

described in Paragraph 6 below. Approximately 100 cubic yards of off-site soil are anticipated to be excavated and managed.

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5) Excavation and off-site disposal of identified subsurface contaminant source areas, including:

- soil exceeding the 6 NYCRR Part 371 hazardous criteria for metals; and
- soil which exceeds 500 ppm for the total polycyclic aromatic hydrocarbons (PAHs) as defined in Commissioner Policy CP-51.

6) On-site soil which does not exceed the excavation criteria in element 4 or the protection of groundwater SCOs for any constituent may be used anywhere beneath the site cover, including below the water table, to backfill to existing grades. On-site soil which does not exceed the above excavation criteria but does exceed the protection of groundwater SCOs may be used below the cover system but must be placed above the water table. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling and establish the design grades. The site will be re-graded to accommodate installation of the site cover. Brick debris from the former site buildings will also be utilized as backfill material. For off-site excavation areas, backfill must meet the residential SCOs.

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

8) Groundwater contamination (remaining after Interim Remedial Measures) Groundwater will be monitored for site related contamination periodically which will provide an understanding of the breaking down of contamination. It is anticipated that contamination will decrease to beneath groundwater standards without further active remediation.

9) Institutional Control

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

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3);
- allow the use and development of the controlled property for commercial or industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
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a) an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The environmental easement discussed in paragraph 9 above.

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This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater use;
- a provision for evaluation of the potential for soil vapor intrusion for any new buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in remedy element 7 above will be placed in any areas where the upper one foot of exposed surface soil exceed the applicable soil cleanup objectives (SCOs)
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- monitoring of the public well field and groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department; and
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination.

For each medium for which contamination was identified, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and inorganics (metals and cyanide). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, if applicable, the Restricted Use SCGs identified in Section 4 and Section 6.1.1 are also presented.

Waste/Source Areas

As described in the RI report, waste/source materials were identified at the site and are impacting soil.

Wastes are defined in 6 NYCRR Part 375-1.2(aw) and include solid, industrial and/or hazardous wastes. Source areas are defined in 6 NYCRR Part 375(au). Source areas are areas of concern at a site were substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Wastes and source areas were identified at the site include, elevated levels of lead in soil and elevated levels of polycyclic aromatic hydrocarbons (PAHs) in subsurface soil.

Waste/source areas were identified at this site including soils with very high concentrations of lead (up to 220,000 parts per million lead) which potentially exceed the hazardous waste thresholds for lead (6 NYCRR Part 371) of 5 milligrams per liter (mg/L) by the toxicity characteristics leaching procedure (TCLP). Waste/source areas also include soils with high concentrations of total polycyclic aromatic hydrocarbons (PAHs) in subsurface soil. The approximate extent of waste/source areas at the site are shown on Figure 5.

The waste/source areas identified will be addressed in the remedy selection process.

Groundwater

Groundwater samples were collected from overburden monitoring wells screened at various depths as part of the Remedial Investigation (RI) in June and July 2013. The samples were collected to assess groundwater conditions on and off-site. The results of groundwater sampling are summarized in Table 1 and Figure 2. Shallow groundwater flow is shown on Figure 3. The results indicate that contamination in groundwater at the site exceeds the SCGs for VOCs and inorganics. Groundwater standards were not exceeded for SVOCs, PCBs, or pesticides. Groundwater flow was observed to be in a northeast direction towards the Mohawk River.

Table 1 - Groundwater

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
VOCs			
Tetrachloroethene	ND – 7.5	5	2 of 36

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
Inorganics			
Cobalt	ND – 14	5	1 of 36
Iron	ND – 14,000	300	14 of 36
Magnesium	ND – 87,000	35,000	1 of 36
Manganese	ND - 1,400	300	5 of 36
Sodium	17,000 – 130,000	20,000	35 of 36
Zinc	ND – 110	66	1 of 36

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 contaminant of concern is the VOC tetrachloroethene. VOC groundwater contamination is associated with historic use of chlorinated solvents during the industrial use of the site. No soil samples collected during the RI exceeded the protection of groundwater soil cleanup objectives (SCOs) for VOCs, indicating there is no documented remaining source of VOCs to groundwater in soil. Soils containing VOCs were previously removed from the site during the interim remedial measures (IRMs) discussed in Section 6.2. The VOC contamination present in groundwater slightly exceeds groundwater standards and appears to be residual in nature, indicating the previously completed interim remedial measures were successful in removing the source of groundwater contamination.

The metals observed above SCGs in groundwater were not found at significant levels in soils or wastes (no exceedances of unrestricted SCOs in soils for any identified groundwater contaminants), are commonly associated with naturally occurring phenomenon. Therefore, the inorganic compounds found in groundwater are not considered site specific contaminants of concern.

Based on the findings of the RI, the presence of tetrachloroethene (PCE) has resulted in the contamination of groundwater. The site contaminant that is considered to be the primary contaminant of concern which will drive the remediation of groundwater to be addressed by the remedy selection process is tetrachloroethene (PCE).

Soil

Shallow and subsurface soil samples were collected at the site during the RI. Shallow soil samples were collected from a depth of 0-1 foot. Subsurface soil samples were collected from a depth of 1-35 feet to assess soil contamination impacts to groundwater. The results indicate that shallow soils at the site exceed unrestricted and commercial SCOs for polycyclic aromatic hydrocarbons (PAHs) and metals and unrestricted SCOs but not commercial SCOs for PCBs at one location. Unrestricted and commercial SCOs were not exceeded for VOCs or pesticides. The results of shallow soil samples collected between 0 and 1 foot in depth are summarized in Table 2. The results of subsurface soil samples collected between 1 and 35 feet in depth are summarized in Tables 3. Subsurface soil analytical sampling results indicate PAHs and metals exceed unrestricted and protection of groundwater SCOs. Unrestricted and commercial SCOs were not exceeded for VOCs, PCBs, and pesticides. Exceedances of protection of groundwater SCOs in subsurface soils for metals are not consistent with metals exceedances for groundwater.

Table 2 - Shallow Soil (0-1 foot depth)

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
SVOCs					
Benzo(a)anthracene	ND – 98	1.0	38 of 165	5.6	12 of 165
Benzo(b)fluoranthene	ND - 100	1.0	43 of 165	5.6	17 of 165
Benzo(k)fluoranthene	ND - 44	0.8	25 of 165	56	0 of 165
Benzo(a)pyrene	ND - 84	1.0	39 of 165	1.0	39 of 165
Chrysene	ND - 92	1.0	39 of 165	56	1 of 165
Dibenz(a,h)anthracene	ND - 5.2	0.33	22 of 165	0.56	16 of 165
Fluoranthene	ND - 200	100	1 of 165	500	0 of 165
Indeno(1,2,3-cd)pyrene	ND - 29	0.5	39 of 165	5.6	9 of 165
Phenanthrene	ND - 150	100	1 of 165	500	0 of 165
Pyrene	ND - 160	100	1 of 165	500	0 of 165
Inorganics					
Arsenic	ND - 150	13	82 of 139	16	55 of 139
Barium	8.9 - 1,400	350	2 of 80	400	1 of 80
Cadmium	ND - 6.8	2.5	3 of 80	9.3	0 of 80
Chromium	3.6 - 1,200	30	7 of 80	1,500	0 of 80
Copper	ND - 36,000	50	78 of 137	270	31 of 137
Lead	4.9 - 220,000	63	102 of 139	1,000	45 of 139
Manganese	66 - 1,800	1,600	5 of 80	10,000	0 of 80
Mercury	ND - 2.8	0.18	19 of 80	2.8	0 of 80
Nickel	3.4 - 140	30	12 of 80	310	0 of 80
Selenium	ND - 26	3.9	23 of 80	1,500	0 of 80
Silver	ND - 9.8	2.0	3 of 80	1,500	0 of 80
Zinc	14 - 4,500	109	33 of 80	10,000	0 of 80
Pesticides/PCBs					

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
Total PCBs	ND - 0.13	0.1	1 of 4	1.0	0 of 4

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.

Table 3 - Subsurface Soil (1-35 foot depth)

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
SVOCs					
Benzo(a)anthracene	ND - 9.4	1.0	5 of 222	1.0	5 of 222
Benzo(b)fluoranthene	ND - 11	1.0	4 of 222	1.7	4 of 222
Benzo(k)fluoranthene	ND - 4.0	0.8	4 of 222	1.7	2 of 222
Benzo(a)pyrene	ND - 7.7	1.0	4 of 222	22	0 of 222
Chrysene	ND - 8.1	1.0	5 of 222	1.0	5 of 222
Dibenz(a,h)anthracene	ND - 0.94	0.33	1 of 222	1,000	0 of 222
Indeno(1,2,3-cd)pyrene	ND - 2.4	0.5	4 of 222	8.2	0 of 222
Inorganics					
Arsenic	1.4 - 61	13	80 of 245	16	43 of 245
Chromium	4.8 - 70	30	5 of 245	NS	0 of 245
Copper	6.8 - 670	50	29 of 245	1,720	0 of 245
Lead	2.3 - 23,000	63	46 of 245	450	14 of 245
Manganese	160 - 2,600	1,600	3 of 245	2,000	1 of 245
Mercury	ND - 1.1	0.18	3 of 245	0.73	1 of 245
Nickel	5.4 - 42	30	6 of 245	130	0 of 245
Selenium	ND - 98	3.9	5 of 245	4.0	5 of 245
Silver	ND - 13	2.0	1 of 240	8.3	1 of 240
Zinc	26 - 500	109	28 of 245	2,480	0 of 245

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.

The primary soil contaminants are polycyclic aromatic hydrocarbons (PAHs) and metals (arsenic, barium, copper, and lead) associated with historic industrial use of the site. Areas of the site where arsenic exceeds the commercial SCOs in soil are shown on Figure 4. Other metals (barium, copper, lead) and PAHs exceed their respective SCOs primarily in the north central portion of the site to the west of the former Building 16, and the southern portion of the site in the area of the former 200 series of buildings.

Based on the findings of the Remedial Investigation, the presence of SVOCs 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, PAHs, arsenic, barium, copper, and lead.

Soil Vapor

The evaluation of the potential for soil vapor intrusion was evaluated by the sampling of soil vapor, sub-slab vapor, and indoor air.

On the site, no buildings are present, so only soil vapor was evaluated. Soil vapor samples were collected around the perimeter of the site as part of the RI. A total of fifty-eight (58) soil vapor samples were collected and analyzed for volatile organic compounds (VOCs). The results indicate elevated levels of tetrachloroethene (PCE) and trichloroethene (TCE) in soil vapor, mostly in the southern portion of the site. Concentrations of PCE in soil vapor ranged from non-detect (< 1.4 mcg/m^3) to 1,000 micrograms per meter cubed and concentrations of TCE in soil vapor ranged from non-detect (< 1.1 mcg/m^3) to 80 micrograms per meter cubed. Indoor air and soil vapor samples collected from the adjacent off-site property to the south of the site did not indicated a need to implement abatement or monitoring actions to address exposures related to soil vapor intrusion.

Based on the findings of the Remedial Investigation, soil vapor is contaminated with VOCs, primarily PCE and TCE. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of soil vapor to be addressed by the remedy selection process are, PCE and TCE.

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 Further Action

The No Further Action Alternative recognizes the remediation of the site completed by the IRM(s) described in Section 6.2. This alternative leaves the site in its present condition and does not provide any additional protection of the environment.

Alternative 2: Groundwater Monitoring, Institutional Controls

This alternative would include monitoring of VOC contamination in groundwater, and an institutional control in the form of an environmental easement which would limit development of the site to commercial or industrial, restrict the use of groundwater from beneath the site as a potable source of water without NYSDOH or County DOH approval, and require an evaluation of soil vapor intrusion and the implementation of appropriate actions to address exposures. The environmental easement would require a Site Management Plan (SMP) which would include groundwater monitoring.

Present Worth: *$365,000*
Capital Cost: *$200,000*
Annual Costs: *$10,700*

Alternative 3: Site Cover, Groundwater Monitoring, Institutional Controls

This alternative would include all the elements of Alternative 2 (groundwater monitoring and an environmental easement), with the addition of the placement of a site cover over shallow soils which exceed the commercial soil cleanup objectives (SCOs). Alternative 3 would utilize existing concrete slabs as part of the site cover, and place one foot of soil over soils exceeding commercial SCOs. In addition to the groundwater monitoring required by Alternative 2, the SMP for Alternative 3 would include periodic maintenance of the site cover and an excavation work plan to be implemented in the event that soils beneath the site cover are disturbed.

Present Worth: *$776,000*
Capital Cost: *$16,900*
Annual Costs: *$1,036,000*

Alternative 4: Excavation, Off-Site Disposal, Site Cover, Groundwater Monitoring, Institutional Controls

This alternative would include all the elements of Alternative 2 (groundwater monitoring and an environmental easement) and would establish a site cover meeting commercial SCOs like Alternative 3. Alternative 4 differs from Alternative 3 in that the soil cover is established by the removal and off-site disposal of soils in exceedance of commercial SCOs with backfill of excavations with soil meeting commercial SCOs. Like Alternative 3, Alternative 4 would utilize existing concrete slabs as part of the site cover and include periodic maintenance of the site cover and an excavation work plan as part of the SMP.

Present Worth: *$1,183,000*
Capital Cost: *$16,300*
Annual Costs: *$1,434,000*

Alternative 5: Excavation, Off-Site/On-Site Disposal, Site Cover, Groundwater Monitoring, Institutional Controls

This alternative would include, all the elements of alternative 2 (groundwater monitoring and an environmental easement) and would establish a site cover meeting commercial SCOs as with Alternatives 3 and 4. Alternative 5 is similar to Alternative 4 in that soil exceeding commercials SCOs would be excavated, however Alternative 5 differs from Alternative 4 in the disposal of excavated soil. Under Alternative 5, excavated soil which exceeds the hazardous waste threshold would be treated on-site (ex-situ treatment) to non-hazardous levels for off-site disposal as solid waste. Excavated soil which is not hazardous waste would be consolidated in the north-central portion of the site and then covered by one foot of soil meeting commercial SCOs. Alternative 5 also includes the excavation, treatment and off-site disposal of subsurface soil considered to be waste/source areas. Like Alternatives 3 and 4, Alternative 5 would utilize existing concrete slabs as part of the site cover and include periodic maintenance of the site cover and an excavation work plan as part of the SMP.

Present Worth: *$1,090,000*
Capital Cost: *$16,000*
Annual Costs: *$1,336,000*

Alternative 6: Excavation, In-Situ Treatment, Site Cover, Groundwater Monitoring, Institutional Controls

This alternative would include, all the elements of Alternative 2 (groundwater monitoring and an environmental easement) and would establish a site cover meeting commercial SCOs, as with Alternatives 3, 4, and 5. Under Alternative 6, non-hazardous soils exceeding commercial SCOs would be excavated and consolidated beneath a site cover meeting commercial SCOs in the north-central portion of the site. Excavations would be backfilled with soil meeting commercial SCOs. Soils exceeding the hazardous waste threshold would be treated in place to a non-hazardous level and then covered with a one-foot soil cover meeting commercial SCOs. Like Alternatives 3, 4, and 5, alternative 6 would utilize existing concrete slabs as part of the site cover and include periodic maintenance of the site cover and an excavation work plan as part of the SMP.

Present Worth: *$1,265,000*
Capital Cost: *$16,000*
Annual Costs: *$1,511,000*

Alternative 7: Restoration to Pre-Disposal or Unrestricted Conditions

This alternative achieves all of the SCGs discussed in Section 6.1.1 and Exhibit A and soil meets the unrestricted soil clean objectives listed in Part 375-6.8 (a). This alternative would include: the excavation and off-site disposal of all soils in exceedance of unrestricted SCOs. The site would then be backfilled with soil meeting the unrestricted SCOs. Due to the nature of site contamination consisting of groundwater that slightly exceeds SCGs without a clear source, in-situ chemical oxidation (ISCO) of groundwater would also be completed following excavation and backfill. An institutional control would be needed temporarily until groundwater and soil vapor met pre-disposal conditions.

Capital Cost:.....$ 16,700,000

Exhibit C

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
Alternative 1: No Further Action	$ 0	$ 0	$ 0
Alternative 2: Groundwater Monitoring, Institutional Controls	$ 200,000	$ 10,700	$ 365,000
Alternative 3: Site Cover, Groundwater Monitoring, Institutional Controls	$ 776,000	$ 16,900	$ 1,036,000
Alternative 4: Excavation, Off-Site Disposal, Site Cover, Groundwater Monitoring, Institutional Controls	$ 1,183,000	$ 16,300	$ 1,434,000
Alternative 5: Excavation, Off-Site/On-Site Disposal, Site Cover, Groundwater Monitoring, Institutional Controls	$ 1,090,000	$ 16,000	$ 1,336,000
Alternative 6: Excavation, In-Situ Treatment, Site Cover, Groundwater Monitoring, Institutional Controls	$ 1,265,000	$ 16,000	$ 1,511,000
Alternative 7: Excavation and Groundwater Treatment to Pre-Disposal Conditions	$ 16,700,000	$ 0	$ 16,700,000

Exhibit D

SUMMARY OF THE SELECTED REMEDY

The Department is selecting Alternative 5, Excavation, Off-Site/On-Site Disposal, Site Cover, Groundwater Monitoring, and Institutional Controls as the remedy for this site. Alternative 5 would achieve the remediation goals for the site by eliminating exposure to surface soils in exceedance of SCOs for the anticipated use of the site (commercial) and eliminating exposure to groundwater and soil vapor in exceedance of SCGs through the implementation of institutional controls. Institutional controls will consist of monitoring of the public supply well and vapor intrusion actions if necessary in new buildings constructed on the site. 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 5 would satisfy this criterion by eliminating exposure to contaminants of concern in soil by establishing a soil cover at the site which meets commercial SCOs with institutional controls to attain soil RAOs and addressing exposure to groundwater and soil vapor through the placement of an institutional control in the form of an environmental easement. Alternatives 3, 4, and 6 would satisfy this criterion by establishing a site cover with alternative methods of consolidation, treatment and disposal with institutional controls to attain soil RAOs. Alternative 7 satisfies this criterion by the complete elimination of site contamination. Alternatives 1 and 2 do not provide sufficient protection of public health and will not be evaluated further.

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.

Alternatives 3, 4, 5, 6 and 7 each comply with this criterion. Alternatives 3, 4, 5, and 6 comply with SCGs to the extent feasible. Soil exceeding commercial SCOs will be either excavated and disposed of off-site, covered, or consolidated and covered under these alternatives. Remaining groundwater contamination will be monitored under Alternatives 3, 4, 5, and 6 to make sure that concentrations attenuate to below groundwater standards as expected. Alternative 7 removes all contamination from soil at the site exceeding SCGs, and thus satisfies this requirement.

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

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

Long-term effectiveness is accomplished by Alternatives 3, 4, 5 and 6. Each of these alternatives establish a site cover meeting commercial SCOs with long-term maintenance required by the SMP as necessary to maintain the site cover. The alternatives also include institutional controls which will provide long-term protection to public health if implemented and maintained properly. Alternative 4 has slightly more long-term effectiveness than Alternative 3 because it removes contamination from the site instead of covering contamination. Alternatives 5 and 6 have additional long-term effectiveness with the treatment of subsurface waste/source areas (ex-situ and in-situ respectively) prior to off-site disposal. Alternative 7 has the greatest long-term effectiveness through the complete removal of contamination from the site.

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 3, 4, 5 and 6 each reduce mobility because the cover systems prevents water and wind erosion of contaminated soil. Alternative 3 achieves reduction in mobility of contaminated shallow soil be covering contaminated soil. Alternatives 4, 5, and 6 reduce the volume of contaminated soil remaining on the site as they each involve off-site disposal. Alternatives 5 and 6 include additional reductions in mobility through treatment (ex-situ and in-situ respectively). Alternative 7 provides the greatest reduction of toxicity, mobility, or volume through the complete removal of contamination from the site.

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 3, 4, 5, and 6 all have short term impacts associated with standard construction and remediation techniques. These short-term impacts could be easily managed by standard best management practices. Alternative 3 has slightly fewer short term impacts than Alternatives 4, 5, and 6 because it includes only soil cover placement and no excavation. Alternative 4 has slightly more short-term impacts than alternatives 3, 5, and 6 due to the truck traffic necessary to remove and backfill all shallow soils in exceedance of applicable SCOs. Alternative 7 would have the greatest short-term impacts due to the significant disturbance necessary to excavate all soils from the site in exceedance of SCOs.

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

Alternative 3, 4, 5 and 6 are all implementable. Each of these alternatives require a combination of standard excavation, backfill, and treatment techniques that are common on remediation sites. Alternative 6 would be more difficult to implement due to the availability of machinery and technical difficulties associated with treating subsurface soil in-situ. Alternative 7 would be most difficult to implement as this alternative includes a large scale removal action and ISCO treatment of groundwater.

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, 4, 5, and 6 have similar short term and long-term costs. Alternative 3 is the least costly of these four alternatives because it includes only placement of a site cover with no excavation. Alternative 5 is less costly than Alternative 4 because of the high disposal costs associated with the disposal of untreated hazardous waste and non-hazardous solid waste off-site. The ex-situ treatment and consolidation approach under Alterative 5 is more cost effective than the off-site disposal of Alternative 4. Alternative 6 is more costly than Alternative 5 because in-situ treatment is more costly that ex-situ treatment and off-site disposal for waste/source soils that are hazardous waste. The annual costs of Alternatives 3, 4, 5, and 6 are all very close because they include approximately the same maintenance of the site cover meeting commercial SCOs. Alternative 7 is an order of magnitude more costly than Alternatives 3, 4, 5, and 6 given the high cost of excavation and off-site disposal of soils exceeding unrestricted SCOs as well as the high cost of groundwater treatment to pre-disposal conditions.

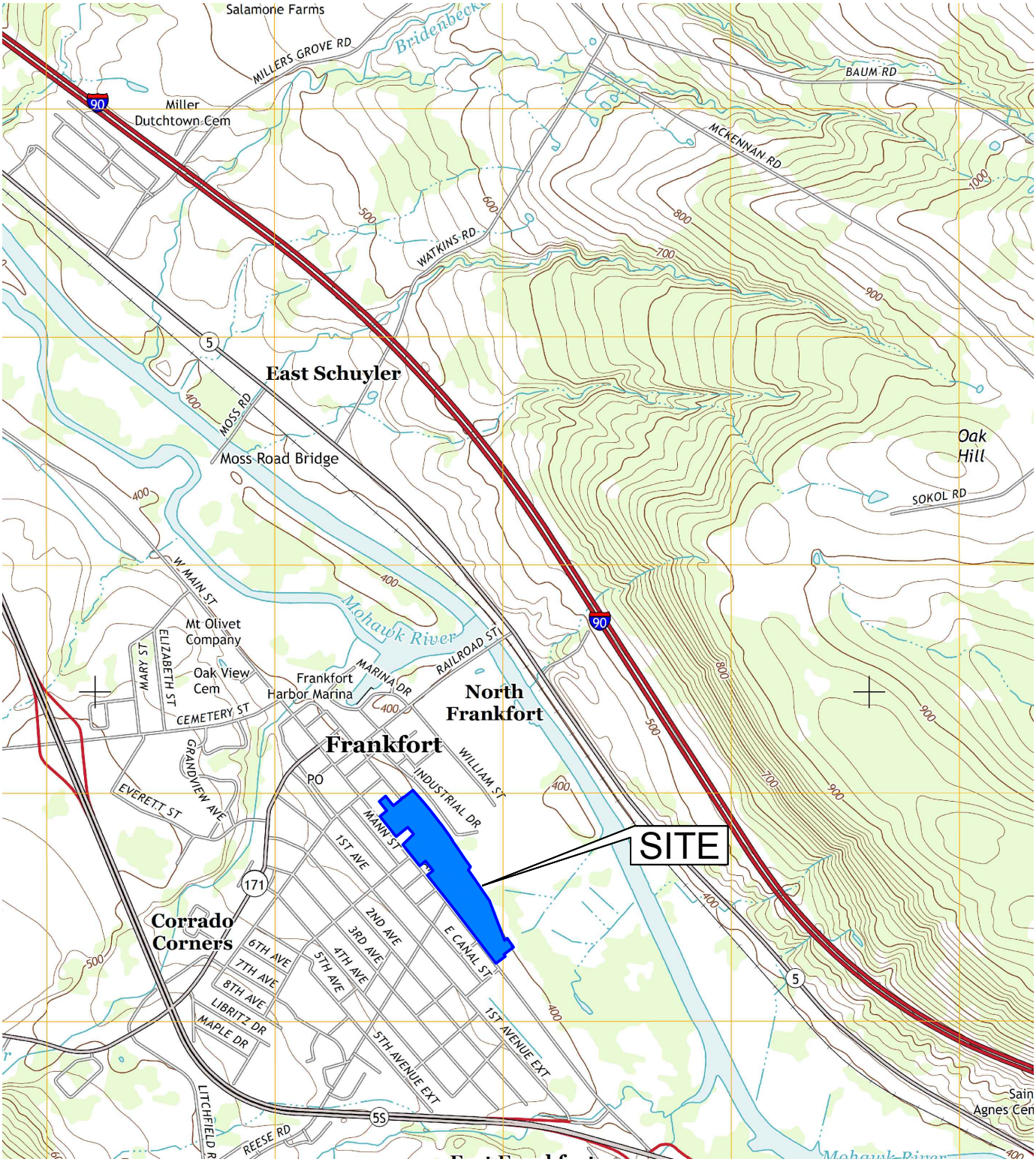
8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

The anticipated land use of the site is commercial. Alternative 3, 4, 5, and 6 all allow for future commercial use of the site by establishing a site cover meeting commercial SCOs through a combination of excavation, backfill, treatment and soil cover. Alternative 5 allows for unrestricted use of the site, however this level of cleanup is not necessary given the current and intended future use of the site being commercial or industrial.

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

Alternative 5 has been selected because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.



N

APPROXIMATE SCALE IN FEET

0 2,000 4,000

SOURCE: THE USGS STORE; ILION, NY, QUADRANGLE; 2013

FORMER UNION FORK AND HOE FACILITY

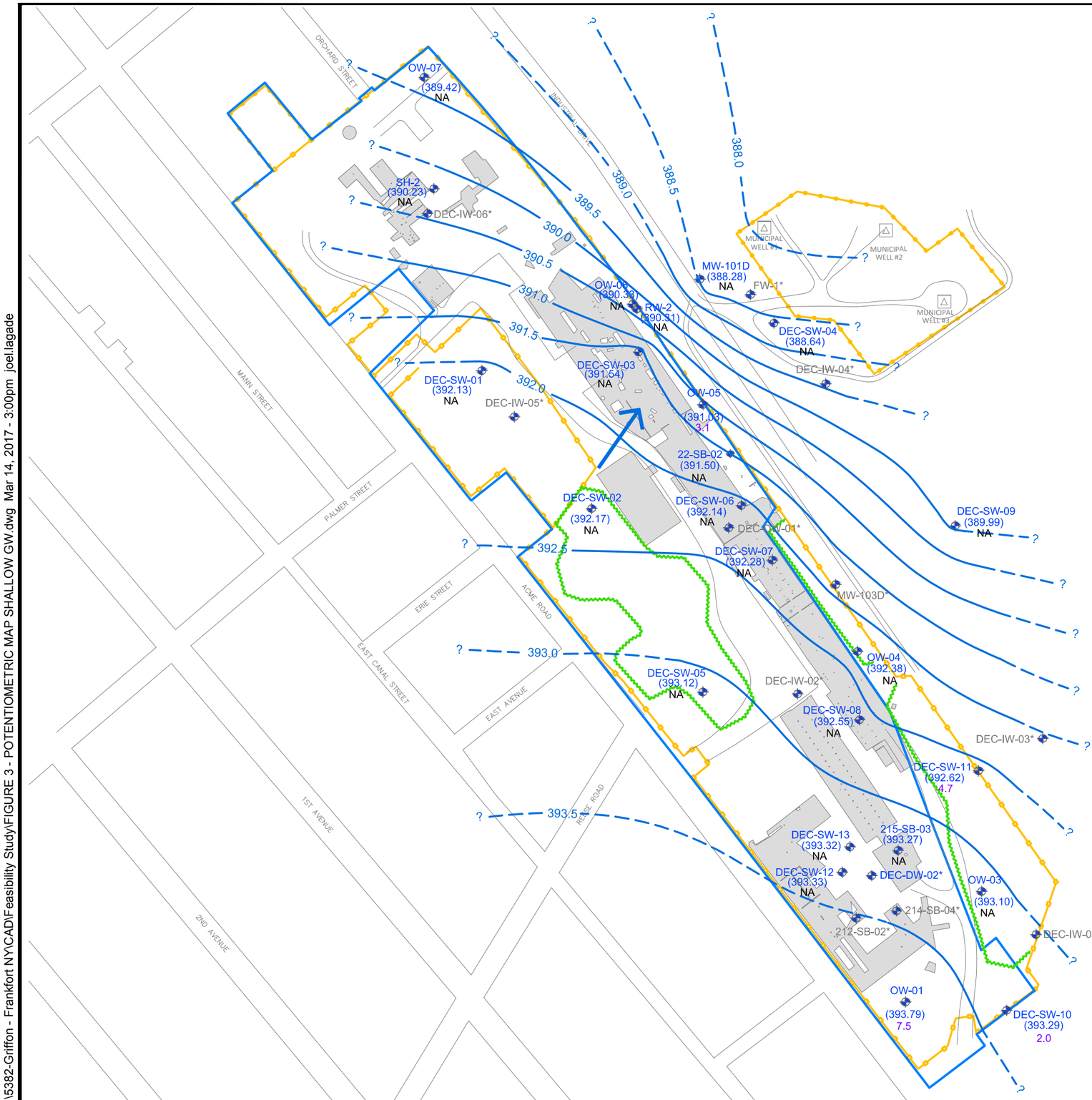
SITE LOCATION MAP

253 EAST MAIN STREET FRANKFORT, NEW YORK

PREPARED BY:
TETRA TECH, INC.

PROJECT NUMBER	APPROVED BY	DRAWN BY	DATE	FIGURE
194-5382	RL	JRL	MAR 2017	1

P:\5382-Griffon - Frankfort NY\CAD\Revised Feasibility Study\FIGURE 1 - SITE LOCATION.dwg Mar 13, 2017 - 1:11pm joel.lagade



LEGEND

- SITE BOUNDARY
- FENCE LINE
- TREE LINE
- MUNICIPAL WELL
- EXISTING CONCRETE PAD
- DEC-SW-10 (393.29) — GROUNDWATER SAMPLE LOCATION WITH GROUNDWATER ELEVATION (BBJ, 2013)
- 363.0 — GROUNDWATER ELEVATION CONTOUR (FEET AMSL; DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION
- 2.0 — PCE CONCENTRATION IN µg/L (BBJ, 2013)
- DEC-IW-1* — DENOTES MONITORING WELL NOT USED IN DEVELOPMENT OF SHALLOW CONTOURS AND DEPICTION OF PCE CONCENTRATIONS
- AMSL — ABOVE MEAN SEA LEVEL
- µg/L — MICROGRAMS PER LITER
- NA — NOT APPLICABLE, NOT ANALYZED, AND/OR NOT REPORTED
- PCE — TETRACHLOROETHENE

N

APPROXIMATE SCALE IN FEET

0 250 500

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
2. DATE AND CONTOURS FROM 2013 SAMPLING EVENT (BBJ, 2015).
3. ONLY SHALLOW ZONE MONITORING WELLS USED FOR DEVELOPMENT OF GROUNDWATER CONTOURS (BBJ, 2015).

SOURCES:
1. BASE MAP FROM BRADBURNE, BRILLER & JOHNSON, LLC (2011).
2. SITE BOUNDARY FROM "REAL PROPERTY TAX MAP", PREPARED FOR COUNTY OF HERKIMER UNDER SUPERVISION OF ASSESSMENT AND REAL PROPERTY TAX SERVICE, JAMES SPANFELNER, DIRECTOR. PREPARED BY L. ROBERT KIMBALL, CONSULTING ENGINEERS, EBENSBURG, PA.

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FORMER UNION FORK AND HOE FACILITY

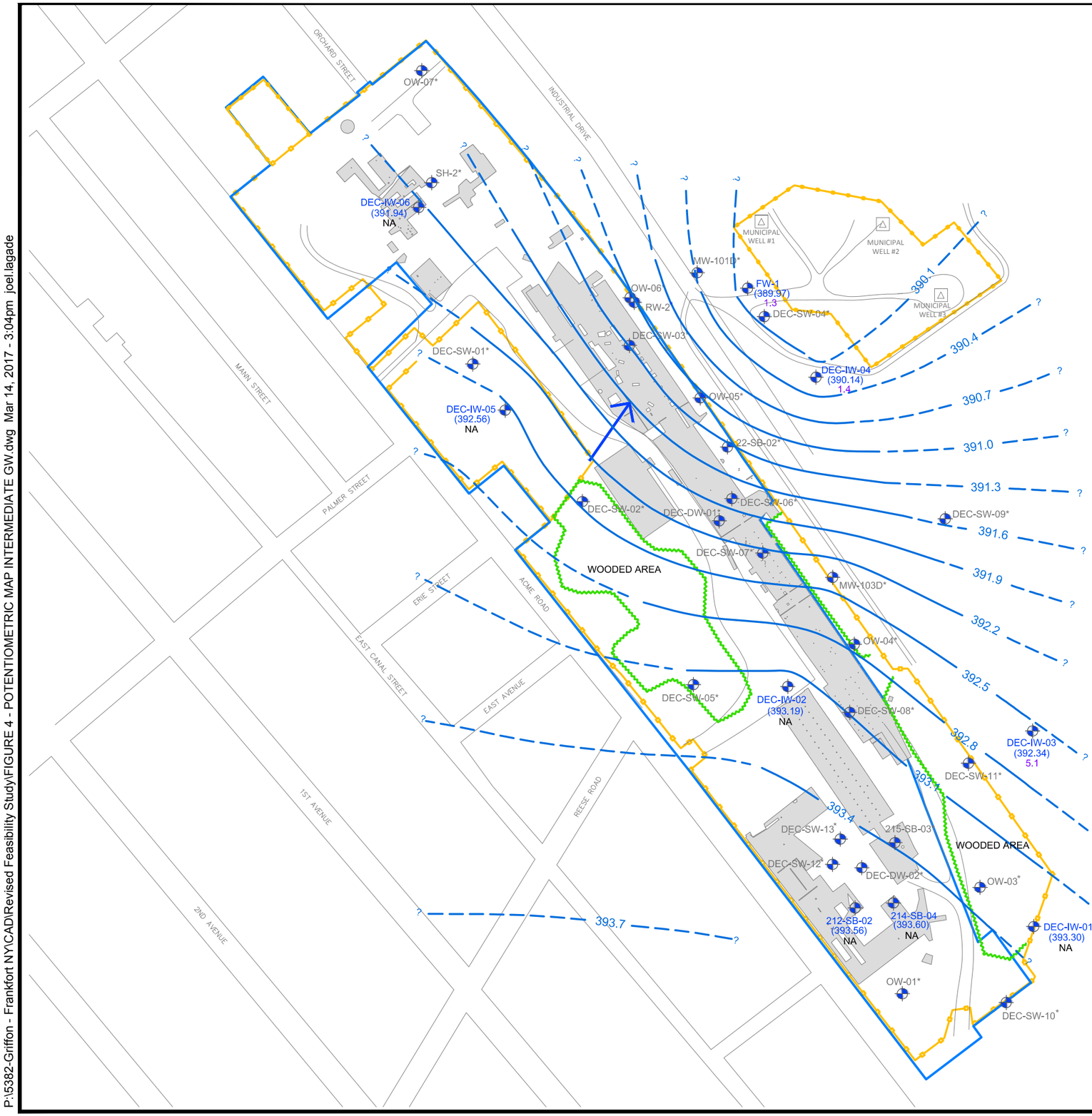
POTENTIOMETRIC MAP SHALLOW GROUNDWATER WITH PCE CONCENTRATIONS

253 EAST MAIN STREET — FRANKFORT, NEW YORK

PREPARED BY:
TETRA TECH, INC.

PROJECT NUMBER	APPROVED BY	DRAWN BY	DATE	FIGURE
194-5382	RL	JRL	MAR 2017	2

P:\5382-Griffon - Frankfort NY\CAD\Feasibility Study\FIGURE 3 - POTENTIOMETRIC MAP SHALLOW GW.dwg Mar 14, 2017 - 3:00pm joel.lagade



P:\5382-Griffon - Frankfort NY\CAD\Revised Feasibility Study\FIGURE 4 - POTENTIOMETRIC MAP INTERMEDIATE GW.dwg Mar 14, 2017 - 3:04pm joel.lagade

LEGEND

- SITE BOUNDARY
- FENCE LINE
- TREE LINE
- MUNICIPAL WELL
- EXISTING CONCRETE PAD
- DEC-1W-4 (390.14) — GROUNDWATER SAMPLE LOCATION WITH GROUNDWATER ELEVATION (BBJ, 2013)
- 363.0 — GROUNDWATER ELEVATION CONTOUR (FEET AMSL; DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION
- 2.0 — PCE CONCENTRATION IN µg/L (BBJ, 2013)
- DEC-SW-10* — DENOTES MONITORING WELL NOT USED IN DEVELOPMENT OF INTERMEDIATE CONTOURS AND DEPICTION OF PCE CONCENTRATIONS
- AMSL — ABOVE MEAN SEA LEVEL
- µg/L — MICROGRAMS PER LITER
- NA — NOT APPLICABLE, NOT ANALYZED, AND/OR NOT REPORTED
- PCE — TETRACHLOROETHENE

N

APPROXIMATE SCALE IN FEET

0 250 500

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
2. DATE AND CONTOURS FROM 2013 SAMPLING EVENT (BBJ, 2015).
3. ONLY INTERMEDIATE ZONE MONITORING WELLS USED FOR DEVELOPMENT OF GROUNDWATER CONTOURS (BBJ, 2015).

SOURCES:
1. BASE MAP FROM BRADBURNE, BRILLER & JOHNSON, LLC (2011).
2. SITE BOUNDARY FROM "REAL PROPERTY TAX MAP", PREPARED FOR COUNTY OF HERKIMER UNDER SUPERVISION OF ASSESSMENT AND REAL PROPERTY TAX SERVICE, JAMES SPANFELNER, DIRECTOR. PREPARED BY L. ROBERT KIMBALL, CONSULTING ENGINEERS, EBENSBURG, PA.

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FORMER UNION FORK AND HOE FACILITY

POTENTIOMETRIC MAP INTERMEDIATE GROUNDWATER WITH PCE CONCENTRATIONS

253 EAST MAIN STREET — FRANKFORT, NEW YORK

PREPARED BY:
TETRA TECH, INC.

PROJECT NUMBER	APPROVED BY	DRAWN BY	DATE	FIGURE
194-5382	RL	JRL	MAR 2017	3

ORCHARD STREET
INDUSTRIAL DRIVE
MANN STREET
PALMER STREET
ERIE STREET
ACME ROAD
EAST CANAL STREET
EAST AVENUE
REESE ROAD
1ST AVENUE
2ND AVENUE

MUNICIPAL WELL #1
MUNICIPAL WELL #2
MUNICIPAL WELL #3

AOC 1
AOC 2
AOC 3
AOC 4
AOC 5
AOC 6

WOODED AREA
WOODED AREA

BSE-01 (23.7)
UFH-CGA-SB-01 (17.0)
BSE-02 (14.2)
BSE-03 (18.3)
BSE-04 (29.2)
BSE-05 (44.3)
BSE-06 (24.9)
BSE-07 (12.8)
BSE-08 (10.5)
BSE-09 (32.3)
BSE-10 (14.1)
BSE-11 (21.8)
BSE-12 (6.8)
BSE-13 (25.1)
BSE-14 (6.9)
BSE-15 (6.7)
BSE-16 (11.2)
BSE-17 (19.1)
BSE-18 (3.5)
BSE-19 (15.4)
BSE-20 (17.5)
BSE-21 (11.3)
BSE-22 (13.5)
BSE-23 (13.9)
BSE-24 (16.3)
BSE-25 (10.2)
BSE-26 (19.5)
BSE-27 (16.5)
BSE-28 (7.6)
BSE-29 (8.0)
BSE-30 (14.2)
BSE-31 (8.0)
BSE-32 (3.0)
BSE-33 (19.6)
BSE-34 (11.4)
BSE-35 (15.0)
BSE-36 (5.6)
BSE-37 (21.0)
BSE-38 (31.0)
BSE-39 (5.8)
BSE-40 (12.8)
BSE-41 (7.3)
BSE-42 (7.8)
BSE-43 (10.3)
BSE-44 (15.4)
BSE-45 (7.5)
BSE-46 (39.1)
BSE-47 (5.1)
BSE-48 (5.7)
BSE-49 (14.1)
BSE-50 (10.4)
BSE-51 (8.3)
BSE-52 (15.7)
BSE-53 (18.8)
BSE-54 (13.1)
BSE-55 (15.8)
BSE-56 (16.7)

UFH-CGA-SB-02 (9.2)
UFH-CGA-SB-03 (14.0)
UFH-CGA-SB-04 (22.0)
UFH-CGA-SB-05 (12.0)
UFH-CGA-SB-06 (9.7)
UFH-CGA-SB-07 (<1.6)
UFH-CGA-SB-08 (25.0)
UFH-CGA-SB-09 (18.0)
UFH-CGA-SB-10 (15.0)
UFH-CGA-SB-11 (21.0)
UFH-CGA-SB-12 (15.0)
UFH-CGA-SB-13 (26.0)
UFH-CGA-SB-14 (23.0)
UFH-CGA-SB-15 (15.0)
UFH-CGA-SB-16 (33.0)

BG-B01 (180)
BG-B02 (9.2)
BG-B03 (11.0)

DEC-Fire-01 (15.0)
DEC-Fire-02 (15.0)
DEC-Fire-03 (8.4)
DEC-Fire-04 (14.0)
DEC-Fire-05 (22.0)
DEC-Fire-06 (14.0)
DEC-Fire-07 (15.0)
DEC-Fire-08 (12.0)
DEC-Fire-09 (19.0)
DEC-Fire-10 (6.1)
DEC-Fire-11 (4.1)
DEC-Fire-12 (15.0)
DEC-Fire-13 (16.0)
DEC-Fire-14 (23.0)
DEC-Fire-15 (13.0)
DEC-Fire-16 (22.0)
DEC-Fire-17 (27.0)

DEC-BR-01 (19.0)
DEC-BR-02 (<1.6)
DEC-BR-03 (13.0)
DEC-BR-04 (18.0)
DEC-BR-05 (49.0)
DEC-BR-06 (13.0)
DEC-BR-07 (13.0)
DEC-BR-08 (21.0)
DEC-BR-10 (18.0)
DEC-BR-11 (5.9)
DEC-BR-12 (37.0)
DEC-BR-13 (29.0)

B4-1 (21.7)
B4-2 (15.0)

ECR-SB-01 (150)
ECR-SB-02 (8.0)

AOC-1-SB-01 (28.0)
AOC-1-SB-05 (24.0)
AOC-1-SB-10 (10.0)
AOC-1-SB-15 (<0.33)
AOC-1-SB-17 (6.6)
AOC-1-SB-21 (5.6)
AOC-1-SB-26 (19.0)
AOC-1-SB-31 (9.9)
AOC-1-SB-36 (17.0)

AOC-2-SB-01 (29.0)
AOC-2-SB-02 (14.0)
AOC-2-SB-03 (7.4)
AOC-2-SB-04 (13.0)
AOC-2-SB-05 (18.0)

AOC-3-SB-01 (14.0)
AOC-3-SB-02 (20.0)
AOC-3-SB-03 (11.0)
AOC-3-SB-04 (11.0)
AOC-3-SB-05 (13.0)
AOC-3-SB-06 (22.0)
AOC-3-SB-07 (12.0)

AOC-4-SB-01 (21.0)
AOC-4-SB-02 (20.0)
AOC-4-SB-03 (7.0)
AOC-4-SB-04 (16.0)

BLDG 209-SB-01 (9.0)
BLDG 209-SB-02 (17.0)
BLDG 209-SB-03 (13.0)
BLDG 209-SB-04 (11.0)
BLDG 209-SB-05 (14.0)
BLDG 210-SB-03 (20.0)

N

1" = 100'
APPROXIMATE SCALE IN FEET

0 100 200 400

LEGEND

- SITE BOUNDARY
- FENCE LINE
- TREE LINE
- MUNICIPAL WELL
- EXISTING CONCRETE PAD
- FORMER EXCAVATION AREA
- AOC BOUNDARY DEMARCATION
- UFH-CGA-SB-15 (15.0): SHALLOW ARSENIC SOIL SAMPLE LOCATION (0-1 FOOT BGS) BELOW ARSENIC SCO 16 mg/kg
- BSE-53 (18.8): SHALLOW ARSENIC SOIL SAMPLE LOCATION (0-1 FOOT BGS) ABOVE ARSENIC SCO 16 mg/kg
- BGS: BELOW GROUND SURFACE
- mg/kg: MILLIGRAM PER KILOGRAM
- SCO: SOIL CLEAN-UP OBJECTIVE

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
2. CONCRETE SLAB, FENCE LINE, AND TREE LINE SURVEYED ON MARCH 31, 2016 BY THEW ASSOCIATES LAND SURVEYORS.

SOURCES:
1. BASE MAP FROM BRADBURNE, BRILLER & JOHNSON, LLC (2011).
2. SITE BOUNDARY FROM "REAL PROPERTY TAX MAP", PREPARED FOR COUNTY OF HERKIMER UNDER SUPERVISION OF ASSESSMENT AND REAL PROPERTY TAX SERVICE, JAMES SPANFELNER, DIRECTOR. PREPARED BY L. ROBERT KIMBALL, CONSULTING ENGINEERS, EBENSBURG, PA.

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FORMER UNION FORK AND HOE FACILITY

SHALLOW ARSENIC SOIL SAMPLE LOCATIONS

253 EAST MAIN STREET — FRANKFORT, NEW YORK

PREPARED BY:
TETRA TECH, INC.

PROJECT NUMBER	APPROVED BY	DRAWN BY	DATE	FIGURE
194-5382	RL	JRL	MAR 2017	4

P:\5382-Griffon - Frankfort NY\CAD\Revised Feasibility Study\FIGURE 9 - SITE-WIDE SHALLOW SOIL ARSENIC CONCENTRATIONS.dwg Mar 13, 2017 - 4:51pm joel.lagade

P:\5382-Griffon - Frankfort NY\CAD\Revised Feasibility Study\FIGURE 18 - REMEDIAL ALTERNATIVE 5 CONCEPTUAL DESIGN_r1.dwg Feb 26, 2018 - 10:36am daniel.keady

ORCHARD STREET
INDUSTRIAL DRIVE
MANN STREET
PALMER STREET
ERIE STREET
ACME ROAD
EAST CANAL STREET
EAST AVENUE
REESE ROAD
1ST AVENUE

OW-07
PAH-1 (1 FT BGS)
PAH-2 (1 FT BGS)
PAH-3 (10 FT BGS)
SH-2
DEC-IW-06
PAH-4 (1 FT BGS)
PAH-5 (1 FT BGS)
PAH-6 (10 FT BGS)
PAH-7 (5 FT BGS)
PAH-8 (10 FT BGS)
PAH-9 (5 FT BGS)
PAH-10 (1 FT BGS)
PAH-11 (1 FT BGS)
PAH-12 (10 FT BGS)
DEC-SW-01
DEC-IW-05
AOC 1
AOC 2
DEC-SW-02
DEC-SW-03
AOC 6
MW-101D
FW-1
OW-06
RW-2
20' x 20' AREA FOR COMPARATIVE PURPOSES ONLY
DEC-SW-04
MUNICIPAL WELL #1
MUNICIPAL WELL #2
MUNICIPAL WELL #3
DEC-IW-04
OW-05
22-SB-02
DEC-SW-06
AOC 3
PAH-13 (10 FT BGS)
PAH-14 (1 FT BGS)
DEC-DW-01
DEC-SW-07
DEC-SW-09
MW-103D
WOODED AREA
DEC-SW-05
OW-04
DEC-IW-06
AOC 4
DEC-SW-08
PAH-15 (1 FT BGS)
DEC-IW-03
DEC-SW-11
DEC-SW-13
215-SB-03
AOC 5
DEC-SW-12
DEC-DW-02
OW-03
WOODED AREA
214-SB-04
212-SB-03
DEC-IW-01
OW-01
DEC-SW-10

REMEDIAL ALTERNATIVE 5

- PAH EXCAVATION / OFF-SITE DISPOSAL
- LEAD EXCAVATION / OFF-SITE DISPOSAL
- SHALLOW METAL EXCAVATION / ON-SITE DISPOSAL
- ON-SITE SOIL PLACEMENT / VEGETATED CAP
- MONITORED NATURAL ATTENUATION
- INSTITUTIONAL CONTROLS

LEGEND

- PROPERTY BOUNDARY
- FENCE LINE
- TREE LINE
- MUNICIPAL WELL
- FORMER EXCAVATION AREA
- EXISTING CONCRETE PAD
- AOC BOUNDARY DEMARCATION
- SOIL SAMPLE LOCATION WITH METAL OR PAH CONCENTRATIONS BELOW SCOs
- SOIL SAMPLE LOCATION WITH METAL OR PAH CONCENTRATIONS ABOVE SCOs
- OW-01 — SHALLOW ZONE GROUNDWATER MONITORING WELL
- 214-SB-04 — INTERMEDIATE ZONE GROUNDWATER MONITORING WELL
- DEC-DW-02 — DEEP ZONE GROUNDWATER MONITORING WELL

N

APPROXIMATE SCALE IN FEET

0 200 400

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
2. CONCRETE SLAB, FENCE LINE, AND TREE LINE SURVEYED ON MARCH 31, 2016 BY THEW ASSOCIATES LAND SURVEYORS.
3. OFF-SITE EXCAVATION AREAS WILL BE DETERMINED AFTER COLLECTING SAMPLES ADJACENT TO THE SITE BOUNDARY.

SOURCES:
1. BASE MAP FROM BRADBURNE, BRILLER & JOHNSON, LLC (2011).
2. SITE BOUNDARY FROM "REAL PROPERTY TAX MAP", PREPARED FOR COUNTY OF HERKIMER UNDER SUPERVISION OF ASSESSMENT AND REAL PROPERTY TAX SERVICE, JAMES SPANFELNER, DIRECTOR. PREPARED BY L. ROBERT KIMBALL, CONSULTING ENGINEERS, EBENSBURG, PA.

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FORMER UNION FORK AND HOE FACILITY

REMEDIAL ALTERNATIVE 5 CONCEPTUAL DESIGN

253 EAST MAIN STREET — FRANKFORT, NEW YORK

PREPARED BY:
TETRA TECH, INC.

PROJECT NUMBER	APPROVED BY	DRAWN BY	DATE	FIGURE
194-5382	NP	JRL	NOV 2016	5

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Union Fork & Hoe Site
State Superfund Project
Town of Frankfort, Herkimer County, New York
Site No. 6-22-011

The Proposed Remedial Action Plan (PRAP) for the Union Fork & Hoe 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 7, 2018. The PRAP outlined the remedial measure proposed for the contaminated soil and groundwater at the Union Fork & Hoe site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on February 27, 2018, which included a presentation of the remedial investigation/feasibility study (RI/FS) for the Union Fork & Hoe 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 PRAP ended on March 9, 2018.

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

COMMENT 1: Can New York State (NYS) assist Ames True Temper with the cost of the remediation? Can NYS assist Ames True Temper in the implementation of the remedy?

RESPONSE 1: Ames True Temper is completing the remedial program for the Union Fork & Hoe site as required by an Order on Consent under the State Superfund program. The Order on Consent obligates Ames True Temper to complete the remedial program for the site and reimburse the state for the Department’s costs incurred overseeing the remedial program.

The Department will assist Ames True Temper in completing the remedial program for the site under the Consent Oder by reviewing all work plans and reports associated with the remedial program and providing field oversight of remedial construction as needed.

COMMENT 2: Is the site eligible for the Brownfield Cleanup Program (BCP)?

RESPONSE 2: The Union Fork & Hoe site is not eligible for the BCP because it is listed as a Class 2 site on the New York State Registry of Inactive Hazardous Waste Disposal Sites.

COMMENT 3: What is a site cover?

RESPONSE 3: A site cover is a barrier which prevents exposure to site soils which exceed use based soil cleanup objectives. Site covers may consist of soil or may include paved surfaces, parking areas, building slabs/foundations or sidewalks. For the selected remedy (Alternative 5) any portions of the cover comprised of soil must be a minimum of one foot in thickness to allow for commercial or industrial use of the site.

COMMENT 4: Where is the consolidation area?

RESPONSE 4: The consolidation area for the selected remedy (Alternative 5) is shown on Figure 5 of the Record of Decision. The consolidation area will be located to the west of the former location of Building 16.

COMMENT 5: How long will it take to implement the remedy? What is the schedule for the remaining remedial program? When could the site be developed?

RESPONSE 5: The estimated time to complete a remedial design for the selected remedy is 12 months and the estimated time to complete a remedial action for the selected remedy is 12 to 24 months. It is estimated that remedial construction will be completed within 2 to 3 years of issuance of the Record of Decision. The remedial party has indicated to the Department that they would like to expedite the remediation and the Department is willing to work with them to shorten the time period. Site development could begin in conjunction with the selected remedial action for the site, as the site cover may be incorporated into the development of the site.

COMMENT 6: Can the site be developed as smaller parcels?

RESPONSE 6: The site currently consists of 11 separate tax parcels. Development or further subdivision of these parcels is subject to local zoning regulations. The subdivision of the site should not effect the remediation. The environmental easement restricts future use of all site parcels to commercial or industrial use.

COMMENT 7: Can a proposed development have basements?

RESPONSE 7: A proposed development of the site may have a basement so long as the development complies with all requirements of the environmental easement. The basement itself could be made part of the cover system. Under the environmental easement, soil vapor intrusion must be evaluated for all structures constructed within the site boundary with mitigation, if necessary.

COMMENT 8: Would a future buyer of the site be held harmless of environmental liability?

RESPONSE 8: At the end of the remediation and when all site close out documents are approved, the Department will issue a certificate of completion (CoC) to the remedial party (Ames True Temper) indicating the site is remediated to the satisfaction of the Department for the contamination know at the time of issuance. The CoC is transferable to future parties.

The environmental easement placed on the site properties will include site use restrictions and compliance with a Site Management Plan. All future property owners must adhere to the use restrictions stated in the environmental easement. All future property owners would also be required to implement the Site Management Plan under the environmental easement unless this responsibility were delegated to another party under an agreement independent of the Department.

COMMENT 9: Who will maintain the site when remediation is complete? Who will maintain the site if one of the site parcels is sold?

RESPONSE 9: The environmental easement will require that the property owner adhere to the use restrictions stated in the environmental easement and implement the Site Management Plan in accordance with the environmental easement. Transfer of ownership would include transfer of the responsibilities required by the environmental easement unless a separate agreement were made between the parties during transfer of the property.

COMMENT 10: Are the former facility's utilities (sewer, water, etc.) disconnected from the village and town systems?

RESPONSE 10: During the public meeting on February 27, 2018, representatives from the Village of Frankfort and Town of Frankfort stated that to the best of their knowledge that all sewer and water lines serving the former Union Fork & Hoe facility had been disconnected and plugged.

COMMENT 11: The Village wells are reported to be screened at a depth of approximately 60 feet. Was groundwater from this depth sampled during the remedial investigation?

RESPONSE 11: The groundwater monitoring well network sampled during the Remedial Investigation included wells screened across the shallow, intermediate and deep aquifers beneath the site. The screened interval of monitoring wells ranged from 10 feet and 80 feet.

COMMENT 12: What is the status of the Village well field? Are residents of the Village protected from groundwater contamination.

RESPONSE 12: A treatment system (air stripper) was installed on the municipal well field in 1991 as a preventative measure based on known groundwater contamination in the area. While low levels of tetrachloroethene were detected in the pre-treated water in the past, levels were generally below drinking water standards in the pre-treated water. Levels have continued to decrease over time and based on most recent sampling indicate tetrachloroethene is either not detected or at low levels and meet the groundwater standards. However, the selected remedy includes periodic monitoring of the Village well field.

APPENDIX B

Administrative Record

Administrative Record

Union Fork & Hoe Site
State Superfund Project
Town of Frankfort, Herkimer County, New York
Site No. 6-22-011

Proposed Remedial Action Plan for the Union Fork & Hoe site, dated February 2018, prepared by the Department.

Order on Consent, Index No. A6-0667-06-11, between the Department and Ames True Temper executed on August 15, 2011.

Records Search Report - Former Union Tools Facility, dated September 24, 2011, prepared by Bradburne, Briller & Johnson LLC.

Remedial Investigation Work Plan – Former Union Tools Facility, dated June 1, 2012, prepared by Bradburne, Briller & Johnson LLC.

Citizen Participation Plan for Former Union Fork and Hoe Site, dated January 2013, prepared by Ames True Temper.

Brick and Block Beneficial Use Determination Request, Former Union Fork and Hoe, dated August 2, 2013, prepared by Bradburne, Briller & Johnson LLC.

Remedial Investigation Report - Former Union Fork & Hoe, dated February 12, 2015.

Interim Remedial Measure Construction Completion Report – Former Union Fork & Hoe, dated May 15, 2015, prepared by BBJ Group LLC.

Addendum to Interim Remedial Measure Construction Completion Report – Former Union Fork & Hoe, dated November 10, 2015, prepared by BBJ Group LLC.

Revised Feasibility Study Report – Former Union Fork & Hoe Facility, dated December 7, 2016, prepared by Tetra Tech Engineer Corporation, P.C.

Soil Vapor Intrusion Report – Former Union Fork & Hoe, dated March 13, 2017, prepared by BBJ Group LLC.