DECISION DOCUMENT

Former A B Dick Facility
Brownfield Cleanup Program
Rochester, Monroe County
Site No. C828148
October 2016

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

DECLARATION STATEMENT - DECISION DOCUMENT

Former A B Dick Facility
Brownfield Cleanup Program
Rochester, Monroe County
Site No. C828148
October 2016

Statement of Purpose and Basis

This document presents the remedy for the Former A B Dick Facility site, a brownfield cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Former A B Dick Facility site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. 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 of contaminant source areas, including:

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- Area 1 soils that exceed the Commercial Soil Cleanup Objectives to a depth of 10 feet below ground surface; and
- Area 2 soils that exceed the Commercial Soil Cleanup Objectives to a depth of 5 feet below the bottom of the Area 2 drainage ditch.

Approximately 1,150 cubic yards of soil will be removed from Area 1 and approximately 660 cubic yards of soil will be removed from Area 2. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site.

3. In-situ chemical reduction (ISCR) will be implemented to treat contaminants in subsurface soil below the water table and groundwater. A chemical reducing agent will be injected into the subsurface to destroy the contaminants remaining in Area 1 and Area 2 below the excavation limits described in Paragraph 2 above. The method and depth of injection will be determined during the remedial design.

4. A site cover currently exists in Area 1 and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain a site cover, which may 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 a 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).

5. For Area 2,a cover will be required that will consist either of the structures such as buildings, pavement, sidewalks comprising the properties' development or a soil cover in areas where the remaining soil contamination will exceed the commercial use 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 Area 2 will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

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

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

7. 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 5 above. Institutional controls also include voluntary agreements between the Participant and respective property owners for site access and any other pertinent provisions to enable the installation and maintenance of cover systems, management of residual contamination, excavation, inspections, sampling, and/or any other requisite activities.

Engineering Controls: The site cover discussed in Paragraphs 4 and 5above.

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/or groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision for evaluation of the potential for soil vapor intrusion for any off-site buildings considered potentially impacted due to contaminant migration, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- monitoring of groundwater to assess the performance and effectiveness of the remedy including sentinel wells to assess contaminant migration;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above; and
- monitoring for vapor intrusion for any off-site buildings as may be required by the Institutional and Engineering Control Plan discussed above.

Declaration

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

Michael J Cruden

Digitally signed by Michael J Cruden
DN: cn=Michael J Cruden, o=DER, ou=RBE, email=mjcruden@gw.dec.state.ny.us, c=US
Date: 2016.10.31 12:22:58 -04'00'

Date

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

Former A B Dick Facility
Rochester, Monroe County
Site No. C828148
October 2016

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

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

SECTION 2: 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:

Henrietta Public Library
Attn: Patricia C. Bernhard
455 Calkins Road
Henrietta, NY 14623
Phone: (585) 359-7092

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 AB Dick site is a 12.2 acre parcel located in a suburban area at 811 Jefferson Road, Henrietta, in Monroe County. The site is just west of the intersection of Jefferson Road and Clay Road.

Site Features: Previously, the main site features included an asphalt parking lot and an approximately 167,200 sq. ft. slab on grade building that was constructed in 1955-1956 with additions in 1968 and 1979. The building was demolished and all waste and demolition debris were removed in early 2007. A portion of the former building slab and a contiguous portion of the asphalt parking lot pavement, which together cover about 3 acres in the southwest corner of the site, were left in place. A 0.3 acre strip of land, recently purchased by the Participant, contains a stormwater drainage ditch which the former AB Dick Company discharged contaminants. The remainder of the site is grass covered.

Current Zoning and Land Use: The site is currently inactive, and is zoned for industrial use. Land use in the area surrounding the site is primarily commercial, although both industrial and residential properties are present in the area. The nearest residential property is on the east side of Clay Road directly across from the site.

Past Use of the Site: Between 1955 and 2005 the site was used to manufacture photocopy imaging equipment. Operators included the AB Dick Company, Itek Corporation, Photostat Corporation, and Silver Acquisition Corp, Inc. (also known as ABDI International, Inc). Past operations that appear to have led to site contamination include chemical stripping, material storage including an underground storage tank, and discharges to drainage ditches.

In 1971, AB Dick notified the Town of Henrietta that industrial wastewater that should have gone to the sanitary sewer was actually discharged to a storm sewer catch basin.

In 1998, contaminated soil was encountered during removal of an underground concrete tank that was connected to a floor drain in the building's hazardous material storage room. The former tank was located adjacent to the south wall of the hazardous materials storage room addition at the southwest corner of the facility building. A spill notification was submitted to the Department. AB Dick completed a follow-up subsurface investigation in 1998 and determined that residual subsurface impacts from the release at the tank appeared to be limited to the top two feet of soil and in the immediate area of the tank excavation. Impacted soils were excavated and the spill was closed.

A subsurface investigation completed in 2006 identified volatile organic compound (VOC) contaminated soil in two locations. Contaminants included both chlorinated and non-chlorinated VOCs including tetrachloroethene, trichloroethene, xylene, toluene and ethylbenzene. The VOCs detected in soil at both locations also appeared to be sources of groundwater contamination. Contaminant impacts were also identified in the drainage ditch along the southern property line. Contaminants included VOCs, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and several metals including cadmium, copper, silver and zinc. Based on these results, 811 Jefferson Road LLC (the site owners) entered the Brownfield Cleanup Program in 2007 to investigate and remediate the site.

Site Geology and Hydrogeology: The site is relatively flat and slopes gently down toward the west. Subsurface soils consist of several feet of fill material followed by red-brown upper glacial till to a depth of approximately 17 feet. Below the upper till is a gray-brown lower till down to approximately 57 feet. The till is underlain by a clayey unit with some silt that is present from approximately 57 to approximately 64 feet. The clayey unit is underlain by a variable sand unit (with silty sand and sand and gravel layers) to the top of weathered shale bedrock at 70 to 76 feet. Groundwater generally occurs within 1 to 5 feet of ground surface. Shallow groundwater flows radially away from the center of the site. Deeper groundwater (70 ft below ground surface) flows radially inward toward the center of the site.

Stormwater runoff from the central, south and west portions of the site drains to a stormwater drainage ditch located along the south site boundary. Roof drains from the former building also drained to this ditch. The ditch leads to an underground culvert that runs to the southwest. Stormwater runoff from the east side of the site flows to the center of the two topographic lows at which eventually discharge to the drainage ditch located along the south site boundary. Stormwater runoff from the northern edge of the site drains to Jefferson Road storm sewer catch basins.

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 Remedial Investigation (RI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The Applicant under the Brownfield Cleanup Agreement is a Participant. The Applicant has an obligation to address on-site and off-site contamination. Accordingly, no enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

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

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

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

The analytical data collected on this site includes data for:

- air
- groundwater
- soil
- soil vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

silver	PCB aroclor 1254
cadmium	xylene (mixed)
copper	toluene
zinc	trichloroethene (TCE)
benzo(b)fluoranthene	tetrachloroethene (PCE)
benzo(a)pyrene	ethylbenzene
benzo[k]fluoranthene	1,1 dichloroethene
dibenz[a,h]anthracene	vinyl chloride
indeno(1,2,3-CD)pyrene	

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 Decision Document.

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

Soil Removal IRM

In April 2013, approximately 29 tons of soil and asphalt debris were excavated from a small area where soil was stained and had a petroleum odor. The excavation area was located in the eastern portion of the site and about midway north to south. Excavated material consisted of fill soils along with asphalt debris and a distinct buried asphalt layer likely the result of prior site development and various building/infrastructure modifications. Confirmation samples from the sides and bottom of the excavation met Unrestricted Use SCOs. The excavated material was properly disposed of off-site and the excavation was backfilled with clean fill.

In addition, an 8-inch cast iron pipe was uncovered in the excavation. Historical drawings indicate that this pipe may have been associated with roof drains from the former building. Liquid in the pipe was tested and was not impacted. The pipe penetration was plugged with bentonite. Three test pits were completed along the pipe to further assess pipe conditions. Soil samples collected from the test pits met Unrestricted Use SCOs.

6.3: Summary of Environmental Assessment

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

Nature and Extent of Contamination:
Based upon the investigations conducted to date, there are two primary areas of concern at the site Soil investigation confirmed levels below commercial SCOs except for the following hot spots identified as Area 1 and Area 2.

Area 1 is located near the southwest corner of the former building in the vicinity of industrial cleaning operations, storage areas including a former underground tank, and sub-floor piping. Area 2 is the drainage ditch located at the southern boundary of the site. The ditch collects stormwater runoff from the central, south and west portions of the site. Roof drains from the former building also drained to this ditch. The primary contaminants of concern for Area 1 include the non-chlorinated VOCs xylene, and ethylbenzene and the chlorinated VOCs trichloroethene (TCE) and tetrachloroethene (PCE). The primary contaminants of concern for Area 2 include chlorinated VOCs, PAHs, PCBs, and several metals (cadmium, copper, silver and zinc).

Area 1 Soil – The non-chlorinated VOCs are found in shallow soil while the chlorinated VOCs are found in both the shallow and deeper soils. Concentrations of xylene found in Area 1 (up to approximately 1,100 ppm) significantly exceed the soil cleanup objective (SCO) for unrestricted use (0.26 ppm). Concentrations of toluene found on in Area 1 (up to approximately 5 ppm) moderately exceed the SCO for unrestricted use (0.7 ppm). Concentrations of ethybenzene found in Area 1 (up to approximately 230 ppm) significantly exceed the SCO for unrestricted use (1 ppm). Concentrations of TCE found in Area 1 (up to 1,400 ppm) significantly exceed the SCO for unrestricted use (0.47 ppm). Concentrations of PCE found in Area 1 (up to 16 ppm) moderately exceed the SCO for unrestricted use (1.3 ppm).

Area 1 Groundwater – Chlorinated and non-chlorinated VOCs are also found in groundwater significantly exceeding groundwater standards (typically 5 ppb), with a maximum total non-chlorinated VOC concentration of about 5,300 ppb and a maximum total chlorinated VOC concentration of 669,000 ppb. Chlorinated VOCs are estimated to have migrated about 300 feet downgradient to the west near the property boundary. The non-chlorinated solvents do not appear to have migrated significantly beyond the source area. Vertically, significant groundwater impacts are present to depths of 77 feet below ground. Chlorinated VOCs were not detected in an off-site downgradient well located approximately 50-ft from the site boundary.

Area 2 Soil – The PCBs, PAHs, and metals are found in shallow soil while the chlorinated VOCs are found in both the shallow and deeper soils. Concentrations of TCE found in Area 2 (up to 6,900 ppm) significantly exceed the SCO for unrestricted use (0.47 ppm). Concentrations of PCE found in Area 2 (up to 28 ppm) moderately exceed the SCO for unrestricted use (1.3 ppm). Concentrations of PCBs found in Area 2 (up to approximately 7 ppm) moderately exceed the SCO for unrestricted use (0.1 ppm). Concentrations of cadmium found on in Area 2 (up to approximately 55 ppm) moderately exceed the SCO for unrestricted use (2.5 ppm). Concentrations of copper found in Area 2 (up to approximately 803 ppm) moderately exceed the SCO for unrestricted use (50 ppm). Concentrations of silver found in Area 2 (up to approximately 91 ppm) moderately exceed the SCO for unrestricted use (2 ppm). Concentrations of multiple PAHs in Area 2 exceed the SCO for unrestricted use (typically 1 ppm) with a maximum total PAH concentration of approximately 369 ppm.

Area 2 Ditch Water – The drainage ditch does not contain continuously flowing water. Rather there are areas where the water pools between precipitation events. Surface water samples from the drainage ditch indicated the potential presence of several metals exceeding Class D surface water standards. Concentrations of cadmium (up to approximately 18 ppb) moderately exceed the Class D surface water standard (9.2 ppb). Concentrations of copper (up to approximately 354 ppb) moderately exceed the Class D surface water standard (28 ppb). Concentrations of silver (up to approximately 22 ppb) moderately exceed the Class D surface water standard (16 ppb). Concentrations of zinc (up to approximately 1,970 ppb) moderately exceed the Class D surface water standard (160 ppb). Results from a subsequent surface water sampling event for these metals were below the surface water standards.

Area 2 Groundwater – Chlorinated VOCs associated with Area 2 are also found in groundwater significantly exceeding groundwater standards (typically 5 ppb), with a maximum total chlorinated VOC concentration of 890,000 ppb. Chlorinated VOCs have migrated from the drainage ditch about 140 feet down-gradient to the southwest. The drainage ditch is located on-site with additional impacted groundwater located off-site at an adjacent industrial property. Vertically, slight groundwater impacts are present to depths of 74 feet below ground.

Soil Vapor – Soil vapor samples were collected from within the off-site adjacent industrial building located southwest of Area 2. Analytical results indicated that the site-related compounds detected during the investigation were present at concentrations below the applicable NYSDOH "no further action" criteria

Significant Threat:
The site presents a significant public health and environmental threat due to the ongoing releases of contaminants from source areas into groundwater and the potential for people to contact site related contaminants in ditch water, soil, and via soil vapor intrusion in the event that the site is redeveloped.

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 associated with the site because the area is served by a public water supply that obtains its water from a different source not affected by this contamination. The site is not fenced and people who enter the site could contact contaminants in the soil by walking on the soil, digging or otherwise disturbing the soil. Volatile organic compounds in the groundwater may move into the soil vapor (air between soil particles), 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. The site is vacant; therefore, inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. However, the potential exists for the inhalation of site-related contaminants due to soil vapor intrusion for any future on-site building development and occupancy. Further evaluation is needed to determine whether soil vapor intrusion is 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.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

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: ELEMENTS OF THE SELECTED REMEDY

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

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

The selected remedy is referred to as the excavation with in situ chemical reduction remedy.

The elements of the selected remedy, as shown in Figure 2, 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. Excavation and off-site disposal of contaminant source areas, including:
- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- Area 1 soils that exceed the Commercial Soil Cleanup Objectives to a depth of 10 feet below ground surface; and
- Area 2 soils that exceed the Commercial Soil Cleanup Objectives to a depth of 5 feet below the bottom of the Area 2 drainage ditch.

Approximately 1,150 cubic yards of soil will be removed from Area 1 and approximately 660 cubic yards of soil will be removed from Area 2. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site.

3. In-situ chemical reduction (ISCR) will be implemented to treat contaminants in subsurface soil below the water table and groundwater. A chemical reducing agent will be injected into the subsurface to destroy the contaminants remaining in Area 1 and Area 2 below the excavation limits described in Paragraph 2 above. The method and depth of injection will be determined during the remedial design.

4. A site cover in Area 1 currently exists and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain a site cover, which may 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 a 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).

5. For Area 2,a cover will be required that will consist either of the structures such as buildings, pavement, sidewalks comprising the properties' development or a soil cover in areas where the remaining soil contamination will exceed the commercial use 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 Area 2 will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

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

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

7. 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 6above. Institutional controls also include voluntary agreements between the Participant and respective property owners for site access and any other pertinent provisions to enable the installation and maintenance of cover systems, management of residual contamination, excavation, inspections, sampling, and/or any other requisite activities.

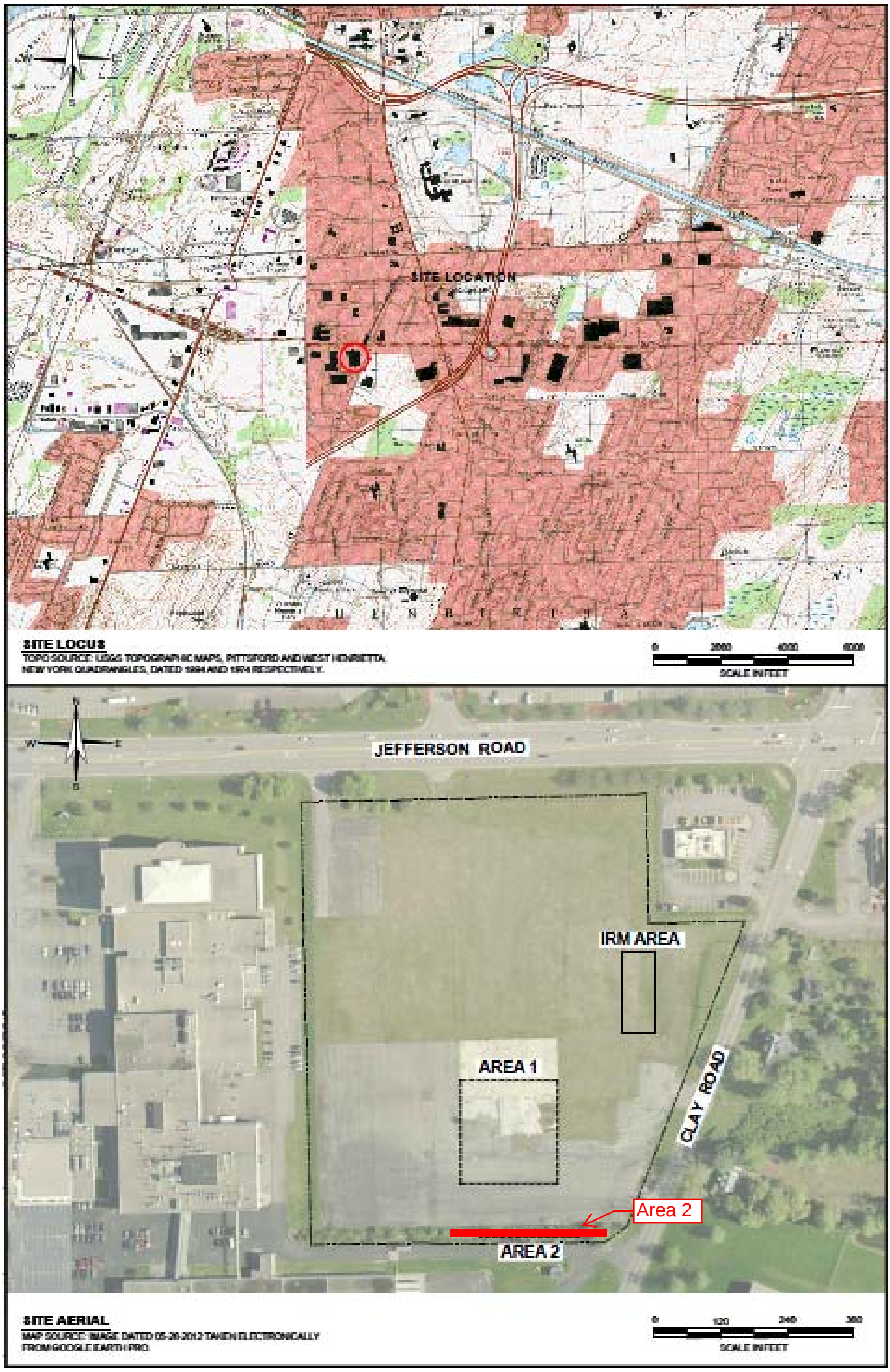
Engineering Controls: The site cover discussed in Paragraphs 4 and 5 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use, and/or groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision for evaluation of the potential for soil vapor intrusion for any off-site buildings considered potentially impacted due to contaminant migration, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- monitoring of groundwater to assess the performance and effectiveness of the remedy including sentinel wells to assess contaminant migration;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above; and
- monitoring for vapor intrusion for any off-site buildings as may be required by the Institutional and Engineering Control Plan discussed above.



SITE LOCUS

TOPO SOURCE: USGS TOPOGRAPHIC MAPS, PITTSFORD AND WEST HENRIETTA, NEW YORK QUADRANGLES, DATED 1994 AND 1974 RESPECTIVELY.

0 2000 4000 8000

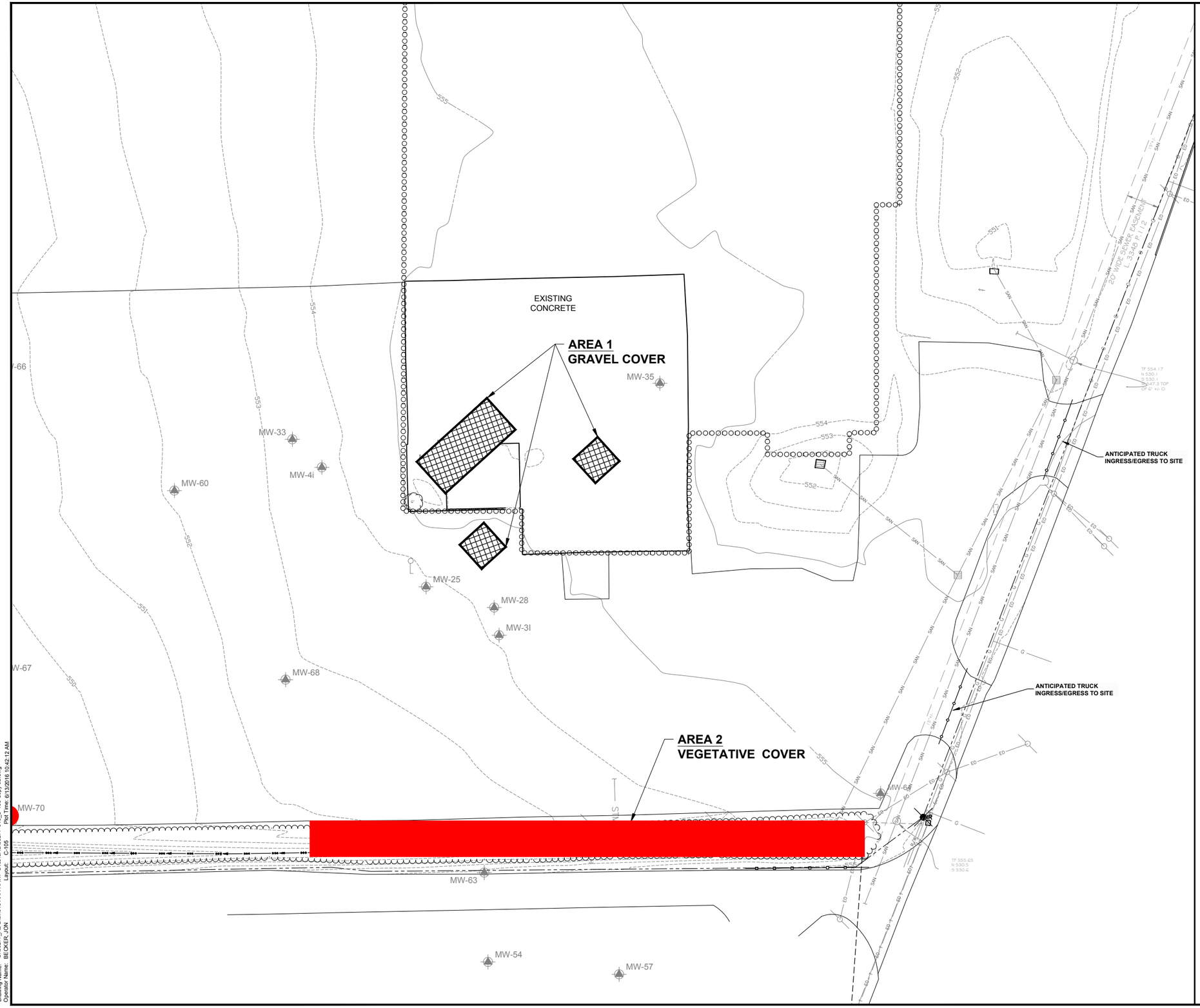
SCALE IN FEET

SITE AERIAL

MAP SOURCE: IMAGE DATED 05-20-2012 TAKEN ELECTRONICALLY FROM GOOGLE EARTH PRO.

0 120 240 360

SCALE IN FEET



LEGEND

- PROPERTY LINE
- GRAVEL COVER
- VEGETATIVE COVER
- FORMER DEED LINE
- FORMER FACILITY FOOTPRINT
- 5/8" REBAR WITH SURVEY CAP TO BE SET
- EXISTING IRON ROD
- EXISTING IRON PIPE
- UTILITY POLE
- DECIDUOUS TREE
- MANHOLE
- CATCH BASIN
- WATER OR GAS VALVE
- LIGHT POLE
- ANCHOR
- STREET SIGN
- BOLLARD
- R/W — RIGHT-OF-WAY LINE
- W — WATER PIPELINE
- TU — BURIED TELEPHONE CABLE
- E — UNDERGROUND ELECTRIC LINES
- EO — OVERHEAD ELECTRIC LINES
- SAN — SANITARY SEWER
- STM — STORM SEWER
- MW-40 — MONITORING WELL LOCATION AND NUMBER

NOTES

1. BASE MAP PROVIDED BY SITE PLAN FROM HUNT ENGINEERS ARCHITECTS SURVEYORS, TAX PARCEL NO. 162.08-1-3, JOB NO. 5384-002, DRAWING NAME 5384-002.DWG, DATED AUGUST 23, 2012.
2. ALL SEDIMENT SAMPLING AND BORING LOCATIONS PROVIDED BY FINAL RI REPORT (STANTEC, 2009).
3. SEE DRAWING C-200 FOR DETAILS ON SITE COVER AND RESTORATION.
4. SOUTHERN PROPERTY BOUNDARY LINE PROVIDED BY McFARLAND JOHNSON, MARCH 2016

N
W E
S

0 30 60 90 120
SCALE IN FEET

HALEY ALDRICH

Haley & Aldrich of New York
200 Town Centre Dr., Suite 2
Rochester, NY 14623-4264
Tel: 585.359.9000
Fax: 585.359.4650
www.haleyaldrich.com

Project No.:	36277-015
Scale:	AS SHOWN
Date:	MARCH 2016
Drawn By:	SJL
Designed By:	JS
Checked By:	HA
Approved By:	HA
Stamp:	

Rev.	Description	By	Date
1	PROP. BNDRY ADJ.	JSB	3/10/15

FORMER AB DICK FACILITY
811 JEFFERSON ROAD

ROCHESTER, NEW YORK

FINAL SITE COVER AND RESTORATION PLAN

C-105

Sheet: 8 of 10

CADD File Data:
Drawing Name: G:\36277_AB Dick\015 AAR-RAWP Svcs\CAD\36277-015_C-108 Copy JB.dwg
Operator Name: BECKER, JON
Layout: C-105
Plot Time: 6/13/2016 10:42:12 AM

LEGEND

- PROPERTY LINE (BROWNFIELD BOUNDARY)
- MW-28 — MONITORING WELL LOCATION
- NO VOC CONCENTRATIONS > 5 µG/L
- MAXIMUM VOC CONCENTRATIONS BETWEEN 5 AND 100 µG/L
- MAXIMUM VOC CONCENTRATIONS BETWEEN 100 AND 1000 µG/L
- MAXIMUM VOC CONCENTRATIONS GREATER THAN 1000 µG/L
- NO GROUNDWATER CHEMICAL DATA TESTED.

NOTES

1. MONITORING WELL LOCATIONS PROVIDED BY FINAL RI REPORT (STANTEC, 2009) AND SUPPLEMENTAL RI (STANTEC, 2010). ALL LOCATIONS ARE APPROXIMATE.
2. SOUTHERN PROPERTY BOUNDARY LINE PROVIDED BY McFARLAND JOHNSON, MARCH 2016

N
W E
S

0 30 60 90 120
SCALE IN FEET

HALEY ALDRICH

Haley & Aldrich of New York
200 Town Centre Dr., Suite 2
Rochester, NY 14623-4264
Tel: 585.359.9000
Fax: 585.359.4650
www.haleyaldrich.com

Project No.:	36277-015
Scale:	AS SHOWN
Date:	MARCH 2016
Drawn By:	SJL
Designed By:	JS
Checked By:	HA
Approved By:	HA
Stamp:	

Rev.	Description	By	Date
1	PROP. BNDRY ADJ.	JSB	3/10/15

FORMER AB DICK FACILITY
811 JEFFERSON ROAD

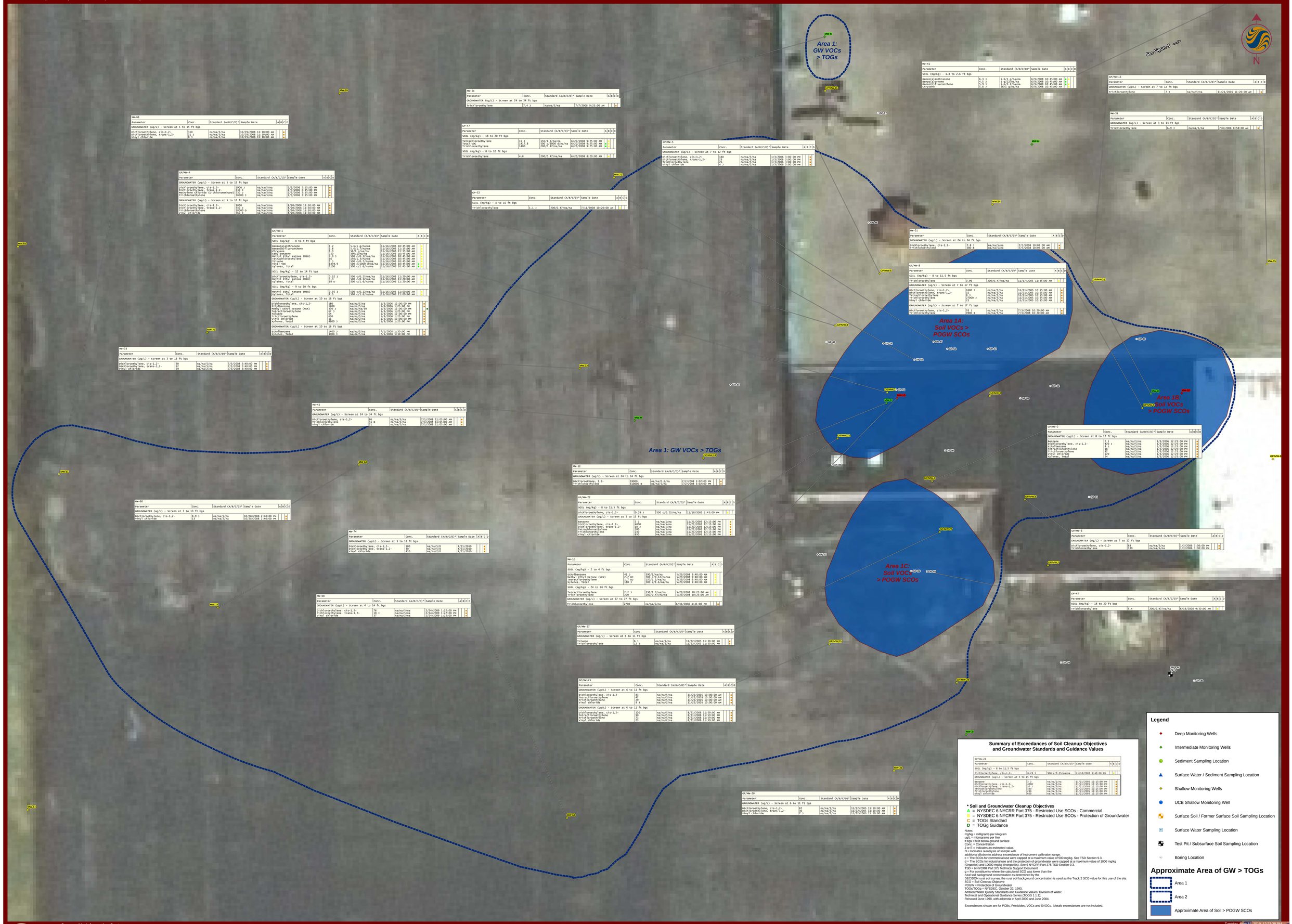
ROCHESTER, NEW YORK

EXTENT OF GROUNDWATER IMPACTS

C-101A

Sheet: 4 of 10

CADD File Data:
Drawing Name: G:\36277_AB Dick\015 AAR-RAWP Svst\CAD\36277-015_C-101A .IB.dwg
Layout: C-101A Plot Time: 6/15/2016 12:04:23 PM
Operator Name: BECKER, JOH



Mw-61

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 5 to 15 ft bgs							
Dichloroethylene, cis-1,2-	310	na/na/5/na	10/29/2008 11:10:00 AM				*
Vinyl chloride	8.3	na/na/2/na	10/29/2008 11:10:00 AM				*

Mw-51

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 24 to 34 ft bgs							
Trichloroethylene	7.4 J	na/na/5/na	7/7/2008 9:25:00 AM			*	

GP-47

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
SOIL (mg/kg) - 18 to 20 ft bgs							
Tetrachloroethylene	15 J	150/1.3/na/na	6/20/2008 9:25:00 AM		*		
Trichloroethylene	1400	200/0.47/na/na	6/20/2008 9:25:00 AM		*		
SOIL (mg/kg) - 8 to 10 ft bgs							
Trichloroethylene	4.8	200/0.47/na/na	6/20/2008 8:20:00 AM				

GP/Mw-5

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 7 to 12 ft bgs							
Dichloroethylene, cis-1,2-	140	na/na/5/na	1/3/2006 1:00:00 PM				*
Dichloroethylene, trans-1,2-	23	na/na/5/na	1/3/2006 1:00:00 PM				*
Trichloroethylene	76	na/na/5/na	1/3/2006 1:00:00 PM				*
Vinyl chloride	4.3	na/na/2/na	1/3/2006 1:00:00 PM				*

GP/Mw-4

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 5 to 15 ft bgs							
Dichloroethylene, cis-1,2-	1800 J	na/na/5/na	1/3/2006 2:15:00 PM				*
Dichloroethylene, trans-1,2-	430 J	na/na/5/na	1/3/2006 2:15:00 PM				*
Methylene chloride (Dichloromethane)	280 J	na/na/5/na	1/3/2006 2:15:00 PM				*
Trichloroethylene	38000 J	na/na/5/na	1/3/2006 2:15:00 PM				*
GROUNDWATER (ug/L) - Screen at 5 to 15 ft bgs							
Dichloroethylene, cis-1,2-	1600	na/na/5/na	8/20/2008 11:50:00 AM				*
Dichloroethylene, trans-1,2-	300 J	na/na/5/na	8/20/2008 11:50:00 AM				*
Trichloroethylene	18000 D	na/na/5/na	8/20/2008 11:50:00 AM				*
Vinyl chloride	360 J	na/na/2/na	8/20/2008 11:50:00 AM				*

GP-52

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
SOIL (mg/kg) - 8 to 10 ft bgs							
Trichloroethylene	1.1 J	700/0.47/na/na	7/11/2008 10:20:00 AM				

GP/Mw-1

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
SOIL (mg/kg) - 0 to 4 ft bgs							
Benzo(a)anthracene	1.2	5.6/1 g/na/na	11/16/2005 10:45:00 AM				
Benzo(b)fluoranthene	1.8	5.6/1 g/na/na	11/16/2005 11:15:00 AM				
Chrysene	1.5	56/1 g/na/na	11/16/2005 11:15:00 AM				
Ethylbenzene	230	390/1/na/na	11/16/2005 10:45:00 AM				
Methyl Ethyl Ketone (MEK)	9.9 J	500 c/0.12/na/na	11/16/2005 10:45:00 AM				
Tetrachloroethylene	5.7	150/1.3/na/na	11/16/2005 10:45:00 AM				
Toluene	5	500 c/0.7/na/na	11/16/2005 10:45:00 AM				
Total VOC	1439.9	500 c/1000 d/na/na	11/16/2005 10:45:00 AM		*		
Xylenes, Total	1100	500 c/1.6/na/na	11/16/2005 10:45:00 AM		*		
SOIL (mg/kg) - 12 to 14 ft bgs							
Dichloroethylene, cis-1,2-	0.32 J	500 c/0.25/na/na	11/16/2005 11:20:00 AM				
Methyl Ethyl Ketone (MEK)	3 J	500 c/0.12/na/na	11/16/2005 11:20:00 AM				
Xylenes, Total	88 D	500 c/1.6/na/na	11/16/2005 11:20:00 AM				
SOIL (mg/kg) - 9 to 10 ft bgs							
Methyl Ethyl Ketone (MEK)	0.95 J	500 c/0.12/na/na	11/16/2005 11:00:00 AM				
Xylenes, Total	7.5	500 c/1.6/na/na	11/16/2005 11:00:00 AM				
GROUNDWATER (ug/L) - Screen at 10 to 16 ft bgs							
Dichloroethylene, cis-1,2-	180	na/na/5/na	1/3/2006 12:00:00 PM				*
Ethylbenzene	1400	na/na/5/na	1/3/2006 1:25:00 PM				*
Methyl Ethyl Ketone (MEK)	370 J	na/na/na/50	1/3/2006 12:00:00 PM				*
Tetrachloroethylene	64 J	na/na/5/na	1/3/2006 12:00:00 PM				*
Toluene	64	na/na/5/na	1/3/2006 12:00:00 PM				*
Trichloroethylene	630	na/na/5/na	1/3/2006 1:25:00 PM				*
Vinyl chloride	31	na/na/2/na	1/3/2006 12:00:00 PM				*
Xylenes, Total	4800 J	na/na/5/na	1/3/2006 1:25:00 PM				*
GROUNDWATER (ug/L) - Screen at 10 to 16 ft bgs							
Ethylbenzene	1400 J	na/na/5/na	7/1/2008 1:30:00 PM				*
Xylenes, Total	3900 J	na/na/5/na	7/1/2008 1:30:00 PM				*

Mw-23

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 24 to 34 ft bgs							
Dichloroethylene, cis-1,2-	7.8 J	na/na/5/na	7/1/2008 10:07:00 AM				*
Trichloroethylene	180 E	na/na/5/na	7/1/2008 10:07:00 AM				*

GP/Mw-8

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
SOIL (mg/kg) - 8 to 11.5 ft bgs							
Trichloroethylene	0.96	200/0.47/na/na	11/17/2005 11:35:00 AM				
GROUNDWATER (ug/L) - Screen at 7 to 17 ft bgs							
Dichloroethylene, cis-1,2-	1600 J	na/na/5/na	11/21/2005 10:55:00 AM				*
Dichloroethylene, trans-1,2-	52	na/na/5/na	11/21/2005 10:55:00 AM				*
Trichloroethylene	1300	na/na/5/na	11/21/2005 10:55:00 AM				*
Vinyl chloride	27000 J	na/na/2/na	11/21/2005 10:55:00 AM				*
	23	na/na/2/na	11/21/2005 10:55:00 AM				*
GROUNDWATER (ug/L) - Screen at 7 to 17 ft bgs							
Dichloroethylene, cis-1,2-	91 J	na/na/5/na	7/3/2008 10:20:00 AM				*
Trichloroethylene	4900 E	na/na/5/na	7/3/2008 10:20:00 AM				*

Mw-33

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 3 to 13 ft bgs							
Dichloroethylene, cis-1,2-	90	na/na/5/na	7/1/2008 2:40:00 PM				*
Dichloroethylene, trans-1,2-	12	na/na/5/na	7/1/2008 2:40:00 PM				*
Vinyl chloride	59	na/na/2/na	7/1/2008 2:40:00 PM				*

Mw-41

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 24 to 34 ft bgs							
Dichloroethylene, cis-1,2-	86	na/na/5/na	7/1/2008 11:05:00 AM				*
Trichloroethylene	41 B	na/na/5/na	7/1/2008 11:05:00 AM				*
Vinyl chloride	21	na/na/2/na	7/1/2008 11:05:00 AM				*

Mw-11

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 24 to 34 ft bgs							
Dichloroethylene, 1,2-	50000	na/na/0.6/na	7/2/2008 1:02:00 PM				*
Trichloroethylene	610000 B	na/na/5/na	7/2/2008 1:02:00 PM				*

GP/Mw-22

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
SOIL (mg/kg) - 8 to 11.5 ft bgs							
Dichloroethylene, cis-1,2-	0.29 J	500 c/0.25/na/na	11/18/2005 1:45:00 PM				
GROUNDWATER (ug/L) - Screen at 5 to 15 ft bgs							
Benzene	3 J	na/na/5/na	11/21/2005 12:15:00 PM				*
Dichloroethylene, cis-1,2-	4900	na/na/5/na	11/21/2005 12:15:00 PM				*
Dichloroethylene, trans-1,2-	10 J	na/na/5/na	11/21/2005 12:15:00 PM				*
Tetrachloroethylene	240	na/na/5/na	11/21/2005 12:15:00 PM				*
Trichloroethylene	650	na/na/5/na	11/21/2005 12:15:00 PM				*

Mw-10

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
SOIL (mg/kg) - 2 to 4 ft bgs							
Ethylbenzene	43 J	390/1/na/na	5/29/2008 9:40:00 AM				
Methyl Ethyl Ketone (MEK)	7.7 DJ	500 c/0.12/na/na	5/29/2008 9:40:00 AM				
Tetrachloroethylene	1.7 DJ	150/1.3/na/na	5/29/2008 9:40:00 AM				
Xylenes, Total	180 J	500 c/1.6/na/na	5/29/2008 9:40:00 AM				
SOIL (mg/kg) - 24 to 28 ft bgs							
Tetrachloroethylene	2.2 J	150/1.3/na/na	5/29/2008 10:25:00 AM				
Trichloroethylene	200	200/0.47/na/na	5/29/2008 10:25:00 AM				
GROUNDWATER (ug/L) - Screen at 67 to 77 ft bgs							
Trichloroethylene	2700	na/na/5/na	6/30/2008 4:41:00 PM				*

GP/Mw-27

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 6 to 11 ft bgs							
Toluene	8.3	na/na/5/na	11/22/2005 11:30:00 AM				*
Trichloroethylene	12 J	na/na/5/na	11/22/2005 11:30:00 AM				*

GP/Mw-25

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 6 to 11 ft bgs							
Dichloroethylene, cis-1,2-	81	na/na/5/na	11/22/2005 10:00:00 AM				*
Tetrachloroethylene	42	na/na/5/na	11/22/2005 10:00:00 AM				*
Trichloroethylene	29	na/na/5/na	11/22/2005 10:00:00 AM				*
Vinyl chloride	9 J	na/na/2/na	11/22/2005 10:00:00 AM				*
GROUNDWATER (ug/L) - Screen at 6 to 11 ft bgs							
Dichloroethylene, cis-1,2-	120	na/na/5/na	8/21/2008 11:59:00 AM				*
Tetrachloroethylene	90	na/na/5/na	8/21/2008 11:59:00 AM				*
Trichloroethylene	51	na/na/5/na	8/21/2008 11:59:00 AM				*
Vinyl chloride	23	na/na/2/na	8/21/2008 11:59:00 AM				*

GP/Mw-28

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 6 to 11 ft bgs							
Dichloroethylene, cis-1,2-	82	na/na/5/na	11/22/2005 11:10:00 AM				*
Dichloroethylene, trans-1,2-	10	na/na/5/na	11/22/2005 11:10:00 AM				*
Vinyl chloride	7.9	na/na/2/na	11/22/2005 11:10:00 AM				*

Mw-60

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 3 to 13 ft bgs							
Dichloroethylene, cis-1,2-	8.9 J	na/na/5/na	10/28/2008 2:40:00 PM				*
Vinyl chloride	13	na/na/2/na	10/28/2008 2:40:00 PM				*

Mw-74

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 3 to 13 ft bgs							
Dichloroethylene, cis-1,2-	580	na/na/5/D	4/21/2010				*
Dichloroethylene, trans-1,2-	30	na/na/5/D	4/21/2010				*
Vinyl chloride	410	na/na/2/D	4/21/2010				*

Mw-68

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 4 to 14 ft bgs							
Dichloroethylene, cis-1,2-	76	na/na/5/na	2/24/2009 1:22:00 PM				*
Dichloroethylene, trans-1,2-	10 J	na/na/5/na	2/24/2009 1:22:00 PM				*
Vinyl chloride	17	na/na/2/na	2/24/2009 1:22:00 PM				*

GP/Mw-2

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 8 to 17 ft bgs							
Benzene	2.3	na/na/5/na	1/3/2006 12:25:00 PM				*
Dichloroethylene, cis-1,2-	470 J	na/na/5/na	1/3/2006 12:25:00 PM				*
Ethylbenzene	3.3	na/na/5/na	1/3/2006 12:25:00 PM				*
Tetrachloroethylene	8.1	na/na/5/na	1/3/2006 12:25:00 PM				*
Trichloroethylene	82	na/na/5/na	1/3/2006 12:25:00 PM				*
Vinyl chloride	170	na/na/2/na	1/3/2006 12:25:00 PM				*
Xylenes, Total	24	na/na/5/na	1/3/2006 12:25:00 PM				*

GP/Mw-6

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 7 to 12 ft bgs							
Dichloroethylene, cis-1,2-	83	na/na/5/na	1/3/2006 3:30:00 PM				*
Trichloroethylene	130	na/na/5/na	1/3/2006 3:30:00 PM				*

GP-45

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
SOIL (mg/kg) - 18 to 20 ft bgs							
Trichloroethylene	5.4	200/0.47/na/na	6/19/2008 9:30:00 AM				*

GP/Mw-15

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 7 to 12 ft bgs							
Trichloroethylene	7 J	na/na/5/na	11/21/2005 11:20:00 AM				*

Mw-35

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 3 to 13 ft bgs							
Trichloroethylene	6.9 J	na/na/5/na	7/8/2008 8:58:00 AM				*

Mw-41

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
SOIL (mg/kg) - 1.8 to 2.6 ft bgs							
Benzo(a)anthracene	6.3 J	5.6/1 g/na/na	6/9/2008 10:45:00 AM		*		
Benzo(a)pyrene	4.5 J	1 g/22/na/na	6/9/2008 10:45:00 AM		*		
Benzo(b)fluoranthene	5.8 J	5.6/1 g/na/na	6/9/2008 10:45:00 AM		*		
Chrysene	5.8 J	56/1 g/na/na	6/9/2008 10:45:00 AM		*		

Legend

- Deep Monitoring Wells
- Intermediate Monitoring Wells
- Sediment Sampling Location
- Surface Water / Sediment Sampling Location
- Shallow Monitoring Wells
- UCB Shallow Monitoring Well
- Surface Soil / Former Surface Soil Sampling Location
- Surface Water Sampling Location
- Test Pit / Subsurface Soil Sampling Location
- Boring Location

Approximate Area of GW > TOGs

- Area 1
- Area 2
- Approximate Area of Soil > POGW SCOs

Summary of Exceedances of Soil Cleanup Objectives and Groundwater Standards and Guidance Values

GP/Mw-22

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
SOIL (mg/kg) - 8 to 11.5 ft bgs							
Dichloroethylene, cis-1,2-	0.29 J	500 c/0.25/na/na	11/18/2005 1:45:00 PM				
GROUNDWATER (ug/L) - Screen at 5 to 15 ft bgs							
Benzene	3 J	na/na/5/na	11/21/2005 12:15:00 PM				*
Dichloroethylene, cis-1,2-	4900	na/na/5/na	11/21/2005 12:15:00 PM				*
Dichloroethylene, trans-1,2-	10 J	na/na/5/na	11/21/2005 12:15:00 PM				*
Tetrachloroethylene	240	na/na/5/na	11/21/2005 12:15:00 PM				*
Trichloroethylene	650	na/na/5/na	11/21/2005 12:15:00 PM				*
Vinyl chloride	490	na/na/2/na	11/21/2005 12:15:00 PM				*

*** Soil and Groundwater Cleanup Objectives**

A = NYSDEC 6 NYCRR Part 375 - Restricted Use SCOs - Commercial
B = NYSDEC 6 NYCRR Part 375 - Restricted Use SCOs - Protection of Groundwater
C = TOGs Standard
D = TOGg Guidance

Notes:
mg/kg = milligrams per kilogram
ug/L = micrograms per liter
ft bgs = feet below ground surface
Conc. = Concentration
J or E = Indicates an estimated value.
D = Indicates reanalysis of sample with additional dilution to address exceedance of instrument calibration range.
c = The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3.
d = The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg (Organics) and 10000 mg/kg (Inorganics). See 6 NYCRR Part 375 TSD Section 9.3.
TSD = 6 NYCRR Part 375 Technical Support Document
g = For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the Determination of Background Survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.
SCO = Soil Cleanup Objectives
POGW = Protection of Groundwater
TOGs/TOGg = NYSDEC October 22, 1993.
Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1), Reissued June 1998, with addenda in April 2000 and June 2004.

Exceedances shown are for PCBs, Pesticides, VOCs and SVOCs. Metals exceedances are not included.

Geographic Information Systems

Cartographic Design By: Marc Bouchard

Tuesday, June 15, 2010 12:23:38 PM
P:\2010\190500279 - ABDickGIS\Suppl_RI_June2010\MXDs\Fig17s_Area1_Soils_GW_Exceedences_20100608.mxd

Stantec Consulting
2250 Brighton Henrietta Townline Road
Rochester, NY 14623
Phone 585.475.1440 Fax 585.424.5951
www.stantec.com

1 inch = 10 feet
0 4 8 16 24 32 Feet

Figure 17s

Map Summarizing Soil and Groundwater Conditions, Area 1
FORMER ABDICK FACILITY - REMEDIAL INVESTIGATION
811 JEFFERSON ROAD HENRIETTA, NEW YORK

GP/MW-32

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 6 to 11 ft bgs							
Dichloroethylene, cis-1,2-	8 J	na/na/5/na	8/20/2008 8:35:00 AM			■	
Trichloroethylene	240	na/na/5/na	8/20/2008 8:35:00 AM			■	

MW-38

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
SOIL (mg/kg) - 10 to 12 ft bgs							
Trichloroethylene	1.1 J	200/0.47/na/na	7/11/2008 12:15:00 PM		■		
SOIL (mg/kg) - 14 to 16 ft bgs							
Trichloroethylene	1.3	200/0.47/na/na	7/11/2008 12:45:00 PM		■		
SOIL (mg/kg) - 26 to 28 ft bgs							
Trichloroethylene	1.3	200/0.47/na/na	7/11/2008 2:00:00 PM		■		
GROUNDWATER (ug/L) - Screen at 12 to 22 ft bgs							
Dichlorobenzene, 1,2-	140	na/na/3/na	8/19/2008 11:53:00 AM			■	
Dichlorobenzene, 1,4-	20 J	na/na/3/na	8/19/2008 11:53:00 AM			■	
Dichloroethane, 1,1-	110	na/na/5/na	8/19/2008 11:53:00 AM			■	
Dichloroethane, 1,2-	140	na/na/0.6/na	8/19/2008 11:53:00 AM			■	
Dichloroethylene, 1,1-	290	na/na/5/na	8/19/2008 11:53:00 AM			■	
Dichloroethylene, cis-1,2-	31000 J	na/na/5/na	8/19/2008 11:53:00 AM			■	
Dichloroethylene, trans-1,2-	340	na/na/5/na	8/19/2008 11:53:00 AM			■	
Ethylbenzene	14 J	na/na/5/na	8/19/2008 11:53:00 AM			■	
Phenol	3 J	na/na/1.0/na	8/19/2008 11:53:00 AM			■	
Tetrachloroethylene	300	na/na/5/na	8/19/2008 11:53:00 AM			■	
Toluene	110	na/na/5/na	8/19/2008 11:53:00 AM			■	
Trichloroethane, 1,1,1-	270	na/na/5/na	8/19/2008 11:53:00 AM			■	
Trichloroethane, 1,1,2-	350	na/na/1/na	8/19/2008 11:53:00 AM			■	
Trichloroethylene	670000 J	na/na/5/na	8/19/2008 11:53:00 AM			■	
Vinyl chloride	250	na/na/2/na	8/19/2008 11:53:00 AM			■	
Xylenes, Total	74	na/na/5/na	8/19/2008 11:53:00 AM			■	

MW-63

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 13 to 23 ft bgs							
Trichloroethylene	31 J	na/na/5/na	10/30/2008 10:54:00 AM			■	

MW-5D

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
SOIL (mg/kg) - 12 to 14 ft bgs							
Dichlorobenzene, 1,2-	1.2 J	500 c/1.1/na/na	10/1/2008 11:45:00 AM		■		
Trichloroethylene	150 D	200/0.47/na/na	10/1/2008 11:45:00 AM		■		
SOIL (mg/kg) - 34 to 38 ft bgs							
Trichloroethylene	100 D	200/0.47/na/na	10/1/2008 12:40:00 PM		■		
GROUNDWATER (ug/L) - Screen at 64 to 74 ft bgs							
Trichloroethylene	90 J	na/na/5/na	10/31/2008 3:15:00 PM			■	

MW-64

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 13 to 23 ft bgs							
Trichloroethylene	8.5 J	na/na/5/na	2/24/2009 2:25:00 PM			■	

MW-62

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 8 to 18 ft bgs							
Dichloropropene, cis-1,3-	1100	na/na/0.4/na	10/29/2008 3:24:00 PM			■	
Trichloroethylene	6700 J	na/na/5/na	10/29/2008 3:24:00 PM			■	

MW-54

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
GROUNDWATER (ug/L) - Screen at 2 to 12 ft bgs							
Dichloroethane, 1,2-	17 J	na/na/0.6/na	8/19/2008 12:45:00 PM			■	
Dichloroethylene, 1,1-	21 J	na/na/5/na	8/19/2008 12:45:00 PM			■	
Dichloroethylene, cis-1,2-	1400 J	na/na/5/na	8/19/2008 12:45:00 PM			■	
Dichloroethylene, trans-1,2-	14 J	na/na/5/na	8/19/2008 12:45:00 PM			■	
Tetrachloroethylene	17 J	na/na/5/na	8/19/2008 12:45:00 PM			■	
Trichloroethane, 1,1,1-	6 J	na/na/5/na	8/19/2008 12:45:00 PM			■	
Trichloroethane, 1,1,2-	19 J	na/na/1/na	8/19/2008 12:45:00 PM			■	
Trichloroethylene	39000 J	na/na/5/na	8/19/2008 12:45:00 PM			■	
Vinyl chloride	250	na/na/2/na	8/19/2008 12:45:00 PM			■	

Summary of Exceedances of Soil Cleanup Objectives and Groundwater Standards and Guidance Values

GP/MW-22

Parameter	Conc.	Standard (A/B/C/D)*	Sample Date	A	B	C	D
SOIL (mg/kg) - 8 to 11.5 ft bgs							
Dichloroethylene, cis-1,2-	0.29 J	500 c/0.25/na/na	11/18/2005 1:45:00 PM		■		
GROUNDWATER (ug/L) - Screen at 5 to 15 ft bgs							
Benzene	3 J	na/na/1/na	11/21/2005 12:15:00 PM			■	
Dichloroethylene, cis-1,2-	4000	na/na/5/na	11/21/2005 12:15:00 PM			■	
Dichloroethylene, trans-1,2-	10 J	na/na/5/na	11/21/2005 12:15:00 PM			■	
Tetrachloroethylene	380	na/na/5/na	11/21/2005 12:15:00 PM			■	
Trichloroethylene	240	na/na/5/na	11/21/2005 12:15:00 PM			■	
Vinyl chloride	650	na/na/2/na	11/21/2005 12:15:00 PM			■	

*** Soil and Groundwater Cleanup Objectives**
A = NYSDEC 6 NYCRR Part 375 - Restricted Use SCOs - Commercial
B = NYSDEC 6 NYCRR Part 375 - Restricted Use SCOs - Protection of Groundwater
C = TOGs Standard
D = TOGg Guidance

Notes:
mg/kg = milligrams per kilogram
ug/L = micrograms per liter
ft bgs = feet below ground surface
Conc. = Concentration
J or E = Indicates an estimated value.
D = Indicates reanalysis of sample with additional dilution to address exceedance of instrument calibration range.
c = The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3.
TSD = 6 NYCRR Part 375 Technical Support Document
SCO = Soil Cleanup Objective
POGW = Protection of Groundwater
TOGs/TOGg = NYSDEC. October 22, 1993.
Ambient Water Quality Standards and Guidance Values, Division of Water,
Technical and Operational Guidance Series (TOGS 1.1.1);
Reissued June 1998, with addenda in April 2000 and June 2004.

Exceedances shown are for PCBs, pesticides, VOCs and SVOCs. Metals exceedances are not included.

MW-36 MW-3D MW-37 MW-68 SB-9 at TP-2 SB-10 at TP-1 MW-64 GP-34 GP/MW-32 SED-5 SED-6, 7,8 SW/SED-2, SED-9, 10, RW-2 SED-11, 12,13 SED-14 SED-15 RI-SW-1 SW/SED-1 MW-63 MW-5D MW-38 MW-62 Area 2: Soil VOCs > POGW SCOs MW-54 MW-57 MW-71 Clay Rd MW-65 MW-56

Legend
- Deep Monitoring Wells
- Intermediate Monitoring Wells
- Sediment Sampling Location
- Surface Water / Sediment Sampling Location
- Shallow Monitoring Wells
- UCB Shallow Monitoring Well
- Surface Soil / Former Surface Soil Sampling Location
- Surface Water Sampling Location
- Test Pit / Subsurface Soil Sampling Location
- Boring Location
- Approximate Site Boundary
- Approximate Area of GW > TOGs
- Approximate Area of Soil > POGW SCOs

N

Stantec Consulting
2250 Brighton Henrietta Townline Road
Rochester, NY 14623
Phone 585.475.1440 Fax 585.424.5951
www.stantec.com

1 inch = 30 feet
0 5 10 20 30 40
Feet

Thursday, July 2, 2009 6:10:01 PM
Cartographic Design By Marc Bouchard
C:\Documents and Settings\mbouchard\Desktop\190500279 - ABDick\GIS\RI_June2009\MXDs\Fig18_Area2_Soils_GW_Exceedences_11x17_29jun09.mxd

Figure 18

Map Summarizing Soil and Groundwater Conditions, Area 2

FORMER ABDICK FACILITY - REMEDIAL INVESTIGATION

811 JEFFERSON ROAD HENRIETTA, NEW YORK