PROPOSED REMEDIAL ACTION PLAN

235 Metro Park Brighton
State Superfund Project
Brighton, Monroe County
Site No. 828150
February 2012

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

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SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

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

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

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York; (6 NYCRR) Part 375. This document is a summary of the information that can be found in the site-related reports and documents in the document repository identified below.

SECTION 2: CITIZEN PARTICIPATION

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

Brighton Town Library
Attn: Karen Kase-Mclaren
2300 Elmwood Avenue
Rochester, NY 14618
Phone: (585) 784-5300

A public comment period has been set from:

2/29/2012 to 3/29/2012

A public meeting is scheduled for the following date:

3/15/2012 at 7:00 PM

Public meeting location:

Downstairs Meeting Room
Brighton Town Hall
2300 Elmwood Avenue
Brighton, New York

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

Written comments may also be sent through 3/29/2012 to:

Charlotte Theobald
NYS Department of Environmental Conservation
Division of Environmental Remediation
6274 East Avon-Lima Road
Avon, NY 14414
cbtheoba@gw.dec.state.ny.us

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

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location:
The 235 Metro Park Brighton site is located in a suburban area of Monroe County within the Town of Brighton. Metro Park is a commercial and light industrial park located along West Henrietta Road. The site is located approximately 4 miles south of downtown Rochester and is due west of Monroe Community College.

Site Features:
The main feature of the site includes a building with a footprint of approximately 20,000 sq ft that has a loading dock area and a parking lot. The site also has a vacant grassy area and a landscaped lawn. Metro Park roadways bound the site on 2 sides.

Current Zoning/Use(s):
The site is currently an active site and is zoned for commercial and light industrial use. The building is being used for label manufacturing and associated office space. The surrounding parcels are currently used for a combination of commercial, light industrial, and utility right-of-ways. The nearest residential area is an apartment complex known as Rustic Village Apartments about 2 tenths of a mile north of the site.

Past Use(s):
A variety of light industrial and commercial enterprises have occupied the site. The building, reportedly constructed in 1968, was used for sales and service of electric motors and transformers until May 2001. The building has been used more recently for label making operations and associated office space. Prior uses that appear to have led to site contamination include the servicing of electric motors, including degreasing, coil stripping, and spray painting operations.

The remedial investigation, interim remedial measure (IRM), and remedial design phase work was conducted under the Voluntary Cleanup Program by the site's owner (235 Metro Park Associates, LLC). The IRM consisted of the removal of an underground storage tank, surficial soil removal, and cleanup of PCBs on flooring slab. The environmental data collected during the remedial investigation, IRM, and the remedial design investigation was used during the remedy selection process.

The site is currently known as 235 Metro Park Brighton. A cross reference site number associated with the VCA is V00942.

Site Geology and Hydrogeology:
Borings advanced at the site indicate undifferentiated silt, silty sand, and clay strata extending to approximately 65 to 68 feet below ground surface. Glacio-lacustrine deposits are underlain by a silty sand and to gravelly sand unit that may represent glacial outwash deposits. The glacial outwash deposits extend to approximately 74 feet below ground surface. Beneath the glacial outwash deposits is a very dense undifferentiated glacial till consisting of silty sand which is approximately 3.5 feet thick. Based on borings completed at the site the till contacted top of bedrock at 76.5 feet and 84 feet below ground surface.

The saturated water table is typically less than 5 feet below ground surface. The groundwater beneath the site flows radially toward the southwest, north-northeast, and northwest from an elevated groundwater mound in the southeastern portion of the site. A deeper zone of groundwater was encountered at approximately 18.5 - 24 feet below ground surface.

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) are/is being evaluated in addition to an alternative which would allow for unrestricted use of the site.

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

SECTION 5: ENFORCEMENT STATUS

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

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

Fischbach, LLC

The VCA with 235 Metro Park Associates, LLC was terminated by the State for failure to comply with the terms of the Agreement effective July 16, 2007.

Subsequently, an Order on Consent was signed by 235 Metro Park Associates, LLC on September 30, 2008. The September 2008 Order on Consent has now been superseded by an Order on Consent signed with Fischbach, LLC on November 19, 2009. The Order obligates the responsible parties to implement a full remedial program.

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.

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 Information

The analytical data collected on this site includes data for:

- air
- groundwater
- soil
- soil vapor
- indoor air

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:

VINYL CHLORIDE	1,1-DICHLOROETHANE
TRICHLOROETHENE (TCE)	1,1,1 TRICHLOROETHANE
TETRACHLOROETHENE (PCE)	CARBON TETRACHLORIDE

ARSENIC DIBENZ[A,H]ANTHRACENE
BENZO(A)PYRENE

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.

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

6.3: 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 coming into contact with the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Contact with contaminated soil is unlikely unless persons dig below the ground surface. 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. Soil vapor intrusion sampling identified exposures to contaminants in indoor air. This exposure is limited to the only on-site building and represents a potential health concern. Additional sampling is necessary to confirm vapor intrusion is occurring.

6.4: Summary of Environmental Assessment

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

Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary for OU 01.

Nature and Extent of Contamination:
Based on the investigations conducted to date, the primary contaminants of concern are chlorinated solvents, including tetrachloroethene (PCE), trichloroethene (TCE), and associated breakdown products. The Remedial Investigation identified two separate plumes of contaminated shallow groundwater in the vicinity of the rear (eastern portion) of the subject building, both of

which are contained on-site. Chlorinated solvents exceed the groundwater standards and guidance values. TCE was detected at levels up to 9,400 ppb and PCE was detected at levels up to 540 ppb. Deeper groundwater was also found to be impacted, but to a lesser degree (TCE at up to 120 ppb).

VOC analytical results for surface and subsurface soils exceeded Part 375 Unrestricted Use Soil Cleanup Objectives for acetone. The initial surface soil sampling (September 2002) did indicate Polycyclic Aromatic Hydrocarbons (PAHs) in the area east of the driveway exceeded Part 375 Unrestricted Use Soil Cleanup Objectives. Additional surface soil sampling was conducted in the area of highest concentration to determine the areal extent of the PAH contamination. The analytical results indicate that 7 PAHs exceeded Part 375 unrestricted use Soil Cleanup Objectives (SCOs); however, benzo(a)pyrene and dibenzo(a,h)anthracene exceeded the commerical SCOs. As part of the October 2006 driveway and truck turnaround expansion project the area with the elevated PAHs has been covered with asphalt.

Surface soil and sub-surface soil samples were analyzed for PCBs, metals, and pesticides. Pesticides did not exceed unrestricted use SCOs. One subsurface soil sample exceeded the unrestricted use SCOs for PCBs. One surface soil sample exceeded the unrestricted use SCOs for mercury and three surface soil samples exceeded the unrestricted use SCOs for zinc. The unrestricted use SCOs for arsenic and zinc was exceeded at two different sample locations; however, arsenic exceeded the commerical SCOs.

Supplemental remedial investigation activities were conducted in 2010. These investigational activities further delineated the chlorinated VOC contamination and the site's geology to fill data gaps for the site's remedy selection process. The additional investigation activities included an air quality characterization (indoor, sub-slab, perimeter soil gas survey, outdoor air sampling), soil borings to characterize the physical and stratigraphic nature of the overburden soils, and a groundwater sampling event that included groundwater elevation measurements and hydraulic conductivity testing.

Tetrachloroethene (PCE) and trichloroethene (TCE) was non-detect in 4 of the 5 indoor air samples while one sample indicated tetrachloroethene at a concentration of 0.18 ug/m3. The sub-slab soil vapor sampling results showed detections of tetrachloroethene (3 to 240 ug/m3) and trichloroethene (0.60 to 15 ug/m3).

Special Resources Impacted/Threatened:
There were no special resources identified at the site.

Significant Threat:
The site presents a significant environmental threat due to the ongoing releases of contaminants from source areas into groundwater.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to

pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

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

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Remove the source of ground 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 PROPOSED REMEDY

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

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

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

The estimated present worth cost to implement the remedy is $472,000. The cost to construct the remedy is estimated to be $393,000 and the estimated average annual cost is $12,000.

The elements of the proposed remedy are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, 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 gas 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 that balance ecological, economic, and social goals; and
• Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Injections of biological amendments via direct injections will be conducted in the PCE and the TCE areas of concern. The biological amendments are anticipated to be injected to a depth of approximately 20 feet below grade. The injection method and depth will be modified as needed based on site conditions and the remedial design program discussed in item 1 above. Prior to full implementation of this technology, a bench-scale study will be conducted to more clearly define the design parameters. Once the bench-scale study has been completed the full scale implementation of the remedy will be conducted at the site. Based on the current understanding of the geological and hydrogeological conditions at the site it is anticipated that the injection points will be closely spaced.

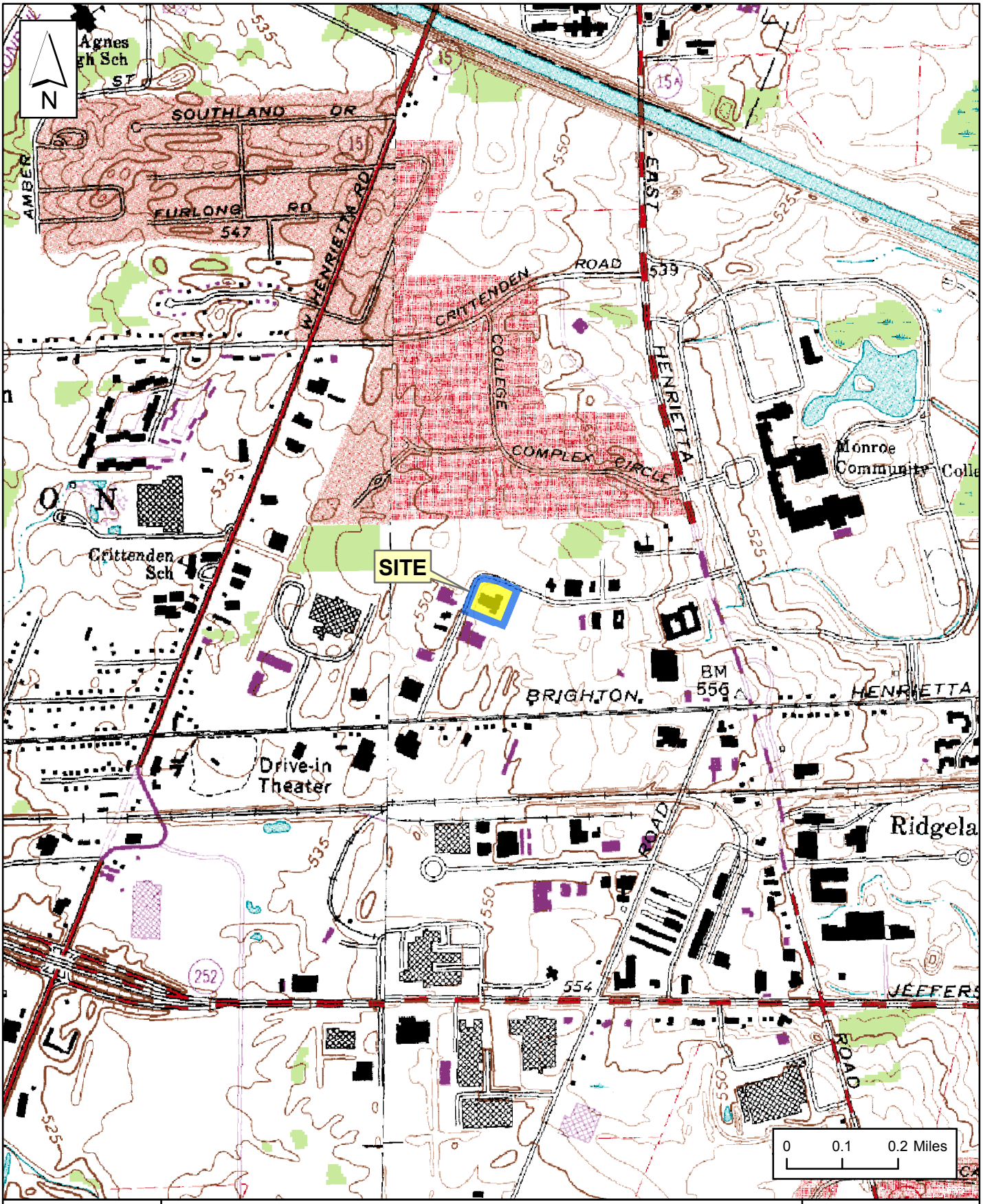
3. A site cover currently exists and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper 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).

4. 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 Monroe County Health Department;
• prohibits agriculture or vegetable gardens on the controlled property; and
• requires compliance with the Department approved Site Management Plan.

5. 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: See item #4 above.
• Engineering Controls: See item #3 above.

This plan includes, but may not be limited to:
• an Excavation Plan which details the provisions for management of future excavations;
• descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
• a provision for evaluation of the potential for soil vapor intrusion or any buildings occupied or developed on the site, 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:
• groundwater monitoring, primarily sampling for VOCs, will be conducted within the treatment area and downgradient of the treatment area to evaluate the effectiveness of the remedial alternative and determine the need for additional biological amendments;
• a schedule of monitoring and frequency of submittals to the Department;
• monitoring for vapor intrusion for any buildings occupied or developed on the site, as may be required by the Institutional and Engineering Control Plan discussed in item 5 above.



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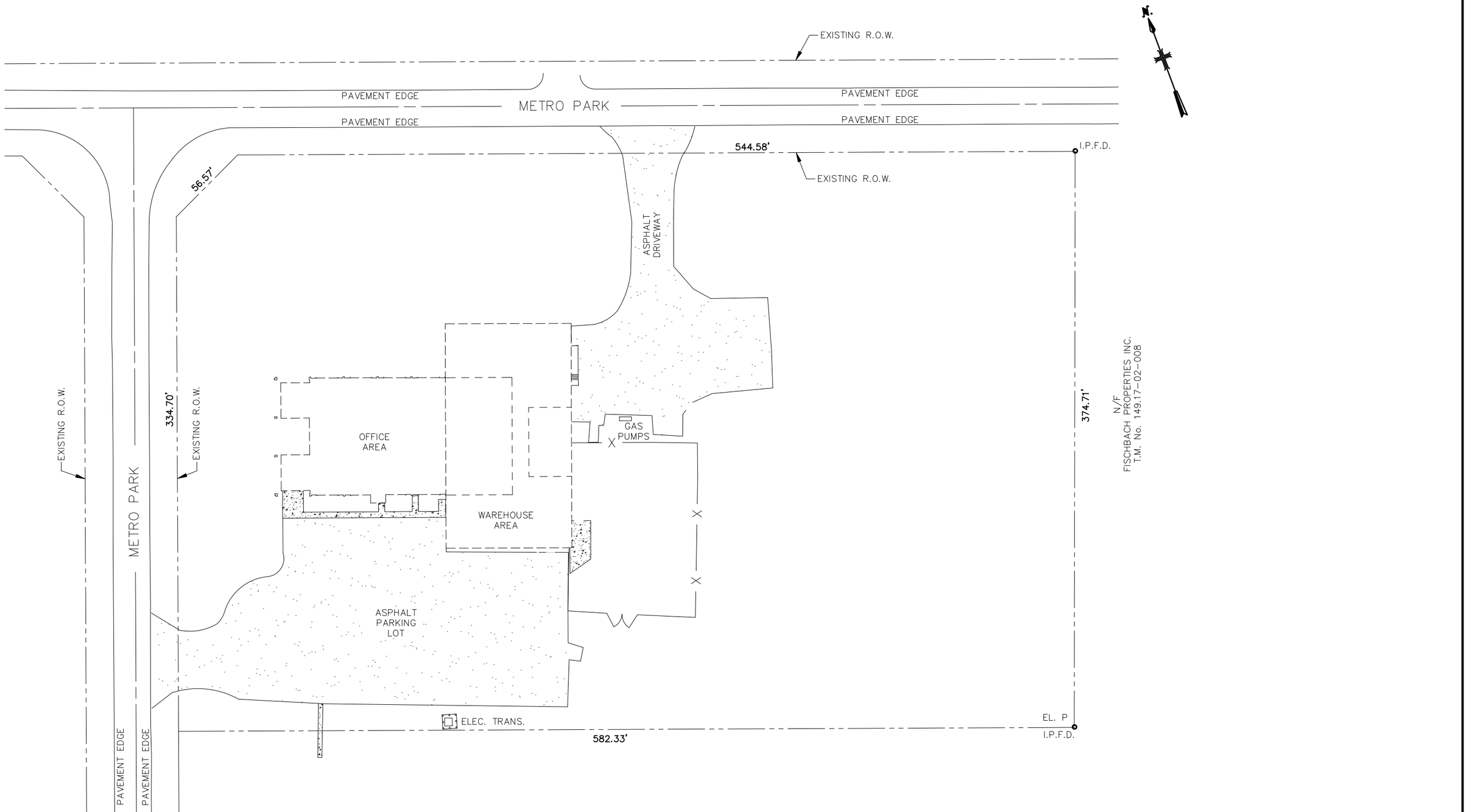
4124094 SEPT. 2009

SITE LOCATION MAP
235 METRO PARK, ROCHESTER, NY

FIGURE 1



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SUPPLEMENTAL
REMEDIAL INVESTIGATION
WORK PLAN

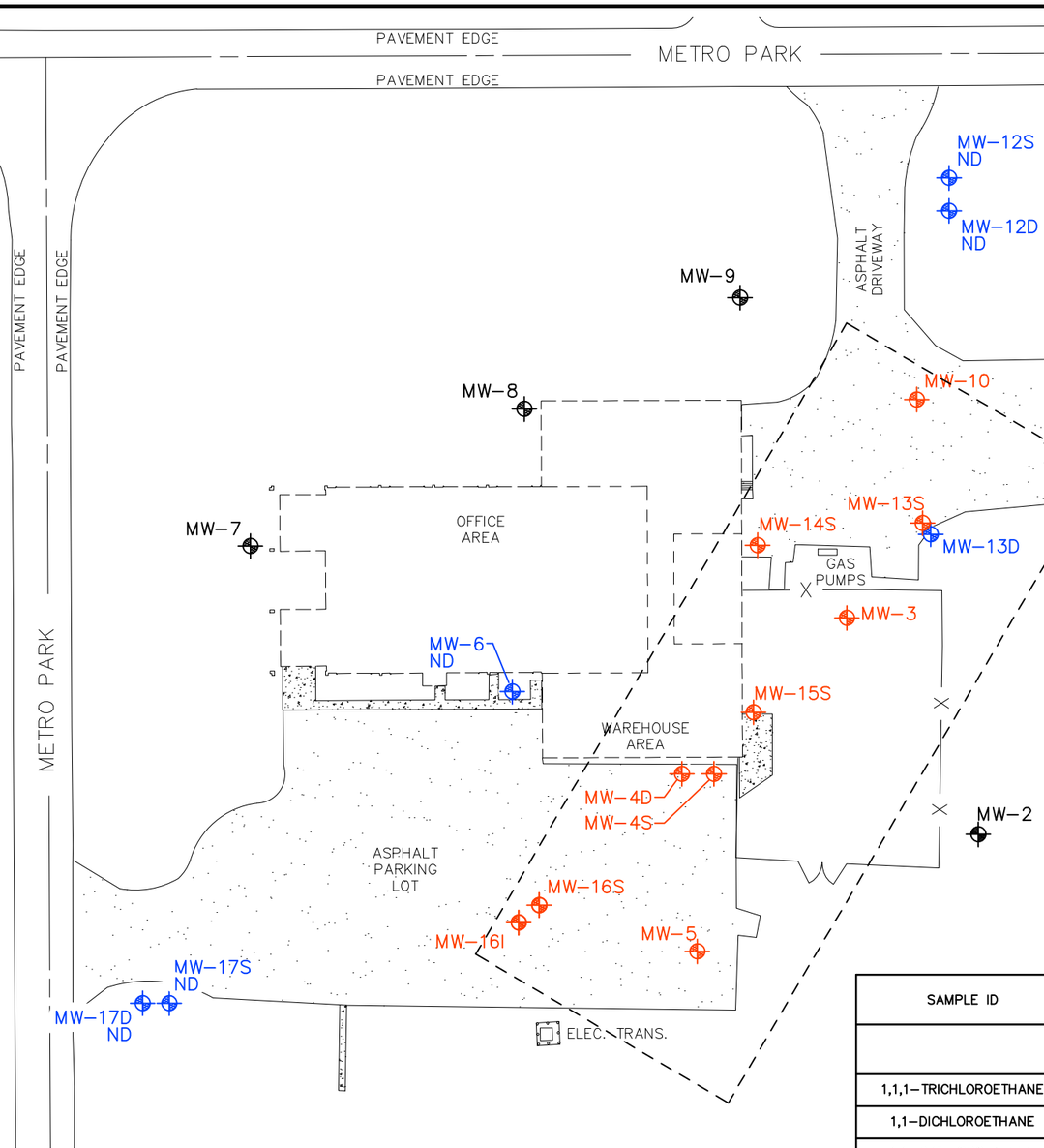
GENERAL SITE LAYOUT

SCALE: 1"=60'

MALCOLM PIRNIE, INC.

SEPTEMBER 2009

FIGURE 2



Alternative #4 - Proposed injection area

LEGEND

MW-1 — EXISTING MONITORING WELL W/ELEVATED VOC CONCENTRATION(S)

MW-6 ND — MONITORING WELL SHOWN WITH "ND" INDICATIVE OF NON-DETECT RESULTS

MW-7 — MONITORING WELL NOT SAMPLED DURING 2010 SAMPLING EVENTS

— — — — APPROXIMATE LIMIT OF VOC IMPACTED GROUNDWATER

NOTE: HIGHLIGHTED CONCENTRATIONS INDICATIVE OF CLASS "GA" GROUNDWATER EXCEEDANCE.

SUMMARY OF 6/5/10 ANALYTICAL RESULTS

SAMPLE ID	NYS CLASS "GA" STANDARDS	MW-3	MW-4S	DUP-1	MW-4D	MW-5	MW-10	MW-12D	MW-13D	MW-13S	MW-14S	MW-15S	MW-16S	MW-16I	MW-17D
VOLATILE ORGANIC COMPOUNDS (VOCS) (µG/L)															
1,1,1-TRICHLOROETHANE	5	7.9	12	12	1.0 U	1.8	1.0 U	2.0 U	1.0 U	1.0 U	50	230	1.0 U	10 U	5.0 UJ
1,1-DICHLOROETHANE	5	3.0	13	13	1.8	22	1.0 U	2.0 U	1.0 U	0.61 J	15	360	22	10 U	5.0 UJ
1,1-DICHLOROETHENE	5	2.2	16	15	1.1	7.1	1.0 U	2.0 U	1.0 U	1.0 U	58	140	2.8	10 U	5.0 UJ
ACETONE	50	1.7 J	4.9 J	3.3 J	4.7 J	2.9 UJ	1.8 J	10 UJ	5 UJ	5.0 U	5.0 U	100 U	2.0 J	50 U	25 UJ
BENZENE	0.7	1.0 U	2.5 U	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	20 U	0.47 J	10 U	5.0 UJ
CIS-1,2-DICHLOROETHENE	5	1.0 U	140	140	70	13	0.74 J	2.0 U	1.0 U	14	8.9	2700	400 D	7.8 J	5.0 UJ
METHYL TERT-BUTYL ETHER	50	1.0 U	2.5 U	0.42 J	1.0 U	8.5	1.0 U	2.0 U	1.0 U	1.0 U	2.7	4.8 J	3.0	10 U	5.0 UJ
TETRACHLOROETHENE	5	1.0 U	8.6	8.5	2.4	1.0 U	510 D	2.0 U	1.0 U	1.0 U	1.0 U	20 U	1.0 U	10 U	5.0 UJ
TRANS-1, 2-DICHLOROETHENE	5	1.0 U	2.8	2.7	0.66 J	0.38 J	1.0 U	2.0 U	1.0 U	0.29 J	0.25 J	72	19	10 U	5.0 UJ
TRICHLOROETHENE	5	1.0 U	560 D	520 D	22	1.0 U	8.2	2.0 U	1.0 U	0.97 J	1.0 U	2700	0.22 J	10 U	5.0 UJ
VINYL CHLORIDE	2	1.0 U	51	52	4.2	0.43 J	1.0 U	2.0 U	1.0 U	1.0 U	3.4	640	150	10 U	5.0 UJ

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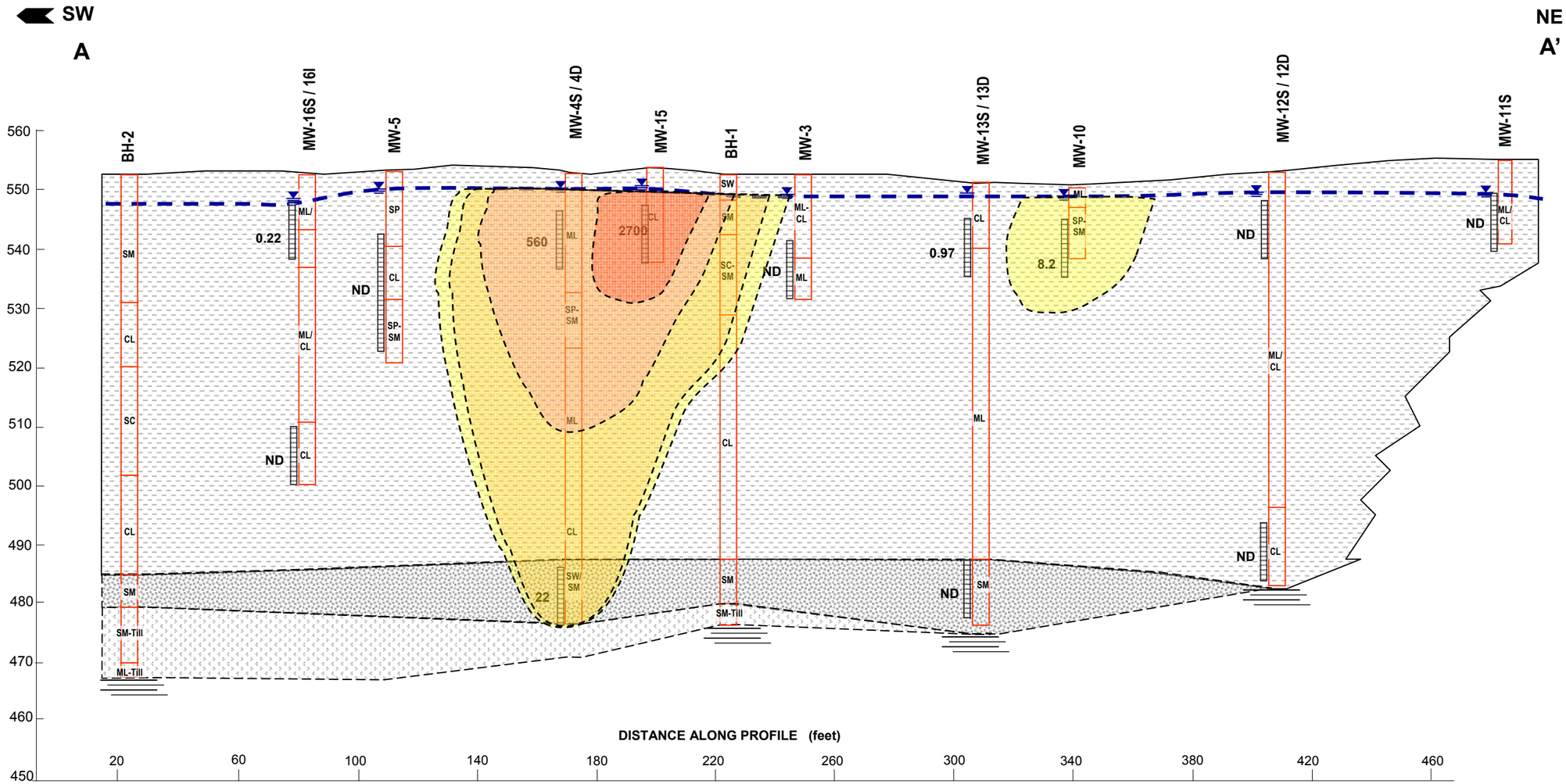
235 METRO PARK SITE
BRIGHTON, NEW YORK
SUPPLEMENTAL REMEDIAL INVESTIGATION/FEASIBILITY STUDY REPORT

VOCs GROUNDWATER MAP
06/05/10 SAMPLING EVENT
SCALE: 1"=60'

MALCOLM PIRNIE, INC.
JANUARY 2011
FIGURE 3



LEGEND

Geology

Quaternary

- Undifferentiated Lacustrine Clay and Silt
- Undifferentiated Silty Sand
- Glacial Till -Silty Sand

Silurian

- Bedrock—Vernon Shale

- Soil Boring Location
- Monitoring Well Screen
- Water Table

Chlorinated Volatile Organic Compound Concentrations

- 22 — TCE Concentration
- Isoconcentration Line (ppb) (Inferred)
- > 1,000 ppb
- 100 - 1,000 ppb
- 10 - 100 ppb
- 1 - 10 ppb

Cross section represents geologic conditions as interpreted from the soil borings advanced during this investigation, and previous investigation; and may not accurately represent actual conditions between the boring locations.

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235 METRO PARK SITE
BRIGHTON, NEW YORK
SUPPLEMENTAL REMEDIAL INVESTIGATION/FEASIBILTY STUDY REPORT

Trichloroethene Concentration

JANUARY 2011

FIGURE 4-1

SW

A

NE

A'

BH-2 | MW-16S / 16I | MW-5 | MW-4S / 4D | MW-15 | BH-1 | MW-3 | MW-13S / 13D | MW-10 | MW-12S / 12D | MW-11S

560
550
540
530
520
510
500
490
480
470
460
450

SM
CL
SC
CL
SM
SM-Till
ML-Till

ND
ML/
SP
CL
SP-SM
ML/CL
CL
8.6
ML
SP-SM
ML
CL
2.4
SW/SM
CL
ND
SW
SM
SC-SM
CL
SM
SM-Till
ML-CL
ML
ND
CL
ML
510
SP-SM
ML
ND
ML/CL
CL
ND
ML/
CL
ND
CL

DISTANCE ALONG PROFILE (feet)

20 60 100 140 180 220 260 300 340 380 420 460

LEGEND

Geology

Quaternary

- Undifferentiated Lacustrine Clay and Silt
- Undifferentiated Silty Sand
- Glacial Till -Silty Sand

Silurian

- Bedrock—Vernon Shale

- Soil Boring Location
- Monitoring Well Screen
- Water Table

Chlorinated Volatile Organic Compound Concentrations

- 510 PCE Concentration
- Isoconcentration Line (ppb) (Inferred)

- > 1,000 ppb
- 100 - 1,000 ppb
- 10 - 100 ppb
- 1 - 10 ppb

Cross section represents geologic conditions as interpreted from the soil borings advanced during this investigation, and previous investigation; and may not accurately represent actual conditions between the boring locations.

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235 METRO PARK SITE
BRIGHTON, NEW YORK
SUPPLEMENTAL REMEDIAL INVESTIGATION/FEASIBILTY STUDY REPORT

Tetrachloroethene Concentration

JANUARY 2011

FIGURE 4-2

SW

A

NE

A'

BH-2 | MW-16S / 16I | MW-5 | MW-4S / 4D | MW-15 | BH-1 | MW-3 | MW-13S / 13D | MW-10 | MW-12S / 12D | MW-11S

560
550
540
530
520
510
500
490
480
470
460
450

400
13
7.8
140
2700
70
ND
14
0.74
ND
ND
ND

SM
CL
SC
SM
SM-Till
ML-Till
ML/CL
SP-SM
ML
SW/SM
SW
SC/SM
ML-CL

DISTANCE ALONG PROFILE (feet)

20 60 100 140 180 220 260 300 340 380 420 460

LEGEND

Geology

Quaternary

- Undifferentiated Lacustrine Clay and Silt
- Undifferentiated Silty Sand
- Glacial Till -Silty Sand

Silurian

- Bedrock—Vernon Shale

- Soil Boring Location
- Monitoring Well Screen
- Water Table

Chlorinated Volatile Organic Compound Concentrations

- 400 Cis 1,2-DCE Concentration
- Isoconcentration Line (ppb) (Inferred)

- > 1,000 ppb
- 100 - 1,000 ppb
- 10 - 100 ppb
- 1 - 10 ppb

Cross section represents geologic conditions as interpreted from the soil borings advanced during this investigation, and previous investigation; and may not accurately represent actual conditions between the boring locations.

MALCOLM PIRNIE

235 METRO PARK SITE
BRIGHTON, NEW YORK
SUPPLEMENTAL REMEDIAL INVESTIGATION/FEASIBILTY STUDY REPORT

Cis 1,2-Dichloroethene Concentration

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FIGURE 4-3

SW

A

NE

A'

BH-2 | MW-16S / 16I | MW-5 | MW-4S / 4D | MW-15 | BH-1 | MW-3 | MW-13S / 13D | MW-10 | MW-12S / 12D | MW-11S

560
550
540
530
520
510
500
490
480
470
460
450

150 | 0.43 | 52 | 640 | 22

ND

SM | CL | SC | SM-Till | ML-Till | ML/CL | SP-SM | ML | SW/SM | SW | ML-CL

DISTANCE ALONG PROFILE (feet)

20 60 100 140 180 220 260 300 340 380 420 460

LEGEND

Geology

Quaternary

- Undifferentiated Lacustrine Clay and Silt
- Undifferentiated Silty Sand
- Glacial Till -Silty Sand

Silurian

- Bedrock—Vernon Shale

- Soil Boring Location
- Monitoring Well Screen
- Water Table

Chlorinated Volatile Organic Compound Concentrations

- 22 — Vinyl Chloride Concentration
- Isoconcentration Line (ppb) (Inferred)

- > 1,000 ppb
- 100 - 1,000 ppb
- 10 - 100 ppb
- 1 - 10 ppb

Cross section represents geologic conditions as interpreted from the soil borings advanced during this investigation, and previous investigation; and may not accurately represent actual conditions between the boring locations.

MALCOLM PIRNIE

235 METRO PARK SITE
BRIGHTON, NEW YORK
SUPPLEMENTAL REMEDIAL INVESTIGATION/FEASIBILTY STUDY REPORT

Vinyl Chloride Concentration

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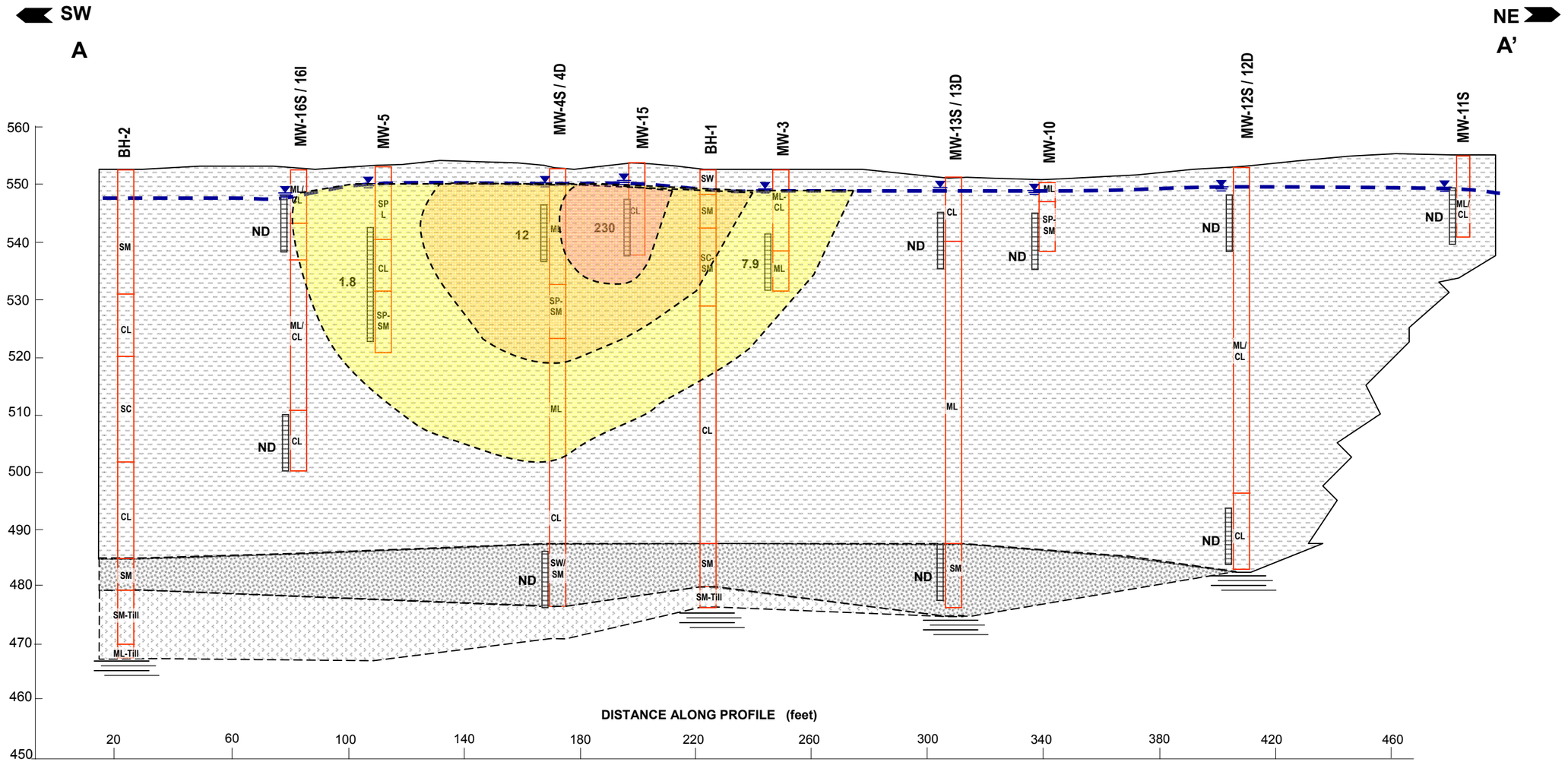
FIGURE 4-4



LEGEND

Geology

Quaternary

- Undifferentiated Lacustrine Clay and Silt
- Undifferentiated Silty Sand
- Glacial Till -Silty Sand

Silurian

- Bedrock—Vernon Shale

- Soil Boring Location
- Monitoring Well Screen
- Water Table

Chlorinated Volatile Organic Compound Concentrations

- 22 — 1,1,1-TCA Concentration
- Isoconcentration Line (ppb) (Inferred)

- > 1,000 ppb
- 100 - 1,000 ppb
- 10 - 100 ppb
- 1 - 10 ppb

Cross section represents geologic conditions as interpreted from the soil borings advanced during this investigation, and previous investigation; and may not accurately represent actual conditions between the boring locations.

MALCOLM PIRNIE

235 METRO PARK SITE
BRIGHTON, NEW YORK
SUPPLEMENTAL REMEDIAL INVESTIGATION/FEASIBILTY STUDY REPORT

1,1,1-Trichloroethane Concentration

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FIGURE 4-5

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, 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 tables with four categories: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/ polychlorinated biphenyls (PCBs), and inorganics (metals). 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 6.1.1 are also presented.

Waste/Source Areas

As described in the Remedial Investigation Report, waste/source materials were identified at the site and are impacting groundwater, soil, and soil vapor.

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 in the southwest corner of the warehouse and an isolated area of the northern access drive. See Figure 2 for a Site Layout Map.

The documented work practices along with the analytical and hydrogeological data indicate that the introduction of the chlorinated VOCs to the groundwater likely occurred over an extended period of time in the source areas identified above. The areal extent of the impacted groundwater and the distribution of the chlorinated VOCs is likely the result of more than one spill that occurred 2-3 decades earlier. The groundwater impact footprint is approximately 360 ft. long and 120 ft. wide. The analytical data indicates that chlorinated VOC mass is distributed within the uppermost 20 ft of the overburden unit (0-20 ft. below ground surface) at the site. The waste/source areas identified will be addressed in the remedy selection process.

Groundwater

Groundwater samples were collected from overburden and bedrock monitoring wells. The site has undergone a phased groundwater investigation starting in 2003. The groundwater samples were collected from more than 55 locations that included temporary wells, direct-push borings, and monitoring wells. The groundwater samples were collected to assess groundwater conditions on and off-site. The following table represents the most recent groundwater sampling effort completed in June 2010. The results indicate that contamination in shallow groundwater at the site exceeds the SCGs for volatile organic compounds and is consistent with the historical groundwater results. Contaminant levels in bedrock groundwater exceeded the standards and guidance values for trichloroethene and cis-1,2-dichloroethene. The recent analytical data indicates that natural attenuation is occurring in the bedrock groundwater. Based on the groundwater analytical data the contaminated groundwater plume is not going off-site.

Figure 3 presents the nature and extent of the groundwater contamination at the site. Figures 4-1, 4-2, 4-3, 4-4, and 4-5 illustrate the vertical distribution and profile of the VOC contaminated groundwater in shallow, intermediate and deep monitoring well locations at the site.

Table #1- Groundwater

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
VOCs			
1,1,1-Trichloroethane	ND - 230	5	5 of 18
1,1-Dichloroethane	ND – 360	5	6 of 18
1,1-Dichloroethene	ND - 140	5	5 of 18
cis-1,2-Dichloroethene	ND - 2700	5	9 of 18
Tetrachloroethene	ND - 510	5	3 of 18
trans-1,2-Dichloroethene	ND - 72	5	2 of 18
Trichloroethene	ND - 2700	5	5 of 18
Vinyl chloride	ND - 640	2	6 of 18

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

The primary groundwater contaminants are chlorinated solvents that are associated with operation of a former business at the site that included the sales and service of electrical motors and transformers. The business operations included the use of chlorinated solvents to degrease and clean electrical equipment. As noted on Figure 3, the primary groundwater contamination is associated with an area thought to be used for servicing and storage of the electrical equipment.

Based on the findings of the remedial investigation, the presence and use of chlorinated solvents at the site has resulted in the contamination of groundwater. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of groundwater to be addressed by the remedy selection process are: 1,1,1-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethene, trichloroethene, and vinyl chloride.

Soil

Surface and subsurface soil samples were collected at the site during the remedial investigation. Surface soil samples were collected from a depth of 0-2 inches to assess direct human exposure. Subsurface soil samples were collected from a depth of 1 - 20 feet to assess soil contamination impacts to groundwater. The results indicate that surface soils at the site exceed the unrestricted SCG for volatile organic compounds, semi-volatile organic compounds, and metals. The results for the subsurface soils at the site exceed the unrestricted SCG for volatile organic compounds, metals, and PCBs.

Table #2A - Surface Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Commercial Use SCG[c] (ppm)	Frequency Exceeding Commercial SCG
VOCs					
Acetone	ND - 0.057	0.05	1 of 10	500	0 of 10
SVOCs					
Benzo(a)anthracene	ND – 4.1	1	2 of 13	5.6	0 of 13
Benzo(b)fluoranthene	ND – 5.1	1	3 of 13	5.6	0 of 13
Benzo(a)pyrene	ND - 5	1	3 of 13	1	3 of 13
Benzo(k)fluoranthene	ND – 3.4	0.8	4 of 13	56	0 of 13
Chrysene	ND - 5	1	3 of 13	56	0 of 13
Dibenzo(a,h)anthracene	ND – 0.86	0.33	2 of 13	0.56	1 of 13
Indeno(1,2,3-cd)pyrene	ND – 3.8	0.50	6 of 13	5.6	0 of 13
Inorganics					
Mercury	ND – 0.4	0.18	1 of 10	2.8	0 of 10
Zinc	ND - 1120	109	3 of 10	10000	0 of 10

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

The surface soil results for zinc and mercury that exceed the unrestricted use SCO are most likely attributable to historical fill material at the site. The acetone results can be attributable to natural degradation of organic material in the environment and is a common laboratory contaminant. The surface soil SVOC results that exceeded the unrestricted use SCGs are mainly located adjacent to the parking lot and driveway at the site. The exceedance could be attributed to poor cleanup and/or runoff issues after paving and sealing of those areas. The surface soil sample locations that exceeded the SVOCs restricted use SCGs are located adjacent to the driveway and parking lot at the site. As part of the October 2006 driveway and truck turnaround expansion project, the areas with elevated SVOCs were covered with asphalt. The site is located in a light industrial park area and is zoned for commercial/light industrial uses. The site is professionally landscaped and maintained on a routine basis. The surface soil meets the commercial SCOs.

Table #2B - Subsurface Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Commercial Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
VOCs					
Acetone	ND – 0.1360	0.05	3 of 91	500	0 of 91
Inorganics					
Arsenic	ND – 39.5	13	1 of 40	16	1 of 40
Zinc	ND - 177	109	1 of 40	10000	0 of 40
Pesticides/PCBs					
PCB (total)	ND – 0.54	0.1	1 of 70	1	0 of 70

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

The subsurface soil results for arsenic and zinc that exceed the unrestricted use SCO are most likely attributable to historical fill material at the site. The acetone results can be attributable to natural degradation of organic material in the environment and is a common laboratory contaminant. Suspected source areas were investigated during the remedial investigation. Although a source was not found it is believed to be a diffuse source in the vicinity of northern driveway access (MW-10) and the southeast corner of the warehouse (MW-4S and MW-4D). The subsurface soil sample with elevated PCBs was collected in the 0-1 foot depth underneath a concrete flooring slab in the warehouse area and can be attributable to past uses at the site. There is no potential exposure to that area through normal day to day activities. A Site Management Plan will address any subsurface soil issues through the Excavation Plan.

Soil Vapor

The evaluation of the potential for soil vapor intrusion resulting from the presence of site related soil or groundwater contamination was evaluated by the sampling of perimeter soil vapor, sub-slab soil vapor under structures, and indoor air inside structures. At this site due to the presence of buildings in the impacted area a full suite of samples were collected to evaluate whether soil vapor intrusion was occurring.

Sub-slab soil vapor samples were collected from the sub-slab of the office area and the warehouse area of the building located on the property. Indoor air samples were also collected at this time in the office area and the warehouse area. Samples were collected from the sub-slab, indoor air, and ambient outdoor air sampling locations. The samples were collected to assess the potential for soil vapor intrusion. Perimeter soil vapor samples were also collected along the property boundaries.

The sub-slab vapor results indicate trichloroethene, 1,1,1-trichloroethane, carbon tetrachloride, and tetrachloroethene was detected in the sub-slab vapor in both sampling areas. Carbon tetrachloride, 1,1,1-tetrachlorothane, and tetrachloroethene were detected in the indoor air samples collected in the office area of the building. Perimeter soil vapor results indicated carbon tetrachloride, trichlorothene, 1,1,1-trichloroethane, and tetrachloroethene in soil vapor samples. The ambient air results indicated 1,1,1-trichloroethane, carbon

tetrachloride, and tetrachloroethene which could be attributed to other businesses and industrial facilities located in Metro Park, though no specific sources have been identified.

Based on the concentration detected, and in comparison with the NYSDOH Soil Vapor Intrusion Guidance as well as considering that the building is occupied, routine monitoring of the sub-slab vapor and indoor air is appropriate to determine whether concentrations in the indoor air or sub-slab vapor have changed.

Based on the findings of the remedial investigation, the presence and use of chlorinated solvents at the site has resulted in the contamination of the soil vapor. 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: trichloroethene, 1,1,1-trichloroethane, carbon tetrachloride, and tetrachloroethene

Table 5-1
Summary of Soil Vapor Analytical Results
2010 Remedial Investigation
235 Metro Park Site

Compounds Analyzed by Method TO-15	NYSDOH Air Matrix Guidance Values ug/m³	PERIMETER SAMPLE LOCATIONS			CONTROL
		SV-1 6/16/10 µg/m³	SV-2 6/16/10 µg/m³	SV-6 6/16/10 µg/m³	OA-1 6/13/10 µg/m³
Chloromethane		0.80 J	5.4 U	2.8 U	1
Vinyl Chloride	< 5 (1)	0.54 U	0.72 U	0.37 U	0.10 U
Bromomethane		3.9 U	5.2 U	2.7 U	0.73 U
Chloroethane		5.2 U	7.0 U	3.6 U	0.98 U
Acetone		69	80	19 J	13
Trichlorofluoromethane		2.6 J	1.6 J	2.0 J	1.2
1,1-Dichloroethene	< 100 (2)	4.0 U	5.3 U	2.7 U	0.74 U
Methylene Chloride		6.8	6.9	2.0 J	0.44 J
1,1,2 Trichloro-1,2,2-Trifluroethane		0.81 J	0.79 J	0.87 J	0.66
Carbon Disulfide		110	46	4.3	0.037 J
trans-1,2-Dichloroethene		4.0 U	5.3 U	2.7 U	0.74 U
1,1-Dichloroethane		4.1 U	5.4 U	2.8 U	0.76 U
Methyl tert-Butyl Ether		7.1 U	9.5 U	4.9 U	1.3 U
Vinyl Acetate		45 U	60 U	31 U	8.5 U
2-Butanone (MEK)		23	21	5.3	2.1
cis-1,2-Dichloroethene	< 100 (2)	4.0 U	5.3 U	0.69 U	0.74 U
Chloroform		32	99	31	0.13 J
1,2-Dichloroethane		4.1 U	5.4 U	2.8 U	0.76 U
1,1,1-Trichloroethane	< 100 (2)	5.4 U	0.29 J	0.26 J	0.054 J
Benzene		30	35	16	0.39 J
Carbon Tetrachloride	< 5 (1)	0.45 J	0.72 J	0.30 J	0.58
1,2-Dichloropropane		4.6 U	6.1 U	3.2 U	0.86 U
Bromodichloromethane		1.2 J	2.7	0.95	0.25 U
Trichloroethene	< 5 (1)	0.73	2.1	0.34 J	0.10 U
cis-1,3-Dichloropropene		9 U	12 U	6.2 U	1.7 U
4-Methyl 2 Pentanone		8.1 U	11 U	5.6 U	0.16 J
trans-1,3 -Dichloropropene		4.5 U	6.0 U	3.1 U	0.85 U
1,1,2-Trichloroethane		5.4 U	7.2 U	3.7 U	1.0 U
Toluene		170	230	110	0.87
2-Hexanone		4.1 U	5.4 U	2.8 U	0.38 J
Dibromochloromethane		1.7 U	2.3 U	1.2 U	0.32 U
1,2-Dibromoethane		1.5 U	2.0 U	1.1 U	0.29 U
Tetrachloroethene	< 100 (2)	13	14	17	0.090 J
Chlorobenzene		2.3 J	3.1 J	1.8 J	0.86 U
Ethyl Benzene		9.2	12	6.7	0.13 J
m,p-Xylene		40	54	24	0.39 J
Bromoform		10 U	14 U	7.1 U	1.9 U
Styrene		8.5 U	11 U	5.9 U	1.6 U
o-Xylene		12	17	8.1	0.14 J
1,1,2,2-Tetrachloroethane		1.4 U	1.8 U	0.94 U	0.25 U
1,3-Dichlorobenzene		12 U	16 U	8.2 U	2.2 U
1,4-Dichlorobenzene		0.90 J	2.2 J	2.2 J	0.051 BJ
1,2-Dichlorobenzene		12 U	16 U	8.2 U	2.2 U

Notes:
(1) New York State Department of Health Air Guideline Values (Air Matrix 1, NYSDOH, June 2007)
(2) New York State Department of Health Air Guideline Values (Air Matrix 2, NYSDOH, June 2007)

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Table 5-2
Summary of Sub Slab Soil Vapor/Indoor Air Analytical Results
2010 Remedial Investigation
235 Metro Park Site
Brighton, New York

		OFFICE AREA SAMPLE LOCATIONS				WAREHOUSE AREA SAMPLE LOCATIONS							CONTROL
Compounds Analyzed by Method TO-15	**NYSDOH Air Matrix Guidance Values ug/m³**	**IA-1 6/13/10** µg/m³	**IA-2 6/13/01** µg/m³	**SS-1 6/13/10** µg/m³	**SS-2 6/13/10** µg/m³	**IA-3 6/13/10** µg/m³	**IA-4 6/13/10** µg/m³	**IA-5 6/13/10** µg/m³	**SS-3 6/13/10** µg/m³	**DUPL. 1(3) 6/13/10** µg/m³	**SS-4 6/13/10** µg/m³	**SS-5 6/13/10** µg/m³	**OA-1 6/13/10** µg/m³
Chloromethane		1.3 J	2.9 J	.71 U	0.75	3.2 J	3.1 J	3.8 J	.52 J	2.6 U	0.69 U	0.69 U	1
Vinyl Chloride	< 5 (1)	0.17 U	1.4 U	0.095 U	0.24 U	1.4 U	1.9 U	1.6 U	.35 U	0.35 U	0.092 U	0.092 U	0.10 U
Bromomethane		1.2 U	10 U	0.68 U	1.7 U	10 U	14 U	11 U	2.5 U	2.5 U	0.66 U	0.66 U	0.73 U
Chloroethane		1.6 U	14 U	0.92 U	2.3 U	14 U	18 U	15 U	3.4 U	3.4 U	0.89 U	0.89 U	0.98 U
Acetone		22	91 J	21	21	93 J	84 J	110 J	15 J	14 J	12	11	13
Trichlorofluoromethane		1.7 J	1.3 J	3	1.6 J	1.5 J	1.4 J	1.7 J	1.7 J	1.7 J	1.8	1.7	1.2
1,1-Dichloroethene	< 100 (2)	1.2 U	11 U	0.70 U	1.8 U	11 U	14 U	12 U	2.6 U	2.5 U	0.67 U	0.67 U	0.74 U
Methylene Chloride		0.58 J	1.2 J	.16 BJ	0.19 BJ	1.3 J	1.4 J	1.3 J	0.27 BJ	0.24 BJ	0.58 U	0.58 U	0.44 J
1,1,2 Trichloro-1,2,2-Trifluroethane		0.7	0.74 J	0.9	1	.66 J	5.3 U	.60 J	1.0 J	0.99	0.76	0.9	0.66
Carbon Disulfide		0.11 J	0.45 J	1.5	0.75 J	0.44 J	.46 J	.59 J	6.2	6.6	0.47 J	11	0.037 J
trans-1,2-Dichloroethene		1.2 U	11 U	0.70 U	1.8 U	11 U	14 U	12 U	2.6 U	2.5 U	0.67 U	0.67 U	0.74 U
1,1-Dichloroethane		1.3 U	11 U	.71 U	1.8 U	11 U	14 U	12 U	2.6 U	2.6 U	0.69 U	0.69 U	0.76 U
Methyl tert-Butyl Ether		2.2 U	19 U	1.2 U	3.2 U	19 U	25 U	21 U	4.6 U	4.6 U	1.2 U	1.2 U	1.3 U
Vinyl Acetate		0.43 J	120 U	7.9 U	20 U	7.0 J	7.6 J	5.4 J	29 U	29 U	7.7 U	7.7 U	8.5 U
2-Butanone (MEK)		35	400	3.5	4.1	420	400	450	7	5.5	5.5	3.3	2.1
cis-1,2-Dichloroethene	< 100 (2)	1.2 U	11 U	0.70 U	1.8 U	11 U	14 U	12 U	1.2 J	1.2 J	0.67 U	0.67 U	0.74 U
Chloroform		0.20 J	13 U	.081 J	2.2 U	13 U	17 U	14 U	0.30 J	0.30 J	0.17 J	3.7	0.13 J
1,2-Dichloroethane		0.15 J	11 U	0.091 J	1.8 U	11 U	14 U	12 U	2.6 U	2.6 U	0.69 U	0.25 J	0.76 U
1,1,1-Trichloroethane	< 100 (2)	0.061 J	14 U	6.7	6	14 U	19 U	16 U	5.7	5.7	0.20 J	1.1	0.054 J
Benzene		0.60 J	2.3 J	2.6	1.1 J	2.5 J	2.3 J	2.7 J	4.4	4.4	0.54 U	10	0.39 J
Carbon Tetrachloride	< 5 (1)	0.62	1.7 U	0.25	0.35	1.7 U	2.2 U	1.9 U	.38 J	0.46	0.58	0.48	0.58
1,2-Dichloropropane		1.4 U	12 U	0.81 U	2.1 U	12 U	16 U	14 U	3.0 U	2.9 U	0.78 U	0.78 U	0.86 U
Bromodichloromethane		0.42 U	3.6 U	0.24 U	0.60 U	3.6 U	4.7 U	4.0 U	0.88 U	0.87 U	0.23 U	0.17 J	0.25 U
Trichloroethene	< 5 (1)	0.17 U	1.4 U	1.1	1.4	1.4 U	1.9 U	1.6 U	15	15	0.6	0.87	0.10 U
cis-1,3-Dichloropropene		2.8 U	24 U	1.6 U	4.0 U	24 U	31 U	27 U	5.9 U	5.8 U	1.5 U	1.5 U	1.7 U
4-Methyl 2 Pentanone		0.30 J	1.7 J	.24 J	0.23 J	1.2 J	1.2 J	2.4 J	5.3 U	0.14 J	0.16 J	0.24 J	0.16 J
trans-1,3-Dichloropropene		1.4 U	12 U	0.79 U	2.0 U	12 U	16 U	13 U	2.9 U	2.9 U	0.77 U	0.77 U	0.85 U
1,1,2-Trichloroethane		1.7 U	14 U	0.95 U	2.4 U	14 U	19 U	16 U	3.5 U	3.5 U	0.92 U	0.92 U	1.0 U
Toluene		62	610	15	9.1	650	640	710	26	24	4.7	43	0.87
2-Hexanone		0.31 J	.82 J	0.40 J	.27 J	.78 J	1.1 J	.81 J	2.6 U	2.6 U	0.29 J	0.38 J	0.38 J
Dibromochloromethane		0.53 U	4.6 U	.30 U	0.76 U	4.6 U	6.0 U	5.0 U	1.1 U	1.1 U	0.29 U	0.29 U	0.32 U
1,2-Dibromoethane		0.48 U	4.1 U	0.27 U	0.68 U	4.1 U	5.3 U	4.5 U	1.0 U	0.98 U	0.26 U	0.26 U	0.29 U
Tetrachloroethene	< 100 (2)	0.18 J	1.9 U	24	19	1.9 U	2.5 U	2.1 U	230	240	3	9.8	0.090 J
Chlorobenzene		1.4 U	12 U	0.81 U	2.1 U	12 U	16 U	14 U	3.0 U	2.9 U	0.78 U	0.78 U	0.86 U
Ethyl Benzene		0.93 J	5.2 J	1.0 J	.63 J	5.4 J	4.5 J	14 J	1.8 J	1.9 J	0.13 J	5.9	0.13 J
m,p-Xylene		2.8 J	16 J	8.2	5.2 J	18 J	15 J	53	19	19	0.74 J	44	0.39 J
Bromoform		3.2 U	27 U	1.8 U	4.6 U	27 U	36 U	30 U	6.7 U	6.6 U	1.7 U	1.7 U	1.9 U
Styrene		1.0 J	3.8 J	.44 J	0.23 J	4.1 J	3.6 J	5.5 J	5.5 U	5.4 U	0.071 J	1.4 U	1.6 U
o-Xylene		0.98 J	5.4 J	2.1	1.4 J	5.7 J	5.1 J	16 J	5.0 J	5.0 J	0.21 J	15	0.14 J
1,1,2,2-Tetrachloroethane		0.42 U	3.6 U	0.24 U	0.60 U	3.6 U	4.7 U	4.0 U	0.88 U	0.87 U	0.23 U	0.23 U	0.25 U
1,3-Dichlorobenzene		3.7 U	32 U	2.1 U	5.3 U	32 U	41 U	35 U	7.8 U	7.6 U	2.0 U	2.0 U	2.2 U
1,4-Dichlorobenzene		2.0 U	32 U	.19 J	2.0 U	32 U	41 U	35 U	7.8 U	7.6 U	2.0 U	2.0 U	0.051 BJ
1,2-Dichlorobenzene		3.7 U	32 U	2.1 U	5.3 U	32 U	41 U	35 U	7.8 U	7.6 U	2.0 U	2.0 U	2.2 U

Notes:
(1) New York State Department of Health Air Guideline Values (Air Matrix 1, NYSDOH, June 2007)
(2) New York State Department of Health Air Guideline Values (Air Matrix 2, NYSDOH, June 2007)
3) Duplicate sample collected at sample location SS-3
Bolded and yellow highlighted concentrations indicate values that exceed NYSDOH Air Matrix guidance values.
Qualified with "U" qualifier flag to indicate non-detect result based on method blank contamination.

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Exhibit B

Description of Remedial Alternatives

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

Alternative 1: No Action

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

Alternative 2: Monitored Natural Attenuation

This alternative is a non-engineered remedial alternative that involves the degradation of the chlorinated volatile organic compounds in the groundwater by naturally occurring processes (biodegradation). This alternative will consist of periodic sampling and laboratory analysis of the site's groundwater. This alternative will require minimal effort to implement and will have lower capital costs. The time needed to achieve the groundwater SCGs will be decades.

This alternative will include one round of groundwater samples collected annually for 30 years from 13 existing groundwater monitoring wells. The groundwater samples will be analyzed for the chlorinated volatile organic compounds and the critical monitored natural attenuation parameters such as nitrate, sulfate, iron (II). The presence of breakdown products of tetra- and tri-chloroethene suggest this is a viable alternative that would, in time, reduce the contaminant levels.

Implementation of institutional controls in the form of an environmental easement on the site will address soil, groundwater and soil vapor contamination. The institutional controls will consist of restrictions on the use of Site groundwater for any purpose without prior review and approval by NYSDEC; restrict the use of the Site to commercial use; and require the use of a NYSDEC-approved Site Management Plan (SMP) for any activities that could potentially involve exposure including addressing the potential for soil vapor intrusion. The SMP will include a Soil Vapor Intrusion Monitoring Plan for long-term monitoring of the sub-slab soil vapor and the indoor air on a routine basis. Periodic reports will include evaluation of the continuing protectiveness of this alternative and the need for additional measures. The scope of initial inspection and monitoring will be specified in the SMP. The SMP will be updated as appropriate over time in response to inspection and monitoring results and effectiveness of the remedy.

Present Worth: *$397,000*
Capital Cost: *$42,000*
Annual Costs (Year 1): *$97,000*
Annual Costs (Years 2-30): *$28,000*

Alternative 3: 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 will include: the demolition of the on-site building above the contaminated soil; excavation and off-site disposal of all waste and soil

contamination above the unrestricted use soil cleanup objective; and in-situ thermal remediation to introduce heat to the subsurface to increase the volatility and mobility of the chlorinated volatile organic compounds in the groundwater. The remedy will not rely on institutional or engineering controls to prevent future exposure. This alternative will not have a Site Management Plan, no restrictions, and no periodic review. This alternative will have not annual cost, only capital cost.

Capital Cost:.....$3,167,000

Alternative 4: In-situ Reductive Dechlorination

This alternative will consist of the direct closely spaced injections of a biological amendment (a lactate substrate) into the source areas. The biological amendments will encourage the growth of the naturally microbes. A pre-design characterization using a membrane interface probe (MIP) and a pilot study will be completed. The pre-design MIP phase will provide contaminant distribution and will further define the injection zone vertically and horizontally. Groundwater monitoring up gradient and down gradient from the treatment areas will evaluate the effectiveness of the injections at reducing the contaminant concentrations and stop the down gradient migration of the groundwater plume.

Implementation of institutional controls in the form of an environmental easement on the site will address soil, groundwater and soil vapor contamination. The institutional controls will consist of restrictions on the use of Site groundwater for any purpose without prior review and approval by NYSDEC; restrict the use of the Site to commercial use; and require the use of a NYSDEC-approved Site Management Plan (SMP) for any activities that could potentially involve exposure including addressing the potential for soil vapor intrusion. The SMP will include a Soil Vapor Intrusion Monitoring Plan for long-term monitoring of the sub-slab soil vapor and the indoor air on a routine basis. Periodic reports will include evaluation of the continuing protectiveness of this alternative and the need for additional measures. The scope of initial inspection and monitoring will be specified in the SMP. The SMP will be updated as appropriate over time in response to inspection and monitoring results and effectiveness of the remedy.

Present Worth:.....$559,000
Capital Cost:.....$393,000
Annual Costs (Year 1) $77,000
Annual Costs (Years 2-5):.....$89,000

Exhibit C

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
No Action	0	0	0
Monitored Natural Attenuation	42,000	28,000	397,000
Pre-Disposal Conditions	3,167,000	0	3,167,000
In-situ Reductive Dechlorination	393,000	25,000	559,000

Exhibit D

SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternative 4, In-situ Reductive Dechlorination as the remedy for this site. Alternative 4 would achieve the remediation goals for the site by bioremediation of the chlorinated volatile organic contaminants. The elements of this remedy are described in Section 7. The proposed remedy is depicted in Figure 3. Figure 3 presents the proposed area of injections which will be further defined as part of the remedial design phase.

Basis for Selection

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

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

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

The proposed remedy (Alternative 4) would satisfy this criterion by reducing the contaminant concentrations in the groundwater. The reduction of the contaminants in groundwater will reduce the exposures relating to soil vapor intrusion in the on-site building. Alternative 4 addresses the source of the groundwater contamination, which is the most significant threat to public health and the environment. Alternative 1 (No Action) does not provide any protection to public health and the environment and will not be evaluated further. Alternative 3, by removing all soil contaminated above the unrestricted soil cleanup objective, meets the threshold criteria. Alternative 2 will comply with this criterion but to a lesser degree or with lower certainty.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis. Alternative 3 and 4 will operate under certain parameters that the reduction of the contaminant concentrations to below the applicable SCGs is obtainable. Alternative 2 complies with this criterion but a lesser degree or with lower certainty. Because Alternatives 2, 3 and 4 satisfy the threshold criteria, the remaining criteria are particularly important in selecting the final remedy for the site.

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

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

Since the chlorinated volatile organic contaminated groundwater is the primary concern at the site Alternative 3 and 4 will achieve long-term effectiveness. The excavation and off-site disposal of the semi-volatile organic compound and metal contaminated soil above the unrestricted use SCG will achieve long-term effectiveness and permanence but those constituents are not the primary focus of the remedial program. Long-term effectiveness is best accomplished by the direct application of heat or lactate substrate to the contaminated groundwater plume (Alternatives 3 and 4). Alternative 4 utilizes greener remediation principles and techniques through lower energy usage and will allowed continued use of the building during the remedial phase. For Alternative 2, monitored natural attenuation remains effective, but the time to achieve the groundwater remedial objectives will be decades and the long term potential for exposure to soil vapor in the on-site building is an unacceptable risk.

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.

Alternative 2 would control potential exposures with institutional controls only and reduction of the toxicity, mobility or volume of contaminants will require longer time frames to achieve the remedial objectives. Alternative 3, excavation and off-site disposal and in-situ thermal remediation, reduces the toxicity, mobility and volume of contaminants in the soil and groundwater. Alternative 4 will operate under parameters that will be effective at the reduction of the toxicity, mobility, and volume of the dissolved phase chlorinated volatile organic contamination. The biostimulation increases microbial populations and activity for the degradation of the chlorinated volatile organic contamination.

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

Alternatives 2 and 4 all have short-term impacts which could easily be controlled; however, Alternative 2 would have the smallest impact. The time needed to achieve the remediation goals is the shortest for Alternative 3 and longer for Alternative 2 and 4. Alternative 3 will have the largest impact on the community, the workers, and the environment during the construction and implementation of the alternative. With the increased truck traffic, construction and demolition debris disposal, and amount of energy (fuel) required for building demolition and site redevelopment, Alternative 3 is less effective in the implementation of green remediation principles and techniques.

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

Alternatives 2 and 4 are favorable in that they are readily implementable. Alternative 3 is also implementable, but the demolition of the building, the volume of soil excavated, and the construction of a replacement building under this alternative would necessitate increased truck traffic on local roads for several months as well as the current business operating in the building would have to relocate.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing

criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

The costs of the alternatives vary significantly. Alternative 2 has a low capital cost, but has a high present worth due to annual cost associated with 20 years of groundwater monitoring. With demolition of the on-site building, the large volume of soil to be handled, the installation of the in-situ thermal system, and the construction of the replacement building, Alternative 3 will have the highest present worth cost. In-situ dechlorination remediation (Alternative 4) would be less expensive than Alternative 3, yet when implemented and operated under certain parameters the alternative will achieve the groundwater SCGs.

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

Since the anticipated use of the site is to continue as commercial, Alternatives 2 and 4 would be desirable as there will be minimal impact the current commercial business enterprise located at the property. Alternative 3 would remove or treat the contaminated soil and groundwater but would highly impact the current commercial business enterprise with the removal of the soil contamination under the building and the installation of the thermal system. However, the soil contamination with Alternative 2 and 4 would be controllable with implementation of a Site Management Plan.

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

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

Alternative 4 is being proposed because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.