Former Michelsen Furniture Co. Site

Monroe COUNTY

Rochester, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: C828189

Prepared for:

M+M Housing Development Fund Corp. as Nominee for Mills and Michelsen LLC

312 State Street

Rochester, NY

Prepared by:

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Rochester, New York 14614

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Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

[NOVEMBER 2015]

CERTIFICATION STATEMENT

I, Daniel Noll, P.E., certify that I am currently a NYS Professional Engineer as defined in 6 NYCRR and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

DANIEL NOLL

11/30/15 DATE

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List of Acronyms

AS	Air Sparging
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
CLP	Contract Laboratory Program
COC	Certificate of Completion
CO2	Carbon Dioxide
CP	Commissioner Policy
DER	Division of Environmental Remediation
EC	Engineering Control
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Approval Program
ERP	Environmental Restoration Program
EWP	Excavation Work Plan
GHG	Green House Gas
GWE&T	Groundwater Extraction and Treatment
HASP	Health and Safety Plan
IC	Institutional Control
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
O&M	Operation and Maintenance
OM&M	Operation, Maintenance and Monitoring
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PID	Photoionization Detector
PRP	Potentially Responsible Party
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RP	Remedial Party
RSO	Remedial System Optimization
SAC	State Assistance Contract
SCG	Standards, Criteria and Guidelines

SCO	Soil Cleanup Objective
SMP	Site Management Plan
SOP	Standard Operating Procedures
SOW	Statement of Work
SPDES	State Pollutant Discharge Elimination System
SSD	Sub-slab Depressurization
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VCA	Voluntary Cleanup Agreement
VCP	Voluntary Cleanup Program

ES EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan:

Site Identification:	C818289 Former Michelsen Furniture Co. Site, 182 Avenue D and 374 Conkey Ave, Rochester, NY
Institutional Controls:	1. The property may be used for restricted residential, commercial and industrial use;
	2. All ECs must be inspected at a frequency and in a manner defined in the SMP.
	3. All ECs must be inspected at a frequency and in a manner defined in the SMP.
	4. The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Monroe County Department of Public Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
	5. Groundwater and other environmental or public health monitoring must be performed as defined in this SMP.
	6. Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP.
	7. All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP.
	8. Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP.
	9. Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.
	10. The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on the Site Survey included in Appendix 2, and any potential impacts that are identified must be monitored or mitigated.

Site Identification:	C818289 Former Michelsen Furniture Co. Site, 182 Avenue D and 374 Conkey Ave, Rochester, NY	
	11. Vegetable gardens and farming on the site are prohibited.	
Engineering Controls:	1. Cover system	
	2. Sub Slab Depressurization System (SSDS).	
	3. Groundwater remediation system (injection well network)	
Inspections:		Frequency
1. Cover inspection		Annually
2. SSDS inspection		Annually
Monitoring:		
1. Groundwater Monitoring Wells GPMW-34, GPMW-36, IW-2, IW-3, IW-4, IW-5, BMW-02, BMW-03, BMW-04		Quarterly
Maintenance:		
1. Cover		As needed
2. SSDS maintenance		As needed
Reporting:		
1. Groundwater Monitoring Report		Quarterly
2. Periodic Review Report		Annually

Further descriptions of the above requirements are provided in detail in the latter sections of this Site Management Plan.

1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the Former Michelsen Furniture Co. Site located in Rochester, New York (hereinafter referred to as the "Site"). See Figure 1. The Site is currently in the New York State (NYS) Brownfield Cleanup Program (BCP) Site No. C8281889 which is administered by New York State Department of Environmental Conservation (NYSDEC).

M+M Housing Development Fund Corp. as Nominee for Mills and Michelsen, LLC entered into a Brownfield Cleanup Agreement (BCA), on September 30, 2014, as amended May 20, 2015, with the NYSDEC to remediate the site. A figure showing the site location and boundaries of this site is provided in Figure 2. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement provided in Appendix 1.

After completion of the remedial work, some contamination was left at this site, which is hereafter referred to as "remaining contamination". Institutional and Engineering Controls (ICs and ECs) have been incorporated into the site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Monroe County Clerk, requires compliance with this SMP and all ECs and ICs placed on the site.

This SMP was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC);
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA (Index #C828189-09-14) Site #C828189) for the site, and thereby subject to applicable penalties.

All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the site is provided in Appendix 2 of this SMP.

This SMP was prepared by LaBella Associates, D.P.C., on behalf of M+M Housing Development Fund Corp. as Nominee for Mills and Michelsen, LLC, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 3, 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the site.

1.2 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shut-down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the site conditions. In accordance with the Environmental Easement for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the BCA, 6NYCRR Part 375 and/or Environmental Conservation Law.
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of the Brownfield Cleanup Agreement (BCA) and all approved work plans and reports, including this SMP.

- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

Table A on the following page includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix 2.

Table A: Notifications*

Name	Contact Information
Todd Caffoe, P.E. NYSDEC Project Manager	(585) 226-5430 todd.caffoe.dec.ny.gov
Ms. Bernette Schilling, P.E. NYSDEC Regional HW Engineer	585-226-5415 bernette.schilling@dec.ny.gov
Ms. Kelly Lewandowski NYSDEC Site Control	518-402-9553 kelly.lewandowski@dec.ny.us

* Note: Notifications are subject to change and will be updated as necessary.

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 Site Location and Description

The site is located in Rochester, Monroe County, New York and is identified as Section 091.770 Block 0002 and Lot 031 on the City of Rochester Tax Map (see Figures 1 and 2). The site is an approximately 0.62-acre area and is bounded by residential property to the north, Avenue D to the south, the El Camino Trail and City of Rochester Avenue D Recreation Center to the east, and Conkey Avenue to the west. The boundaries of the site are more fully described in Appendix 2 – Environmental Easement. The owner of the site parcels at the time of issuance of this SMP is:

M+M Housing Development Fund Corp. as Nominee for
Mills and Michelsen, LLC
312 State Street
Rochester, New York 14614

2.2 Physical Setting

2.2.1 Land Use

The Site consists of a 40 unit residential apartment building, asphalt paved parking lot and landscaped areas. The Site is zoned M-1 industrial and is currently partially occupied with residential tenants.

The properties adjoining the Site and in the neighborhood surrounding the Site primarily include residential properties. The properties immediately south of the Site include residential properties and a mini-mart; the properties immediately north and west of the Site include residential properties; the properties immediately east of the Site include residential properties and a recreation center.

2.2.2 Geology

Overburden soils at the Site consist generally of silt with varying amounts of sand and gravel. Groundwater is present in overburden soil at a depth of approximately 8 to 9 feet below ground surface (bgs).

Bedrock is encountered at the Site at depths of approximately 14 to 15 feet bgs. Bedrock at the Site consists of the Upper Silurian Decew Dolostone. Bedrock from consist of gray/olive dolostone with numerous horizontal fractures.

Site specific boring logs are provided in Appendix 3.

2.2.3 Hydrogeology

Groundwater was measured in monitoring wells at depths ranging from 10.21 to 11.81 feet bgs. Groundwater flow at the Site is to the north.

A groundwater contour map is shown in Figure 3. Groundwater elevation data is provided in Table 1. Groundwater monitoring well construction logs are provided in Appendix 3.

2.3 Investigation and Remedial History

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for the Site. Full titles for each of the reports referenced below are provided in Section 8.0 - References.

Summary of Remedial Investigation

The RI activities were conducted in accordance with a NYSDEC approved RI Work Plan (RIWP) last revised January 2015. This report was also completed in accordance with the NYSDEC Division of Environmental Remediation (DER) BCP

Guide dated May 2004 and the DER-10 (*Technical Guidance for Site Investigation and Remediation*) dated May 3, 2010.

Prior to being entered into the NYSDEC BCP, the following investigations were performed at the Site:

- *Phase II Environmental Site Assessment, 182 Avenue D, Rochester, NY, LaBella Associates, P.C., November 2012* – This investigation consisted of the advancement of six (6) direct push soil borings, installation of two shallow overburden groundwater monitoring wells, and collection and laboratory analysis of soil and groundwater samples. The findings of the investigation identified petroleum impacts proximate the northern property line of Parcel 2. However, given the lack of an access agreement at that time with the City of Rochester, the investigation could not continue to Parcel 2. Additionally, chlorinated volatile organic compounds (CVOCs) were identified in soil and groundwater at Parcel 1. At the time of the investigation it could not be determined if the CVOCs detected at the Site were attributable to historical Site operations or if they were from an off-site source.

- *Additional Subsurface Investigations, 182 Avenue D and 374 Conkey Avenue, Rochester, NY, LaBella Associates, D.P.C, January & March 2014* – LaBella performed additional investigation activities at both Site parcels in January and March 2014. It should be noted that a report has not been generated relative to these activities, however copies of all figures, data summary tables, laboratory reports, and field logs are included in the BCP Application.

  The January and March 2014 investigations consisted of additional soil borings and overburden monitoring wells, advancement of test pits and installation of one bedrock groundwater monitoring well. The findings of the test pit investigation at that time indicated that USTs were not present, and the approximate extent of petroleum impacts was identified. Laboratory analysis of soil samples from Parcel 2 indicate that petroleum related VOCs and SVOC are present in soil at concentrations below NYSDEC Commissioner Policy 51 (CP-51) and 6 NYCRR Part 375-6.8(a) Unrestricted Use Soil Cleanup Objectives (SCOs). Laboratory

analysis of groundwater samples indicated the presence of significant concentrations of CVOCs (in particular trichloroethene (TCE) in overburden and bedrock groundwater. The findings of investigations performed up until that time were indicative of a release in the vicinity of the facility loading dock and ramp into the Site building basement. However, additional investigation was required to refine the conceptual site model, including further delineation of this potential source area and identification of other potential on-site sources of CVOC impacts.

The BCP RI fieldwork included advancement of eighteen (18) direct push soil borings, eight (8) soil borings with a rotary drill rig, installation of four (4) overburden groundwater monitoring wells, installation of five (5) bedrock-overburden interface wells and installation of three (3) bedrock wells at the Site. RI sample locations are detailed on Figure 4. To evaluate conditions at the Site, the following soil and groundwater samples were submitted for laboratory testing:

Sampled Media	Sample Quantities
Soil Boring Soils	17
Overburden Groundwater	5
Interface Groundwater	5
Bedrock Groundwater	3

All samples were submitted for analysis of a combination of the following parameters:

- USEPA TCL VOCs
- USEPA TCL SVOCs
- PCBs
- Pesticides
- TAL Metals

Based on the work completed it was determined that the predominant contaminants of concern include chlorinated volatile organic compounds (CVOCs) (specifically Trichloroethene (TCE) and its breakdown compounds) in soil and

groundwater. Based on these findings, it appears the source of the VOC plume is in the area between the Site building and the ramp to the basement. CVOCs are present in soil at concentrations exceeding Part 375-6.8(a) Unrestricted Use Soil Cleanup Objectives (SCOs) and Part 375-6.8(b) Protection of Groundwater SCOs, but below Part 375-6.8(b) Restricted Residential SCOs. CVOC concentrations exceed Part 703 Groundwater Standards.

Semi-volatile organic compounds were detected in one (1) subsurface soil sample (i.e., IW-3 at a depth of 4' to 10' bgs) at concentrations exceeding Part 375-6.8(b) Restricted Industrial SCOs.

Based on the results of the RI the following conclusions were made:

1. The soil and groundwater impacts at the Site have been delineated and the primary contaminants at the Site consist of CVOCs.
2. Subsurface soil sampling at the Site only identified one area of soil that contains SVOCs above the SCGs. This area is located beneath the parking lot at the Site.
3. Subsurface VOC impacts in soil were not identified at concentrations above the NYSDEC Part 375-6.8(b) Restricted Residential SCOs. However, low concentrations of VOCs above the NYSDEC Part 375-6.8(a) Unrestricted Use Soil Cleanup Objectives (SCOs) and Part 375-6.8(b) Protection of Groundwater SCOs in soil were detected beneath the Site building.
4. Groundwater at the Site is impacted by CVOCs at concentrations above Part 703 groundwater standards. The groundwater flow at the Site is to the north, towards adjacent residential properties. The potential exists that CVOCs are migrating off-Site. While the results of on-Site sampling indicate groundwater contamination may be moving off-Site, off-Site sampling is necessary to confirm the nature and extent.
5. Based on the concentrations of VOCs in soil and groundwater beneath the Site building a completed exposure pathway does appear to exist for VOCs. However, while, data is not available documenting current concentrations of VOCs in sub slab vapor or indoor air, the installation of the sub slab depressurization system

and ventilation of the underground parking garage addresses any potential vapor intrusion concerns.

RI Soil samples containing exceedances of Part 375-6.8 SCOs are presented on Figure 5. Exceedances of Part 703 Groundwater Standards for VOCs are presented on Figure 6. Data collected from the RI is presented in Tables 2 through 7 in Appendix 4.

Areas of Concern

The cumulative findings of the pre-BCP investigations and the RI performed at the Site identified four (4) areas of concern (AOCs) remaining at the Site that warranted further consideration. The data discussed below is included in the RI Report, submitted under separate cover. The nature and extent of impacts for these areas have been defined and are summarized below:

AOC #1: Subsurface Soils Impacted with CVOCs

Based on laboratory analysis of subsurface soil samples collected, CVOCs are present in subsurface soils at concentrations exceeding Part 375-6.8(a) Unrestricted Use SCOs and Part 375-6.8(b) Protection of Groundwater SCOs, but below Part 375-6.8(b) Restricted Residential SCOs.

AOC #2: Groundwater Impacted with CVOCs

Based on the results of laboratory analysis of groundwater samples collected during the RI, CVOCs are present at the Site at concentrations exceeding Part 703 groundwater standards. The highest concentrations of CVOCs in groundwater were detected in the area between the building and the ramp to the basement.

AOC #3: Potential Vapor Intrusion Concern

Given the presence of CVOCs in soil and groundwater beneath the Site building the presence of sub slab vapors at concentrations requiring mitigation are assumed. IRMs performed at the Site included installation of an SSDS, which addresses any potential vapor intrusion concerns.

AOC #4: SVOCs in Subsurface Soil

Based on laboratory analysis of subsurface soil samples collected, SVOCs are present in subsurface soils at concentrations exceeding Part 375-6.8(b) Restricted Industrial SCOs in the vicinity of IW-3.

Summary of Interim Remedial Measures (IRMs) and Remedial Actions

The following IRMs have been implemented at the Site:

1. UST Removal – Two (2) 3,000 gallon heating oil USTs were removed, decommissioned and disposed as scrap steel. Approximately 550 gallons of residual heating oil was removed and disposed at Industrial Oil Tank Services in Oriskany, New York.
2. Soil Removal – A total of 1,917.06 tons of soil was characterized, removed from the Site and transported to Mill Seat Landfill in Riga, New York for disposal as non-hazardous waste.
3. Sub Slab Depressurization System (SSDS) – An SSDS was installed in the Site building during redevelopment.

The locations of IRMs implemented at the Site are detailed on Figure 7.

The following remedial actions were performed at the site:

Installation of Cover System

A cover system was installed to address the CVOC impacts in soil in AOC #1 and the limited SVOC impacts in AOC #4. The cover system consisted of asphalt pavement, sidewalks and concrete aprons. The location of the cover system is detailed on Figure 8.

In Situ Chemical Oxidation

Six injection wells were installed in the area between the building and the concrete ramp to the basement as detailed on Figure 8. Each injection well was

constructed of two inch Sch 40 PVC with 0.020 inch machine slotted screens. Each well was installed to a total of five (5) feet into bedrock to straddle the bedrock/overburden contact. A quartz sand pack was placed around the screen section of each well followed by a two foot bentonite seal. The remainder of the annulus was grouted to the surface.

A total of 13,200 pounds (lbs) of sodium permanganate ("RemOx® L") was pumped at an approximately 10% concentration into the six injection wells and monitoring wells BW-02, BW-03, BW-04, GPMW-34, and GPMW-26. A total of 6,000 gallons of 10% solution was injected in the following distribution:

Well	Gallons of Solution Injected
RIW-1	1,125
RIW-2	275
RIW-3	775
RIW-4	1,625
RIW-5	425
RIW-6	600
GPMW-26	125
GPMW-34	150
BW-02	300
BW-03	300
BW-04	300

2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the Decision Document dated September 17, 2015 are as follows:

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

- 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.

2.5 Remaining Contamination

2.5.1 Soil

Additional soil samples were not collected subsequent to implementation of the remedial action. As such, VOC and SVOC concentrations in areas not affected by remedial actions are anticipated to remain similar to those identified in previous investigations.

Based on the results of laboratory analysis of soil samples collected during the RI, CVOCs are present at the Site at concentrations exceeding SCGs for soil. TCE was detected in one (1) soil sample collected during pre-RI investigations at a concentration

above Part 375-6.8(a) Unrestricted SCOs but below Part 375-6.8(b) Restricted Residential SCOs. Concentrations of VOCs detected in RI soil samples did not exceed Part 375-6.8(b) Restricted Residential SCOs. TCE was detected in three soil samples collected from RI and pre-RI sampling at concentrations exceeding Part 375-6.8(b) Protection of Groundwater SCOs.

SVOCs were identified in one soil sample (i.e., IW-3 at a depth of 4' to 10' bgs) during the RI at concentrations exceeding Part 375-6.8(b) Restricted Industrial SCOs. Concentrations of all other SVOCs detected in soil samples were below Part 375-6.8(a) Unrestricted Use SCOs.

2.5.2 Groundwater

VOCs remain in Site groundwater at concentrations exceeding SCGs.

Groundwater contamination was detected in bedrock monitoring wells located proximate the northern property line during the RI. The potential exists that contamination is migrating off-site with groundwater. Contaminant levels are anticipated to decrease over time due to the groundwater treatment remedy that was implemented at the site.

Table 8 in Appendix 4 and Figure 10 summarize the results of all samples of groundwater that exceed the SCGs after completion of the remedial action.

2.5.3 Soil Vapor

Soil vapor samples have not been collected at the Site; however an SSDS has been installed at the Site to mitigate the potential for vapor intrusion into the Site building.

An SSDS was installed as an IRM during redevelopment of the Site. Subsequent to activation of the system, a pressure field extension test was performed to evaluate the effectiveness of the SSDS. The testing consisted of drilling ½ inch holes in the basement

concrete slab in locations detailed on the Figure 11. At each location Teflon tubing was placed in the hole and sealed with plumber's putty. The tubing was connected to a digital monometer and the pressure reading was recorded. Recorded pressure readings were as follows:

Sample Location	Measurement (inches of water column)
SSV-1	-0.106
SSV-2	-0.087
SSV-3	-0.097
SSV-4	-0.093
SSV-5	-0.091
SSV-6	-0.018
SSV-7	-0.083
SSV-8	-0.079

3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 General

Since remaining contamination exists at the site, Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC.

This plan provides:

- A description of all IC/ECs on the site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs, such as the implementation of the Excavation Work Plan (EWP) (as provided in Appendix 5) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the site remedy, as determined by the NYSDEC.

3.2 Institutional Controls

A series of ICs is required by the Decision Document to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to restricted residential, commercial or industrial uses only. Adherence to these ICs on the site is required by the

Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The IC boundaries are the same as the BCP Site boundaries as shown on Figure 2. These ICs are:

- The property may be used for restricted residential, commercial or industrial uses;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP.
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Monroe County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries, and any potential impacts that are identified must be monitored or mitigated; and
- Vegetable gardens and farming on the site are prohibited;

3.3 Engineering Controls

3.3.1 Cover (or Cap)

Exposure to remaining contamination at the site is prevented by a cover system placed over the site. This cover system is comprised of a minimum of 24 inches of clean soil or asphalt pavement, concrete-covered sidewalks, and concrete building slabs. Figure 8 presents the location of the cover system and applicable demarcation layers. The Excavation Work Plan (EWP) provided in Appendix 5 outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for the site and provided in Appendix 6 and 7, respectively.

3.3.2 Sub Slab Depressurization System

A Sub Slab Depressurization System (SSDS) has been installed in the Site building to mitigate the potential for soil vapor intrusion.

Procedures for operating and maintaining the SSDS system are documented in the Operation and Maintenance Plan (Section 5.0 of this SMP). As built drawings, signed and sealed by a professional engineer, are included in Appendix 8 – Operations and Maintenance Manual. Figure 11 shows the location of the ECs for the site.

3.3.3 Groundwater Treatment System

A groundwater treatment system consisting of a network of six injection wells was installed in the area between the building and the concrete ramp to the basement to facilitate introduction of in-situ chemical oxidation (ISCO) compounds to the subsurface (see Figure 9). Each injection well was constructed of two inch Sch 40 PVC with 0.020

inch machine slotted screens. Each well was installed to a total of five (5) feet into bedrock to straddle the bedrock/overburden contact. A quartz sand pack was placed around the screen section of each well followed by a two foot bentonite seal. The remainder of the annulus was grouted to the surface. Each injection well was completed at the surface with a flush-mount protective casing. In addition to the six dedicated injection wells, ISCO injections were performed in bedrock monitoring wells BW-02, BW-03 and BW-04 and overburden monitoring wells GPMW-26 and GPMW-34.

3.3.4 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10.

3.3.3.1 - Cover (or Cap)

The composite cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP in perpetuity.

3.3.3.2 - Sub-Slab Depressurization (SSD) System

The active SSD system will not be discontinued unless prior written approval is granted by the NYSDEC and the NYSDOH. In the event that monitoring data indicates that the SSD system may no longer be required, a proposal to discontinue the SSD system will be submitted by the remedial party to the NYSDEC and NYSDOH.

3.0 MONITORING AND SAMPLING PLAN

4.1 General

This Monitoring and Sampling Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring and Sampling Plan may only be revised with the approval of the NYSDEC. Details regarding the sampling procedures, data quality usability objectives, analytical methods, etc. for all samples collected as part of site management for the site are included in the Quality Assurance Project Plan provided in Appendix 9.

This Monitoring and Sampling Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance (SCGs), particularly groundwater standards and Part 375 SCOs for soil; and
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment;

To adequately address these issues, this Monitoring and Sampling Plan provides information on:

- Sampling locations, protocol and frequency;
- Information on all designed monitoring systems;
- Analytical sampling program requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and

- Annual inspection and periodic certification.

Reporting requirements are provided in Section 7.0 of this SMP.

4.2 Site – wide Inspection

Site-wide inspections will be performed at a minimum of once per year. Modification to the frequency or duration of the inspections will require approval from the NYSDEC. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in Appendix 10 – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that site records are up to date.

Inspections of all remedial components installed at the site will be conducted. A comprehensive site-wide inspection will be conducted and documented according to the SMP schedule, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;

- Achievement of remedial performance criteria; and
- If site records are complete and up to date; and

Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC must be given by noon of the following day. In addition, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the site by a qualified environmental professional, as determined by the NYSDEC. Written confirmation must be provided to the NYSDEC within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

4.3 Treatment System Monitoring and Sampling

4.3.1 SSDS Monitoring

Monitoring of the SSDS will be performed on a routine basis, as identified in Table B Remedial System Monitoring Requirements and Schedule (see below). Modification to the frequency or sampling requirements will require approval from the NYSDEC. A visual inspection of the complete system will be conducted during each monitoring event. Unscheduled inspections and/or sampling may take place when a suspected failure of the SSDS system has been reported or an emergency occurs that is deemed likely to affect the operation of the system. SSDS system components to be monitored include, but are not limited to, the components included in Table B below.

Table B – SSDS Monitoring Requirements and Schedule

Remedial System Component	Monitoring Parameter	Operating Range	Monitoring Schedule
U-tube manometer	Visual inspection	Negative pressure	Quarterly
Fans	Visual inspection	NA	Annually
Alarms	Function check, disconnect power	NA	Annually

A complete list of components to be inspected is provided in the Inspection Checklist, provided in Appendix 10- Site Management Forms. If any equipment readings are not within their specified operation range, any equipment is observed to be malfunctioning or the system is not performing within specifications; maintenance and repair, as per the Operation and Maintenance Plan, is required immediately.

4.4 Post-Remediation Media Monitoring and Sampling

Samples shall be collected from the groundwater on a routine basis. Sampling locations, required analytical parameters and schedule are provided in Table C – Post Remediation Sampling Requirements and Schedule below. Modification to the frequency or sampling requirements will require approval from the NYSDEC.

Table C – Post Remediation Sampling Requirements and Schedule

Sampling Location	Analytical Parameters	Schedule
	VOCs (EPA Method 8260)	
Monitoring Well GPMW-34	X	Quarterly
Monitoring Well GPMW-26	X	Quarterly
Monitoring Well IW-2	X	Quarterly
Monitoring Well IW-3	X	Quarterly
Monitoring Well IW-4	X	Quarterly
Monitoring Well IW-5	X	Quarterly
Monitoring Well BMW-02	X	Quarterly
Monitoring Well BMW-03	X	Quarterly
Monitoring Well BMW-04	X	Quarterly

Detailed sample collection and analytical procedures and protocols are provided in Section 4.4.1 below and Appendix 9 – Quality Assurance Project Plan.

4.4.1 Groundwater Sampling

Groundwater monitoring will be performed quarterly to assess the performance of the remedy. Modification to the frequency or sampling requirements will require approval from the NYSDEC. The goals of the groundwater remediation system are to reduce on-site contamination levels via groundwater to an asymptotic state and to mitigate the potential for off-site migration of contaminants via groundwater. If contaminant levels at the property line do not decrease or on-site data remain at levels indicative of an on-site source, additional injections of sodium permanganate or other treatment(s) may be required.

Low-flow sampling methods will be utilized for groundwater sample collection. Groundwater samples will be collected using low-flow sampling techniques in accordance with USEPA Region 1 Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, Revised January 2010. Low flow purging and sampling procedures will be as follows:

1. Low flow purging of the monitoring wells will include collection of water quality indicator parameters. Water quality indicator parameters will be recorded at five (5)-minute intervals during the purging of the well. These water quality indicator parameters will include:

- Water Level Drawdown
- Temperature
- pH
- Dissolved Oxygen
- Specific Conductance
- Oxidation Reduction Potential
- Turbidity

2. Groundwater sampling will commence once the groundwater quality indicator parameters have stabilized for at least three (3) consecutive readings for the following parameters:

- Water Level Drawdown <0.3'
- Temperature - +/- 3%
- pH - +/- 0.1unit
- Dissolved Oxygen - +/-10%
- Specific Conductance - +/-3%
- Oxidation Reduction Potential - +/-10 millivolts
- Turbidity - +/-10% for values greater than 1 NTU

As an alternative to low-flow sampling, passive diffusion bag (PDB) samplers may be used. Groundwater samples that are collected via passive methods (i.e., no-purge) will be collected according to the following procedures:

- PDB samplers will be deployed by hanging in the well at the middle of the well screen unless a low water table, need to deploy multiple samplers or the targeting of a specific depth interval is identified. The PDB samplers will be deployed at least 14 days prior to sampling.
- The PDB samplers will be deployed using a Teflon® coated string or synthetic rope.
- When transferring water from the PDB to sample containers, care will be taken to avoid agitating the sample, since agitation promotes the loss of volatile constituents;
- Any observable physical characteristics of the groundwater (e.g., color, sheen, odor, turbidity) at the time of sampling will be recorded; and
- Weather conditions at the time of sampling will be recorded.

Each groundwater sample collected for laboratory analysis will be labeled and preserved in accordance with Sections 9 and 13 of the QAPP. Laboratory QA/QC

sampling will include analysis of sample blanks as follows: one trip blank for each sampling matrix type (i.e., soil, groundwater, soil vapor). The blanks will be provided at a rate of one per 20 samples collected for each parameter group, or one per shipment, whichever is greater. Additionally, one (1) Matrix Spike/Matrix Spike Duplicate (MS/MSD) and one (1) duplicate sample will be collected and analyzed for each twenty samples collected for each parameter group, or one per shipment, whichever is greater. Duplicate samples will be submitted to the laboratory as blind duplicates.

The samples will be delivered under Chain of Custody procedures to a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified laboratory. The laboratory will provide a NYSDEC ASP Category B Deliverables data package for all samples except the TO-15 samples (indoor air,, sub-slab soil vapor). For the TO-15 samples, the laboratory will provide a data package using the ASP Category B format. A DUSR will be completed for all ASP-B and ASP-B format laboratory data packages per DER-10. The DUSRs will include the laboratory data summary pages showing corrections made by the data validator and each page will be initialed by the data validator. The laboratory data summary pages will be included even if no changes were made.

Table D summarizes the wells identification number, as well as the purpose, location, depths, diameter and screened intervals of the wells. As part of the groundwater monitoring, on-site wells are sampled to evaluate the effectiveness of the remedial system.

Table D – Monitoring Well Construction Details

Monitoring Well ID	Well Location	Coordinates (longitude/ latitude)	Well Diameter (inches)	Top of Screen (Approx. Depth Below Ground Surface)	Bottom of Screen (Approx. Depth Below Ground Surface)
GPMW-34	Source	43.1804° N 77.6197° W	1	9	14
GPMW-26	Source	43.1805° N 77.6196° W	1	9	14
IW-2	Down gradient	43.1806° N 77.6198° W	2	11	21
IW-3	Down gradient	43.1806° N 77.6199° W	2	12	22
IW-4	Source	43.1805° N 77.6199° W	2	10	20
IW-5	Source	43.1805° N 77.6198° W	2	10	20
BMW-02	Down gradient	43.1809° N 77.6198° W	2	15	24
BMW-03	Down gradient	43.1809° N 77.6197° W	2	15	24
BMW-04	Down gradient	43.1809° N 77.6195° W	2	15	24

If biofouling or silt accumulation occurs in the on-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced, if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of any monitoring well for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent Periodic Review Report. Well decommissioning without replacement will be done only with the prior approval of the NYSDEC. Well abandonment will be performed in accordance with NYSDEC's guidance entitled "CP-43: Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be replaced in kind in the nearest available location, unless otherwise approved by the NYSDEC.

The sampling frequency may only be modified with the approval of the NYSDEC. This SMP will be modified to reflect changes in sampling plans approved by the NYSDEC.

Deliverables for the groundwater monitoring program are specified in Section 7.0 – Reporting Requirements.

4.4.2 Monitoring and Sampling Protocol

All sampling activities will be recorded in a field book and associated sampling log as provided in Appendix 10 - Site Management Forms. Other observations (e.g., groundwater monitoring well integrity, etc.) will be noted on the sampling log. The sampling log will serve as the inspection form for the monitoring network.

4.0 OPERATION AND MAINTENANCE PLAN

4.1 General

This Operation and Maintenance Plan provides a brief description of the measures necessary to operate, monitor and maintain the mechanical components of the remedy selected for the site. This Operation and Maintenance Plan:

- Includes the procedures necessary to allow individuals unfamiliar with the site to operate and maintain the SSDS systems;
- Will be updated periodically to reflect changes in site conditions or the manner in which the SSDS systems are operated and maintained.

Further detail regarding the Operation and Maintenance of the SSDS is provided in Appendix 9 - Operation and Maintenance Manual. A copy of this Operation and Maintenance Manual, along with the complete SMP, is to be maintained at the site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of this SMP.

4.2 Operation and Maintenance of SSDS

The following sections provide a description of the operations and maintenance of SSDS. Cut-sheets and as-built drawings for SSDS are provided in Appendix 9 - Operations and Maintenance Manual.

5.2.1 System Start-Up and Testing

After the SSDS is installed or modified a start-up test will be performed to evaluate the effectiveness of the SSDS. The first step will be to start each of the SSDS fans on the roof of the building to document that the fans are functioning properly. Once the fans are fully operational at the roof level, a digital micromanometer will be used to collect vacuum readings from the pressure field extension (PFE) monitoring points in the

basement of the building. PFE measurements will need to achieve a minimum of 0.01 inches of water vacuum in order to meet the performance requirements of the October 2006 NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York. If these criteria are not met, adjustments will be made to the SSDS fans to increase air flow and vacuum influence including replacement of the fans with larger fans, if necessary.

The system testing described above will be conducted if, in the course of the SSDS system lifetime, the system goes down or significant changes are made to the system and the system must be restarted.

5.2.2 Routine System Operation and Maintenance

All fans must be kept in continuous operation. Fans must restart automatically in event of power loss. Fan gauges must be regularly inspected to verify that values have not changed significantly.

5.2.3 Non-Routine Operation and Maintenance

In the event of unusual fan noise, failure to start, physical damage or repeated circuit breaker trip, turn fan off and service or replace. Any changes in the structure, HVAC systems, slab conditions, etc. will require a re-evaluation of the SSDS.

5.2.4 System Monitoring Devices and Alarms

The SSDS system has an alarm to indicate that the system is not operating properly. In the event that warning device is activated, applicable maintenance and repairs will be conducted, as specified in the Operation and Maintenance Plan, and the SSDS system will be restarted. Operational problems will be noted in the Periodic Review Report to be prepared for that reporting period.

6.0 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given site and associated remedial systems. Vulnerability assessments provide information so that the site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

Given the urban nature of the Site and surrounding area, the distance from and elevation above nearby water bodies (e.g., the Genesee River), and the presence of sufficient municipal storm water collection infrastructure, vulnerability assessments do not appear to be warranted.

6.2 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP provides a summary of any green remediation evaluations to be completed for the site during site management, and as reported in the Periodic Review Report (PRR).

The Green Remediation Evaluation will include the following items:

- Energy usage by SSDS;

- Fossil fuel usage associated with travel to and from the Site for sampling and monitoring activities;
- Waste generation from groundwater sampling events (i.e., purge and decontamination water); and
- Water usage for decontamination of sampling equipment.

6.2.1 Timing of Green Remediation Evaluations

For major remedial system components, green remediation evaluations and corresponding modifications will be undertaken as part of a formal Remedial System Optimization (RSO), or at any time that the Project Manager feels appropriate, e.g. during significant maintenance events or in conjunction with storm recovery activities.

Modifications resulting from green remediation evaluations will be routinely implemented and scheduled to occur during planned/routine operation and maintenance activities. Reporting of these modifications will be presented in the PRR.

6.2.2. Remedial Systems

Remedial systems will be operated properly considering the current site conditions to conserve materials and resources to the greatest extent possible. Consideration will be given to operating rates and use of reagents and consumables. Spent materials will be sent for recycling, as appropriate. The SSDS operation will be evaluated as part of the Green Remediation Evaluation.

6.2.3 Frequency of System Checks, Sampling and Other Periodic Activities

Transportation to and from the Site and use of consumables in relation to visiting the Site in order to conduct system checks and or collect samples and shipping samples to a laboratory for analyses have direct and/or inherent energy costs. The schedule and/or

means of these periodic activities have been prepared so that these tasks can be accomplished in a manner that does not impact remedy protectiveness but reduces expenditure of energy or resources.

Consideration shall be given to:

- Reduced sampling frequencies;
- Reduced site visits and system checks;
- Coordination/consolidation of activities to maximize foreman/labor time; and
- Use of mass transit for site visits, where available.

6.2.4 Metrics and Reporting

As discussed in Section 7.0 information on energy usage, solid waste generation, transportation and shipping, water usage and land use and ecosystems will be recorded to facilitate and document consistent implementation of green remediation during site management and to identify corresponding benefits; a set of metrics has been developed.

6.3 Remedial System Optimization

A Remedial Site Optimization (RSO) study will be conducted any time that the NYSDEC or the remedial party requests in writing that an in-depth evaluation of the remedy is needed. An RSO may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the Decision Document;
- The management and operation of the remedial system is exceeding the estimated costs;
- The remedial system is not performing as expected or as designed;
- Previously unidentified source material may be suspected;
- Plume shift has potentially occurred;

- Site conditions change due to development, change of use, change in groundwater use, etc.;
- There is an anticipated transfer of the site management to another remedial party or agency; and
- A new and applicable remedial technology becomes available.

An RSO will provide a critique of a site's conceptual model, give a summary of past performance, document current cleanup practices, summarize progress made toward the site's cleanup goals, gather additional performance or media specific data and information and provide recommendations for improvements to enhance the ability of the present system to reach RAOs or to provide a basis for changing the remedial strategy.

7.0. REPORTING REQUIREMENTS

7.1 Site Management Reports

All site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in Appendix 10. These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of Table E and summarized in the Periodic Review Report.

Table E: Schedule of Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Inspection Report	Annually
Periodic Review Report	Annually, or as otherwise determined by the Department

* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC.

All interim monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc);

- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

Routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting maintenance activities;
- Description of maintenance activities performed;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Description of non-routine activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and

- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

Data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

7.2 Periodic Review Report

A Periodic Review Report (PRR) will be submitted to the Department beginning sixteen (16) months after the Certificate of Completion is issued. After submittal of the initial Periodic Review Report, the next PRR shall be submitted annually to the Department or at another frequency as may be required by the Department. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix 1 - Environmental Easement. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site.
- Results of the required annual site inspections and severe condition inspections, if applicable.
- All applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.
- A summary of any discharge monitoring data and/or information generated during the reporting period, with comments and conclusions.
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all

exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends.

- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS^{TM} database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.

- A site evaluation, which includes the following:

  – The compliance of the remedy with the requirements of the site-specific Decision Document;

  – The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;

  – Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored;

  – Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan; and

  – Trends in contaminant levels in the affected media will be evaluated to determine if the remedy continues to be effective in achieving remedial goals as specified by the Decision Document.

  – The overall performance and effectiveness of the remedy.

7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a Professional Engineer licensed to practice in New York State will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

"*For each institutional or engineering control identified for the site, I certify that all of the following statements are true:*

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*

- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*

- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*

- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*

- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*

- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*

- *Use of the site is compliant with the environmental easement;*

- *The engineering control systems are performing as designed and are effective;*

- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and*

- *The information presented in this report is accurate and complete.*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner/Remedial Party or Owner's/Remedial Party's Designated Site Representative]. [I have been authorized and designated by all site owners/remedial parties to sign this certification] for the site."

The signed certification will be included in the Periodic Review Report.

The Periodic Review Report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located and the NYSDOH Bureau of Environmental Exposure Investigation. The Periodic Review Report may need to be submitted in hard-copy format, as requested by the NYSDEC project manager.

7.3 Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a Corrective Measures Work Plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC.

7.4 Remedial Site Optimization Report

In the event that an RSO is to be performed (see Section 6.3, upon completion of an RSO, an RSO report must be submitted to the Department for approval. The RSO report will document the research/ investigation and data gathering that was conducted, evaluate the results and facts obtained, present a revised conceptual site model and present recommendations. RSO recommendations are to be implemented upon approval from the NYSDEC. Additional work plans, design documents, HASPs etc., may still be required to implement the recommendations, based upon the actions that need to be taken. A final engineering report and update to the SMP may also be required.

The RSO report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located, Site Control and the NYSDOH Bureau of Environmental Exposure Investigation.

8.0 REFERENCES

6NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.

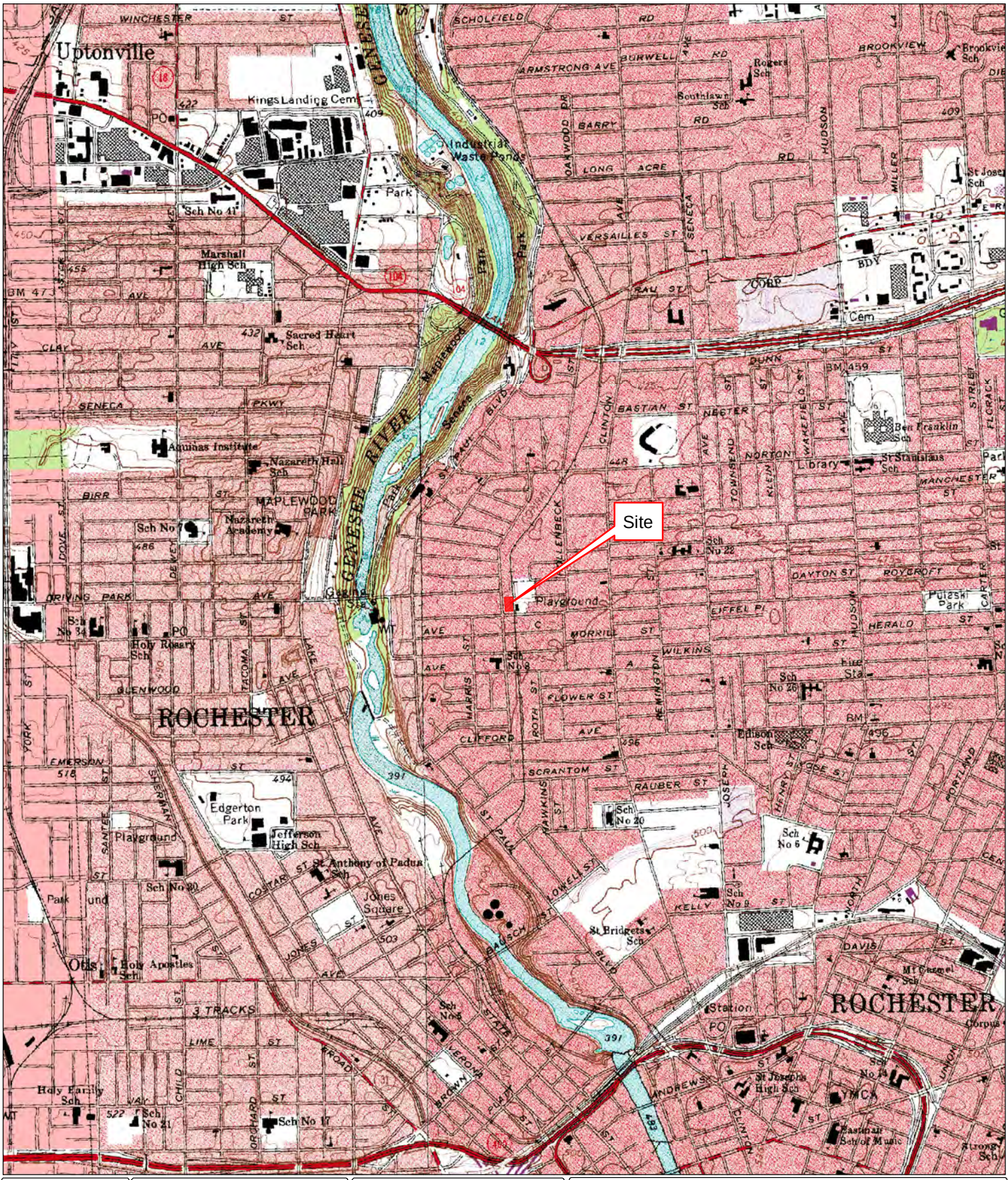
NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation".

NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).

LaBella Associates, D.P.C., Interim Remedial Measures Work Plan, April 2015

LaBella Associates, D.P.C. Remedial Investigation Report, Former Michelsen Furniture Co. Site, June 2015

LaBella Associates, D.P.C., Remedial Alternatives Analysis/Remedial Action Work Plan, Former Michelsen Furniture Co. Site, June 2015



PROJECT/DRAWING NUMBER

214539

FIGURE 1

DRAWING TITLE

SITE LOCATION MAP

ISSUED FOR: DRAFT

DATE: 09/11/2015

DESIGNED BY: DKE

DRAWN BY: DKE

REVIEWED BY:

PROJECT/CLIENT

Site Management Plan

Former Michelsen Furniture Co. Site
182 Avenue D & 374 Conkey Ave.
Rochester, New York

Client: M+M Housing Development Fund Corp. as Nominee for Mills and Michelsen LLC

LABELLA Associates, D.P.C.
300 STATE STREET
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P: (585) 454-6110
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0 1,050 2,100 4,200 Feet

1 inch = 2,000 feet

N W E S

Path: J:\Urban League of Rochester Economic Development\214539 - Michelson BCP Site RI & Remediation\Drawings\SMP\Fig. 1 - Site location.mxd

User: dengert

Path: J:\Urban League of Rochester Economic Development\214539 - Michelson BCP Site RI & Remediation\Drawings\SMP\Fig. 2 - Site layout map.mxd

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Site Management Plan

Former Michelsen Furniture Co. Site
182 Avenue D &
374 Conkey Ave.
Rochester, New York

M+M Housing Development Fund Corp. as Nominee for Mills and Michelsen LLC

Title:
Adjacent Property Information

N W E S

100 80

1 inch = 100 feet

214539

Figure 2

Path: J:\Urban League of Rochester Economic Development\214539 - Michelson BCP Site RI & Remediation\Drawings\SMP\Fig. 3 - GW Contours.mxd

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Site Management Plan

Former Michelsen Furniture Co. Site
182 Avenue D &
374 Conkey Ave.
Rochester, New York

M+M Housing Development Fund Corp. as Nominee for Mills and Michelsen LLC

Title:

Groundwater Elevation Contouring

N W E S

10 0 10

1 inch = 25 feet

214539

Figure 3

Legend

- 2015 RIWP Monitoring Well
- 2015 RIWP Soil Boring
- 2015 RIWP Interface Well
- 2015 RIWP Bedrock Well
- Previous Monitoring Well Locations
- Previous Bedrock Well Location
- SiteBoundary

Notes:
1. Site Boundary determined using 2011 City of Rochester Tax Parcel data.
2. 2009 Aerial photograph obtained from NYS GIS Clearinghouse.

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M+M Housing Development Fund Corp. as Nominee for Mills and Michelsen LLC

Title:

RI Boring & Monitoring Well Locations

N W E S

10 0 10

1 inch = 25 feet

214539

Figure 4

Path: J:\Urban League of Rochester Economic Development\214539 - Michelson BCP Site RI & Remediation\Drawings\SMP\Fig. 4 Exploration Locations.mxd

Path: J:\Urban League of Rochester Economic Development\214539 - Michelson BCP Site RI & Remediation\Drawings\SMP\Fig 5 - Soil Exceedences.mxd

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Site Management Plan

Former Michelsen Furniture Co. Site
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Title:

Location of Soil Samples Exceeding Part 375-6.8 SCOs

N
W
E
S

10 0 10

1 inch = 25 feet

214539

Figure 5

Path: J:\Urban League of Rochester Economic Development\214539 - Michelson BCP Site RI & Remediation\Drawings\SMP\Fig 6 - GW Exeedences.mxd

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Site Management Plan

Former Michelsen Furniture Co. Site
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M+M Housing Development Fund Corp. as Nominee for Mills and Michelsen LLC

Title:

Location of Groundwater VOC Samples Exceeding Part 703 Groundwater Standards

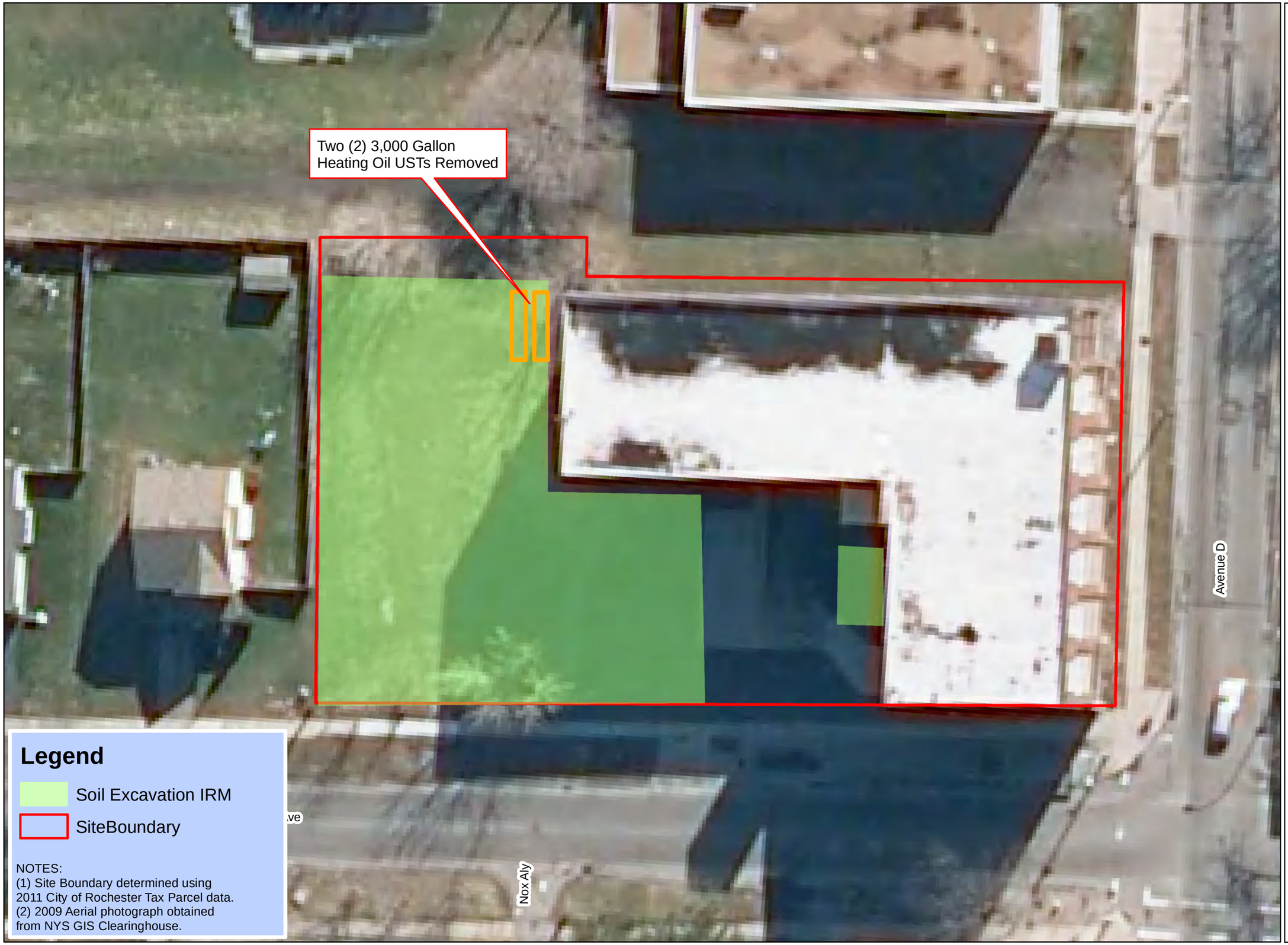
N W E S

10 0 10

1 inch = 25 feet

214539

Figure 6



Path: J:\Urban League of Rochester Economic Development\214539 - Michelson BCP Site RI & Remediation\Drawings\SMP\Fig. 7 - IRMs.mxd

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Site Management Plan

Former Michelsen Furniture Co. Site
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Title:

IRMs Implemented

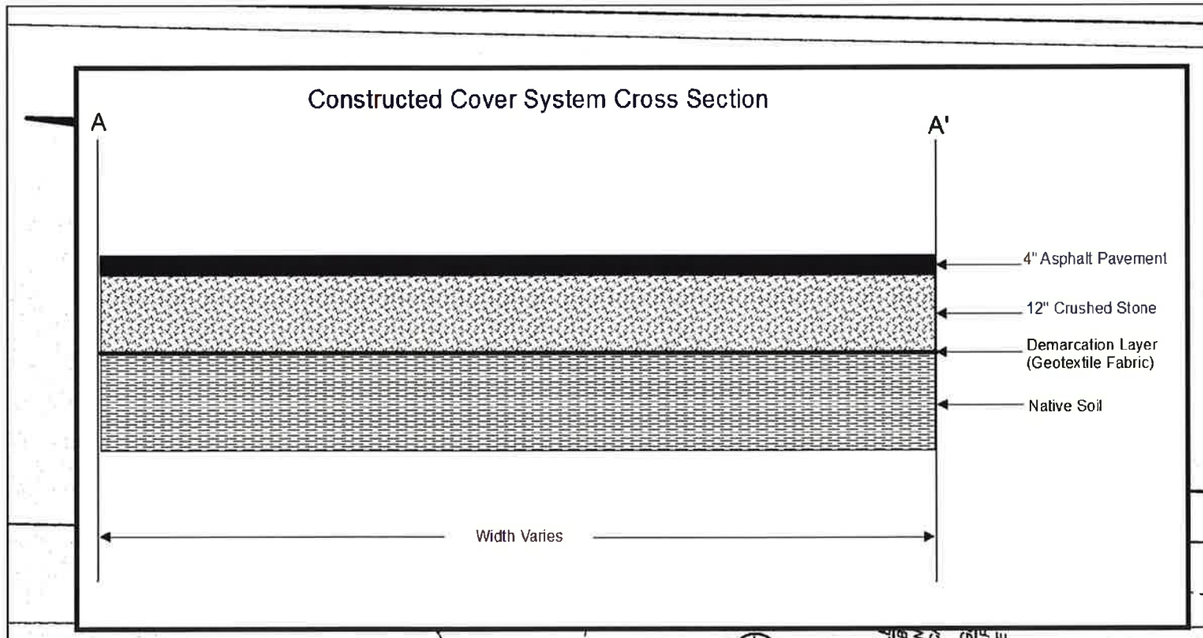
N W E S

10 0 10

1 inch = 25 feet

214539

Figure 7



Legend

- SiteBoundary
- Cover - Undisturbed Soil
- Cover - Building
- Cover - Constructed Parking Lot

RENOVATED 40-UNIT
1&2 BEDROOM APARTMENT BUILDING
4-STORY BRICK
#182

1-STORY MASONRY BUILDING
#212

2-STORY WOOD FRAME RESIDENCE
#380

#390

AVENUE (58' ROW) D

Avenue D

ST-MH
TOP-425.7
INV-421.25(N)
INV-421.25(NW)
INV-421.25(S)
INV-421.15(W)

ST-DI
TOP-426.3
INV-422.3
INV-422.3
6"± - 4" PVC
@ 2.0% MIN

ST-DI
TOP-421.9
INV- VIF
CONTRACTOR TO CLEAN AND TELEVISE EXISTING LATERAL TO VERIFY DIRECTION AND INTEGRITY AND REPORT TO DESIGN ENGINEER.

NEW ENTRY VESTIBULE

RESET TOP TO FINISHED GRADE.

STAIRS WITH LANDING (TO REMAIN)

S.A.M.H.
TOP-427.79
INV.-UNKNOWN

ST-DI
TOP-427.0

ST-DI
TOP-427.15

RG&E-MH.

ELEC. H.H.

TEL SERVICE

G.V.

PP

8' WOOD FENCE

STONE PATH

CONCRETE SIDEWALK

STONE CURB

LAWN AREA

MULCH BED

4x4" POST

NO MOTOR VEHICLES

ROW

CONC. SWLK

1.0%

3.5%

3.0%

5½"-4" PVC @ 2.0% MIN

SIAMESE CONNECTION AND F.D.C.

WM PIT

7 C5.1

A

A'

10 0 10
1 inch = 25 feet

214539

Figure 8

Path: J:\Urban League of Rochester Economic Development\214539 - Michelson BCP Site RI & Remediation\Drawings\SMP\Fig. 8 - cover.mxd

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Site Management Plan

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M+M Housing Development Fund Corp. as Nominee for Mills and Michelsen LLC

Title:

Cover System

STATE OF NEW YORK
DANIEL P. NOLL
No. 091926
LICENSED PROFESSIONAL ENGINEER

Path: J:\Urban League of Rochester Economic Development\214539 - Michelson BCP Site RI & Remediation\Drawings\SMP\Fig 10 - Post Remediation GW Exeedences.mxd

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Site Management Plan

Former Michelsen Furniture Co. Site

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Urban League of Rochester Economic Develoment Corporation

Title:

Post Remediation VOC Samples Exceeding Part 703 Groundwater Standards

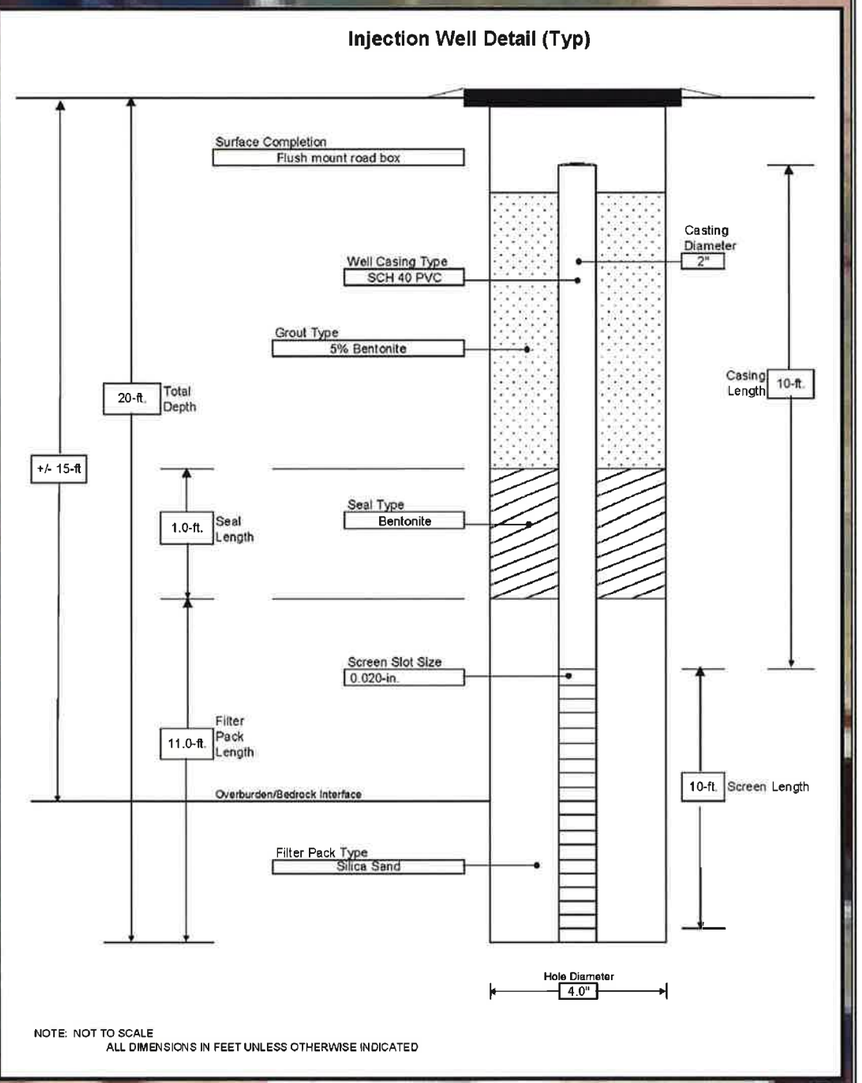
10 0 10

1 inch = 25 feet

214539

Figure 10

Injection Well Detail (Typ)



NOTE: NOT TO SCALE
ALL DIMENSIONS IN FEET UNLESS OTHERWISE INDICATED

Legend

- Remedial Injection Wells (RIW)
- Overburden Monitoring Wells
- 2015 RIWP Bedrock Well
- SiteBoundary

Notes:
1. Site Boundary determined using 2011 City of Rochester Tax Parcel data.
2. 2009 Aerial photograph obtained from NYS GIS Clearinghouse.

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Site Management Plan

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Title:

Injection Well Location and Construction Diagram

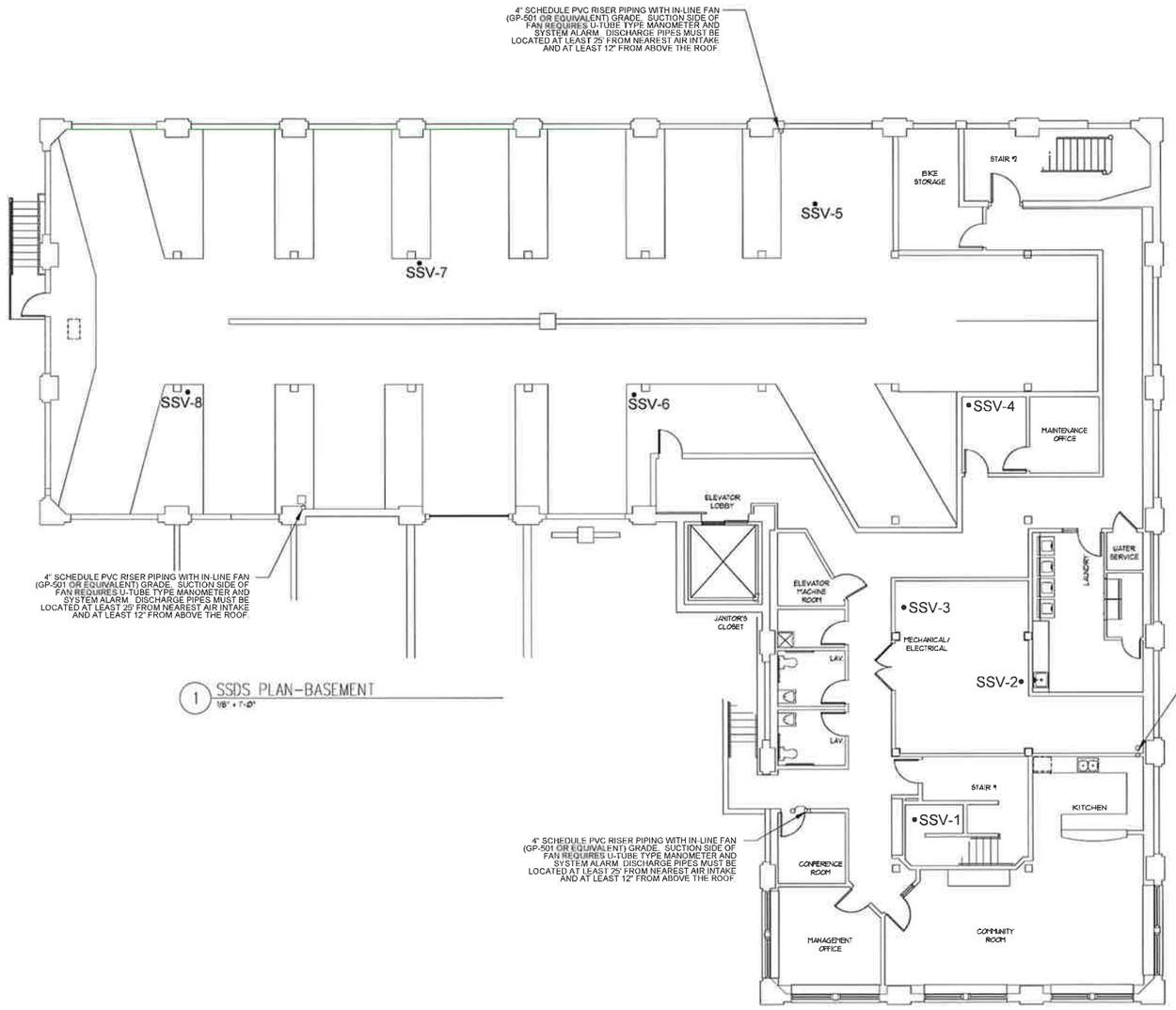
N W E S

10 0 10
1 inch = 25 feet

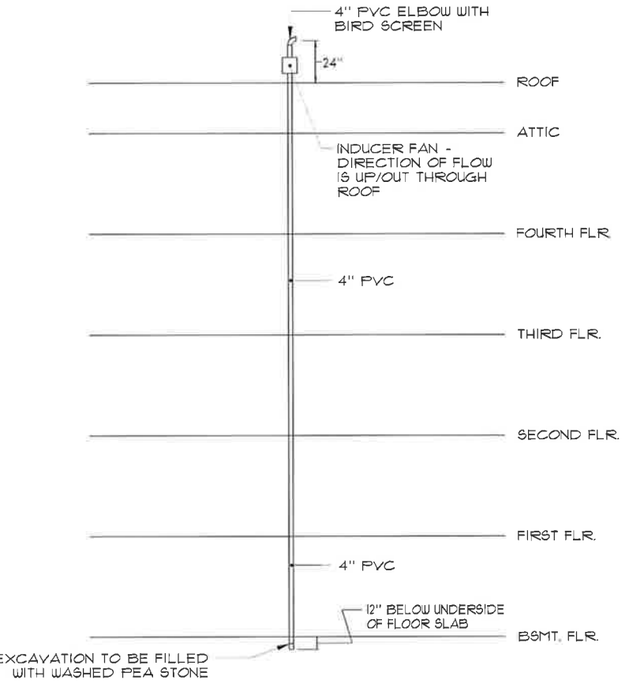
214539

Figure 9

Path: J:\Urban League of Rochester Economic Development\214539 - Michelson BCP Site RI & Remediation\Drawings\SMP\Fig 9 - injection wells.mxd



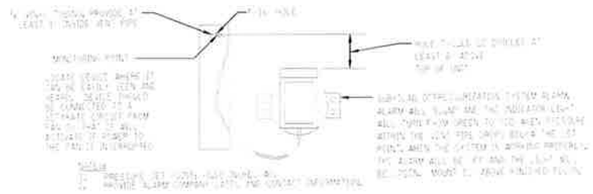
1 SSDS PLAN–BASEMENT
1/8" = 1'-0"



2 SSDS EXHAUST PROFILE DETAIL
1/8" = 1'-0"

NOTES:

1. EXHAUST PIPES TERMINATE APPROXIMATELY 24 INCHES ABOVE THE SURFACE OF THE ROOF; IN A LOCATION AT LEAST 25 FEET FROM ANY AIR INTAKES, AT LEAST 10 FEET AWAY FROM ANY WINDOW, AIR INTAKES, OR OTHER OPENING INTO THE CONDITIONED SPACES OF THE BUILDING THAT IS LESS THAN 2 FEET BELOW THE EXHAUST POINT, AND 10 FEET FROM ANY ADJOINING OR ADJACENT BUILDINGS.
2. ALL EXPOSED AND VISIBLE INTERIOR AND EXTERIOR VENT PIPES ARE IDENTIFIED WITH A LABEL AT LEAST EVERY 25-FEET.
3. EACH VERTICAL STANDPIPE IS EQUIPPED WITH A MANOMETER (VACU-RAY VACUMETER U-TUBE TYPE MANOMETER OR APPROVED EQUIVALENT) BELOW THE FAN, TO DEMONSTRATE THAT PRESSURE WITHIN THE PIPE IS BELOW ATMOSPHERIC PRESSURE.
4. EACH FAN IS EQUIPPED WITH A PROMINENTLY POSITIONED VISIBLE OR AUDIBLE WARNING SYSTEM TO ALERT THE BUILDING OCCUPANT IF THERE IS LOSS OF PRESSURE OR AIR FLOW IN THE VENT PIPE, OR IF THE FAN CEASES OPERATION. THE WARNING SYSTEM WAS INSTALLED ON A SEPARATE CIRCUIT SO THAT IN THE EVENT THE FAN LOSES POWER, THE WARNING SYSTEM WILL STILL ACTIVATE.
5. RISER PIPE SHOWN IS 4-INCH SCHEDULE 40 PVC PIPE.



3 SUBSLAB DEPRESSURIZATION SYSTEM ALARM DETAIL
NO SCALE

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PROJECT/CLIENT
FORMER MICHELSEN FURNITURE CO. SITE
BCP SITE #C828189
182 AVENUE D & 374 CONKEY STREET
ROCHESTER, NEW YORK

DRAWING TITLE
SUB-SLAB DEPRESSURIZATION SYSTEM DETAILS

ISSUED FOR
SITE

DESIGNED BY DJE
DRAWN BY CTJ
REVIEWED BY DPM

DATE: FEBRUARY 2015

PROJECT/DRAWING NUMBER
214539

FIGURE 11