From: "Underhill, Scott" <Scott.Underhill@aecom.com>
To: John Spellman <jtspellm@gw.dec.state.ny.us>
CC: "tlblazicek@nyseg.com" <tlblazicek@nyseg.com>
Date: 10/17/2012 8:50 PM
Subject: RE: NYSEG Mechanicville draft Periodic Review Report
Attachments: Final NYSEG Mechanicville 2012 Status Report.pdf

Hello John,

Attached is the Annual Status Report for 2012 (formerly the PRR) summarizing the site management activities for the year. The format is basically the same as the PRR with exception of the removal of the certification and renaming of the report. In addition, the recommendation for a periodic review period has been removed.

Let me know if you have any further changes/comments.

Thanks,
Scott

Scott Underhill, PE
Project Manager
Environment
D 518.951.2208 M 518.396.7638
scott.underhill@aecom.com<mailto:scott.underhill@aecom.com>

AECOM
40 British American Blvd, Latham, NY 12110
T 518.951.2200 F 518.951.2300
www.aecom.com<http://www.aecom.com/>

From: John Spellman [mailto:jtspellm@gw.dec.state.ny.us]
Sent: Wednesday, October 17, 2012 3:25 PM
To: Underhill, Scott
Cc: tlblazicek@nyseg.com
Subject: Re: NYSEG Mechanicville draft Periodic Review Report

Hi Scott,

Thank you for the report. I appreciate your effort in the preparation of it and our conversation regarding it earlier this week.

Here is a summary of the points I tried to make in our discussion:

- Certifying to an active Environmental Easement (EE) is an objective of the Periodic Review Report (PRR). Because there is no EE at this time, AECOM's PRR is, regrettably, premature. The Department recommends that AECOM omit the report's reference to periodic review, and suggests "status report" as a more appropriate title. Also, please be aware the certification text is different for a PRR, as compared to a Construction Completion Report or other report submitted to the Department of Environmental Conservation, Division of Environmental Remediation. Attached is a copy of that text for your information.

- The Department will address the recommendations presented in AECOM's report separately.

- At the time a periodic review report does need to be submitted, be sure the review period is clearly stated. The due date for the first PRR will be established at the time of Final Engineering Report approval.

I understand AECOM will resubmita status report to include the latest site inspection. Note, the site number needs correcting in Section 1. 546033 is the correct number.

The draft EE is being reviewed by Department counsel. Thank you for your patience.

Please call if you want to discuss further.

John

John Spellman, P.E.
New York State Department of
Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233-7014

(518) 402-9686

>>> "Underhill, Scott" <Scott.Underhill@aecom.com<mailto:Scott.Underhill@aecom.com>> 8/8/2012 12:09 PM >>>
Hello John,

Attached is a draft copy of the first Periodic Review Report (PRR) for the NYSEG Mechanicville former MGP site. According to the SMP, the final PRR is not due until October 2012, however since we have collected all the relevant information, we are submitting the report a couple months ahead of schedule. Please review at your convenience.

Thank you,
Scott

Scott Underhill, PE
Project Manager
Environment
D 518.951.2208 M 518.396.7638
scott.underhill@aecom.com<mailto:scott.underhill@aecom.com>

AECOM
40 British American Blvd, Latham, NY 12110
T 518.951.2200 F 518.951.2300
www.aecom.com<http://www.aecom.com/>

AECOM Environment

Prepared for:
New York State Electric and Gas Corp
18 Link Drive
P. O. Box 5224
Binghamton, NY 13902

Prepared by:
AECOM
Latham, NY
Project 60162147
October 2012

Annual Status Report – 2012
Mechanicville Central Ave Former MGP Site
Mechanicville, New York
NYSDEC Site # 546033

Final

Contents

Executive Summary iii

1.0 Site Overview 1-1

1.1 Remedial History 1-2
1.1.1 Groundwater Monitoring 1-4
1.1.2 Sub-Surface Soil Vapor Monitoring 1-4

2.0 Evaluate Remedy Performance, Effectiveness and Protectiveness 2-1

2.1 IC/EC Report 2-1
2.2 Monitoring Plan Compliance Report 2-1
2.2.1 Confirm Compliance with Site Management Plan 2-1
2.2.2 Confirmation of Performance Standards Being Met 2-2

3.0 Evaluate Costs 3-1

3.1 Summary of Costs 3-1

4.0 Conclusions and Recommendations 4-1

4.1 Conclusions 4-1
4.2 Recommendations 4-2

5.0 References 5-1

List of Tables

Table 1 Summary of NAPL Removal

Table 2 Summary of March 2012 Water Level Measurements

Table 3 Detected VOCs in Groundwater – March 2012

Table 4 Detected SVOCs in Groundwater – March 2012

Table 5 Cyanide in Groundwater – March 2012

List of Figures

Figure 1 Site Location Map

Figure 2 NAPL Recovery Totals By Well

Figure 3 Groundwater Contours – March 2012

Figure 4 Groundwater Sampling Results – March 2012

Executive Summary

The Site is located in Mechanicville, Saratoga County, NY (Figure 1) and was a former manufactured gas plant. The rectangular Site covers approximately 1.8 acres and is surrounded by commercial/industrial and residential properties. The Site was added to the New York State Department of Environmental Conservation (NYSDEC) Registry of Inactive Hazardous Waste Sites as a Class 2 site (Site No. 546033). A remedial investigation and feasibility study were completed in 2004 and 2005, respectively.

A Record of Decision (ROD) was issued in March 2006. The components of the remedy included the removal and off-site treatment of all overburden soil containing polycyclic aromatic hydrocarbon (PAH) concentrations greater than 500 parts per million (ppm) or soil containing visual tar or nonaqueous phase liquid (NAPL); removal and off-site disposal of purifier waste remaining in or near the North Central Avenue embankment; a NAPL recovery system for the bedrock contamination; an institutional control (IC) in the form of an environmental easement; and the implementation of a site management plan (SMP).

A soil removal action was performed between October 2008 and July 2009 in which approximately 25,600 tons of material was removed from the Site and thermally treated at an off-site facility.

Approximately 31 gallons of NAPL were removed from Site bedrock wells as part of automated NAPL recovery efforts at the Site between August 2009 and November 2009. The NAPL recovery effort in 2009 concluded that the NAPL yield was not high enough to warrant an automated system.

The Anthony Kill was monitored for NAPL blebs which were observed during the soil removal action emanating from a single location in the Kill, in line with the bedrock fault. Sediments from the impacted-area were removed using a vacuum truck in September 2009. The creek was observed for four weeks after completion of the work, and no NAPL blebs were observed.

A Site Management Plan (SMP) was developed for the Site and approved by the NYSDEC in July 2010. Quarterly monitoring of monitoring wells and the Anthony Kill, biennial sampling, and annual inspection of the streambank was performed in accordance with the SMP.

During the last five quarters of monitoring, greater than 6-inches of NAPL was observed only in two wells during the first quarter (April-June 2011) and since then NAPL measurements in all wells were less than 6 inches or not measured. During the first quarter (April-June 2012) approximately 5.5 gallons of NAPL was manually removed.

Quarterly monitoring of the Anthony Kill for NAPL blebs was performed between June 2011 and June 2012 and semi-annual monitoring in September 2012 and no NAPL blebs were observed at the location where the sediment removal occurred. Subsequently NYSDEC approved the monitoring frequency of twice a year in the letter dated June 21, 2012.

A total of 15 groundwater wells were sampled in March 2012. VOCs were detected in five of 15 groundwater samples; SVOCs, mainly PAHs, were detected in eight samples (five samples exceeded AWQS), and cyanide was detected in two samples (none exceeded ambient water quality standards [AWQS]).

Total annual costs for completing the required activities associated with annual site inspections and groundwater and NAPL monitoring are approximately $29,500, during years when a groundwater monitoring event takes place.

Recommendations for the Site include continued biennial groundwater monitoring; NAPL monitoring at least two days during a 12 month period, annual site inspection, and indoor air monitoring should any buildings be constructed on-site.

1.0 Site Overview

The periodic review process is used for determining if a remedy is properly managed, as set forth in site documents, and if the remedy is protective of human health and the environment. This status report includes historical information, sub-surface soil vapor data and groundwater monitoring well data through September 2012.

This PRR has been prepared to evaluate the overall effectiveness of the remedies selected and their implementation at the site. AECOM Technical Services, Inc. (AECOM) monitors the Mechanicville Former Manufactured Gas Plant (MGP) Site (the "Site") for the New York State Electric and Gas (NYSEG). The New York Department of Environmental Conservation (NYSDEC) classified the Site (NYSDEC Site No. 546033) as Class 2. A Class 2 site is defined as the disposal of hazardous waste has been confirmed and the presence of such hazardous waste or its components or breakdown products represent a significant threat to the environment or to public health.

The Site is located on North Central Avenue in Mechanicville, Saratoga County, NY (Figure 1). The Site was a former manufactured gas plant. The Site was issued a reference number 546033 by the NYSDEC and was the subject of Order on Consent Index #DO-002-9309 between NYSEG and NYSDEC. The Site is bordered on the east by North Central Avenue (formerly the Champlain Canal); on the south by Ferris Lane; on the west by G. A. Bove & Sons, a fuel distributor; and on the north by the Anthony Kill, a small tributary that flows eastward into the Hudson River.

The rectangular Site covers approximately 1.8 acres. The neighborhood around the Site is mixed commercial/industrial and residential. A gasoline station existed southeast of the Site, and a fuel distributor and a furniture store exist west and east of the Site. An automobile repair business is located across the Anthony Kill, opposite the Site. The residences closest to the Site are situated to the south.

The Site gently slopes towards the Anthony Kill except at the bank, where there is a steep drop. The Champlain Canal once bordered the site to the east, prior to North Central Avenue. The canal was elevated and the water surface was approximately ten feet above the gas plant. The canal was abandoned in 1916. Only one building (the gas regulator building) remains on the Site. The rest of the Site is covered with grass, soil and/or gravel. Currently the Site is vacant and occasionally used for parking NYSEG vehicles.

The Site is in the Anthony Kill valley, which is a post-glacial tributary valley of the Hudson River Valley following the most recent glacial period.

Overburden at the Site was approximately four to twenty-seven feet thick and consisted primarily of fill material, which was underlain by a discontinuous layer of native material. The majority of the fill contained sand and gravel, with lesser amounts of silt, clay and pebbles. Materials related to the former MGP Site include broken concrete foundations, coal, brick fragments, clinkers, slag and wood chips. The scarce native material was likely alluvial in nature.

The bedrock beneath the Site is the Snake Hill Formation and is composed of dark gray shale. The shale exhibits pencil-shaped breaks; these breaks were produced by stresses associated with the movement of bedrock blocks along two tear faults running generally east-west, and the ramping of bedrock blocks to the west along thrust faults. The Anthony Kill is the surficial

expression of the northern tear fault. The significance of this geologic condition is that the highly fractured bedrock allows for a substantial flow of water, both contaminated and non-contaminated, through the rock. NAPL was expected to migrate preferentially through zones of more intense cleavage.

Both shallow groundwater and groundwater within the deep bedrock at the Site flow from the southwest to the northeast toward the Anthony Kill. The depth to groundwater is approximately five feet below the ground surface.

1.1 Remedial History

From circa 1901 through 1955, NYSEG and predecessor companies used the Site on Central Avenue in Mechanicville to manufacture gas, which was used by the local residents and businesses near the Site. The plant used the carbureted water gas process to produce gas from coal for lighting, cooking, and heating. In 1901, the Halfmoon Light, Heat, & Power Co., which was founded in 1900, began distributing gas manufactured from coal to the citizens of Mechanicville. In 1924, Halfmoon Light, Heat, & Power Co. was acquired by the Associated Gas and Electric System, and in 1928 it became a part of NYSEG. Coal gas production continued at the plant until 1955. NYSEG operated the Site as a natural gas and electric service center from 1955 until 1990, when the operation was relocated to a new service center in the town of Halfmoon.

The former MGP structures associated with coal gasification were concentrated on the eastern part of the Site. The only structure that currently remains within the former MGP portion of the Site is the gas regulator building. NYSEG did not own the western part of the Site during most of the operations of the MGP, which closed in 1955. By-products of the coal gasification process included coal ash, condensate material from the gas house, wood chips from the purifier house, coal tar, and oil sludge. No information about the methods employed to handle these materials in the early days of gas production at Mechanicville was found. However, common practice was to dispose ashes and spent oxide material on Site. Also, the tars produced in gas plants were an important raw material for the flourishing tar distillation industry in the early 1900s.

In 1981, NYSEG collected soil samples from the filter bed area and the gas relief holder foundation. A sample from the filter beds area exceeded the threshold for the characteristic of reactivity, indicating the soil would be considered a hazardous waste.

In 1986, the NYSDEC first listed the Site as a Class 2a site in the Registry of Inactive Hazardous Waste Disposal Sites in New York (the Registry). Class 2a is a temporary classification assigned to a Site that has inadequate and/or insufficient data for inclusion in any of the other classifications. In the same year, NYSEG initiated field investigation activities at the Site to assess the potential presence of residual by-product waste associated with MGP activities.

In September 1988, structural repairs were undertaken on the North Central Avenue Bridge over the Anthony Kill. Sheen was observed on the sediments during the repairs. Analysis of the sediment identified contaminants that were likely associated with the former MGP operations. NYSEG took responsibility for the disposal of 22 tons of sediment.

In 1989, the NYSDEC listed the Site as a Class 2 site in the Registry. A Class 2 site is a site where hazardous waste presents a significant threat to public health or the environment and action is required.

By the end of 2004, NYSEG had conducted five investigative phases and one risk assessment phase. Each of these phases was an expansion of the information of the previous investigation.

The SRI provides a summary of the earlier investigations, as well as the results of the latest investigation.

In 1999, NYSEG removed contaminated soil from the Site. During the IRM, the holder structure was also partially removed. A NAPL gauging and passive recovery program had been ongoing since 2001. Approximately 24 monitoring wells were inspected at least monthly for the presence of NAPL. Passive recovery included lowering bailers or pumping NAPL from the monitoring wells on a periodic basis as NAPL was recharged within the well.

The ROD was issued in March 2006 and included a summary of remedial investigations; Site geology and hydrology; nature and extent of contamination; IRMs; human exposure pathways; and environmental impacts. The components of the remedy are as follows:

- Removal to the top of bedrock of all soil containing PAH concentrations greater than 500 ppm or soil containing visual tar or NAPL;
- Removed soil to be treated or disposed off-site;
- Removal and off-site disposal of purifier waste remaining in or near the North Central Avenue embankment;
- A NAPL recovery system for the bedrock contamination;
- An institutional control (IC) in the form of an environmental easement (EE);
- Development and implementation of a site management plan (SMP); and,
- An evaluation of indoor air quality, if occupied structures were to be constructed on the Site in future.

After the ROD was issued, the following activities were performed:

- A soil removal action was performed between October 2008 and July 2009 in which approximately 25,600 tons of material was removed from the Site and thermally treated at an off-site facility. A total of 1,459,231 gallons of water were treated by a temporary water treatment system and discharged to the Anthony Kill during the removal action.
- Approximately 31 gallons of NAPL were removed from Site bedrock wells as part of automated NAPL recovery efforts at the Site between August 2009 and November 2009. The NAPL recovery effort in 2009 concluded that the NAPL yield was not high enough to warrant an automated system and monitoring should be performed over a 3-month period to identify NAPL recovery potential (AECOM, 2010a). During the 3-month monitoring period, the maximum thickness measured in any well was 3 inches (AECOM, 2010b).
- The Anthony Kill was monitored for NAPL blebs which were observed during the soil removal action emanating from a single location in the Kill, in line with the bedrock fault. The sheens in the Anthony Kill were observed to be caused by air/gas bubbles being released from the sediment and/or bedrock and when the gas bubbles broke on the surface, a sheen of less than 3-inches in diameter would appear and dissipate within a few seconds. In response to this, NYSDEC requested that NYSEG develop an approach to address the release of NAPL blebs into the Anthony Kill (AECOM, 2010b). Sediments from the impacted-area were removed using a vacuum truck. The creek was observed for four weeks after completion of the work, and no NAPL blebs were observed.
- A Site Management Plan (SMP) was developed for the Site and approved by the NYSDEC in April 2011 (AECOM, 2011).
- In accordance with the SMP, the following activities were performed:
    - Quarterly NAPL monitoring of the 11 monitoring wells was performed in June 2011, September 2011, December 2011, March 2012, and June 2012 for the first year following acceptance of the SMP;

- o Biennial sampling of the15 groundwater monitoring wells was performed in March 2012, the first of the sampling events;
- o Quarterly monitoring of the Anthony Kill was performed in June 2011, September 2011, December 2011, March 2012, and June 2012 for the first year following acceptance of the SMP;
- o Annual inspection of the streambank was performed in June 2011 and June 2012; and
- o No indoor air monitoring was performed since no occupied structures exist at the site.

1.1.1 Groundwater Monitoring

Groundwater monitoring at the Site includes sampling of 15 on-site and off-site wells for VOCs, SVOCs and cyanide. See **Figure 1** for groundwater monitoring well locations. The first biennial sampling event was performed in March 2012.

In addition to collecting groundwater samples, depth-to-groundwater and water quality parameters are measured and recorded for all 15 wells. Water quality parameters, which includes temperature, specific conductivity, conductivity, pH, turbidity, dissolved oxygen (DO), oxygen-reduction potential (ORP), color, and odor, are measured with a water quality meter (e.g., YSI-556). Depth-to-groundwater is measured with an oil/water interface probe. The depth-to-groundwater measurements are used to calculate groundwater elevations and develop contour maps for both the shallow and deep groundwater zones.

All groundwater samples, including a blind field duplicate, were sent to TestAmerica, under standard chain-of-custody and quality assurance/quality control (QA/QC) procedures. QA/QC procedures include the addition of a trip blank with ever shipping container (i.e., cooler) with VOC samples and a matrix spike/matrix spike duplicate with all sample delivery groups. Data from all sampling events are used to evaluate the post remedial aquifer conditions. In addition, analytical data for the contaminants of concern (COCs) in the groundwater at the Site are tabulated and graphed after each sampling event to assess the effectiveness of the selected remedy for the Site. All monitoring data are compared to the NYS Ambient Water Quality Standards (AWQS) and Guidance Values (GV).

1.1.2 Sub-Surface Soil Vapor Monitoring

Since no occupied structures exist at the site, no soil vapor or indoor air monitoring was performed.

2.0 Evaluate Remedy Performance, Effectiveness and Protectiveness

2.1 IC/EC Report

The Site is located in the City of Mechanicville, County of Saratoga County, and State of New York. The Site consists of two parcels, one with an area of 0.42 acres (Tax Map Number 262.53-1-7) and another with an area of 1.64 acres (Tax Map Number 262.53-1-8), located at 42 North Central Avenue. The recorded owner is the NYSEG.

During the reporting period, the Site property was not sold, subdivided, merged, did not undergo a tax map amendment, and was not issued any federal, state, and/or local permits.

The IC reported by the NYSDEC and included in this status report is:

- Environmental Easement (pending recording, the EE package was submitted to the NYSDEC for review on June 18, 2012).

The engineering controls (ECs) reported by the NYSDEC and included in this PRR are:

- Fencing/Access Control; and
- Monitoring Wells.

During the reporting period, the current use of the Site was consistent with the ICs imposed on the property.

AECOM personnel conducted an inspection of the ECs on June 28, 2012. All ECs employed at the Site have been unchanged since the date that the controls were implemented or approved by the NYSDEC.

A SMP was developed for the Site and approved by the NYSDEC in April 2011 (AECOM, 2011a). An Operation and Maintenance (O&M) Plan related to the Site is not necessary, as no treatment systems exist on-site.

2.2 Monitoring Plan Compliance Report

2.2.1 Confirm Compliance with Site Management Plan

Activity	Required Frequency (X)			Compliance Dates
	Quarter	Annual	Biennial	
NAPL Monitoring in Bedrock Wells	X			2011-2012
Groundwater Sampling			X	2012
Anthony Kill Monitoring	X			2011-2012
Streambank Inspection		X		2011; 2012
Indoor Air Quality Monitoring				Not Applicable

The SMP, which was approved by the NYSDEC in 2011, established a sampling program that involved quarterly monitoring of NAPL in monitoring wells and in the Anthony Kill for the first year and then evaluated thereafter. The fourth quarterly report recommended reducing the monitoring from quarterly to annually (AECOM, 2012a). The NYSDEC recommended that the Anthony Kill be monitored (NYSDEC, 2012):

- At least two days per 12 month period, with the observations at least a month apart;
- Observation times can be reduced from 60 minutes to 30 minutes;
- Avoid high flow conditions and record stream elevations at time of observation;
- Report cloud cover and precipitation conditions; and
- Probe the sediment in the area where the sediment was removed in September 2010.

The SMP should be revised to include these recommendations.

2.2.2 Confirmation of Performance Standards Being Met

2.2.2.1 NAPL Monitoring

Quarterly monitoring of NAPL levels occurred in June 2011, September 2011, December 2011, March 2012, June 2012 and September 2012. Wells monitored for the presence of NAPL were TW-1, TW-2I, TW-3, MW-1D, MW-10D, MW-33D, MW-34D, MW-35I, MW-42D, MW-44I, and MW-45I. The well locations are depicted in **Figure 1**. A weighted string was used to measure NAPL thickness.

The NAPL thickness are summarized in **Table 1** and shown **Figure 2**. NAPL thicknesses ranged from 0.5 inches to 33.6 inches. If NAPL thicknesses are greater than 6 inches, then the NAPL is bailed. During the first quarter of monitoring in June 2011, two wells had over 6 inches of NAPL: 9.6 inches from MW-35 and 33.6 inches from MW-45I. Approximately 5 gallons and 10 gallons of NAPL/water were manually bailed from MW-35I and MW-45I, respectively, estimated to be approximately 1.5 gallons and 4 gallons of NAPL. No NAPL has been recovered from any well subsequently. Only two wells have never had NAPL detected: MW-1D and MW-33D.

2.2.2.2 Groundwater Monitoring

Groundwater Elevations

On March 12, groundwater level was monitored at all monitoring wells associated with the site prior to sampling activities as part of the first round of the biennial groundwater sampling event as required by the SMP. Depth to groundwater and groundwater elevations measured during this monitoring event are included in **Table 2**. Groundwater flows to the east and north as shown in **Figure 3**.

Groundwater Analytical Results

Groundwater samples were collected from the select monitoring wells on March 13, 14, and 15. The list of select monitoring wells and measurement/analysis parameters is included below.

Monitoring Event	Monitoring Locations		Measurements/Analysis
First Biennial Groundwater Monitoring Event: March 2012	TW-2S MW-2 MW-2I MW-17 MW-17I MW-17D MW-20D MW-34D	MW-36I MW-36D MW-38I MW-38D MW-39D MW-40D MW-46I	• Water Levels • Field Parameters (DO, ORP, turbidity, temp) • VOCs – Method 8260 • SVOCs – Method 8270 • Cyanide (total) – Method 9012

A total of 15 groundwater wells were sampled on March 13, 14, and 15, 2012. The samples were analyzed by a New York State Department of Health Environmental Laboratory Approval Program (NYSDOH ELAP) certified laboratory, Test America, for VOCs, SVOCs, and cyanide. The groundwater sample results are tabulated and shown in **Figure 4**.

VOCs were detected in five of 15 groundwater samples collected during the March 2012 sampling event and are summarized in **Table 3**. VOCs were detected at concentration exceeding the Ambient Water Quality Standards (AWQS) in only two samples:

- TW-2S: Benzene (400 ug/L), ethylbenzene (280 ug/L), toluene (13 ug/L), xylene (77 ug/L), and isopropylbenzene (17 ug/L)
- MW-34D: Toluene (5.3 ug/L)

Various SVOCs, mainly PAHs, were detected in eight of 15 groundwater samples collected during the March 2012 sampling event. The detected SVOCs are summarized in **Table 4**. Total SVOCs concentrations ranged from 0.86 ug/L to 1,274.4 ug/L. SVOCs were detected at concentrations exceeding the AWQS in from TW-2S, MW-17, MW-17D, MW-38I, and MW-39D.

Cyanide was detected in only two samples (TW-2S and MW-38I) at concentrations significantly less than the AWQS. The cyanide results are included in **Table 5**.

2.2.2.3 Anthony Kill Monitoring

Quarterly monitoring of the Anthony Kill for NAPL blebs occurred in June 2011, September 2011, December 2011, March 2012, June 2012 and September. No NAPL blebs were observed at the location where the sediment removal occurred (**Figure 2**).

Sediment probing was performed in June 2012 and September 2012 in the area where the sediment removal occurred; no sheen was observed during the probing.

2.2.2.4 Streambank Inspection

Streambank inspections were performed on June 20, 2011 and June 28, 2012.

In 2011, the stream bank appeared to be completely vegetated with grass and clovers. Cattails were growing in seep areas, stabilizing the soils. Willow live stakes were growing along the base of the streambank and their fibrous root system were stabilizing the bank. Some areas of the bank were gelatinous, but stable. Five out of 31 trees did not have leaves on them. Hence, the survival rate of the trees is 84% comparable to desired 85%.

In 2012, the stream bank was completely vegetated with grass and clovers. However, 20 trees were damaged and destroyed by beavers. Three out of eleven remaining trees did not have leaves on them. Though most trees were damaged by the beavers, the streambank was relatively less gelatinous and more stable.

2.2.2.5 Indoor Air Quality Monitoring

No occupied structures presently exists at the site, therefore no indoor air quality monitoring was required.

3.0 Evaluate Costs

3.1 Summary of Costs

Total annual cost for completing the required activities associated with site monitoring is approximately $29,500, based on the first full year of monitoring (April 2011 – April 2012). Subsequent costs are expected to decrease as monitoring requirements decrease. Major cost components are allocated as follows:

Description	Average Annual Cost*
Quarterly Monitoring (3 events)	
Labor	$ 4,500
Reporting	$ 3,000
Subtotal #1:	**$ 7,500**
Long-Term Groundwater Monitoring (1 event)	
Labor	$ 9,000
Reporting	$ 7,000
Analytical	$ 6,000
Subtotal #2:	**$ 22,000**
Grand Total (Items 1-2):	**$ 29,500**

4.0 Conclusions and Recommendations

4.1 Conclusions

The following conclusions discuss the effectiveness of the Site remedy in comparison to the applicable Site remedial goals derived from the ROD:

1. **Removal to the top of bedrock of all soil containing PAH concentrations greater than 500 ppm or soil containing visual tar or NAPL.**

   A soil removal action was performed between October 2008 and July 2009 in which approximately 25,600 tons of material was removed from the Site (AECOM, 2009).

2. **Removed soil to be treated or disposed off-site.**

   All 25,600 tons of soil removed was sent to ESMI in Fort Edward, New York and thermally treated.

3. **Removal and off-site disposal of purifier waste remaining in or near the North Central Avenue embankment.**

   The excavation of purifier wastes along North Central Avenue was performed in June 2009 as part of the removal action. This excavation was advanced to a depth of approximately 3 feet and removed all purifier wastes. Purifier wastes were thermally treated at ESMI.

4. **A NAPL recovery system for the bedrock contamination.**

   Approximately 31 gallons of NAPL were removed from Site bedrock wells as part of automated NAPL recovery efforts at the Site between August 2009 and November 2009. The NAPL recovery effort in 2009 concluded that the NAPL yield was not high enough to warrant an automated system and monitoring should be performed over a 3-month period to identify NAPL recovery potential (AECOM, 2010a). During the 3-month monitoring period, the maximum thickness measured in any well was 3 inches (AECOM, 2010b). NAPL monitoring and recovery, if applicable, occurs as prescribed in the SMP.

5. **An institutional control (IC) in the form of an environmental easement.**

   A draft environmental easement was submitted to the NYSDEC for review on June 18, 2012. As of the time of this PRR, the environmental easement was being reviewed by NYSDEC.

6. **Development and implementation of a site management plan (SMP).**

   A Final SMP was submitted by NYSEG in April 2011 (AECOM, 2011a) approved by the NYSDEC in April 2011 (NYSDEC, 2011). Site management activities began in June 2011.

7. **An evaluation of indoor air quality, if occupied structures were to be constructed on the Site in future.**

   No occupied structures have been constructed on-site since the completion of the soil removal action and therefore, no indoor air evaluation has been performed.

During the last six quarters of monitoring, greater than 6-inches of NAPL was observed only in two wells during the first quarter (April-June 2011) and since then NAPL measurements in all wells were less than 6 inches or not measured. During the first quarter (April-June 2012) approximately 5.5 gallons of NAPL was manually removed.

Quarterly monitoring of the Anthony Kill for NAPL blebs was performed between June 2011 and June 2012 and one semi-annual monitoring event in September 2012 and no NAPL blebs were observed at the location where the sediment removal occurred.

A total of 15 groundwater wells were sampled in March 2012. VOCs were detected in five of 15 groundwater samples; SVOCs, mainly PAHs, were detected in eight samples (five samples exceeded AWQS), and cyanide was detected in two samples (none exceeded AWQS).

4.2 Recommendations

The following recommendations are made for the Site:

1. Groundwater monitoring should continue to be performed at the biennial interval established in the SMP. The sampling should include all of the site groundwater monitoring wells. The next sampling event would be in March 2014.

2. Perform NAPL monitoring at least two days during a 12 month period, with a minimum of one month between observations. Update the SMP to include this and other recommendations from the NYSDEC June 21, 2012 letter (NYSDEC, 2012).

3. Perform an annual site inspection.

4. There are currently no buildings on-site. Should any buildings be constructed on-site, depending on location, indoor air monitoring will be required prior to building occupancy.

5.0 References

AECOM, 2009. *Final Remedial Action Construction Certification Report*, Mechanicville Former MGP Site, Mechanicville, NY. December.

AECOM, 2010a. *Long-Term NAPL Recovery Testing – Status Report December 2009*. January 26.

AECOM, 2010b. *NAPL Monitoring Summary Letter*. June 14.

AECOM, 2010c. *NYSEG Mechanicville Well Decommissioning*. Email from AECOM to NYSDEC. September 10.

AECOM, 2010d. *Sediment Removal Summary Letter*. December 10.

AECOM, 2011a. *Site Management Plan*, Mechanicville Former MGP Site, Mechanicville, NY. April.

AECOM, 2011b. *Mechanicville Site Management First Quarterly Status Report (April-June 2011)*. August 8.

AECOM, 2011c. *Mechanicville Site Management Quarterly Status Report for Jul-Sep 2011*. November 9.

AECOM, 2012a. *Mechanicville Site Management 3rd Quarterly Status Report (Oct-Dec 2011)*. January 17.

AECOM, 2012b. *Mechanicville Site Management 4th Quarterly Status Report (Jan-Mar 2012)*. May 30.

AECOM, 2012c. *Mechanicville Site Management Annual Inspection and Summary of Site Activities (Apr-Jun 2012)*. July 24.

AECOM, 2012d. *Mechanicville Site Management Semi-Annual Status Report (Second of 2012)*. October 2.

NYSDEC, 2006. *Record of Decision*. March.

NYSDEC, 2009. Commissioner Policy 43 (CP-43): Groundwater Monitoring Well Decommissioning Policy. November 3.

NYSDEC, 2010. *Proposed Well Abandonment Letter*. NYSDEC to NYSEG. June 1.

NYSDEC, 2011. *Letter Approving the SMP from NYSDEC to NYSEG*. April 15.

NYSDEC, 2012. *Letter Discussing the SMP and 4th Quarterly Report from NYSDEC to NYSEG*. June 21.

NYSDOH, 2006. *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*. October.

Tables

Table 1 - Summary of NAPL Removal
Former NYSEG Mechanicville Central Avenue MGP Site
Mechanicville, New York

	NAPL Recovered (Gallons)								
Well\Date	Prior to Remediation Up to Feb 2008	Post remediation Jul-Dec 2009	1st Quarter Monitoring Apr-Jun 2011	2nd Quarter Monitoring Jul-Sep 2011	3rd Quarter Monitoring Oct-Dec 2011	4th Quarter Monitoring Jan-Mar 2012	5th Quarter Monitoring Apr-Jun 2012	1st Semi-Annual Monitoring Jul-Dec 2012	TOTAL to Date
TW-1	NP	23.00	0.00	0.00	0.00	0.00	0.00	0.00	23.00
TW-2I	NP	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
TW-3	NP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MW-1D	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53
MW-10D	113.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	113.89
MW-33D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MW-34D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MW-35I	0.93	NM	1.50	0.00	0.00	0.00	0.00	0.00	2.43
MW-42D	72.59	3.50	0.00	0.00	0.00	0.00	0.00	0.00	76.09
MW-44I	NP	1.25	0.00	0.00	0.00	0.00	0.00	0.00	1.25
MW-45I	NP	2.00	4.00	0.00	0.00	0.00	0.00	0.00	6.00
TOTAL	187.93	30.75	5.50	0.00	0.00	0.00	0.00	0.00	224.18

NAPL recovered from well when gauged thickness of NAPL is 6 inches or greater
NP - Well Not Present at time
NM - NAPL was not monitored

Table 2 - Summary of Bi-Annual Groundwater Measurements
Former NYSEG Mechanicville Central Avenue MGP Site
Mechanicville, New York

		March 15, 2012	
Well	MP Elevation	Depth to Water	Elevation of Water
MW-1	90.84	8.07	82.77
MW-1I	90.62	8.37	82.25
MW-1D	90.46	NM	NM
MW-2	90.79	5.95	84.84
MW-2I	90.82	5.80	85.02
MW-10	91.66	9.25	82.41
MW-10I	92.21	10.40	81.81
MW-10D	92.73	10.35	82.38
MW-12	95.95	14.60	81.35
MW-12S	95.97	13.94	82.03
MW-13	96.04	14.50	81.54
MW-14	96.95	15.85	81.10
MW-14S	96.91	16.64	80.27
MW-14D	96.66	13.60	83.06
MW-15IR	87.47	6.62	80.85
MW-17	93.53	12.07	81.46
MW-17I	93.10	13.26	79.84
MW-17D	93.29	10.48	82.81
MW-18	93.54	12.20	81.34
MW-22IR	87.05	7.62	79.43
MW-25S	96.03	14.91	81.12
MW-25I	88.74	14.92	73.82
MW-29IR	86.42	8.35	78.07
MW-30S	95.62	14.18	81.44
MW-30D	95.76	14.40	81.36
MW-32D	90.14	45.18	44.96
MW-33D	93.83	11.34	82.49
MW-34D	93.67	7.78	85.89
MW-35I	80.43	4.98	75.45
MW-40D	93.95	11.51	82.44
MW-42D	93.45	11.09	82.36
MW-44I	87.37	5.40	81.97
MW-45I	88.83	7.75	81.08
MW-46I	87.93	9.03	78.90
TW-1	89.33	7.32	82.01
TW-2S	86.34	6.61	79.73
TW-2I	86.25	11.46	74.79
TW-3	87.15	7.77	79.38
TW-4	87.17	8.33	78.84
Anthony Kill	75.92	NM	NM

Notes:
1) NM - Not Measured
2) OBS - Obstruction in well

Table 3 - Detected VOCs in Groundwater
March 2012 Sampling Event As Part Of Site Management Plan
Mehcanicville Central Avenue Former MGP Site

Well			MW-2	MW-2I	TW-2S	MW-17	MW-17D	MW-17I	MW-20D	MW-34D		MW-36D	MW-36I	MW-38D	MW-38I	MW-39D	MW-40D	MW-46I
Sample ID			MCMWGWNA 2	MCMWGWNA 2I	MCMWGWNA 2S**	MCMWGWNA 17	MCMWGWNA 17D	MCMWGWNA 17I	MCMWGWNA 20D	MCMWGWNA 34D	MCMWGWNA DUP	MCMWGWNA 36D	MCMWGWNA 36I	MCMWGWNA 38D	MCMWGWNA 38I	MCMWGWNA 39D	MCMWGWNA 40D	MCMWGWNA 46I
Sampling Date			3/14/2012	3/13/2012	3/15/2012	3/13/2012	3/14/2012	3/14/2012	3/13/2012	3/15/2012	3/15/2012	3/14/2012	3/14/2012	3/13/2012	3/13/2012	3/13/2012	3/15/2012	3/15/2012
Volatiles	**CAS #**	**AWQS/GV Values**																
1,1-DICHLOROETHANE	75-34-3	5	ND	ND	ND	**0.81 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ACETONE	67-64-1	50 (GV)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3.8 J**	ND
BENZENE	71-43-2	1	ND	ND	**400**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	100-41-4	5	ND	ND	**280**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ISOPROPYLBENZENE	98-82-8	5	ND	ND	**17**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	108-88-3	5	ND	ND	**13**	ND	ND	ND	ND	**5.3**	**5**	ND	ND	ND	ND	ND	ND	ND
XYLENES Total	XYLENES	5	ND	ND	**77**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total VOC's			ND	ND	787	0.81	ND	ND	ND	5.3	5	ND	ND	ND	ND	ND	3.8	ND

Notes:
AWQS/GV Values - New York State Ambient Water Quality Standards (TOGs 1.1.1) guidance values.
Only compounds that were detected in one or more samples above Standards are included.
Units are micrograms per liter (µg/L)
NS - No standard or Guidance Value
ND - Compound not detected at or above the instrument detection limit (IDL).
J - Estimated concentration above the IDL but less than the contract required detection limits (CRDL).
Detected concentrations and qualifiers shown in bold font. Shaded cell indicates exceedances of AWQS/GV.
**- Lab error in sample ID

Table 4 - Detected SVOCs in Groundwater
March 2012 Sampling Event As Part Of Site Management Plan
Mehcanicville Central Avenue Former MGP Site

Well			MW-2	MW-2I	TW-2S	MW-17	MW-17D	MW-17I	MW-20D	MW-34D		MW-36D	MW-36I	MW-38D	MW-38I	MW-39D	MW-40D	MW-46I
Sample ID			MCMWGWNA 2	MCMWGWNA 2I	MCMWGWNA 2S**	MCMWGWNA 17	MCMWGWNA 17D	MCMWGWNA 17I	MCMWGWNA 20D	MCMWGWNA 34D	MCMWGWNA DUP	MCMWGWNA 36D	MCMWGWNA 36I	MCMWGWNA 38D	MCMWGWNA 38I	MCMWGWNA 39D	MCMWGWNA 40D	MCMWGWNA 46I
Sampling Date			3/14/2012	3/13/2012	3/15/2012	3/13/2012	3/14/2012	3/14/2012	3/13/2012	3/15/2012	3/15/2012	3/14/2012	3/14/2012	3/13/2012	3/13/2012	3/13/2012	3/15/2012	3/15/2012
Semi-Volatiles	**CAS #**	**AWQS/GV Values**																
2-METHYLNAPHTHALENE	91-57-6	NS	ND	ND	**3.3 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ACENAPHTHENE	83-32-9	20	ND	ND	**150**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ACENAPHTHYLENE	208-96-8	NS	ND	ND	**6.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ANTHRACENE	120-12-7	50(GV)	ND	ND	**22**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BENZO(A)ANTHRACENE	56-55-3	0.002	ND	ND	**1.2 J**	**0.43 J**	**0.62 J**	ND	ND	ND	ND	ND	ND	ND	**0.81 J**	ND	ND	ND
BENZO(A)PYRENE	50-32-8	NS	ND	ND	ND	**0.81 J**	**0.88 J**	ND	ND	ND	ND	ND	ND	ND	**0.92 J**	**0.67 J**	ND	ND
BENZO(B)FLUORANTHENE	205-99-2	0.002 (GV)	ND	ND	ND	**1.6 J**	**1.1 J**	ND	ND	ND	ND	ND	ND	ND	**0.97 J**	**1 J**	ND	ND
BENZO(G,H,I)PERYLENE	191-24-2	NS	ND	ND	ND	**1.1 J**	**0.7 J**	ND	ND	ND	ND	ND	ND	ND	**0.84 J**	**0.57**	ND	ND
BENZO(K)FLUORANTHENE	207-08-9	0.002 (GV)	ND	ND	ND	**0.78 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BIPHENYL	92-52-4	5	ND	ND	**38**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	5	ND	ND	ND	ND	ND	ND	ND	**3.8 J**	**4.6 J**	ND	ND	ND	ND	ND	ND	ND
CARBAZOLE	86-74-8	NS	ND	ND	**2.5 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CHRYSENE	218-01-9	0.002	ND	ND	**1.1 J**	**1.5 J**	**1 J**	ND	ND	ND	ND	ND	ND	ND	**1.1 J**	**1.1 J**	ND	ND
DIBENZOFURAN	132-64-9	NS	ND	ND	**6.7 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DIETHYL PHTHALATE	84-66-2	50(GV)	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.86 J**	ND	ND	ND	ND	ND	ND
FLUORANTHENE	206-44-0	50(GV)	ND	ND	**12**	**2 J**	**1.7 J**	ND	ND	ND	ND	ND	ND	ND	**1.4 J**	**1.5 J**	ND	ND
FLUORENE	86-73-7	50(GV)	ND	ND	**49**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INDENO(1,2,3-C,D)PYRENE	193-39-5	0.002 (GV)	ND	ND	ND	**0.98 J**	**0.62 J**	ND	ND	ND	ND	ND	ND	ND	**0.7 J**	**0.51 J**	ND	ND
NAPHTHALENE	91-20-3	10(GV)	ND	ND	**900 D**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PHENANTHRENE	85-01-8	50(GV)	ND	ND	**63**	**0.56 J**	**0.49 J**	ND	ND	ND	ND	ND	ND	ND	ND	**0.51 J**	ND	ND
PYRENE	129-00-0	50(GV)	ND	ND	**19**	**1.6 J**	**1.5 J**	ND	ND	6	ND	ND	ND	ND	**1.7 J**	**1.2 J**	ND	ND
Total SVOCs			ND	ND	1274.4	11.36	8.61	ND	ND	3.8	4.6	0.86	ND	ND	8.44	7.06	ND	ND

Notes:
AWQS/GV Values - New York State Ambient Water Quality Standards (TOGs 1.1.1) guidance values.
Only compounds that were detected in one or more samples above Standards are included.
Units are micrograms per liter (µg/L)
NS - No standard or Guidance Value
Detected concentrations shown in bold font.
Shaded cell indicates exceedances of AWQS/GV.
ND - Compound not detected at or above the instrument detection limit (IDL).
J - Estimated concentration above the IDL but less than the contract required detection limits (CRDL).
D - Results from a subsequent dilution of the original sample due to original sample results being outside the linear range.
* - LCS or LCSD exceeds the control limits
**- Lab error in sample ID

Table 5 - Cyanide in Groundwater
March 2012 Sampling Event As Part Of Site Management Plan
Mehcanicville Central Avenue Former MGP Site

Well			MW-2	MW-2I	TW-2S	MW-17	MW-17D	MW-17I	MW-20D	MW-34D		MW-36D	MW-36I	MW-38D	MW-38I	MW-39D	MW-40D	MW-46I
Sample ID			MCMWGWNA 2	MCMWGWNA 2I	MCMWGWNA 2S**	MCMWGWNA 17	MCMWGWNA 17D	MCMWGWNA 17I	MCMWGWNA 20D	MCMWGWNA 34D	MCMWGWNA DUP	MCMWGWNA 36D	MCMWGWNA 36I	MCMWGWNA 38D	MCMWGWNA 38I	MCMWGWNA 39D	MCMWGWNA 40D	MCMWGWNA 46I
Sampling Date			3/14/2012	3/13/2012	3/15/2012	3/13/2012	3/14/2012	3/14/2012	3/13/2012	3/15/2012	3/15/2012	3/14/2012	3/14/2012	3/13/2012	3/13/2012	3/13/2012	3/15/2012	3/15/2012
	CAS #	AWQS/GV Value																
CYANIDE	57-12-5	200	ND	ND	**5.9 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**9 J**	ND	ND	ND

Notes:
AWQS/GV Values - New York State Ambient Water Quality Standards (TOGs 1.1.1) guidance values.
Units are micrograms per liter (µg/L)
Detected concentrations shown in bold font.
Shaded cell indicates exceedances of AWQS/GV.
ND - Compound not detected at or above the instrument detection limit (IDL).
J - Estimated concentration above the IDL but less than the contract required detection limits (CRDL).
**- Lab error in sample ID

Figures

MW-36I
MW-36D
MW-20D
MW-35I
MW-34D
ANTHONY KILL
MW-32D
NORTH CENTRAL AVENUE
TW-4
MW-15IR
MW-22IR
TW-2I
TW-3
MW-29IR
TW-2S
MW-14
MW-14S
MW-14D
MW-46I
BLOCK / BRICK STRUCTURE
MW-2
MW-44I
MW-25I
MW-25D
MW-2I
MW-12S
MW-45I
MW-13
MW-12
TW-1
MW-30D
MW-30S
FERRIS LANE
MW-19I
MW-1I
MW-1
MW-1D
WEST WAY
JAMES STREET
MW-10D
MW-10
MW-10I
MW-40D
ELECTRIC SUB-STATION
BURKE STREET
EAST WAY
MW-42D
MW-41D
MW-37I
MW-37D
GROVE STREET
MW-17D
MW-17I
MW-17
MW-18
MW-33D
MW-38D
MW-38I
MW-39D
FRANCES STREET
WILLIAM STREET
MW-43D
MW-31S
MW-31D
CANAL S
N STREET

LEGEND

MW-12S	MONITORING WELL LOCATION
MW-12S	DECOMISSIONED MONITORING WELL
	WELL USED FOR NAPL MONITORING
	WELL USED FOR SAMPLING
	APPROXIMATE LOCATION OF FRACTURES
	EXTENT OF 2009 SOIL REMOVAL LIMITS
X	ANTHONY KILL OBSERVATION LOCATION

0' 40' 80' 160'

AECOM

PERIOD REVIEW REPORT

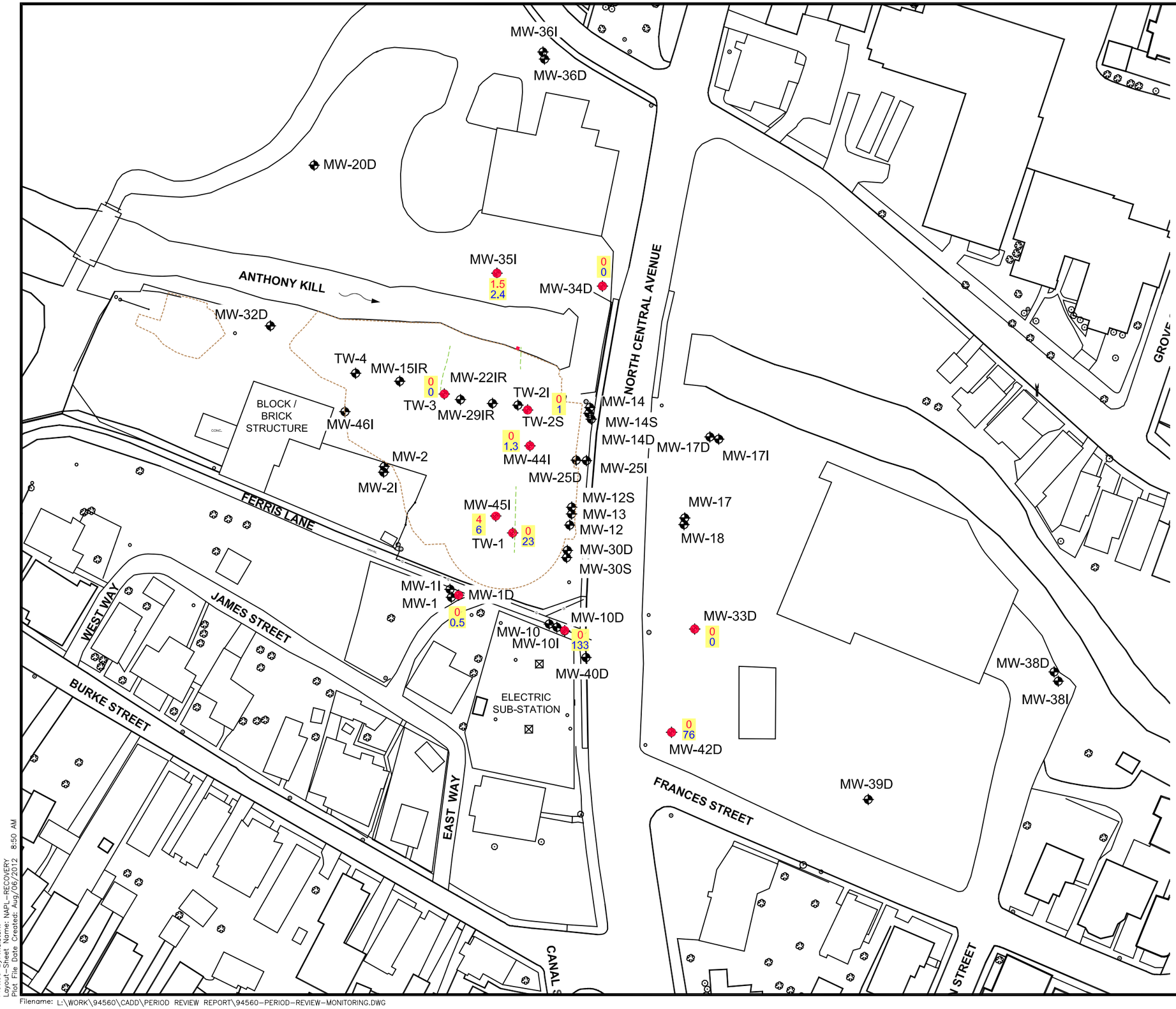
SITE LOCATION MAP

NEW YORK STATE ELECTRIC AND GAS
MECHANICVILLE, NEW YORK

FILE NAME:	DRN	PROJECT NO.	DATE	FIGURE NO.
	—	60135689	8 / 2012	1

Plotted By: meisterk
Layout-Sheet Name: SM-MW
Plot File Date Created: Aug/06/2012 8:32 AM

Filename: L:\WORK\94560\CADD\SITE_MANAGEMENT_PLAN\94560-PERIOD REVIEW REPORT-AUGUST-2012.DWG



AECOM

PERIOD REVIEW REPORT

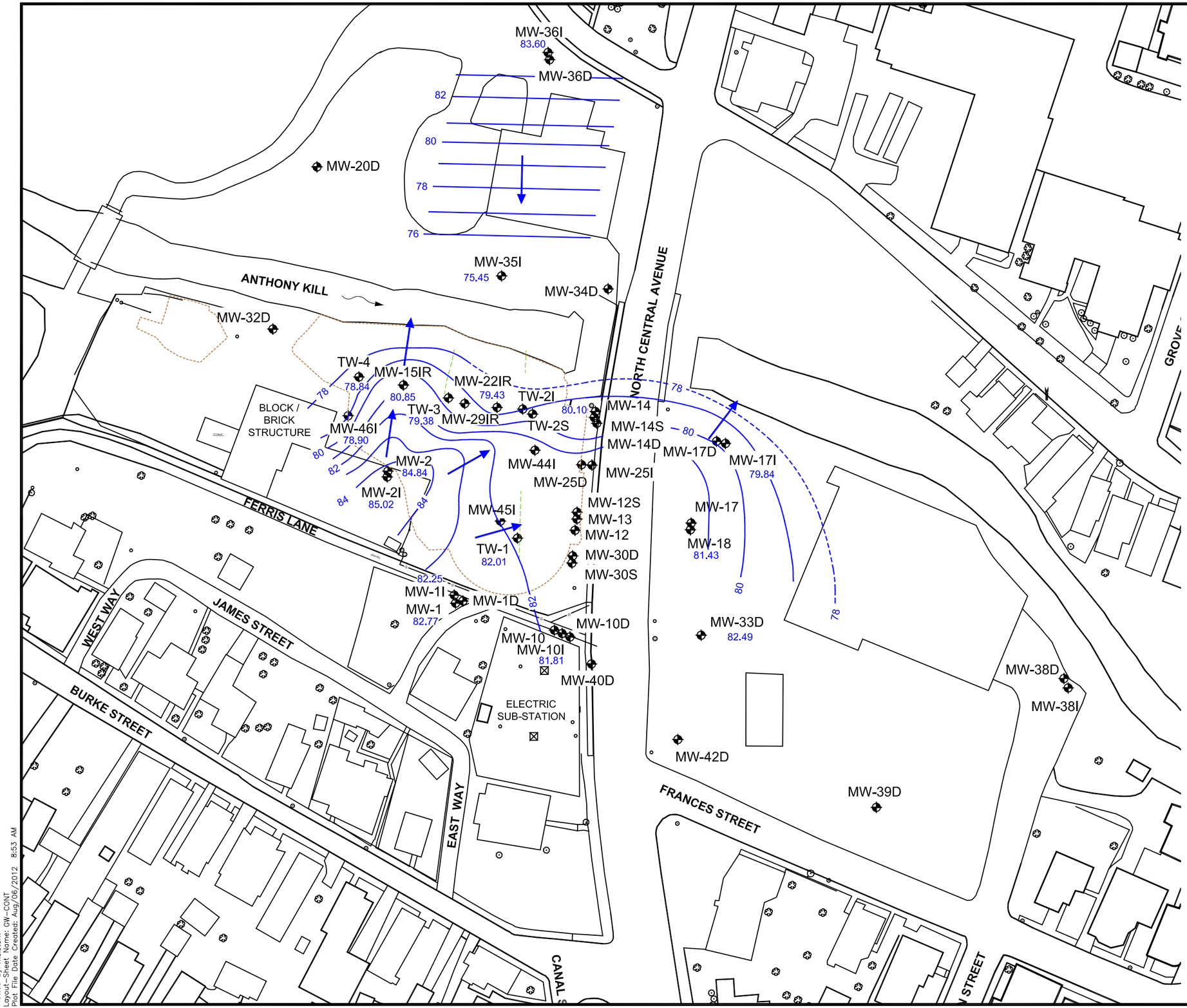
NAPL RECOVERY TOTAL BY WELL

NEW YORK STATE ELECTRIC AND GAS
MECHANICVILLE, NEW YORK

FILE NAME:	DRN	PROJECT NO.	DATE	FIGURE NO.
	—	60135689	8 / 2012	2

Plotted By: meisterk
Layout-Sheet Name: NAPL-RECOVERY
Plot File Date Created: Aug/06/2012 8:50 AM

Filename: L:\WORK\94560\CADD\PERIOD REVIEW REPORT\94560-PERIOD-REVIEW-MONITORING.DWG



LEGEND

- MW-44I — MONITORING WELL LOCATION
- 78.90 — GROUNDWATER ELEVATION (MARCH 2012)
- 82 — GROUNDWATER CONTOUR - 1 FT. INTERVAL (MARCH 2012 - DASHED WHERE INFERED)
- GENERAL GROUNDWATER FLOW DIRECTION
- APPROXIMATE LOCATION OF FRACTURES
- EXTENT OF 2009 SOIL REMOVAL

0’ 40’ 80’ 160’

AECOM

PERIOD REVIEW REPORT

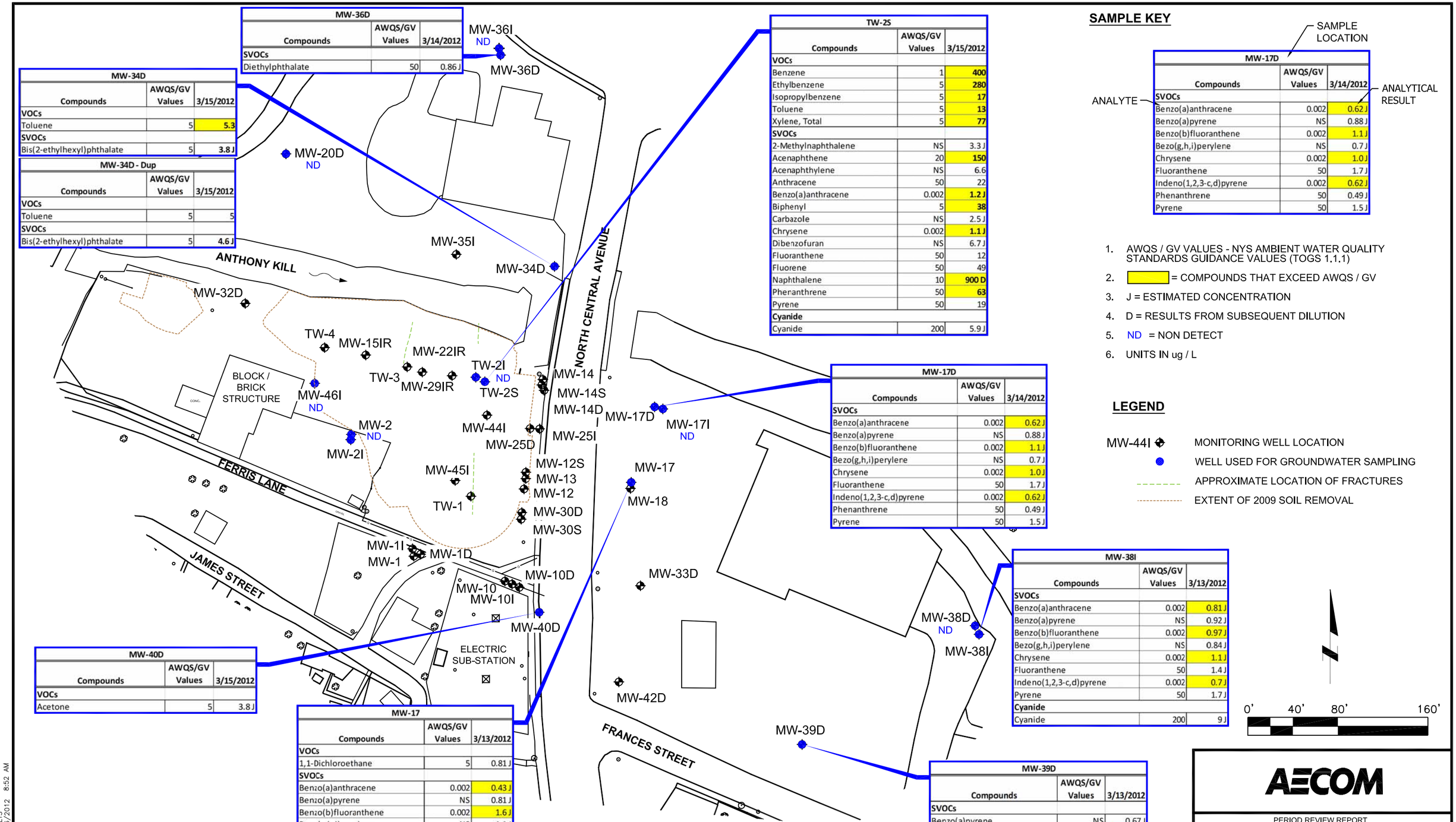
GROUNDWATER CONTOURS MARCH 2012

NEW YORK STATE ELECTRIC AND GAS
MECHANICVILLE, NEW YORK

FILE NAME:	DRN	PROJECT NO.	DATE	FIGURE NO.
	—	60135689	8 / 2012	3

Plotted By: meisterk
Layout-Sheet Name: GW-CONT
Plot File Date Created: Aug/06/2012 8:53 AM

Filename: L:\WORK\94560\CADD\PERIOD REVIEW REPORT\94560-PERIOD-REVIEW-MONITORING.DWG



MW-36D

Compounds	AWQS/GV Values	3/14/2012
SVOCs		
Diethylphthalate	50	0.86 J

MW-34D

Compounds	AWQS/GV Values	3/15/2012
VOCs		
Toluene	5	5.3
SVOCs		
Bis(2-ethylhexyl)phthalate	5	3.8 J

MW-34D - Dup

Compounds	AWQS/GV Values	3/15/2012
VOCs		
Toluene	5	5
SVOCs		
Bis(2-ethylhexyl)phthalate	5	4.6 J

TW-2S

Compounds	AWQS/GV Values	3/15/2012
VOCs		
Benzene	1	400
Ethylbenzene	5	280
Isopropylbenzene	5	17
Toluene	5	13
Xylene, Total	5	77
SVOCs		
2-Methylnaphthalene	NS	3.3 J
Acenaphthene	20	150
Acenaphthylene	NS	6.6
Anthracene	50	22
Benzo(a)anthracene	0.002	1.2 J
Biphenyl	5	38
Carbazole	NS	2.5 J
Chrysene	0.002	1.1 J
Dibenzofuran	NS	6.7 J
Fluoranthene	50	12
Fluorene	50	49
Naphthalene	10	900 D
Pheranthrene	50	63
Pyrene	50	19
Cyanide		
Cyanide	200	5.9 J

MW-17D

Compounds	AWQS/GV Values	3/14/2012
SVOCs		
Benzo(a)anthracene	0.002	0.62 J
Benzo(a)pyrene	NS	0.88 J
Benzo(b)fluoranthene	0.002	1.1 J
Bezo(g,h,i)perylene	NS	0.7 J
Chrysene	0.002	1.0 J
Fluoranthene	50	1.7 J
Indeno(1,2,3-c,d)pyrene	0.002	0.62 J
Phenanthrene	50	0.49 J
Pyrene	50	1.5 J

MW-40D

Compounds	AWQS/GV Values	3/15/2012
VOCs		
Acetone	5	3.8 J

MW-17

Compounds	AWQS/GV Values	3/13/2012
VOCs		
1,1-Dichloroethane	5	0.81 J
SVOCs		
Benzo(a)anthracene	0.002	0.43 J
Benzo(a)pyrene	NS	0.81 J
Benzo(b)fluoranthene	0.002	1.6 J
Bezo(g,h,i)perylene	NS	1.1 J
Benzo(k)fluoranthene	0.002	0.78 J
Chrysene	0.002	1.5 J
Fluoranthene	50	2 J
Indeno(1,2,3-c,d)pyrene	0.002	0.98 J
Phenanthrene	50	0.56 J
Pyrene	50	1.6 J

MW-38I

Compounds	AWQS/GV Values	3/13/2012
SVOCs		
Benzo(a)anthracene	0.002	0.81 J
Benzo(a)pyrene	NS	0.92 J
Benzo(b)fluoranthene	0.002	0.97 J
Bezo(g,h,i)perylene	NS	0.84 J
Chrysene	0.002	1.1 J
Fluoranthene	50	1.4 J
Indeno(1,2,3-c,d)pyrene	0.002	0.7 J
Pyrene	50	1.7 J
Cyanide		
Cyanide	200	9 J

MW-39D

Compounds	AWQS/GV Values	3/13/2012
SVOCs		
Benzo(a)pyrene	NS	0.67 J
Benzo(b)fluoranthene	0.002	1.0 J
Bezo(g,h,i)perylene	NS	0.57
Chrysene	0.002	1.1 J
Fluoranthene	50	1.5 J
Indeno(1,2,3-c,d)pyrene	0.002	0.51 J
Phenanthrene	50	0.51 J
Pyrene	50	1.2 J

SAMPLE KEY

1. AWQS / GV VALUES - NYS AMBIENT WATER QUALITY STANDARDS GUIDANCE VALUES (TOGS 1.1.1)
2. = COMPOUNDS THAT EXCEED AWQS / GV
3. J = ESTIMATED CONCENTRATION
4. D = RESULTS FROM SUBSEQUENT DILUTION
5. ND = NON DETECT
6. UNITS IN ug / L

LEGEND

- MW-44I ◆ MONITORING WELL LOCATION
- WELL USED FOR GROUNDWATER SAMPLING
- APPROXIMATE LOCATION OF FRACTURES
- EXTENT OF 2009 SOIL REMOVAL

AECOM

PERIOD REVIEW REPORT

GROUNDWATER SAMPLING RESULTS MARCH 2012

NEW YORK STATE ELECTRIC AND GAS
MECHANICVILLE, NEW YORK

FILE NAME:	DRN	PROJECT NO.	DATE	FIGURE NO.
	—	60135689	8 / 2012	4

Plotted By: meisterk
Layout-Sheet Name: GW-RESULTS
Plot File Date Created: Aug/06/2012 8:52 AM

Filename: L:\WORK\94560\CADD\PERIOD REVIEW REPORT\94560-PERIOD-REVIEW-MONITORING.DWG