Appendices

Appendix A	Project Meeting Minutes
Appendix B	Daily Field Construction Reports - OMITTED FOR SIZE
Appendix C	Project Photographic Log
Appendix D	Pre-Remediation Sampling Report and Waste Characterization Results
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Appendix P	Excavation Area 3B Redesign Documents
Appendix Q	Post Construction Stream Bank Repair Correspondence

| AECOM
40 British American Boulevard
Latham, New York 12110
(518) 951- 2200

LETTER OF TRANSMITTAL

RECEIVED
DEC 1 4 2009

Date: December 10, 2009

To: Mr. John Spellman
New York State Department of Environmental
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7014

Project No.: 60135689.02
Project Name: Mechanicville MGP
Re: Construction Certification Report

WE ARE SENDING YOU:

☒ Attached or ☐ Under separate cover via _____ the following items:

☐ Shop Drawings	☐ Prints	☐ Plans	☐ Change Order
☐ Specifications	☐ Letters	☐ Samples	☐ Other
☒ Reports	☐ Applications	☐ Permits	

ITEMS ATTACHED:

COPIES	DATE	NO.	DESCRIPTION
1	December 9, 2009	1	Final Construction Certification Report

THESE ARE TRANSMITTED AS CHECKED BELOW:

☐ For your approval	☐ Approved as submitted	☐ Resubmit _____ copies for approval
☒ For your use	☐ Approved as noted	☐ Submit _____ copies for distribution
☐ As requested	☐ Returned for corrections	☐ Return _____ corrected prints
☐ For review and comment	☐ For your signature	☐ Other
☐ FOR BIDS DUE _____		☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS:

The Certification Report is over 4,500 pages long, so we have included a hard copy of only the text and an electronic copy of the entire report, which is over 500 MB in size.

Copy to: Tracy Blazicek, NYSEG (1 copy w/ 2 CDs)

Signed: Scott Underhill

Scott Underhill

AECOM

C:\Documents and Settings\scott.underhill\My Documents\Work\Mechanicville MGP\Remedial Action Field Work\Certification Report\draft Certification Report - Oct 09\Letter of Transmittal NYSDEC Certification Report.docx

AECOM

Final Remedial Action Construction Certification Report

Mechanicville Former Manufactured Gas Plant Site

Central Avenue
Mechanicville, Saratoga County, NY
NYSDEC Site # 5-46-033

Submitted to:
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233

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

Prepared by:
AECOM
40 British American Blvd.
Latham, NY 12110

December 2009

AECOM Project No. 94560

AECOM

Final Remedial Action Construction Certification Report

Mechanicville Former Manufactured Gas Plant Site

Central Avenue
Mechanicville, Saratoga County, NY
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Submitted to:
New York State Department of
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625 Broadway
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Binghamton, NY 13902

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40 British American Blvd.
Latham, NY 12110

December 2009

AECOM Project No. 94560

Author: Matthew Thorpe

Title: Project Engineer

Date: December 8, 2009

Reviewer: Scott Underhill, P.E.

Title: Project Manager

Date: December 8, 2009

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Appendix Q Post Construction Stream Bank Repair Correspondence

EXECUTIVE SUMMARY

This Final Remedial Action Construction Certification Report documents remedial activities at the Mechanicville former manufactured gas plant (MGP) site (Site), located in the City of Mechanicville, Saratoga County, New York. Site activities were conducted in accordance with the Remedial Design Work Plan dated August 2007 prepared in accordance with Section VII of the Order on Consent (Index Number D0-002-9309) between New York State Electric and Gas (NYSEG) and the New York State Department of Environmental Conservation (NYSDEC).

The MGP facility was constructed in 1901, by the Halfmoon Light, Heat, & Power, Co. and operated by NYSEG and its predecessor companies through the early 1950s. 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 above ground manufactured gas plant structures, excluding the storage and tool house building (former office, a.k.a. "dog house"), were dismantled after the operations were discontinued. The western portion of the site was leased until Fall of 2008 to G.A. Bove and Sons, a fuel distributor. The eastern portion of the site is used periodically by NYSEG as a storage yard for equipment used in the Mechanicville area.

Remedial activities were conducted by Sevenson Environmental Services, Inc. (Contractor) for the removal of MGP impacted soils and structures. Remedial work began in October 2008 and was completed in July 2009. The remedial action successfully removed the vast majority of the MGP impacts from the site. Over 25,600 tons of material representing the contaminant source areas, including the relief holder foundation, and below grade structures and piping have been removed. All soil removed was sent to ESMI in Fort Edward, New York and thermally treated. Approximately 4,787 tons of treated soil came back as fill; the remainder of the fill was from Pallette Stone Corporation (813.58 tons) and R.J Valente Gravel (4011.6 tons gravel/stone and 10,627 cubic yards of fill).

A total of 21 confirmation samples were collected along the excavation limits. These results demonstrated that no residual levels remain above the Site-specific action levels of 500 mg/kg of total polyaromatic hydrocarbons (PAHs) and 10 mg/kg of total benzene, toluene, ethylbenzene, and xylenes (BTEX).

A total of 1,459,231 gallons of water was treated by a temporary water treatment system and discharged to the Anthony Kill during the remedial activities. The water treatment plant consisted of influent storage tanks, an organo-clay unit, bag filters, and granular activated carbon units. Weekly effluent samples were collected from the water treatment plant. During the initial operation of the plant, several compounds (BTEX, PAHs) exceeded SPDES discharge limits. The organo-clay and granular activated carbon units were changed out and no more exceedences of PAHs or BTEX were observed. In the June 2, 2009 effluent sample, total cyanide was detected at 71.4 ug/L, slightly above the discharge limit of 60 ug/L. The next effluent sample collected the following week, which was also the final effluent sample, contained total cyanide at 44.5 ug/l.

During excavation activities, a Community Air Monitoring Program (CAMP) was implemented to monitor volatile organic compounds (VOCs) and air particulates There were no exceedences of the VOC action level (i.e., 5 ppm above background). There were two offsite exceedances of the established particulate emissions limit (i.e., 150 mg/m^3 above background). On April 20, 2009 at 11:41, a dust exceedance occurred of 0.226 mg/m^3 (Action Level is 150 mg/m^3 above background) due to the suspension of dust while moving steel sheet piles. On April 27, 2009 at 15:17, a dust exceedance occurred of 0.312 mg/m^3 due to the suspension of dust while moving equipment in Area 3A. In both cases, the on-site NYSDEC representative was informed and the area was wetted down to prevent further dust exceedance.

The site improvements made as part of the re-construction of the site, especially the stream bank restoration, have added significant value to the City of Mechanicville and in general to the surrounding neighborhood. A long-term non aqueous phase liquid (NAPL) recovery test is currently underway to determine the recovery of any NAPL present in the fractured bedrock below the site.

CONSTRUCTION CERTIFICATION

I, Scott A. Underhill, certify that I am currently a registered Professional Engineer, I had primary direct responsibility for the implementation of the remedial action performed at the Mechanicville former manufactured gas plant site during the period between October 2008 and June 2009, and I certify that the Remedial Design Work Plan was implemented and that all construction activities were completed in substantial conformance with the NYSDEC-approved Remedial Design Work Plan (February 2008).

The data submitted to the NYSDEC demonstrates that the remediation requirements set forth in the Remedial Design Work Plan and all applicable statutes and regulations have been achieved.

Respectfully submitted,
AECOM Environment



December 8, 2009
Date

Scott A. Underhill
Registered Professional Engineer
New York License No. 075332

1.0 INTRODUCTION

This Remedial Action Construction Certification Report certifies that the remediation at the Mechanicville-Central Avenue former manufactured gas plant (MGP) site (Site) located in the city of Mechanicville, Saratoga County, New York was performed in accordance with the Remedial Action Design and Work Plan (Earth Tech, February 2008), Section VII of the Order on Consent (Index Number DO-0002-9309) between New York State Electric & Gas Corporation (NYSEG) and the New York State Department of Environmental Conservation (NYSDEC), and the Record of Decision (ROD) for the Site dated March 2006. The Site NYSDEC reference number is 5-46-033.

The following work activities were conducted as part of the Remedial Action:

- Pre-remediation sampling and analysis
- Site set-up
- Construction of watertight sheet pile excavation support system
- Construction and operation and maintenance (O&M) of a temporary water treatment system
- Excavation of contaminated soils within excavation support system
- Dewatering of excavation areas
- Off-site disposal of underground structures, their contents, associated piping, visible tarry waste, MGP impacted soils, and purifier waste near North Central Avenue
- Collection of soil samples associated with the remedial action
- Collection of waste water samples prior to discharge to the Anthony Kill
- Execution of the community air-monitoring program (CAMP)

The project objective was to excavate and treat or dispose off-site coal tar impacted soils and sediments above the top of bedrock with total polycyclic aromatic hydrocarbons (PAHs) in excess of 500 ppm, soil containing visual tar or non aqueous phase liquids (NAPL) and purifier waste near North Central Avenue. Bi-weekly Project Meetings were held onsite to ensure that the project was progressing in line with the approved Work Plan and to facilitate any changes that became necessary as work proceeded. Meeting Minutes from these meetings are contained in Appendix A. All work activities conducted as part of the Remedial Action Design were performed to meet the project objectives. Daily Field Construction Reports were generated to document all aspects of the project. These reports are contained in Appendix B. A photographic log of each phase of work is included in Appendix C.

1.1 Site Location and Description

The Site is located in the City of Mechanicville, Saratoga County, New York (Figure 1). The 1.8-acre site is currently unoccupied. The site is bordered on the east by North Central Avenue (formerly the Champlain Canal), on the south by Ferris Lane and on the west by G. A. Bove and Sons, a fuel distributor. The site is bordered on the north by the Anthony Kill, a small tributary that flows eastward into the Hudson River.

1.2 Site History

From circa 1901 through 1955, NYSEG (or 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. 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 property 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 was found concerning the methods employed to handle these materials in the early days of gas production at Mechanicville. 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 early 1900s. During the latter days of gas production at the Site, the ash and clinkers were reportedly picked up by anyone who had a use for them. In addition, spent wood chips were reportedly incinerated by the City of Mechanicville from 1951 to 1955, piled along the road until someone hauled them away; or spread on the lot just west of the active plant. Figure 2 shows the former operations layout.

The neighborhood around the former MGP Site is a mixed commercial/residential section of Mechanicville.

1.3 Previous Investigations and Reports

The following Investigations and Reports were performed at the Site:

August 1986	Task 1 Report Preliminary Site Evaluation by E.C. Jordan Co.
December 1987	Task 2 Report Initial Investigation Field Program by E.C. Jordan Co.
September 1989	Task 3 Report Expanded Problem Definition Program by E.C. Jordan Co.
June 1992	Investigation of the Former Coal Gasification Site at Mechanicville, New York by ABB Environmental Services
December 1993	Phase IIA Supplemental Remedial Investigation and Feasibility Report by ABB Environmental Services
October 2000	Interim Remedial Measure Final Engineering Report by NYSEG Licensing and Environmental Operations Dept.
September 2004	Supplemental Remedial Investigation Report by URS Corp.
December 2005	Feasibility Study Report by URS Corp.
March 2006	Record of Decision by NYSDEC.
February 2008	Remedial Action Design and Work Plan by Earth Tech Northeast
July 2008	Pre-Remediation Soil Sampling & Analysis Former Mechanicville MGP Site (Central Avenue) Mechanicville, New York by Earth Tech | AECOM

All of the documents associated with these Investigations and Reports are available for public review at the following document repositories:

Mechanicville District Public Library
109 North Main Street
Mechanicville, New York 12118
(518) 664-4646

New York State Department of Environmental Conservation
Central Office, 625 Broadway 11th Floor
Albany, New York 12233-7014
Attn: Mr. John Spellman
(518) 402-9648 (By appointment only)

2.0 PRE-REMEDIATION WORK ACTIVITIES

The pre-remediation activities were preformed to prepare the Site for remediation construction activities and to provide waste characterization of soils prior to excavation and off-site disposal.

2.1 Pre-Remediation Sampling and Analysis

As part of the Remedial Action Design, in-situ sampling events were performed at the Site prior to initiation of remediation activities. These samples were collected in order to characterize soils within the proposed excavation areas for off-site disposal, off-site treatment, or possible re-use on site. No soil from the Site was characterized as RCRA Hazardous Waste and therefore no soil was sent to a RCRA permitted facility. A letter report was prepared by AECOM (Pre-Remediation In-Situ Sampling & Analysis, July 30, 2008) and submitted to NYSEG. The letter report summarized the sampling locations, protocol, techniques, and analytical results of soil samples collected for waste characterization. A copy of the letter report and analytical results of the pre-remediation sampling are included in Appendix D.

As the project progressed it became evident that the initial disposal volume estimate of 10,000 cubic yards (CY) would be exceeded. Further waste characterization samples were collected and analyzed. The results of these tests are also included in Appendix D.

2.2 Pre-Mobilization Site Work

2.2.1 Building Demolition

As part of the remediation, the “dog-house” structure was demolished in order to allow additional working area. This building was constructed of brick walls and concrete floor slabs. Prior to demolition an asbestos survey was conducted and asbestos abatement was carried out as necessary. This structure was demolished and all non-asbestos containing material was shipped off-site as construction and demolition debris. Material was processed down to a size less than 2 feet by 2 feet prior to loading into off-site transportation vehicles. Prior to starting of the work, all utilities were disconnected to this structure.

2.2.1 Power Transmission Line Relocation

In preparation for the remediation of the site the power transmission lines that ran through the site were relocated to a new right of way along Ferris Lane. The power poles were cut off at a height of six feet and left for disposal during the remediation. All power pole remnants and anchors were characterized and properly disposed of off-site.

2.3 Mobilzation Site Work

Prior to the start of the remediation activities, the Site was prepared with several general site preparation activities. These activities were performed by the Contractor (Sevenson Environmental) and their Subcontractors. The AECOM project coordinator ensured all activities were conducted in accordance with the contract documents. The following activities were conducted as part of the Site set-up activities:

- Utility Notification - Dig Safely New York was contacted prior to any construction activities and on-site utilities were identified and marked out.
- Site Security – Where necessary, a 6-foot high chain link fence was installed around the perimeter of the work zone with the main entrance gates on the southern side of the active area. “NO TRESPASSING” signs were installed on the perimeter fence. A project sign for “NYSDEC Order of Consent No. D00002-9309” compliant with NYSDEC specifications was posted. During daily operations, admittance requirements and visitor monitoring were in effect,

as specified in the Health and Safety Plan for activities at the Site. Placement of the chain link fence is as shown on the design drawings.

- Local Traffic Control - Truck hauling access was limited to one way traffic from Central Avenue as follows: Burke Street, right onto Ferris Lane, left onto new Site access road installed by contractor). Departure from site was left onto Ferris Lane to Central Avenue. Ferris Lane was upgraded with the addition of crushed stone to facilitate the heavy truck traffic.
- Mobile office trailers - Three project trailers were mobilized, blocked, leveled, and equipped with office supplies. One trailer was utilized as an office by NYSEG project coordinator, and NYSEG sampling technician. The second trailer was utilized as an office by NYSDEC on-site representative. The NYSDEC on-site personnel had an area with a desk, electrical outlet, phone, and a phone line for computer hookup. Electric, telephone service, facsimile capabilities, office supplies, potable water and portable toilets were available for all project personnel. Space for records storage, personal protective equipment, monitoring equipment, first aid, and sample preparation and storage was also available. The third trailer was utilized by the remediation contractor for project office tasks, safety meetings and changing area.
- Erosion and sedimentation controls - Prior to clearing any vegetation, siltation fence was placed along the top of the bank of the Anthony Kill. Additional erosion and sedimentation controls supplemented controlling surface water runoff (i.e., haybales and earth berm). During construction when excavations progressed along the Anthony Kill, the sand bag cofferdam and turbidity curtain functioned as the last line of erosion control. The integrity of the siltation fence, earth berm cofferdam and turbidity curtain was checked daily.
- Exclusion Zone - The work area Exclusion Zone (i.e., the active work area immediate to the excavation) changed as excavation progressed. Orange construction fence fastened to tee posts was used to delineate the perimeter of the Exclusion Zone. The Exclusion Zone included the area inside the waste transporter's trailer or roll-off container.
- Contamination Reduction Zone - The work area Contamination Reduction Zone (i.e., the area immediately outside the Exclusion Zone) was used as a primary decontamination area for equipment and personnel. The Contamination Reduction Zone included the truck loading area. Orange construction fence fastened to tee posts were used to delineate the perimeter of the Contamination Reduction Zone.
- To prevent contamination during loading of contaminated soils for off-site disposal, trucks were parked on polyethylene sheeting and draped with polyethylene sheeting to eliminate contact with contaminated soil. This was done with NYSDEC concurrence to eliminate the use of water decontamination during freezing periods. Any soils contacting the trucks during loading were primarily removed by dry, physical means or secondarily by spot washing at the completion of loading.
- Personnel Contamination Reduction Area - A personnel contamination reduction area was constructed and maintained inside the Contamination Reduction Zone. A minimum of 6-mil polyethylene sheet was placed on the ground. Stage 1 contained a boot washtub with solution of detergent, water and a long handle brush. An additional boot washtub containing rinse water, a long handle brush and a final rinse with a hand pump sprayer was placed next to it. A 55-gallon barrel lined with a 6-mil thick polyethylene bag was also available for personal protection equipment (PPE) disposal. Stage 2 contained waterless hand washing supplies. Paper hand towels were also available in this area.
- Support Zone -The Support Zone was the area where project support was rendered without contact with contamination. This area was located outside the Contamination Reduction Zone on the western side of the Site, including the remaining Site building.

3.0 REMEDIATION ACTIVITIES

Remediation activities were performed in accordance with design documents to remove and dispose of visible tarry waste and MGP impacted soils and sediments. The main objective of the project was to excavate and dispose off-site coal tar impacted soils with PAHs over 500 ppm or soils containing visible tar or NAPL within the remediation project limits. As specific in the ROD all soils were excavated to top of bedrock.

3.1 Excavation Activities

A number of areas were excavated within the site (refer to Figures 3 and 4). The excavation sequence was as follows: Areas 2, 3A, 4, 1, 3B, 3C and 3D. The excavation of areas 1, 2, 3D, and 4 was performed without use of sheet piling. The excavation depths of these areas ranged from 6 to 9 feet, 5 to 10 feet and 5 to 16 feet, respectively. The excavations of Areas 3A and 3B were completed within temporary watertight steel sheet pile excavation support systems. Excavation depths ranged from 8 feet to 29 feet, depending on depth to bedrock.

A total of 25,683.19 tons of material representing the contaminant source areas, including the gas holder foundations, and below grade structures and piping have been removed. All soil removed was sent to ESMI in Fort Edward, New York and thermally treated. Approximately 4,787 tons of treated soil came back as fill; the remainder of the fill was from Pallette Stone Corporation and R.J Valente Gravel Inc. Fill from Pallete Stone Corp. was Pond Fill, a silty sand, (595.45 tons) used to reduce the likelihood of recontamination of the overburden by coal tar present in the bedrock along the stream bank, and crushed stone rubble (218.13 tons) used to construct roads onsite. Fill from Valente Gravel consisted of cobbles (2,022.93 tons) used to fill the bottom portions of excavation areas 3A and 3B, “Run of Bank” (RoB) fill used for general site backfill (10,104 CY), #1 washed stone (302.04 tons) used for drainage and collection sumps, #3 washed stone (232.66 tons) and crushed stone rubble (878.79 tons) used for road construction, clay fill (20 CY) used to plug water infiltration under the sheet piles in area 3B, Medium Stone Filing (421.72 tons), Light Stone Filling (153.46 tons), topsoil 303 CY and topsoil/cobble/run of bank mix top dressing (200 CY). Analytical Data for all imported fill is contained in Appendix C.

Confirmation samples were collected by an AECOM sampling technician from the excavations in the following manner:

- For rectangular shaped excavations, 30 feet by 30 feet grids were laid out within the excavated area. One confirmation sample was collected from the center of each grid.
- For sidewall samples, one sample was collected every 30 lateral feet of sidewall.

A total of 21 confirmation samples were collected along the excavation limits as per the work plan. These results demonstrated that no residual levels remain above the Site-specific action levels of 500 mg/kg of total polyaromatic hydrocarbons (PAHs) and 10 mg/kg of total benzene, toluene, ethylbenzene, and xylenes (BTEX). Table 1 summarizes the analytical results for all confirmation samples; Figure 5 shows confirmation sample locations and their respective analytical results. Laboratory results are presented in Appendix F.

Any NAPL containing pipes encountered during excavations were gravity drained and the liquids were collected for off-site disposal. Following drainage, pipes were plugged and sealed with a non-shrink grout, crimped, or removed and disposed off-site.

3.1.1 Excavation Area 1

Excavation of Area 1 began on April 15, 2009 once the guy wires for power poles west of the excavation area had been relocated. The excavation began as a test trench on the western edge of the area which approached the Site office trailers. The test trench was advanced easterly until purifier wastes were encountered and then visually followed for the remainder of the excavation. All purifier waste was

removed. A small area, approximately 2 feet by 2 feet, of black-stained, tarry, clayey soils, was left in place (see Appendix C, April 16, 2009). This pocket of soil resided directly on top of the bedrock in the overburden wall left in place between the open excavation and the Anthony Kill. In concurrence with the NYSDEC, this soil was left in place. Portions of the area were excavated to bedrock. Excavation in Area 1 was complete on April 22, 2009 and the backfilling was completed on April 24, 2009. The guy wires were then relocated back to their original location on April 27, 2009.

3.1.2 Excavation Area 2

Prior to excavation in Area 2, the following monitoring wells were decommissioned as per NYSDEC approved procedure: MW-15I, MW-15D, MW-21D, MW-23D, MW-28I, MW-29I, MW-29D, and RH-1D. Excavation of Area 2A began on December 9, 2008 at the western edge. Initial excavation indicated that the western sidewall would have to be over excavated due to the presence of NAPL impacted soils. NYSEG, NYSDEC and the Contractor mutually decided to excavate to the east and then move back to the western part of the area, when protective measures could be placed in the Anthony Kill.

Excavation depth varied across the excavation Area 2. All of the overburden and up to three feet of NAPL impacted regolith (weathered rock overlying competent bedrock) was removed. Filter beds with extensive deposits of NAPL were found in Areas 2A and 2B, causing the south sidewall of Area 2 to expand within 15 feet of the on-site building. The southern sidewall of Area 2 was extended to the east as close to the Site haul road as practicable.

The northern edge of Area 2 progressed to the ordinary high-water mark of the Anthony Kill. Proposed excavation limits were extended to an elevation approximately 2 feet above the surface of the Anthony Kill. Supersack sand bags were used instead of standard sized sand bags to construct the cofferdam along the stream bank. Excavation was advanced to the bottom of the slope of the stream bank. This operation produced in excess of 150 gpm of contaminated water during the initial four hours of excavation. Further excavation below the water level in the Anthony Kill was suspended until the efficiency of the cofferdam system was improved through the use of poly sheeting on the landside of supersack sand bags and smaller sand bags between the supersacks.

Excavation in Area 2 continued throughout the months of February and March. On February 27, 2009 monitoring well MW-22I was decommissioned to facilitate excavation in the area originally between Areas 2 and 4. (Monitor wells MW-26S and MW-26I were also decommissioned at this time in preparation of excavation in Area 5.) The section within 10 feet of the water line was excavated and backfilled in small sections (e.g., 10 to 20 feet) progressing from Area 2B to the eastern limit of Area 4.

Substantial work on this section was completed on March 27, 2009. As of that date, backfill and medium-stone filling had been placed along the entire disturbed waterline of approximately 200 feet. Silty sand was used as a backfill material. Rip rap was placed to the height of the culvert structure wing wall to provide protection from periodic high water flows. On March 30, 2009 NYSDEC and NYSEG met on-site to observe the conditions along the Anthony Kill. NYSDEC requested that the rip rap protective armor be removed to a total height of three feet above the stream bed. In the area of the culvert wing wall, NYSEG and NYSDEC agreed that the rip rap would be left at the height of the wing wall to a distance of 25 feet upstream of the culvert and then tapered down to the three foot height. NYSEG officials expressed that this was not adequate protection of the stream bank and that a washout of this area could occur prior to the plantings becoming established.

On April 27, 2009, the western sidewall of Area 2, which had been draped with poly-sheeting and backfilled in December 2008, was reopened. This area, shown as Area 2C in Figure 4, extended west approximately 25 feet. The southern sidewall of this area was kept approximately 15 feet from the north side of the Site building to prevent structural damage to the building. Excavations proceeded vertically into the fractured bedrock approximately 2 feet to remove NAPL impacted regolith. Sidewall samples were collected as per the Work Plan. A stone sump was installed north of sample MCEXSW02011 where NAPL was observed seeping from the weathered bedrock in the south sidewall. Locations of the sidewall

samples and their analytical results are shown in Figure 5. The excavation was completed on April 28, 2009 and backfilling was completed on April 29, 2009.

Excavation Area 2D, subsequently, began as a trench to remove tarry soil surrounding pipes observed in the south sidewall of Area 2A. The trench was excavated in the vicinity of the former "Dog House" structure where significant groundwater flow was encountered. The excavation then expanded into an open pit and proceeded to follow tarry soils that transitioned into NAPL impacted regolith. The excavation proceeded south, removing the east foundation wall of the former "Dog House", and then turned southeast of MW-2 and continued to the south edge of the Site, where the excavation stopped due to the proximity of buried gas mains under Ferris Lane and the overhead power lines. Endpoint samples were collected along the western and southern sidewalls. The eastern end of the south sidewall intersected with Area 3A. Locations and analytical results of the end point samples are shown in Figure 5. The southern and southwestern sidewalls were draped with poly-sheeting prior to backfilling. The eastern extent of this area was limited by the shoring system for Area 3B. The eastern sidewall was held approximately 10 feet west of the "fins" from the western sheet pile wall of Area 3B. This was done to ensure the shoring system was in as-yet "undisturbed" soil. The sidewall was draped with poly-sheeting and the excavation was backfilled. The excavation, as well as backfilling, was completed on May 8, 2009.

3.1.3 Excavation Area 3

Installation of the sheet piling for Area 3A began on November 7, 2008 with spudding to verify depth to bedrock and progressed until December 17, 2008. Excavation in Area 3A began on December 17, 2008. The majority of the overburden in this area above the water table was clean IRM backfill. This material was used to backfill Area 2. Upon encountering the water table, the excavated soils from Area 3A were sent to ESMI of Fort Edward. The depth of excavation in Area 3A varied by the surface of bedrock. Total depth varied from 8 to 27 feet. Bedrock in this area was more competent then in Area 2.

NYSEG sought and received NYSDEC approval to clean and utilize for backfill any pieces of the holder foundation that were greater than 12 inches in diameter. This material was stockpiled on the surface of the exposed bedrock until completion of the excavation. Approximately 14 vertical feet of holder foundation was demolished. At the base of the holder foundation wall a slab of concrete was encountered. This slab varied in thickness from 12 to 24 inches. The concrete slab was poured directly on top of the bedrock. The bedrock had been removed at the time of construction of the holder (1901) to allow the foundation to be built below grade. John Spellman, NYSDEC, granted permission to leave the slab in place on March 12, 2009. At that time, between a third to a half of the pad had been demolished. The concrete from the pad was observed to be in relatively good condition with no staining. At the completion of excavations in Area 3A, the washed foundation pieces were used as backfill at the surface of the bedrock. Cobbles were used to backfill this area to the elevation of the lower whaler. Geotextile was placed over the cobbles and the remainder of the area was backfilled with imported backfill and treated ESMI material. Two washed stone sumps were installed in this area prior to backfilling. A fold in the bedrock was observed running directly under the holder foundation. This fold contained several open cracks in the bedrock. The centerline of this fold was surveyed for inclusion in the NAPL recovery system. The observed fold locations are shown in Figure 4.

Excavation and off-site disposal of coal tar impacted soils from Area 3B began on May 12, 2009. The excavation depth ranged from 6 to 27 feet and included the removal of up to approximately 3 feet of NAPL impacted weathered bedrock. A washed stone sump was installed near the northeast corner of the excavation area. The stone was placed in the deepest part of the excavation area and covered with geotextile prior to backfilling. Backfill in the excavation area consisted of cobbles, bank run gravel and ESMI treated soils. The southwest quarter of the area was filled with cobbles to the approximate elevation of the lower whaler and then covered with geotextile prior to backfilling. The north side of the cobble fill area was bordered by boulders which had been excavated from Area 3B and then power washed. The remainder of the excavation was then backfilled with bank run gravel and ESMI treated

soils. The excavation was completed on May 29, 2009 at which time backfilling was begun. Backfilling was completed on June 4, 2009.

Excavation of Areas 3C and 3D was begun on June 8, 2009. Excavation of Area 3D was intended to remove purifier wastes along North Central Avenue. The excavation was conducted outside of the eastern sheet pile wall of Area 3B after backfilling of Area 3B was complete. This excavation was advanced to a depth of approximately 3 feet. The excavation was bordered on its eastern side by the buried gas main along North Central Avenue. When visible signs of the tarry purifier waste had been removed, confirmation samples were collected as per the Work Plan. The excavated soils from Area 3D were placed into the open excavation of Area 3C, from where they were loaded into trucks for disposal at ESMI of NY. Area 3D was then backfilled with bank run gravel to prevent shifting of the gas main along North Central Avenue. Excavation in Area 3C was also begun on June 8, 2009. This area was excavated from the western sheet pile wall of Area 3B and the poly-sheeted sidewall of Area 2D. The northern limit was the clean backfilled south sidewall of Area 4 and the southern limit was the poly-sheeted, clean backfilled sidewall of Area 2D. The excavation proceeded approximately 2.5 feet into the weathered bedrock in order to remove NAPL impacted material. Excavation and backfilling of Area 3C was completed on June 12, 2009.

3.1.4 Excavation Area 4

On April 1, 2009 excavation to bedrock in the remainder of Area 4 began. Work progressed from east to west and encompassed the area from the previously completed stream bank excavation to a line south of the north sidewall of the redesigned Area 3B. During the excavation of Area 4, the foundations of the former Site buildings in this area (Transformer building, Boiler House, Coal Storage area) were removed to prevent complication during sheet pile cofferdam installation in Area 3B. Approximately 2 to 2.5 feet of NAPL impacted regolith was removed. Fractures in the bedrock were observed near the holder were also evident in this NAPL impacted area (Figure 4). The footprint of this area included all of the area north of Area 3B and east of Area 2. Excavation was completed on April 6, 2009 and backfilling was completed on April 8, 2009.

3.2 Groundwater, Stormwater, and Wastewater Management

The degree of groundwater infiltration into the excavation depended on the vertical hydraulic gradient of groundwater at the time of remediation. Lateral groundwater inflow into the excavation also occurred but was reduced through the use of sheet piling in the deeper excavations. Also, groundwater present within the soil column was managed as part of the remediation effort. Dewatering activities primarily addressed the volume of water present within the excavation area, upward groundwater flow through the bedrock, and precipitation.

The watertight sheet piling system greatly reduced the amount of surface water entering into open excavations. The Contractor had sandbags and siltation fencing readily available to construct berms around the excavations when required. The Contractor prevented to the best extent practical the amount of runoff entering the excavation.

The Contractor provided a modular temporary water treatment system to treat groundwater encountered during remediation activities. The work consisted of mobilizing the groundwater treatment system and setting the system up adjacent to the excavation area on the western portion of the Site. The contractor constructed, operated, maintained, and monitored the water treatment system in accordance with limits and conditions set by the State Pollution Discharge and Elimination System (SPDES) permit.

The WWTP included the following major components:

- Storage Tanks (one baffle tank followed by two fractionation tanks)
- Organo-clay filtration
- Physical filtration (Bag Filters)

- Activated Carbon
- Effluent Tank
- Transfer pumps
- One additional 20,000 gallon influent tank was used during excavations at the water line of the Anthony Kill in order to handle high flow volumes

The design maximum effluent discharge from the groundwater treatment system was 100 gallons per minute (gpm). The groundwater treatment system equipment was skid mounted to make the system mobile. All electrical equipment, wiring and controls were installed in accordance with the National Electric Code. All groundwater treatment equipment and process piping were installed with adequate clearances for maintenance and safe operation of the equipment and in conformance with all applicable codes and standards. The system logic controls and the system motor controls were designed and installed by the Control System vendor. The required supply of chemicals used in the water treatment system was ordered and staged appropriately prior to use in the processing equipment.

A total amount of 1,459,231 gallons water was removed and treated during the remedial effort. Sources of water included:

- Water from dewatering of excavation area;
- Groundwater from excavation;
- Storm water run-off from contaminated areas; and,
- Decontamination water and water from other miscellaneous sources.

Water from the above sources contained a number of contaminants which were removed prior to discharge to the Anthony Kill. The contaminants requiring treatment included VOCs, PAHs, solids, and cyanide. The contaminants were monitored and their treatment levels are listed in the SPDES permit (Appendix G). Results of the sampling events are summarized in Table 2. Full analytical data is also contained in Appendix G. Discharge volumes are summarized in Table 3. Note that metals were required to be monitored as part of the SPDES limit, but treatment was not required.

Treated water was stored in the effluent storage tank until a total of 10,000 gallons was accumulated. At this time an effluent sample was collected and analyzed for compliance with the SPDES permit. An additional 10,000 gallons of water were then treated and stored in the effluent tank. At that time a second sample was collected and analyzed. The results of the second sample indicated that the pH of 8.80 exceeded the SPDES permit (i.e., $6.5 < pH < 8.5$). The 20,000 gallons in the effluent tank was then resampled for pH only. The pH in this sample was 8.26 and the water was therefore able to be discharged. Once discharge had begun, weekly effluent samples were collected and analyzed as per the SPDES permit until the end of water treatment activities.

The treated groundwater was discharged to the Anthony Kill in accordance with approved discharge criteria. On February 13, 2009 results from effluent samples collected on February 4, 2009 were received by the Site coordinator from Test America Laboratories. Several VOCs and PAHs exceeded the limits of the SPDES permit. Discharge from the effluent storage tank was immediately halted. Discharge volume at this time was 205,082 gallons. The effluent storage tank was resampled on February 16, 2009 by the contractor. This sample also failed. The treatment media was then replaced, and the water in the effluent storage tank was pumped back into the treatment plant. Following the change out of the treatment media, 20,000 gallons of water was treated and stored in the effluent storage tank. This treated water was then sampled. Analytical results showed that the water was in compliance with the SPDES permit and NYSDEC granted approval to discharge it to the Anthony Kill.

The contractor hypothesized that the exceedances were caused by the high volume of Biosolve being sprayed at the request of the on-site NYDEC oversight representative. The contractor believed that the high volume of spray was collecting in the bottom of the excavation and then being pumped to the treatment plant with the water from the excavation. Biosolve mix usage at this time was 1,000 to 1,200 gallons a day. The result was the reduction in capacity of the filter media (i.e., Biosolve adhering to the

sorptive sites on the organo-clay and GAC) and allowing untreated contamination to pass through the treatment system. Subsequently Biosolve mix ratios and spray volumes were reduced and further exceedance did not occur.

The treatment media was changed later when detectable levels of SPDES controlled contaminants were found prior to the primary GAC unit and between the two GAC units. The organo-clay was changed at 1,086,743 gallons and primary GAC unit was changed at 1,119,556 gallons.

3.3 Anthony Kill Monitoring

The Anthony Kill surface water was visually monitored for sheens and turbidity during stream bank excavation. Any sheen or noticeable increase in turbidity related to site work required an automatic ceasing of the Site activities until corrective actions were evaluated and implemented to control further releases.

Monitoring of the sediments within the Anthony Kill was required to ensure that the sediments were not affected by remedial construction activities. Monitoring of the sediments was done at four transects: one upstream of the work area, two adjacent to the work areas (one near the MW-21 cluster and the other near the MW-29 cluster), and one just upstream of the culverts under Central Avenue. Sediment thicknesses were recorded at three foot intervals along the four transects, which were perpendicular to the stream flow. Sediments were gauged using a stainless steel probe.

All sediment gauging data were attached to the daily field construction report on the day of sampling. Sediment gauging was dependent on weather conditions. Excessive stream flow and ice conditions in the Anthony Kill during the active excavations resulted in sediment gauging being conducted only three times: before active stream bank excavations; once during the stream bank excavations; and at the completion of the project.

The sediment thicknesses were monitored prior to stream bank excavations (November 17, 2008), during the work (February 26, 2009) and at the completion of the project (June 26, 2009). During each monitoring event, sediment thickness, composition and any visual or olfactory NAPL impacts were noted.

The recorded data from the sediment monitoring events is presented in Appendix H. The sediment monitoring showed that sediment impacts from the Remedial Action were minimal. Changes in sediment depth appear to be caused by the seasonal change in flow rates of the Anthony Kill.

3.4 Monitoring Well Decommissioning

Several of the existing monitoring wells were located inside of the proposed excavation areas and required decommissioning. The wells decommissioned were: MW-15I; MW-15D; MW-21D; MW-23D; MW-28I; MW-29I; MW-29D; RH-1D. These wells were decommissioned on December 4, 2008 by Thomas Drilling and Blasting. Following the need to expand excavation Area 2 and Area 4, wells MW-22I, MW-26S and MW-26I were decommissioned on February 27, 2009 by SJB Services. All overburden wells (i.e., outer casing and inner piping/screen) were removed. All bedrock wells were first completely filled with grout by tremmie tube method. The grout used was 94 pounds Portland type I/II cement, 3.8 pounds powdered bentonite and 7.8 gallons of water as per NYSDEC guidance. Once the overburden soils were removed, the grout filled casing was removed to be flush with the bedrock surface. Monitor wells MW-26S and MW-26I were decommissioned in place in preparation for excavation of area 5. As area 5 was not excavated the decommissioned wells remain in place.

3.5 MGP Impacted Soil, Sediment and Debris Transport and Disposal

MGP impacted soils, sediments, and debris were transported in accordance with the NYSEG specifications for the transportation of solid or liquid materials. All loads of the material transported off the job site were accompanied by a Conditionally Exempt Manufactured Gas Plant Remediation Waste

Manifest or a Non-hazardous Solid Waste Manifest signed by the AECOM project coordinator and the driver. All transporters utilized during the project maintained current NYSDEC Waste Transporter Permits (6NYCRR Part 364). A material disposition log was prepared to document all loads of solid waste that were transported off-site and is provided in Appendix I. Total volumes of waste removed were: Remediation Waste – 2,714.85 tons; Conditionally Exempt Hazardous Waste – 22,968.34 tons.

All waste material generated during Site restoration was disposed of in accordance with applicable regulations.

3.6 Construction Equipment, Vehicles and Tools Decontamination

The tires, tracks, undercarriages, and excavation buckets of all construction equipments (excavator, wheel loaders, dozer, etc.) and tools that entered the Exclusion Zone, were decontaminated at the Equipment Contamination Reduction Pad prior to entering the Support Zone. Decontamination procedures include the physical/mechanical removal of material through high-pressure washing. If tarry waste was encountered during excavation, the equipment was decontaminated before excavating non-hazardous soils. At a minimum, this included removal of all soil from the equipment and steam cleaning of any tar staining.

4.0 RESTORATION

4.1 Site Restoration

Upon completion of the remedial action, restoration of the Site was undertaken as follows:

- All imported backfill satisfied the lower of the soil cleanup objectives for Protection of Public Health – Commercial, or Protection of Groundwater as identified in ECL 375.6. The backfill was placed in lifts and compacted as necessary. The Contractor removed and disposed of materials used to prepare the equipment contamination reduction pad, personnel contamination reduction area, siltation fencing and earth berm.
- All waste material generated during Site restoration was characterized and disposed of in accordance with applicable regulations. All liners, polyethylene sheeting used to cover materials, and PPE were also characterized and disposed of appropriately. The Site was graded to allow surface water to runoff. The final surface treatment was in accordance with NYSEG's plans for the use of the property. This included 6 inches of crushed stone rubble graded and compacted as it was placed across the site except for the stream bank which received a planted and seeded top soil finish, and the main access road from the southeast corner of the site which received 12 inches of crushed stone rubble.
- The disturbed portion of the Anthony Kill stream bank was restored in accordance with the NYSDEC approved Anthony Kill Stream Bank Restoration Plan (see Section 4.2).

4.2 Anthony Kill Stream Bank Stabilization

The objectives of the stabilization of the Anthony Kill stream bank were to ensure no reduction in the flood-carrying capacity of the stream; to minimize the potential for stream bank erosion; and to facilitate and promote the natural reestablishment of a healthy riparian habitat.

In order to minimize the potential for stream bank erosion, a combination of stone toe protection, temporary erosion control mats, seed, live stake plantings and rooted stock plantings were used. Rooted stock plantings were planted atop the bank as well. The stone toe protection was placed to an elevation equal to the top of the culverts under North Central Avenue to provide protection to the backfilled excavations along the Anthony Kill. On March 30, 2009 a meeting was held on-site with NYSEG, AECOM, and NYSDEC (John Spellman, Corbin Gosier, and George Heitzman). The purpose of this meeting was to determine the permanent elevation for the top of the rip rap armor. NYSDEC approved the elevation of the maximum height of the stone toe protection to be placed no greater than 3 feet above the bottom elevation of the streambed. This level was considered adequate to provide protection for stream flows up to the 2 year storm event. New York State Department of Transportation (NYSDOT) medium stone fill (NYSDOT 620.04), with size ranging from 12 to 24 inches, was approved to be placed in a 24 inch thickness. A geotextile lining was approved to be placed between the rip rap armor and the sloped backfill. The face of the slope was lined with biodegradable erosion control matting and was seeded, as shown on Drawing 11-R1 from the Remedial Action Design and Work Plan *Earth Tech 2008* (Appendix J).

The stream bank above the rip rap toe was compacted to at least 90% Standard Proctor Density within one foot of the topsoil (See Field In-Place Density Test Report – Appendix K). A six inch layer of topsoil was then spread across the slope and the first ten feet of the level portion of the Site at the top of the bank. The slope was covered with a degradable erosion control mat (BioNet SC150BN). Live stake, and rooted stock plantings were then placed through the erosion matting. These included: Arrow-wood (*Viburnum dentatum*); red osier dogwood (*Cornus stolonifera*); sand bar willow (*Salix exigua*); pin oak (*Quercus palustris*); green ash (*Fraxinus pennsylvanica*), red maple (*Acer rubrum*)and sugar maple (*Acer saccharum*); Everlow yew var. everlow (*Taxus x Media*); Highbush blueberry var. ornablue (*Vaccinium corymbosum*); Elderberry (*Sambucus canadensis*)as shown on the planting plan, Drawing 11-R1 from the

Remedial Action Design and Work Plan *Earth Tech 2008* (Appendix J). When grown, the plantings will provide additional stabilization of the stream bank as well as canopy to the Anthony Kill.

One year following restoration of the stream bank, an inventory of the planted trees, shrubs, and vegetative cover will be taken. If the survival rate of trees and shrubs is less than 80 percent, new trees/shrubs will be planted to replace the deceased ones. The seeded areas will be inventoried to ensure at least 95% coverage. If the coverage below 95%, unvegetated areas will be re-seeded.

5.0 AIR QUALITY MONITORING PROGRAM

5.1 Overview

As part of the Remedial Action Design, an Air-Quality Monitoring Program was implemented during the project activities. The objective of this Air-Quality Monitoring Program was to provide direct measurement of the VOCs and total suspended particulates that could potentially be released during excavation, handling, and transportation of MGP residues at the Site. The Air-Quality Monitoring Program consisted of (1) exclusion zone air-monitoring for evaluating construction worker health and safety; and (2) community air monitoring to determine the levels of VOCs and total suspended particulates at the perimeter of the exclusion zone.

This Air-Quality Monitoring Program met or exceeded all criteria and guidance provided in the NYSDOH Generic Community Air-Monitoring Plan (CAMP). The provisions included real-time air-monitoring for VOCs and particulates (i.e., dust) at the downwind perimeter of the exclusion zone. The nearest receptor (regardless of its relationship to wind) was an additional monitoring location. Real-time air-monitoring was used to guide appropriate action to reduce/minimize air emissions to acceptable levels.

5.2 Exclusion Zone Air-Monitoring Program

The air quality within the exclusion zone, including inside transporter's trailer and/or roll-off container, was monitored to ensure worker health and safety in accordance with requirements specified in 29 Code of Federal Regulations (CFR) 1910.120 as described in the Health And Safety Plan For Mechanicville Former MGP Site.

5.3 Community Air-Monitoring Program

NYSEG undertook a CAMP during the project to provide direct measurement of VOCs and total suspended particulate released during excavation and handling of MGP structures and soils.

The air-monitoring program was established to address the following objectives:

- To insure concentrations of VOCs and total suspended particulates are minimized to protect human health and the environment.
- To provide an early warning system so engineering controls can be enacted to prevent unnecessary exposure to emissions resulting from project activities.
- To measure and document the concentrations of VOCs and total suspended particulates for determining compliance with the established air-monitoring limits.

The community air-monitoring was intended to be a discrete program, which was operated in conjunction with the exclusion zone air-monitoring program. The exclusion zone monitoring was established to protect worker health and safety during construction and materials handling. The CAMP included real time air quality monitoring, performed throughout the duration of all excavation activities and included upwind, downwind, and nearest receptor measurements. Wind direction was determined using a weather station. Weekly CAMP results are provided in Appendix L.

5.3.1 Real-Time Air-monitoring – Volatile Organic Compounds

The total VOCs monitoring was accomplished using a total volatile organic analyzer equipped with a photo ionization detector (PID) using a 10.2 eV lamp. Each day the analyzer was calibrated with a 100 ppm isobutylene air standard. The volatile organic analyzer was capable of calculating a 15-minute running average of the measured VOCs concentrations. Real-time VOCs monitoring was performed at all four CAMP monitoring stations (These are shown in Figure 3).

Based on data published by Occupational Safety and Health Administration (OSHA), American Congress of Government Industrial Hygienists (ACGIH) and National Institute for Occupational Safety and Health (NIOSH) a short-term quality action level of 5 ppm for total VOCs was established for air emissions action in the exclusion zone. NYSEG used an action level of 2.5 ppm above the existing ambient conditions (background) in the Exclusion Zone. Engineering control measures were initiated for VOCs levels greater than 2.5 ppm at the work zone.

5.3.2 Real-Time Air-Monitoring – Total Suspended Particulates

In conjunction with the real-time volatile emission monitoring, direct-reading monitoring equipment for particulate matter was used to collect real-time airborne particulate data on a 15-minute basis. The instrument used for this sampling was a Thermo Andersen ADR-1200S Ambient Particulate Monitoring System which operates on the principle of light scattering. The unit responds to particles in the size range of 0.1 to 10 micrometers and in the concentration range of 0.01 to 400 mg/m^3. Particulate measurements were based on a 30-second, time-weighted average. The Thermo Andersen ADR-1200S was calibrated daily with a filtered air sample. Equivalent back-up real-time air-monitoring equipment was available on-site in the event of an equipment malfunction. Real-time Total Suspended Particulate monitoring was performed at all four CAMP monitoring stations.

The NYSDOH Generic CAMP recommended action level of 0.15 mg/m^3 above background for particulate matter less than 10 micrometers in size (PM-10) was used to determine whether modifications to given processes were required. If the downwind particulate measurement of particles less than 10 micrometers in size (PM-10) was greater than 0.10 mg/m^3 above the upwind background level, or if dust was observed leaving the project area, dust suppression techniques (i.e., misting surfaces with water or covering open piles) were implemented to reduce the generation of fugitive dust. If the action level of 0.15 mg/m^3 (above background) was exceeded, work activities were ceased and the NYSEG and NYSDEC on-site representatives and the NYSEG project manager were notified.

During the portion of the project conducted in non-freezing temperatures a Piian™ system was used to aid in the control of odors generated during excavations. This system was installed at the north, east and west sides of the Site. The system consisted of a 800 psi power washer pump used to pressurize an array of misting nozzles. The nozzles were on a pressure hose which was strung around the North east and south sides of the site. The system injected an odor neutralizing agent into the power washer water feed thus creating a dilute solution which was sprayed around the site. Further information on the Piian system is contained in Appendix M. Due to the proximity of the CAMP stations to this system, exceedance levels for particulate matter were registered on a daily basis. These levels and their cause were noted in the daily field log for the Site and additional visual observations were made to ensure that this condition did not mask any fugitive dust issues.

Numerous particulate exceedances occurred during the remedial action as a result of odor suppression (i.e., Biosolve spraying or the Piian system) or non-site related activities (e.g., house fire in close proximity to the site). Since these recorded particulate concentrations were not a result of on-site construction activities, they were not considered an exceedance of the NYSDOH CAMP. These exceedances were nonetheless recorded in the daily field reports.

Several 15 minute average particulate exceedances were recorded due to on-site activities, such as earth moving or truck traffic. In these instances, the on-site NYSDEC representative was informed and the area was wetted down to prevent further dust exceedance. The exceedance was then recorded in the daily field reports. Daily field reports were summarized each week and then emailed to the NYSDOH and NYSDEC the following week.

The following particulate related exceedances were recorded based on site-related activities (excluding odor suppression):

- March 4, 2009 at 14:22 a dust exceedance occurred at monitoring station #2 with an STEL of 0.205 mg/m^3 due to dust generated from a cutoff saw removing the steel casing of a nearby monitoring well.
- March 24, 2009 at 12:30 a dust exceedance occurred at monitoring station #2 with an STEL of 0.318 mg/m^3 due to truck traffic on Ferris Lane.
- March 26, 2009 at 14:03 a dust exceedance occurred at monitoring station #2 with an STEL of 0.172 mg/m^3 due to excavation and backfilling activities in Areas 2 and 4.
- April 20, 2009 at 11:41, a dust exceedance occurred at monitoring station #2 with STEL of 0.226 mg/m^3 due to a sub-contractor (Bongiavanni) moving steel sheet piles and creating dust.
- April 27, 2009 at 15:17 a dust exceedance occurred at monitoring station #2 with STEL of 0.312 mg/m^3 due to Bongiavanni and Sevenson moving equipment in Area 3A.
- June 24, 2009 at 13:48 a dust exceedance occurred at monitoring station #2 with an STEL of 0.236 mg/m^3 due to gravel being unloaded from a dump truck.

5.3.3 Odor Monitoring Plan

The nature of MGP Site residues pose a concern regarding the generation of nuisance odors during excavation and material handling. Hence, an odor control and monitoring plan was developed for the project. For an odor complaint residents would speak with the NYSDEC on-site project representative. To register an odor complaint to the NYSDEC on-site project representative, residents could call 1-518-664-7328 during working hours. In the event that the NYSDEC on-site project representative could not be reached, and for non work hours, an answering service was retained by the contractor to answer calls and then notify the project team. The answering service would document the caller's concern and contact the appropriate project team members who would assess the reason for concern and apply the appropriate engineering controls. Only one odor complaint was received during the project on May 15, 2009. This complaint is discussed below.

A project fact sheet was reviewed by NYSDEC and NYSDOH before distribution to adjacent property owners explaining the remediation work to occur at the Site, the potential for odors and how the phone system works. This was distributed prior to beginning any excavation work.

If the Site personnel detected significant odor or a complaint was received, engineering controls were implemented to reduce odor-causing emissions. Once odors become non-discernable, normal operations were resumed. This determination was subject to the approval of the on-site NYSDEC representative. If in the opinion of NYSDEC on-site representative the Site related odors are unacceptable, then the NYSDEC representative instructed the NYSEG project coordinator to implement odor control measures.

Onsite Odor control measures consisted of:

- **2 Portable Biosolve™ Sprayers** – These consisted of a 2,000 – 4,000psi power washer which drew from a premixed tank of Biosolve™ mixture. Biosolve™ batches were mixed such that the concentration was 1.5% - 6%.
- **Poly-Sheeting** – All open excavations and stockpiles were covered with poly sheeting when not being actively excavated unless Odor Suppressant Foam was utilized.
- **Odor Suppressant Foam** – An Odor Suppressant Foam machine was rented from RUSMAR Foam Technology. This was used to cover all excavations and stockpiles for up to 24 hours.
- **Piian Odor Control System** – During the spring of 2009 portion of the project a Piian Odor Control system was utilized to neutralize odors on the perimeter of the site.

On May 15, 2009 the project received its only odor complaint. A member of the staff at Shep's Auto Repair, located on the north side of the Anthony Kill directly across from the Site, visited the Site and

spoke to the AECOM project coordinator. The project coordinator directed the contractor to stop work and foam the entire open excavation area, Area 3B, and then notified the NYSDEC on-site representative of the situation. In addition to the excavation being foamed, the Piian™ system was adjusted to inject the maximum amount of additive to the sprayed mix. Additionally, the project coordinator directed the contractor to have an additional Biosolve sprayer and necessary staff mobilized to the Site by the next work day and to remain active until the excavation area was backfilled. Measures to reduce odors during this time also included increasing the volume of odor suppressant foam covering the excavation area at the end of each day. No further odor complaints were registered after these engineering controls were implemented.

6.0 DEVIATIONS FROM REMEDIAL DESIGN WORK PLANS

Deviations from the Remedial Design Work Plan include: 1) Excavation and removal of an underground storage tank (UST); 2) The addition and subsequent removal of Excavation Area 5; 3) Over-excavation of Excavation Areas 2 and 4; and 4) the redesign of Excavation Area 3B.

Excavation and Removal of the UST. On November 5, 2008 during grading operation for installation of the containment pad for the WWTP near the southeast corner of the former "Dog House" structure, a UST was discovered. The on-site project coordinator contacted NYSDEC Spill Response which generated a Spill Number 0808852 for the event. The Contractor, Sevenson Environmental, excavated the tank on November 6, 2008 in preparation for its removal. A NYSEG spills contractor, EPS Environmental Services, mobilized to the Site on November 6, 2008 and conducted the pumping and decommissioning of the tank. Sevenson supported EPS with on-site equipment and manpower to excavate and load the tank. NYSEG prepared a report on this removal and submitted to NYSDEC. This is included in Appendix N. Photos of the tank removal are attached to the DFCR (Appendix B) for November 6, 2008. NYSDEC Spill Response subsequently closed the Spill Number on February 27, 2009 (Appendix N).

Excavation Area 5. During the Pre-Remediation Waste Characterization Sampling event, an additional area of coal tar contamination was discovered under the Site entrance at the corner of Ferris Lane and North Central Avenue. This area, east of Excavation Area 3A, was designated Excavation Area 5. No formal demarcation of this area was performed, however the area was to be excavated and remediated under the guidelines of the Remedial Action Work Plan. In preparation for the excavation of this area, monitoring wells MW-26S and MW-26I were decommission on February 27, 2009. On May 26, 2009 Paul Meskill, NYSEG Electric and Gas Construction and Maintenance Supervisor, visited the Site with additional Gas Department personnel to mark the gas mains along Ferris Lane and North Central Avenue. Upon mark-out of these gas mains, the excavation of Area 5 would not be feasible due to limited area that could safely be removed without affecting the stability of the gas mains. The NYSEG project manager then sent an email to the NYSDEC project manager on May 28, 2009 summarizing the reasons that excavation of Area 5 was not practicable. The NYSDEC project manager responded on June 2, 2009 by email that this was acceptable to the NYSDEC. These correspondences are included in Appendix O.

Expansion of Excavation Areas 2 and 4. During the progression of the remedial work it became evident that contamination extended outside of the originally planned limits of Areas 2 and 4. The full extents of these excavations are documented in the Site as-built drawing Figure 6. Projected disposal volume for the Site remediation was 15,000 tons, while the actual disposal volume was 25,683.19 tons. A significant portion of this additional tonnage was due to the necessity under the Record of Decision to remove NAPL and tarry soils.

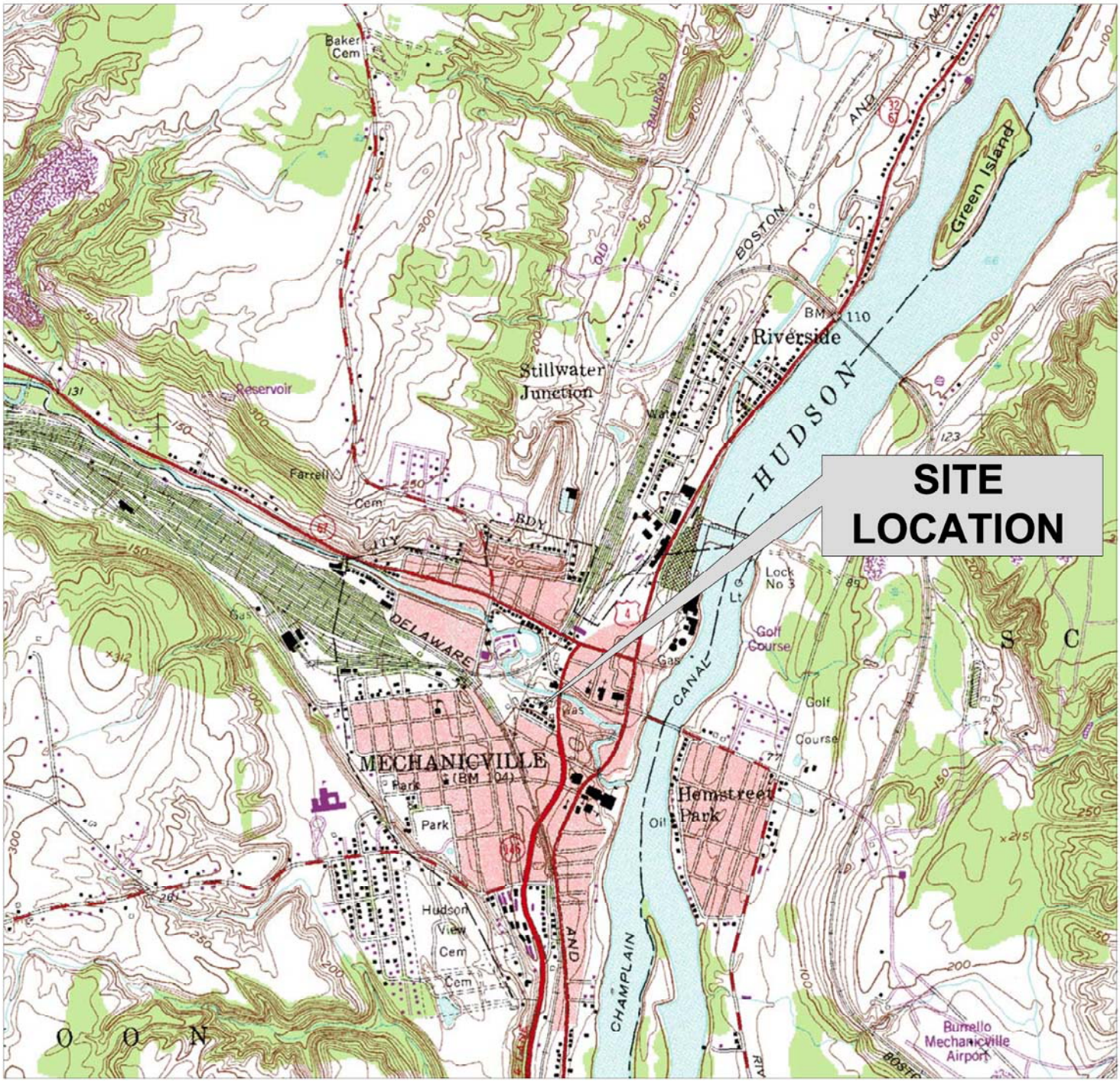
Redesign of Sheeting System for Excavation Area 3A. On November 17, 2008, while sheet piles were being installed for the watertight cofferdam for Area 3A, NAPL was observed flowing out of the ground around the sheet piles. The sheet piles were being installed in the northeast quadrant of the circular cofferdam. This was an area that had not previously been characterized as having "free product" present below grade. Due to this change of condition, excavation Area 3B would require the sheeting to be redesigned. Sevenson's subcontractor Bongiavanni submitted a redesigned sheet pile cofferdam for this area. The redesigned shoring system took into account the presence of NAPL along the northeast edge of Area 3A into the new footprint of Area 3B. This proposal was approved by NYSEG, AECOM, and NYSDEC as the method of excavation for Area 3B. The design documents for the redesigned Excavation Area 3B are presented in Appendix P.

Repairs to the Restored Anthony Kill Stream Bank. During the construction of the restored bank (June 2009), the bank became saturated from groundwater flowing across the site on top of the bedrock, causing the bank to fail (i.e., slump). The smaller slumps were repaired by excavating the saturated soils from the bank and packing light stone filling (NYSDOT item 620.03) into these areas and then backfilling with "Run of Bank" (ROB) fill. This was believed to be adequate to allow the groundwater to flow out into

the stream without causing further slumping. One section of the bank (approximately 25 foot long) required a more extensive repair. In this area the saturated material was excavated to two feet below the elevation of the top of the rip rap armored toe of slope. Geotextile was placed over this area and light stone fill (NYSDOT item 620.03) was installed in a 12 to 18 inch thick layer. The textile was folded over the stone filling and medium stone filling (NYSDOT item 620.04) along with topsoil was then used to backfill this area. This "soil choked" covering provided a preferential drainage path for groundwater. These repair approaches temporarily solved the slumping problem, however over time slumps began reappearing.

On August 20, 2009 NYSEG, NYSDEC, and AECOM held a meeting onsite to observe and discuss the saturated conditions in the lower portion of the Anthony Kill stream bank and possible repair options. Following this meeting NYSEG submitted a request on August 21, 2009 to amend the soils in the lower portion of the stream bank (Appendix Q). On August 31, 2009 NYSDEC, NYSEG, and AECOM conducted a conference call to finalize the soil amendment plan. Following this meeting on September 8, 2009 NYSDEC issued a letter approving of the planned work to stabilize the Anthony Kill Stream Bank. NYSEG subsequently remobilized Sevenson Environmental Services to the site on September 21, 2009. The NYSDEC approved stabilization method was then carried out. This work consisted of forcing Medium Stone Filling (NYSDOT item 620.03) into the saturated portion of the slope below the lowest line of rooted stock plantings. Adequate stone needed to "firm up" the soil was installed. The amended steam bank was then covered with a top dressing material consisting of 25% topsoil, 25% cobbles, and 50% Run of Bank (ROB) fill. Following the completion of the soil amendment the disturbed area was hand-cast seeded with annual rye grass and fertilized. The disturbed area was then covered with biodegradable erosion control matting (BioNet SC150BN). In order to replace any livestake plantings that may have been destroyed during the amendment and to further stabilize the bank additional sandbar willow livestakes will be installed on a four foot center offset pattern after they become available in the dormant season (after November 1, 2009). In the spring of 2010 a riparian seed mix will be hand cast in the disturbed area to restore the natural riparian design of the bank.

Figures



SOURCE: NYSDOT MECHANICVILLE 7.5' QUADRANGLE
SCALE: 1" = 2000 FT.

PROJECT LOCATION MAP

NYSEG
DRAFT REMEDIAL DESIGN FOR MECHANICVILLE
MGP SITE, MECHANICVILLE, NEW YORK

AECOM
40 British American Blvd. Latham, New York 12110

DATE	SEPTEMBER_2009
PROJECT NO	94650
FILENAME	94560-COV
SHEET NO	FIG-1
DRAWING NO	**FIGURE 1**

ANTHONY KILL

NORTH CENTRAL AVENUE

FERRIS LANE

FORMER TRANSFORMER STORAGE

FILTER BEDS

FORMER COAL STORAGE

FORMER BOILER ROOM

FORMER SUBSTATION

FORMER GAS HOUSE

FORMER PURIFIER HOUSE

FORMER OXIDE HOUSE

FORMER DISTRIBUTION GAS HOLDER

FORMER GAS RELIEF HOLDER

OIL TANK

EXISTING STRUCTURE

EXISTING STONE RETAINING WALL

EXISTING RIP RAP ON SLOPE

GPS 1

GPS 2
BM RRSF UP NYT 6

GPS 3

GPS 4

GPS 5

REBAR CONTROL 6

BM 2

MW 35I
MW 34D
MW-32D
MW-21S
MW-21D
MW-15
MW-15I
MW-15S
MW-15D
MW-28I
MW-22I
MW-11
MW-29I
MW-29D
MW-23S
MW-23D
MW-14
MW-14S
MW-14D
MW-17D
MW-17I
MW-25S
MW-25I
MW-2
MW-21
MW-RH-1S
MW-RH-1D
MW-12S
MW-13
MW-12I
MW-17
MW-18
MW-30D
MW-30S
MW 1I
MW-1
MW 1D
MW-26S
MW-26I
MW-10
MW-10I
MW-10D
MW-33D
MW 40D

NOTES

1. Base planimetrics provided by NYSEG Engineering Services and was produced by digitizing aerial photography acquired on 4/93from Photo Science, Inc. of Gaithersburg Maryland.
2. Horizontal locations of new soil borings and monitor wells were determined using conventional survey methods. Vertical locations of soil borings were determined using trigonometric leveling techniques. Vertical locations of monitor wells were carried out using differential leveling techniques. Survey activities were carried out on 4/12/01, 6/12/01 and 7/27/01 by C.T. Male Associates, P.C. of Latham, N.Y. Additional survey activities were carried out on 12/01/02 and 12/11/02 by NYSEG.
3. Elevations are relative to the North American Vertical Datum of 1988. Based on USDWC (United States Deep Water Commission) benchmark MECHANICVILLE 4=21. NGS PID MZ0814 Classified First Order Class 1.
4. Horizontal coordinates are relative to the New York State Plane Coordinate System, East Zone, North American Datum of 1983 (CORS). Horizontal coordinates were determined through static observations of the Global Positioning System.
5. This drawing is a general revision and expansion of drawing 039031 created by C.T. Male.
6. Utilities shown on these plans are approximate. Contractor shall confirm location of all utilities, shown or not shown, prior to the start of any work.

LEGEND

- POWER POLE
- BENCHMARK
- BASELINE CONTROL POINT
- EXISTING STRUCTURES
- G — EXISTING UNDERGROUND GAS LINE
- GAS MARKER
- 86' — GROUND SURFACE CONTOUR
- FENCE
- APPROXIMATE PRIOR EXCAVATION AREA
- FORMER STRUCTURE LOCATION
- MW-6 EXISTING MONITORING WELL LOCATION

0' 20' 40' 80'

PLAN

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Latham NY
40 British American Blvd.
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DES	XXX	
CHK	XXX	
APP	XXX	

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REMEDIAL DESIGN FOR MECHANICVILLE
MGP SITE, MECHANICVILLE, NEW YORK

EXISTING CONDITIONS PLAN

DATE	SEPTEMBER 2009
PROJECT NO	94560
FILENAME	
SHEET NO	2
FIGURE NO	2

FILE = L:\WORK\94560\CADD\ET-SURVEY\Excavation_Survey\94560-AREA-3A-EXCAVATION.DWG

ANTHONY KILL

NORTH CENTRAL AVENUE

FERRIS LANE

JAMES STREET

CAMP STATION #1

DISCHARGE LINE

EXCAVATION AREA 1

101 102 103 104

TOILET

PROJECT TRAILERS

TRUCKING ROUTE

ACCESS GATE

EFFLUENT TANK

EXCAVATION AREA 2A

201 202 203 205 206 207 208

EXCAVATION AREA 2B

T-2 T-3 T-4

CAMP STATION #2

DEWATERING LINE

BAFFEL TANK

BERM

FRAC TANKS

TEMPORARY WATER CONTAINMENT AREA

EXCAVATION AREA 3C

EXCAVATION AREA 3A

EXCAVATION AREA 3B

301 302 303 304 305 306 307 308 401 402 403 404

EXCAVATION AREA 4

CAMP STATION #4

EXCAVATION AREA 3D

RELOCATE FENCE

CHAIN LINK FENCE

CAMP STATION #3

BM 2

LEGEND

- PROPOSED LIMITS OF EXCAVATION
- X101 PROPOSED EXCAVATION STAKEOUT POINT
- EXISTING STRUCTURES (To Remain)
- DEWATERING PROCESS LINE
- T-3 SEDIMENT MONITORING TRANSECT
- NEW / RELOCATED FENCE

NOTES

1. SEDIMENT MONITORING POINTS SHALL BE GAUGED AT 3 FT. INTERVALS ALONG TRANSECT LINE AS OUTLINED IN THE REMEDIAL ACTION PLAN.
2. ALL GROUNDWATER DEWATERING PIPING SHALL BE BURIED AND PROTECTED FROM VEHICULAR TRAFFIC.
3. ONE INFLUENT TANK (MIN.) SHALL BE A BAFFLE TANK.

PLAN

0' 20' 40' 80'

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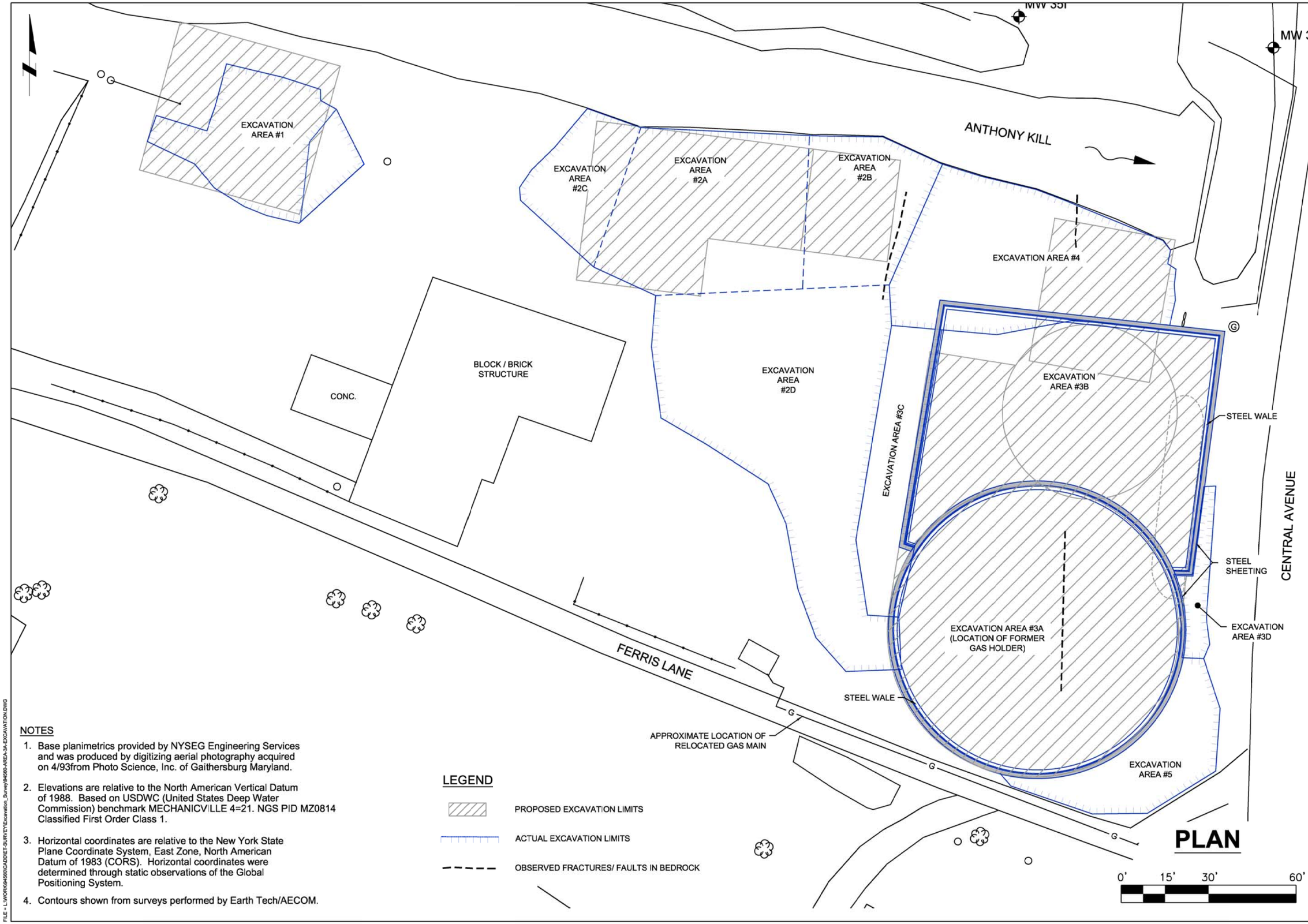
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MGP SITE, MECHANICVILLE, NEW YORK

PROJECT LAYOUT PLAN

DATE	SEPTEMBER 2009
PROJECT NO	94560
FILENAME	
SHEET NO	3
FIGURE NO	3

FILE = L:\WORK\94560\CADD\ET-SURVEY\Excavation_Survey\94560-AREA-3A-EXCAVATION.DWG



NOTES

1. Base planimetrics provided by NYSEG Engineering Services and was produced by digitizing aerial photography acquired on 4/93from Photo Science, Inc. of Gaithersburg Maryland.
2. Elevations are relative to the North American Vertical Datum of 1988. Based on USDWC (United States Deep Water Commission) benchmark MECHANICVILLE 4=21. NGS PID MZ0814 Classified First Order Class 1.
3. Horizontal coordinates are relative to the New York State Plane Coordinate System, East Zone, North American Datum of 1983 (CORS). Horizontal coordinates were determined through static observations of the Global Positioning System.
4. Contours shown from surveys performed by Earth Tech/AECOM.

LEGEND

PROPOSED EXCAVATION LIMITS

ACTUAL EXCAVATION LIMITS

OBSERVED FRACTURES/ FAULTS IN BEDROCK

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DRN	KAM
DES	XXX
CHK	XXX
APP	XXX

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MGP SITE, MECHANICVILLE, NEW YORK

EXCAVATION PLAN

DATE	SEPTEMBER 2009
PROJECT NO	94560
FILENAME	
SHEET NO	4
FIGURE NO	4

FILE = L:\WORK\94560\CADD\ET-SURVEY\Excavation_Survey\94560-AREA-3A-EXCAVATION.DWG

MCESXSW05002	RESULT
Total BTEX	<1
Total PAHs	22

MCESXSW08004	RESULT
Total BTEX	ND
Total PAHs	ND

MCESXBM08001	RESULT
Total BTEX	ND
Total PAHs	1.7

MCESXSW07005	RESULT
Total BTEX	ND
Total PAHs	ND

MCESXSW06009	RESULT
Total BTEX	ND
Total PAHs	ND

MCESXSW05013	RESULT
Total BTEX	ND
Total PAHs	7.6

MCESXSW02011	RESULT
Total BTEX	ND
Total PAHs	ND

MCESXSW03012	RESULT
Total BTEX	ND
Total PAHs	ND

MCESXSW04003	RESULT
Total BTEX	<1
Total PAHs	22

MCESXSW04014	RESULT
Total BTEX	ND
Total PAHs	138.1

MCESXSW04008	RESULT
Total BTEX	ND
Total PAHs	32

MCESXBM05006	RESULT
Total BTEX	<1
Total PAHs	21

MCESXSW04007	RESULT
Total BTEX	ND
Total PAHs	<1

MCESXSW04010	RESULT
Total BTEX	ND
Total PAHs	6.0

MCESXSW02015	RESULT
Total BTEX	<1
Total PAHs	<1

MCESXSW03016	RESULT
Total BTEX	<1
Total PAHs	6.1

MCESXSW03017	RESULT
Total BTEX	<1
Total PAHs	29.8

MCESXSW03018	RESULT
Total BTEX	ND
Total PAHs	23.7

MCESXSW03019	RESULT
Total BTEX	<1
Total PAHs	118.9

MCEXBM021	RESULT
Total BTEX	ND
Total PAHs	6.2

MCEXBM020	RESULT
Total BTEX	ND
Total PAHs	ND

MCESXSW08004
MCESXSW07005
MCESXBM08001
MCESXSW05002
MCESXSW04003
MCESXBM05006
MCESXSW05013
MCESXSW03008
MCESXSW06009
MCESXSW03012
MCESXSW04010
MCESXSW04007
MCESXSW02011
MCESXSW04014
MCESXSW02015
MCESXSW03016
MCESXSW05017
MCESXSW05018
MCEXSW06019
MCEXBM021
MCEXBM020

EXCAVATION AREA #1
EXCAVATION AREA #2C
EXCAVATION AREA #2A
EXCAVATION AREA #2B
EXCAVATION AREA #2D
EXCAVATION AREA #3B
EXCAVATION AREA #3C
EXCAVATION AREA #3A (LOCATION OF FORMER GAS HOLDER)
EXCAVATION AREA #3D
EXCAVATION AREA #4

ANTHONY KILL
BLOCK / BRICK STRUCTURE
CONC.
FERRIS LANE
CENTRAL AVENUE
STEEL WALE
STEEL SHEETING

NOTES

1. Base planimetrics provided by NYSEG Engineering Services and was produced by digitizing aerial photography acquired on 4/93from Photo Science, Inc. of Gaithersburg Maryland.

2. Elevations are relative to the North American Vertical Datum of 1988. Based on USDWC (United States Deep Water Commission) benchmark MECHANICVILLE 4=21. NGS PID MZ0814 Classified First Order Class 1.

3. Horizontal coordinates are relative to the New York State Plane Coordinate System, East Zone, North American Datum of 1983 (CORS). Horizontal coordinates were determined through static observations of the Global Positioning System.

4. Excavation limits shown from surveys and field observations performed by Earth Tech/AECOM.

5. Excavations areas 1,2a-b-c-d ,3 a-b-c, and 4 to bedrock. No bottoms samples collected in these areas.

6. Sidewall confirmation samples collected on sloped wall and may not align with excavation limits shown.

LEGEND

EXCAVATION LIMITS

MCEXSW02015 CONFIRMATION SAMPLE LOCATION
- Sample ID (consecutive)
- Sample Depth
- Sidewall (SW); Bottom (BM)
- Excavation
- Mechanicville Central Avenue

Note:
Clean up standard:
Total BTEX <10
Total PAHs <500
All sample results in mg/Kg.

ND = None Detected

PLAN

0' 15' 30' 60'

DRN	CHK	DATE

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CHK	XXX
APP	XXX

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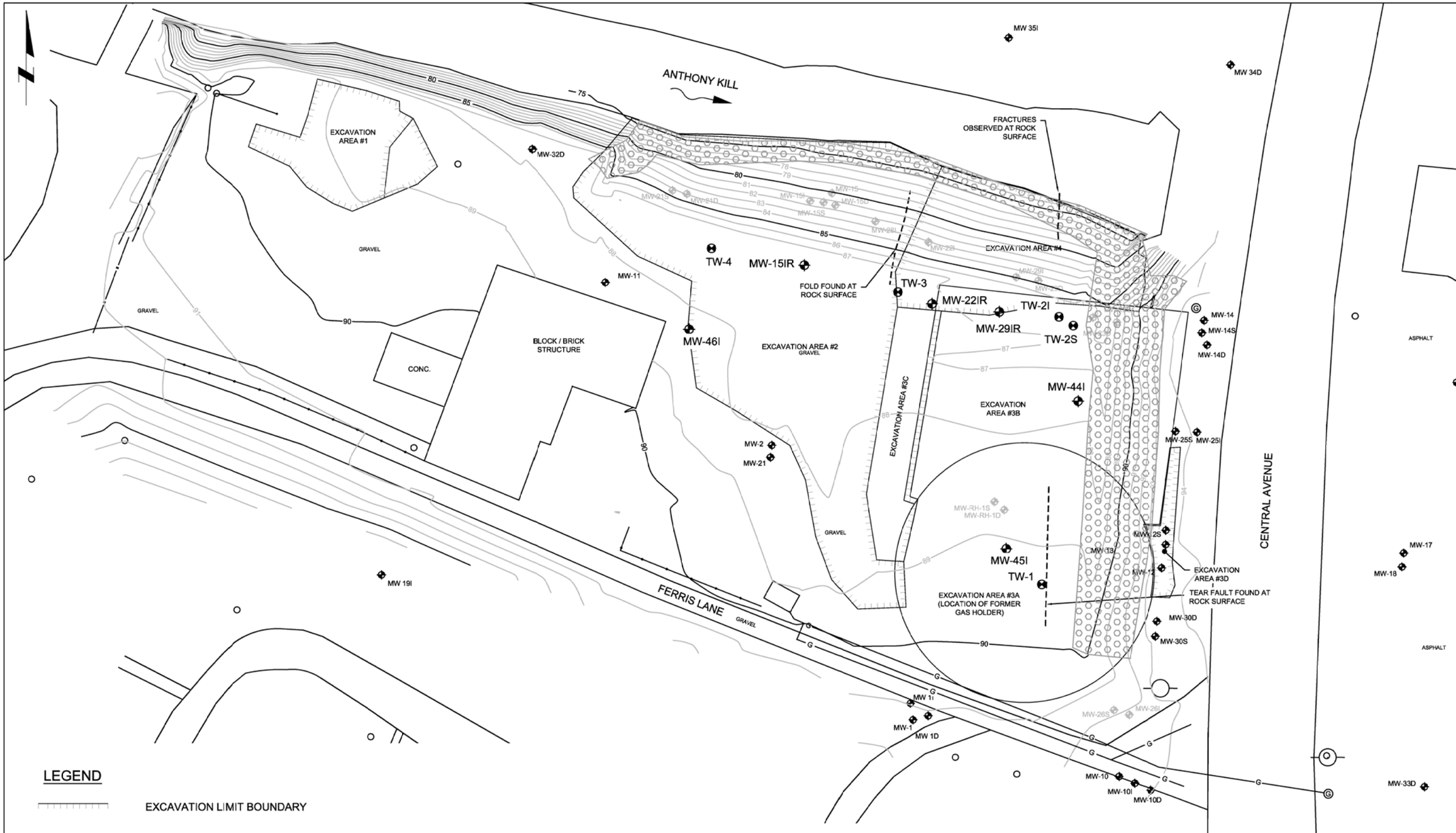
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MGP SITE, MECHANICVILLE, NEW YORK

EXCAVATION PLAN WITH CONFORMATION SAMPLE RESULTS

DATE	SEPTEMBER 2009
PROJECT NO	94560
FILENAME	
SHEET NO	5
FIGURE NO	5

FILE = L:\WORK\94560\CADD\ET-SURVEY\Excavation_Survey\94560-AREA-3A-EXCAVATION.DWG



LEGEND

- EXCAVATION LIMIT BOUNDARY
- 90 — SURFACE CONTOUR (1 FT.)
- STONE FILL
- MW-14D — EXISTING MONITORING WELL LOCATION TO BE USED FOR MONTHLY SAMPLING
- MW-29D — ABANDONED MONITORING WELL LOCATION
- TW-2 — NEW EXTRACTION WELL LOCATION
- MW-45I — NEW MONITORING WELL LOCATION

NOTES

1. Base planimetrics provided by NYSEG Engineering Services and was produced by digitizing aerial photography acquired on 4/93from Photo Science, Inc. of Gaithersburg Maryland.
2. Elevations are relative to the North American Vertical Datum of 1988. Based on USDWC (United States Deep Water Commission) benchmark MECHANICVILLE 4=21. NGS PID MZ0814 Classified First Order Class 1.
3. Horizontal coordinates are relative to the New York State Plane Coordinate System, East Zone, North American Datum of 1983 (CORS). Horizontal coordinates were determined through static observations of the Global Positioning System.
4. Contours shown from surveys performed by Earth Tech/AECOM.

PLAN

0' 20' 40' 80'

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NYSEG
REMEDIAL DESIGN FOR MECHANICVILLE
MGP SITE, MECHANICVILLE, NEW YORK

AS BUILT PLAN

DATE	SEPTEMBER 2009
PROJECT NO	94560
FILENAME	
SHEET NO	6
FIGURE NO	6

FILE = L:\WORK\94560\CADD\ET-SURVEY\Excavation_Survey\AS_BUILT\94560-AS_BUILT.DWG

Tables

Table 1 Post Excavation Soil Sample Data Summary
Table 2 Waste Water Treatment Plant Discharge Analytical Summary
Table 3 Waste Water Treatment Plant Discharge Volumes

Compliance Soil Data Summary
Mechanicville MGP Site
Mechanicville, NY

Sample ID	Cleanup	MCEXBM 001		MCEXSW 002		MCEXSW 003		MCEXSW 004		MCEXSW 005		MCEXBM 006		MCEXSW 007		MCEXSW 008		MCEXBM 009		MCEXSW 010		MCEXSW 011		MCEXSW 012		MCEXSW 013		MCEXSW 014		MCEXSW 015		MCEXSW 016		MCEXSW 017		MCEXSW 018		MCEXSW 019		MCEXBM 020		MCEXSW 021	
Sample Depth (ft)	Criteria	8		5		4		8		7		5		4		3		6		4		5		3		5		4		2		3		5		5		6		5		2	
VOCs (ug/kg)																																										
Benzene		6.9	U	5.7	U	5.9	U	5.9	U	6.3	U	6	U	6.3	U	5.6	U	8.2	U	5.9	U	5.9	U	6.4	U	7.7	U	6.9	U	5.6	U	2	J	5.4	J	7.4	U	7.3	U	5.5	U	5.6	U
Toluene		6.9	U	0.27	J	5.9	U	5.9	U	6.3	U	0.12	J	6.3	U	5.6	U	8.2	U	5.9	U	5.9	U	6.4	U	7.7	U	6.9	U	5.6	U	6.2	U	13		7.4	U	0.35	J	5.5	U	5.6	U
Ethylbenzene		6.9	U	5.7	U	5.9	U	5.9	U	6.3	U	6	U	6.3	U	5.6	U	8.2	U	5.9	U	5.9	U	6.4	U	7.7	U	6.9	U	5.6	U	6.2	U	41		7.4	U	7.3	U	5.5	U	5.6	U
Xylenes, Total		6.9	U	5.7	U	5.9	U	5.9	U	6.3	U	6	U	6.3	U	5.6	U	8.2	U	5.9	U	5.9	U	6.4	U	7.7	U	6.9	U	5.6	U	6.2	U	68		7.4	U	7.3	U	5.5	U	5.6	U
TOTAL BTEX(mg/kg)	**10 mg/kg**	0		0.00027		0		0		0		0.00012		0		0		0		0		0		0		0		0		0.00224		0.002		0.1274		0		0.00035		0		0	
PAHs (ug/kg)																																										
Naphthalene		360	U	1200		930		320	U	1800		550	J	69	J	900		440	U	320	U	320	U	340	U	88	J	11000		33	J	550		9300		6600		46000		300	U	260	J
2-Methylnaphthalene		360	U	1300		1200		320	U	610		370	J	340	U	920		440	U	320	U	320	U	340	U	150	J	23000		12	J	61	J	2100		3700		27000		300	U	200	J
Acenaphthene		360	U	530		650		320	U	320	J	4800		340	U	590		440	U	270	J	320	U	340	U	100	J	15000		300	U	150	J	480	J	3000		11000		300	U	300	U
Acenaphthylene		360	U	140	J	170	J	320	U	320	U	640	U	340	U	300	J	440	U	320	U	320	U	340	U	410	U	1900	U	300	U	21	J	1400		1500		1300	J	300	U	250	J
Fluorene		360	U	180	J	160	J	320	U	320	U	360	J	340	U	280	J	440	U	320	U	320	U	340	U	410	U	4600		300	U	44	J	610	J	970		2300	J	300	U	34	J
Phenanthrene		150	J	2600		2600		320	U	530		1200		340	U	3400		440	U	760	B	320	U	340	U	370	J	4900		300	U	390		1700		1400		6400		300	U	450	
Anthracene		32	J	940		1000		320	U	200	J	1400		340	U	1300		440	U	130	J	320	U	340	U	410	U	5100		300	U	120	J	430	J	670		3100	J	300	U	140	J
Fluoranthene		230	J	3500		3600		320	U	530		1300		340	U	5000		440	U	950		320	U	340	U	670		7800		300	U	910		710	J	340	J	1500	J	300	U	380	
Pyrene		160	J	1700		2100		320	U	440	J	1600		70	J	3300		440	U	960		320	U	340	U	1100		12000		300	U	440		1000		470		2100	J	300	U	530	
Benzo (a) anthracene		120	J	1600		1500		320	U	240		770		340	U	2700		440	U	280	J	320	U	340	U	480		5500		300	U	490		330	J	250	J	800	J	300	U	390	
Chrysene		150	J	2100		2100		320	U	440	J	990		340	U	3100		440	U	500		320	U	340	U	610		2900		300	U	550		440	J	230	J	990	J	300	U	780	
Benzo (b) fluoranthene		160	J	2200		2000		320	U	430	J	1400		340	U	3300		440	U	540		320	U	340	U	760		9500		300	U	770		380	J	300	J	2500	J	300	U	750	
Benzo (k) fluoranthene		53	J	780		750		320	U	150	J	480	J	340	U	1200		440	U	220	J	320	U	340	U	310	J	3100		300	U	270	J	97	J	97	J	590	J	300	U	240	J
Benzo (a) pyrene		120	J	1300		1300		320	U	230		1200		340	U	2800		440	U	450		320	U	340	U	740		17000		300	U	640		350	J	540		5000		300	U	400	
Indeno (1,2,3 cd) pyrene		94	J	670		870		320	U	200		1900		340	U	1500		440	U	420		320	U	340	U	950		7200		300	U	360		210	J	1200		3000	J	300	U	600	
Dibenzo (a, h) anthracene		360	U	430		460		320	U	330		460	J	340	U	410		440	U	83	J	320	U	340	U	120	J	1400	J	300	U	65	J	730	U	140	J	430	J	300	U	180	J
Benzo (g, h, i) perylene		390		750		900		320	U	450		2100		340	U	1200		440	U	440		320	U	340	U	1200		8100		300	U	280	J	270	J	2300		4900		300	U	640	
TOTAL PAHs(mg/kg)	**500 mg/kg**	1.659		21.92		22.29		0		6.9		20.88		0.139		32.2		0		6.003		0		0		7.648		138.1		0.045		6.111		19.807		23.707		118.91		0		6.224	

Notes:
MC=Mechanicville
EX=Excavation
BM=Bottom Sample
SW=Sidewall Sample
U - The compound was not detected at the indicated concentration.
J - Data indicates the presence of a compound that meets the identification criteria.
The result is less than the quantitation limit but greater. The concentration given is an approximate value.

Table 2
Effluent Sampling Results
Former Mechanicville MGP Site
Mechanicville, NY

Sample Location:			Effluent		Effluent		Effluent		Effluent		Effluent		Effluent		Effluent		Effluent		Effluent		Effluent		Effluent	
Sample ID:	Discharge		MCFT WWNA 001-008		MCFT WWNA 009-016		MCFT WWNA 017		MCFT WWNA 018		MCFT WWNA 019		MCFT WWNA 020		MCFT WWNA 021		MCFT WWNA 027		MCFT WWNA 028		MCFT WWNA 031		MCFT WWNA 035		MCFT WWNA 039	
Date Collected:	Limitations	Units	1/7/09		1/19/09		1/19/09		1/21/09		1/29/09		2/4/09		2/11/09		2/20/09		2/24/09		3/3/09		3/10/09		3/17/09	
VOCS																										
Benzene	0.8	µg/L	ND		ND		ND		ND	U	ND	U	**34**		**270**		ND	U	ND	U	ND	U	ND	U	ND	U
Ethylbenzene	5	µg/L	ND		ND		ND		ND	U	ND	U	**22**		**64**		ND	U	ND	U	ND	U	ND	U	ND	U
Toluene	5	µg/L	ND		ND		ND		ND	U	ND	U	**12**		**76**		ND	U	ND	U	ND	U	ND	U	ND	U
m&p-Xylenes	5	µg/L	ND		ND		ND		ND	U	ND	U	**8.8**	J	**29**	J	ND	U	ND	U	ND	U	ND	U	ND	U
o-Xylenes	5	µg/L	ND		ND		ND		ND	U	ND	U	**6.1**		**20**	J	ND	U	ND	U	ND	U	ND	U	ND	U
SVOCS																										
Acenapthene	10	µg/L	ND		ND		**0.18**	J	**0.25**	J	**0.22**	J	**5.3**		**11**		ND	U	ND	U	ND	U	ND	U	ND	U
Acenapthylene	10	µg/L	ND		ND		**0.27**	J	**0.29**	J	**0.39**	J	**2.5**	J	**7.7**		ND	U	ND	U	ND	U	ND	U	ND	U
Anthracene	10	µg/L	ND		ND		**0.29**	J	**0.36**	J	**0.27**	J	**1.7**	J	**3.9**	J	ND	U	ND	U	ND	U	ND	U	ND	U
Benzo(a)anthracene	10	µg/L	ND		ND		**0.86**	J	**0.98**	J	**1.1**	J	**1.2**	J	**4.8**		ND	U	ND	U	ND	U	ND	U	ND	U
Benzo(a)pyrene	0.09	µg/L	ND		ND		**1.7**	J	**1.8**	J	**1.9**	J	**0.88**	J	**4.8**		ND	U	ND	U	ND	U	ND	U	ND	U
Benzo(b)fluoranthene	0.07	µg/L	ND		ND		**0.45**	J	**0.75**	J	**0.69**	J	ND	U	**3.5**	J	ND	U	ND	U	ND	U	ND	U	ND	U
Benzo(g,h,i)perylene	10	µg/L	ND		ND		**0.34**	J	**0.41**	J	**0.49**	J	ND	U	**2.5**	J	ND	U	ND	U	ND	U	ND	U	ND	U
Benzo(k)fluoranthene	0.02	µg/L	ND		ND		0.18	U	ND	U	**0.19**	J	ND	U	**1.3**	J	ND	U	ND	U	ND	U	ND	U	ND	U
Chrysene	0.6	µg/L	ND		ND		**0.59**	J	**0.77**	J	**0.79**	J	**0.97**	J	**4.1**		ND	U	ND	U	ND	U	ND	U	ND	U
Dibenzo(a,h)anthracene	10	µg/L	ND		ND		ND	U	ND	U	**1.5**	J	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Fluoranthene	10	µg/L	ND		ND		**0.99**	J	**1.2**	J	**1.1**	J	**2.4**	J	**6.5**		ND	U	ND	U	ND	U	ND	U	ND	U
Fluorene	10	µg/L	ND		ND		**0.15**	J	**0.18**	J	**0.14**	J	**2.4**	J	**4.2**		ND	U	ND	U	ND	U	ND	U	ND	U
Indeno(1,2,3-cd)pyrene	0.2	µg/L	ND		ND		**0.25**	J	**0.27**	J	**0.33**	J	ND	U	**1.8**	J	ND	U	ND	U	ND	U	ND	U	ND	U
Naphthalene	10	µg/L	ND		ND		ND	U	ND	U	**0.3**	J	**38**		**74**		ND	U	ND	U	ND	U	ND	U	ND	U
Phenanthrene	10	µg/L	ND		ND		**0.45**	J	**0.52**	J	**0.2**	J	**6.4**		**11**		ND	U	ND	U	ND	U	ND	U	ND	U
Pyrene	10	µg/L	ND		ND		**1.7**	J	**1.9**	J	**1.8**	J	**4**		**11**		ND	U	ND	U	ND	U	ND	U	ND	U
Total SVOCs	NA	µg/L	ND		ND		8.4		9.68		11.41		65.75		152.1		0		0		0		0		0	
Metals																										
Barium, Total	Monitor	µg/L	**152**		**90.2**		**78.9**		**27.3**		**94.2**		**83**		**160**		**32**		**61**		**120**		**110**		**190**	
Cadmium, Total	Monitor	µg/L	ND		ND		ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Chromium, Total	Monitor	µg/L	ND		0.92	J	ND	J	**1.12**	J	**1.1**	J	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Copper, Total	Monitor	µg/L	**1.3**	J	**2.06**	J	**3.79**	J	**4.14**	J	**6.79**	J	ND	U	**2.8**	J	ND	U	ND	U	ND	U	**2**	J	**3.9**	J
Iron, Total	Monitor	µg/L	**118**		**83.3**		**626**		**591**		**623**		**450**		**1300**		ND	U	**40**	J	**120**	**J**	**190**	J	**180**	
Lead, Total	Monitor	µg/L	ND		ND		ND	J	**5.09**	J	**5.84**	J	ND	U	**3.2**	J	ND	U	ND	U	ND	U	ND	U	ND	U
Manganese, Total	Monitor	µg/L	**314**		**619**		**920**		**770**		**825**		**93**		**240**		**68**		**140**		**340**		**250**		**490**	
Nickel, Total	Monitor	µg/L	**6.1**	J	**4.27**	J	**5.76**	J	**4.03**	J	**6.16**	J	ND	U	**2.4**	J	ND	U	ND	U	**3.6**	**J**	**3.3**	J	**2.5**	J
Total Zinc	Monitor	µg/L	**6.08**	J	**7.08**	J	**8.92**	J	**7.03**	J	**10.6**		ND	U	ND	U	**84**		**18**	J	ND	U	ND	U	**4.1**	J
Wet Chemistry Analysis																										
pH	>6.5 or <8.5	S.U.	**8.3**		**7.9**		**7.9**		**8.26**		**8.13**		**8.2**		**8.1**		**7.3**		**7.48**		**7.59**		**7.59**		**7.69**	
Cyanide, Total	60	µg/L	ND	U	ND	U	ND	U	ND	U	**9.74**		**54**		ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Phenolics, Total Recoverable	8	µg/L	ND	U	0.0078	J	ND	U	ND	U	**14.2**		**0.018**		**0.014**		ND	U	ND	U	**0.0037**	**J**	ND	U	**0.0062**	
Total Suspended Solids	10 mg/L	mg/L	ND	U	ND	U	ND	U	ND	U	ND	U	**6.6**		**20**		ND	U	ND	U	**1.7**		**2**		**1.5**	

Notes:
ug/L = micrograms per kilogram [parts per billion (ppb)]
mg/L = milligrams per liter [parts per million (ppm)]
Bold = Analyte Detected
Shaded = Above Discharge Limitation
U = Not detected above method detection limit
J = Estimated concentration
D = Concentration determined by dilution

Table 2
Effluent Sampling Results
Former Mechanicville MGP Site
Mechanicville, NY

Sample Location: / Sample ID: / Date Collected:	Discharge Limitations	Units	Effluent MCFT WWNA 043 3/24/09		Effluent MCFT WWNA 047 3/31/09		Effluent MCFT WWNA 051 4/9/09		Effluent MCFT WWNA 055 4/21/09		Effluent MCFT WWNA 059 4/28/09		Effluent MCFT WWNA 063 5/5/09		Effluent MCFT WWNA 067 5/12/09		Effluent MCFT WWNA 071 5/27/09		Effluent MCFT WWNA 075 6/2/09		Effluent MCFT WWNA 079 6/9/09	
VOCS																						
Benzene	0.8	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Ethylbenzene	5	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Toluene	5	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	**0.11**	J	ND	U	ND	U	**0.11**	J
m&p-Xylenes	5	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
o-Xylenes	5	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
SVOCS																						
Acenapthene	10	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Acenapthylene	10	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Anthracene	10	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Benzo(a)anthracene	10	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Benzo(a)pyrene	0.09	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Benzo(b)fluoranthene	0.07	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Benzo(g,h,i)perylene	10	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Benzo(k)fluoranthene	0.02	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Chrysene	0.6	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Dibenzo(a,h)anthracene	10	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Fluoranthene	10	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Fluorene	10	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Indeno(1,2,3-cd)pyrene	0.2	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Naphthalene	10	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Phenanthrene	10	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Pyrene	10	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Total SVOCs	NA	µg/L	0		0		0		0		0		0		0		0		0		0	
Metals																						
Barium, Total	Monitor	µg/L	**61**		**59**		**52**		**100**		**180**		**99**		**120**		**185**		**205**		**73.4**	
Cadmium, Total	Monitor	µg/L	ND	U	**1.4**	J	ND	U	ND	U	ND		ND	U	ND	U	ND	U	ND	U	ND	U
Chromium, Total	Monitor	µg/L	ND	U	ND	U	ND	U	ND	U	ND		ND	U	ND	U	ND	U	ND	U	ND	U
Copper, Total	Monitor	µg/L	**1.8**	J	ND	U	**2.2**	J	**5.8**		ND		ND	U	**4.7**	J	ND	U	**7.1**	J	**5.8**	J
Iron, Total	Monitor	µg/L	**300**		**72**	J	**37**	J	**160**		**71**	J	**150**		**200**		**87.2**	J	**241**		**340**	
Lead, Total	Monitor	µg/L	**2.6**	J	**3**	J	ND	U	ND	U	ND	U	ND	U	**4.7**	J	ND		ND	U	ND	U
Manganese, Total	Monitor	µg/L	**79**		**130**		**150**		**160**		**180**		**180**		**270**		**928**		**1200**		**568**	
Nickel, Total	Monitor	µg/L	**1.5**	J	**1.4**	J	**2.1**	J	**1.1**	J	**2.1**	J	**1.2**	J	ND	U	**1.3**	J	**3.4**	J	**1.7**	J
Total Zinc	Monitor	µg/L	**7.8**	J	**6.8**	J	**6.3**	J	**10**	J	**7.1**	J	**6.1**	J	**16**	J	**7.7**	J	**11**	J	**12.5**	J
Wet Chemistry Analysis																						
pH	>6.5 or <8.5	S.U.	**7.41**		**7.74**		**7.54**		**7.6**		**7.79**		**7.66**		**7.53**		**7.58**		**7.43**		**7.45**	
Cyanide, Total	60	µg/L	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	**43.2**		**71.4**		**44.5**	
Phenolics, Total Recoverable	8	µg/L	**0.0025**	J	**0.0033**	J	**0.0041**	J	**-**		ND	U	**0.0045**	J	**0.0031**	J	ND	U	ND	U	ND	U
Total Suspended Solids	10 mg/L	mg/L	**2**		**0.25**	J	**1**	J	**5.8**		**0.5**	J	**3.5**		**3.5**		**1.2**		**2.3**		**0.5**	J

Notes:
ug/L = micrograms per kilogram [parts per billion (ppb)]
mg/L = milligrams per liter [parts per million (ppm)]
Bold = Analyte Detected
Shaded = Above Discharge Limitation
U = Not detected above method detection limit
J = Estimated concentration
D = Concentration determined by dilution

Appendices

Appendix A	Project Meeting Minutes
Appendix B	Daily Field Construction Reports
Appendix C	Project Photographic Log
Appendix D	Pre-Remediation Sampling Report and Waste Characterization Results
Appendix E	Analytical and Geotechnical Results for Backfill Samples
Appendix F	Analytical Results for Confirmation Samples
Appendix G	SPDES Permit and Analytical Results for Water Discharge Samples
Appendix H	Anthony Kill Sediment Monitoring Results
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Appendix K	Field In-place Density Testing
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Appendix O	Excavation Area 5 Correspondence
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Appendix A

Project Meeting Minutes

MECHANICVILLE CENTRAL AVENUE MGP SITE REMEDIATION PROJECT

WEEKLY PROJECT STATUS MEETING

11/25/08 11:00

List Attendees: Tracy Blazicek; Scott Underhill; Matthew Thorpe; Catherine Kielb; Anthony Certo; Arthur Elia; John Spellman; Joseph Benedict; Todd Calder (ESMI)

1. Introduction – T. Blazicek
2. Review of work completed since previous status meeting – M. Thorpe
    a. Excavation area 3A has all sheet piling installed.
    b. The WWTP has been fully set up and is awaiting startup.
3. Issues to be addressed – ALL (see below)
4. Anticipated work for upcoming week – T. Certo
    a. Excavation 2 will be prepared for excavation and the excavation will begin around the middle of next week.
    b. Excavation area 3A has all sheet piles installed. The lower whaler is in place as it was used as a driving template. Toe pin installation is the next order of business in this area. When the toe pins are installed some material will be excavated to facilitate the installation of the upper whaler.
5. Other discussion as needed – ALL

Topics covered:

1. Weekly meetings will continue through the week of the Christmas Holiday.
2. Backfill material will be remediated soil from ESMI. Analytical data on this material will be sent to Matt Thorpe who will coordinate with Joe Benedict on official approval of the batches of material.
3. ESMI anticipates being able to have trucks run three “turns” a day during this project due to the close proximity of their plant. ESMI requests that brick and concrete material be sized to 8 inches minus. Conditionally Exempt Hazardous Waste and Non-Hazardous Waste will be identified on the trucking manifests.
4. Dry material from excavation area 2 will be used to solidify material in excavation area 3A that is too wet to work with.
5. Christmas and New Years weeks will be three day work weeks – Monday and Tuesday will be full eight hour days and Wednesday will run until approximately 12:30 pm.
6. John Spellman reports that he has not received any further information on the finalizing of the NYSDEC 401 Water Quality Certification. He does not see a reason to delay work because of this as the United States Army Corps of Engineers (USACOE) has issued their permit for the sight.
7. Community Air Monitoring Plan (CAMP) issues: A fourth monitoring station will be added within the next few weeks; The locations of the monitoring stations will then become fixed; Station locations will be as follows – one at the North West

corner of the site, one along Ferris Lane near the house that is west of the power substation, one in the North East corner of the site along the Anthony Kill, and one along North Central Ave. It is anticipated that the station along North Central Ave may be affected by traffic and road conditions – the field notes for the CAMP will document any occurrences that affect monitoring levels.

8. Truck access to and from the site will require some reconfiguration from the design layout. This will be handled onsite by the Contractor and the Engineer.
9. Anion Resin tanks will be kept in a standby condition at Sevenson's yard in Niagara Falls, NY.
10. The location of the effluent discharge line from the WWTP can be located at the Contractors convenience.
11. Results of the clean-up of the Underground Storage Tank (UST) that was discovered onsite show that all contaminated material was removed from the excavation and that contamination levels in the soil that was stockpiled onsite from the excavation can be treated at ESMI along with site MGP waste.
12. The phone systems for the site are up and running. This includes the answering service for the NYSDEC trailer phone number.
13. On December 4 NYSEG and NYSDEC will be having a program meeting that will include a visit to the site.

MECHANICVILLE CENTRAL AVENUE MGP SITE REMEDIATION PROJECT

WEEKLY PROJECT STATUS MEETING

12/02/08 11:00

List Attendees: Tracy Blazicek; Scott Underhill; Matthew Thorpe; Carsten Floess; Dustin Winn; Anthony Certo; Arthur Elia; John Spellman; Joseph Benedict;

1) Review of work completed since previous status meeting – M. Thorpe
   a) 16 toe pins have been installed.
   b) Excavation area 2 has been cleared of trees and brush.
2) Issues to be addressed – ALL
   a) NYSDEC asked if silt fence will be repaired in area 2 by Thursday's site visit. Tony Certo reports repairs will be made once the clearing work is completed today.
   b) Joe Benedict asked how trucks will be staged to not interfere with traffic on North Central Ave. Tony Certo and Tracy Blazicek replied that trucks would be staged as they arrive on Ferris Ave and the site. The trucks will be entering from the western end of the site.
   c) Joe Benedict requested that the Biosolve to water ratio be increased when excavations begin. Tony Certo responded that the mixture would be increased when excavations begin.
3) Anticipated work for upcoming week – T. Certo
   a) Install turbidity curtain and oil boom for excavation area 2.
   b) Receive decontamination pads and place in stand-by location onsite.
   c) WWTP testing – will utilize water from inside of area 3A where NAPL is present.
   d) Begin excavation and trucking material to ESMI by Thursday of this week.
   e) Toe pin installation will require 8 to 9 more working days to complete.
4) Other discussion as needed – ALL
   a) Thursday December 4th will be the NYSEG/NYSDEC site visit. There should be about 20 to 25 people in attendance.
   b) Next week's meeting will be held on Wednesday due to schedule conflicts.
   c) John Spellman reports that the 401 Water Quality Certification should be done by Friday.

MECHANICVILLE CENTRAL AVENUE MGP SITE REMEDIATION PROJECT

WEEKLY PROJECT STATUS MEETING

12/17/08 11:00

List Attendees: Tracy Blazicek; Matthew Thorpe; Scott Underhill; Anthony Certo; John Spellman; Joseph Benedict

1. Review of work completed since previous status meeting – M. Thorpe
    - Excavation area 2A has been excavated to bedrock on the western and southern sides. The western sidewall exhibited a vein of tar soaked material and has been covered with poly-sheeting. Excavations progressed approximately six feet beyond the planned western sidewall but cannot progress further at this time due to erosion control measures. Excavations will continue to the west later in the project. Backfilling has begun from the southwestern corner and is proceeding east using IRM backfill and ESMI backfill. Concrete pads have been encountered just on top of the bed rock west of the bend in the cell approximately ten to fifteen feet from the Anthony Kill. Below the pads a layer of tar has been found approximately one to two inches thick and the rock cleans up predominantly within six inches.
    - All toe pins have been installed in area 3A.
2. Issues to be addressed – ALL
    - WWTP – the first 10,000 gallons and second 10,000 gallons will be tested
3. Anticipated work for upcoming week – T. Certo
    - Begin excavations in area 3A.
    - Continue excavations in area 2.
    - Test WWTP
4. Other discussion as needed – ALL
    - Coverage for the site over the holidays – Sevenson does not have any personel that are local. Earth Tech will have staff available if the need arises for emergency measures.
    - Silt monitoring will be suspended due to high water conditions in the Anthony Kill.
    - Areas 3-B C and D will be combined into one excavation area that will be within a sheet pile cofferdam.
5. Odor control, particularly with the soil hauling trucks
    - Odor control has been conducted satisfactorily.
    - Trucks hauling excavated soils offsite must have full-solid tarps to include “bonnets”. If full coverage is not provided then the load must be covered with poly-sheeting.
6. Next meeting will be January 5, 2009

MECHANICVILLE CENTRAL AVENUE MGP SITE REMEDIATION PROJECT

WEEKLY PROJECT STATUS MEETING

01/13/09 11:00

List Attendees: Tracy Blazicek; Matthew Thorpe; Scott Underhill; Anthony Certo; Arthur Elia; Gary Rose (by phone); John Spellman; Joseph Benedict.

1. Review of work completed since previous status meeting – M. Thorpe
    - Excavations have proceeded in excavation area 2 to approximately two feet above the water line. The "super sack" sand bag cofferdam has been constructed along the upstream portion of area 2.
    - Excavations in area 3A have uncovered the top of the holder foundation. Demolition of the holder foundation has begun using the excavator mounted hydraulic ram.
    - Analytical data has been received on the Waste Water Treatment Plant Effluent Batch 1 and 2. The pH level in batch 2 is above discharge criteria. A new sample from the 20,000 gallons now in the effluent tank has been sent for retesting at Adirondack Environmental Services. The elevated reading is believed to be from the new Granular Activated Carbon media.
2. Issues to be addressed – ALL
    - Clearance of ESMI treated backfill – soil was resampled as requested and all levels within regulations. PCB results are still to follow but the plant is not allowed to receive soils with higher than 1ppm total PCB's. Soil is approved for use as backfill.
    - Community Air Monitoring Plan is functioning as intended without incident.
    - Use of Calcimente should not be a problem, based upon approval at NYSEG – Ithaca site. Tracy Blazicek, Scott Underhill and John Spellman will coordinate official approval.
3. Anticipated work for upcoming week – T. Certo
    - Excavations and demolition of the holder foundation will continue. Intent is to have the lower whaler dropped into position by next meeting.
4. Next meeting 01-20-09 11:00am.

MECHANICVILLE CENTRAL AVENUE MGP SITE REMEDIATION PROJECT

WEEKLY PROJECT STATUS MEETING

01/20/09 11:00

List Attendees: Tracy Blazicek; Matthew Thorpe; Scott Underhill; Anthony Certo; Arthur Elia; Gary Rose (by phone); John Spellman; Joseph Benedict.

1. Review of work completed since previous status meeting – M. Thorpe
    - Excavations are progressing in area 3A. The bottom of the inside of the holder foundation has been located.
    - Excavation area 2 has not progressed since the last meeting due to weather conditions and stream depth.
    - Calcimente is working well as a soil amendment. This product appears to generate less dust.
2. Issues to be addressed – ALL
    - Tracy Blazicek inquired if NYSDEC had a problem with the rubble from the holder foundation demolition being used as backfill. John Spellman indicated that this would be fine provided that all free NAPL was removed from the concrete pieces and that soil and small rubble was not reused.
    - NYSDEC has received the report on the Underground Storage Tank (UST) that was removed from the site during mobilization and site setup.
    - John Spellman asked that the "sugar" labels on the supersacks that the calciment is delivered in be removed or painted over. Tony Certo stated that he would speak to his contact at Mintek to have this taken care of at the packaging plant and that Sevenson would paint over the labels on the bags onsite.
    - The redesign of excavation area 3B is progressing. The limiting factor on installation of this sheet pile cofferdam will be the availability of the ABI which is currently onsite at the NYSEG Ithaca project.
3. Anticipated work for upcoming week – T. Certo
    - Excavations in areas 2 and 3A will proceed..
4. Next meeting 02-02-09 11:00am.

MECHANICVILLE CENTRAL AVENUE MGP SITE REMEDIATION PROJECT

WEEKLY PROJECT STATUS MEETING

02/03/09 11:00

List Attendees: Tracy Blazicek; Matthew Thorpe; Scott Underhill; Anthony Certo; Joseph Benedict.

1. Review of work completed since previous status meeting – M. Thorpe
    - Excavations and demolition of the holder foundation are progressing. Concrete rubble from the foundation has been stacked between the foundation and the sheet piles. Bedrock has been encountered from the northwest to the southern quadrants.
2. Issues to be addressed – ALL
    - Tracy Blazicek indicated that the Electric Power Research Institute (EPRI) will be conducting an odor research project on this site during excavations in the modified area 3B
    - Tony Certo will be on vacation from February 13th until the 22nd. Sevenson will have another superintendent onsite to fill in during this time.
3. Anticipated work for upcoming week – T. Certo
    - Excavations will continue in area 3A. Add mixtures of calciment will be adjusted to deal with high moisture content of material going to ESMI.
    - Remove trees along the Anthony Kill to allow progression of excavations in area 2. Sections of this area will be backfilled as "clean" status is reached. Tony Certo will check with ESMI on the soil gradation of available treated backfill soils to ensure adequate compaction of backfill along the Anthony Kill.
4. Next meeting 02-24-09 11:00am.

MECHANICVILLE CENTRAL AVENUE MGP SITE REMEDIATION PROJECT

WEEKLY PROJECT STATUS MEETING

02/24/09 11:00

List Attendees: Tracy Blazicek; Matthew Thorpe; Scott Underhill; Carsten Floess; Dustin Winn; James Salmon; Anthony Certo; John Spellman; Joseph Benedict.

1. Review of work completed since previous status meeting – M. Thorpe
    - WWTP effluent sample MCFTWWNA020 collected on 02-04-09 failed for exceedances of Benzene, Toluene, Ethel benzene, Xylene and Naphthalene. Results were received on 02-13-09 and discharge was immediately halted. Successive samples failed and the filter media were changed. The system was then run to produce a treated batch. Sample MCFTWWNA020 which was collected on 02-20-09 returned passing results except for pH. The batch water was then treated with acid to lower the pH and a subsequent pH sample was sent to Adirondack Environmental Services and passed discharge criteria. Continuous discharge was then resumed.
    - Excavations and demolition of the holder foundation have progressed to bedrock in area 3A. The holder foundation that was encountered appears to have been 14 feet tall with a pad of concrete beneath. This pad varies in depth from 12 – 24 inches thick.
    - Excavations in area 2 are progressing again. The super sack sand bag cofferdam has been shifted down stream. Excavations have revealed a depression in the bedrock which is approximately two feet below the bottom of the stream bank. This depression begins approximately four to six feet south of the south stream bank. A row of timbers has been encountered at the edge of this depression that is staked into the bedrock.
    - WWTP will be run 24 per day in an effort to get area 3A pumped dry again. Infiltration into area 3A is estimated to be approximately 10gpm. Sample collection will now be on Tuesday of every week and results will be received by close of business on Fridays.
2. Issues to be addressed – ALL
    - Sheet pile cofferdam design of area 3B has been finalized by M.A. Bongiavanni. Some clarifications have been requested.
    - Washed stone sumps will be installed in the lowest grades of area 3A for collection of residual NAPL. These sumps will have wells drilled into them after site restoration.
3. Anticipated work for upcoming week – T. Certo
    - Excavations will continue in area 3A and 2, as well as demolition of the holder foundation in area 3A.
4. Next meeting 03-10-09 11:00am.

MECHANICVILLE CENTRAL AVENUE MGP SITE REMEDIATION PROJECT

WEEKLY PROJECT STATUS MEETING

03/17/09 11:00

List Attendees: Tracy Blazicek; Matthew Thorpe; Scott Underhill; Anthony Certo; John Spellman; Joseph Benedict.

1. Review of work completed since previous status meeting – M. Thorpe
    - WWTP has been running effectively with no problems.
    - Excavations and demolition of the holder foundation have progressed to bedrock in area 3A. John Spellman (NYSDEC) granted permission for NYSEG to leave the footing pad in place at the bottom of the holder foundation. This pad varies in depth from 12 – 24 inches thick. Portions were removed; however it had a tight seal to the bedrock so there was not evidence of substantial NAPL under the pad.
    - Excavations in area 2 are progressing to the east. The excavation is being phased such that the excavation proceeds to bedrock except on the last 3-5 feet of thickness of the bank which is left in place, the open area is backfilled except a dewatering sump. Then the remaining bank material is removed. This bank material is generally very wet and large volumes of contaminated water are produced during this phase.
    - The design of the modified excavation area 3B is complete. When area 3A has been completely backfilled the sheet piles that are not being utilized in place will be pulled to allow for reinstallation as part of area 3B.
2. Issues to be addressed – ALL
    - NYSEG requests that NYSDEC approve the placement of rip-rap stone cover of the Anthony Kill bank to an elevation equal to the top of the culvert headwall 50 feet west of the culverts and then to the elevation of the top of the culverts for the remainder of the disturbed portion of the bank. NYSDEC will get back to NYSEG on this matter.
3. Anticipated work for upcoming week – T. Certo
    - Excavation area 3A should be completed and backfilling begun. Backfill will consist of cobbles below the bottom whaler then geotextile will be placed and the remainder of the excavation will be filled with treated ESMI backfill.
    - Installation of sheet piles in area 3B.
    - The piian system will be mobilized to the site and set up. The system will be run during the work day until temperatures are no long below freezing at night. At that time the system will be run continuously.
4. Next meeting 04-01-09 11:00am.

MECHANICVILLE CENTRAL AVENUE MGP SITE REMEDIATION PROJECT

WEEKLY PROJECT STATUS MEETING

04/01/09 11:00

List Attendees: Tracy Blazicek; Matthew Thorpe; Scott Underhill; Catherine Kielb; Anthony Certo; Arthur Elia; Todd Calder (ESMI); John Spellman; Joseph Benedict.

1. Review of work completed since previous status meeting – M. Thorpe
    - WWTP has been running effectively with no problems.
    - Excavations and demolition of the holder foundation have progressed to bedrock in area 3A. John Spellman (NYSDEC) granted permission for NYSEG to leave the footing pad in place at the bottom of the holder foundation. This pad varies in depth from 12 – 24 inches thick. Portions were removed; however it had a tight seal to the bedrock and there was not evidence of substantial NAPL under the pad.
    - Excavations in area 2 are progressing to the east. The excavation is being phased such that the excavation proceeds to bedrock except on the last 3-5 feet of thickness of the bank which is left in place, the open area is backfilled except a dewatering sump. Then the remaining bank material is removed. This bank material is generally very wet and large volumes of contaminated water are produced during this phase.
    - The design of the modified excavation area 3B is complete. When area 3A has been completely backfilled the sheet piles that are not being utilized in place will be pulled to allow for reinstallation as part of area 3B.
2. Issues to be addressed – ALL
    - NYSEG requests that NYSDEC approve the placement of rip-rap stone cover of the Anthony Kill bank to an elevation equal to the top of the culvert headwall 50 feet west of the culverts and then to the elevation of the top of the culverts for the remainder of the disturbed portion of the bank. NYSDEC will get back to NYSEG on this matter.
3. Anticipated work for upcoming week – T. Certo
    - Excavation area 3A should be completed and backfilling begun. Backfill will consist of cobbles below the bottom whaler then geotextile will be placed and the remainder of the excavation will be filled with treated ESMI backfill.
    - Installation of sheet piles in area 3B.
    - The piian system will be mobilized to the site and set up. The system will be run during the work day until temperatures are no long below freezing at night. At that time the system will be run continuously.
4. Next meeting 04-01-09 11:00am.

MECHANICVILLE CENTRAL AVENUE MGP SITE REMEDIATION PROJECT

WEEKLY PROJECT STATUS MEETING

05/06/09 11:00

List Attendees: Tracy Blazicek; Matthew Thorpe; Scott Underhill; Anthony Certo; John Spellman; Joseph Benedict.

1. Review of work completed since previous status meeting – M. Thorpe
    - Excavations have been completed in excavation area 1. Post Excavation sample results show levels below clean-up criteria.
    - Excavations to the west and south of area 2 have been completed. Three of the Post Excavation samples showed levels below clean-up criteria and results on three samples are still awaited. The last two samples were collected in the vicinity of Ferris Lane and the gas pressure regulator shed. These samples were collected just above visible NAPL in the sidewalls of the excavation. Further excavation in these areas was not possible at that time due to proximity of the active gas main and the edge of the site was reached.
    - Installation of the steel sheet piles for the revised Excavation Area 3B has been completed. Installation of the toe pins for the sheet piles continues and should be completed by the middle of next week. Installation of the upper whaler brace is scheduled to begin tomorrow.
    - The Piian system has been tested and is working. This system will be kept on starting next week.
2. Issues to be addressed – ALL
    - The Electric Power Research Institute will be conducting an odor study during excavations in area 3B. They are scheduled to be onsite the first week of June.
    - The Streambank Restoration Plan has been finalized and approved by NYSDEC.
    - The six month expiation of the site SPDES permit is approaching; Scott Underhill will be submitting for an extension.
    - John Spellman reports that Andy Frank (NYSDEC Spill Control) was contacted by Di Siena Furniture while investigating contamination related to the former Getty station. The complained that site truck traffic was damaging their parking lot. Tracy Blazicek stated that NYSEG would handle the situation and that site truck traffic was not observed to be affecting the Di Siena parking lot.
    - John Spellman stated that any mud tracked onto North Central Avenue to date had been cleaned-up by the City of Mechanicville but asked what measures were being taken to reduce or eliminate this problem in the

future. Tony Certo indicated that #3 washed stone will be placed on the roads to mitigate this problem.
    - John Spellman asked that an additional layer of sandbags be added to the erosion control measures at the western extent of area 2.
    - Sediment monitoring will be conducted once more during construction activities and then again at the completion of the project.
3. Anticipated work for upcoming week – T. Certo
    - Excavations will begin in the revised area 3B to facilitate installation of the upper whaler. Once the whaler has been fully installed excavations will proceed to the elevation of the lower whaler.
    - Toe pin installation will be complete by the middle of next week.
4. Next Meeting – 05-19-09

MECHANICVILLE CENTRAL AVENUE MGP SITE REMEDIATION PROJECT

WEEKLY PROJECT STATUS MEETING

05/19/09 11:00

List Attendees: Tracy Blazicek; Matthew Thorpe; Catherine Kielb; Anthony Certo; Arthur Elia; John Spellman.

1. Review of work completed since previous status meeting – M. Thorpe
    - Excavations in the revised area 3B have begun. Odor control issues have necessitated odor control measures to be increased. These efforts include the addition of a third biosolve sprayer. Wintergreen sent from Rusmar Foam Technology has replaced Pinsol in the odor control spray, at a concentration of 4oz per 100 gallons. Additionally Biosolve concentrations have been raised to approximately 4%. The length of the work shift has been increased to excavate and dispose of the contaminated material in this excavation area before sustained warm weather arrives. Daily tonnage shipped offsite for thermal treatment has been 600 – 700 tons per day.
    - Post Excavation samples collected from the south and southwest sidewalls of area 2 along Ferris Lane and near the gas regulator building returned results below clean-up criteria. The visible NAPL at the top of bedrock that was not able to be excavated will be documented in the final engineering report for the project.
2. Issues to be addressed – ALL
    - The project received its first odor complaint on Friday – 05-15-09. An employee from Shep's Automotive Repair stopped at the site and reported that two customers were affected by the odors at 11:45 am.
    - Excavation Area 5 will be excavated while Excavation Area 3B is open. Excavated material will be loaded into a truck and then dumped into area 3B to be amended and then loaded out for offsite disposal.
    - NYSEG received a phone call to the local service center on 05-18-09. This call was to inform NYSEG that the site fence was "smoking" and that the person smelled something. This was apparently in reference to the Piian system which is hung on the site fence.
    - The issue of diverting surface water runoff in the western end of the site into a drainage swale that would run into the Anthony Kill along the western property line of the site was brought up for discussion. This is a concern because there is often a visible sheen on the water. John Spellman stated that he did not see a problem with this plan.
    - All drainage swales constructed during final restoration of the site will be fabric lined and covered in stone fill.

- The close proximity of the Piian system to the CAMP stations has resulted in multiple particulate readings in exceedance of action and stop work levels on a daily basis. It is clearly visible that these levels are generated by the Piian system atomizers which are in close proximity to the monitor stations. The locations of the stations have been adjusted to minimize this effect to the greatest extent possible. The situation is expected to persist until the end of intrusive excavation operations. John Spellman asked that the CAMP continue to be run as it has. He also asked that the Onsite NYSDEC Representative be kept aware of the high readings as they occur.
- Due to the expedited schedule the Electric Power Research Institute (EPRI) will be onsite to conduct there odor/air monitoring tests on 05-21-09 and 05-22-09.

3. Anticipated work for upcoming week – T. Certo
    - The lower whaler will be installed in area 3B. Excavations will then proceed to bedrock. Production is planned to be at 15-20 truck loads a day to ESMI.
    - Calcimente will be received on a daily basis for the next several work days to ensure the excavated material can be shipped offsite.
    - Work days are planned to be 10 hour days to ensure the excavation is completed expeditiously.
4. Next Meeting – 06-01-09 at 1:00pm.

MECHANICVILLE CENTRAL AVENUE MGP SITE REMEDIATION PROJECT

WEEKLY PROJECT STATUS MEETING

06/01/09 11:00

List Attendees: Tracy Blazicek; James Salmon; Matthew Thorpe; Scott Underhill; Anthony Certo; Arthur Elia; Joseph Benedict; John Spellman.

1. Review of work completed since previous status meeting – M. Thorpe
    - Excavations in the revised area 3B have been completed. Backfilling of this area has begun and continues. Cobbles are being used in the southeast corner and a #1 washed stone "sump" will be installed in the northeast corner. The remainder of the excavation will be filled with treated soil from ESMI and Valente "run of bank" fill.
    - Waste water treatment continues and a discharge sample will be collected this week. After this week water treatment is expected to be minimal. Decontamination of the influent tanks will begin once excavation area 3B has been backfilled to the static water table elevation.
    - Excavation area 5 was not excavated due to constructability issues associated with the proximity of the natural gas main under Ferris Lane.
2. Issues to be addressed – ALL
    - The site grading plan will be finalize this week. Persistent erosion problems of the top of the stream bank at the western edge of excavation area 2 would be best addressed with the addition of a stone lined drainage swale in this area. John Spellman did not see a problem with this approach. He stated that Corbin Gosier (NYSDEC – Bureau of Habitat) would need to approve of the plan and that he would visit the site to observe the implementation of the stream bank restoration.
    - Planting materials for the stream bank restoration have been ordered. John Spellman asked that in cases where there are options for the planting that local species be utilized.
    - John Spellman asked if additional silt fencing could be installed at the western edge of the disturbed stream bank to help with the erosion issues. Tony Certo said that he would have additional silt fence installed in that area.
    - John Spellman stated that he saw no further need to keep the Piian system functioning at this time. Therefore due to the concensus that any odors created during excavations in area 3C and 3D could be handled with biosolve spray the decision to dismantle the system was reached.
    - All drainage swales constructed during final restoration of the site will be fabric lined and covered in stone fill.

- The Volatile Organic Compound monitoring portion of the Community Air Monitoring Plan will be discontinued once excavation areas 3C and 3D have been excavated and backfilled.
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3. Anticipated work for upcoming week – T. Certo
    - Complete backfill of the modified excavation area 3B. Remove sheetpiling from this area once backfill is complete.
    - Excavations in areas 3C and 3D concurrently. This will begin once the "fin" portion of the sheet piling from area 3B has been removed on the western side of area 3B.
    - Sludge and sediment from the WWTP will be solidified in roll-off containers from Page Transportation.
    - Begin final grading of site and stream bank restoration.
4. Next Meeting – 06-16-09 at 11:00am.