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**Sent:** Tuesday, July 30, 2019 4:16 PM  
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**Subject:** NYSEG Auburn Clark CCR, McMaster St. MGP CCR - Final  
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Good afternoon John,

On behalf of NYSEG, for you to download are final NYSEG Auburn Sites Construction Completion Reports.

Please let me know if you have any issues accessing.

Regards,

Heather

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Phase I-IV Construction Completion Report  
McMaster Street  
Former Manufactured Gas Plant Site  
Auburn, New York

NYSDEC Site Number: 7-06-010

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Prepared for:



PO Box 5224  
Binghamton, NY 13902-5224

Prepared by:

**PARSONS**

301 Plainfield Road  
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Syracuse, NY 13212  
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JULY 2019

## CERTIFICATIONS

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I, Raymond D'Hollander, am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Remedial Design was implemented and that all construction activities were completed in substantial conformance with the Department-approved Remedial Design.



064790

NYS Professional Engineer #

7/29/19

Date

Signature

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## LIST OF ACRONYMS

Acronym	Definition
Auburn Tank	Auburn Tank Manufacturing Company, Inc
BTEX	benzene, toluene, ethylbenzene and xylene
CAMP	Community Air Monitoring Plan
CQAP	Construction Quality Assurance Plan
ESMI	Environmental Soil Management Companies
HASP	Health and Safety Plan
ISS	In situ solidification
mg/Kg	milligrams per kilogram
MGP	manufactured gas plant
NAPL	non-aqueous phase liquid
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
NYSEG	New York State Electric and Gas Corporation
OSHA	Occupational Safety and Health Act or Administration
PAH	polycyclic aromatic hydrocarbon
PDI	Pre Design Investigation
PSHEP	Project Safety, Health and Environment Plan
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
RAO	remedial action objective
RD	Remedial Design
RI	Remedial Investigation
ROD	Record of Decision
SCO	soil cleanup objectives
SEQR	State Environmental Quality Review
SES	Sevenson Environmental Services
SH&E	safety, health, and environment
SHSO	Site Health and Safety Officers
SMP	Site Management Plan
SPDES	State Pollution Discharge Elimination System
SSHP	Site Safety and Health Plan
SWPPP	Storm Water Pollution Prevention Plan
VOC	volatile organic compounds

# Phase I-IV Construction Completion Report

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## 1.0 BACKGROUND AND SITE DESCRIPTION

New York State Electric and Gas Corporation (NYSEG) entered into an Order on Consent with the New York State Department of Environmental Conservation (NYSDEC) in March 1994, to investigate and, where necessary, remediate 33 former MGP sites in New York State. One of these sites, the McMaster Street Former Manufactured Gas Plant (MGP) Site is an approximately 1.93-acre upland property located in Auburn, New York. The property was remediated to commercial use criteria, consistent with its current zoning designation.

The site is located in the County of Cayuga, New York and is identified as a portion of Block 1 and Lot 3 on the City of Auburn Tax Map # 115.52. The site is about 3.4 acres and includes a portion of the Owasco Outlet adjacent to the upland property. The site is bounded by the Owasco Outlet to the north and east, a railroad right-of-way to the south, and an asphalt parking lot and Auburn Tank Manufacturing Company, Inc. (Auburn Tank) to the west (see Figure 1). The boundaries of the site are fully described in Appendix A: Survey Map, Metes and Bounds.

An electronic copy of this CCR with all supporting documentation is included as Appendix B.

## 2.0 SUMMARY OF SITE REMEDY

### 2.1 REMEDIAL GOALS

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Based on the results of the Remedial Investigation (RI), the following Remedial Goals were identified for this site.

#### 2.1.1 GROUNDWATER REMEDIAL GOALS

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Remedial Goals for Public Health Protection

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

Remedial Goals for Environmental Protection

- Restore the groundwater aquifer to meet ambient groundwater quality criteria to the extent practicable.

#### 2.1.2 SOIL REMEDIAL GOALS

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Remedial Goals for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of contaminants from the soil.

#### Remedial Goals for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

### 2.1.3 SEDIMENT REMEDIAL GOALS

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#### Remedial Goals for Public Health Protection

- Prevent direct contact/ingestion with contaminated sediments.

#### Remedial Goals for Environmental Protection

- Prevent impacts to biota due to ingestion/direct contact with sediments causing toxicity and impacts from bioaccumulation through the aquatic food chain.

## 2.2 DESCRIPTION OF SELECTED REMEDY

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The site was remediated in accordance with the remedy selected by the NYSDEC in the Record of Decision (ROD) dated November 2009.

The factors considered during the selection of the remedy are those listed in 6NYCRR 375-1.8. The following are the components of the selected remedy as summarized in the NYSDEC approved Final (100%) Remedial Design Report (Arcadis, 2014):

- Excavation of soil, former MGP structures, and piping from areas where soil contains visible tar or non-aqueous phase liquid (NAPL) and/or total polycyclic aromatic hydrocarbons (PAHs) and total benzene, toluene, ethylbenzene and xylene (BTEX) at concentrations greater than 500 and 10 milligrams per kilogram (mg/kg), respectively. Soils exhibiting odors, staining, or sheens are not considered for removal as visual NAPL and will only be removed if the soil contains total PAHs at a concentration greater than 500 mg/kg. Excavated soil that does not contain visual indications of tar or NAPL and contains PAHs at concentrations less than 500 mg/kg is potentially suitable for on-site reuse as backfill below a demarcation layer (described below).
- The entire site will be covered with a geotextile demarcation layer overlain by a minimum of one foot of backfill material that satisfies the commercial use soil cleanup objectives (SCOs) presented in Appendix 5 of DER-10. Asphalt paving or crushed stone could be utilized as needed for future use of the site. An ecological buffer zone will be constructed along the southern edge of the Owasco Outlet. The ecological buffer zone will be approximately 25 feet wide as measured laterally from the high-water level. The top two feet of soil in this zone will consist of soils that meet the commercial and ecological SCOs presented in Appendix 5 of DER-10, and will be vegetated, as appropriate.
- Sediments which contain visible tar produce a tar-related sheen when agitated in water, or which contain site-related PAH compounds at concentrations greater than upstream background levels will be removed. Based on the results of the Sediment Pre Design Investigation (PDI), a site-specific PAH background concentration of 208 mg/kg was established for Owasco Outlet sediment adjacent to and downstream of the site. Removed sediment will be disposed off-site. Following sediment excavation, the streambed will be restored to 6NYCRR Part 608 requirements. Where the stream bank is disturbed, it will also be restored to 6NYCRR Part 608 requirements.

- NAPL collection wells (to be installed following the completion of remedial construction activities) will be designed and strategically placed with the goal of maximizing the potential recovery of NAPL from the bedrock.
- Development of a Site Management Plan (SMP) that will include the following institutional and engineering controls: (a) provisions for the management of the final cover system to restrict excavation below the soil cover's demarcation layer, pavement, or buildings; (b) an Excavation Plan to detail how excavation below the cover system will proceed and how any excavated soil will be tested and properly handled to protect the health and safety of workers and the nearby community; (c) evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (d) monitoring of stream bank, groundwater, and sediment quality; (e) identification of use restrictions on the site and adjacent properties; and (f) provisions for the continued proper operation and maintenance of the components of the remedy.
- Imposition of an institutional control in the form of an environmental easement that will require: (a) limiting the use and development of the property to commercial use, which will also permit industrial use; (b) compliance with an NYSDEC approved SMP; (c) prohibiting the use of groundwater as a source of potable water or restricting the use of groundwater as source or potable or process water without necessary water quality treatment as determined by New York State Department of Health (NYSDOH); and (d) NYSEG (or the property owner) to complete and submit to NYSDEC a periodic certification of institutional and engineering controls.
- NYSEG will provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to NYSDEC, until NYSDEC notifies NYSEG in writing that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with NYSDEC approved modifications; (b) allow NYSDEC access to the site; and (c) state that nothing has occurred that will impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by NYSDEC.

### 3.0 PHASING OF REMEDIAL CONSTRUCTION

The remedy for this site was performed as a single project, and no interim remedial measures, operable units or separate construction contracts were performed. However, to facilitate the removal, relocation, and installation of aboveground electric utilities at the Site, upland remedial construction activities were completed in multiple phases (i.e., mobilizations) as described below. Sediment removal activities were completed following completion of the upland work.

The phased construction sequence was shown on the Design Drawings and generally consisted of the following as described in the Final (100%) Remedial Design Report (Arcadis, 2014):

- *Phase 1 (Upland Remediation to Support Utility Relocation)* – construction activities consisted of excavation at the west end of the site. Soil and former MGP structures were removed to the depth of bedrock and the existing sanitary sewer replaced. Excavation activities completed during Phase 1 facilitated the installation of a new utility tower in the western portion of the site during Phase 2 and provided a clean location to construct the temporary water treatment that supported the Phase 3 construction activities. Phase 1 took place from September 2015 to January 2016.

- *Phase 2 (Utility Relocation)* – construction activities consisted of the relocation of the utility tower currently located within the limits of the former gas holder and relocation of the associated overhead lines to facilitate soil excavation within the remainder of the soil removal area. All work during Phase 2 was conducted by NYSEG. Phase 2 took place from March 2016 to June 2016.
- *Phase 3 (Remediation of Remaining Upland Portion)* – construction activities consisted of the excavation of the remaining upland soil removal area and select outlet bank material. Additionally, the existing storm sewer was replaced. Phase 3 took place from February 2016- September 2016.
- *Phase 4 (Sediment Remediation / Final Site Restoration)* – construction activities consisted of the removal of remaining outlet bank material and outlet sediment. The site was used for equipment and material staging during sediment removal activities. Following sediment removal, final site restoration activities were completed. Phase 4 took place from June 2017 to December 2018.

## 4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED

Remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved Remedial Design (RD) for the Site (Arcadis, 2014). Deviations from the RD are noted below.

### 4.1 GOVERNING DOCUMENTS

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The Final (100%) Design Report (Arcadis, 2014) presented the plans and specifications required to complete the McMaster Street remedial action and restoration. Field design changes are included in Appendix C. In accordance with the design, submittals were provided and are included in Appendix D. The Quality Assurance Project Plan (QAPP) and Construction Quality Assurance Plan (CQAP) were included as appendices to the 100% Design Report.

#### 4.1.1 SITE SPECIFIC HEALTH & SAFETY PLAN (HASP)

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All remedial work performed under this Remedial Action was in compliance with governmental requirements, including Site and worker safety requirements mandated by Federal Occupational Safety and Health Act or Administration (OSHA).

The Site Safety and Health Plan (SES, May 2015) was complied with for remedial and invasive work performed at the Site.

#### 4.1.2 CONSTRUCTION QUALITY ASSURANCE PLAN (CQAP)

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The CQAP managed performance of the Remedial Action tasks through designed and documented quality assurance/quality control (QA/QC) methodologies applied in the field and in the lab. The CQAP provided a detailed description of the observation and testing activities that were used to monitor construction quality and confirm that remedial construction was in conformance with the remediation objectives and specifications.

The CQAP also outlined the project organization. The functions and responsibilities of the various team members involved in the remedial action are described below.

### REGULATOR: NYSDEC

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The NYSDEC was the lead regulatory agency for the site, and Mr. John Spellman was the NYSDEC Project Manager. Eric Knapp provided NYSDEC's construction oversight on a regular basis at the Site. The NYSDEC reviewed plans, drawings, analytical reports, schedules and Field Change Forms.

### OWNER: NYSEG

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NYSEG was responsible for the design and implementation of the McMaster Street remedial action. Mr. Tracy Blazicek, is the NYSEG project manager and was the primary NYSEG contact during implementation of the remedial action. He reviewed and provided input on project approaches and deliverables during the remedial action.

### REMEDIATION CONTRACTOR: SEVENSON ENVIRONMENTAL SERVICES

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Sevenson Environmental Services (SES) was the prime contractor for implementation of the remedial action and managed the schedule and execution. The responsibilities of key SES personnel are described below.

### PROJECT MANAGER

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Mr. Gary Rose was the SES Project Manager responsible for the overall execution of the remedial action and for meeting the project objectives. The Project Manager was accountable to the NYSEG project manager Mr. Tracy Blazicek. Mr. Rose was responsible for managing subcontractors, maintaining the project schedule, managing the project budget, and ensuring the technical adequacy of the work performed. He was also the primary point-of-contact for NYSEG on technical, schedule, and contractual issues.

### SUPERINTENDENT

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The Superintendents for the project were Mr. Daniel Kraatz, Mr. Tony Certo and Chester Adams. Mr. Kraatz , Mr. Certo and Mr. Adams were responsible for implementing on-site construction activities and directing on-site construction personnel, including subcontractors.

Mr. Kraatz supervised the following activities in 2015, 2016 and 2018:

- Subcontractor scope of work
- In situ solidification (ISS) wall installation
- Excavation and restoration activities
- Water treatment
- Materials management

Mr. Certo supervised the following activities in 2016:

- Subcontractor Scope of Work
- Site Maintenance
- Materials Management

Mr. Adams supervised the following activities in 2017:

- Subcontractor Scope of Work
- Site Maintenance
- Materials Management
- Excavation activities
- Water treatment

### SITE HEALTH AND SAFETY OFFICER

The Site Health and Safety Officers (SHSO) for this project were Mr. Dominic Massaro (Phase 1 and 3) and Anthony Laurendi (Phase 4). They reviewed and implemented the Site Safety and Health Plan (SSHP). Mr. Massaro and Mr. Laurendi conducted periodic health and safety audits of the project, which included a review of personnel training records to verify that personnel had been trained in accordance with the Site Safety and Health Plan. Both officers also coordinated with site personnel and project management so that safe and compliant site work practices were implemented.

### QUALITY CONTROL MANAGER

The Quality Control Manager for this project was Mr. Dominic Massaro (Phase 1 and 3) and Anthony Laurendi (Phase 4). Mr. Massaro and Mr. Laurendi submitted documentation to the design/certifying engineer as required in the contract documents and maintained construction quality standards.

### SUBCONTRACTORS

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The following companies performed as subcontractors to SES:

Thew Associates of Utica, NY, conducted site surveys.  
Atlantic Testing Laboratories of Canton, NY, performed geotechnical testing services.  
Riccelli Enterprises of Syracuse, NY, provided disposal and transportation services & fill materials.  
Vitale Robinson of Auburn, NY, provided fill & aggregate materials.  
Hanson of Rochester, NY, provided fill materials.  
Precision Scale and Balance, Lancaster, NY, calibrated silo scale  
Quickrete of Lackawanna, NY, provided LKD.  
Lafarge of Buffalo, NY, was the source of Portland Cement.  
Nothnagle Drilling of Scottsville, NY, provided inclinometers.  
William Scottsman of Cherry Hill, NJ, provided office trailers.  
Knapp Electric of Auburn, NY, provided electrical services  
Rain for Rent of Avon, NY, provided water treatment equipment  
Environmental Soil Management Companies (ESM) of Fort Edward, NY, provided transportation and treatment of waste  
Xylem Godwin of Batavia, NY provided bypass pumping system & pipe  
NOCO of Lackawanna, NY provided fuel  
Cardinal of Syracuse, NY, planted trees at end of phase 4

### REMEDIATION ENGINEER: PARSONS

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Parsons was the remediation engineer for the McMaster Street remedial action. Parsons reviewed and provided comments on SES's submittals, provided fulltime on-site oversight of the remedial action, documented remedial activities, reviewed and signed waste manifests/bills of lading on behalf of NYSEG for

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shipments of waste materials, coordinated and documented project meetings, and implemented the Community Air Monitoring Plan (CAMP).

Key Parsons Site personnel included;

Mr. Shane Blauvelt P.E., - Parsons Project Manager and Resident Engineer (Phase 1-3)  
Mr. Ray D'Hollander P.E., - Parsons Resident Engineer (Phase 4), and Certifying Engineer  
Mr. Paul Roth, - Project Manager  
Ms. Heather Philip, - Parsons Project Manager (Phase 4)  
Mr. Ronald Prohaska - Onsite Construction Manager  
Mr. Dorian Kessler – CAMP Technician

#### **4.1.3 WASTE MANAGEMENT PLAN**

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The Waste Management Plan was included as Appendix H of the RD approved by the NYSDEC (Arcadis, August 2014). The Waste Management Plan described the characterization, handling, treatment, and disposal requirements for various waste materials generated at the site in accordance with all applicable Federal, State and local laws and regulations. The Plan included both on-site management requirements for waste streams generated during remedial construction activities and waste loading and off-site transportation requirements. Arcadis was responsible for conducting pre-remediation in-situ waste characterization sampling and for preparing waste profiles. NYSEG was responsible for contracting with a laboratory for analysis of waste samples, acting as the generator of materials produced during remedial activities for off-site treatment and disposal, contracting with waste haulers and disposal vendors, and providing bills of lading/manifests for off-site shipment of wastes. Parsons was responsible for collecting any additional waste characterization samples and assisting NYSEG with preparation of additional waste profiles, coordinating with waste haulers and disposal vendors contracted by NYSEG, and reviewing and signing waste manifests/bills of lading for waste shipments. The soil and waste characterization are documented in Appendix H.

#### **4.1.4 STORM-WATER POLLUTION PREVENTION PLAN (SWPPP)**

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The erosion and sediment controls for remedial construction activities were performed in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control and/or the site-specific Storm Water Pollution Prevention Plan included as Appendix I of the 100% RD Report approved by NYSDEC (Arcadis, August 2014). Storm water management practices were established that met the applicable substantive requirements of the NYSDEC State Pollution Discharge Elimination System (SPDES) Permit Equivalent obtained in support of remedial construction activities.

#### **4.1.5 COMMUNITY AIR MONITORING PLAN (CAMP)**

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A CAMP was developed for the McMaster Street remedial action and included as Appendix E of the 100% RD Report approved by NYSDEC (Arcadis, August 2014). The CAMP was implemented to protect the downwind community from potential airborne contaminant releases directly resulting from remedial activities. The downwind community included off-site receptors such as residences and businesses and on-site workers not directly involved with the subject work activities. Emission control measures specified in the CAMP were implemented. Air monitoring for volatile organic compounds (VOCs) and particulates took place at an upwind and two downwind locations near the perimeter of the Site. Meteorological monitoring was also conducted as part of the CAMP to document site conditions and help assess wind direction and speed. MGP-related odor

monitoring in the form of periodic perimeter site walks during working hours was also performed. Air monitoring reports were prepared weekly by Parsons and submitted to NYSDEC and NYSEG.

Action levels and corresponding response measures were identified in the CAMP for VOCs and particulates. Actual CAMP results and response actions are provided Appendix [I].

#### **4.1.6 CONTRACTORS SITE OPERATIONS PLANS**

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The Remediation Engineer reviewed plans and submittals for this remedial project and confirmed that they were in compliance with the RD. All remedial documents requested by NYSDEC were submitted in a timely manner. The submittal log and submittals are provided in Appendix D. Permits are provided in Appendix E.

#### **4.1.7 CITIZEN PARTICIPATION PLAN**

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The Citizen Participation Plan was included as Appendix G of the RD approved by the NYSDEC (Arcadis, August 2014). The Citizen Participation Plan documented the project-specific outreach activities and resources organized for the remedial program.

### **4.2 REMEDIAL PROGRAM ELEMENTS**

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#### **4.2.1 CONTRACTORS AND CONSULTANTS**

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The following companies were subcontractors to SES:

- Vitale –Robinson – roll off box services for construction debris, disposal of concrete for recycling. Provided site aggregates, and fill materials.
- Hanson- Provided fill materials.
- William Scottsman- Provided office trailers
- NOCO- Provided fuel for equipment
- Thew Associates – licensed land surveyors. – performed surveying services.
- Riccelli Enterprises, Inc. – transport of non –hazardous waste solids.
- Precision Scale and Balance – Silo scale calibration.
- Quickrete – Lime Kiln Dust supplier.
- Lafarge – Portland Cement supplier.
- Nothnagle – Inclinator installation.
- Rain For Rent – Weir and frac tank supplier.
- Atlantic Testing Laboratories - Nuclear gauge density testing.
- Xylem Godwin- Provided bypass pumping system & pipe.
- Cardinal- Plant trees after remediation
- Knapp Electric- Installed electrical for bypass system

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- SMI- Provided transportation and disposal of waste

Parsons Subcontractors included:

- Chemtech- Provided analytical supplies and services
- ALS- Provided analytical services
- Sterling- Provided analytical services
- Summit- Provided analytical services
- Paradigm Environmental- Provided analytical services
- Pine Environmental- Supplied CAMP and turbidity equipment
- Eco-Rental Solutions- Supplied CAMP equipment

NYSEG Subcontractors included:

- ESMI- Provided transportation and treatment of waste
- Clean Harbors- Provided transportation of excavated pipes and tanks. The following companies were subcontractors to SES:

## **4.2.2 SITE PREPARATION**

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A pre-construction meeting was held with NYSDEC, NYSEG, Parsons, and SES on June 11<sup>th</sup>, 2015 and site mobilization activities were initiated on June 19, 2015. In accordance to specification section 01046 (control of work), prior to any intrusive work, all on-site underground utilities were marked with the coordination of Dig Safely New York and a private utility locator by June 18, 2015. NYSEG marked out existing gas lines from the gas regulator building located on the southeast portion of the site. The existing gas lines, regulator building and substation were deactivated and removed by NYSEG during phase 2 of the RA.

Temporary sedimentation and erosion controls such as silt fencing, straw bales, and turbidity curtains were installed in accordance with Specification 01110 (Environmental Protection Procedures). Temporary 6-foot tall chain linked fencing was installed at the perimeter of the Site, as appropriate, and a NYSDEC-approved project sign was erected at the project entrance and remained in place during all phases of the Remedial Action.

Clearing and grubbing was conducted accordance with Specifications 01110 & 02209 (Clearing). Site access was improved with installation of new Type F crusher run aggregate. General site grading was performed for the staging of trailers and constructing water treatment containment pads. Portable sanitary services were provided and maintained with weekly servicing.

A temporary water treatment system was constructed in accordance with the approved Technical Execution Plan.

Documentation of agency approvals, permits, and permit equivalents required by the Remedial Design is included in Appendices C and E. Other non-agency permits relating to the remediation project are provided in Appendix E.

All State Environmental Quality Review (SEQR) requirements and all substantive compliance requirements for attainment of applicable natural resource or other permits were achieved during this Remedial Action.

### 4.2.3 GENERAL SITE CONTROLS

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The following site control activities were completed:

- Site security – SES and its subcontractors coordinated the locking of site trailers and the site access gate when personnel were not onsite.
- Job site record keeping – SES maintained records of personnel present at the site on the trailer sign-in sheet.
- Erosion and sedimentation controls – Parsons inspected the erosion and sediment control features and coordinated repairs with SES when needed. Inspection reports are located in Appendix F.
- Equipment decontamination and residual waste management- Contaminated equipment was cleaned with biosolve applied by pressure washer. During egress of Construction Contamination Zone, biosolve washing stations were maintained for personal equipment decontamination.
- Stockpile methods - In the event of over saturation of excavated materials, stockpiling was used for gravity dewatering. Stockpiles were confined to the staging area within limits of the excavation area. Contaminated soils that were to be treated off site were stockpiled and covered in Rusmar foam and polyethylene sheeting to control dust and odors with the permission of the NYSDEC and NYSEG. Excavated debris not suitable for offsite thermal treatment was segregated from other excavated materials, downsized, and stockpiled onsite.
- Decontamination- SES decontaminated (as necessary) personnel and equipment that came into contact with excavated materials. Construction vehicles leaving the site were decontaminated (as necessary) by the Remediation Contractor to prevent the tracking of soil off-site. SES conducted decontamination activities within the constructed decontamination area. SES decontaminated the project equipment (including, but not limited to, excavation equipment, trucks, pumps, and hand tools) that came in contact with excavated materials prior to demobilizing and prior to handling clean material in accordance with Specification 01112 – Decontamination Procedures.

### 4.2.4 NUISANCE CONTROLS

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SES was responsible for maintenance and cleaning of office trailers, disposal of trash at least twice a week, and regular disposal of sanitary waste. Dust control was implemented by SES through regular use of a water to either weigh down particulates in the air or wet the ground as a preventative measure; this was accomplished with the use of a water hose, power washer, and/or a water truck. A water truck was used to keep all nearby roads clear of any tracking from truck traffic. To mitigate congestion, only four tractor-trailers were allowed to queue nearby the site; remaining trucks were stationed at a local parking lot. For odor control Biosolve was applied during intrusive work and equipment cleanup; a coating of Rusmar foam was applied over any exposed contaminated surface. No complaints were reported throughout Phases 1-4. 4.2.5 CAMP results

Parsons monitored air quality using a MiniRae-3000 photo-ionization detector (PID) for volatile organics and DusTrak-II particulate monitor for dust at the site continuously during active site activities unless wet weather precluded operation of the equipment. Exceedances of action levels and response actions that occurred after mobilization are listed below:

#### Phase 1

- 9/30/15- Exceedance caused to DW station by Portland dust when Portland cement was being poured. Operations were halted and engineering controls were enacted.
- 11/9/15- Exceedance to DW station caused by nearby business (Auburn Tank) work practices.

**PARSONS**

- 11/17/15- Exceedance at DW station caused by strong winds kicking up dust from a nearby offsite road that is unpaved. Engineering controls including spraying down the road were used to control dust.
- 12/10/15- Exceedance at DW station caused by emptying motor bags for mixing. Engineering controls were used to reduce any future dust generating activity.

### **Phase 3**

- No exceedances during Phase 3 work.

### **Phase 4**

- 9/29/2017-Dry dust kicked up due to traffic at flea market/bottle return area and Auburn Tank parking. Gravel road was thoroughly wetted afterwards.
- 7/19/18-Exceedance on DW station caused by truck traffic. Engineering controls including spraying down the road were used to control the dust.
- 8/9/18- DW PID exceedance caused by high humidity. PID self-corrected as humidity level dropped.
- 8/23/18- DW PID exceedance most likely caused by humidity. No odors were detected using backup PID. PID began to stabilize as humidity dropped.
- 9/6/2018- UW PID exceedance due to high humidity. Readings stabilized as humidity levels dropped over time.

PID results were all below exceedance action levels throughout Phases 1, 3, and 4.

Copies of all field data sheets relating to the CAMP are provided in electronic format in Appendix I.

## **4.2.5 TURBIDITY RESULTS**

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In accordance with technical specification 13603 (River Bypass System) and the Contingency Plan, downstream and upstream turbidity monitoring stations using Global Water WQ770 turbidity meters were established during Phase 4 temporary dam and bypass operations. The specifications called for a minimum of two turbidity samples a day at each location. However, NYSEG decided to provide more frequent monitoring by installing automated monitoring equipment that monitored turbidity readings every minute and then averaged over 15-minute intervals. The temporary dam and bypass system eliminated surface water flow through the Phase 4 removal area except when the dam was overtopped during high creek flows. Excavation operations were ceased prior to the dam overtopping so there were no removals occurring during these overtopping events.

The turbidity data is presented graphically in Appendix K with a table discussing turbidity spikes that occurred during the work.

## **4.2.6 REPORTING**

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A daily field report was prepared by Parsons (See Appendix F). This report contains daily hours worked, description of Parsons and Severson site activities and a short-term schedule. These reports were prepared by Ron Prohaska. Severson prepared daily construction reports which included hours worked, work performed on site, planned activities, safety remarks, as well as photos highlighting the main activities of the day ( See Appendix F). These reports were prepared by Dominic Massaro for Phases 1-3 and Anthony Laurendi for Phase 4.

The digital photo log documenting the site work is included in Appendix G. This photo log shows the progression of the major work elements throughout construction.

### 4.3 CONTAMINATED MATERIALS REMOVAL

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The soil cleanup objectives (SCOs) for Phases 1 & 3 were to excavate the soil and to handle it according to the following criteria:

- If excavated soil had no visible tar or NAPL and PAH concentration of less than 500 mg/kg then the soil may be used as on site backfill.
- If excavated soil had PAH concentration above 500 mg/kg then it was disposed of and treated off site.

The excavations for Phase 1 were done within an ISS-walled cell that was constructed between October 8 and October 20, 2015. During Phase 1 no excavated soil was reused as backfill due to space constraints on site for backfill storage. Excavated soil that was marked as suitable for backfill was sent off site to SMI. A total of 1698.26 tons of suitable backfill material was sent to SMI. Backfilling used imported materials. A demarcation layer was not placed due to complete removal of soil and the absence of reused backfill. Excavated contaminated soil was sent to SMI for disposal. A total of 8522.82 tons of contaminated soil was sent to ESMI for treatment. As-built drawings showing the ISS wall locations, excavation geometries, and backfill geometries are provided in Appendix A.

Gas lines running soil removal limits were deactivated by NYSEG during Phase 2 and excavated by SES during Phase 3. Coal tar asbestos wrapped gas line pipes were removed in less than 10-foot sections and wrapped in plastic and staged on-site for removal. As part of Phase 3 the existing gas regulation building was demolished in order to reach contaminated material underneath.

The excavations for Phase 3 were done within an ISS-walled cell that was constructed between February 16 and February 29, 2016. During Phase 3, a total of 1560.43 tons of non-hazardous soil that was excavated and not suitable for use as backfill was sent off site to SMI. During Phase 3 a portion of excavated soil was used as backfill on the west side of the storm sewer fill toe of slope. A demarcation geotextile was placed over the re-use soil. A total of 7801.38 tons of contaminated soil was sent to ESMI for treatment. The west end along the toe of the storm sewer pipe fill was excavated and re-use material was used as fill. A demarcation fabric was placed over the re-use material. Demarcation fabric was not used in areas where excavation went down to bedrock and reuse soil was not placed. As-built drawings showing the ISS wall locations, excavation geometries, and backfill geometries are provided in Appendix A. Inclinator testing was conducted during Phase 3 of remediation. Testing began in June 2016 and concluded in August 2016. All inclinometer tests were compliant with the specifications. The compiled tests are provided in Appendix L.

The Phase 4 sediment removal plan was altered in a Field Change Form to include additional areas for excavation found in Appendix C. During Phase 4, all material excavated in the outlet and banks were sent to ESMI. Impacted material deemed acceptable by ESMI totaled 9064.77 tons. A total of 84 tons of material with lead and mercury levels in excess of ESMI's permit requirements were removed by Clean Harbors on July 23, 2018 and disposed at the Michigan Disposal Facility. As-built drawings showing the excavation and backfill geometries are provided in Appendix A.

Groundwater and stormwater from the site was collected from excavation areas or from the sump of a dewatering pad. During Phase 1, groundwater was treated on-site via a temporary water treatment system and discharged to Owasco Outlet under a State Pollution Discharge Elimination System (SPDES) Permit Equivalent (Appendix E). For Phase 3 and 4, groundwater was treated on-site via temporary treatment system but discharged to the city's sewer system with the permission of the City of Auburn (Appendix E).

### 4.3.1 MGP IMPACTED MATERIAL

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The type of material removed was generally classified as MGP contaminated material. On site locations for materials removed are shown in the as-built drawings in Appendix A as discussed above. This section describes the characterization and disposal of the excavated materials.

#### 4.3.1.1 Disposal Details

Soil, sediment, debris, NAPL, and miscellaneous MGP-impacted wastes generated during the remedial activities were handled and disposed/treated off-site in accordance with applicable federal, state, and local regulations, as well as the Remedial Design specification sections 02415 (Impacted Material Handling), 02416 (Sediment Removal and Handling Procedures), and the Waste Management Plan. Excavation boundaries were surveyed based on the design drawings for the upland excavations. Similarly, sediment excavations were surveyed based on the design drawings as modified in the field design change in Appendix C.

Once excavated, the materials were segregated by visual criteria and sampled frequency required by the disposal facilities by compositing samples from around the pile. The samples were analyzed if analytical results were above SMI permit criteria (provided in Appendix H) the material would be sent to ESMI provided it met the ESMI permit criteria. Impacted material was sent to ESMI in Fort Edward, NY. ESMI and its associated haulers were contracted to NYSEG. Haulers of impacted materials and their license and truck numbers can be found in Table 1.

SES subcontracted Riccelli Enterprises to haul non-hazardous waste material to Seneca Meadows Landfill (SMI) in Waterloo, NY. Riccelli license and truck numbers can be found in Table 2.

Impacted material excavated during Phase 1 were transported to between 10/29/15 and 12/22/15; a total of 8522.82 tons were sent to ESMI. Phase 3 impacted material was transported between 07/06/16 and 08/31/16 with 7801.38 total tons transferred. Phase 4 materials sent to ESMI was transported between 09/07/17- 11/08/18 and 7/18/2018-8/20/2018, totaling 9064.77 tons transferred.

Non-Hazardous materials for Phase 1 were transported by Riccelli trucks between the dates of 10/23/15 and 12/17/15 to Seneca Meadows Landfill; 1698.26 tons were transferred throughout Phase 1. Phase 3 non-hazardous materials were transported by Riccelli between 02/10/16 and 08/18/16 with 1560.43 tons transferred to Seneca Meadows Landfill.

During Phase 4 excavation, materials sampled at the top 1-foot portion of cell excavation area 1-A exceeded SMI and ESMI parameters. The total lead and mercury levels exceeded acceptance criteria for SMI and ESMI. The area was designated as hazardous and was excavated and sent to Michigan Disposal through Clean Harbors. Clean Harbors removed 82 tons of lead on 07/23/2018.

Waste manifests for both impacted and non-hazardous materials can be found in Appendix H.

Manifests and bills of lading are included in electronic format in Appendix H.

#### 4.3.1.2 On-Site Reuse

Per the contract documents, SES was responsible for segregating contaminated soil from brick, concrete, metal, and other debris that would not be suitable for off-site thermal treatment. Segregated materials were kept separate from each other in stockpiles and were evaluated for reuse or disposal. Stockpiled materials were covered with segregated cobble or boulders that were visually clean were reused as backfill material. Debris also was downsized before being reused as backfill or transported off site as waste. Soils that are free of visual impacts with total PAHs at concentrations less than 500 mg/kg were available for re-use on-site as

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General fill at depths greater than 2 feet below final grade (with NYSDEC approval). Significant quantities of reuse material were only placed in Phase 3 as discussed previously. A geotextile demarcation layer was placed over reuse backfill material in accordance with Specification 02270 (Geotextile Fabric) in Phase 3 prior to placement of clean backfill over the re-use material. Photos of the geotextile demarcation layer are provided in the Photo Log (Appendix G).

#### **4.4 IMPORTED BACKFILL**

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The upland excavations of Phases 1 and 3 were backfilled with compacted common Soil Fill. The Soil Fill testing is provided in Appendices D and J. The Soil Fill was surfaced with Type F run-of-crusher stone. The channel excavations of Phase 4 were backfilled with Channel Backfill run-of-crusher New York State Department of Transportation (NYSDOT) Type 2 crushed stone. The Type F and Channel Backfill specifications in the Contract Documents have overlapping gradation requirements, so these materials were generally the same material from the same sources. The channel backfill in Phase 4 was surfaced with Channel Restoration Stone. Since the crushed stone materials were obtained from NYSDOT-approved sources, only gradation testing was required per the Contract Documents and is provided in Appendix D. The common fill and Channel Backfill was imported from Vitale & Robinson Companies, 3486 Franklin Street Road, Auburn, NY 13021.

The channel banks were surfaced with Topsoil. The Topsoil testing is provided in Appendices D and J. The Topsoil was imported from Syracuse Sand & Gravel, 1902 County Route 57, Fulton, NY 13069.

The imported fill quantities are tabulated by type and phase in Table 2. Soil and topsoil analytical testing is summarized in Tables 3 and 4.

#### **4.5 SITE RESTORATION**

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The upland excavation and backfill areas of Phases 1 and 3 were restored with Type F run-of-crusher stone at the surface. The topsoil on the channel banks was seeded and planted with trees and shrubs per the Contract Documents. The channel excavation and backfill surface was restored using the Channel Restoration Stone to the original grades as shown in the As-Built Drawings in Appendix A.

#### **4.6 CONTAMINATION REMAINING AT THE SITE**

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The site was excavated to the lines and grades provided in the Contract Drawings and approved design changes. Limited quantities of MGP-impacted materials were re-used as backfill on the site in upland areas as permitted in the Contract Documents. A geotextile demarcation layer was placed over these materials as shown in the As-Built Drawings in Appendix A. MGP-related contamination left in the outlet is located in the fractured bedrock. The contaminants will be collected and conveyed to the sump installed within a containment system as shown in Field Change Form 2 in Appendix C. Contamination in the south bank from fractured bedrock and soil/fill material will be collected at both the east and west containment wall sumps.

Bedrock joints were difficult to distinguish due to the presence of water, thin mud coating, and odor control foam on the surface after the upland soils were removed. We note that the bedrock elevation in the upland excavation area indicates the bedrock surface is the top of the fractured bedrock encountered as observed from Phase IV excavations. Therefore, there is likely to be a few feet of fractured rock underlain by a competent bedrock layer. The fractured rock will transport NAPL more like a porous media than individual separated fractures.

## **4.7 ENGINEERING CONTROLS**

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Exposure to remaining contamination in bedrock and soil at the site is prevented by a soil cover system placed over the site. This cover system is comprised of a minimum of 12 inches of clean soil. The As-Built Drawings in Appendix A show the thickness of the soil cover. Where impacted soils remain on site, a demarcation geotextile layer was placed between these materials and the clean soil cover. A combination of clean imported fills and topsoil were placed to the design finished grade. These fills are discussed in Section 4.4 above. These materials meet that analytical requirements as discussed in Section 4.4.

A NAPL containment and collection system was installed along the creek bank and into the fractured bedrock to mitigate potential interaction between NAPL in the fractured bedrock and overlying sediments and surface water. MGP-related contamination in the fractured bedrock in the outlet channel is contained below a concrete seal coat to prevent recontamination of sediment and to prevent exposure to underlying materials. Details can be found in Field Change Form #2 in Appendix C. The adjustment is shown on the As-Built Drawings in Appendix A.

## **4.8 DEVIATIONS FROM THE REMEDIAL ACTION WORK PLAN**

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No deviations occurred during Phase 1 of remediation.

A modification to the in-situ soil stabilization wall barrier was proposed in Phase 3 of remediation. The bank between CP-15 and CP-16 had eroded to the south causing the alignments in the original design to be impactable. To accommodate these conditions, the north face of the ISSB wall was moved 3 feet inward and straightened the alignment until it encountered the existing storm water line.

It was suggested that the Phase 4 remedial excavations would be more efficient if done from downstream to upstream. This approach eliminates the need to run trucks carrying impacted material over areas that have been previously excavated. An additional advantage to this method is if an overtopping event occurs, the surface water would run off the excavation face, lowering the risk of contaminating clean areas.

Before excavation in the outlet began it was determined that the HDPE pipes would run along the top of the southern bank instead of in the channel. This reduced the need to move the piping when they were filled with water. In addition, the piping would be at lower risk of being damaged in the case of an over-topping event. Larger HDPE pipes were used so fewer pipes would be needed to reach the flow of the original design.

Excavation in the outlet channel discovered unanticipated coal tar NAPL in the fractured bedrock. This necessitated a design change of removal of some fractured bedrock at the downstream end and installation of a containment system over the upstream fractured bedrock. A collection system for NAPL was included in this containment system. The design modifications were documented in Field Change Form 2 in Appendix C and approved by NYSDEC.

## 5.0 REFERENCES

- NYSDEC. 2009. Record of Decision. NYSEG Former MGP Site. Auburn, Cayuga County, New York. Site Number 7-06-008. NYSDEC, March 2009.
- Arcadis. 2014. Final (100%) Remedial Design Report. Clark Street Former MGP Site. Auburn, New York, NYSDEC Site # 7-06-008. Prepared for New York State Electric Gas Corp by Arcadis, August 2014.
- NYSDEC. 2010. DER-10/ Technical Guidance for Site Investigation and Remediation. NYSDEC, May 2010.
- Sevenson Environmental Services, Inc. Site Safety and Health Plan. Former McMaster and Clark Street Manufactured Gas Plant Sites. Auburn, New York. May 2015. Prepared for New York State Electric Gas Corp. by Sevenson Environmental Services, Inc., 2015.
- NYSDEC. 6 NYCRR Part 375 Environmental Remediation Programs, December 2006.
- NYSDEC. 6 NYCRR Part 608 Environmental Remediation Programs, 2018.

# TABLES

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Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

**Table 1**  
**ESMI Landfill Haulers**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

Truck #	Truck/Trailer Lic #	Company
97	NY16052PC/NY2014C1	Cedar Hill Trucking
777	NY12268TC/NY1206C8	Cedar Hill Trucking
96	NY16961PA/NY1117C6	Cedar Hill Trucking
-7	NY18468TC/NYBH12825	Cedar Hill Trucking
94	NY15343PC/NYAE69565	Cedar Hill Trucking
102	NY13355PB/NY1084C9	Cedar Hill Trucking
o6	NY10225PB/NYBB52518	Cedar Hill Trucking
62	NY18681PA/NY1122C7	Cedar Hill Trucking
104	NY12262TC/NYBK32522	Cedar Hill Trucking
100	NY20188PC/NY1031C8	Cedar Hill Trucking
oo7	NY28961PC/NY2073C1	Cedar Hill Trucking
110	NY39066PC/NY1117C6	Cedar Hill Trucking
17	NY36116TR/NY1117C6	Cedar Hill Trucking
117	NY38287PC/NY1068C6	Cedar Hill Trucking
114	NY38072PC/NYAE66010	Cedar Hill Trucking
T11	NY46821PC/ME2059149	Cedar Hill Trucking
9	NY44864PC/NYAR76120	Cedar Hill Trucking
118	NY46261PC/NY2072C1	Cedar Hill Trucking
33	CT47052A/CTW22423	Cedar Hill Trucking
120	NY47911PC/NYAA10180	Cedar Hill Trucking
42	CT4393A/CTW23302	Cedar Hill Trucking
122	NY48085PC/NY1174C9	Cedar Hill Trucking
116	NY44249PC/ME1982249	Cedar Hill Trucking
20	NY41081PC/ME2165144	Cedar Hill Trucking
o7	NY47294PC/NYAA10180	Cedar Hill Trucking
77	NY41290PC/NY2076C1	Cedar Hill Trucking
58	CT54270A/CTV93150	Cedar Hill Trucking
108	NY51609PC/NYAE65993	Cedar Hill Trucking
50	CT50131A/CTW22421	Cedar Hill Trucking
2	NY50281PC/NYBB52518	Cedar Hill Trucking
?	CT58089A/ME1995608	Cedar Hill Trucking
88	NY66193PA/NY1117C6	Cedar Hill Trucking
106	NY76630PA/NYAE66000	Cedar Hill Trucking
2	MA72715/ME208685B	Cedar Hill Trucking
o1	MA78011/ME1798834	Cedar Hill Trucking
T3	NY75825/NY1861727	Cedar Hill Trucking
12	MA88321/ME1798834	Cedar Hill Trucking
11	MA86286/ME1998987	Cedar Hill Trucking
107	NY85549PA/NYAV96868	Cedar Hill Trucking

Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

**Table 1**  
**ESMI Landfill Haulers**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

Truck #	Truck/Trailer Lic #	Company
15	MA90408/ME1777438	Cedar Hill Trucking
18	MA94671/ME2818983	Cedar Hill Trucking
17	MA94240/ME1998987	Cedar Hill Trucking
19	MA94639/ME1787504	Cedar Hill Trucking
109	MA95991/ME2070824	Cedar Hill Trucking
835	NY17806PC/NYBB51197	Longhorn Trucking
220	NY36717PC/NYBC91176	Longhorn Trucking
464	NY38969PC/NYBG88333	Longhorn Trucking
669	NY38557PC/NYBH59127	Longhorn Trucking
670	NY38499PC/NYBG88332	Longhorn Trucking
830	NY37756PC/NYBG88289	Longhorn Trucking
671	NY38685PC/NYBA36416	Longhorn Trucking
667	NY38172PC/NYBG43868	Longhorn Trucking
462	NY39642PC/NYBH59129	Longhorn Trucking
218	NY33087PC/NYBE22389	Longhorn Trucking
795	NY40282PC/NYBH59030	Longhorn Trucking
457	NY40689PC/NYBC21502	Longhorn Trucking
535	NY47021PC/NYBG88334	Longhorn Trucking
456	NY40424PC/NYBG43867	Longhorn Trucking
838	NY47059PC/NYBG88291	Longhorn Trucking
455	NY40423PC/NYBE22355	Longhorn Trucking
05	NY17075PB/NYBG44850	Cason Transport
10	NY28072PC/NY1009C9	Cason Transport
49	NY24872PC/NYBF31690	Cason Transport
07	NY28912PC/NYBF31739	Cason Transport
29	NY38269PC/NYBF31738	Cason Transport
37	NY39718PC/NYBF31738	Cason Transport
57	NY37534PC/NYBF90730	Cason Transport
48	NY38268PC/NYBH13135	Cason Transport
40	NY37799PC/NYAD80431	Cason Transport
60	NY38267PC/NYBH13136	Cason Transport
39	NY37798PC/NYBF31631	Cason Transport
58	NY34859PC/NYAS10409	Cason Transport
34	NY39543PC/NYBF31690	Cason Transport
61	NY38710PC/NYBA50301	Cason Transport
12	NY47232PC/NYBD30260	Cason Transport
795	NY40282PC/NYBH59030	Cason Transport

Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

**Table 1**  
**ESMI Landfill Haulers**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

Truck #	Truck/Trailer Lic #	Company
835	NY47021PC/NYBG88334	Cason Transport
2151	NY50025PA/NYBF89097	Cason Transport
55	NY50901PC/NYBF31630	Cason Transport
06	NY91826PA/NYBG44521	Cason Transport
55	NY12840PB/NYBH51779	Real Bark Mulch
808	NY23954PC/NYBC30886	Real Bark Mulch
19	NY38207PC/NYBG36752	Real Bark Mulch
21	NY38441PC/NYBG36751	Real Bark Mulch
9	NY38562PC/NYBG36748	Real Bark Mulch
14	NY38208PC/NYBG36750	Real Bark Mulch
56	NY34097PC/NYBH51779	Real Bark Mulch
57	NY43293PC/NYBG36586	Real Bark Mulch
25	NY48552PC/NYBG36751	Real Bark Mulch
26	NY48553PC/NYBG36750	Real Bark Mulch
100	NY42225PC/NYAM67493	Real Bark Mulch
5	NY42965PC/NYBG36746	Real Bark Mulch
820	NY47591PC/NYBH68694	Real Bark Mulch
310	NY17960/NYAK32872	MC Environmental Services
oo2	NY15757PA/NYAS63350	JBG Transport

Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

**Table 2**  
**SMI Landfill Haulers**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

Truck#	PUP#	Typical Combined
340	411	NY20101MJ/NYAM41090
359	415	NY48395MH/NYAM62658
348	409	NY19968MD/NYAM41050
319	402	NY11980PC/NY67410
509	167	NY33616PC/NY1555C9
140	161	NY52730PC/NY1585C9
608	164	NY52245PC/NY1566C9
349	T414	NY19961MD/NYAM41087
327		NYAF91137
251	129	NY52260PC/NY1542C7
60		NY13064PC
301		NY46114PC
604	162	NY52274PC/NY1794C9
620		NY52728PC
357	428	NY48393MH/NYBP73996
346	403	NY29137ME/NYAH67408
344	T408	NY19964MD/NYAL52081
355	405	NY48391MH/NYAM30361
347	421	NY19967MD/NYBG30835
356	417	NY48392/NYBL57027
62		NY18651PB
64		NY67350PC
352	407	NY98774MG/NYAN74690
315		NY40505PC
320		NYAF91142
52		NY53184PC
10		NY18389PB
48		NY57494PC
329		PAAF92499
337		PAAF93035
334		PAAF93032
321		PAAF91143
331		PAAF93029
311		NY67356PC
RT11		NY57824PC
54		NY67355PC
316		NY100799PC
76		NY67353PC

**Table 3**  
**Soil Fill Analytical Results**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

*Final*  
Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

	Lab Sample ID			P1151-01		P1424-01B	G4772-01		G4772-02RE		G4772-03		G4772-04		G4772-05		G4772-06		G4772-07	
	Fill Source			Backfill C (SES)		Backfill (SES)	4A		4A-2		5A		5A-2		6A		6A-2		7A	
	Collection Date			7/7/2015		9/22/2015	11/30/2015		11/30/2015		12/4/2015		12/4/2015		12/7/2015		12/7/2015		12/8/2015	
Parameter	Matrix			Soil		Soil	Soil		Soil		Soil		Soil		Soil		Soil		Soil	
VOLATILES	CAS	DER-10	Units																	
1,1,1-TRICHLOROETHANE	71-55-6	680	ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
1,1-DICHLOROETHANE	75-34-3	270	ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
1,1-DICHLOROETHENE	75-35-4	330	ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
1,2,4-TRIMETHYLBENZENE	95-63-6	3600	ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
1,2-DICHLOROBENZENE	95-50-1	1100	ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
1,2-DICHLOROETHANE	107-06-2	20	ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
1,3,5-Trimethylbenzene	108-67-8	8400	ug/kg	<6.0		<5.6														
1,3-DICHLOROBENZENE	541-73-1	2400	ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
1,4-DICHLOROBENZENE	106-46-7	1800	ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
1,4-DIOXANE (P-DIOXANE)	123-91-1	100	ug/kg	<6.0		<5.6	<110		<110		<110		<110		<110		<110		<110	
ACETONE	67-64-1	50	ug/kg	<6.0		<5.6	<27.7		<27.6		<28.1		<28.1		<27.8		<6.6	J	<27.9	
BENZENE	71-43-2	60	ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
CARBON TETRACHLORIDE	56-23-5	760	ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
CHLOROBENZENE	108-90-7	1100	ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
CHLOROFORM	67-66-3	370	ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
CIS-1,2-DICHLOROETHYLENE	156-59-2		ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
ETHYLBENZENE	100-41-4	1000	ug/kg	<6.0		<5.6	<5.5		<5.5	ND/J	<5.6		<5.6		<5.6		<5.5		<5.6	
METHYL ETHYL KETONE (2-BUTAN	78-93-3	120	ug/kg	<6.0		<5.6	<27.7		<27.6		<28.1		<28.1		<27.8		<27.7		<27.9	
METHYLENE CHLORIDE	75-09-2	50	ug/kg	<6.0		<5.6	<6.3		<5.2	J	<6.3		<6.8		<7		<5.5		<5.6	
N-BUTYLBENZENE	104-51-8		ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
N-PROPYLBENZENE	103-65-1	3900	ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
SEC-BUTYLBENZENE	135-98-8	11000	ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
T-BUTYLBENZENE	98-06-6	5900	ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
TERT-BUTYL METHYL ETHER	1634-04-4		ug/kg	<6.0		<5.6	<5.5	J	<5.5	ND/J	<5.6	ND/J	<5.6	ND/J	<5.6	ND/J	<5.5		<5.6	
TETRACHLOROETHYLENE(PCE)	127-18-4		ug/kg	<6.0		<5.6	<5.5		<5.5	ND/J	<5.6		<5.6		<5.6		<5.5		<5.6	
TOLUENE	108-88-3	700	ug/kg	<6.0		<5.6	<5.5		<5.5	ND/J	<5.6		<5.6		<5.6		<5.5		<5.6	
TRANS-1,2-DICHLOROETHENE	156-60-5		ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
TRICHLOROETHYLENE (TCE)	79-01-6		ug/kg	<6.0	J	<5.6	<5.5		<5.5	ND/J	<5.6		<5.6		<5.6		<5.5		<5.6	
VINYL CHLORIDE	75-01-4	20	ug/kg	<6.0		<5.6	<5.5		<5.5		<5.6		<5.6		<5.6		<5.5		<5.6	
XYLENES (TOTAL)	1330-20-7		ug/kg	<6.0		<5.6	<16.6		<16.6	ND/J	<16.8		<16.8		<16.7		<16.6		<16.8	

**Table 3**  
**Soil Fill Analytical Results**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

*Final*  
Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

	Lab Sample ID			P1151-01		P1424-01B	G4772-01		G4772-02RE		G4772-03		G4772-04		G4772-05		G4772-06		G4772-07	
	Fill Source			Backfill C (SES)		Backfill (SES)	4A		4A-2		5A		5A-2		6A		6A-2		7A	
	Collection Date			7/7/2015		9/22/2015	11/30/2015		11/30/2015		12/4/2015		12/4/2015		12/7/2015		12/7/2015		12/8/2015	
Parameter	Matrix			Soil		Soil	Soil		Soil		Soil		Soil		Soil		Soil		Soil	
<b>SEMIVOLATILES</b>																				
2-METHYLPHENOL (O-CRESOL)	95-48-7		ug/kg	<440		<370	<360				<370				<370				<370	
3+4-METHYLPHENOLS	MEPH3MEPH4		ug/kg	<440		<370	<360				<370				<370				<370	
ACENAPHTHENE	83-32-9	20000	ug/kg	<440		<370	<360				<370				<370				<370	
ACENAPHTHYLENE	208-96-8	100000	ug/kg	<440		<370	<360				<370				<370				<370	
ANTHRACENE	120-12-7	100000	ug/kg	<440		<370	<360				<370				<370				<370	
BENZO(A)ANTHRACENE	56-55-3	1000	ug/kg	<440		<370	<360				<370				<370				<370	
BENZO(A)PYRENE	50-32-8	1000	ug/kg	<440		<370	<360				<370				<370				<370	
BENZO(B)FLUORANTHENE	205-99-2	1000	ug/kg	<440		<370	<360				<370				<370				<370	
BENZO(G,H,I)PERYLENE	191-24-2	100000	ug/kg	<440		<370	<360				<370				<370				<370	
BENZO(K)FLUORANTHENE	207-08-9	800	ug/kg	<440		<370	<360				<370				<370				<370	
CHRYSENE	218-01-9	1000	ug/kg	<440		<370	<360				<370				<370				<370	
DIBENZOFURAN	132-64-9		ug/kg	<440		<370	<360				<370				<370				<370	
DIBENZ(A,H)ANTHRACENE	53-70-3	330	ug/kg	<440		<370	<360				<370				<370				<370	
FLUORANTHENE	206-44-0	100000	ug/kg	<440		<370	<360				<370				<370				<370	
FLUORENE	86-73-7	30000	ug/kg	<440		<370	<360				<370				<370				<370	
HEXACHLOROBENZENE	118-74-1		ug/kg	<440		<370	<360				<370				<370				<370	
INDENO(1,2,3-C,D)PYRENE	193-39-5	500	ug/kg	<440		<370	<360				<370				<370				<370	
NAPHTHALENE	91-20-3	12000	ug/kg	<440		<370	<360				<370				<370				<370	
PENTACHLOROPHENOL	87-86-5	800	ug/kg	<440		<370	<360				<370				<370				<370	
PHENANTHRENE	85-01-8	100000	ug/kg	<440		<370	<360				<370				<370				370	
PHENOL	108-95-2	330	ug/kg	<440		<370	<360				<370				<370				370	
PYRENE	129-00-0	100000	ug/kg	<440		<370	<360				<370				<370				370	
<b>PESTICIDES</b>																				
ALDRIN	309-00-2	5	ug/kg	<2.3		<1.9	<1.9				<1.9				<1.9				<1.9	
ALPHA BHC (ALPHA HEXACHLORO)	319-84-6	20	ug/kg	<2.3		<1.9	<1.9				<1.9				<1.9				<1.9	
ALPHA ENDOSULFAN	959-98-8	2400	ug/kg	<2.3		<1.9	<1.9				<1.9				<1.9				<1.9	
ALPHA-CHLORDANE	5103-71-9	94	ug/kg	<2.3		<1.9	<1.9				<1.9				<1.9				<1.9	
BETA BHC (BETA HEXACHLOROCYC)	319-85-7	36	ug/kg	<2.3		<1.9	<1.9				<1.9				<1.9				<1.9	
BETA ENDOSULFAN	33213-65-9	2400	ug/kg	<4.4		<3.7	<1.9				<1.9				<1.9				<1.9	
BETA-CHLORDANE	5103-74-2		ug/kg				<1.9				<1.9				<1.9				<1.9	
DELTA BHC (DELTA HEXACHLOROCYC)	319-86-8	40	ug/kg	<2.3		<1.9	<1.9				<1.9				<1.9				<1.9	
DIELDRIN	60-57-1	5	ug/kg	<4.4		<3.7	<1.9				<1.9				<1.9				<1.9	
ENDOSULFAN SULFATE	1031-07-8	2400	ug/kg	<4.4		<3.7	<1.9				<1.9				<1.9				<1.9	
ENDRIN	72-20-8	14	ug/kg	<4.4		<3.7	<1.9				<1.9				<1.9				<1.9	
ENDRIN ALDEHYDE	7421-93-4		ug/kg				<1.9				<1.9				<1.9				<1.9	
ENDRIN KETONE	53494-70-5		ug/kg				<1.9				<1.9				<1.9				<1.9	
GAMMA BHC (LINDANE)	58-89-9	100	ug/kg	<2.3		<1.9	<1.9				<1.9				<1.9				<1.9	

Table 3  
Soil Fill Analytical Results  
McMaster Street  
Former Manufactured Gas Plant Site

	Lab Sample ID			P1151-01		P1424-01B	G4772-01		G4772-02RE		G4772-03		G4772-04		G4772-05		G4772-06		G4772-07	
	Fill Source			Backfill C (SES)		Backfill (SES)	4A		4A-2		5A		5A-2		6A		6A-2		7A	
	Collection Date			7/7/2015		9/22/2015	11/30/2015		11/30/2015		12/4/2015		12/4/2015		12/7/2015		12/7/2015		12/8/2015	
Parameter	Matrix			Soil		Soil	Soil		Soil		Soil		Soil		Soil		Soil		Soil	
HEPTACHLOR	76-44-8	42	ug/kg	<2.3		<1.9	<1.9				<1.9				<1.9				<1.9	
HEPTACHLOR EPOXIDE	1024-57-3		ug/kg				<1.9				<1.9				<1.9				<1.9	
METHOXYCHLOR	72-43-5		ug/kg				<1.9				<1.9				<1.9				<1.9	
P,P'-DDD	72-54-8	3.3	ug/kg	<4.4		<3.7	<1.9				<1.9				<1.9				<1.9	
P,P'-DDE	72-55-9	3.3	ug/kg	<4.4		<3.7	<1.9				<1.9				<1.9				<1.9	
P,P'-DDT	50-29-3	3.3	ug/kg	<4.4		<3.7	<1.9				<1.9				<1.9				<1.9	
TOXAPHENE	8001-35-2		ug/kg				<18.8				<19				<18.9				<18.9	

**Table 3**  
**Soil Fill Analytical Results**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

*Final*  
Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

	Lab Sample ID			P1151-01		P1424-01B	G4772-01		G4772-02RE		G4772-03		G4772-04		G4772-05		G4772-06		G4772-07	
	Fill Source			Backfill C (SES)		Backfill (SES)	4A		4A-2		5A		5A-2		6A		6A-2		7A	
	Collection Date			7/7/2015		9/22/2015	11/30/2015		11/30/2015		12/4/2015		12/4/2015		12/7/2015		12/7/2015		12/8/2015	
Parameter	Matrix			Soil		Soil	Soil		Soil		Soil		Soil		Soil		Soil		Soil	
<b>PCBs</b>																				
PCB-1016 (AROCOR 1016)	12674-11-2		ug/kg	<44		<37	<18.8				<19.1				<18.8				<19	
PCB-1221 (AROCOR 1221)	11104-28-2		ug/kg	<44		<37	<18.8				<19.1				<18.8				<19	
PCB-1232 (AROCOR 1232)	11141-16-5		ug/kg	<44		<37	<18.8				<19.1				<18.8				<19	
PCB-1242 (AROCOR 1242)	53469-21-9		ug/kg	<44		<37	<18.8				<19.1				<18.8				<19	
PCB-1248 (AROCOR 1248)	12672-29-6		ug/kg	<44		<37	<18.8				<19.1				<18.8				<19	
PCB-1254 (AROCOR 1254)	11097-69-1		ug/kg	<44		<37	<18.8				<19.1				<18.8				<19	
PCB-1260 (AROCOR 1260)	11096-82-5		ug/kg	<44		<37	<18.8				<19.1				<18.8				<19	
PCB-1262 (AROCOR 1262)	37324-23-5		ug/kg	<44		<37	<18.8				<19.1				<18.8				<19	
PCB-1268 (AROCOR 1268)	11100-14-4		ug/kg	<44		<37	<18.8				<19.1				<18.8				<19	
<b>HERBICIDES</b>																				
SILVEX (2,4,5-TP)	93-72-1		ug/kg	<8.09		<3.7	<74				<75.1				<74.2				<74.8	
<b>INORGANICS</b>																				
ARSENIC	7440-38-2	13	mg/kg	<8.8		<4.4	<2.51				<2.15				<2.42				<2.24	
BARIUM	7440-39-3	350	mg/kg	<110		<59.9	<19.6				<19.4				<20.8				<25.7	
BERYLLIUM	7440-41-7	7.2	mg/kg	<0.22		<0.22	<0.221	J			<0.2	J			<0.224	J			<0.213	J
CADMIUM	7440-43-9	2.5	mg/kg	<0.13	J	<0.046	<0.41				<0.344				<0.41				<0.362	
CHROMIUM, HEXAVALENT	7440-47-3		mg/kg	<0.52		<0.45														
CHROMIUM, TRIVALENT	18540-29-9	1	mg/kg	<12																
CHROMIUM, TOTAL	7440-47-3	30	mg/kg	<12		<6.1	<4.11				<3.64				<4.21				<3.98	
COPPER	7440-50-8	50	mg/kg	<65		<35.3	<19.6				<18.8				<21.9				<19.2	
LEAD	7439-92-1	63	mg/kg	<14		<6.4	<4.72				<4.33				<4.72				<4.61	
MANGANESE	7439-96-5	1600	mg/kg	<770		<420	<269				<253				<278				<258	
MERCURY	7439-97-6	0.18	mg/kg	<0.32	J	<0.021	<0.009	J			<0.013	J			<0.012	J			<0.014	
NICKEL	7440-02-0	30	mg/kg	<21		<12.5	<8.81				<7.76				<8.94				<8.42	
SELENIUM	7782-49-2	3.9	mg/kg		ND	<0.80	<0.955				<0.951				<0.926				<0.939	
SILVER	7440-22-4	2	mg/kg	<0.21	J	<0.059	<0.515				<0.475	J			<0.536				<0.491	
ZINC	7440-66-6	109	mg/kg	<55		<32.9	<25				<21.6				<24.6				<22.2	
CYANIDE	57-12-5	27	mg/kg	<0.548		<0.51														

**Table 3**  
**Soil Fill Analytical Results**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

*Final*  
Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

	Lab Sample ID			G4772-08		G4772-09		G4772-10		G4772-11		G4772-12		H4528-01		H4528-03		H4528-04		H4528-05	
	Fill Source			7A-2		8A		8A-2		9A		9A-2		1		1A		1B		1C	
	Collection Date			12/8/2015		12/9/2015		12/9/2015		12/10/2015		12/10/2015		8/8/2016		8/8/2016		8/8/2016		8/8/2016	
Parameter	Matrix			Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
VOLATILES	CAS	DER-10	Units																		
1,1,1-TRICHLOROETHANE	71-55-6	680	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
1,1-DICHLOROETHANE	75-34-3	270	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
1,1-DICHLOROETHENE	75-35-4	330	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
1,2,4-TRIMETHYLBENZENE	95-63-6	3600	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
1,2-DICHLOROBENZENE	95-50-1	1100	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
1,2-DICHLOROETHANE	107-06-2	20	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
1,3,5-Trimethylbenzene	108-67-8	8400	ug/kg											<5.8		<5.6		<5.5		<5.5	
1,3-DICHLOROBENZENE	541-73-1	2400	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
1,4-DICHLOROBENZENE	106-46-7	1800	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
1,4-DIOXANE (P-DIOXANE)	123-91-1	100	ug/kg	<110		<120		<120		<110		<110		<120		<110		<110		<110	
ACETONE	67-64-1	50	ug/kg	<28		<29.1		<28.9		<27.7		<27.6		<28.9	ND/J	<27.8	ND/J	<27.6	ND/J	<27.5	ND/J
BENZENE	71-43-2	60	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
CARBON TETRACHLORIDE	56-23-5	760	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
CHLOROBENZENE	108-90-7	1100	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
CHLOROFORM	67-66-3	370	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
CIS-1,2-DICHLOROETHYLENE	156-59-2		ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
ETHYLBENZENE	100-41-4	1000	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
METHYL ETHYL KETONE (2-BUTAN	78-93-3	120	ug/kg	<28		<29.1		<28.9		<27.7		<27.6		<28.9		<27.8		<27.6		<27.5	
METHYLENE CHLORIDE	75-09-2	50	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
N-BUTYLBENZENE	104-51-8		ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
N-PROPYLBENZENE	103-65-1	3900	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
SEC-BUTYLBENZENE	135-98-8	11000	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
T-BUTYLBENZENE	98-06-6	5900	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
TERT-BUTYL METHYL ETHER	1634-04-4		ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
TETRACHLOROETHYLENE(PCE)	127-18-4		ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8	ND/J	<5.6	ND/J	<5.5	ND/J	<5.5	ND/J
TOLUENE	108-88-3	700	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
TRANS-1,2-DICHLOROETHENE	156-60-5		ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
TRICHLOROETHYLENE (TCE)	79-01-6		ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
VINYL CHLORIDE	75-01-4	20	ug/kg	<5.6		<5.8		<5.8		<5.5		<5.5		<5.8		<5.6		<5.5		<5.5	
XYLENES (TOTAL)	1330-20-7		ug/kg	<16.8		<17.4		<17.4		<16.6		<16.5		<17.3		<16.7		<16.5		<16.5	

**Table 3**  
**Soil Fill Analytical Results**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

*Final*  
Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

	Lab Sample ID			G4772-08		G4772-09		G4772-10		G4772-11		G4772-12		H4528-01		H4528-03		H4528-04		H4528-05	
	Fill Source			7A-2		8A		8A-2		9A		9A-2		1		1A		1B		1C	
	Collection Date			12/8/2015		12/9/2015		12/9/2015		12/10/2015		12/10/2015		8/8/2016		8/8/2016		8/8/2016		8/8/2016	
Parameter	Matrix			Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
<b>SEMIVOLATILES</b>																					
2-METHYLPHENOL (O-CRESOL)	95-48-7		ug/kg			<380				<360				<380							
3+4-METHYLPHENOLS	MEPH3MEPH4		ug/kg			<380				<360				<380							
ACENAPHTHENE	83-32-9	20000	ug/kg			<380				<360				<380							
ACENAPHTHYLENE	208-96-8	100000	ug/kg			<380				<360				<380							
ANTHRACENE	120-12-7	100000	ug/kg			<380				<360				<380							
BENZO(A)ANTHRACENE	56-55-3	1000	ug/kg			<380				<360				<380							
BENZO(A)PYRENE	50-32-8	1000	ug/kg			<380				<360				<380							
BENZO(B)FLUORANTHENE	205-99-2	1000	ug/kg			<380				<360				<380							
BENZO(G,H,I)PERYLENE	191-24-2	100000	ug/kg			<380				<360				<380							
BENZO(K)FLUORANTHENE	207-08-9	800	ug/kg			<380				<360				<380							
CHRYSENE	218-01-9	1000	ug/kg			<380				<360				<380							
DIBENZOFURAN	132-64-9		ug/kg			<380				<360				<380							
DIBENZ(A,H)ANTHRACENE	53-70-3	330	ug/kg			<380				<360				<380							
FLUORANTHENE	206-44-0	100000	ug/kg			<380				<360				<380							
FLUORENE	86-73-7	30000	ug/kg			<380				<360				<380							
HEXACHLOROBENZENE	118-74-1		ug/kg			<380				<360				<380							
INDENO(1,2,3-C,D)PYRENE	193-39-5	500	ug/kg			<380				<360				<380							
NAPHTHALENE	91-20-3	12000	ug/kg			<380				<360				<380							
PENTACHLOROPHENOL	87-86-5	800	ug/kg			<380				<360				<380							
PHENANTHRENE	85-01-8	100000	ug/kg			<92.2	J			<360				<380							
PHENOL	108-95-2	330	ug/kg			<380				<360				<380							
PYRENE	129-00-0	100000	ug/kg			<380				<360				<380							
<b>PESTICIDES</b>																					
ALDRIN	309-00-2	5	ug/kg			<2				<1.9				<1.9							
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	319-84-6	20	ug/kg			<2				<1.9				<1.9							
ALPHA ENDOSULFAN	959-98-8	2400	ug/kg			<2				<1.9				<1.9							
ALPHA-CHLORDANE	5103-71-9	94	ug/kg			<2				<1.9				<1.9							
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	319-85-7	36	ug/kg			<2				<1.9				<1.9							
BETA ENDOSULFAN	33213-65-9	2400	ug/kg			<2				<1.9				<1.9							
BETA-CHLORDANE	5103-74-2		ug/kg			<2				<1.9				<1.9							
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	319-86-8	40	ug/kg			<2				<1.9				<1.9							
DIELDRIN	60-57-1	5	ug/kg			<2				<1.9				<1.9							
ENDOSULFAN SULFATE	1031-07-8	2400	ug/kg			<2				<1.9				<1.9							
ENDRIN	72-20-8	14	ug/kg			<2				<1.9				<1.9							
ENDRIN ALDEHYDE	7421-93-4		ug/kg			<2				<1.9				<1.9							
ENDRIN KETONE	53494-70-5		ug/kg			<2				<1.9				<1.9							
GAMMA BHC (LINDANE)	58-89-9	100	ug/kg			<2				<1.9				<1.9							

Table 3  
Soil Fill Analytical Results  
McMaster Street  
Former Manufactured Gas Plant Site

	Lab Sample ID			G4772-08		G4772-09		G4772-10		G4772-11		G4772-12		H4528-01		H4528-03		H4528-04		H4528-05	
	Fill Source			7A-2		8A		8A-2		9A		9A-2		1		1A		1B		1C	
	Collection Date			12/8/2015		12/9/2015		12/9/2015		12/10/2015		12/10/2015		8/8/2016		8/8/2016		8/8/2016		8/8/2016	
Parameter	Matrix			Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
HEPTACHLOR	76-44-8	42	ug/kg			<2				<1.9				<1.9							
HEPTACHLOR EPOXIDE	1024-57-3		ug/kg			<2				<1.9				<1.9							
METHOXYCHLOR	72-43-5		ug/kg			<2				<1.9				<1.9							
P,P'-DDD	72-54-8	3.3	ug/kg			<2				<1.9				<1.9							
P,P'-DDE	72-55-9	3.3	ug/kg			<2				<1.9				<1.9							
P,P'-DDT	50-29-3	3.3	ug/kg			<2				<1.9				<1.9							
TOXAPHENE	8001-35-2		ug/kg			<19.6				<18.8				<19.5							

**Table 3**  
**Soil Fill Analytical Results**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

*Final*  
Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

	Lab Sample ID			G4772-08		G4772-09		G4772-10		G4772-11		G4772-12		H4528-01		H4528-03		H4528-04		H4528-05	
	Fill Source			7A-2		8A		8A-2		9A		9A-2		1		1A		1B		1C	
	Collection Date			12/8/2015		12/9/2015		12/9/2015		12/10/2015		12/10/2015		8/8/2016		8/8/2016		8/8/2016		8/8/2016	
Parameter	Matrix			Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
<b>PCBs</b>																					
PCB-1016 (AROCLOR 1016)	12674-11-2		ug/kg			<19.6				<18.8				<19.5							
PCB-1221 (AROCLOR 1221)	11104-28-2		ug/kg			<19.6				<18.8				<19.5							
PCB-1232 (AROCLOR 1232)	11141-16-5		ug/kg			<19.6				<18.8				<19.5							
PCB-1242 (AROCLOR 1242)	53469-21-9		ug/kg			<19.6				<18.8				<19.5							
PCB-1248 (AROCLOR 1248)	12672-29-6		ug/kg			<19.6				<18.8				<19.5							
PCB-1254 (AROCLOR 1254)	11097-69-1		ug/kg			<19.6				<18.8				<19.5							
PCB-1260 (AROCLOR 1260)	11096-82-5		ug/kg			<19.6				<18.8				<19.5							
PCB-1262 (AROCLOR 1262)	37324-23-5		ug/kg			<19.6				<18.8				<19.5							
PCB-1268 (AROCLOR 1268)	11100-14-4		ug/kg			<19.6				<18.8				<19.5							
<b>HERBICIDES</b>																					
SILVEX (2,4,5-TP)	93-72-1		ug/kg			<77.3				<74				<76.8	ND/J						
<b>INORGANICS</b>																					
ARSENIC	7440-38-2	13	mg/kg			<2.32				<2.64				<2.7							
BARIUM	7440-39-3	350	mg/kg			<24.5				<20.9				<20.8							
BERYLLIUM	7440-41-7	7.2	mg/kg			<0.211	J			<0.233	J			<0.148	J						
CADMIUM	7440-43-9	2.5	mg/kg			<0.357				<0.462				<0.294							
CHROMIUM, HEXAVALENT	7440-47-3		mg/kg											<4.71							
CHROMIUM, TRIVALENT	18540-29-9	1	mg/kg											<0.459							
CHROMIUM, TOTAL	7440-47-3	30	mg/kg			<3.91				<4.21				<4.71							
COPPER	7440-50-8	50	mg/kg			<19.4				<21.8				<18.8	J						
LEAD	7439-92-1	63	mg/kg			<4.46				<5.49				<5.91							
MANGANESE	7439-96-5	1600	mg/kg			<271				<279				<266	J						
MERCURY	7439-97-6	0.18	mg/kg			<0.017				<0.015				<0.011	J						
NICKEL	7440-02-0	30	mg/kg			<8.14				<9.09				<8.53							
SELENIUM	7782-49-2	3.9	mg/kg			<1.01				<0.935				<0.98							
SILVER	7440-22-4	2	mg/kg			<0.495	J			<0.535				<0.49	ND/J						
ZINC	7440-66-6	109	mg/kg			<21.8				<24.4				<23.9							
CYANIDE	57-12-5	27	mg/kg											<0.268							

**Table 3**  
**Soil Fill Analytical Results**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

*Final*  
Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

	Lab Sample ID			H4528-06		H4528-07		H4528-08		H4528-09		H4528-11		H4528-12		H4528-14		H4528-15		H4528-17	
	Fill Source			1D		1E		1F		2		2A		3		3A		4		4A	
	Collection Date			8/8/2016		8/8/2016		8/8/2016		8/10/2016		8/10/2016		8/11/2016		8/11/2016		8/12/2016		8/12/2016	
<b>Parameter</b>	Matrix			Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
<b>VOLATILES</b>	CAS	DER-10	Units																		
1,1,1-TRICHLOROETHANE	71-55-6	680	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
1,1-DICHLOROETHANE	75-34-3	270	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
1,1-DICHLOROETHENE	75-35-4	330	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
1,2,4-TRIMETHYLBENZENE	95-63-6	3600	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
1,2-DICHLOROBENZENE	95-50-1	1100	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
1,2-DICHLOROETHANE	107-06-2	20	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
1,3,5-Trimethylbenzene	108-67-8	8400	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
1,3-DICHLOROBENZENE	541-73-1	2400	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
1,4-DICHLOROBENZENE	106-46-7	1800	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
1,4-DIOXANE (P-DIOXANE)	123-91-1	100	ug/kg	<110		<110		<110		<110		<110		<110		<110		<110		<110	
ACETONE	67-64-1	50	ug/kg	<27	ND/J	<28.2	ND/J	<27.4	ND/J	<27.6		<27.4		<28	ND/J	<27.7	ND/J	<27.9	ND/J	<27.8	ND/J
BENZENE	71-43-2	60	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
CARBON TETRACHLORIDE	56-23-5	760	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
CHLOROBENZENE	108-90-7	1100	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
CHLOROFORM	67-66-3	370	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
CIS-1,2-DICHLOROETHYLENE	156-59-2		ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
ETHYLBENZENE	100-41-4	1000	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	120	ug/kg	<27		<28.2		<27.4		<27.6		<27.4		<28		<27.7		<27.9		<27.8	
METHYLENE CHLORIDE	75-09-2	50	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
N-BUTYLBENZENE	104-51-8		ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
N-PROPYLBENZENE	103-65-1	3900	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
SEC-BUTYLBENZENE	135-98-8	11000	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
T-BUTYLBENZENE	98-06-6	5900	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
TERT-BUTYL METHYL ETHER	1634-04-4		ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
TETRACHLOROETHYLENE(PCE)	127-18-4		ug/kg	<5.4	ND/J	<5.6	ND/J	<5.5	ND/J	<5.5		<5.5		<5.6	ND/J	<5.5	ND/J	<5.6	ND/J	<5.6	ND/J
TOLUENE	108-88-3	700	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
TRANS-1,2-DICHLOROETHENE	156-60-5		ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
TRICHLOROETHYLENE (TCE)	79-01-6		ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
VINYL CHLORIDE	75-01-4	20	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.5		<5.6		<5.5		<5.6		<5.6	
XYLENES (TOTAL)	1330-20-7		ug/kg	<16.2		<16.9		<16.5		<16.5		<16.4		<16.8		<16.6		<16.7		<16.7	

**Table 3**  
**Soil Fill Analytical Results**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

*Final*  
Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

	Lab Sample ID			H4528-06		H4528-07		H4528-08		H4528-09		H4528-11		H4528-12		H4528-14		H4528-15		H4528-17	
	Fill Source			1D		1E		1F		2		2A		3		3A		4		4A	
	Collection Date			8/8/2016		8/8/2016		8/8/2016		8/10/2016		8/10/2016		8/11/2016		8/11/2016		8/12/2016		8/12/2016	
Parameter	Matrix			Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
<b>SEMIVOLATILES</b>																					
2-METHYLPHENOL (O-CRESOL)	95-48-7		ug/kg							<350				<360				<360			
3+4-METHYLPHENOLS	MEPH3MEPH4		ug/kg							<350				<360				<360			
ACENAPHTHENE	83-32-9	20000	ug/kg							<350				<360				<360			
ACENAPHTHYLENE	208-96-8	100000	ug/kg							<350				<360				<360			
ANTHRACENE	120-12-7	100000	ug/kg							<350				<360				<360			
BENZO(A)ANTHRACENE	56-55-3	1000	ug/kg							<350				<360				<360			
BENZO(A)PYRENE	50-32-8	1000	ug/kg							<350				<360				<360			
BENZO(B)FLUORANTHENE	205-99-2	1000	ug/kg							<350				<360				<360			
BENZO(G,H,I)PERYLENE	191-24-2	100000	ug/kg							<350				<360				<360			
BENZO(K)FLUORANTHENE	207-08-9	800	ug/kg							<350				<360				<360			
CHRYSENE	218-01-9	1000	ug/kg							<350				<360				<360			
DIBENZOFURAN	132-64-9		ug/kg							<350				<360				<360			
DIBENZ(A,H)ANTHRACENE	53-70-3	330	ug/kg							<350				<360				<360			
FLUORANTHENE	206-44-0	100000	ug/kg							<350				<360				<360			
FLUORENE	86-73-7	30000	ug/kg							<350				<360				<360			
HEXACHLOROBENZENE	118-74-1		ug/kg							<350				<360				<360			
INDENO(1,2,3-C,D)PYRENE	193-39-5	500	ug/kg							<350				<360				<360			
NAPHTHALENE	91-20-3	12000	ug/kg							<350				<360				<360			
PENTACHLOROPHENOL	87-86-5	800	ug/kg							<350				<360				<360			
PHENANTHRENE	85-01-8	100000	ug/kg							<350				<360				<360			
PHENOL	108-95-2	330	ug/kg							<350				<360				<360			
PYRENE	129-00-0	100000	ug/kg							<350				<360				<360			
<b>PESTICIDES</b>																					
ALDRIN	309-00-2	5	ug/kg							<1.8				<1.9				<1.9			
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	319-84-6	20	ug/kg							<1.8				<1.9				<1.9			
ALPHA ENDOSULFAN	959-98-8	2400	ug/kg							<1.8				<1.9				<1.9			
ALPHA-CHLORDANE	5103-71-9	94	ug/kg							<1.8				<1.9				<1.9			
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	319-85-7	36	ug/kg							<1.8				<1.9				<1.9			
BETA ENDOSULFAN	33213-65-9	2400	ug/kg							<1.8				<1.9				<1.9			
BETA-CHLORDANE	5103-74-2		ug/kg							<1.8				<1.9				<1.9			
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	319-86-8	40	ug/kg							<1.8				<1.9				<1.9			
DIELDRIN	60-57-1	5	ug/kg							<1.8				<1.9				<1.9			
ENDOSULFAN SULFATE	1031-07-8	2400	ug/kg							<1.8				<1.9				<1.9			
ENDRIN	72-20-8	14	ug/kg							<1.8				<1.9				<1.9			
ENDRIN ALDEHYDE	7421-93-4		ug/kg							<1.8				<1.9				<1.9			
ENDRIN KETONE	53494-70-5		ug/kg							<1.8				<1.9				<1.9			
GAMMA BHC (LINDANE)	58-89-9	100	ug/kg							<1.8				<1.9				<1.9			

Table 3  
Soil Fill Analytical Results  
McMaster Street  
Former Manufactured Gas Plant Site

	Lab Sample ID			H4528-06		H4528-07		H4528-08		H4528-09		H4528-11		H4528-12		H4528-14		H4528-15		H4528-17	
	Fill Source			1D		1E		1F		2		2A		3		3A		4		4A	
	Collection Date			8/8/2016		8/8/2016		8/8/2016		8/10/2016		8/10/2016		8/11/2016		8/11/2016		8/12/2016		8/12/2016	
Parameter	Matrix			Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
HEPTACHLOR	76-44-8	42	ug/kg							<1.8				<1.9				<1.9			
HEPTACHLOR EPOXIDE	1024-57-3		ug/kg							<1.8				<1.9				<1.9			
METHOXYCHLOR	72-43-5		ug/kg							<1.8				<1.9				<1.9			
P,P'-DDD	72-54-8	3.3	ug/kg							<1.8				<1.9				<1.9			
P,P'-DDE	72-55-9	3.3	ug/kg							<1.8				<1.9				<1.9			
P,P'-DDT	50-29-3	3.3	ug/kg							<1.8				<1.9				<1.9			
TOXAPHENE	8001-35-2		ug/kg							<18				<18.6				<18.7			

**Table 3**  
**Soil Fill Analytical Results**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

*Final*  
Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

	Lab Sample ID			H4528-06		H4528-07		H4528-08		H4528-09		H4528-11		H4528-12		H4528-14		H4528-15		H4528-17	
	Fill Source			1D		1E		1F		2		2A		3		3A		4		4A	
	Collection Date			8/8/2016		8/8/2016		8/8/2016		8/10/2016		8/10/2016		8/11/2016		8/11/2016		8/12/2016		8/12/2016	
Parameter	Matrix			Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
<b>PCBs</b>																					
PCB-1016 (AROCOR 1016)	12674-11-2		ug/kg							<18				<18.6				<18.7			
PCB-1221 (AROCOR 1221)	11104-28-2		ug/kg							<18				<18.6				<18.7			
PCB-1232 (AROCOR 1232)	11141-16-5		ug/kg							<18				<18.6				<18.7			
PCB-1242 (AROCOR 1242)	53469-21-9		ug/kg							<18				<18.6				<18.7			
PCB-1248 (AROCOR 1248)	12672-29-6		ug/kg							<18				<18.6				<18.7			
PCB-1254 (AROCOR 1254)	11097-69-1		ug/kg							<18				<18.6				<18.7			
PCB-1260 (AROCOR 1260)	11096-82-5		ug/kg							<18				<18.6				<18.7			
PCB-1262 (AROCOR 1262)	37324-23-5		ug/kg							<18				<18.6				<18.7			
PCB-1268 (AROCOR 1268)	11100-14-4		ug/kg							<18				<18.6				<18.7			
<b>HERBICIDES</b>																					
SILVEX (2,4,5-TP)	93-72-1		ug/kg							<70.8				<73.2				<73.5			
<b>INORGANICS</b>																					
ARSENIC	7440-38-2	13	mg/kg							<2.48				<2.66				<2.67			
BARIUM	7440-39-3	350	mg/kg							<20.4				<18.4				<21.6			
BERYLLIUM	7440-41-7	7.2	mg/kg							<0.142	J			<0.148				<0.152	J		
CADMIUM	7440-43-9	2.5	mg/kg							<0.262				<0.269				<0.28			
CHROMIUM, HEXAVALENT	7440-47-3		mg/kg							<4.34				<4.74				<4.45			
CHROMIUM, TRIVALENT	18540-29-9	1	mg/kg							<0.419				<0.431				<0.435			
CHROMIUM, TOTAL	7440-47-3	30	mg/kg							<4.34				<4.74				<4.45			
COPPER	7440-50-8	50	mg/kg							<17.8				<18				<20.7			
LEAD	7439-92-1	63	mg/kg							<6.63				<5.67				<5.96			
MANGANESE	7439-96-5	1600	mg/kg							<269				<252				<290			
MERCURY	7439-97-6	0.18	mg/kg							<0.014				<0.012				<0.011	J		
NICKEL	7440-02-0	30	mg/kg							<8.58				<9.27				<8.54			
SELENIUM	7782-49-2	3.9	mg/kg							<0.872				<0.898				<0.933			
SILVER	7440-22-4	2	mg/kg							<0.436				<0.449				<0.467			
ZINC	7440-66-6	109	mg/kg							<22.3				<23.1				<22.5			
CYANIDE	57-12-5	27	mg/kg							<0.265				<0.274				<0.27			

**Table 3**  
**Soil Fill Analytical Results**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

*Final*  
Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

	Lab Sample ID			H4528-18		H4528-20		I4216-01		I4216-03		I4216-04		I4216-05		I4216-06	
	Fill Source			5		5A		1A		1B		1C		1D		1E	
	Collection Date			8/17/2016		8/17/2016		7/13/2017		7/13/2017		7/13/2017		7/13/2017		7/13/2017	
<b>Parameter</b>	Matrix			Soil		Soil		Soil		Soil		Soil		Soil		Soil	
<b>VOLATILES</b>	CAS	DER-10	Units														
1,1,1-TRICHLOROETHANE	71-55-6	680	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
1,1-DICHLOROETHANE	75-34-3	270	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
1,1-DICHLOROETHENE	75-35-4	330	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
1,2,4-TRIMETHYLBENZENE	95-63-6	3600	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
1,2-DICHLOROBENZENE	95-50-1	1100	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
1,2-DICHLOROETHANE	107-06-2	20	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
1,3,5-Trimethylbenzene	108-67-8	8400	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
1,3-DICHLOROBENZENE	541-73-1	2400	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
1,4-DICHLOROBENZENE	106-46-7	1800	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
1,4-DIOXANE (P-DIOXANE)	123-91-1	100	ug/kg	<110		<110		<110	ND/J	<110	ND/J	<110	ND/J	<110	ND/J	<110	ND/J
ACETONE	67-64-1	50	ug/kg	<27.1	ND/J	<27.8		<27.5		<27.3		<27.1		<27.4		<27.4	
BENZENE	71-43-2	60	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
CARBON TETRACHLORIDE	56-23-5	760	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
CHLOROBENZENE	108-90-7	1100	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
CHLOROFORM	67-66-3	370	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
CIS-1,2-DICHLOROETHYLENE	156-59-2		ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
ETHYLBENZENE	100-41-4	1000	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
METHYL ETHYL KETONE (2-BUTAN	78-93-3	120	ug/kg	<27.1		<27.8		<27.5		<27.3		<27.1		<27.4		<27.4	
METHYLENE CHLORIDE	75-09-2	50	ug/kg	<5.4		<5.6		<3.3	J	<2.5	J	<2.7	J	<3.2	J	<3.1	J
N-BUTYLBENZENE	104-51-8		ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
N-PROPYLBENZENE	103-65-1	3900	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
SEC-BUTYLBENZENE	135-98-8	11000	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
T-BUTYLBENZENE	98-06-6	5900	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
TERT-BUTYL METHYL ETHER	1634-04-4		ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
TETRACHLOROETHYLENE(PCE)	127-18-4		ug/kg	<5.4	ND/J	<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
TOLUENE	108-88-3	700	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
TRANS-1,2-DICHLOROETHENE	156-60-5		ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
TRICHLOROETHYLENE (TCE)	79-01-6		ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
VINYL CHLORIDE	75-01-4	20	ug/kg	<5.4		<5.6		<5.5		<5.5		<5.4		<5.5		<5.5	
XYLENES (TOTAL)	1330-20-7		ug/kg	<16.2		<16.7		<16.5		<16.4		<16.2		<16.5		<16.5	

**Table 3**  
**Soil Fill Analytical Results**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

*Final*  
Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

	Lab Sample ID			H4528-18		H4528-20		I4216-01		I4216-03		I4216-04		I4216-05		I4216-06	
	Fill Source			5		5A		1A		1B		1C		1D		1E	
	Collection Date			8/17/2016		8/17/2016		7/13/2017		7/13/2017		7/13/2017		7/13/2017		7/13/2017	
Parameter	Matrix			Soil		Soil		Soil		Soil		Soil		Soil		Soil	
<b>SEMIVOLATILES</b>																	
2-METHYLPHENOL (O-CRESOL)	95-48-7		ug/kg	<360				<360									
3+4-METHYLPHENOLS	MEPH3MEPH4		ug/kg	<360				<360									
ACENAPHTHENE	83-32-9	20000	ug/kg	<360				<360									
ACENAPHTHYLENE	208-96-8	100000	ug/kg	<360				<360									
ANTHRACENE	120-12-7	100000	ug/kg	<360				<120	J								
BENZO(A)ANTHRACENE	56-55-3	1000	ug/kg	<360				<100	J								
BENZO(A)PYRENE	50-32-8	1000	ug/kg	<360				<140	J								
BENZO(B)FLUORANTHENE	205-99-2	1000	ug/kg	<360				<360									
BENZO(G,H,I)PERYLENE	191-24-2	100000	ug/kg	<360				<360									
BENZO(K)FLUORANTHENE	207-08-9	800	ug/kg	<360				<110	J								
CHRYSENE	218-01-9	1000	ug/kg	<360				<360									
DIBENZOFURAN	132-64-9		ug/kg	<360				<360									
DIBENZ(A,H)ANTHRACENE	53-70-3	330	ug/kg	<360				<360									
FLUORANTHENE	206-44-0	100000	ug/kg	<360				<360									
FLUORENE	86-73-7	30000	ug/kg	<360				<360									
HEXACHLOROBENZENE	118-74-1		ug/kg	<360				<160	J								
INDENO(1,2,3-C,D)PYRENE	193-39-5	500	ug/kg	<360				<360									
NAPHTHALENE	91-20-3	12000	ug/kg	<360				<360									
PENTACHLOROPHENOL	87-86-5	800	ug/kg	<360				<360									
PHENANTHRENE	85-01-8	100000	ug/kg	<360				<180	J								
PHENOL	108-95-2	330	ug/kg	<360				<360									
PYRENE	129-00-0	100000	ug/kg	<360				<150	J								
<b>PESTICIDES</b>																	
ALDRIN	309-00-2	5	ug/kg	<1.9				<1.8									
ALPHA BHC (ALPHA HEXACHLORO)	319-84-6	20	ug/kg	<1.9				<1.8									
ALPHA ENDOSULFAN	959-98-8	2400	ug/kg	<1.9				<1.8									
ALPHA-CHLORDANE	5103-71-9	94	ug/kg	<1.9				<1.8									
BETA BHC (BETA HEXACHLOROCYCLO)	319-85-7	36	ug/kg	<1.9				<1.8									
BETA ENDOSULFAN	33213-65-9	2400	ug/kg	<1.9				<1.8									
BETA-CHLORDANE	5103-74-2		ug/kg	<1.9				<1.8									
DELTA BHC (DELTA HEXACHLOROCYCLO)	319-86-8	40	ug/kg	<1.9				<1.8									
DIELDRIN	60-57-1	5	ug/kg	<1.9				<1.8									
ENDOSULFAN SULFATE	1031-07-8	2400	ug/kg	<1.9				<1.8									
ENDRIN	72-20-8	14	ug/kg	<1.9				<1.8									
ENDRIN ALDEHYDE	7421-93-4		ug/kg	<1.9				<1.8									
ENDRIN KETONE	53494-70-5		ug/kg	<1.9				<1.8									
GAMMA BHC (LINDANE)	58-89-9	100	ug/kg	<1.9				<1.8									

Table 3  
Soil Fill Analytical Results  
McMaster Street  
Former Manufactured Gas Plant Site

	Lab Sample ID			H4528-18		H4528-20		I4216-01		I4216-03		I4216-04		I4216-05		I4216-06	
	Fill Source			5		5A		1A		1B		1C		1D		1E	
	Collection Date			8/17/2016		8/17/2016		7/13/2017		7/13/2017		7/13/2017		7/13/2017		7/13/2017	
Parameter	Matrix			Soil		Soil		Soil		Soil		Soil		Soil		Soil	
HEPTACHLOR	76-44-8	42	ug/kg	<1.9				<1.8									
HEPTACHLOR EPOXIDE	1024-57-3		ug/kg	<1.9				<1.8									
METHOXYCHLOR	72-43-5		ug/kg	<1.9				<1.8									
P,P'-DDD	72-54-8	3.3	ug/kg	<1.9				<1.8									
P,P'-DDE	72-55-9	3.3	ug/kg	<1.9				<1.8									
P,P'-DDT	50-29-3	3.3	ug/kg	<1.9				<1.8									
TOXAPHENE	8001-35-2		ug/kg	<18.6				<18.5									

Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

**Table 4**  
**Top Soil Analytical Results**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

	Lab Sample ID			I4216-07		I4216-09		I4216-10		I4216-11		I4216-12	
	Fill Source			1A		1B		1C		1D		1E	
	Collection Date			7/13/2017		7/13/2017		7/13/2017		7/13/2017		7/13/2017	
	Matrix			Soil		Soil		Soil		Soil		Soil	
<b>Parameter</b>													
<b>VOLATILES</b>	CAS	DER-10	Units										
1,1,1-TRICHLOROETHANE	71-55-6	680	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
1,1-DICHLOROETHANE	75-34-3	270	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
1,1-DICHLOROETHENE	75-35-4	330	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
1,2,4-TRIMETHYLBENZENE	95-63-6	3600	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
1,2-DICHLOROBENZENE	95-50-1	1100	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
1,2-DICHLOROETHANE	107-06-2	20	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
1,3,5-Trimethylbenzene	108-67-8	8400	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
1,3-DICHLOROBENZENE	541-73-1	2400	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
1,4-DICHLOROBENZENE	106-46-7	1800	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
1,4-DIOXANE (P-DIOXANE)	123-91-1	100	mg/Kg	<130	ND/J	<120	ND/J	<150	ND/J	<130	ND/J	<130	ND/J
ACETONE	67-64-1	50	mg/Kg	<31.7		<31		<36.8		<31.4		<31.6	
BENZENE	71-43-2	60	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
CARBON TETRACHLORIDE	56-23-5	760	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
CHLOROBENZENE	108-90-7	1100	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
CHLOROFORM	67-66-3	370	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
CIS-1,2-DICHLOROETHYLENE	156-59-2		mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
ETHYLBENZENE	100-41-4	1000	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	120	mg/Kg	<31.7		<31		<36.8		<31.4		<31.6	
METHYLENE CHLORIDE	75-09-2	50	mg/Kg	<2	J	<1.5	J	<3.7	J	<3.9	J	<4.3	J
N-BUTYLBENZENE	104-51-8		mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
N-PROPYLBENZENE	103-65-1	3900	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
SEC-BUTYLBENZENE	135-98-8	11000	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
T-BUTYLBENZENE	98-06-6	5900	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
TERT-BUTYL METHYL ETHER	1634-04-4		mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
TETRACHLOROETHYLENE(PCE)	127-18-4		mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
TOLUENE	108-88-3	700	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
TRANS-1,2-DICHLOROETHENE	156-60-5		mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
TRICHLOROETHYLENE (TCE)	79-01-6		mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
VINYL CHLORIDE	75-01-4	20	mg/Kg	<6.3		<6.2		<7.4		<6.3		<6.3	
XYLENES (TOTAL)	1330-20-7		mg/Kg	<19		<18.6		<22.1		<18.9		<18.9	
<b>SEMIVOLATILES</b>													
2-METHYLPHENOL (O-CRESOL)	95-48-7		mg/Kg	<410									
3+4-METHYLPHENOLS	MEPH3MEPH4		mg/Kg	<410									
ACENAPHTHENE	83-32-9	20000	mg/Kg	<410									
ACENAPHTHYLENE	208-96-8	100000	mg/Kg	<410									
ANTHRACENE	120-12-7	100000	mg/Kg	<410									
BENZO(A)ANTHRACENE	56-55-3	1000	mg/Kg	<410									
<b>SEMIVOLATILES (Continued)</b>													
BENZO(A)PYRENE	50-32-8	1000	mg/Kg	<410									
BENZO(B)FLUORANTHENE	205-99-2	1000	mg/Kg	<410									
BENZO(G,H,I)PERYLENE	191-24-2	100000	mg/Kg	<410									
BENZO(K)FLUORANTHENE	207-08-9	800	mg/Kg	<410									
CHRYSENE	218-01-9	1000	mg/Kg	<410									
DIBENZOFURAN	132-64-9		mg/Kg	<410									
DIBENZ(A,H)ANTHRACENE	53-70-3	330	mg/Kg	<140	J								

Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

**Table 4**  
**Top Soil Analytical Results**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

	Lab Sample ID			I4216-07		I4216-09		I4216-10		I4216-11		I4216-12	
	Fill Source			1A		1B		1C		1D		1E	
	Collection Date			7/13/2017		7/13/2017		7/13/2017		7/13/2017		7/13/2017	
	Matrix			Soil		Soil		Soil		Soil		Soil	
<b>Parameter</b>													
FLUORANTHENE	206-44-0	100000	mg/Kg	<410									
FLUORENE	86-73-7	30000	mg/Kg	<410									
HEXACHLOROBENZENE	118-74-1		mg/Kg	<160	J								
INDENO(1,2,3-C,D)PYRENE	193-39-5	500	mg/Kg	<410									
NAPHTHALENE	91-20-3	12000	mg/Kg	<410									
PENTACHLOROPHENOL	87-86-5	800	mg/Kg	<410									
PHENANTHRENE	85-01-8	100000	mg/Kg	<99.7	J								
PHENOL	108-95-2	330	mg/Kg	<410									
PYRENE	129-00-0	100000	mg/Kg	<410									
<b>PESTICIDES</b>													
ALDRIN	309-00-2	5	mg/Kg	<2.1									
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	319-84-6	20	mg/Kg	<2.1									
ALPHA ENDOSULFAN	959-98-8	2400	mg/Kg	<2.1									
ALPHA-CHLORDANE	5103-71-9	94	mg/Kg	<2.1									
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	319-85-7	36	mg/Kg	<2.1									
BETA ENDOSULFAN	33213-65-9	2400	mg/Kg	<2.1									
BETA-CHLORDANE	5103-74-2		mg/Kg	<2.1									
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	319-86-8	40	mg/Kg	<2.1									
DIELDRIN	60-57-1	5	mg/Kg	<2.1									
ENDOSULFAN SULFATE	1031-07-8	2400	mg/Kg	<2.1									
ENDRIN	72-20-8	14	mg/Kg	<2.1									
ENDRIN ALDEHYDE	7421-93-4		mg/Kg	<2.1									
ENDRIN KETONE	53494-70-5		mg/Kg	<2.1									
GAMMA BHC (LINDANE)	58-89-9	100	mg/Kg	<2.1									
HEPTACHLOR	76-44-8	42	mg/Kg	<2.1									
HEPTACHLOR EPOXIDE	1024-57-3		mg/Kg	<2.1									
METHOXYCHLOR	72-43-5		mg/Kg	<2.1									
P,P'-DDD	72-54-8	3.3	mg/Kg	<2.1									
P,P'-DDE	72-55-9	3.3	mg/Kg	<2.1									
P,P'-DDT	50-29-3	3.3	mg/Kg	<2.1									
TOXAPHENE	8001-35-2		mg/Kg	<21.1									
<b>PCBs</b>													
PCB-1016 (AROCLOR 1016)	12674-11-2		mg/Kg	<21.1									
PCB-1221 (AROCLOR 1221)	11104-28-2		mg/Kg	<21.1									
PCB-1232 (AROCLOR 1232)	11141-16-5		mg/Kg	<21.1									
PCB-1242 (AROCLOR 1242)	53469-21-9		mg/Kg	<21.1									
PCB-1248 (AROCLOR 1248)	12672-29-6		mg/Kg	<21.1									
PCB-1254 (AROCLOR 1254)	11097-69-1		mg/Kg	<21.1									
PCB-1260 (AROCLOR 1260)	11096-82-5		mg/Kg	<21.1									
PCB-1262 (AROCLOR 1262)	37324-23-5		mg/Kg	<21.1									
PCB-1268 (AROCLOR 1268)	11100-14-4		mg/Kg	<21.1									
<b>HERBICIDES</b>													
SILVEX (2,4,5-TP)	93-72-1		mg/Kg	<83.2									
<b>INORGANICS</b>													
ARSENIC	7440-38-2	13	mg/Kg	<3.42									

Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

**Table 4**  
**Top Soil Analytical Results**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

	Lab Sample ID			I4216-07		I4216-09		I4216-10		I4216-11		I4216-12	
	Fill Source			1A		1B		1C		1D		1E	
	Collection Date			7/13/2017		7/13/2017		7/13/2017		7/13/2017		7/13/2017	
	Matrix			Soil		Soil		Soil		Soil		Soil	
<b>Parameter</b>													
BARIUM	7440-39-3	350	mg/Kg	<39.3									
BERYLLIUM	7440-41-7	7.2	mg/Kg	<0.215	J								
CADMIUM	7440-43-9	2.5	mg/Kg	<0.38									
CHROMIUM, HEXAVALENT	7440-47-3		mg/Kg	<0.497									
CHROMIUM, TRIVALENT	18540-29-9	1	mg/Kg	<9.4									
CHROMIUM, TOTAL	7440-47-3	30	mg/Kg	<9.4									
COPPER	7440-50-8	50	mg/Kg	<22.1									
LEAD	7439-92-1	63	mg/Kg	<15.6									
MANGANESE	7439-96-5	1600	mg/Kg	<363									
MERCURY	7439-97-6	0.18	mg/Kg	<0.05									
NICKEL	7440-02-0	30	mg/Kg	<11.3									
SELENIUM	7782-49-2	3.9	mg/Kg	<1.02	J								
SILVER	7440-22-4	2	mg/Kg	<0.886									
ZINC	7440-66-6	109	mg/Kg	<35.9									
CYANIDE	57-12-5	27	mg/Kg	<0.25	J								

Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

**Table 5**  
**Non-Hazardous Offsite Soil/  
Waste Disposal Volumes and Facilities**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

Phase	Landfill	Tons
2015	SMI	1698.26
2016	SMI	1560.43
2017	SMI	
2018	SMI	
Total:		<b>3258.69</b>

Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

**Table 6**  
**Hazardous Offsite Soil/Waste Disposal**  
**Volumes and Facilities**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

Phase	Landfill	Tons
2015	ESMI	8522.82
2016	ESMI	7801.38
2017	ESMI	7885.86
2018	ESMI	1178.91
Total:		<b>25388.97</b>

Phase I-IV Construction Completion Report  
McMaster Street Former MGP Site, Auburn, NY

**Table 7**  
**Imported Materials**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

	PH1	PH3	PH 4			
Material	2015	2016	2017	2018	Total Amount	Unit
Recycled Concrete	862.79				862.79	tons
Type F Run of Crusher Stone	2930.04	2226.64	2164.51	8795.4	16116.59	tons
Common Fill Soil	9176.39	6895.34	1101.58		17173.31	tons
Concrete Debris	835.51				835.51	tons
Sewer Concrete	3		1.95		4.95	CY
Water Treatment						
Portland	272.77				272.77	tons
Bank Stone		66.61			66.61	tons
Scrap Steel						
LKD	111	98	658	110	977	Super Sacks
Biosolve	330.00	145.00	55.00	440	970.00	gallons
Rusmar	385.00	385.00			770.00	gallons
South Bank Stone/ Cobble			3408.24		3408.24	tons
Restoration Stone			3285.85	2570.93	5856.78	tons
bedding sand	20.13		509.82		529.95	tons
Top Soil		197		496	693	CY
Type B Stone				516.95	516.95	tons
#2 Limestone				76.68	76.68	tons

CY=Cubic Yard

tons= 2,000 pounds

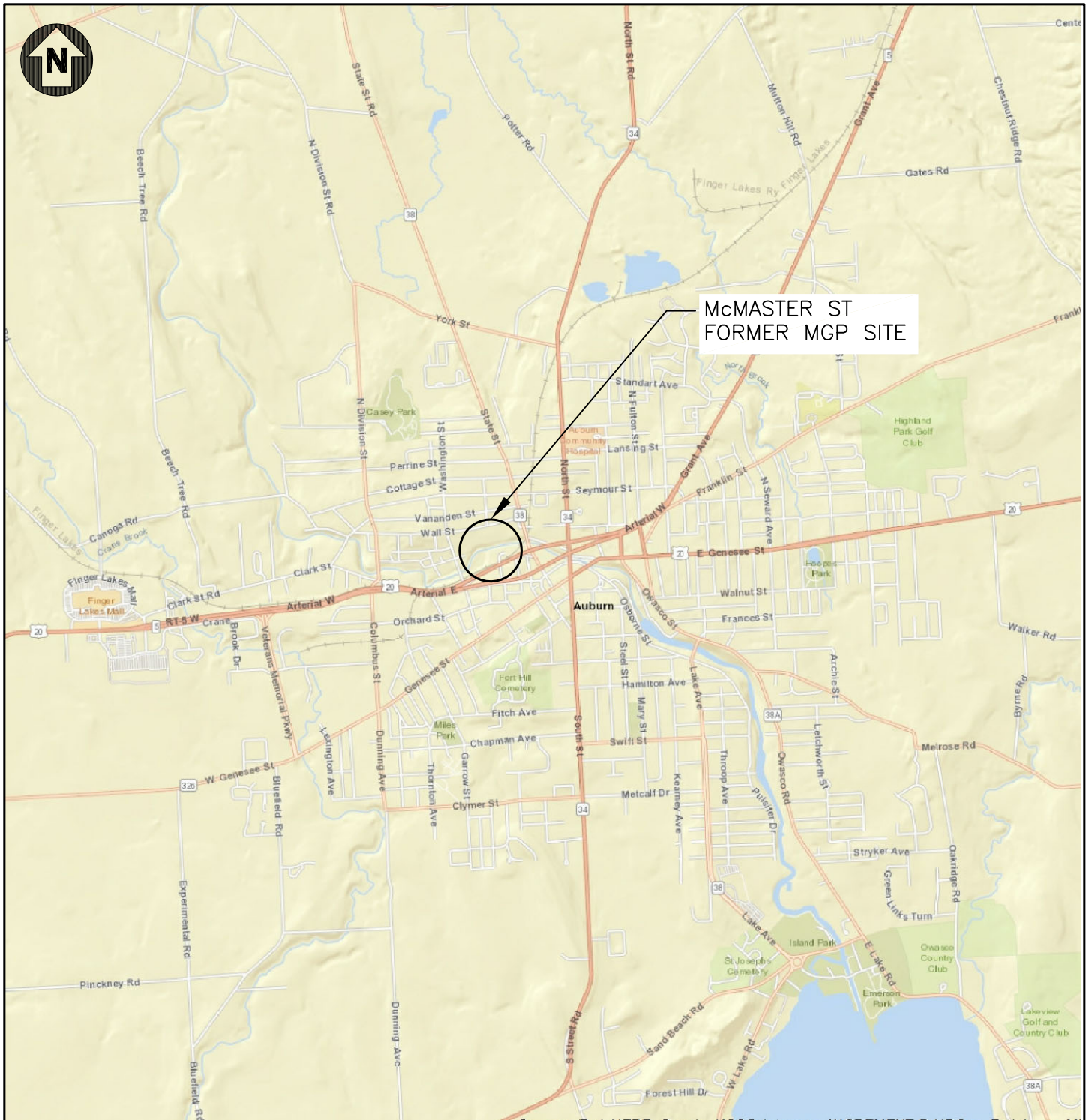
**Table 8**  
**Lead Contaminated Soil**  
**Volumes and Facilities**  
**McMaster Street**  
**Former Manufactured Gas Plant Site**

Date	Estimated Tonnage	Facility
7/23/2018	21	MI Disposal WTP
7/23/2018	21	MI Disposal WTP
7/23/2018	21	MI Disposal WTP
7/23/2018	21	MI Disposal WTP

Total: **84**

# FIGURES

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**FIGURE 1**

**NYSEG  
McMASTER STREET FORMER MGP SITE  
AUBURN, NEW YORK**

**SITE LOCATION MAP**

**PARSONS**

301 PLAINFIELD ROAD, SUITE 350, SYRACUSE, NY 13212 \* 315-451-9560

NOT TO SCALE

