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Remedial Action Work Plan

Little Falls (Mill Street) Non-Owned Former MGP Site

Little Falls, New York

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Table of Contents

Figures

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1. Introduction

1.1 General

This Remedial Action Work Plan (RAWP) presents the proposed remedial action approach for the National Grid Little Falls non-owned former manufactured gas plant (MGP) site (the site) located in Little Falls, New York. A site location map is presented as Figure 1. A site plan and aerial photograph which show the layout of current and historical features at the site are presented on Figures 2 and 3, respectively. This RAWP has been prepared by ARCADIS of New York, Inc. (ARCADIS BBL, formerly Blasland, Bouck & Lee, Inc. [BBL]) in accordance with the requirements of a multi-site Voluntary Consent Order (VCO Index No. D0-0001-0011) between National Grid and the New York State Department of Environmental Conservation (NYSDEC).

The proposed remedial action approach has been developed based on the results of previous site investigations and the current and anticipated future use(s) of the site. The proposed remedial action approach includes:

- Removal of subsurface piping and impacted soil associated with a "MGP pipe gallery" located northwest of a former onsite gas holder structure
- In-situ stabilization of accessible subsurface soil located in the vicinity of the former gas holder structure
- Passive recovery of dense non-aqueous phase liquid (DNAPL) in the area south of the former MGP operations
- Post-remediation groundwater monitoring
- Administrative controls to minimize future exposure of site workers to impacted subsurface media.

1.2 Work Plan Organization

This RAWP is organized into the following sections:

Section	Purpose
Section 1 – Introduction	Describes the purpose and scope of RAWP, the organization of the work plan, and remedial action objectives.
Section 2 – Background Information	Presents a description of the site and a discussion of historical MGP site operations, current and anticipated site usage, site topography and drainage, site geology/hydrogeology, and previous investigations.
Section 3 – Pre-Remedial Action	Describes the activities to be completed prior to the implementation of the proposed remedial action activities.
Section 4 – Remedial Action	Describes the proposed remedial action activities to be conducted, including pipe gallery removal, in-situ stabilization, recovery well installation, and supplemental work.
Section 5 – Post Remedial Action	Summarizes proposed post remedial action activities.
Section 6 – Schedule	Presents the anticipated schedule for the completion of the remedial activities.
Section 7 – References	Provides a list of select references used to prepare this work plan.

This RAWP is supported by the following documents which will be prepared under separate cover following NYSDEC approval of the proposed remedial approach for the site:

- Technical Specifications: Detailed technical specifications will be prepared to support the contractor procurement process prior to the remedial action activities.

- Health and Safety Plan (HASP): The HASP will contain procedures to be followed during the remedial action activities to protect the health and safety of field personnel, and will include a Community Air Monitoring Plan (CAMP).

- Citizen Participation Plan (CPP): The CPP will describe public participation activities that will be conducted in connection with the remedial action. Prior to implementing the remedial action activities, a project-specific fact sheet will be prepared and distributed to onsite employees, local property owners, and other interested parties.

- Storm Water Pollution Prevention Plan (SWPPP): The SWPPP will describe the approach to mitigate potential storm water runoff issues during the remedial action activities.

A Site Management Plan (SMP) will also be prepared concurrent with or following the remedial action activities. The SMP will establish guidelines and describe protocols to be followed prior to and during future onsite excavation and ground intrusive activities at the site (including possible future building removal and construction activities) by current and/or future property owners. The SMP will also specify procedures to be followed should subsurface environmental conditions, other than those anticipated, be encountered

1.3 Remedial Action Objectives

Remedial Action Objectives (RAOs) have been developed for impacted site media based on the results of previous site investigations and in consideration of current/future site uses and potential exposure pathways. The previous investigations are discussed in Section 2.7 of this RAWP. The primary goal of the remedial activities is to mitigate potential risks to public health and the environment based on the contemplated use of the site. The following media-specific RAOs have been developed from the Division of Environmental Remediation's Generic RAOs for subsurface soil and groundwater at the site.

Environmental Media	Constituents of Concern	Media-Specific Remedial Action Objectives
Subsurface Soil	• BTEX • PAHs • NAPL	1. Prevent or minimize to the extent practicable ingestion/direct contact with impacted subsurface soil. 2. Prevent or minimize to the extent practicable inhalation of or exposure from the volatilized compounds volatilizing from impacted subsurface soil. 3. Prevent or minimize to the extent practicable migration of impacts that would result in increased groundwater or surface water impacts.

Environmental Media	Constituents of Concern	Media-Specific Remedial Action Objectives
Groundwater	• BTEX • PAHs	1. Prevent or minimize to the extent practicable ingestion of groundwater with concentrations of constituents of concern (COCs) exceeding drinking water standards. 2. Prevent or minimize to the extent practicable contact with, or inhalation of volatiles, from impacted groundwater. 3. Prevent or minimize to the extent practicable discharge of impacts to surface water. 4. Minimize future impacts to groundwater and reduce concentrations of COCs in groundwater to the extent practicable.
NAPL	• DNAPL	1. Recover non-aqueous phase liquid (NAPL) to the extent practical.

The results for previous site investigations indicate that remedial measures to address surface soil at the site and sediment in the Mohawk River, immediately adjacent to and downgradient of the site, do not appear warranted. Therefore, no RAOs are proposed for these media.

2. Background Information

2.1 General

A summary of relevant site background information as it pertains to the development of this RAWP is presented below. Additional details are presented in the NYSDEC-approved *Remedial Investigation Report* (RI Report) prepared by ARCADIS BBL (July 2005).

2.2 Site Description

The Little Falls non-owned former MGP site is located on the western portion of an approximately 6.5-acre property currently owned by Feldmeier Equipment, Inc. (Feldmeier). As shown on Figures 2 and 3, the site is located on the south side of East Mill Street in Little Falls, New York. The site is bordered by East Mill Street to the north, George Lumber and Building Materials Company (George Lumber) to the west, the Mohawk River to the south, and a tank manufacturing building to the east (owned and operated by Feldmeier) (the "tank manufacturing building"). Adjacent properties located to the north (across East Mill Street), east, and west of the former MGP site are used for industrial and/or commercial purposes.

2.3 Historical MGP Operations

Historical MGP operations at the site were primarily located within a small (approximately 0.56-acre) area on the western portion of the Feldmeier property. Historical MGP operations were conducted at the site from approximately 1853 to approximately 1907. Based on available Sanborn Fire Insurance Maps, buildings and structures associated with the former MGP operation included a coal storage shed, horizontal retorts, gas purifiers, maintenance shops, a warehouse, and several smaller unnamed buildings/structures. The buildings and structures were primarily located within the western portion of the footprint of the current tank manufacturing building. The Sanborn Maps also show that one 50,000-cubic-foot gas holder (the former onsite gas holder) was formerly located adjacent to the Mohawk River, south of the gas works. The Sanborn Maps indicate that approximately 60% of the former onsite gas holder is located beneath the southwest corner of the current tank manufacturing building. The Sanborn Maps also indicate that a second gas holder (the former offsite gas holder) was constructed between 1884 and 1891 in the southeast corner of the current George Lumber Property. The layout of historical MGP structures is shown on Figures 2 and 3.

2.4 Current and Anticipated Site Usage

As indicated above, the site is located on a portion of the property currently owned and operated by Feldmeier. The Feldmeier property (including the area used for the former MGP operations) is currently occupied by an industrial manufacturing facility that fabricates stainless-steel tanks for the pharmaceutical, cosmetics, and food industries. The portion of the property that contains the former MGP operation is occupied by a paved parking area and the western portion of the tank manufacturing building used by Feldmeier. The tank manufacturing building consists of a slab-on-grade, structural steel frame building with metal walls and roof. Although most of the site is currently paved or covered by the tank manufacturing building, some grass and vegetated areas are present along the margins of the parking lot and in the area south of the building along the bank of the Mohawk River. Industrial manufacturing operations at the site are anticipated to continue for the foreseeable future.

2.5 Surface Topography and Drainage

The site is located on the north bank of the Mohawk River. The ground surface elevations at the site range from approximately 354 feet above mean sea level (amsl) at the southern boundary (along the top of the bank for the Mohawk River) to 363 feet amsl in the northwest corner of the property. The majority of the site is paved and slopes toward storm sewer catch basins and the Mohawk River. Based on the extent of pavement and structures present at the site, infiltration of precipitation in the immediate vicinity of the site is limited. Surface runoff from the site flows from north to south (toward the Mohawk River), with a portion of the paved area draining to a shallow storm sewer drain line (located along the western edge of the tank manufacturing building), which discharges to the Mohawk River. Stormwater flow from the area north of the site is conveyed by an approximately 78–inch-diameter (equivalent) elliptical concrete pipe that flows from north to south across the central portion of the parking lot at the site (approximately 100 feet west of the tank manufacturing building).

The section of the Mohawk River immediately south of the site flows from west to east at a fairly steep gradient and consists of a relatively shallow, swift-flowing channel that cascades over a series of rock outcrops. The New York State Barge Canal is located south of the Mohawk River, approximately 200 feet south of the river. The water level in the canal is controlled by locks that allow vessels to bypass the rapids in the Mohawk River at Little Falls.

2.6 Geologic/Hydrogeologic Setting

The site is located in the Mohawk River Valley. The United States Department of Agriculture (USDA) Soil Conservation Service document entitled, Soil Survey of Herkimer County, Southern Section (USDA, 1975) identifies surface soil in the site vicinity as cut and fill land (Cu). This soil designation indicates that native soil in the area has been extensively reworked and that imported fill may have been used for site grading. Fill material encountered during previous investigations at the site ranges in depth between 2.3 and 26 feet below grade and consists of a mixture of sand, silt, gravel, and refuse (e.g., brick, concrete, glass, cinders, wood and slag). In general, the fill unit increases in thickness from north to south across the site. Alluvium was encountered at a majority of the soil borings installed at the site, with thicknesses ranging from approximately 0.6 feet to 10 feet. Gneiss bedrock is exposed in several rock outcrops along the banks of the Mohawk River near the site, and bedrock was encountered during previous site investigations at depths ranging from 2 feet below ground surface (bgs) (in the northern portion of the site) to 28.3 feet bgs (in the southwest portion of the site). The bedrock surface beneath the site consists of several heterogeneities and undulations.

The groundwater table beneath the site was encountered at depths approximately 7.5 to 20 feet below grade during previous investigations. Groundwater was generally encountered within the fill unit or the relatively thin layer of alluvial overburden that overlies the bedrock. Groundwater within overburden near the site, although locally distorted due to heterogeneities in the top of bedrock, generally flows in a south-southeast direction discharging to the Mohawk River. Because of its nominal thickness, the alluvium overlying bedrock is not likely to yield substantial water. Groundwater at and in the vicinity of the site is not used for potable water.

2.7 Summary of Previous Investigations

Feldmeier purchased the property from SPX Corporation in 2004. In support of the property transfer, several investigations were completed at the property beginning in 1997. A Phase II Environmental Site Assessment (ESA) identified suspected MGP-related impacts in the vicinity of historical MGP operations at the site. As a result of the suspected MGP-related impacts identified at the property, National Grid implemented a Site Characterization Investigation and a Remedial Investigation (RI) at the site under a multi-site Voluntary Consent Order (VCO) with the NYSDEC. The NYSDEC has agreed to recognize the eastern property line of parcel Lot 21 (shown on Figure 2) as the line of demarcation between the area subject to remedial activities to be conducted

by National Grid and the portion of the property to be addressed by SPX Corporation and Feldmeier under a separate Voluntary Cleanup Agreement (VCA) with the NYSDEC. Previous investigations that have been conducted at the Feldmeier property, including within the limits of the historical MGP operation, include:

- Phase I ESA conducted by Delta Environmental Consultants, Inc. (Delta Environmental) in 1997
- Phase I ESA conducted by Buck Engineering, LLC (Buck Engineering) in 1998
- Phase II ESA conducted by Delta Environmental in 1998
- Voluntary Cleanup Program (VCP) investigation and supplemental VCP investigations conducted by Buck in 2000, 2001, and 2002
- Site Characterization Investigation conducted by Foster Wheeler Environmental Corporation in 2002
- Remedial Investigation conducted by ARCADIS BBL between 2004 and 2006

Analytical results for soil, groundwater, and sediment samples that were analyzed in connection with the above-listed investigation activities are summarized on Figures 4 through 7. A detailed discussion of the results for the RI and other previous investigations is presented in the RI Report (ARCADIS BBL, July 2005). In general, the results of the RI and other previous site investigations indicate the following:

- MGP-related impacts appear to be localized to the vicinity of the former onsite gas holder and the area immediately south and west of the tank manufacturing building. Benzene, toluene, ethylbenzene, and xylenes (BTEX) and polynuclear aromatic hydrocarbons (PAHs) are commonly associated with historical MGP operations (as well as certain manufacturing operations) and these constituents have been used to indicate the presence and extent of MGP-related impacts. The highest concentrations of BTEX and PAHs have been detected in soil and groundwater samples collected in the vicinity of the former onsite gas holder. Elevated BTEX and PAH concentrations have also been identified in soil borings completed within and immediately west of the tank manufacturing building (including borings F-SB-21, F-SB-23, and F-SB-24). Remedial efforts to address impacted subsurface soil beneath and immediately west of the tank manufacturing building would involve significant disruption to on-going operations at the site. The site investigation results indicate that visible MGP impacts were encountered in the vicinity of the former onsite gas holder and at specific locations within the former underground “MGP pipe gallery” located west of the tank manufacturing building.

Visible MGP impacts were noted at depths of approximately 10 to 13 feet below ground surface (bgs) in test pits excavated within the MGP pipe gallery. However, BTEX and PAH concentrations in soil samples collected from the test pits indicate that remedial efforts are not necessary to achieve the RAOs in the former pipe gallery area. The results for the RI and previous site investigations also indicate that MGP-related impacts do not appear to be a significant concern in areas located in the western portion of the site (including in the vicinity of the former offsite gas holder). Total BTEX and PAH concentrations detected in subsurface soil samples collected during previous site investigations are summarized on Figure 4. Detected concentrations of target compound list (TCL) volatile organic compounds (VOCs) and TCL semi-volatile organic compounds (SVOCs) in groundwater samples collected during the RI are summarized on Figures 5 and 6, respectively.

- With the exception of two locations (F-SB-22 and MW-101R) in the vicinity of the former onsite gas holder, bedrock beneath the site appears generally unaffected by MGP-related materials. Measurable thicknesses of dense non-aqueous phase liquid (DNAPL) were encountered in bedrock monitoring well MW-101R. However, MGP-related impacts were not observed in bedrock at nearby monitoring wells MW-101RD, MW-102R, and MW-103R installed along the northern bank of the Mohawk River (with the exception of a slight sheen observed at 27 feet bgs in bedrock at MW-101RD).

- The analytical results generated during the RI indicated that several chlorinated volatile organic compounds (chlorinated VOCs), which are not related to historical MGP operations at the site, were identified in groundwater samples collected from bedrock monitoring wells MW-101RD and MW-103R at concentrations exceeding NYSDEC groundwater standards. An August 2, 2005 letter from National Grid to the NYSDEC clarified that National Grid would not be responsible for addressing data gaps or conditions that are solely related to the presence of chlorinated VOCs identified at the site or for future remediation of any areas that are not impacted by historical MGP operations.

- The majority of the site is covered by an asphalt parking lot and a large building. There is a relatively narrow strip of vegetated soil located along the southern boundary of the site, adjacent to the Mohawk River. The vegetated soil in this area of the site receives overland stormwater runoff from the parking lot area at the site. The low-level concentrations of PAHs detected in the surface soil samples indicate that remediation of surface soil is not warranted to achieve the RAOs.

- Although select inorganic constituents were detected in surface and subsurface soil samples at concentrations exceeding NYSDEC-recommended soil cleanup

objectives and previously established site background values, the presence of the detected inorganic constituents do not appear to be linked to former MGP operations at the site and remediation of inorganic constituents to address the RAOs is not warranted.

- The findings of a soil-gas investigation completed as part of the RI indicate that MGP-related impacts beneath the tank manufacturing building do not appear to represent a potential for volatilized MGP-related constituents to migrate to indoor air within the tank manufacturing building. The NYSDEC issued a June 1, 2006 letter to National Grid indicating that no further action is required by National Grid related to the investigation and/or remediation of soil gas at the site.

- Sediment probing completed as part of the RI indicated that the Mohawk River adjacent to and downgradient from the former MGP site consists of a generally thin layer of coarse material with limited isolated sediment deposits. The depths of sediment probed during the RI in the Mohawk River immediately adjacent to the former MGP site are summarized on Figure 7. BTEX and PAH concentrations detected in sediment samples collected during the RI are also summarized on Figure 7. While PAH compounds were detected in sediment samples at concentrations that exceed NYSDEC sediment screening levels, the limited and random distribution of sediment deposits and lack of any visible impacts in sediment encountered in the Mohawk River adjacent to and immediately downstream of the site do not warrant further remedial activities.

Soil, groundwater, soil-gas, and sediment investigation results from the RI (including sampling locations, sampling results, soil boring logs, test pit logs, soil-gas logs, well installation details, groundwater and river elevation information, etc.) and analytical data from other previous site investigations were previously provided in the RI Report (ARCADIS BBL, July 2005) and in a June 20, 2006 letter from National Grid to the NYSDEC. These documents and other pertinent site documents are available for review at two public document repositories: The Little Falls Public Library in Little Falls, New York and the NYSDEC Headquarters in Albany, New York.

3. Pre-Remediation Activities

3.1 General

Following NYSDEC approval of this RAWP and supporting documents, and prior to the initiation of remedial activities, a number of pre-remediation activities will be completed. These activities are discussed in this section and will include, but are not limited to, Contractor procurement, Contractor submittals, Contractor mobilization, and site preparation. This section identifies various activities and procedures that are general in nature, but are to be implemented by National Grid, ARCADIS BBL, National Grid's onsite representative, and/or the National Grid-selected remedial Contractor. Unless otherwise specified in the remedial design documents prepared by National Grid, the remedial Contractor will be responsible for determining the means and methods to implement the Contractor-specific pre-remediation activities; however, the Contractor's approach (as detailed in a technical submittal to be prepared by the Contractor prior to performing the actual activity) will be subject to review by National Grid and ARCADIS BBL. Copies of final Contractor submittals will be provided to the property owner. National Grid, the Contractor, and ARCADIS BBL will coordinate with the property owner to minimize disruption to ongoing activities at the site.

During construction, National Grid's onsite representative will be responsible for observing and documenting that the remedial activities are conducted in general accordance with the RAWP (including the pre-remediation activities discussed in this section, the remediation activities discussed in Section 4 and the post-remedial activities discussed in Section 5).

3.2 Contractor Procurement

Following NYSDEC approval of this RAWP, contractor bidding documents will be prepared and distributed to a number of qualified contractors to solicit bids for the performance of the remedial activities. A pre-bid meeting and site visit will be conducted with all prospective contractors, National Grid, the property owner, ARCADIS BBL (the Engineer), and the NYSDEC. The purpose of the pre-bid meeting and site visit will be for prospective contractors to examine existing site conditions and thoroughly acquaint themselves with the work required and potential challenges associated with performing the work. During the pre-bid meeting and site visit, prospective contractors will have the opportunity to verify all existing site conditions (including, but not limited to, materials of construction, structural conditions, and

environmental conditions) to facilitate the preparation of their proposal and work schedule.

3.3 Contractor Submittals

Following award of the project, the Contractor will be required to prepare pre-mobilization submittals for review by National Grid and ARCADIS BBL. Once approved, the Contractor submittals will be forwarded to the NYSDEC for review. The Contractor will not be allowed to mobilize to the site prior to review and approval of all required pre-mobilization submittals. These submittals will include, but are not necessarily be limited to:

- A Construction Operations Plan for remedial activities that addresses, at a minimum, procedures for the following: decontamination; materials handling and staging; erosion and sedimentation control; dust, vapor, and odor emissions control; soils dewatering (if necessary); and the handling, transportation, and offsite disposal/treatment of wastes in accordance with the applicable rules and regulations. General procedures are discussed within the description of remedial activities presented in Section 4 of this document.

- A Waste Handling Plan that presents handling and disposition requirements for waste materials generated during the remedial activities.

- A Contingency Plan (see Section 3.4 below).

- A site-specific HASP for use by the Contractor's onsite personnel. The health and welfare of the Contractor's staff will be the direct responsibility of the Contractor. The Contractor shall take all necessary precautions for the health and safety of all onsite Contractor employees, in compliance with all applicable provisions of federal, state, and local health/safety laws. The Contractor will assume sole responsibility for the accuracy and content of its HASP. The HASP will include an emission control plan that will present a detailed description of the air/odor emission controls to be implemented at the site for each phase of the remedial action, and a Community Air Monitoring Plan (CAMP).

- Shop drawings and other plans for the remedial action, as required.

3.4 Contingency Plan

The Contractor will prepare a Contingency Plan describing the provisions required for responding to site-related emergencies that could occur during remedy implementation. The Contractor-prepared Contingency Plan will, at a minimum, include the following components:

- A Spill Response Plan for addressing spills that may occur onsite or within the adjacent Mohawk River as a result of the Contractor's activities or the remedial construction activities. The Spill Response Plan will describe the methods, means, and facilities required to prevent soil, water, structure, equipment, and material impacts caused by spills; provide information regarding spill containment and cleanup; and provide information related to decontamination measures.

- Procedures and routes for emergency vehicular access/egress.

- Procedures for evacuation of personnel from the site.

- List of contactor personnel with phone numbers that, at a minimum, includes the NYSDEC Spill Response Hotline (1.800.457.7362); fire officials; ambulance service; local, county, and state police; local hospitals; and a spill response team. Procedures for notifying each party will also be included.

- Routes to local hospitals, including written directions and a map that depicts the location of the site relative to the hospital(s). The Contingency Plan shall also include protocols/procedures for notifying appropriate hospital personnel of the nature and extent of possible chemical exposure.

In addition, the Contractor will be responsible for implementing non-spill response, non-emergency removal-related contingency measures.

3.5 Site Mobilization/Preparation

Following preparation of the above-referenced submittals, National Grid, National Grid's onsite representative, and/or the selected Contractor will perform the site mobilization/preparation activities and related functions described herein and as specified in the design drawings and technical specifications.

3.5.1 Site Review

Prior to or as part of site mobilization, the following items, at a minimum, will be completed:

- Applicable permits, regulatory approvals, or notifications will be obtained either by National Grid or the Contractor (as applicable). The permits, approvals, or notifications will be in place prior to initiation of remedial work at the site.

- Existing site conditions will be verified to develop an understanding of the conditions that may be encountered during implementation of the remedial activities. This will include, but is not limited to, identifying the location of, and staking out, all aboveground and active underground utilities, equipment, and structures in the construction area.

- Survey control and limits of work will be established.

- Appropriate utility-locating agencies will be contacted (e.g., Dig Safe New York) prior to the start of intrusive activities. Certain utilities are located close to the construction areas and will require demarcation and implementation of precautionary measures or temporary relocation to safeguard the utilities during intrusive activities. Utilities will be appropriately identified, relocated, protected, and/or abandoned, as required to facilitate the remedial activities.

3.5.2 Site Mobilization

Following establishment of the limits of work, the following items, at a minimum, will be completed:

- Mobilize manpower, equipment, and supplies to the site, as necessary, to implement the RAWP. Equipment mobilized to the site will be subjected to a visual review by National Grid's onsite representative.

- Provide appropriate storage areas and trailers for the site, as required, to sustain the field offices, equipment, storage, and operations for the duration of the project.

- Establish potable water supply and portable sanitary services for use by all onsite personnel engaged in the remedial activities.

- Mobilize air monitoring equipment and emission/odor control supplies to the site, as required prior to intrusive activities, to mitigate potential offsite impacts.

- Install appropriate fencing and other site controls (with appropriate warning signs) to limit unauthorized access or unknowing access to those areas associated with the remedial activities, and to provide for safe work conditions.

- Install temporary erosion and sedimentation controls in accordance with the Draft New York Standards and Specifications for Erosion and Sediment Control (National Resources Conservation Service [NRCS], 2003) and the Storm Water Pollution Prevention Plan to temporarily control or divert surface water flow and mitigate the potential for erosion and migration of MGP-related constituents/materials.

- Construct equipment and material decontamination area(s). As part of the site preparation activities, the Contractor will construct a decontamination area for trucks, equipment, and personnel that come in contact with impacted materials during remedial activities. Upon completion of the remedial activities, the decontamination area will be removed and disposed/treated offsite in accordance with the Waste Management Plan.

- Establish/construct the work areas and staging areas necessary for the remedial activities. The minimum requirements of the temporary soil staging areas will be identified in the Waste Management Plan. To facilitate storage of waste materials, temporary staging areas will be constructed at one or more locations onsite, as necessary. The temporary staging areas will be constructed to contain surface water runoff. Upon completion of the remedial activities, the temporary staging area(s) will be removed and transported for offsite disposal or treatment in accordance with the Waste Management Plan.

- Provide temporary storage of water and waste materials removed/generated during implementation of the remedial activities. Upon completion of the remedial activities, the water will be transported for offsite disposal or treatment in accordance with the Waste Management Plan.

- Implement site controls and safety functions as follows:

    - A sign-in/sign-out sheet will be maintained by the Contractor and/or National Grid's onsite representative at the site for the duration of the remedial activities.

- Implementation of safe work practices will also provide for additional onsite security during remedial activities. Safe work practices that will contribute to overall site safety include the following:

  - Installing and maintaining temporary construction barriers (i.e., fencing, warning tape) around all open excavations and stockpile areas.

  - Parking heavy equipment within designated areas and removing keys each day following completion of work activities.

  - Maintaining an organized work area, including proper storage of all tools, materials, and equipment.

- Decommission monitoring wells FWMW-4, FWMW-6, and MW-101R prior to initiation of ISS activities. These wells will be decommissioned because they are located within the extent of the ISS treatment area. The wells will be decommissioned in general conformance with ASTM International (ASTM) Method D5299 (ASTM, 2005) and in accordance with Section 2 of the NYSDEC guidance document titled Groundwater Monitoring Well Decommissioning Procedures (NYSDEC, 1996). All existing well construction materials (i.e., casing, grout, and sand pack) will be removed by overdrilling each well. The removed materials will be disposed offsite in accordance with the Waste Handling Plan. Following removal of the well construction materials, the borehole will be tremie grouted with a cement/grout mixture.

4. Remedial Action

4.1 General

This section presents a discussion of the remedial action (RA) activities to be implemented following completion of the pre-remediation activities described in Section 3 of this RAWP.

4.2 Pipe Gallery Removal

Excavation will be performed to remove subsurface piping and NAPL-impacted soil in the former MGP pipe gallery located west of the tank manufacturing building. The removal effort will focus on the two 4-inch diameter pipes that were identified in test pit F-TP-1 at a depth of approximately 6 feet below grade. The approximate limits of the pipe removal activities are shown on Figure 8. The actual extent of pipe removal will be determined during removal activities. NAPL impacted soils surrounding the pipes will be removed. Excavation to the anticipated pipe removal depths will require sloping/benching and/or excavation support measures to prevent unstable excavation sidewall conditions. Additional measures may be required to provide for the stability of foundations/utilities during excavation and backfilling activities. Excavation activities will not be conducted beneath the existing building or at depths below the groundwater table. If visibly NAPL impacted soils extend beyond the proposed extent and/or depth of pipe removal, additional soil removal or other appropriate measures may be implemented based on discussions with National Grid and NYSDEC personnel. If the pipes cannot be fully removed, then the pipe(s) will be cut, drained of NAPL, and filled with grout.

Excavation activities in the former pipe gallery area may result in the generation of odors, volatile organic vapors, and/or airborne particulates in the work areas. To minimize generation and potential migration of odors, volatile organic vapors, and airborne particulates, appropriate odor/vapor/particulate suppression and control measures will be implemented during the soil excavation activities (e.g., using vapor suppressants, applying water, conducting excavations within a temporary enclosure).

A portion of the onsite shallow stormwater drainage piping located adjacent to the manufacturing building will be removed to facilitate completion of the excavation activities. The approximate location of the onsite shallow stormwater drainage piping is shown on Figure 8. Following completion of the excavation activities, the excavated areas will be backfilled with imported fill material and the removed portion of the

drainage piping will be replaced. Final surface restoration will be performed by paving with asphalt in the disturbed areas to match pre-excavation conditions at the site.

The excavated materials will be moved from the work area to a lined staging area as detailed in the Waste Management Plan. To the extent practical, NAPL, tar, and soils that contain large quantities of NAPL- and/or tar-like substances will be segregated upon excavation for separate handling and offsite disposal/treatment.

Prior to offsite disposal, waste characterization samples will be collected and submitted for laboratory analysis for Toxicity Characteristic Leaching Procedure (TCLP) volatile organic compounds (VOCs), TCLP semi-volatile organic compounds (SVOCs), TCLP inorganic constituents, ignitability, corrosivity, and reactivity.

4.3 In-Situ Soil Stabilization

In-situ soil mixing will be the primary method of ISS treatment implemented at the site. National Grid anticipates that impacted subsurface soils within the area identified on Figure 8 will be treated by in-situ mixing with Portland cement. Additional additives and/or reagent materials may be used during the in-situ mixing activities (to be determined by implementing a bench scale test prior to the ISS treatment). Jet grouting, or other appropriate methods, will also be used to treat soil located immediately adjacent to subsurface structures and underground utilities. The approximate ISS treatment area shown on Figure 8 encompasses approximately 600 cubic yards of soil at depths ranging from approximately 13 to 26.5 feet, including accessible areas inside the former gas holder structure. The depth of soil subject to treatment was identified based on the depth of bedrock (in the vicinity of monitoring well MW-101R), the depth of observed soil impacts (in the vicinity of F-SB-25 and F-SB-22), or the depth of the floor of the former gas holder structure (in the vicinity of F-SB-26). In order to avoid potential damage to the integrity of the existing building, ISS soil treatment will not be performed within a distance of approximately 5 feet from the existing edge of the building or within approximately 2 feet of existing building foundation footers. The actual extent of the ISS treatment may be modified in the field based on site conditions and/or following the bench scale study.

The ISS treatment will result in subsurface materials with the following improved physical and chemical characteristics:

- Reduced leaching/mobility of NAPL and chemical constituents
- Minimal free liquids in soil pore spaces

- Reduced hydraulic conductivity

4.3.1 Bench-Scale Study

Prior to preparation of the Technical Specifications, a bench-scale study will be conducted to evaluate and select potential ISS mix designs for MGP-impacted soils at the site. A bench-scale study will be conducted to determine an appropriate mix design (cement, additives and/or reagents) to reduce hydraulic conductivity and leachability, and to demonstrate chemical compatibility with COCs.

To obtain soil samples required for the bench-scale testing, representative soils from a minimum of four soil borings will be collected within the treatment area. The borings will be advanced to the proposed treatment depth indicated on Figure 8. Composite samples will be collected through the entire treatment depth (approximately 0.5 cubic feet from each boring). The boring locations will be determined in the field based on site conditions. In addition, samples of the onsite water source to be used during construction will be collected for use in the bench-scale testing.

One of the additional borings for the bench-scale treatability study will be completed to bedrock at a location approximately 10 to 15 feet east of soil boring F-SB-25 (approximately 5 to 10 feet east of the Line of Demarcation). Soil samples will be collected continuously at the soil boring location to bedrock and each recovered soil sample will be visually characterized and screened with a photoionization detector (PID). If obvious MGP-related impacts are observed based on visual observations or elevated PID readings, National Grid will contact the NYSDEC Project Manager to discuss an approach for additional borings/characterization.

4.3.2 In-Situ Soil Mixing

In-situ soil mixing will be performed using an excavator- or crane-mounted large diameter (typically 3- to 6-foot diameter) auger with mixing paddles and grout ports that will be drilled into the ground as a fluid grout is pumped through the shaft. Additional additives and/or reagents will be added to the grout mix if required to meet objectives. The ISS treatment process favorably influences several important characteristics of the soil matrix (and COCs contained within the soil), such as strength, COC leachability, and hydraulic conductivity. To create continuous zones of treatment, the columns of mixed soil and cement will be overlapped to provide continuity. In-situ mixing will be performed as detailed in the remedial design.

4.3.3 Jet Grouting

It is anticipated that jet-grouting will be performed where the existing 36-inch reinforced concrete pipe (RCP) interceptor sanitary sewer passes through the ISS treatment area. Jet grouting will performed in the area around and below the existing pipeline to the same treatment depth as adjacent in-situ soil mixing. The specific application of jet grouting will be performed as detailed in the remedial design.

4.3.4 Waste Handling and Characterization

During the ISS process, excess materials (i.e., spoils consisting of a mixture of soil, groundwater, NAPL, and/or grout) will be generated. The spoils will be moved from the work area to a lined staging area as detailed in the Waste Management Plan.

Prior to offsite disposal, waste characterization samples will be collected and submitted for laboratory analysis for TCLP VOCs, TCLP SVOCs, TCLP inorganic constituents, ignitability, corrosivity, and reactivity.

4.4 Passive Recovery Wells

Three passive recovery wells (RW-1, RW-2, and RW-3) will be installed downgradient of the former onsite gas holder to recover DNAPL. One recovery well (RW-1) will be constructed upgradient of the ISS treatment area at a location to be determined following review of the top of bedrock information identified during implementation of the ISS treatment activities. Two recovery wells will be constructed in the area south of the former onsite gas holder where DNAPL was observed near the bedrock interface and in upper bedrock fractures during previous investigation activities at the site (i.e., in the vicinity of monitoring well MW-101R). DNAPL recovery activities are proposed in these areas based on the depths where DNAPL was encountered and the location of observed impacts (i.e., between the tank manufacturing building and the northern bank of the river, and adjacent to a 36-inch sanitary sewer line). The proposed locations of the recovery wells are shown on Figure 8. The recovery well locations may be adjusted in the field, as necessary, based on site conditions encountered during the remediation activities.

The passive recovery wells will be constructed using 4-inch diameter steel casings with slotted well screens installed through impacted overburden soil into upper portions of fractured bedrock. Each recovery well will be constructed with a collection sump

installed into competent bedrock. Detailed design and construction information for the passive recovery wells will be presented in the final RAWP.

Following installation of the passive recovery wells, periodic monitoring of the wells will be conducted to evaluate the presence/absence of DNAPL and to recover accumulated DNAPL, to the extent practicable. Based on the viscosity and anticipated limited accumulation rates, DNAPL recovery will be performed from the recovery wells using passive removal methods (e.g., manual recovery, periodic pumping, etc.) as DNAPL accumulates within the wells. Specific details regarding the periodic monitoring/recovery activities will be presented in the final RAWP. The periodic monitoring/recovery activities may be modified following the installation of the passive recovery wells, as necessary to determine appropriate procedures for effective DNAPL collection.

Following well installation, a detailed log of each passive NAPL recovery well will be prepared and included in the Final Remedial Action Engineering Report discussed in Section 5.2 of this RAWP.

4.5 Noise, Dust, and Vapor Emissions, and Odor Control

Appropriate measures will be taken during implementation of the remedial activities to keep noise levels (produced by construction equipment) to safe and tolerable limits, as set forth by the Occupational Safety and Health Administration (OSHA), the United States Environmental Protection Agency (USEPA), and any applicable New York State or local code ordinances. All construction equipment posing a potential noise nuisance will be outfitted by the Contractor with noise-muffling devices.

To minimize generation and potential migration of odors, vapor emissions, and/or airborne particulates, appropriate odor/vapor/particulate suppression and control measures will be implemented during the soil excavation activities (e.g., using vapor suppressants, applying water, conducting work activities within a temporary enclosure, etc.). The Contractor will be required to submit an emission control plan to address potential emissions during the excavation efforts. This plan will contain a monitoring program that includes both real-time and time-integrated air sampling to document that the treatment system is working as designated.

During intrusive remedial activities and material handling activities, real-time air monitoring activities will be implemented at the site for volatile organic compounds (VOCs) and particulate matter less than 10 microns in diameter (PM10). The real-time

air monitoring activities will be implemented in accordance with requirements set forth in the New York State Department of Health's (NYSDOH's) Generic Community Air Monitoring Plan, the site-specific HASP, and the site-specific CAMP. Monitoring will be performed continuously during intrusive remedial activities and material handling activities at locations upwind and downwind along the work area with instrumentation that is equipped with electronic data-logging capabilities.

4.6 Equipment Decontamination

All non-disposable equipment used during implementation of the remedial construction activities will be decontaminated before being removed from the site. Equipment that contracts MGP-impacted material will be decontaminated in the designated onsite area. All material used in equipment washing including, but not limited to, detergent solution, rinsate, rinse water, towels, disposable equipment, and polyethylene sheeting, will be collected and managed as described in the Waste Management Plan.

4.7 Waste Handling, Treatment, and Disposal

Soil, water, NAPL, debris, and miscellaneous wastes generated during the remedial activities will be containerized, handled, and transported for off-site treatment or disposal in accordance with the technical specifications, the Waste Management Plan, and all applicable federal, state, and local regulations.

4.8 Site Restorization/Demobilization

At the conclusion of remedial construction activities, the work area will be restored as provided for on the design drawings and in the technical specifications (to be provided at a later date). Site restoration activities will generally include the following:

- Restoring all surface features disturbed, damaged, or destroyed during implementation of the remedial activities to their pre-construction condition

- Vegetating the ISS treatment area and installation of temporary and permanent erosion control measures

Site demobilization activities will generally include the following activities:

- Dismantling the work area(s), staging area(s), and equipment and material decontamination area(s)

- Cleaning/decontaminating equipment and construction-related materials prior to removal from the site

- Removing from the site all materials, equipment, and support structures

4.9 Survey

A post-remediation site survey will be completed by a New York State licensed surveyor to document the remedial construction work completed as part of the remedial activities. In addition, the location, ground elevation, and top-of-casing elevation for each recovery well installed as part of the remedial activities will be surveyed. This information will be presented in the Final Remedial Action Engineering Report to be prepared upon completion of the remedial activities (see Section 5.2). Survey work associated with the remedial activities will be performed in accordance with the technical specifications.

5. Post-Remedial Action

5.1 General

This section presents a discussion of post-remedial action activities to be implemented following the remedial activities described in Section 4 of this RAWP.

5.2 Preparing a Final Remedial Action Engineering Report

Upon completion of the remedial activities, a Final Remedial Action Engineering Report will be prepared by ARCADIS BBL for submittal to the NYSDEC. In general, the Final Remedial Action Engineering Report will present the following information:

- Description of the remedial activities, including variations (if any) from the NYSDEC-approved RAWP.
- Record construction plans detailing the remedial activities.
- A Certification Statement signed by a Profession Engineer licensed in New York State which certifies that the remedial activities were performed in accordance with the NYSDEC-approved RAWP and the Technical Specifications.
- Information and documentation regarding the final disposition of materials disposed/treated offsite during implementation of the remedial activities.

5.3 Establishing Institutional Controls

Institutional controls in the form of deed restrictions and groundwater use restrictions (e.g., environmental easements) will be implemented to limit future site activities and inform future property owners of the residual soil and groundwater impacts at the site. A deed restriction will be established limiting the future development of the site property to commercial/industrial use. Groundwater use restrictions will be implemented for the site to prohibit future groundwater use for drinking water or industrial supply purposes. In addition, institutional controls would include the development of the Site Management Plan.

As required by the VCO, the institutional controls are to be established by the property owner following NYSDEC acceptance of the Final Remedial Action Engineering Report documenting the remedial activities.

5.4 Monitoring of Post-Remedial Action Conditions

Groundwater quality at the site is expected to improve as a result of the remedial action activities described above. As such, groundwater monitoring will be conducted on an annual basis from existing onsite groundwater monitoring wells (monitoring wells FWMW-1 through FWMW-3, FWMW-5, B-MW-3, MW-101RD, MW-102R, and MW-103R) to evaluate the concentrations of COCs in groundwater and confirm that groundwater quality is improving and/or does not represent a significant threat to human health or the environment based on the contemplated use of the site. The groundwater samples will be submitted to certified analytical laboratory for analyses for Target Compound List (TCL) VOCs, TCL SVOCs, and Target Analyte List (TAL) inorganic constituents (including cyanide). Quality Assurance/Quality Control (QA/QC) samples (including trip blank, field duplicate, matrix spike, and matrix spike duplicate samples) will be collected and submitted for laboratory analyses for each annual sampling event. The groundwater monitoring results will be summarized in an annual groundwater monitoring report that will be submitted to the NYSDEC.

6. Schedule

This section presents the anticipated milestone dates associated with implementation of the RAWP for the Little Falls (Mill Street) non-owned former MGP site. Anticipated schedule milestone dates include:

Project Milestone	Anticipated Date
Distribute Fact Sheet	1/21/08
Public Meeting (if necessary)	1/30/08
Close of Public Comment Period	2/20/08
Complete Treatability Testing/Mix Design	3/10/08
Submit Design Drawings/Technical Specifications, HASP, CPP and SWPPP to NYSDEC	4/16/07
Note: Schedule assumes NYSDEC approval of RAWP by 1/14/08.	

7. References

American Society for Testing and Materials (ASTM) International. 2005. *Method D5299.*

ARCADIS BBL. 2005. *Remedial Investigation Report*. (July 2005).

Buck Engineering, LLC. 1998. *Phase I Environmental Site Assessment: Waukesha Cherry-Burrell Facility*. (March 1998).

Buck Engineering, LLC. 2000. *Investigative Report - Voluntary Cleanup Program.* (September 2000).

Buck Engineering, LLC. 2001. *Supplemental Investigative Report - Voluntary Cleanup Program (VCP) Investigation*. (July 2001).

Buck Engineering, LLC. 2003. *Final Engineering Report*. Prepared for the New York State Department of Environmental Conservation. (September, 2003).

Delta Environmental Consultants, Inc. 1997. *Phase I Environmental Site Assessment: Waukesha Cherry-Burrell Facility*. (November 1997).

Delta Environmental Consultants, Inc. 1998. *Phase II Environmental Site Assessment: Former Cherry-Burrell Facility*. (May 1998).

Foster Wheeler Environmental Corporation. 2003. *Site Characterization Report*. (July 2003).

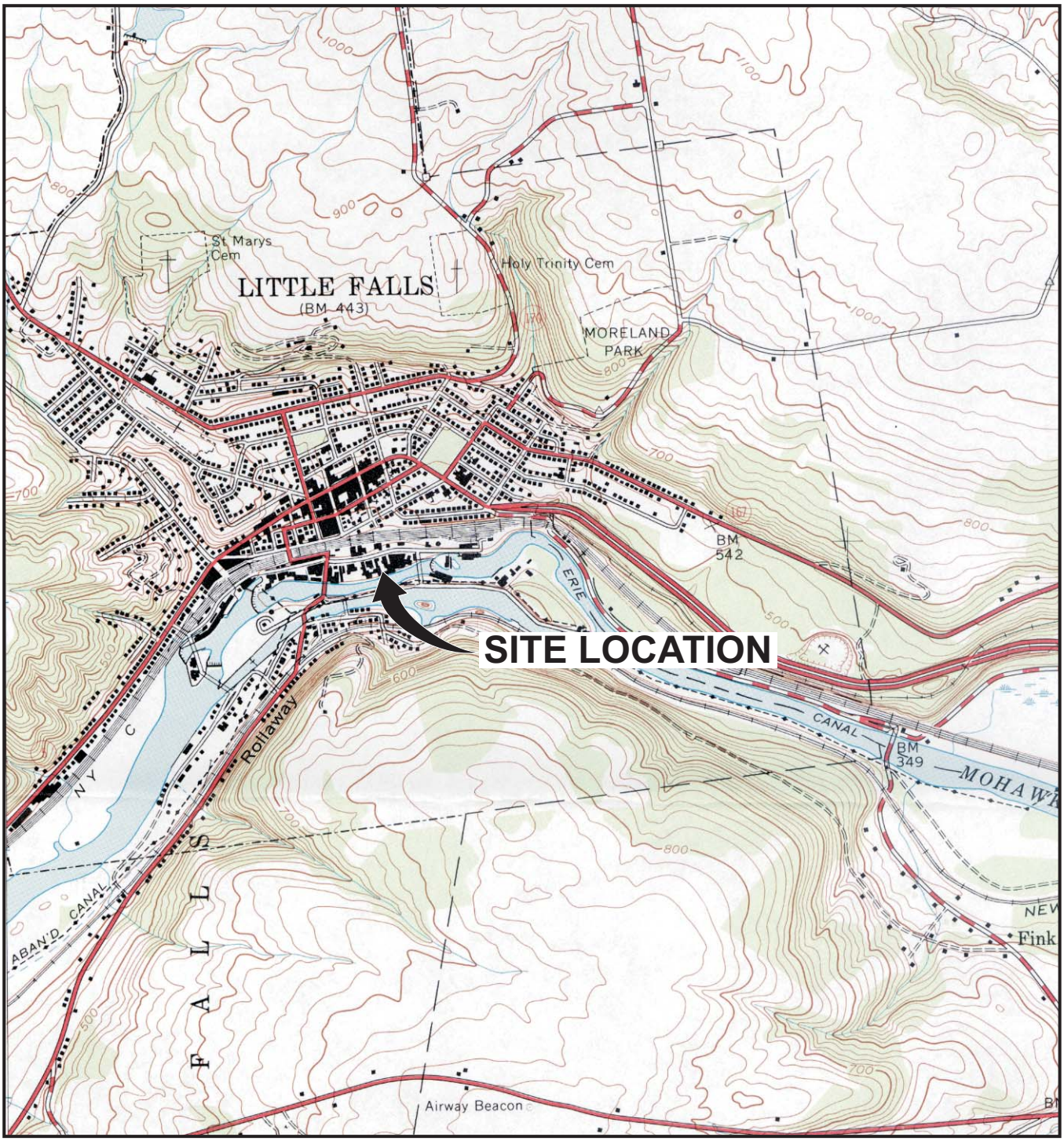
New York State Department of Environmental Conservation (NYSDEC). 1996. *Groundwater Monitoring Well Decommissioning Procedures.*

NYSDEC and National Grid. 2003. *Voluntary Consent Order*. VCO Index No. D0-0001-0011.

NYSDEC and SPX Corporation and Feldmeier Equipment, Inc. 2000. *Voluntary Consent Agreement*. VCA Index No. D6-0001-99-11.

The United States Department of Agriculture (USDA). 1975. *Soil Survey of Herkimer County, Southern Section.*

FIgures



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Approximate Scale: 1" = 2000'

NATIONAL GRID
LITTLE FALLS (MILL STREET) NON-OWNED FORMER MGP SITE
LITTLE FALLS, NEW YORK

REMEDIAL ACTION WORK PLAN

SITE LOCATION MAP

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE 1

01/11/07 SYR-D85-DJH-KLS
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LEGEND:

- PROPERTY LINE
- BUILDING
- EDGE OF WATER
- SANITARY SEWER
- STORM SEWER
- APPROXIMATE LOCATION OF HISTORICAL MGP STRUCTURES
- LINE OF DEMARCATION
- OHW — OVERHEAD WIRES
- MH — MANHOLE
- SMH — SANITARY MANHOLE
- 352 — CONTOUR ELEVATION
- GT — GAS VALVE
- WV — WATER VALVE
- GAS LINE
- CIP — CAST IRON PIPE
- RCP — REINFORCED CONCRETE PIPE
- CMP — CORRUGATED METAL PIPE
- DIP — DUCTILE IRON PIPE
- NM 14 1/2 — NUMBER OF OVERHEAD WIRE POLE
- HYD — HYDRANT
- APPROXIMATE LOCATION OF SHORELINE

NOTES:

1. BASE MAP INFORMATION TAKEN FROM A DRAWING TITLED SOIL BORING AND MONITORING WELL LOCATIONS BY C.T.MALE ASSOCIATES, P.C. DATED 2/8/05.
2. APPROXIMATE LINE OF DEMARCATION BASED ON HISTORIC TAX LOTS AND CURRENT FEATURES LITTLE FALLS (MILL ST.) SITE, FIGURE 1 (FOSTER WHEELER, JULY 2003).
3. LINE OF DEMARCATION SEPARATES THE MGP (VCO) PORTION OF THE PROPERTY FROM THE NON-MGP (VCA) PORTION OF THE PROPERTY.
4. LOCATION OF HISTORICAL MGP STRUCTURES ARE BASED ON HISTORICAL SANBORN MAPS AND ARE APPROXIMATE.
5. APPROXIMATE LOCATION OF THE PIPE GALLERY IS BASED ON PREVIOUS INVESTIGATIONS AND TEST PITTING ACTIVITIES CONDUCTED BY FOSTER WHEELER ENVIRONMENTAL CORPORATION.

0 20' 40'
GRAPHIC SCALE

NATIONAL GRID
LITTLE FALLS (MILL STREET) NON-OWNED FORMER MGP SITE
REMEDIAL ACTION WORK PLAN

SITE PLAN

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
2

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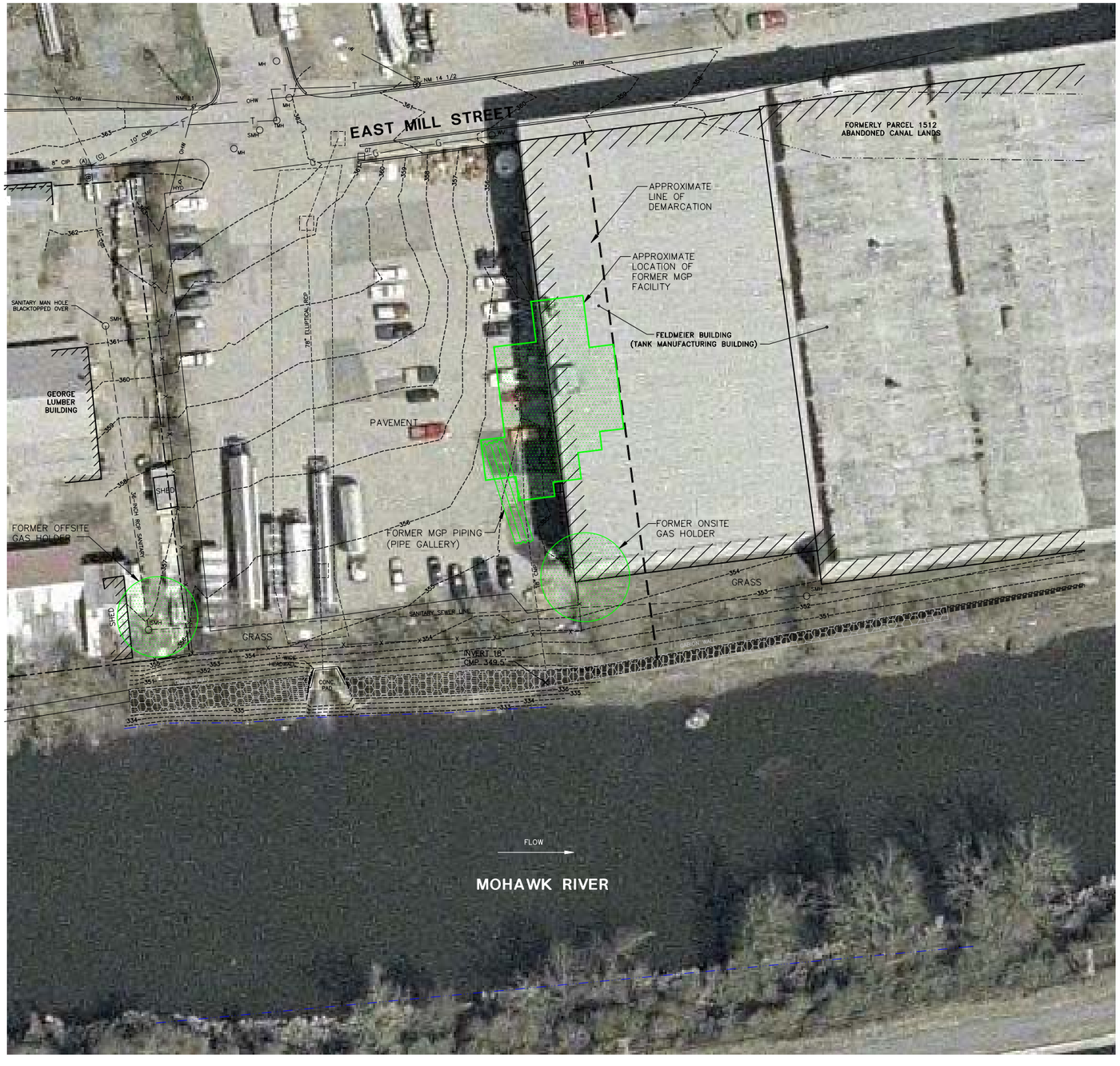

LEGEND:

- PROPERTY LINE
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0 30' 60'
GRAPHIC SCALE

NATIONAL GRID
LITTLE FALLS (MILL STREET) NON-OWNED FORMER MGP SITE
REMEDIAL ACTION WORK PLAN

SITE PLAN - AERIAL PHOTO

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
3

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D-SB-1		
DEPTH (ft)	BTEX	PAHs
12 – 14	ND	ND

B-SB-3		
DEPTH (ft)	BTEX	PAHs
6 – 6.8	ND	79.8

F-SB-19		
DEPTH (ft)	BTEX	PAHs
0 – 2	0.005 J	0.40 J
2 – 4	ND	23.0 J

D-SB-2		
DEPTH (ft)	BTEX	PAHs
10 – 12	ND	11

F-SB-27		
DEPTH (ft)	BTEX	PAHs
0 – 2	0.004 J	4.2 J
2 – 4	0.005 J	4.0 J
4 – 6	0.004 J	53.5 J
10 – 10.2	0.001 J	45 J

F-SB-20		
DEPTH (ft)	BTEX	PAHs
4 – 6	0.005 J	12
6 – 8	0.002 J	59.7
10 – 12	0.008 J	91.3
14 – 14.3	2.0 J	2.6

F-TP-02		
DEPTH (ft)	BTEX	PAHs
2 – 11	0.003	11.894 J

SB-104		
DEPTH (ft)	BTEX	PAHs
4 – 6	ND	1.9 J
10 – 12	0.12 J	168 J

F-SB-29		
DEPTH (ft)	BTEX	PAHs
0 – 2	0.016 R	7.7 J
4 – 6	0.045 J R	38.5 J
6 – 8	0.14 J	312 J
8 –10	0.018 J	13.6
10 – 12	0.001 J	3.6 J

F-SB-18		
DEPTH (ft)	BTEX	PAHs
6 – 8	ND	20.4
12 – 14	0.001 J	ND
14 – 16	ND	0.047 J

B-HE-03		
DEPTH (ft)	BTEX	PAHs
0–0.5	NA	0.105 J

F-TP-01		
DEPTH (ft)	BTEX	PAHs
13.5	0.1305	1.725 J

F-SB-16		
DEPTH (ft)	BTEX	PAHs
2 – 4	0.001 J	8.8 J
4 – 6	0.003 J	150 J
6 – 8	0.005 J	70 J

SB-105		
DEPTH (ft)	BTEX	PAHs
2 – 4	ND	33.2 J

F-SB-21		
DEPTH (ft)	BTEX	PAHs
0 – 2	0.016 J	17.2 J
4 – 6	0.018 R	11.1
6 – 8	0.020 J R	37.5
8 – 10	0.23 J	301 J
10 – 12	**36.7 J**	**2,125 J**

SB-101		
DEPTH (ft)	BTEX	PAHs
8 – 10	0.012 J	44.1 J

F-SB-24		
DEPTH (ft)	BTEX	PAHs
1 – 3	0.014 J R	145 J
3 – 5	0.005 J	33.9 J
5 – 7	0.009 J	NA
7 – 9	0.007 J	**686**
9 – 10.8	0.033 J	**875 J**

TP-101		
DEPTH (ft)	BTEX	PAHs
2 – 4	0.13	1.7 J

F-SB-23		
DEPTH (ft)	BTEX	PAHs
3 – 5	0.001 J	1.8 J
11 – 13	**147 J**	NA
13 – 15	0.017	309
15 – 17	**25.7 J**	**569**

B-SB-4		
DEPTH (ft)	BTEX	PAHs
8 – 10	ND	4.6

SB-106		
DEPTH (ft)	BTEX	PAHs
4.5 – 6	0.007 J	98.8 J
6 – 8	ND	5.3 J

SB-102		
DEPTH (ft)	BTEX	PAHs
14 – 16	ND	8.6 J
16 – 18	ND	68 J
16 – 18 (DUP)	ND	17 J

D-SB-4		
DEPTH (ft)	BTEX	PAHs
14 – 16	ND	14.8

SB-103		
DEPTH (ft)	BTEX	PAHs
14 – 16	ND	10.7 J
16 – 18	ND	2.1 J

F-SB-25		
DEPTH (ft)	BTEX	PAHs
4 – 6	0.19 J	NA
6 – 8	0.018 J	**1,284 J**
8 – 10	0.059 J	**831 J**
10 – 12	0.007 J	405 J
10 – 12 (DUP)	0.012 J	187 J
16 – 16.7	9.5	**3,887 J**

TP-102		
DEPTH (ft)	BTEX	PAHs
4 – 6	0.003 J	11.9 J

MW-102R		
DEPTH (ft)	BTEX	PAHs
10 – 12	0.003 J	11.9 J
18 – 22	0.002 J	4.0 J

F-SB-26		
DEPTH (ft)	BTEX	PAHs
0 – 2	0.003 J	30.4 J
4 – 6	0.002 J	0.87 J
8 – 10	0.004 J	7.9 J
10 – 12	0.001 J	14.2 J
14 – 15.2	**39.0 J**	**583 J**

F-SB-17		
DEPTH (ft)	BTEX	PAHs
8 – 10	ND	2.6 J
8 – 10 (DUP)	ND	28.7 J
12 – 14	0.006 J	166 J
18 – 20	0.011 J	0.33 J

D-SB-3		
DEPTH (ft)	BTEX	PAHs
12 – 14	ND	26.9

F-SB-15		
DEPTH (ft)	BTEX	PAHs
6 – 8	0.014 J	4.9 J
10 – 12	0.004 J	347 J
16 – 18	ND	0.001 J

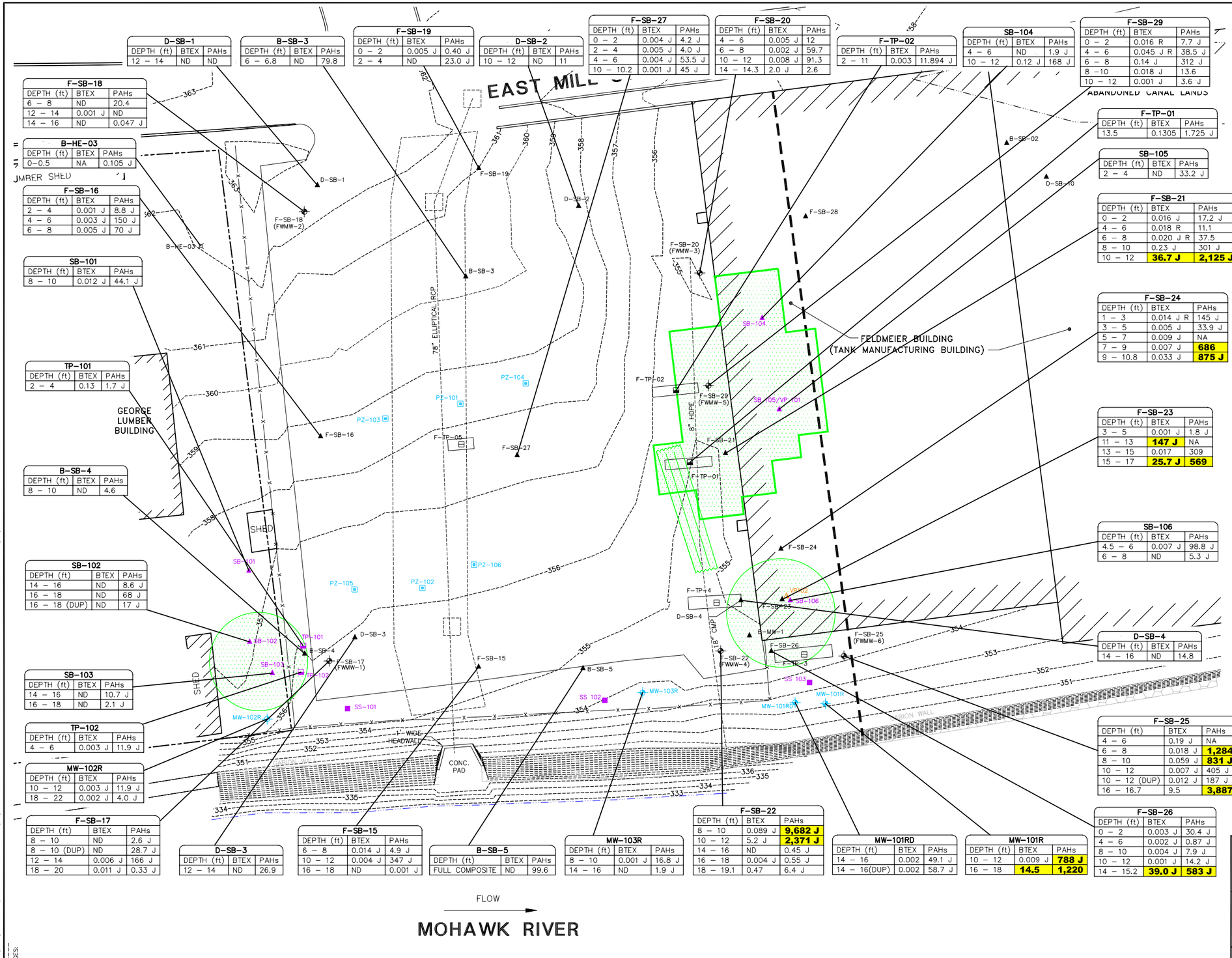
B-SB-5		
DEPTH (ft)	BTEX	PAHs
FULL COMPOSITE	ND	99.6

MW-103R		
DEPTH (ft)	BTEX	PAHs
8 – 10	0.001 J	16.8 J
14 – 16	ND	1.9 J

F-SB-22		
DEPTH (ft)	BTEX	PAHs
8 – 10	0.089 J	**9,682 J**
10 – 12	5.2 J	**2,371 J**
14 – 16	ND	0.45 J
16 – 18	0.004 J	0.55 J
18 – 19.1	0.47	6.4 J

MW-101RD		
DEPTH (ft)	BTEX	PAHs
14 – 16	0.002	49.1 J
14 – 16(DUP)	0.002	58.7 J

MW-101R		
DEPTH (ft)	BTEX	PAHs
10 – 12	0.009 J	**788 J**
16 – 18	**14.5**	**1,220**



LEGEND:

- PROPERTY LINE
- BUILDING
- EDGE OF WATER
- STORM SEWER
- APPROXIMATE LOCATION OF HISTORICAL MGP STRUCTURES
- LINE OF DEMARCATION
- 352 CONTOUR ELEVATION
- SB 102 RI SOIL BORING LOCATION
- MW 102R RI MONITORING WELL LOCATION
- TP 101 RI TEST PIT SAMPLE LOCATION
- VP102 RI SOIL/GAS MONITORING LOCATION
- SS 103 RI SURFACE SOIL SAMPLE LOCATION
- PZ-104 RI PIEZOMETER LOCATION
- D-SB-01 PREVIOUS SOIL BORING LOCATION
- TP PREVIOUS TEST PIT SAMPLE LOCATION
- F-TP-03 PREVIOUS TEST PIT LOCATION – NO SAMPLE COLLECTED
- SB-18 PREVIOUS MONITORING WELL LOCATION
- HE PREVIOUS BACKGROUND SOIL SAMPLE LOCATION
- D DELTA ENVIRONMENTAL CONSULTANTS SAMPLE LOCATION
- B BUCK ENGINEERING, LLC SAMPLE LOCATION
- F FOSTER WHEELER SAMPLE LOCATION

NOTES:

1. FOR BASE MAP INFORMATION REFER TO NOTES ON FIGURE 2.
2. BTEX AND PAH CONCENTRATIONS REPORTED IN PARTS PER MILLION (PPM).
3. BTEX – BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENE (TOTAL).
4. PAHs – POLYNUCLEAR AROMATIC HYDROCARBONS.
5. J – INDICATES AN ESTIMATED VALUE.
6. DUP – DUPLICATE SAMPLE.
7. ND – NOT DETECTED.
8. R – TOTAL CONCENTRATION INCLUDES REJECTED ANALYTICAL DATA.
9. NA – NOT AVAILABLE/ NOT ANALYZED.
10. SHADED AND BOLDED VALUES INDICATE TOTAL BTEX CONCENTRATIONS GREATER THAN 10 ppm AND TOTAL PAH CONCENTRATIONS GREATER THAN 500 ppm.

0 20' 40'
GRAPHIC SCALE

NATIONAL GRID
LITTLE FALLS (MILL STREET) NON-OWNED FORMER MGP SITE
REMEDIAL ACTION WORK PLAN

TOTAL BTEX/PAH CONCENTRATIONS IN SOIL SAMPLES (ppm)

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
4

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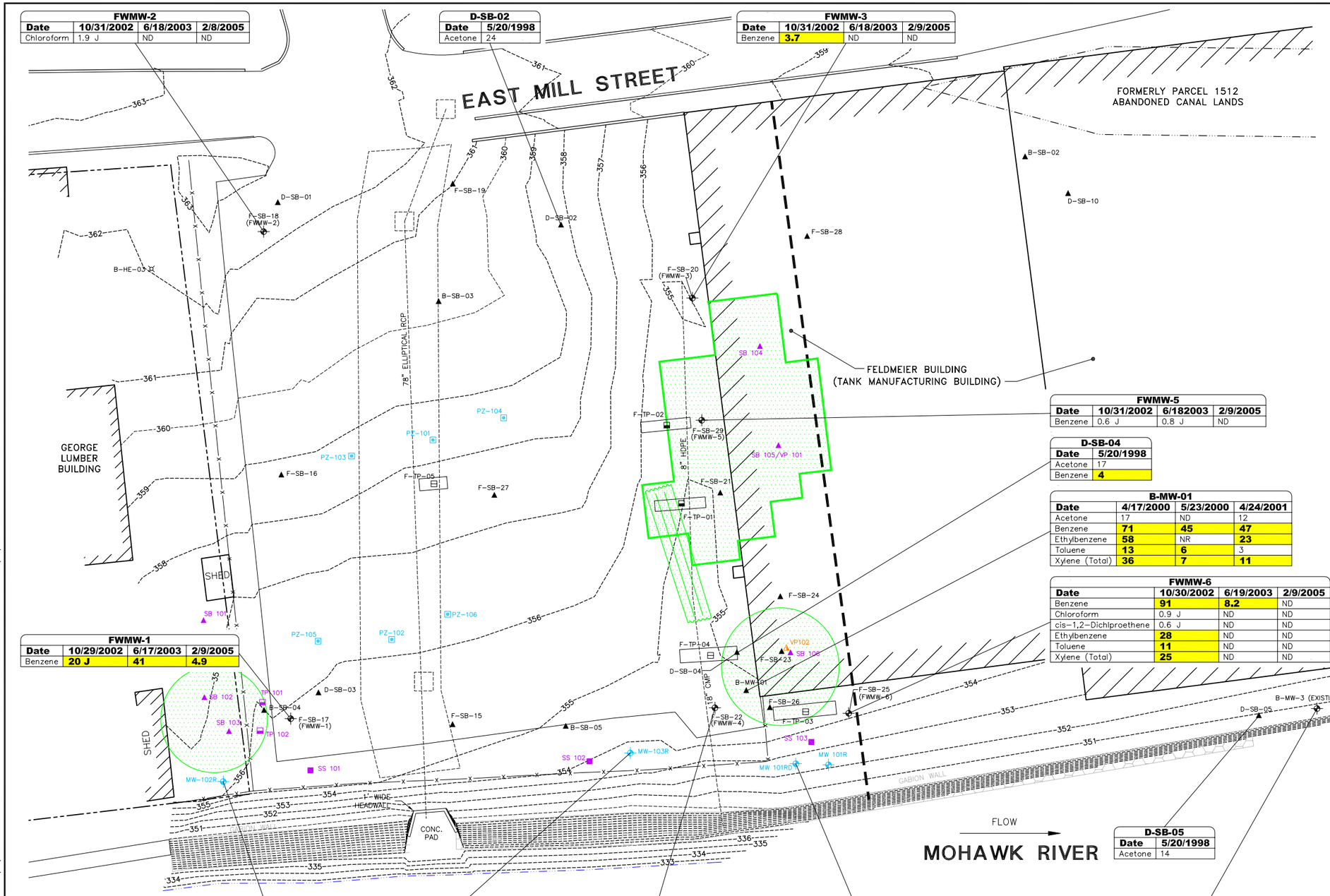

FWMW-2			
Date	**10/31/2002**	**6/18/2003**	**2/8/2005**
Chloroform	1.9 J	ND	ND

D-SB-02	
Date	**5/20/1998**
Acetone	24

FWMW-3			
Date	**10/31/2002**	**6/18/2003**	**2/9/2005**
Benzene	**3.7**	ND	ND

FWMW-5			
Date	**10/31/2002**	**6/182003**	**2/9/2005**
Benzene	0.6 J	0.8 J	ND

D-SB-04	
Date	**5/20/1998**
Acetone	17
Benzene	**4**

B-MW-01			
Date	**4/17/2000**	**5/23/2000**	**4/24/2001**
Acetone	17	ND	12
Benzene	**71**	**45**	**47**
Ethylbenzene	**58**	NR	**23**
Toluene	**13**	**6**	3
Xylene (Total)	**36**	**7**	**11**

FWMW-6			
Date	**10/30/2002**	**6/19/2003**	**2/9/2005**
Benzene	**91**	**8.2**	ND
Chloroform	0.9 J	ND	ND
cis-1,2-Dichlproethene	0.6 J	ND	ND
Ethylbenzene	**28**	ND	ND
Toluene	**11**	ND	ND
Xylene (Total)	**25**	ND	ND

FWMW-1			
Date	**10/29/2002**	**6/17/2003**	**2/9/2005**
Benzene	**20 J**	**41**	**4.9**

MW-102R	
Date	**4/11/2005**
Benzene	0.8 J
Chloroform	1.7 J
cis-1,2-Dichloroethene	1 J

MW-102R DUP	
Date	**4/11/2005**
Benzene	**1.3**
Chloroform	2.2 J
cis-1,2-Dichloroethene	1.4 J

MW-103R	
Date	**2/7/2005**
1,1-Dichloroethane	4.8 J
2-Butanone	19
Acetone	**96**
Benzene	**28**
Bromodichloromethane	1.6
Chloroform	**50**
cis-1,2-Dichloroethene	**7.6**
Ethylbenzene	**32**
Toluene	**24**
Vinyl Chloride	**43**
Xylene (Total)	**63**

FWMW-4			
Date	**10/30/2002**	**6/19/2003**	**2/8/2005**
Benzene	**8.2**	**33**	**18**
Chloroform	3.5 J	ND	ND
Ethylbenzene	3.0 J	**7.2**	**8.1**
Toluene	1.0 J	1.7 J	1.1 J
Xylene (Total)	2.7 J	**8.8**	**6.9**

FWMW-4 DUP	
Date	**2/8/2005**
Benzene	**16**
Ethylbenzene	**7.1**
Toluene	1 J
Xylene (Total)	**6**

MW-101RD	
Date	**2/7/2005**
1,1,1-Trichloroethane	**20 J**
1,1-Dichloroethane	**28**
1,1-Dichloroethene	3.2 J
Benzene	**5.2**
Carbon Disulfide	2 J
Chloroform	**9.6 J**
cis-1,2-Dichloroethene	**520**
Ethylbenzene	**31**
Styrene	3.8 J
Toluene	**23 J**
Trichloroethene	**17**
Vinyl Chloride	**100**
Xylene (Total)	**92**

D-SB-05	
Date	**5/20/1998**
Acetone	14

B-MW-03			
Date	**4/24/2000**	**10/31/2002**	**2/9/2005**
Tetrachloroethene	ND	0.7 J	ND
Trichloroethene	ND	1.9	ND

LEGEND:

- PROPERTY LINE
- BUILDING
- EDGE OF WATER
- STORM SEWER
- APPROXIMATE LOCATION OF HISTORICAL MGP STRUCTURES
- LINE OF DEMARCATION
- 352 CONTOUR ELEVATION
- SB 102 RI SOIL BORING LOCATION
- MW 102R RI MONITORING WELL LOCATION
- TP 101 RI TEST PIT SAMPLE LOCATION
- VP102 RI SOIL/GAS MONITORING LOCATION
- SS 103 RI SURFACE SOIL SAMPLE LOCATION
- PZ-104 RI PIEZOMETER LOCATION
- D-SB-01 PREVIOUS SOIL BORING LOCATION
- TP PREVIOUS TEST PIT SAMPLE LOCATION
- F-TP-03 PREVIOUS TEST PIT LOCATION – NO SAMPLE COLLECTED
- SB-18 PREVIOUS MONITORING WELL LOCATION
- HE PREVIOUS BACKGROUND SOIL SAMPLE LOCATION
- D DELTA ENVIRONMENTAL CONSULTANTS SAMPLE LOCATION
- B BUCK ENGINEERING, LLC SAMPLE LOCATION
- F FOSTER WHEELER SAMPLE LOCATION

NOTES:

1. FOR BASE MAP INFORMATION REFER TO NOTES ON FIGURES 2 AND 3.
2. VOC CONCENTRATIONS REPORTED IN PARTS PER BILLION (PPB).
3. VOC – VOLATILE ORGANIC COMPOUND
4. DUP – DUPLICATE SAMPLE
5. J – INDICATES AN ESTIMATED VALUE.
6. ND – NOT DETECTED AT CONCENTRATIONS EXCEEDING LABORATORY DETECTION LIMITS.
7. NR – NOT REPORTED
8. SHADED AND BOLD VALUES EXCEED NYSDEC GROUNDWATER STANDARDS AND/OR GUIDANCE VALUES PRESENTED IN TOGS 1.1.1.
9. B-MW-03 WAS NOT SAMPLED DURING THE JUNE 2003 SAMPLING EVENT DUE TO LACK OF WATER.
10. MW-101R NOT SAMPLED DURING THE FEBRUARY 2005 SAMPLING EVENT DUE TO PRESENCE OF NON-AQUEOUS PHASE LIQUID (NAPL).

0 20' 40'
GRAPHIC SCALE

NATIONAL GRID
LITTLE FALLS (MILL STREET) NON-OWNED FORMER MGP SITE
REMEDIAL ACTION WORK PLAN

DETECTED VOC CONCENTRATIONS IN GROUNDWATER SAMPLES (PPB)

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
5

SYR-85-NES LAF GMS LAYER: ON=*; OFF=REF, NU_SANITARY
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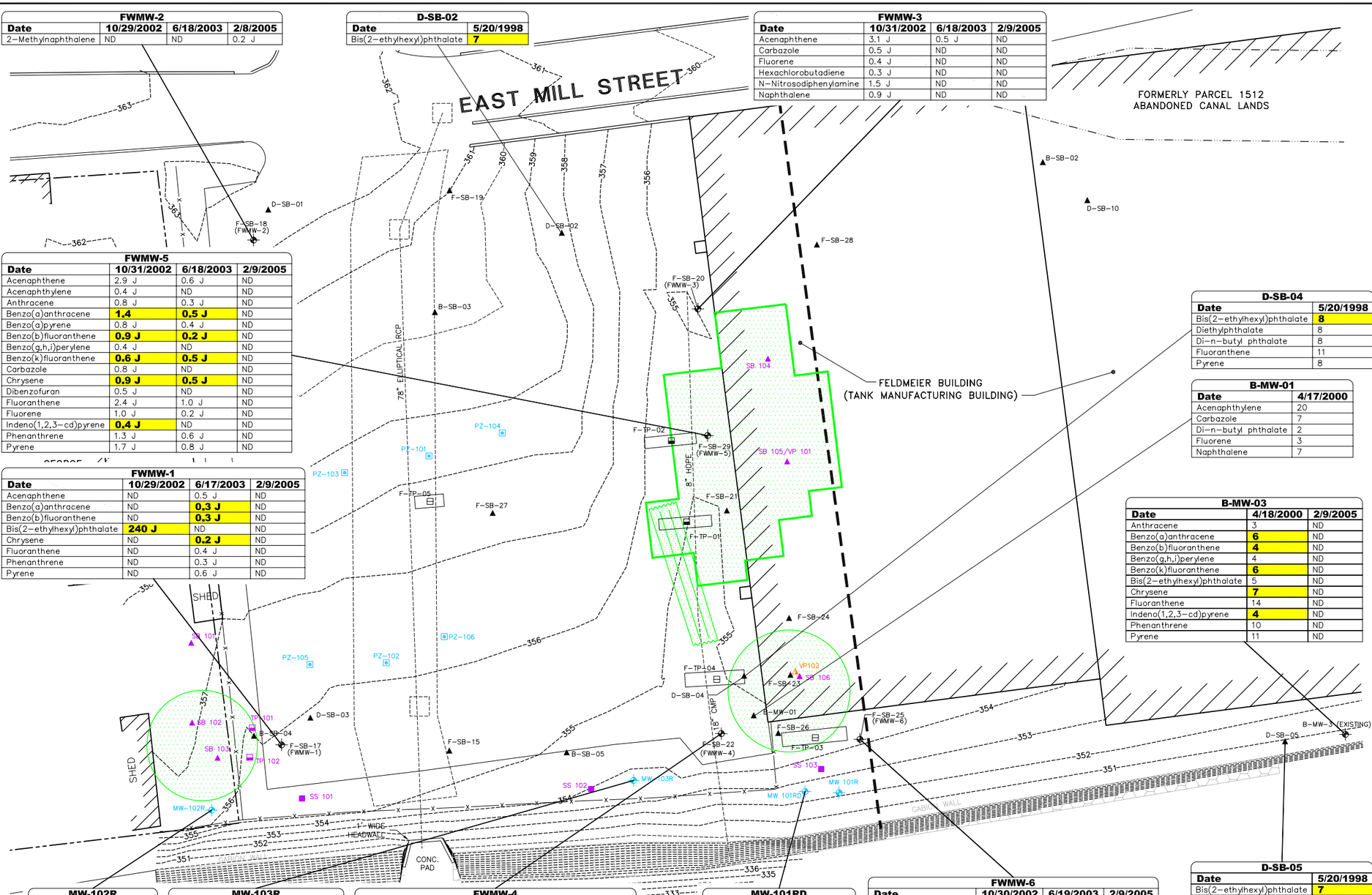

FWMW-2			
Date	**10/29/2002**	**6/18/2003**	**2/8/2005**
2-Methylnaphthalene	ND	ND	0.2 J

D-SB-02	
Date	**5/20/1998**
Bis(2-ethylhexyl)phthalate	**7**

FWMW-3			
Date	**10/31/2002**	**6/18/2003**	**2/9/2005**
Acenaphthene	3.1 J	0.5 J	ND
Carbazole	0.5 J	ND	ND
Fluorene	0.4 J	ND	ND
Hexachlorobutadiene	0.3 J	ND	ND
N-Nitrosodiphenylamine	1.5 J	ND	ND
Naphthalene	0.9 J	ND	ND

FWMW-5			
Date	**10/31/2002**	**6/18/2003**	**2/9/2005**
Acenaphthene	2.9 J	0.6 J	ND
Acenaphthylene	0.4 J	ND	ND
Anthracene	0.8 J	0.3 J	ND
Benzo(a)anthracene	**1.4**	**0.5 J**	ND
Benzo(a)pyrene	0.8 J	0.4 J	ND
Benzo(b)fluoranthene	**0.9 J**	**0.2 J**	ND
Benzo(g,h,i)perylene	0.4 J	ND	ND
Benzo(k)fluoranthene	**0.6 J**	**0.5 J**	ND
Carbazole	0.8 J	ND	ND
Chrysene	**0.9 J**	**0.5 J**	ND
Dibenzofuran	0.5 J	ND	ND
Fluoranthene	2.4 J	1.0 J	ND
Fluorene	1.0 J	0.2 J	ND
Indeno(1,2,3-cd)pyrene	**0.4 J**	ND	ND
Phenanthrene	1.3 J	0.6 J	ND
Pyrene	1.7 J	0.8 J	ND

FWMW-1			
Date	**10/29/2002**	**6/17/2003**	**2/9/2005**
Acenaphthene	ND	0.5 J	ND
Benzo(a)anthracene	ND	**0.3 J**	ND
Benzo(b)fluoranthene	ND	**0.3 J**	ND
Bis(2-ethylhexyl)phthalate	**240 J**	ND	ND
Chrysene	ND	**0.2 J**	ND
Fluoranthene	ND	0.4 J	ND
Phenanthrene	ND	0.3 J	ND
Pyrene	ND	0.6 J	ND

D-SB-04	
Date	**5/20/1998**
Bis(2-ethylhexyl)phthalate	**8**
Diethylphthalate	8
Di-n-butyl phthalate	8
Fluoranthene	11
Pyrene	8

B-MW-01	
Date	**4/17/2000**
Acenaphthylene	20
Carbazole	7
Di-n-butyl phthalate	2
Fluorene	3
Naphthalene	7

B-MW-03		
Date	**4/18/2000**	**2/9/2005**
Anthracene	3	ND
Benzo(a)anthracene	**6**	ND
Benzo(b)fluoranthene	**4**	ND
Benzo(g,h,i)perylene	4	ND
Benzo(k)fluoranthene	**6**	ND
Bis(2-ethylhexyl)phthalate	5	ND
Chrysene	**7**	ND
Fluoranthene	14	ND
Indeno(1,2,3-cd)pyrene	**4**	ND
Phenanthrene	10	ND
Pyrene	11	ND

MW-102R	
Date	**4/11/2005**
Acenaphthene	2.6 J
Anthracene	0.3 J
Dibenzofuran	0.3 J
Fluoranthene	1.3 J
Fluorene	0.8 J
Phenanthrene	1 J
Pyrene	0.9 J

MW-102R DUP	
Date	**4/11/2005**
Acenaphthene	2.6 J
Anthracene	0.2 J
Dibenzofuran	0.3 J
Fluoranthene	1.1 J
Fluorene	0.8 J
Phenanthrene	0.9 J
Pyrene	0.9 J

MW-103R	
Date	**2/7/2005**
2,4-Dimethylphenol	1.1 J
2-Methylnaphthalene	5.8 J
2-Methylphenol	0.3 J
4-Methylphenol	0.2 J
Acenaphthene	6.5 J
Acenaphthylene	4 J
bis(2-Ethylhexyl)phthalate	**16**
Carbazole	7.2 J
Dibenzofuran	3.4 J
Fluoranthene	0.4 J
Fluorene	3.4 J
Naphthalene	**130**
Phenanthrene	2.7 J
Pyrene	0.3 J

FWMW-4			
Date	**10/30/2002**	**6/19/2003**	**2/8/2005**
2,4-Dimethylphenol	0.4 J	ND	ND
2-Methylnaphthalene	3.8 J	ND	ND
2-Methylphenol	0.4 J	ND	ND
4-Methylphenol	0.4 J	ND	ND
Acenaphthene	1.7 J	0.7 J	1.8 J
Acenaphthylene	3.5 J	1.3 J	4.2 J
Anthracene	0.6 J	0.3 J	ND
Benzo(a)anthracene	ND	**0.8 J**	ND
Benzo(a)pyrene	ND	0.7 J	ND
Benzo(b)fluoranthene	ND	**0.4 J**	ND
Benzo(k)fluoranthene	ND	**0.6 J**	ND
Carbazole	4.0 J	1.1 J	3.4 J
Chrysene	ND	**0.6 J**	ND
Dibenzofuran	1.9 J	0.7 J	2.1 J
Fluoranthene	0.6 J	1.6 J	ND
Fluorene	2.4 J	0.6 J	2.4 J
Naphthalene	**15**	1.6 J	3.2 J
Phenanthrene	1.9 J	0.6 J	0.7 J
Pyrene	0.4 J	0.8 J	ND

FWMW-4 DUP	
Date	**2/8/2005**
Acenaphthene	2.3 J
Acenaphthylene	5.7 J
Carbazole	4 J
Dibenzofuran	2.8 J
Fluorene	2.4 J
Naphthalene	3.1 J
Phenanthrene	0.9 J

MW-101RD	
Date	**2/7/2005**
2-Methylnaphthalene	51
Acenaphthene	**47 J**
Acenaphthylene	22 J
Anthracene	4.8 J
Carbazole	27 J
Dibenzofuran	31 J
Fluorene	32 J
Naphthalene	**720**
Phenanthrene	25 J

FWMW-6			
Date	**10/30/2002**	**6/19/2003**	**2/9/2005**
2-Methylnaphthalene	13	ND	ND
2-Methylphenol	0.6 J	ND	ND
4-Methylphenol	1.5 J	ND	ND
Acenaphthene	**49**	**23**	1.4 J
Acenaphthylene	18	5.8 J	1.1 J
Anthracene	10 J	5.7 J	3.2 J
Benzo(a)anthracene	**1.4**	**1.9**	**4.9**
Benzo(a)pyrene	0.7 J	1.2	4.8
Benzo(b)fluoranthene	**0.8 J**	**0.6 J**	**2.7**
Benzo(g,h,i)perylene	0.3 J	ND	2.1 J
Benzo(k)fluoranthene	**0.4 J**	**1.0 J**	**4.8**
Carbazole	36	11	1 J
Chrysene	**1 J**	**1.7 J**	**5.3 J**
Dibenzofuran	29	11	1.8 J
Fluoranthene	5.3 J	4.9 J	6.9 J
Fluorene	42	16	2.3 J
Indeno(1,2,3-cd)pyrene	**0.3 J**	ND	**1.8**
Naphthalene	**27**	0.9 J	ND
Phenanthrene	36	13	5.5 J
Pyrene	4.4 J	3.8 J	7.3 J

D-SB-05	
Date	**5/20/1998**
Bis(2-ethylhexyl)phthalate	**7**

LEGEND:

- PROPERTY LINE
- BUILDING
- EDGE OF WATER
- STORM SEWER
- APPROXIMATE LOCATION OF HISTORICAL MGP STRUCTURES
- LINE OF DEMARCATION
- 352 CONTOUR ELEVATION
- SB 102 RI SOIL BORING LOCATION
- MW 102R RI MONITORING WELL LOCATION
- TP 101 RI TEST PIT SAMPLE LOCATION
- VP102 RI SOIL/GAS MONITORING LOCATION
- SS 103 RI SURFACE SOIL SAMPLE LOCATION
- PZ-104 RI PIEZOMETER LOCATION
- D-SB-01 PREVIOUS SOIL BORING LOCATION
- TP PREVIOUS TEST PIT SAMPLE LOCATION
- F-TP-03 PREVIOUS TEST PIT LOCATION – NO SAMPLE COLLECTED
- SB-18 PREVIOUS MONITORING WELL LOCATION
- HE PREVIOUS BACKGROUND SOIL SAMPLE LOCATION
- D DELTA ENVIRONMENTAL CONSULTANTS SAMPLE LOCATION
- B BUCK ENGINEERING, LLC SAMPLE LOCATION
- F FOSTER WHEELER SAMPLE LOCATION

NOTES:

1. FOR BASE MAP INFORMATION REFER TO NOTES ON FIGURES 2 AND 3.
2. SVOC CONCENTRATIONS REPORTED IN PARTS PER BILLION (PPB).
3. SVOC – SEMI-VOLATILE ORGANIC COMPOUND
4. DUP – DUPLICATE SAMPLE
5. J – INDICATES AN ESTIMATED VALUE.
   ND – NOT DETECTED AT CONCENTRATIONS EXCEEDING LABORATORY DETECTION LIMITS.
6. SHADED AND BOLD VALUES EXCEED NYSDEC GROUNDWATER STANDARDS AND/OR GUIDANCE VALUES PRESENTED IN TOGS 1.1.1.
7. B-MW-03 WAS NOT SAMPLED DURING THE OCTOBER 2002 AND JUNE 2003 SAMPLING EVENTS DUE TO LACK OF WATER.
8. MW-101R NOT SAMPLED DURING THE FEBRUARY 2005 SAMPLING EVENT DUE TO PRESENCE OF NON-AQUEOUS PHASE LIQUID (NAPL).

0 20' 40'
GRAPHIC SCALE

NATIONAL GRID
LITTLE FALLS (MILL STREET) NON-OWNED FORMER MGP SITE
REMEDIAL ACTION WORK PLAN

DETECTED SVOC CONCENTRATIONS IN GROUNDWATER SAMPLES (PPB)

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
6

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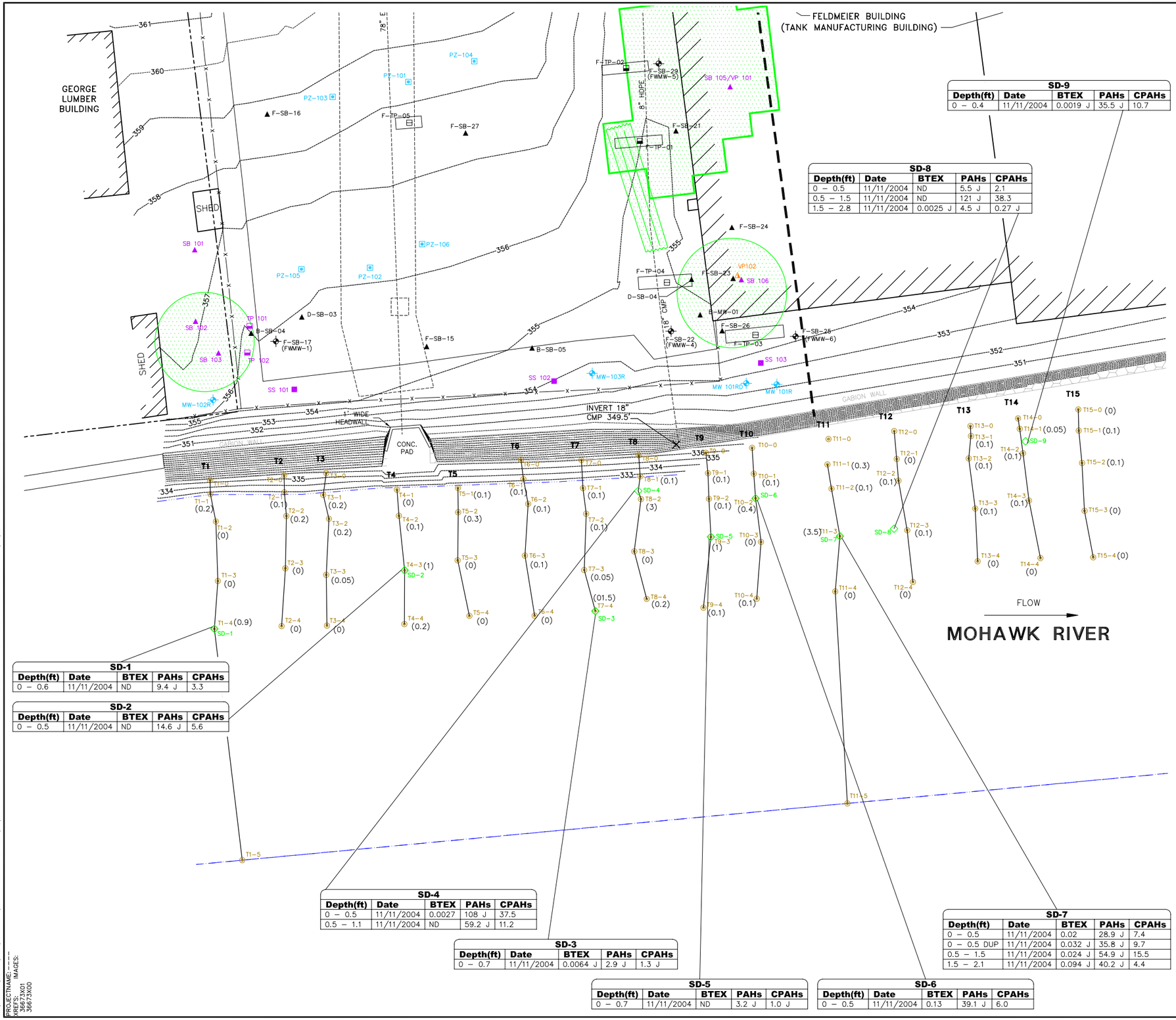


SD-9

Depth(ft)	Date	BTEX	PAHs	CPAHs
0 – 0.4	11/11/2004	0.0019 J	35.5 J	10.7

SD-8

Depth(ft)	Date	BTEX	PAHs	CPAHs
0 – 0.5	11/11/2004	ND	5.5 J	2.1
0.5 – 1.5	11/11/2004	ND	121 J	38.3
1.5 – 2.8	11/11/2004	0.0025 J	4.5 J	0.27 J

SD-1

Depth(ft)	Date	BTEX	PAHs	CPAHs
0 – 0.6	11/11/2004	ND	9.4 J	3.3

SD-2

Depth(ft)	Date	BTEX	PAHs	CPAHs
0 – 0.5	11/11/2004	ND	14.6 J	5.6

SD-4

Depth(ft)	Date	BTEX	PAHs	CPAHs
0 – 0.5	11/11/2004	0.0027	108 J	37.5
0.5 – 1.1	11/11/2004	ND	59.2 J	11.2

SD-3

Depth(ft)	Date	BTEX	PAHs	CPAHs
0 – 0.7	11/11/2004	0.0064 J	2.9 J	1.3 J

SD-5

Depth(ft)	Date	BTEX	PAHs	CPAHs
0 – 0.7	11/11/2004	ND	3.2 J	1.0 J

SD-6

Depth(ft)	Date	BTEX	PAHs	CPAHs
0 – 0.5	11/11/2004	0.13	39.1 J	6.0

SD-7

Depth(ft)	Date	BTEX	PAHs	CPAHs
0 – 0.5	11/11/2004	0.02	28.9 J	7.4
0 – 0.5 DUP	11/11/2004	0.032 J	35.8 J	9.7
0.5 – 1.5	11/11/2004	0.024 J	54.9 J	15.5
1.5 – 2.1	11/11/2004	0.094 J	40.2 J	4.4

LEGEND:

- PROPERTY LINE
- BUILDING
- EDGE OF WATER
- STORM SEWER
- APPROXIMATE LOCATION OF HISTORICAL MGP STRUCTURES
- LINE OF DEMARCATION
- 352 CONTOUR ELEVATION
- SD-9 RI SEDIMENT SAMPLING LOCATION
- T15-0 RI SEDIMENT PROBING LOCATION
- SB 102 RI SOIL BORING LOCATION
- MW 102R RI MONITORING WELL LOCATION
- TP 101 RI TEST PIT SAMPLE LOCATION
- VP102 RI SOIL/GAS MONITORING LOCATION
- SS 103 RI SURFACE SOIL SAMPLE LOCATION
- PZ-104 RI PIEZOMETER LOCATION
- T1 SEDIMENT PROBING TRANSECT ID
- D-SB-01 PREVIOUS SOIL BORING LOCATION
- TP PREVIOUS TEST PIT SAMPLE LOCATION
- F-TP-03 PREVIOUS TEST PIT LOCATION – NO SAMPLE COLLECTED
- SB-18 PREVIOUS MONITORING WELL LOCATION
- HE PREVIOUS BACKGROUND SOIL SAMPLE LOCATION
- D DELTA ENVIRONMENTAL CONSULTANTS SAMPLE LOCATION
- B BUCK ENGINEERING, LLC SAMPLE LOCATION
- F FOSTER WHEELER SAMPLE LOCATION
- (0.1) DEPTH OF SEDIMENT MEASURED DURING PROBING (11/2004) (FEET)

NOTES:

1. FOR BASE MAP INFORMATION REFER TO NOTES ON FIGURES 2, 3 AND 4.
2. BTEX, CPAH, AND PAH CONCENTRATIONS REPORTED IN MILLIGRAMS PER KILOGRAM (MG/KG).
3. BTEX – BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES (TOTAL)
4. CPAHs – CARCINOGENIC POLYNUCLEAR AROMATIC HYDROCARBONS
5. PAHs – POLYNUCLEAR AROMATIC HYDROCARBONS
6. DUP – DUPLICATE SAMPLE
7. ND – NOT DETECTED AT CONCENTRATIONS EXCEEDING LABORATORY DETECTION LIMITS
8. J – INDICATES AN ESTIMATED VALUE

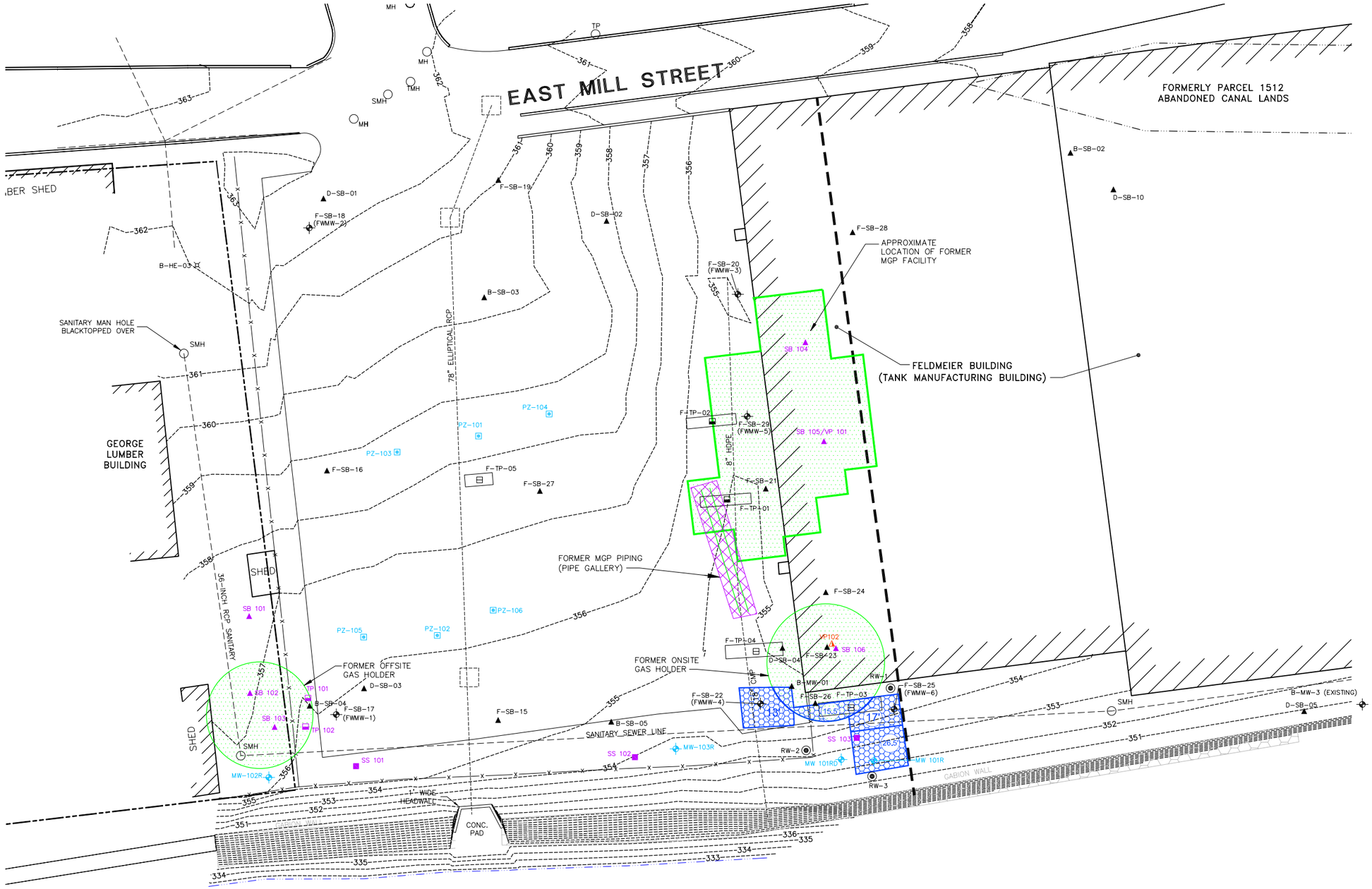
0 20' 40'
GRAPHIC SCALE

NATIONAL GRID
LITTLE FALLS (MILL STREET) NON-OWNED FORMER MGP SITE
REMEDIAL ACTION WORK PLAN

TOTAL BTEX, PAH, AND CPAH CONCENTRATIONS IN SEDIMENT SAMPLES (MG/KG)

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
7



LEGEND:

- PROPERTY LINE
- BUILDING
- EDGE OF WATER
- SANITARY SEWER
- SMH — SANITARY MANHOLE
- STORM SEWER
- APPROXIMATE LOCATION OF HISTORICAL MGP STRUCTURES
- LINE OF DEMARCATION
- -----352----- CONTOUR ELEVATION
- RW-1 — PROPOSED DNAPL RECOVERY WELL
- SB 102 — RI SOIL BORING LOCATION
- MW 102R — RI MONITORING WELL LOCATION
- TP 101 — RI TEST PIT SAMPLE LOCATION
- VP102 — RI SOIL/GAS MONITORING LOCATION
- SS 103 — RI SURFACE SOIL SAMPLE LOCATION
- PZ-104 — RI PIEZOMETER LOCATION
- D-SB-01 — PREVIOUS SOIL BORING LOCATION
- TP — PREVIOUS TEST PIT SAMPLE LOCATION
- F-TP-03 — PREVIOUS TEST PIT LOCATION – NO SAMPLE COLLECTED
- SB-18 — PREVIOUS MONITORING WELL LOCATION
- HE — PREVIOUS BACKGROUND SOIL SAMPLE LOCATION
- D — DELTA ENVIRONMENTAL CONSULTANTS SAMPLE LOCATION
- B — BUCK ENGINEERING, LLC SAMPLE LOCATION
- F — FOSTER WHEELER SAMPLE LOCATION
- APPROXIMATE LOCATION OF MGP PIPING TO BE REMOVED
- APPROXIMATE EXTENT OF ISS TREATMENT
- 10' — APPROXIMATE MAXIMUM DEPTH OF ISS TREATMENT

NOTES:

1. BASE MAP INFORMATION TAKEN FROM A DRAWING TITLED SOIL BORING AND MONITORING WELL LOCATIONS BY C.T.MALE ASSOCIATES P.C. DATED 2/8/05.
2. APPROXIMATE LINE OF DEMARCATION BASED ON HISTORIC TAX LOTS AND CURRENT FEATURES LITTLE FALLS (MILL ST.) SITE, FIGURE 1 (FOSTER WHEELER, JULY 2003).
3. LINE OF DEMARCATION SEPARATES THE MGP (VCO) PORTION OF THE PROPERTY FROM THE NON-MGP (VCA) PORTION OF THE PROPERTY.
4. LOCATION OF HISTORICAL MGP STRUCTURES ARE BASED ON HISTORICAL SANBORN MAPS AND ARE APPROXIMATE.
5. APPROXIMATE LOCATION OF THE PIPE GALLERY IS BASED ON PREVIOUS INVESTIGATIONS AND TEST PITTING ACTIVITIES CONDUCTED BY FOSTER WHEELER ENVIRONMENTAL CORPORATION.
6. RI SAMPLE LOCATIONS BASED ON SURVEY PERFORMED BY C.T. MAL ASSOCIATES, P.C. (DATED 2/8/05) AND SURVEY PERFORMED BY BLASLAND, BOUCK & LEE, INC. IN 11/2004 AND 4/2005.

0 20' 40'
GRAPHIC SCALE

NATIONAL GRID
LITTLE FALLS (MILL STREET) NON-OWNED FORMER MGP SITE
REMEDIAL ACTION WORK PLAN

APPROXIMATE EXTENT OF REMEDIAL ACTIVITIES

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
8

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