KeySpan Corporation
Environmental Asset Management
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July 27, 2005

Mr. Amen M. Omorogbe, P.E.
Project Manager, Manufactured Gas Plant Remedial Section
New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Western Remedial Action, 11th Floor
625 Broadway
Albany, New York 12233-7010

Re: Supplemental Remedial Investigation (RI) Work Plan
1 Edgewater Street [Edgewater Plaza]
Clifton, Staten Island Former Manufactured Gas Plant (MGP) Site
Staten Island, New York
Site No: 2-43-023

Dear Mr. Omorogbe:

KeySpan Corporation (KeySpan) is submitting this work plan to conduct supplemental remedial investigation (RI) activities at 1 Edgewater Street [also referred to as Edgewater Plaza]. This property is located to the northeast of the former manufactured gas plant (MGP) site at 25 Willow Avenue (Operable Unit 2 [OU-2]), Clifton, Staten Island, New York.

Previous investigations at the property have identified MGP tar-related impacts and petroleum impacts in subsurface soils and groundwater on the northern portion of the property and elevated detections of volatile organic compounds (VOCs) adjacent to the on-site building. As such, this work plan has been prepared to delineate the tar-related impacts and evaluate whether soil vapor conditions represent a complete exposure pathway to occupants of the on-site building.

The proposed scope of work will include drilling soil borings and installing monitoring wells with a Geoprobe ® drill rig to evaluate the lateral extent of tar impacts and site groundwater conditions, collection and analysis of subsurface soil and groundwater samples, installation of sub-slab soil vapor sample ports, and collection and analysis of soil vapor samples and ambient air samples utilizing Summa® canisters.

To assess off-site petroleum sources, KeySpan proposes a review of New York State Department of Environmental Conservation (NYSDEC) records to gather information regarding documented historic or current underground storage tanks (USTs), aboveground storage tanks (ASTs) or petroleum spills adjacent to the 1 Edgewater Street property. The findings of this proposed investigation and previous investigations completed to date will be summarized in a supplemental remedial investigation report.

The remainder of this document presents the proposed work plan for the supplemental remedial investigation. Plate 1 presents the location of the 1 Edgewater Street property and the proposed sample locations.

Following your review of this work plan, please contact me with your approval or if you have any questions regarding the proposed scope of work.

Background

Two previous supplemental remedial investigations were completed at 1 Edgewater Street: a subsurface soil and groundwater investigation and an investigation of soil gas adjacent to the on-site building. The previous subsurface investigation results were transmitted to the NYSDEC as a Supplemental Remedial Investigation (RI) Interim Data Deliverable 1 Edgewater Street/ Edgewater Plaza dated August 27, 2004. A letter report summarizing the soil vapor results was transmitted to the NYSDEC on May 9, 2005. Summary information from these investigations is provided below.

Supplemental remedial investigations were initially completed at the 1 Edgewater Street property in April through June 2003 to evaluate tar impacts encountered within Edgewater Street to the east of the property. Forty-seven subsurface borings (SB-100 through SB-139) and three monitoring wells (RW-20 through RW-22) were completed to evaluate the lateral and vertical occurrence of tar and groundwater impacts on the property. Discrete intervals of tar-impacted soils (sheens, blebs, stainings and odors) were observed in the majority of the borings. Plate 1 presents the subsurface investigation sample locations and the lateral extent of impacts encountered at the 1 Edgewater Street property. The shallowest occurrence of tar was observed in the vicinity of Edgewater Street at approximately 8 feet deep and increased in depth to approximately 25 feet adjacent to New York Harbor. Laboratory analysis of tar impacted soils revealed detected concentrations of the volatile organic compounds (VOCs) of benzene, toluene, ethylbenzene and xylene (BTEX), ranging from 0.01 to 355.9 ppm. Concentrations of polycyclic aromatic hydrocarbons (PAHs) within tar-impacted soils ranged from 77.16 to 48,930 ppm. Concentrations of BTEX and PAHs decreased toward the New York Harbor. Impacts indicative of petroleum (black to gray staining, fuel oil, diesel, and gasoline odors) were also observed in many borings and also contained BTEX and PAH compounds. Isolated MGP purifier-like material was also observed in borings SB-100, SB-101, SB-102, and SB-107. Concentrations of cyanide in soils at these locations ranged from 20.7 to 160 ppm.

In December 2004, additional supplemental investigations were completed to evaluate whether potential soil vapors posed a potentially complete exposure pathway for building occupants. Fourteen temporary soil gas sample locations around the building at One Edgewater Street (SG-14, SG-16, and SG-18 through SG-29) were screened with the ZNose® (ultra-fast field gas chromatograph) (Plate 1). Based upon the Znose® screening results, six soil vapor samples (SG-14, SG-15, SG-18, SG-22, SG-27 and SG-29) were collected into Summa™

canisters and submitted for laboratory analysis. Laboratory analysis revealed elevated concentrations of BTEX and other VOCs including trimethylbenzene isomers in the soil vapor samples collected from SG-14, SG-16 and SG-29 adjacent to the northern portion of the building. Naphthalene was detected only at the SG-16 location. These soil vapor detections were located downgradient of a nearby service station that has operated several historic and current underground storage tanks (USTs), suggesting incidental petroleum product spills in the area. Chemical concentrations of soil vapor were detected well below established Occupational Safety and Health Administration (OSHA) standards and do not present a significant risk to workers at the site. A letter summarizing these findings was transmitted to the NYSDEC on May 9, 2005.

Scope of Work

The subsurface investigation and monitoring well installation activities described herein will be conducted in accordance with the procedures specified in the New York State Department of Environmental Conservation (NYSDEC)-approved November 9, 1998 RI Work Plan for the site. Soil vapor and ambient air samples will be collected in general accordance with the Draft Guidance for Evaluating Soil Vapor Intrusion (New York State Department of Health, 2005) and United States Environmental Protection Agency (EPA) soil gas sampling protocols. In addition, the work will be conducted following the quality assurance/quality control (QA/QC) procedures established in the approved RI work plan.

All field activities will comply with the health and safety procedures specified in the NYSDEC-approved site-specific Health and Safety Plan dated November 9, 1998.

Proposed Supplemental RI Activities

Task 1: Soil Boring and Groundwater Monitoring Well Installation

Soil Boring Installation and Subsurface Soil Analysis

To evaluate the potential lateral and vertical extent of tar to the southeast of borings SB-138 and SB-139, up to nine borings (SB-140 through SB-148) will be completed utilizing a direct push Geoprobe® sampling rig in the vicinity of the on-site building (Plate 1). Soil borings SB-140 through SB-142 will be drilled first, if tar-related impacts are observed, then borings SB-143, SB-144, SB-145/ RW-24 will be drilled. However, if no impacts are observed in the first line of borings, then borings SB-143 through SB-145/RW-24 will not be required to delineate the extent of the tar-related impacts. The remainder of the proposed borings (SB-145 through SB-148) will be completed as monitoring wells RW-24 through 27 as discussed below.

Each proposed boring will be advanced approximately 10 feet below the last observed occurrence of tar. Based upon nearby impacts at SB-139, soil borings are anticipated to be completed to approximately 25 feet bgs. Soil samples will be collected continuously from

each boring using 4-foot or 5-foot long MacroCore® samplers equipped with a discrete sampler device. Each boring not completed as a monitoring well will be abandoned with a Portland/bentonite grout mix that will be tremied from the bottom of the boring to the top of the boring and covered with asphalt patch following completion.

Drilling equipment (rods and macro-core sampler) will be decontaminated on a temporary decontamination pad located at the site or in the vicinity of the sampling rig. Soil cuttings, decontamination fluids, and personal protective equipment will be collected and stored within 55-gallon United States Department of Transportation (USDOT)-approved drums that will be staged at the 40 Willow Avenue Parcel.

Up to two soil samples from each boring will be submitted to Severn-Trent Laboratories (STL) in Shelton, Connecticut for analysis. Analysis will include:

- BTEX by United States Environmental Protection Agency (EPA) method 8260
- PAHs by EPA method 8270
- Resource Conservation Recovery Act (RCRA-8) metals by EPA method 6010
- Total cyanide (TCN) by EPA method 9012.

STL is a NYSDEC–approved laboratory and will provide Category B data deliverable for soil analysis.

In addition, up to one soil sample from each boring will be submitted to Newfields Environmental Forensic Practice, Rockland, Massachusetts, for forensic analysis of PAHs.

Quality assurance/ quality control (QA/QC) samples to be submitted to STL will include one blind duplicate soil sample, one matrix spike/matrix spike duplicate (MS/MSD) soil sample, and one soil sampling equipment rinsate blank. Each of the quality assurance samples will be collected and analyzed for BTEX, PAHs, RCRA-8 metals and total cyanide. One trip blank sample will be submitted for BTEX analysis per shipment of samples to the laboratory.

Monitoring Well Installation and Groundwater Analysis

To evaluate groundwater concentrations and groundwater flow beneath the on-site building and vicinity, monitoring wells (RW-23 through RW-27) are tentatively proposed at the following boring locations: SB-140/RW-23, SB-145/RW-24, SB-146/RW-25, SB-147/RW-26, and SB-148/RW-27 (Plate 1). Monitoring wells will be installed with the Geoprobe® and will be constructed utilizing 2.5-inch outer diameter (1.5-inch inner diameter pre-packed screens. Monitoring wells will be constructed in general accordance with the NYSDEC-approved RI Work Plan. If tar is encountered, then the monitoring well will be constructed with a sump beneath the screen for potential tar recovery.

Monitoring wells (RW-23 through RW-27) will be developed in accordance with methods described within the NYSDEC-approved November 9, 1998 RI Work Plan.

The groundwater samples will be collected no sooner than two weeks after development. One groundwater sample will be collected from each newly installed monitoring well and submitted to STL for analysis. Each groundwater sample will be analyzed for BTEX, PAHs, RCRA-8 metals, and total cyanide. QA/QC samples will include one blind duplicate, one MS/MSD, and one equipment rinsate blank to be analyzed for BTEX, PAHs, RCRA-8 metals, and total cyanide. One trip blank sample will be analyzed for BTEX. STL will provide a Category B data deliverable for groundwater analysis that will be provided in both electronic and printed format.

If a monitoring well (RW-23 through RW-27) contains tar, the monitoring well will not be sampled and the tar will be gauged, removed and stored within the USDOT-approved 55-gallon drums located on the 40 Willow Avenue Parcel.

The locations and elevations of each newly completed soil borings and monitoring wells will be surveyed by a New York State licensed surveyor. These survey data will be incorporated into the site survey database.

Task 2: Sub-Slab Vapor and Ambient Air Sampling

Three sub-slab soil vapor monitoring ports (SG-30 through SG-32) will be installed through the concrete slab foundation of the Edgewater Street building (Plate 1). The port locations will be evenly spaced across the length of the building. However, actual sample locations will be based upon building constraints. Each port will be constructed by drilling through the slab, installing Teflon® tubing with stainless steel fittings at the surface and grouting around the slab penetration to form a vapor tight seal. At least 24-hours after the installation, the probes will be purged utilizing a low level photoionization detector at a rate not to exceed 0.2 liters per minute. Sub-slab soil vapor samples will be collected at each port using certified-clean Summa® canisters with a 6 liter capacity, in accordance with USEPA Standard Operating Procedure No. 2042: "Soil Gas Sampling". Each Summa® canister air sample will be collected over an approximate 8-hour period through a calibrated flow control valve provided by the laboratory. The sample rate will not exceed 0.2 liters per minute. In accordance with the NYSDOH guidance, the sample port seal integrity will be confirmed through tracer gas monitoring.

Three indoor air ambient air samples (AS-1 through AS-3) will be located in the vicinity of the sub-slab ports (Plate 1). A single outdoor air ambient air sample (AS-4) will be located outside the north entrance of the building (Plate 1). Indoor and outdoor ambient air samples will be collected concurrently with sub-slab vapor samples using certified-clean Summa® canisters with a 6 liter capacity, in accordance with USEPA Standard Operating Procedure No. 2042: "Soil Gas Sampling". Each Summa® canister air sample will be collected over an

approximate 8-hour period through a calibrated flow control valve provided by the laboratory. The sample rate will not exceed 0.2 liters per minute.

QA/QC samples will include a blind duplicate for one sub-slab vapor sample.

Sub-slab vapor samples and ambient air samples will be sent to Air toxics in Folsom, CA and analyzed for VOCs, including naphthalene, by EPA method TO-15. In addition, sub-slab vapor samples will be analyzed for the tracer gas. Air Toxics will provide New York State Category B data deliverables for the air analyses that will be provided in both electronic and printed format.

A building assessment will be conducted at the time of the ambient air and soil vapor sampling. Information to be collected during the building assessment will include:

- Information regarding commercial occupants, chemical use and storage
- Location and use of heating and air conditioning systems
- Sketches of the floor plan which will include information regarding but not limited to sample locations, chemical storage, heating and air conditioning ventilation systems, sumps, foundation cracks, garages, and other pertinent information
- Representative digital photographs will be taken to document building conditions

Weather conditions, including precipitation, indoor and outdoor temperature and barometric pressure will be recorded during the collection of air samples.

Task 3: NYSDEC Regulatory File Review

To evaluate the potential for contamination migrating from surrounding sites, KeySpan will conduct a review of NYDEC files for adjacent properties, which may have contributed to groundwater and soil contamination in the vicinity of 1 Edgewater Street. Pertinent information regarding current and historic petroleum storage, historic petroleum releases, and spills will copied and incorporated into the report for the 1 Edgewater Street property.

Task 4: Report Preparation

The newly obtained data will be incorporated into the site-wide database and will be used to supplement the understanding of conditions at the 1 Edgewater Street property. The findings from this investigation along with previous investigations will be compiled into a comprehensive supplemental remedial investigation report for the property. The report will provide information regarding the site history, discussion of soil and groundwater impacts, a discussion of the mobility of dissolved phase contaminants and tar and an evaluation of potentially complete exposure pathways at the 1 Edgewater Street property. This report will be submitted to NYSDEC as a supplemental remedial investigation report for Operable Unit 2 (OU-2) of the Clifton Former MGP site.

Schedule

Field activities can commence following NYSDEC approval of this work scope. The field program is tentatively scheduled to start in early to mid August and drilling activities will last for approximately 5 days. Issues affecting the start date include obtaining on-site access, utility clearance for the borings, potential utility conflicts based upon the utility mark-outs, and NYSDEC review and approval of this work plan letter.

If you have any questions or require any additional information, please contact me at 718-403-3053 or by email at tbell@keyspanenergy.com.

Sincerely,

KeySpan Corporation

for

Tracey Bell
Manager
Environmental Asset Management

TB:LEW:gg
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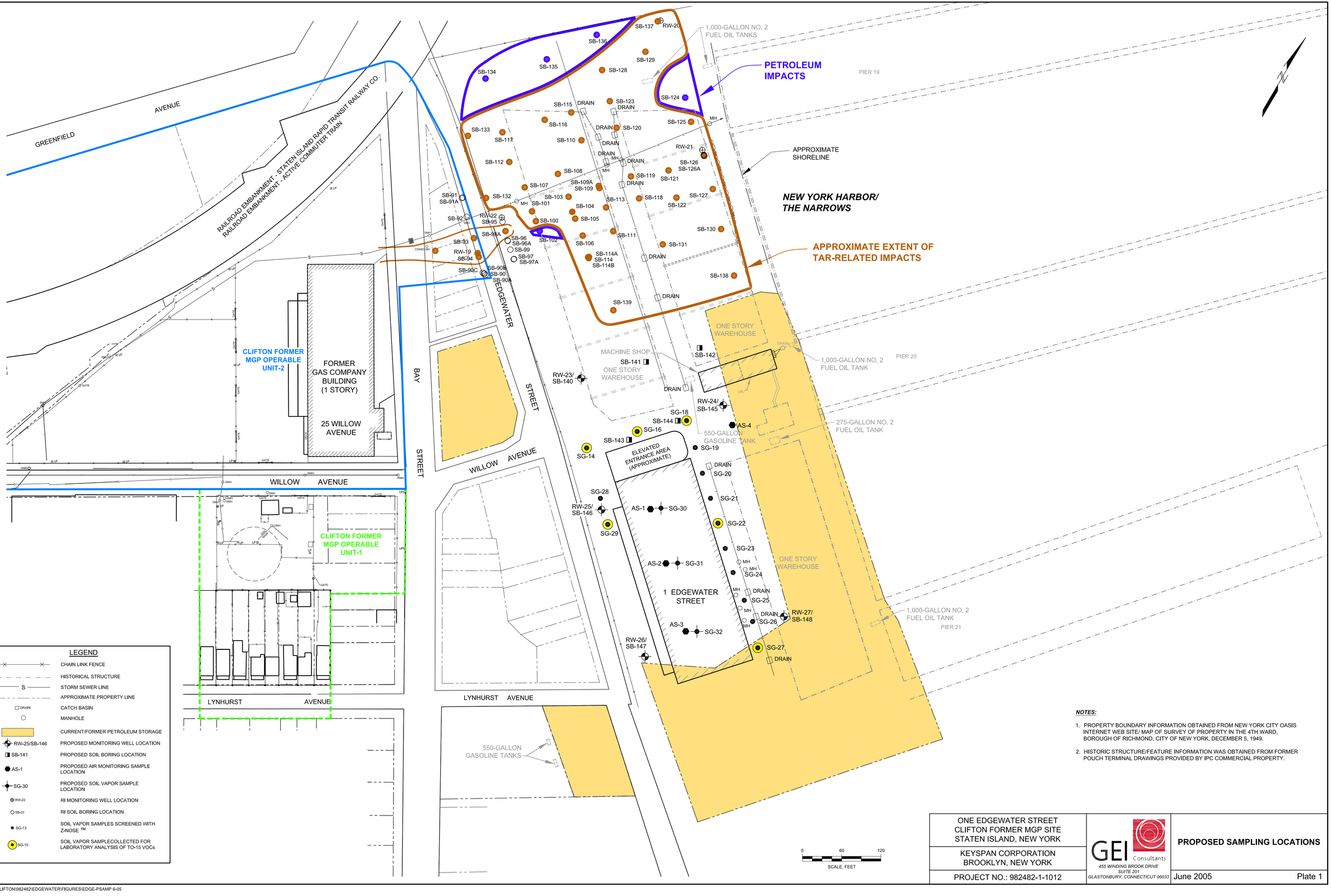
Enclosures

c: S. Selmer (NYSDOH)
L. Liebs (KeySpan)
F. Murphy (KeySpan)
A. Prophete (KeySpan)
J. Bolan (PS&S)
D. Terry (GEI)
J. Collins (GEI)



LEGEND

- CHAIN LINK FENCE
- HISTORICAL STRUCTURE
- STORM SEWER LINE
- APPROXIMATE PROPERTY LINE
- CATCH BASIN
- MANHOLE
- CURRENT/FORMER PETROLEUM STORAGE
- RW-25/SB-146 — PROPOSED MONITORING WELL LOCATION
- SB-141 — PROPOSED SOIL BORING LOCATION
- AS-1 — PROPOSED AIR MONITORING SAMPLE LOCATION
- SG-30 — PROPOSED SOIL VAPOR SAMPLE LOCATION
- RW-22 — RI MONITORING WELL LOCATION
- SB-23 — RI SOIL BORING LOCATION
- SG-13 — SOIL VAPOR SAMPLES SCREENED WITH Z-NOSE ™
- SG-15 — SOIL VAPOR SAMPLECOLLECTED FOR LABORATORY ANALYSIS OF TO-15 VOCs

NOTES:

1. PROPERTY BOUNDARY INFORMATION OBTAINED FROM NEW YORK CITY OASIS INTERNET WEB SITE/ MAP OF SURVEY OF PROPERTY IN THE 4TH WARD, BOROUGH OF RICHMOND, CITY OF NEW YORK, DECEMBER 5, 1949.
2. HISTORIC STRUCTURE/FEATURE INFORMATION WAS OBTAINED FROM FORMER POUCH TERMINAL DRAWINGS PROVIDED BY IPC COMMERCIAL PROPERTY.

ONE EDGEWATER STREET
CLIFTON FORMER MGP SITE
STATEN ISLAND, NEW YORK

KEYSPAN CORPORATION
BROOKLYN, NEW YORK

PROJECT NO.: 982482-1-1012

GEI Consultants
455 WINDING BROOK DRIVE
SUITE 201
GLASTONBURY, CONNECTICUT 06033

PROPOSED SAMPLING LOCATIONS

June 2005 — Plate 1

KEYSPAN\CLIFTON\982482\EDGEWATER\FIGURES\EDGE-PSAMP 6-05