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October 11, 2007

Shaminder Singh
NYS DEC Region 2
47-40 21st Street
Long Island City, N.Y. 11101

RE: Elmhurst Gas Tank Park
Site Management Plan
DEC Site # V00406

Dear Mr. Singh:

I have enclosed the complete Site Management Plan for the Elmhurst Gas Tank Park. I have also enclosed an electronic copy on CD for you convenience.

If you have any questions or concerns please call me at 718-706-6619.

Thank you for you assistance.

Sincerely,

Nancy Prince, RLA

cc: File
Attachment

ELMHURST GAS TANK PARK
SITE MANAGEMENT PLAN

DEC Site # V00406

Elmhurst, Queens County,
New York
October 2007

Prepared for:

NewYork State Department of Environmental
Conservation Region 2
47-40 21st street
Long Island City NY 11101

Prepared By:

City of New York Parks & Recreation
Design division
Flushing Meadow – Corona Park
Flushing NY 11368

Adrian Benepe, Commissioner,
City of New York Parks & Recreation

J\Design\Queens\Q492 Elmhurst Gas Tank\Q492-Gas Tank Park\Q492-106M\DEC Soil Management\SMP 7-17-07 N. Prince

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SITE MANAGEMENT PLAN

1.0 INTRODUCTION

This document is prepared as a requirement for fulfillment of remedial action at Newtown Station/ Elmhurst Holders Tank Site (hereafter referred to as the "Site") under the New York State (NYS) Voluntary Cleanup Program (VCP) administered by New York State Department of Environmental Conservation (NYSDEC). The Site was remediated in accordance with the Voluntary Cleanup Agreement (VCA) Index# D2-0002-99-10, Site # V00406, which was issued in October 2000.

1.1 General

KeySpan Energy Corporation entered into a VCA with the NYSDEC on October 24, 2000 to develop a 6-acre property known as the Newtown Station/ Elmhurst Holder Tank site located in Elmhurst, Queens County, New York. The property was used as a gas storage and transfer facility until 1993 when the holder tanks were decommissioned. This VCA required KeySpan to investigate and remediate contaminated media, which at this time was defined as soil and groundwater at the Newtown Holders Tank Site.

The property includes the following two parcels: Block 2805/Lot 31 is the larger parcel of the overall site and included the two gas holder tanks until 1993. Tanks were located in the northern and central portion of the Site and occupied approximately 3 acres. Two prefabricated hazardous waste storage sheds were located on-site along the western property boundary. These sheds have been removed. Block 2806/ Lot 1 is the smaller parcel of land adjacent to Grand Avenue, on the northern portion of the property.

This Site Management Plan (SMP) is prepared to manage residual contamination remaining at the Site in perpetuity or until removal of the deed restrictions with written approval by the Department. Work on the Site began in October 2000, and was completed in July 2002. All reports associated with the Site are available for viewing at the Region 2 NYSDEC offices in Long Island City, New York or successor agency.

This SMP has been approved by New York State Department of Environmental Conservation (NYSDEC) in accordance with the requirements in NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation, dated December 2002, and the guidelines provided by NYSDEC. This SMP addresses the means for implementation of institutional controls (ICs) and engineering controls (ECs) implemented at the Site.

The Site is located in Elmhurst, Queens County, New York. The property is bounded on the south by 57th Avenue, on the west by a ConRail right-of-way, on the north by Grand Avenue and on the east by 80th Street. Figure 1 is a Site

Locus Map. The City of New York presently owns the Site. The Site was utilized primarily for the temporary storage of manufactured and natural gas in two holder tanks on-site. These two gasholder structures and associated piping were decommissioned in 1993. Demolition of the holders was completed in 2000.

The site investigation, which was initiated in October 2000, revealed that lead-based paint chips and semi-volatile organic compounds (SVOCs) both at the surface and in subsurface soil posed a risk to human health and the environment. This discovery served as the basis for the development of an Interim Response Measure (IRM) Plan with detailed remedial measures.

The decommissioning and IRM remedial measures implemented by KeySpan Energy Corporation ("Keyspan") were performed in compliance with applicable regulations and are consistent with the NYSDEC approved VCA work plan. The decommissioning procedures and IRM remedial measures have mitigated threats to human health and the environment for the site's current use.

1.2 Purpose

The purpose of this document is to provide management of residual contamination by providing a process for oversight of IC and EC's.

The Site has residual contamination that has been left after completion of the remedial action that has been performed under the VCP. ECs have been incorporated in the remedy for the Site to render the residual contamination protective of public health and the environment. An environmental deed restriction has been recorded for the Site that provides an enforceable means of ensuring the continued protection of the Site in the future, and requires adherence by the grantor and grantor's successors and assigns to the engineering controls and a series of institutional controls that provide restrictions on Site usage and mandate operation, maintenance, monitoring and reporting measures for those engineering and institutional controls. The SMP is a document that ensures compliance with engineering and institutional controls (EC/ICs) for residual contamination at the Site.

Site management is the last phase of remediation, which begins with the approval of the final remedial/engineering report and/or issuing of the Declaration of Covenant and continues in perpetuity or until released by NYSDEC or NYSDOH. The property owner is responsible to ensure that all Site management responsibilities are performed.

The SMP is intended to provide a detailed description of the procedures required to manage residual contamination left in place at the Site following completion of the remedial action in accordance with the NYS VCA with the NYSDEC. This includes (1) development, implementation, and management of all engineering and institutional controls; (2) development and implementation of monitoring

systems and a Monitoring Plan; (3) development of a plan to operate and maintain any treatment, collection, containment, or recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual); (4) submittal of Site Management Reports, performance of inspections and certification of results, and demonstration of proper communication of Site information to NYSDEC; and (5) defining criteria for termination of treatment system operation.

This SMP includes four plans: an Engineering and Institutional Control Plan for implementation and management of EC/ICs; a Monitoring Plan for implementation of Site monitoring; an Operation and Maintenance Plan for implementation of remedial collection, containment, treatment, and recovery systems; and a Site Management Reporting Plan for submittal of data, information, recommendations, and certifications to NYSDEC.

Where the Remedial Action Objectives (RAOs) call for residual contaminants to be retained and managed on-site, the requirements outlined in this SMP are to be in place in perpetuity,

Site management activities, reporting, and institutional & engineering control certification will be scheduled on a certification period basis. The certification period will be annually.

Important notes regarding this SMP are as follows:

- The SMP and all Site documents are stored at the NYSDEC Region 2 offices (or successor agency). At the time of SMP publication (March 2007), the Site documents can be found in the repositories that were identified in all the Fact Sheets including:

  NYSDEC Region 2 Office
  47-40 21st Street
  Long Island City, NY 11101
  (call in advance) (718) 482-4900
  Hours: Mon. To Fri. 9 a.m. to 5 p.m.

- The Voluntary Cleanup Agreement (Index #D2-0002-99-10; Site # V00406) for the Site require an Operation, Maintenance and Monitoring (OM&M) Work Plan, which was renamed the SMP, and therefore, serves as contractual binding authority under which this SMP is to be implemented.

- If the SMP is not properly implemented, the Declaration of Covenant is subject to revocation; and

- This SMP defines the means for implementation of deed restrictions for the Site.

2.0 SITE BACKGROUND

2.1 Site Location and Description

The Site is located in the Borough of Queens, New York City, New York and is identified as Block 2805 Lot 31 and Block 2806 Lot 1 on the New York City Tax Map. The Site is situated on an approximately 6-acre area is bounded on the south by 57th Avenue, on the west by a CSXT right-of way, on the north by Grand Avenue and on the east by 80th Street (see Figure 1-1). The Site is more fully described in Appendix A – Metes and Bounds.

The property includes the following parcels:

- Block 2805/Lot 31, which is zoned M3-1. This is the larger parcel of the overall site and included the two gas holder tanks (which collectively provided 20 million cubic feet of storage capacity for use during peak demand until 1993 when they were decommissioned), are located in the northern and central portion of the Site and occupy approximately 3 acres. A compressor station referred to as the "Exhauster House" was located at the southeast corner of the site, and a one-story satellite station utilized for office space and parts storage exists in the southwest corner of the site. Two prefabricated hazardous waste storage sheds were located on-site along the western property boundary.

- Block 2806/ Lot 1, which is zoned residential. This is the smaller parcel of land adjacent to Grand Avenue, on the northeast portion of the property.

The surrounding area is primarily urban and land use is mostly residential with some industrial and commercial areas. Commercial development consisting of neighborhood stores exists to the immediate north side of Grand Avenue and the "backyard" areas of attached single-family residential units are located immediately east of the site along the northern portion of 80th Street. The Long Island Expressway is to the south, across 57th Avenue.

2.2 Site History

The Site was owned by KeySpan until 2001 when it was transferred to the City of New York and is planned to be developed for an active recreational facility as an open park land.

The entire Site comprises approximately 6 acres. The two holder tanks, which collectively provided 20 million cubic feet of storage capacity until 1993 when they were decommissioned, were located in the northern and central portion of the Site and occupied approximately 3 acres. A compressor station referred to as

the "Exhauster House" was located at the southeast corner of the Site, and a one-story satellite station utilized for office space and parts storage exists in the southwest corner of the Site. Two prefabricated hazardous waste storage sheds were also located on-site along the western property boundary. One of these sheds was utilized as a 90-day storage area and typically contains drummed personal protective equipment (PPE), oily rags, and other miscellaneous materials generated on-site. The other shed was utilized to store PPE and other spill-related control equipment and materials. Several other material/equipment storage buildings also exist in the southern portion of the Site.

Former Diesel Storage Tanks - Two 15,000-gallon aboveground diesel storage tanks (ASTs) were previously located on the southwestern portion of the Site. These ASTs were utilized for fueling of fleet vehicles. The aboveground tanks and associated supporting structures, including the secondary containment system, were demolished and all related fuel was removed for disposal in 1974.

Auto Repair Building - An Auto Repair Building was constructed in 1968 and was utilized for tire replacements and oil changes on fleet vehicles. This facility was demolished in the mid 1990's.

Former Underground Gasoline Storage Tank - Underground gasoline storage tanks (USTs) (one 2,000-gallon) and a dispensing island are depicted constructed on east side of the former auto repair building. This UST was removed in November 1996.

Underground "Fogging Oil" Storage Tank - A 1,500-gallon underground storage tank was previously utilized on-site to contain "fogging oil" to the west of the exhauster house. Fogging oil" was previously utilized to lubricate seals in gas lines on site.

KeySpan stated that all "fogging" equipment on site was retired in the 1980s.

During its period of operation, the major function of the Site was for the temporary storage of gas for peak-demand use in the two "water seal" type holder tanks on-site. Gas initially stored at this Site was manufactured at nearby facilities and conveyed through the existing distribution system to the Elmhurst facility for temporary storage. Subsequently, the facility was utilized to store natural gas. Historically, the two gas holders have been referred to as the "Elmhurst Tanks". The base of Gas Holder No. 1 was approximately 35 feet below grade, had a diameter of 254 feet, and was constructed in approximately 1910. The base of Gas Holder No. 2 was approximately 12 feet below grade, had a diameter of 276 feet, and was constructed in approximately 1921. These two holders were both of "water seal" type construction, each with a capacity of approximately 10 million cubic feet. The holders were utilized until 1993, when KeySpan initiated the decommissioning of the facility.

The Site investigation, which was initiated in October 2000, revealed that lead based paint chips and semi-volatile organic compounds (SVOCs) both at the surface and in subsurface soil posed a risk to human health and the environment.

The Interim Remedial Measures (IRM) was initiated in May 2001. The entire holders Site was subdivided into 50' X 50' grids. The areas within the footprint of holders were excavated and backfilled with clean fill. Each grid outside the footprint of the holder was then sampled for contaminants. Based upon the grid sampling results, KeySpan proposed that the lead and SVOC-contaminated soil be excavated and disposed of at approved receiving facilities.

Demolition of Gas Holder Tank Structures

KeySpan initiated the decommissioning of the two holder tanks in 1993. In July 1996, each of the three "pipe wells" and associated piping components for each of the two gas holders were drained of any residual water and backfilled to grade with clean fill.

Environmental cleaning of the two retired gas holders began in September of 1999 and was completed in May 2000. A total of approximately 34 million gallons of standing water was removed and discharged to the combined city sewer system. Residual solids were removed from the bottom of the holders. All material was properly handled and transported in accordance with applicable regulations to a landfill in Grows, Pennsylvania.

Historical maintenance of the exterior walls of the holder tank structures has typically involved sand blasting of the aboveground portion of each holder's water tank that resided partially above and below grade, and manual scraping of the holder shells, cups and structural steel guide frames followed by repainting activities. Lead based paint was utilized to support these maintenance programs. This is evidenced by the fact that elevated concentrations of lead have been detected in the holder sludge/sediment. Various activities including (residual lead in air and soil sampling) have been undertaken by KeySpan to investigate and mitigate concerns over residual concentration of lead based paint. Although the lead levels at one residence were found to be acceptable, approximately 6 inches of topsoil was removed and replaced. All remaining properties had no identifiable paint chips.

Gas Holder demolition was completed in June 2000.

2.3 Groundwater Flow Conditions

Based on water level measurements collected during the initial RI, the depth to groundwater ranged from approximately 55 to 67 feet below ground surface (bgs) and, consequently, groundwater elevation ranged from approximately 14 to 15

feet Queens Borough Datum (QBD). Based on these measurements, the water table lies within the Upper Glacial Aquifer. Groundwater flow direction beneath the Site is west-southwest to southwest. This groundwater flow direction is generally consistent with regional maps published by the United States Geological Survey (USGS).

2.4 Geological Conditions

The region is characterized as having numerous small variations in topographic relief. The 6-acre site, however, is relatively flat with little relief, and is approximately 75 feet above mean sea level (msl). Based on a regional 1989 United States Geological Survey (USGS) report, highly permeable, Pleistocene-aged glacial outwash deposit consisting of stratified medium to coarse sands and gravels comprise the unconfined Upper Glacial aquifer to approximately 100 feet below mean sea level (msl), or to a depth of approximately 175 feet below grade. A confining unit known as the Raritan Clay exists below the Upper Glacial aquifer, and is estimated to be between 50 and 75 feet thick. The clay layer appears to be between 150 and 175 feet below msl, or 225 to 250 feet below grade.

3.0 DESCRIPTION OF REMEDIAL INVESTIGATION FINDINGS

3.1 Summary of Remedial Investigation Findings

3.1.1 Soil

KeySpan conducted numerous subsurface investigations throughout the Site. The findings of these investigations are contained in the Site Investigation Report (March 2001). Below is a summary of the investigation findings.

- Site reconnaissance indicated that lead-based paint debris (LBP) are present on site in surface and shallow subsurface soil.
- Analytical results from surface soil and test pit sampling indicated that inorganics, principally lead, are present in surface and subsurface soils on-site. The lead in on-site surface soils is most likely attributable to LBP debris.
- Analytical results of the subsurface soil samples indicate the presence of VOCs, SVOCs, and inorganics in specific "hot-spots" on-site.
- Concentrations of SVOCs were detected in all 32 of the surface soil samples. Concentrations of PAHs were found throughout the Site at varying levels. The highest concentrations of PAHs were detected in soil samples that contained lead at concentrations greater than 1,600 mg/kg.

- All 12 soil samples collected from the test pits revealed total lead concentrations ranged from 85.2 to 196,000 mg/Kg. Concentrations of lead detected in the paint chip samples ranged from 41,900 to 50,900 mg/Kg. A lead concentration of 121 mg/L was detected in the paint chip sample selected for TCLP analysis.

- All of the surface soil samples were analyzed for TCL VOCs.

- Concentrations of SVOCs were detected in all 32 of the surface soil samples.

- Elevated levels of potentially carcinogenic polycyclic aromatic hydrocarbons (CPAH) were detected in surface soil both on- and off-site. The CPAH subset of SVOCs consists of eight compounds - carbazole, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene and dibenzo(a,h) anthracene.

- Four surface and two sub-surface soil samples exhibited concentrations of PCBs and pesticides at concentrations below EPA industrial soil RBCs.

- The lithology at the Site grade downward with and appreciably great amount of fine silty-sand/clay deposits identified at greater depths. An interesting native layer detected at depth (approximately 35 to 40 feet bgs) was a bog (peat) type deposit with heavy organics and petrified wood fragments.

- Organoleptic appraisal of subsurface soils indicates that the majority of subsurface soils at the Site are free of organic constituents.

- Analytical results of the groundwater samples indicate the presence of low levels of VOCs, SVOCs and inorganics in groundwater.

3.1.2 On-Site and Off-Site Groundwater

Groundwater samples were collected from a network of monitoring wells during the investigation phase. The findings are summarized as follows:

A total of 5 permanent groundwater monitoring wells were installed on-site during the field investigation program. The five-groundwater samples were analyzed for TCL VOCs and TCL SVOCs. Low levels of VOCs and non-detect levels of all SVOCs were exhibited in one sample. The remaining four samples were below NYSDEC Class GA Water Quality Standards. All samples exhibited low levels of inorganic constituents.

Based on these results and several other factors, no groundwater monitoring is required under Site Mangement at this time.

4.0 DESCRIPTION OF REMEDIAL ACTIONS

Below is a summary of the remedial actions implemented on the Site:

The IRM was initiated in May 2001 by subdividing the entire gas holder site into 50' x 50' grids. The areas within the footprint of the holders were excavated and backfilled with clean fill. Each grid outside the footprint of the holders was then sampled for contaminants. Based on the results of the grid sampling, KeySpan proposed that the lead and SVOC-contaminated soil be excavated and disposed of at acceptable receiving facilities.

4.1 Removal of Impacted Materials from the Site

The excavation of contaminated soil and off-site disposal activities began in September 2001. Each grid was excavated to the limit specified in the IRM Plan and in some cases, beyond that limit. Upon completion, each grid was screened with an X-Ray Fluorescence Analyzer (XRF) and sampled for lead and SVOC constituents. Site-specific cleanup standards were established for lead and carcinogenic SVOCs. Upon receiving acceptable laboratory results, each grid was backfilled with clean fill brought on site.

During IRM, approximately 8,900 tons (5,930 CY) of non-hazardous soil was excavated, shipped and disposed of at the Atlantic County Utilities Authority Landfill in New Jersey. Approximately 5,640 tons (3,760 CY) of hazardous lead-contaminated soil was shipped to Clean Earth in South Kearny, New Jersey. Approximately 1,440 tons (960 CY) of the VOC-contaminated sludge and soil were thermally treated at Mid Atlantic Recycling Tech, located in Vineland, New Jersey.

Additional on-site work was performed in July/August 2002 and consisted of the construction of an overland drainage swale and area-specific soil removals, including an area located on the southwest portion of the Site, additional grid J4/J5 work, and Verizon test pit exploratory operations.

Approximately 2,128 tons of non-hazardous soils were shipped and disposed off-site. Of this, approximately 1,069 tons of the non-hazardous soil was shipped to Clean Earth of North Jersey and the remainder of the non-hazardous soil (approximately 1,059 tons) shipment to Clean Earth in Pennsylvania. Approximately 584 tons of hazardous lead-contaminated soil was shipped to Clean Earth of North Jersey.

The total volume of soil excavated and disposed of off-site during all IRM activities on both the KeySpan and CSX properties was approximately 18,692

tons. Of this, approximately 11,028 tons was non-hazardous soil and approximately 7,664 tons was hazardous soil.

4.2 Engineering and Institutional Controls

4.2.1: Engineering Controls

The gas holders property has one engineering control as a soil cover system consisting of at least two feet of clean imported soils and/or concrete building slabs. A series of institutional controls are required to implement, maintain and monitor this engineering control, as defined in this SMP. Adherence to these institutional controls is required under the deed restriction. These institutional controls are:

a) All engineering controls must be operated and maintained as specified in this SMP;

b) All engineering controls on the Controlled Property must be inspected and certified at a frequency and in a manner defined in this SMP; and

c) Data and information pertinent to site management for the Controlled Property must be reported at the frequency and in a manner defined in this SMP.

4.2.2: Institutional Controls

The gas holders property has a series of institutional controls in the form of site restrictions. Adherence to these institutional controls is required under deed restrictions. Site restrictions that apply to the Controlled Property are:

- The Controlled Property may be used for restricted-residential (which includes active recreational parkland) use only;
- The Controlled Property may be used for restricted-residential use as long as the following institutional controls included in the SMP are employed:
  - Vegetable gardens and farming on the Controlled Property are prohibited;
  - The use of the groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for intended purpose; and
  - All future activities on the Controlled Property that will disturb residual contaminated material protected under this deed restriction are prohibited unless they are conducted in accordance with the soil and piping management provisions in this SMP.

5.0 DESCRIPTION OF RESIDUAL CONTAMINATION

The on-site and off-site excavation and disposal of lead and SVOC-impacted soil from the former natural gas holder area has removed the majority of these contaminants of concern. There are 19 sample locations that currently exceed the Site cleanup goal of 400-mg/kg lead.

5.1: Lead Contamination Remaining on-site and off-site

- There are 16 sample locations remaining on or immediately adjacent to the property that exceed the Site cleanup goal of 400-mg/kg lead. Eight are located along the Site/Verizon property line, and eight are located on the KeySpan property.

- Three of the sample exceedances (ranging from 499 ppm to 755 ppm) that are located on the Site are adjacent to the Verizon property in the southeastern portion of the Site. These samples are located between 7 feet and 10 feet below ground surface (bgs). The depth of these excavations and proximity to the Verizon property prohibited additional excavation in this area and the exposure assessment indicated that there was no exposure pathway for the contaminants.

- The five remaining exceedances on Site approach the Site cleanup goal of 400 ppm (concentrations range from 403 ppm to 460 ppm), were located at least one foot bgs.

- Off-site: On the CSX property, there are three sample locations that exceed the lead cleanup goal of 400 mg/kg. These three samples are located on the western sidewall at the 25-foot excavation limit specified in the Access Agreement between KeySpan and CSX Transportation. Therefore, removal of these soils was prohibitive. Excavation of soils within 25 feet of the railroad tracks would require the design and installation of various slope protection measures to ensure track integrity during removal.

5.2: SVOC Contamination Remaining on and off-site

- There are seven SVOC sample locations that exceed the criteria on the KeySpan property. These seven sample locations are located in three discrete areas on site: the area of the former AST foundation, the J4/J5 excavation area, and on the west side of the existing service building. The samples in the area of the AST foundation are between one and four feet bgs, and have been paved over. The sample location in the J4/J5 excavation is at a depth of fifteen feet bgs. The two samples collected adjacent to the KeySpan building are two feet bgs, and soils associated with these samples could not be removed without undermining the

building foundation. SVOC exceedances above Remedial Action Objectives (RAOs) do remain on the on-Site off-site CSX properties.

- The specific locations of all exceedances remaining on-site are illustrated in Figure 1.

5.3: Subsurface Pipes Remaining on-site

Station decommissioning conducted in 1993 by KeySpan included proper closure of subsurface gas transmission pipes at the Site. The pipe decommissing procedure included purging all subsurface gas pipes, sampling recovered liquids, backfilling pipe wells with clean fill, and sealing truncated pipe ends. Pipe within the footprint of the compressor building has been removed in it's entirety.

At the time of decommissioning, the subsurface pipes at the Site were closed in accordance with applicable regulations. Subsequent regulations promulgated by the United States Environmental Protection Agency (USEPA) in 1998 include requirements for the characterization and proper abandonment of natural gas pipelines. If subsurface pipes are encountered in the future, require opening, or removal during redevelopment initiatives, the contemporary regulations would drive proper characterization, handling, and disposal (if any).

Locations, sizes, and depths of subsurface pipe remaining on-site are illustrated in Figure 3.

6.0 PROVISIONS IN DEED RESTRICTIONS

6.1 Management of in-place residual contamination

Residual impacted soil will be managed through the operation, maintenance and monitoring of the EC/ICs approved as part of the remedial action. The EC/ICs are briefly described above and in the Engineering and Institutional Control Plan. Prior to any invasive work at the Site, the NYSDEC will be notified, and the comprehensive Soil Management Plan and Health and Safety Plan implemented. On-site workers will be notified, prior to beginning the work, that they may encounter residual contaminated soil.

6.2 Site Restrictions

Specific deed restrictions are reported in Section 4.2. A copy of deed restrictions is attached as Appendix B.

6.3 Engineering and Institutional Controls

The Controlled Property has one primary engineering control, a composite cover system consisting of a minimum of two feet of clean soil. A series of institutional controls are required to implement, maintain and monitor these engineering controls, as defined in this NYSDEC-approved SMP. Adherence to these ICs

and ECs is required under deed restrictions. ECs and ICs are listed in Section 4.2 and discussed in detail in Section 7.0.

Since not all contaminated soil was removed from the Site, EC/ICs will be implemented to prevent potential future exposure to soil exceeding TAGM levels, by on-site workers conducting intrusive activities related to renovation or maintenance work. These ICs primarily involve establishing a deed restriction to ensure appropriate future use/control of the Site and to protect human health and the environment. The ECs at the Site include the barriers to soil via asphalt covered roads, concrete covered sidewalks, and concrete building slabs. The deed restriction identifies the EC/ICs that were implemented and will continue to be implemented as part of the overall Site remedy. These controls are binding upon all current and subsequent Owners and occupants of the property and are subject to an annual certification program requiring the Owner to provide Professional Engineer certification that the ICs and/or ECs are in place, were not altered, and are still effective. EC/ICs for the Site are more fully discussed in the Engineering and Institutional Control Plan.

II ENGINEERING AND INSTITUTIONAL CONTROL PLAN

7.0 General

Remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved IRM Remedial Action Plan (June 2001). The remedial goal was to remove soil hot spots for lead and SVOCs for restricted commercial/industrial use. This was achieved through a variety of remedial methodologies including; hot spot excavations; encapsulation; and mitigation of impacted soil. A summary of the remedial strategies and EC/ICs implemented at the Site are as follows:

- Excavation of soils exceeding SCOs;
- Maintenance of an engineered cover to prevent human exposure to residual contaminated soils remaining under the Site; and
- Creation of deed restrictions, including institutional controls, to prevent future exposure to any contamination remaining at the Site (a copy of the deed restrictions is attached).

As post-remediation residual contaminated soil and underground piping exist beneath the Site, the EC/ICs are required to both address and mitigate the potential human health exposure to adverse environmental conditions existing under the Site. All procedures necessary to assure that these controls remain in place are documented in this SMP.

This Engineering and Institutional Control Plan will discuss protocol for the implementation and management of EC/ICs at the Site. This Plan is not to be used as a stand-alone document, but as a component document of the SMP. The Engineering and Institutional Control Plan is subject to NYSDEC revision.

7.1 Purpose

The purpose of this Plan is to provide:

- A description of all EC/ICs on the Site;
- The basic operation and intended role of each implemented EC/IC;
- The key components of the ICs created as stated in the deed restriction;
- The issues that should be evaluated during each annual inspection and compliance certification period;
- Appropriate plans for implementation of EC/ICs, such as the maintenance of the deed restriction, and the implementation of the Soil Management Plan for the safe handling of residual contaminated soils that may have to be removed during maintenance or redevelopment work on the Site; and
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the Site remedy, as determined by the NYSDEC.

8.0 ENGINEERING CONTROL COMPONENTS

The engineering control components are being implemented to minimize the potential human health exposure to contaminated media existing under the Site. Residual contaminated soil and underground piping remains in place throughout the Site. ECs were implemented to address potential exposure of Site occupants and the public, to sub-surface soil and piping. The ECs established at the Site are discussed below.

8.1 Composite Cover System

The cover system is a permanent control and the quality and integrity of this system will be inspected and maintained at defined, regular intervals in perpetuity.

The majority of the Site remains underlain by a layer of urban fill material. Isolated "hot spot" areas with elevated concentrations of SVOCs and lead were left in place under the building slab, by the parking lot to the east and by the railroad tracks on the west. Exposure to these residual contaminated soils is restricted by the cover system that exists across the Site. No portion of the Site provides direct exposure to subsurface soils. This cover system is comprised of

backfilled clean soils and the building slab. Issues related to maintenance and monitoring of this cover are provided in the Monitoring Plan included in the SMP. A Soil and Piping Management Plan is included in Section 9.3, which outlines the procedures required in the event the cover system is disturbed. The Soil Management Plan is also discussed in Section 9.2 of this Engineering and Institutional Control Plan.

9.0 INSTITUTIONAL CONTROL COMPONENTS

Since not all contaminated material was removed from the Site, ICs are required to prevent future exposure to contamination and ensure the viability, reliability, and effectiveness of the ECs by controlling disturbances of the subsurface soil and restricting the use of the Site to restricted residential uses only. The institutional controls imposed at the Site, made binding in the deed restriction, accomplish the following:

- Prevent contact with or inhalation of volatiles from contaminated groundwater;
- Prevent ingestion/direct contact with contaminated soil; and
- ICs will be implemented through the deed restriction document and the Soil Management Plan prepared for the Site.

9.1 Deed Restrictions

The deed restriction (1) applies to the controls implemented at the Site and the allowed use of the Site; (2) are binding on the Owner, the successors to the Owner, and Owner's assigns. See Appendix B for a copy of the deed restrictions. The EC/ICs documented in the deed restrictions are as follows:

- All engineering controls must be operated and maintained as specified in this SMP;
- All engineering controls on the Controlled Property must be inspected and certified at a frequency and in a manner defined in this SMP;
- Data and information pertinent to Site management for the Controlled Property must be reported at the frequency and in a manner defined in this SMP;
- On-site environmental monitoring devices if any, must be protected and replaced as necessary to ensure continued functioning in the manner specified in this SMP;
- The Controlled Property may be used for restricted-residential (which includes active recreational parkland) use only; and

- The Controlled Property may be used for restricted residential use as long as the following institutional controls included in the SMP are employed:
    - Vegetable gardens and farming on the Controlled Property are prohibited;
    - The use of the groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for intended purpose;

As noted in the deed restriction, the above-stated EC/ICs may not be discontinued without an amendment or extinguishment by NYSDEC.

9.2 SOIL MANAGEMENT PLAN

9.2.1 Introduction

This Soil Management Plan was developed to address any excavation, grading, or other invasive work conducted during development, maintenance or redevelopment at the former Gas Holders Site, Elmhurst, Queens (Site). The current use of the Site is for an open lot that will be developed into a recreational park (parkland and general services).

This work, which will be covered under the Site Management Plan for the Site, will principally consist of trenching and localized excavation, including some soil/fill removal and replacement for any future invasive work, including modifications or repairs to the existing site-wide composite cover system, any installation of vegetation, or any other invasive work will be covered under this plan.

This SMP is applicable for any ground-invasive work at the Site through the site-wide cover into underlying impacted soil. These procedures assist in the long-term management of impacted subsurface soil at the Site. In order to minimize exposure to Site workers as it relates to managing any impacted soil that may be encountered during development, maintenance or redevelopment at the Site, any intrusive construction work must be conducted in accordance with the procedures and considerations presented in the Soil Management Plan, Health and Safety Plan (HASP). A Community Air Monitoring Plan (CAMP) (Section 9.2.6) will be implemented during invasive activities at the Site. Any intrusive construction work must be certified as compliant with the SMP and included in the periodic Inspection and Annual Certification Report.

9.2.2 Notification

NYSDEC and NYSDOH will be notified a minimum of 10 days prior to the beginning of any intrusive activities through a written letter at the commencement

of each new intrusive effort. The agencies will be informed, at a minimum, of the description of work to be completed, the duration of the work, and certifications of the contractor to perform the work.

9.2.3 Project Oversight and Certification of Work

The Owner using a qualified excavation contractor may conduct invasive work. This contractor must provide to the remedial engineer its workers' qualifications and/or resumes of the personnel to be performing this work.

Invasive work during development, maintenance, or redevelopment at the Site will be completed by equipment operators and laborers that are OHSA HAZWOPER trained.

The excavation contractor will prepare a site-specific Health and Safety Plan. It will apply for all excavation, grading, or other invasive work conducted during development, maintenance or redevelopment at the Site. The Health and Safety Plan will provide a mechanism for establishing safe working conditions at the Site, where safety organization, procedures, and personal protective equipment (PPE) requirements will be established based on an analysis of potential site-related hazards. The site-specific Health and Safety Plan, at a minimum, will meet the requirements of 29 CFR 1910 and 29 CFR 1926 (which includes 29 CFR 1910.120 and 29 CFR 1926.65).

All excavation, grading, and other invasive work during development, maintenance or redevelopment at the Site will be conducted in accordance with the provisions set forth in this SMP. All activities involving soil excavation, removal and disposal will be documented in the Annual Certification Report, and submitted to the NYSDEC.

9.2.4 Record Keeping and Reporting

- A logbook will be maintained, documenting all invasive work on site. This will include, but not be limited to the following:
    - Dates and times of excavation activities.
    - List of personnel conducting these activities.
    - Approximate quantities of soil excavated.
    - Locations of any stockpiled soil.
    - Dates and times of all soil removed from the Site.

- Periodic monitoring reports will be provided by electronic media to NYSDEC's project manager during any excavation, grading and other invasive work that will describe the invasive work including the discovery of any unknown underground storage tanks (USTs), hot spots, or atypical fill/soil. Any such discoveries will be promptly communicated to NYSDEC's project manager. Any spills or releases will similarly be

reported within two hours of discovery to the NYSDEC spills hotline and the NYSDEC project manager.

- Reporting will be required during any excavation, grading and other invasive work during development, maintenance or redevelopment at the Site. These documents shall include:
  - A material flow log showing the source and destination of stockpiled impacted soil;
  - Characterization and end-point data of excavation pits; and
  - As-built data of all newly installed equipment or utilities.

9.2.5 Elements of the Health and Safety Plan

The Health and Safety Plan (HASP) will include, but will not be limited to, the components described below:

- Identification of Key Personnel - Identification of the onsite and offsite health and safety personnel responsible for the implementation of health and safety procedures, including the resume of the Site Safety Coordinator. All on-site personnel directly involved with excavation of impacted soil, or other significantly impacted material uncovered (but not the ash material) will be required to have OSHA 40-hour HAZWOPER training (29 CFR 1910.120 and 29 CFR 1926.65) and the corresponding annual 8-hour refresher course. All excavation, grading and other invasive work will be supervised by staff with the above training and certifications.

- Training - A description of health and safety training requirements for supervisory and onsite personnel will be presented. Training requirements will include attending an initial site orientation prior to engaging in any onsite activities.

- Medical Surveillance - A description of appropriate medical examinations required for supervisory and onsite personnel to conduct the tasks associated with the performance of the remedy will be presented. Associated tasks may include the following: working with chemicals, heavy lifting, using respiratory protection, using PPE and conducting hazardous substance operations in accordance with 29 CFR 1910.120 and 1926.65.

- Site Hazards - A description of chemical and physical hazards associated with the Site will be presented in the HASP. In addition, a discussion of identifying and mitigating foreseeable chemical and physical hazards associated with the work will be presented. Foreseeable chemical and physical hazards may include, but will not be limited to, hazards associated with exposure to constituents of concern, heavy equipment

operation, site conditions, weather, biological hazards, material handling, and work around excavated areas and water.

- Work Zones - A description of the work zones that will be established during the construction excavation will be presented. The work zones will be preliminarily delineated on a site plan that depicts the designation of zones including (1) Exclusion Zones; (2) Contamination Reduction Zones; and (3) Support Zones. The level of personal protection required for each work zone will be specified.

- Personal Safety Equipment and Protective Clothing - The HASP will identify personal safety equipment and protective clothing to be used and available onsite. This will include identification of expected levels of protection for the work, and the action levels for personal protective equipment upgrades. Also included will be a respiratory protection program that meets the requirements of 29 CFR 1910.134, which establishes specific requirements for any respirator use.

- Air Monitoring Plan - An air-monitoring plan that identifies air-monitoring requirements during any invasive work for site-specific constituents of concern. The air-monitoring plan may contain requirements for personnel monitoring and will trigger concentrations for site-specific constituents of concern that will require corrective action.

- Equipment Cleaning - The methods and procedures for decontamination of personnel, vehicles, and equipment will be described.

- Confined Space Entry - The HASP will describe procedures for confined space entry in accordance with OSHA's Permit-Required Confined Space Standard (29 CFR 1910.146). In addition, requirements for Confined Space Entry Training for all authorized personnel in accordance with 29 CFR 1910.146 will be presented.

- Material Safety Data Sheets - Material Safety Data Sheets (MSDSs) for all material to be brought on site, as well as constituents that are expected to be encountered in the course of construction excavation will be presented as an attachment or appendix to the HASP.

- Excavation Safety - Excavation and trenching safety procedures as specified in 29 CFR 1926 Subpart P including, but not limited to soil classification, excavation inspections, protective systems, and designated competent persons, will be discussed.

- Procedures and Programs - Standard operating procedures and safety programs as required by applicable sections of Section 1910 of 29 CFR 1910 and 29 CFR 1926.

- Contingency Plan - The HASP will also contain a contingency plan to be implemented in the event of various emergency or non-routine events. The contingency plan will set forth procedures for addressing spill prevention and emergency response procedures, odor control, emergency vehicular access/egress, evacuation, emergency notification and contacts, and emergency medical procedures.

9.2.6 Community Air Monitoring Plan

In the event of any outdoor invasive work, the following Community Air Monitoring Plan will be implemented.

9.2.6.1Organic Vapor Monitoring, Response Levels, and Actions
Organic vapor must be monitored at the downwind perimeter of an active work zone on a continuous basis during all invasive activities until the ground is completely covered with cover material (or 2-feet of clean soil per NYSDEC approval). Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work will be performed using equipment appropriate to the organic compounds of concern at the Site. This equipment should be calibrated daily and should be capable of calculating 15-minute running averages. All 15-minute readings will be recorded and be available for State personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded. The measured 15-minute averages will be compared to the levels below:

- If the ambient air concentration of total organic compounds at the downwind perimeter of the work area exceeds 5 parts per million (ppm) above background for the 15 minute average, work activities must be halted until the levels readily decreases below 5 ppm (per instantaneous readings).

- If the total organic compounds at the downwind perimeter of the work area persist at levels in excess of 5 ppm over background but less than 25 ppm, work must be halted. The source of vapors must be identified and corrective actions must be taken to abate the emissions. Work activities can only resume if the concentration is less than 5 ppm over a 15-minute average period.

- If the total organic compound level is above 25 ppm at the perimeter of the work area, all activities must be shut down and work methods and controls will be re-evaluated.

9.2.6.2 Particulate Monitoring, Response Levels, and Actions

Dust or particulate concentrations should be monitored continuously at the upwind and downwind perimeters at the site perimeter and active work zones. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes or less for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities. All readings will be recorded and be available for state personnel review. Corrective action is determined by the following levels:

- If the downwind PM-10 at a site perimeter location is 100 micrograms per cubic meter (µg/m3) greater than background for the 15-minute period of if airborne dust is observed at the Site perimeter from excavation activity, then dust suppression techniques must be employed. Work may continue with dust suppression techniques if the downwind PM-10 particulate level does not exceed 150 µg/m3 above the upwind level and if no visible dust is migrating from the excavation work area.

- If, after implementing dust suppression techniques, downwind PM-10 particulate levels are greater than 150 µg/m3 above the upwind level, work must be stopped and re-evaluation of work activities initiated. Work can resume if dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 µg/m3 of the upwind level and in preventing visible dust migration.

9.2.7 Excavation, Grading and Other Invasive Work

9.2.7.1 General

- Exclusion zones should be established in the vicinity of all excavated areas and be maintained in accordance with OSHA, 29 CFR 1910.120.

- Contractors shall comply with rules and regulations regarding working in confined spaces and local, state and federal rules as described in the HASP.

- All excavated areas at the Site will be restored in compliance with cover requirements .

- Following removal of cut portions of the existing building slabs, the contractor's engineer will inspect the exposed sub-slab soil for visual evidence of impacts. In addition, the exposed soil will be screened for total organic vapors using a photoionization detector (PID) on an approximate 10 ft by 10 ft grid or at 10 ft intervals for linear cuts/excavations. Excavation may proceed if no unusual conditions are encountered and if the soil is not materially different from the typical soil/fill found previously on the Site.

- During excavation, soil will be continuously inspected for chemical or petroleum odors or staining, and field screened with a PID. The PID readings will be obtained either from soil contained within the excavator bucket and/or directly off the excavation sidewalls or bottom. The excavated material will be handled based on the results of this screening. Any material exhibiting significant PID readings will be excavated and stockpiled on plastic poly sheeting and covered until waste characterization analysis can be completed.

9.2.7.2 Stockpiling

Any soil removed during invasive work will be temporarily staged adjacent to the construction areas. Separate soil staging areas will be designated for soil that is materially different from the typical soil/fill found previously on the Site, pending waste characterization testing. Additional stockpile areas may be constructed as needed. For example, if grossly impacted soil is uncovered during site excavation, an additional stockpile area may be constructed to segregate the grossly impacted material from the other stockpiled soil. Although these conditions are not anticipated, if they do occur, they would be expected to involve small quantities, and any invasive work would be conducted only as needed.

- Stockpile areas will meet the following minimum requirements:
    - The excavated soil will be placed onto double layers of a minimum 8-mil low-permeability liner of sufficient strength and thickness to prevent puncture during use.

- Equipment and procedures will be used to place and remove the soil that will minimize the potential to jeopardize the integrity of the liner.

- Active stockpiles will be covered at the end of each workday with minimum 8-mil plastic sheeting or waterproof tarps that will be securely anchored to the ground. Stockpiles will be routinely inspected and broken sheeting covers will be promptly replaced.

- Stockpiles will be covered until ready for loading. Each pile will be staked and labeled with a number to coincide with labeling on the associated sample container for proper correlation of the analytical results to the pile.

- For outdoor stockpiles, each stockpile area will be encircled with silt fences and hay bales, as needed, to contain and filter particulates from any rainwater that has drained off the soil, and to mitigate the potential for surface water run-on. The stockpile areas will be sloped wherever possible and equipped with a sump to collect any rainwater that has drained off the stockpiled soil. Drained water will be removed from the sump, as required.

- The stockpile areas will be inspected daily and noted deficiencies will be promptly addressed.

- If a new hot spot is encountered during any invasive work, the impacted soil will be removed to the extent required for development, maintenance, and or redevelopment, and post-excavation soil samples will be collected in accordance with DER-10 requirements. Any soil/fill that registers PID readings above 5 parts per million (ppm), and/or appears to be materially different (i.e., visual staining or odors) from the typical soil/fill found previously on the Site, and/or exceeds site-specific cleanup levels will be deemed as a "hot spot". The hot-spot material will be excavated and handled in a controlled manner. The impacted excavated material will be temporarily staged and characterized through analytical testing and be disposed off the Site in accordance with all federal, state and local regulations. After removal of the hot spot soil within the limits of required excavation, normal excavation may resume.

9.2.7.3 Dust and Nuisance control

- Monitoring of invasive work for dust generation will be a primary responsibility of the Excavation Contractor. Observation of visible dust will trigger additional dust control measures to mitigate the dust condition. Dust suppression will be achieved using water as needed within

excavations and on stockpiled soil. If warranted for outdoor invasive work, dust suppression will be conducted with the use of a water truck equipped with a rear nozzle and water cannon or equivalent to enable the spray of water into off-road areas including excavations and stockpiles.

- In the event of any major invasive work that is conducted outdoors whereby truck tires and undercarriages come into contact with impacted soil, one or more stabilized site entrances/exits may be constructed consisting of a clean gravel roadway. Preventative measures for dust generation will include covering impacted soil in outdoor stockpiled areas.

9.2.7.4 Truck Washing Pad

- In the event of a large-scale outdoor excavation where truck tires and undercarriages come into contact with impacted soil, an engineered truck wash/decontamination pad will be constructed. Power washing of truck tires and undercarriages will be completed for all trucks and equipment departing the Site from the start of any major outdoor invasive work until the invasive work is completed. At a minimum, the decontamination pad will have a 30-mil low-permeability liner, be bermed and sloped to a collection sump to contain and collect fluids, and have sidewalls to mitigate, to the extent practicable, errant overspray, especially when decontaminating large equipment that come into contact with impacted soil.

- Wash water will be collected and sampled, and properly disposed off-site. The collected rinse waters will pass through a sedimentation tank, and the sediment will be handled and disposed separately from the liquid portion.

- Egress points for truck and equipment transport from the Site will be kept clean of dirt and other material during any major outdoor invasive work, and trucks exiting the Site will be securely covered.

9.2.8 Stormwater Pollution Prevention Plan

- In the event of any outdoor invasive work, the Excavation Contractor will be responsible for minimizing erosion and sedimentation, and consequently stormwater pollution. Measures will include physical methods to control and/or divert surface water flows and to limit the potential for erosion and migration of Site soil, via wind (dust) or water. The erosion and sediment controls will be in conformance with the requirements presented in New York State Guidelines for Urban Erosion and Sediment Control.

The following stormwater pollution prevention practices will be implemented for any invasive work:

- Frequent watering of outdoor excavation and fill areas to minimize wind erosion during construction (if necessary);
- Inlet and outlet protection using filter fabric and hay bales;
- Site perimeter and soil stockpile protection using silt fence;
- Temporary sediment basins and sump pits;
- Stabilized construction entrance/exit pads in the event of any outdoor invasive work whereby the truck tires and undercarriages come into contact with impacted soil; and
- Existing combined sewer infrastructure.

- Where invasive work is being conducted, the Contractor shall be responsible for the installation and maintenance of all temporary erosion control measures. All silt fence, inlet protection and hay bale checks at catch basins installed on the project site shall be maintained as follows:

  - The barrier and hay bale check condition shall be inspected daily during ongoing invasive excavations or after every storm event whichever comes first. Any necessary repairs shall be made immediately.

  - Accumulated sediments shall be removed as required to keep the barrier and hay bale check functional.

  - All undercutting or erosion of the silt-fence toe anchor shall be repaired immediately with backfill material (e.g., stone).

  - Adhere to manufacturer's recommendations for replacing silt fence due to weathering.

  - Areas used for Contractor storage of hazardous substances and material (e.g., fuels) shall be lined with plastic and inspected regularly for any leakage of chemicals or fuels to the ground. Any such leakage will be reported to the NYSDEC Hotline within two hours of discovery and will be rectified immediately upon discovery.

  - Erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.
  - Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-site sediment tracking.

  - The existing conditions of the adjacent City streets shall be maintained. If necessary, cleaning of the adjacent streets within

100 feet of the Site entrance/exit may be performed on an as needed basis as determined by the Contractor.

- All stockpiles located in exterior portions of the Site will be immediately covered, anchored and surrounded by hay bales to prevent any migration of excavated soil from these locations.

9.2.9 Dewatering and Fluids Management

- All fluids management will comply with all local, state, and federal regulations.

- As previously indicated, in the event of a large-scale outdoor excavation where truck tires and undercarriages come into contact with impacted soil, an engineered truck wash/decontamination pad will be constructed. Stormwater runoff from the truck wash area and the wash water from the truck wash area will be conveyed into the existing on-site sewers via gravity or pumping. This area will also be surrounded with silt fence. No water shall be conveyed directly to the City streets. The truck wash areas will include a sump and low permeable liner to collect wash water, and a sedimentation tank to separate the solids from the water. A New York City Department of Environmental Protection (NYCDEP) discharge permit will be secured to discharge to the sewer system. Alternatively, if the stormwater runoff and wash water is of such quality that it cannot be discharged to the NYCDEP sewer system, then a Frac tank may be utilized to collect and temporarily store wash water until it is characterized for proper off-site disposal.

- During the construction excavation activities, surface water diversion methods will be implemented to minimize the amount of water that enters an excavation area. It will be the responsibility of the Contractor to take appropriate action to maintain the integrity of the excavation floor. Surface water diversion methods may include (but are not limited to) channeling surface water flow around the soil excavation areas by excavating a temporary ditch, construction of berms, or installing piping to create a preferential flow path for the surface water around each excavation area.

- Based on the depth to groundwater (approximately 60 feet), dewatering will not be required during any excavation activities.

9.2.10 Soil/fill Characterization

In general, there are two major categories of contaminated material that may be encountered during invasive work:

- **Category 1 - Contaminated Fill** – Portions of the shallow fill at the Site may contain non-hazardous contaminated materials that do not exhibit gross contamination (i.e. obvious by visual, olfactory or PID examination). These materials can be excavated from the Site and placed back into the same excavation without chemical testing. If the plan calls for reuse elsewhere on the Site, it must be stockpiled and sampled prior to reuse. This material must meet the reuse criteria set for this Site (i.e. it must be under 400 ppm for lead and must not be grossly contaminated by petroleum). Material in excess of these reuse criteria will be removed from the Site and disposed in accordance with all federal, State and local regulations at approved facilities. During invasive activities, this material will be inspected and field screened. Should gross contamination be identified that is materially different from the typical soil/fill found previously on the Site, this material will be considered Category 2 material and will be handled accordingly (see below). Mechanical processing of the historic fill will not be performed.

- **Category 2 - Other Contaminated Soil/Fill** – It is possible that during invasive work, localized contamination may be uncovered that is grossly contaminated and materially different from Category 1 - Contaminated Fill. Soil that is materially different will be excavated and transported to a dedicated stockpile area for characterization and waste classification, followed by loading, transport and disposal at an approved facility based on analytical results. Materials removed from the Site and transported and disposed in accordance with all federal, State and local regulations at approved facilities. Stockpiles of this material will generally not exceed 100 cubic yards for proper characterization.

- All material below the engineering control to be excavated and removed from the Site is considered to be contaminated, and must be properly disposed of off-site in accordance with all local, state, and Federal laws.

- Soil stockpile sampling frequencies and methods (e.g., grab versus composite sampling) will conform to the disposal facility's requirements.

- Laboratory tests for characterization of a waste stream typically include all or a subset of the following list. The actual testing will be determined by the facility's permit requirements.
    - Total petroleum hydrocarbons (TPHs);
    - Total VOCs, Method 8260;
    - Total SVOCs, Method 8270;
    - Total PCBs, Method 8082;
    - Total metals (14), Method 6010B;
    - Ignitability, corrosivity, and reactivity;

  - Toxic Characteristics Leaching Procedure (TCLP) VOCs, SVOCs, metals and pesticides and herbicides; and
  - Diesel Range Organics (DRO) and Gasoline Range Organics (GRO).

- In addition to the normal waste characterization testing, a sample of the impacted material will be sent for full characterization testing for the NYSDEC Part 375 Regulatory Soil Standards list of parameters and, if appropriate, fingerprint testing, and the results will be submitted to NYSDEC and NYSDOH immediately upon receipt.

- Characterization samples collected will be submitted to an ELAP-approved laboratory for analysis. Analytical reports will be maintained and copies will be available for inspection in the field. All appropriate field and laboratory QA procedures (e.g., sample shipment and custody) will be maintained, as outlined in the Quality Assurance Project Plan (QAPP), with the exception that field duplicate, rinse blank, and matrix spike/matrix spike duplicate samples will not be collected for waste characterization samples. Samples will be collected using disposable sampling tools into clean, laboratory-supplied glassware. Sampling personnel will don the appropriate PPE as per the HASP.

9.2.11 Soil/Fill Reuse

As indicated above, all material below the engineering control, excavated and removed from the site is considered to be contaminated, and will be properly handled and disposed in accordance with all local, state, and Federal laws.

9.2.12 Backfill and Cover Soil

Soil imported to the Site for use as backfill or for cover soil will meet the Part 375 regulatory standards. Soil that exceeds Part 375 regulatory standards and materials considered a solid waste will not be imported onto the Site.

9.2.13 Off-Site Disposal

- The Excavation Contractor will be responsible for handling all material removed from the Site and transporting to a proper disposal facility, as regulated waste or unregulated waste, as applicable.

- The proposed disposal facility(ies) and/or re-use site(s) will be reviewed and approved by the NYSDEC before any material leaves the site. In order to 1) ensure a smooth flow of material from the Site, 2) minimize the overall length of time required for trucking material, and 3) prevent the need to queue trucks on public roadways, the NYSDEC, in conjunction

with Site owner, shall have the discretion to modify the procedures of this Soil Management Plan that are specifically related to waste characterization procedures (i.e., sampling in-situ versus stockpiled material) and the selection of the end use/disposal options for material to be removed from the site.

- Category 2 - Other Contaminated Soil/Fill that exhibits gross contamination and is materially different from the typical soil/fill found previously on the Site will be stockpiled and tested in accordance with the disposal facility's sampling requirements.

- All excavated soil, fill and solid waste will be handled, transported and disposed in accordance with applicable Part 360 regulations and other applicable local, state and federal regulations. The proposed disposal facility(ies) will be reviewed and approved with NYSDEC before any material leave the site. Soil that does not meet the Part 375 regulatory standards will not be taken to a recycling facility. Non-hazardous contaminated soil and hazardous waste (not anticipated) will be transported off the Site for disposal.

- The Excavation Contractor will oversee the load-out of all excavated material. Once the loading of any container, dump truck, or trailer has been completed, the material will be immediately transported to the off-site disposal and/or recycling facility. All transport of material will be performed by licensed haulers in accordance with appropriate local, state, and federal regulations. Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate federal, state, local, and NYSDOT requirements (or other applicable transportation requirements). Egress points for truck and equipment transport from the Site will be clean of dirt and other material during invasive work related to development, maintenance, and/or redevelopment of the Site.

- The Contractor will provide the appropriate permits, certifications, and written commitments from disposal facilities to accept the material throughout the life of the contract. These documents will be provided to the NYSDEC as required.

9.2.14 Contingency Plan

- Any hazardous waste (not anticipated) derived on the Site will be handled, stored, transported, and disposed in accordance with applicable local, state and federal regulations.

- If any USTs, drums, underground piping or other unanticipated subsurface structures are encountered in the confines of the construction excavations, appropriate notification will be made to NYSDEC. Such USTs, drums or structures will be decommissioned in accordance with DER-10, the appropriate SPOTS guidance documents, and other applicable NYSDEC closure requirements. If construction allows, tanks will be decommissioned and abandoned in place following the applicable NYSDEC and FDNY petroleum storage tank closure regulations. In addition to the waste characterization testing required by the disposal facility, the contents of any USTs, drums or structures uncovered will be tested for fingerprint analysis as well as full characterization testing, if appropriate, and the results will be submitted to NYSDEC and NYSDOH immediately upon receipt. If the tank is removed, only then will post-excavation soil samples be collected as per the DER-10 requirements. If the tank is left in place, sampling around the tank would be conducted as per the DER-10 requirements to confirm no leaks. All testing of contents contained in USTs, drums, or structures found on site will be tested by a NYSDOH certified ELAP lab.

9.3 SUBSURFACE PIPING MANAGEMENT PLAN

9.3.1 Subsurface Pipes Remaining On-Site:

Station decommissioning conducted in 1993 by KeySpan included proper closure of subsurface gas transmission pipes at the site. The pipe decommissioning procedure included purging all subsurface gas pipes, sampling recovered liquids, backfilling pipe wells with clean fill, and sealing truncated pipe ends. Pipe within the footprint of the compressor building has been removed in its entirety.

At the time of decommissioning, the subsurface pipe at the site was closed in accordance with applicable regulations. Subsequent regulations promulgated by the United States Environmental Protection Agency (USEPA) in 1998 include requirements for the characterization and proper abandonment of natural gas pipelines. If subsurface pipes were encountered, required opening, or removal during redevelopment initiatives, the contemporary regulations would drive proper characterization, handling, and disposal (if any) in the event that that pipe at the site was exposed or required removal during redevelopment and/or excavation work at the site.

Approximately 1,900 linear feet of subsurface pipe and fittings remain on-site. The subsurface pipe is steel construction in sizes from 2-inch to 42" diameter. Fittings include valves, regulators, and meters. The pipe is located approximately 4-feet below ground surface. However, some pipes extend further below grade. All pipe within the footprint of the former compressor building has been removed. Refer to Figure 3 for pipe location, sizes, and depths.

9.3.2 Environmental Considerations

Natural gas pipelines are known to contain liquids known as condensate. Natural gas condensate contains a complex mixture of hydrocarbons, including benzene, which is a known carcinogen. KeySpan's pipeline is connected to other transmission company pipelines which may have used PCBs, generally resulting from historic use of PCB-containing lubricants. Therefore, subsurface natural gas pipes at the site may potentially contain condesate with elevated concnetrations of hyrocarbons and PCBs.

As indicated in Section 1, KeySpan properly closed the subsurface pipes 1993. KeySpan purged remaining gas and liquids using carbon dioxide. Exposed ends of the pipes at the completion of purging were were backfilled with clean fill.

The above noted process was effective in closing the pipes. PCBs were not used by KeySpan at this facility, or as part of their transmission operations. Investigation work conducted as part of the IRM at the site included analysis of subsurface soils for PCBs. No PCBs were detected at the site. Elevated concentrations of hydrocarbons were detected in portions of the site. However, no direct corelation between exisitng subsurface pipes and the presence of hydrocarbons was noted.

Groundwater at the site is approximately 50-feet below ground surface. The site has good drainage as site topography allows for proper and timely management of overland flows. These are important considerations with respect to the pipe remaining on-site. The purged and backfilled subsurface pipe sit in dry site soils. It has been concluded that the subsurface pipes are not a source of on-going relaeses to the environment at the site. An elevated water table and/or saturated soils, may promote degradation of subsurface pipe and potentially leach inorganics and hydrocarbons from the pipe to adjacnet soils and groundwater.

9.3.3 Regulatory Compliance

Regulations for the characterization, abandonment, and disposal of natural gas pipeline are promulgated under CFR 40-761 – Subpart M – *Determining a PCB Concentration for Purposes of Abandonment and Disposal of Natural Gas Pipeline: Selecting Sample sites, Collecting Surface Samples, and Analyzing Standard PCB Wipe Samples.*

Subsurface steel natural gas pipelines that are found to contain concentrations of PCBs above regulatory criteria may be decontaminated via a double wash/rinse method as defined in CFR 40-761 – Subpart S – *Double Wash/rinse Method for Decontaminating Non-Porous Surfaces.*

In the event that a pipeline contains condensate without PCBs, those liquids would require proper characterization and disposal consistent with NYSDEC Stars memorandum.

9.3.4 Design Considerations

The subsurface pipes, which remain on-site, are located and may pose a threat to human health or the environment if improperly managed or disturbed. Redevelopment scenarios that include earthwork at the site may create the potential for exposure scenarios. A pragmatic approach to minimize these potential exposures is to create a design that considers minimizing encroachment on subsurface pipes, and maintains subsurface site soil conditions in a dry state in the vicinity of the subsurface pipes.

The first step in the subsurface pipeline management plan is to "overlay" proposed cut and fill plans onto the site plan with locations of known pipe locations. The analysis of this information will allow for a subsequent design which can mitigate exposure scenarios by eliminating or minimizing cuts in areas of pipes. Additionally, any proposed surface water impoundments, surface and subsurface drainage areas, and drainage networks which may impact pipes remaining on-site must consider potential degradation and/or leaching associated from saturating subsurface soils and pipe.

9.3.5 Implementation

All soil excavation and earthwork, including pipe excavation, exposure, and removal proposed at the site will be protective of human health and the environment. As such, all subsurface pipelines at the site will be conducted in conjunction with an air-monitoring program for site.

Subsurface pipeline work at the site shall be performed by personnel with appropriate training for the purposes of executing environmental projects (OSHA 40-hr HAZWOPER Training – CFR 1910.120).

The work will require a Health & Safety Plan for on-site workers, and community monitoring consistent with the NYSDOH Generic Community Air Monitoring Protocol (CAMP) will be implemented. Real-time monitoring for organic vapors and particulates will be performed upwind and downwind of each excavation area. In addition, during soil excavation required for pipe exposure, real-time monitoring for particulates and collection of 8-hour composite lead-in-air cartridge samples will be collected at fixed air quality monitoring stations established along the prevailing downwind property boundary over the course of the soil excavation activities.

All subsurface pipeline work should be supported by an environmental professional who will document the work, manage site air monitoring activities, and collect additional samples in the field as necessary. The environmental

professional will also be required in the event that soils that require additional investigation or sampling are encountered.

9.3.6 Pipe Removal Actions

In the event that the redevelopment design calls for the removal of pipe during the course of the project, a site specific plan for proper characterization, drainage of liquids(if any), removal, decontamination, and off-site disposal is required.

The plan should include:

- Location of pipe to be characterized and removed.
- Pipe opening method which prevents spills of liquids from the pipe to the environment.
- Sampling and characterization of liquid (if any). Analysis should include VOCs, SVOCs, and PCBs.
- Methods for collection of pipeline liquid (if any).
- Method for on-site storage of liquids pending waste profile and disposal.
- Wipe sampling of exposed interior portions of pipe consistent with 40 CFR 761.
- Disposal method (transporter, route, disposal facility).
- Decontamination method consistent with 40 CFR 761.
- Spill prevention and response.
- Stockpiling methods and material segregation.
- Verification sampling.
- Method and materials for closure of clean abandoned pipe to remain on-site.
- Backfill sources and analytical data
- Waste profiles.
- Report Requirements.

In the event that pipeline liquids are encountered, spilled during removal work, or if soils adjacent to pipelines exhibit characteristics that indicate pipeline condensate may be present, the impacted soils should be removed. Upon completion of each initial excavation, verification samples will be collected. They will consist of composite samples collected from the bottom and all 4 sidewalls of the excavation. All of the composite samples will be properly homogenized in preparation for analysis prior to transfer to laboratory glassware.

Laboratory duplicate samples will be collected at a rate of 1 per 20. All samples will be analyzed for SVOCs by EPA Method 8270. If PCBs were detected in prior analysis of pipeline material and/or recovered condensate at the site, then verification sampling should include PCBs by EPA Method 8080. An off-site New York DOH CLP laboratory capable of meeting the project logistical constraints may provide all analytical services.

Excavations should remain open until analytical results have been received. Open excavations will be covered and protected from rain and stormwater pending receipt of analytical data. Exposed ends of pipe at the limits of excavation should be temporarily sealed until receipt of closure data to prevent migration of liquids that would exacerbate site conditions.

Clean fill for pipes encountered at the site which are not filled and will remain in-place should be a backfilled with a flowable fill of concrete with a compressive strength 150 PSI minimum.

It is not anticipated that groundwater will be encountered in any of the excavations. Excavated soils may be temporarily staged on-site in prepared (lined, sloped, bermed, covered, and secured) stockpiles prior to off-site disposal. Off-site transport and disposal of excavated soils will proceed as efficiently as possible during the implementation of the site redevelopment activities. Completed excavations will be surveyed for mapping and quantification of soil volume removed. Upon receipt of data which indicates that the remedial action objectives has been achieved, the excavation will be backfilled with soil from a pre-approved source. Some excavations may not be backfilled, but graded for positive drainage subsequent to remediation. Additional iterative excavation and verification sampling will be conducted until the site RAO has been achieved.

Backfill sources will be sampled for full TCLP analysis prior to the commencement of this remedial action. Backfill in excavations greater than 2-feet in depth will be conducted in lifts properly compacted to prevent settling. Sampling of backfill materials from the same source will be conducted at a rate of one sample per 1000 cubic yards, and analyzed for SVOCs, PCBs, and Inorganics at an NYSDOH ELAP facility.

9.3.7 Site Access and Egress Points

During the any site pipe removal or excavation activities access to the site can be made by either Grand avenue and 57th Avenue. However, trucks to and from the site should not travel across residential streets running between Grand and 57th Avenues. Based upon community input, the NYSDEC recommends gaining access exclusively from Grand Avenue and directly pursing access to the Long Island Expressway via Queens Boulevard.

10.0 INSPECTIONS AND NOTIFICATIONS

10.1 Inspections

Comprehensive inspections of the cover systems installed on-site will be conducted annually. The inspections will determine and document:

- Whether engineering controls (the cover system) continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of the environmental easement document;
- Achievement of remedial performance criteria;
- Sampling and analysis of appropriate media during Monitoring Events;
- If site records are complete and up to date; and
- Changes, or needed changes, to the remedial or monitoring system;

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of the SMP. The reporting requirements are outlined in the Reporting Plan.

If an emergency such as the result of a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the Site will be conducted by an Remedial Engineer selected by the Owner and approved by NYSDEC to verify the effectiveness of the EC/ICs implemented at the Site.

10.2 Notifications

10.2.1 NYSDEC-acceptable Computer Database

The Owner, or Owner-approved representative, will provide, in a computer database format acceptable to the NYSDEC, the following information for any deed restriction or other IC approved by NYSDEC, the following data, including but not limited to the following:

- A Site summary;
- Name of current Site owner and/or the remedial party implementing the SMP for the Site;
- The location of the Site;
- The current status of Site remedial activity;
- A copy of the deed restriction ; and

- A contact name and phone number of a person knowledgeable about the deed restriction's requirements, in order for NYSDEC to obtain additional information.

Should the deed restriction be modified or extinguished, the copy of the deed restriction contained in the database will be updated accordingly.

10.2.2 Non-routine Notifications

Non-routine notifications to be submitted by the property owners to the NYSDEC on an as-needed basis include the following:

- 60-day advance notice of any proposed changes in the use of the Site consistent with the terms in the Brownfield Cleanup Agreement[1].
- 10-day advance notice of any proposed ground-intrusive activities.
- Notice within 48-hours of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of the engineering controls in place at the Site, including a summary of action taken and the impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

III. MONITORING PLAN

11.0 Introduction

11.1 General

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the implemented ECs. This Monitoring Plan is not to be used as a stand-alone document, but as a component document of the SMP. This Monitoring Plan is subject to NYSDEC revision.

11.2 Purpose

[1] For this purpose, a change in use is as defined in NYCRR Part 375.

This Monitoring Plan details the steps necessary to achieve the aforementioned objectives, both short- and long-term, by addressing the following issues:

- Compliance with Part 375 for soil;
- Achievement of the remedial performance criteria;
- Sampling and analysis of appropriate media (e.g., groundwater, soils);
- Evaluating Site information periodically to confirm that the remedy continues to be effective per the design; and
- Preparing the necessary reports for the various monitoring activities.

To adequately address the above issues, this Monitoring Plan includes information on the following:

- Sampling locations, protocol, and frequency;
- Information on all designed systems (e.g., well logs);
- Analytical sampling program requirement;
- Reporting requirements;
- Quality assurance/quality control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells; and
- Annual inspection and certification information.

Table 1: Monitoring/Inspection Schedule.

Monitoring Program	Frequency*	Matrix	Analysis
Composite Cover System Inspections	Bi-annual inspections for the first year; annually thereafter pending NYSDEC approval in writing	None	None
Site-wide Inspections	Annual inspections	None	None

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH

12.0 Composite Cover system

A composite cover system comprised of backfill clean soil (see attached table for backfill limits), asphalt covered roads, concrete covered sidewalks, and building slabs serves as a protective barrier reducing exposure to residual contamination left in place under the site. Inspection of the composite cover system is required during annual inspections and is subject to annual certification to NYSDEC. Conditions of the on-site building foundations, sidewalks, and private roads will be noted for quality and integrity, during inspections.

13.0 SITE-WIDE INSPECTION

During the last inspection/monitoring event of the calendar year reporting period, or if some severe condition has taken place that may affect controls at the Site, a Site-wide inspection will be conducted, and the appropriate inspection form will be completed (included in Appendix W). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs (cover system);
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Compliance with permits and schedules included in the Operation and Maintenance Plan; and
- Confirm that Site records are up to date.

14.0 Quality Assurance/Quality Control

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) previously prepared for the Site (see Appendix X of the SMP). Main Components of the QAPP include:

- QA/QC Objectives for Data Measurement.

  Formulated to meet the requirements of the USEPA SW-846.

- Sampling Program.

Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.

Sample holding times will be in accordance with the NYSDEC ASP requirements.

Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.

- Sample Tracking and Custody.

- Calibration Procedures.

All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.

The laboratory will follow all calibration procedures and schedules as specified in the sections of the USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.

- Analytical Procedures

- Data Reduction and Validation

  Data validation will be performed in accordance with the USEPA validation guidelines for organic and inorganic data review. Validation will include the following:

  - Verification of 100% of all QC sample results (both qualitative and quantitative);

  - Verification of the identification of 100% of all sample results (both positive hits and non-detects);

  - Recalculation of 10% of all investigative sample results; and

  - A Data Usability Summary Report (DUSR) which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representative ness, comparability, and completeness for each analytical method.

- Internal QC and Checks.
- QA Performance and System Audits.
- Preventative Maintenance Procedures and Schedules; and
- Corrective Action Measures.

15.0 Reporting Requirements

Forms and any other information generated during regular monitoring events and inspections will be kept on file on-site or with the party(ies) implementing the SMP. All forms, and other relevant information generated during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and NYSDOH and (2) submitted at the time of the annual Site Management Report, as specified in the Reporting Plan of the SMP.

A report or letter will be prepared for submission if required by NYSDOH and NYSDEC subsequent to each sampling event. All monitoring results will be reported to NYSDEC and NYSDOH on an annual basis in the Site Management Report. The report (or letter) will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- A short description of the activities performed;
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (also to be submitted electronically in the NYSDEC-identified format);
- A copy of the laboratory certification;
- Any observations, conclusions, or recommendations; and

- Determination that plume conditions have not changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC and NYSDOH. A summary of the monitoring program deliverables are summarized in Table 4 below.

Table 2: Monitoring/Inspection Deliverables

Task	Frequency*	Quarterly Reporting Requirement	Annual Reporting Requirement
Composite Cover System Inspections	Bi-annual inspections for the first year; annually thereafter pending NYSDEC approval in writing	No quarterly report, bi-annual letter report	Information generated included in annual report
Site-wide Inspections	Annual inspections	No quarterly report	Information generated included in annual report

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH

16.0 CERTIFICATIONS

Site inspections and sampling activities will take place as outlined above for the first year. The frequency thereafter will be determined by NYSDEC and NYSDOH. Certification of inspection of all ICs and ECs will be submitted to NYSDEC on a calendar year basis and must be submitted by March 1 of the following year. Certification will be performed by a Professional Engineer or qualified environmental professional. The inspection report will address several aspects of the ECs, including confirmation that the monitoring equipment are in place and functional and an evaluation of their performance and effectiveness. Further information on the certification requirements are outlined in the Reporting Plan of the SMP.

IV. OPERATION AND MAINTENANCE PLAN

17.0 Introduction

The Operation and Maintenance Plan describes the measures necessary to operate and maintain any mechanical components of the remedy (i.e., the SSD systems and the AS/SVE systems) selected for the site. This Operation and Maintenance Plan includes:

- An operation and maintenance contingency plan; and,

- Will be updated periodically during use, as necessary, to reflect changes in site conditions.

Remediation controls used at the site require no additional instructions for maintenance (information on the composite cover system can be found in the Engineering and Institutional Control Plan).

Copies of this Operation and Maintenance Plan, along with the complete SMP will be maintained at the site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of the SMP. The Operation and Management Plan is subject to NYSDEC revision.

18.0 Reporting Requirements

Maintenance reports and any other information generated during regular operations at the site will be kept on-file on-site or with the party(ies) implementing the SMP. All reports, forms, and other relevant information generated will be (1) available upon request to the NYSDEC and NYSDOH and (2) submitted at the time of the annual Site Management Report, as specified in the Reporting Plan of the SMP.

18.1 Routine Maintenance Reports

Checklists or forms will be completed during each routine maintenance event. Checklists/forms will include, but not be limited to the following:

- The date;
- The name, company, and position of person(s) conducting maintenance activities;
- Any maintenance activities conducted;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

18.2 Non-Routine Maintenance Reports

During each non-routine maintenance event, a form will be completed which will include, but not be limited to, the following information:

- The date;
- The name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- The presence of leaks, if any;
- The date the leak, if any, was fixed;
- Any other repairs or adjustments made to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation.

19.0 Contingency Plan

Emergencies can be characterized as injury to personnel; fire or explosion; environmental release; or serious weather conditions. Fire or explosion and environmental release are not likely to occur in relation to the EC/ICs implemented at the site, but are included in this contingency plan. A more thorough emergency/contingency plan can be found in the HASP for the site.

19.1 Emergency Telephone Numbers

In the event of any situation or unplanned occurrence requiring assistance with environmental matters, the appropriate contact(s) should be made by the Owner or Owner's representative(s) (who in this case is also the BCP Participant) from the lists below. For emergencies, contact should be made with the Program Manager or Project Manager or the Field Safety Officer (FSO) as soon as possible, after notifying the appropriate emergency personnel who will then contact the appropriate response teams. These emergency contact lists must be in an easily accessible location at the Site.

Table 3: Emergency Contact Numbers

Medical, Fire, and Police:	911
One Call Center:	(800) 272-4480 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802

Directions to the Hospital:

St John's Queens Hospital
9002 Queens Blvd, Flushing, NY
(718) 558-1000
Grand Ave and 80th St, Elmhurst NY

1. Start on Grand Ave (at 80th, St in Elmhurst) going toward 82nd. St - go 0.5 mi
2. Turn Right on Queens Blvd - go 0.4 mi
3. Turn Left on Woodhaven Blvd - go 0.0 mi
4. Continue on 59th. Ave - go 0.0 mi
5. Turn Left on Queens Blvd - go 0.1 mi
6. Arrive at 9002 Queens Blvd, Flushing, on the Left

Total distance 1.1 miles
Total estimated time, 3 minutes

19.3 Response Procedures

19.3.1 Emergency Contacts/Notification System

The fire department and other emergency response group will be notified by telephone of the emergency as soon as possible.

19.3.2 In Case of Personal Injury

In case of personal injury at the site, the following procedures should be employed:

- For less severe cases, the individual can be treated with contents of the first-aid kit.
- If necessary, the victim should then be transported to the nearest hospital or medical center (refer to Section 26.2 above). If necessary, an ambulance should be called to transport the victim.

Follow-up action should be taken to correct the situation that caused the accident. Any incident (e.g., near miss, property damage, first aid, medical treatment, etc.) must be reported and evaluated. A first-aid kit will be kept on-site. Emergency first aid procedures to be followed are:

- Skin Contact: Use copious amounts of soap and water. Wash/rinse affected areas thoroughly, and then provide appropriate medical attention. Rinse eyes with water for at least 15 minutes.

- Inhalation: Move to fresh air and/or, if necessary, decontaminate and transport to hospital.

- Ingestion: Decontaminate and transport to emergency medical facility.

- Puncture/Laceration: Decontaminate, if possible, and transport to emergency medical facility.

19.3.3 In Case of Fire or Explosion

Appropriate fire extinguishers will be made available at the site for trained personnel to use on insipient stage fires without endangering the safety and health of those nearby. If the use of fire extinguishers will not extinguish the fire, immediately notify the fire department.

19.3.4 In Case of Spills or Leaks

Control or stop the spread of minor chemical spills contamination utilizing the appropriate materials (i.e., absorbents, etc.) if possible. If the release is significant, or highly hazardous, immediately notify the appropriate response groups.

19.3.5 In Case of Adverse Weather Conditions

In the event of heavy precipitation (e.g., rain, snow, sleet, etc.), conditions will be assessed on-site to determine if the work can proceed safely. If it is determined that the weather poses a significant hazard, site operations will be stopped and rescheduled. Some of the items to be considered prior to determining if work should continue include:

- Potential for heat stress and heat-related injuries;

- Potential for cold stress and cold-related injuries;

- Treacherous weather-related working conditions; and

- Limited visibility

19.3.6 Evacuation Plans

In the event evacuation of the site is necessary (e.g., fire, explosion, etc.), personnel will evacuate using evacuation routes posted in all on-site buildings.

19.4 Contingency Plan Amendments

As changes in site conditions and operations may take place over time, some information in this contingency plan may need to be updated to reflect these changes. The contingency plan will be updated on an as-needed basis. Any updates to the contingency plan will be kept with this Monitoring Plan and will be maintained at the Site.

V. SITE MANAGEMENT REPORTING PLAN

20.0 Introduction

An annual Site Management Report will be submitted to NYSDEC and NYSDOH annually, following the calendar year reporting period, by March 1. The Site Management Report will be prepared in accordance with the requirements in the NYSDEC Draft DER-10 Technical Guidance for Site Investigation and remediation, dated December 2002. This Site Management Reporting Plan and its requirements are subject to revision by NYSDEC.

This report will include the following:

- Identification of all required EC/ICs required by the Final Engineering Report (FER) for the Site:
- An evaluation of Engineering and Institutional Control Plan;
- Assessment of the continued effectiveness of all institutional and/or engineering controls for the Site;
- Certification of the EC/ICs;
- A summary of the required periodic Site Inspections; and
- All deliverables generated during the calendar reporting period, as specified in Table 4 in Section 19.0 of the Monitoring Plan.

This Reporting Plan is not to be used as a stand-alone document, but as a component document of the SMP. The Reporting Plan is subject to NYSDEC revision.

21.0 Certification of Engineering and Institutional Controls

ECs implemented at the Site include a composite cover system. ICs will be enforced through the deed restriction (see Appendix B) and a Soil Management Plan (see Section 9). Further information of EC/ICs can be found in the Engineering and Institutional Control Plan portion of the SMP.

Inspection of the EC/ICs will occur as outlined in the schedules provided in the Monitoring Plan of the SMP. After the last inspection of the calendar year reporting period, a Professional Engineer licensed to practice in New York State will prepare and certify the document. The document will certify that the EC/ICs employed at the Site are:

- Unchanged from the previous certification;
- In-place and effective;
- Performing as designed;
- Nothing has occurred that would impair the ability of the controls to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any operation and maintenance plan for such controls;
- Access is available to the Site by NYSDEC and NYSDOH to evaluate continued maintenance of such controls; and
- Site usage is compliant with the environmental easement.

The signed certification will be included in the annual Site Management Report.

22.0 Site Inspections

22.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedules provided in the Monitoring Plan of the SMP. At a minimum, a Site-wide inspection will be conducted:

- Annually; and
- Whenever a severe condition has taken place, such as erosion event or flooding that may affect the ECs.

22.2 Inspection Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events will be recorded on the appropriate forms for their cover system. Additionally, a general site-wide inspection form will be completed during the site-wide inspection. These forms are subject to NYSDEC revision.

All applicable inspection forms and other records (including all sampling data of any media at the Site generated for the Site during the calendar year will be included in the annual Site Management Report.

22.3 Evaluation of Records and Reporting

The results of the inspection and Site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- Operation and maintenance activities are being conducted properly; and, based on the above items,
- The remedy continues to be protective of public health and the environment and is performing as designed in the Final Remedial Action Work Plan (RAWP) and FER for the Site.

23.0 Site Management Report

A Site Management Report will be prepared for the Site certification period that summarizes the results of the Monitoring Plan, inspections, and the project evaluation discussed in Section 29.3 above. The Site Management Report will be submitted annually following the calendar year reporting period, by March 1. The report will include:

- The EC/IC certification;
- All applicable inspection forms and other records generated for the Site during the calendar year;
- A Site evaluation, which will address the following:

- The compliance of the remedy with the requirements of the RAWP and FER for the Site;
- The performance and effectiveness of the remedy;
- Any new conclusions or observations regarding the Site contamination based on the inspections or data generated by the Monitoring Plan for the media being monitored; and
- Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan.

- Comments, conclusions, and recommendations, based on an evaluation of the information included in the report, regarding EC/ICs at the Site (to be prepared by a professional engineer licensed in the State of New York).

The Site Management Report will be submitted, in hard-copy format, to the document repository for the Site at Region 2 NYSDEC offices, located at 41-40 21st Street, Long Island City, New York. Electronic format will be submitted to NYSDEC and NYSDOH, along with a hard copy.

FIGURES

Figure 1 – Topographic Map of Project Site
(see large scale enclosure- Survey)

Figure 2 – Site Development Map
(see large Scale Grading Drainage and Utilities)

Figure 3- Subsurface Pipes Remaining

Figure 4 – Residual Contamination

Figure 1 – Topographic Map of Project Site

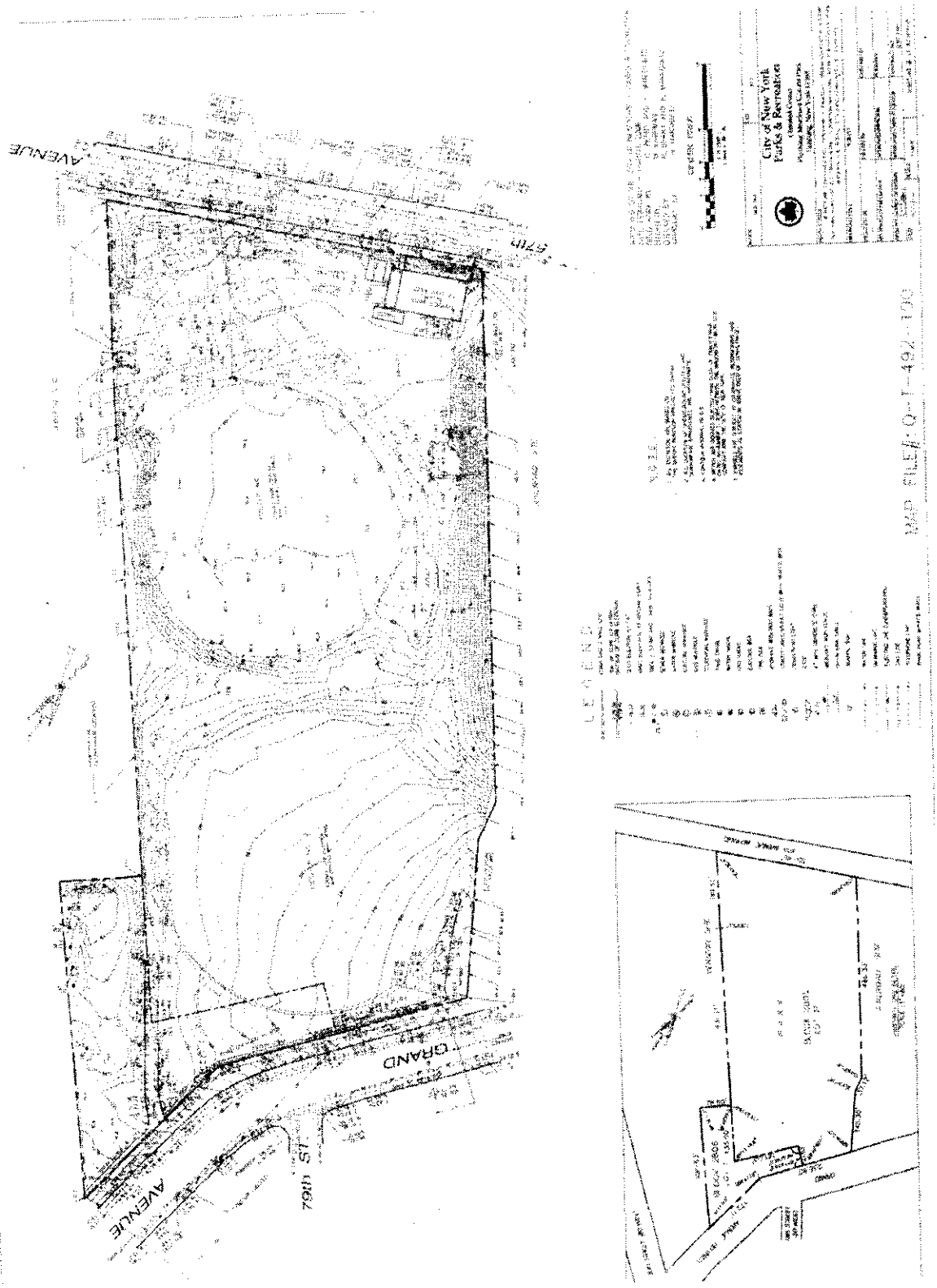


Figure 2a – Site Development Map- Grading, Drainage and Utilities

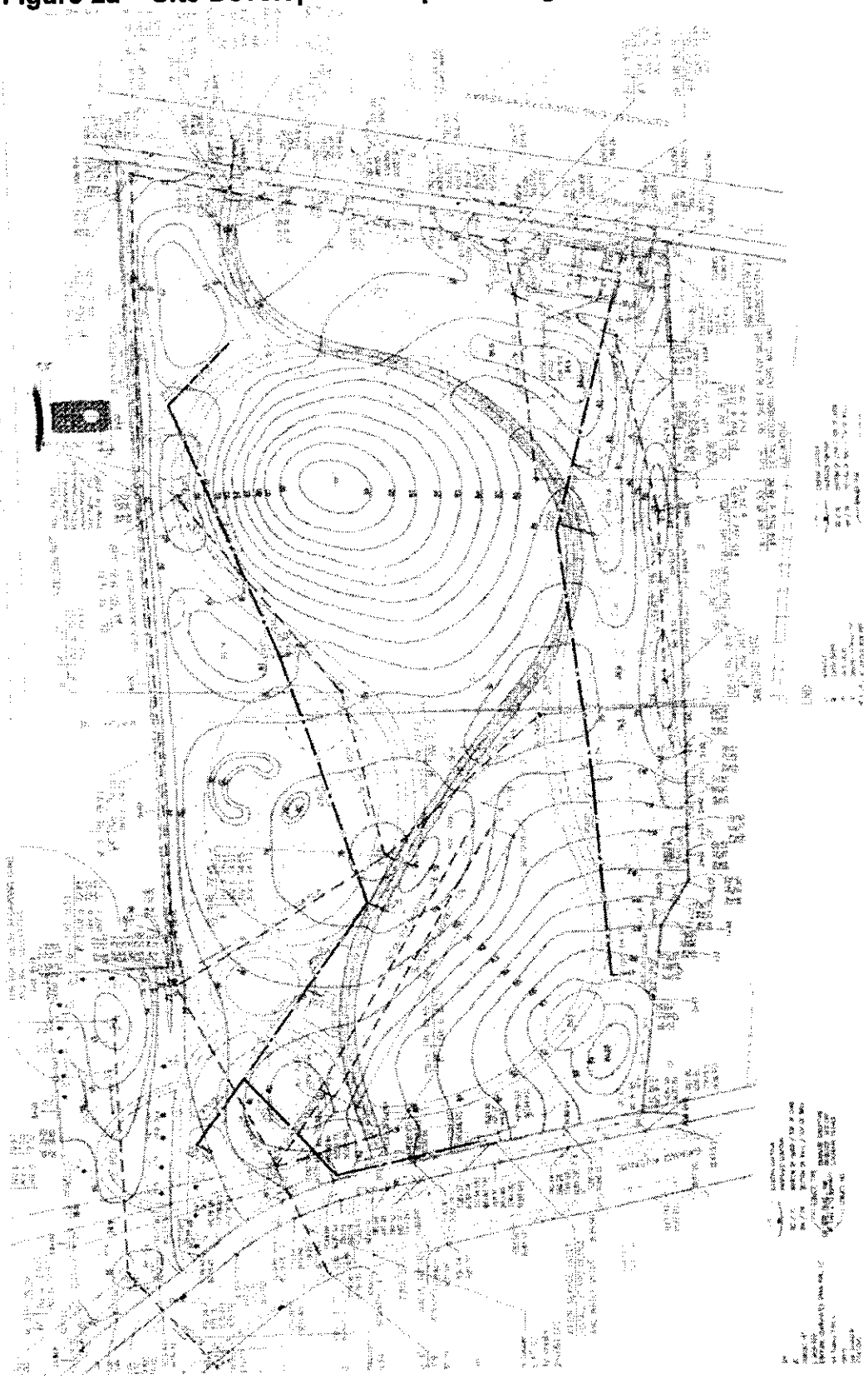


Figure 2 b– Site Development Map-Planting

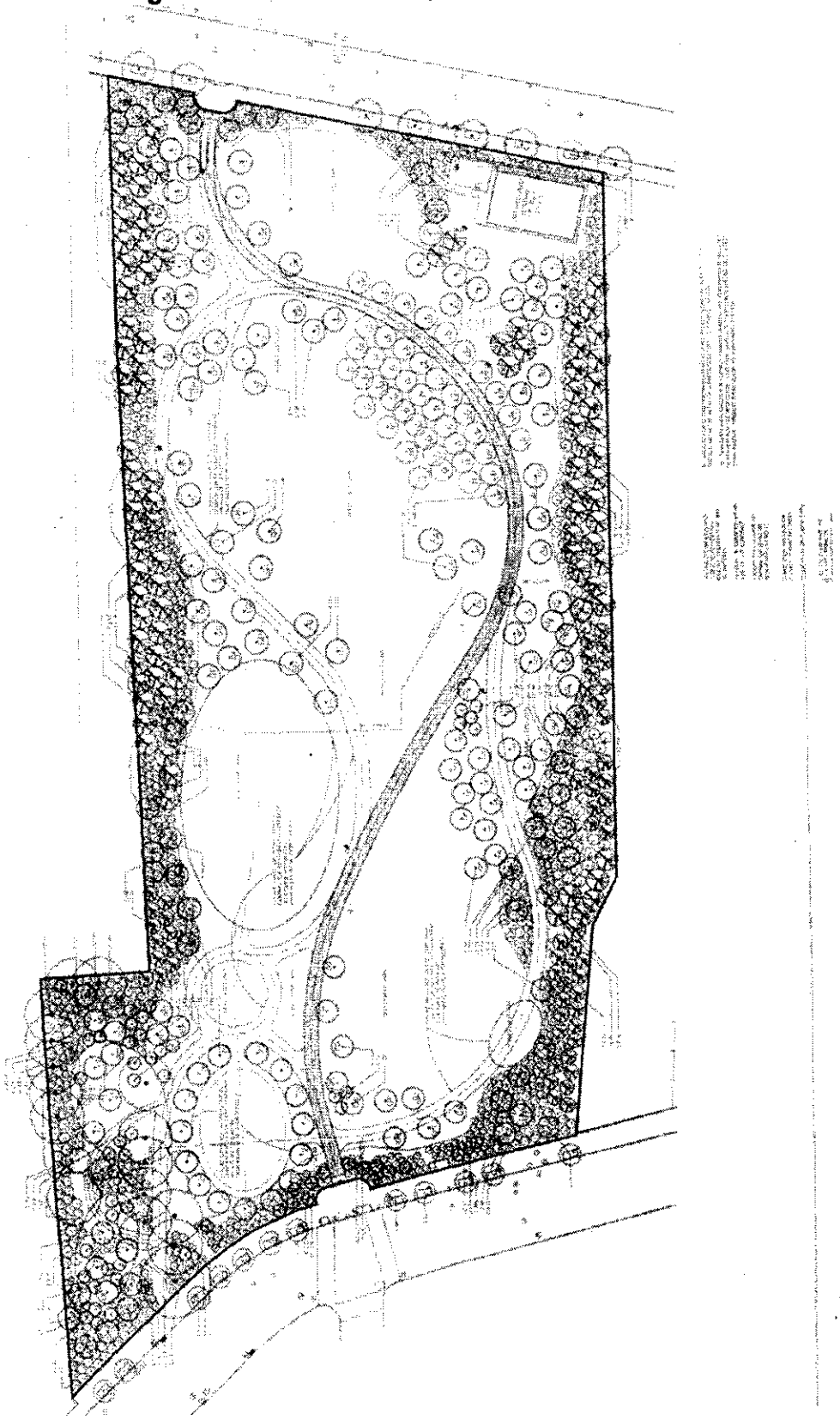


Figure 3
Subsurface Pipes Remaining

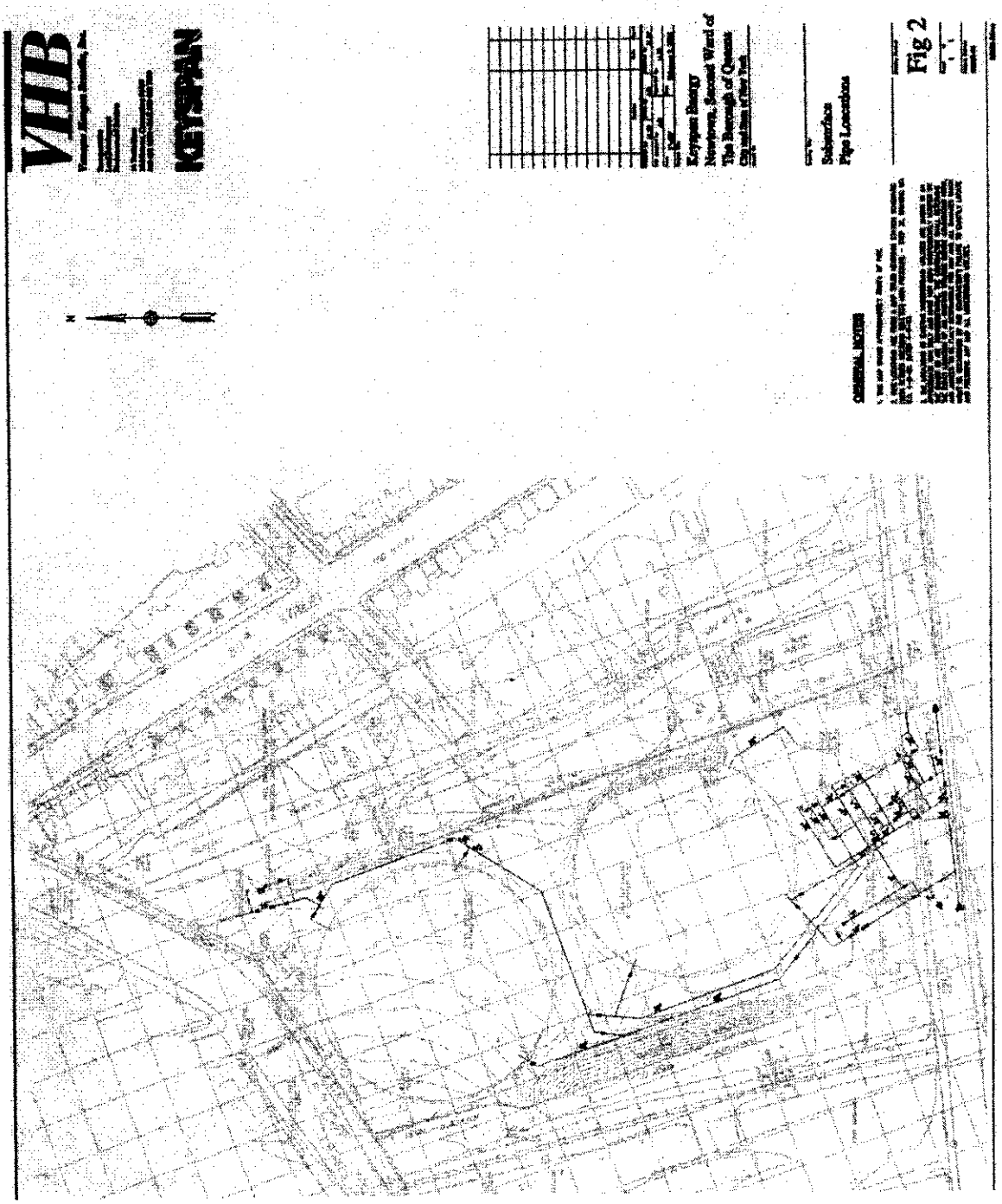
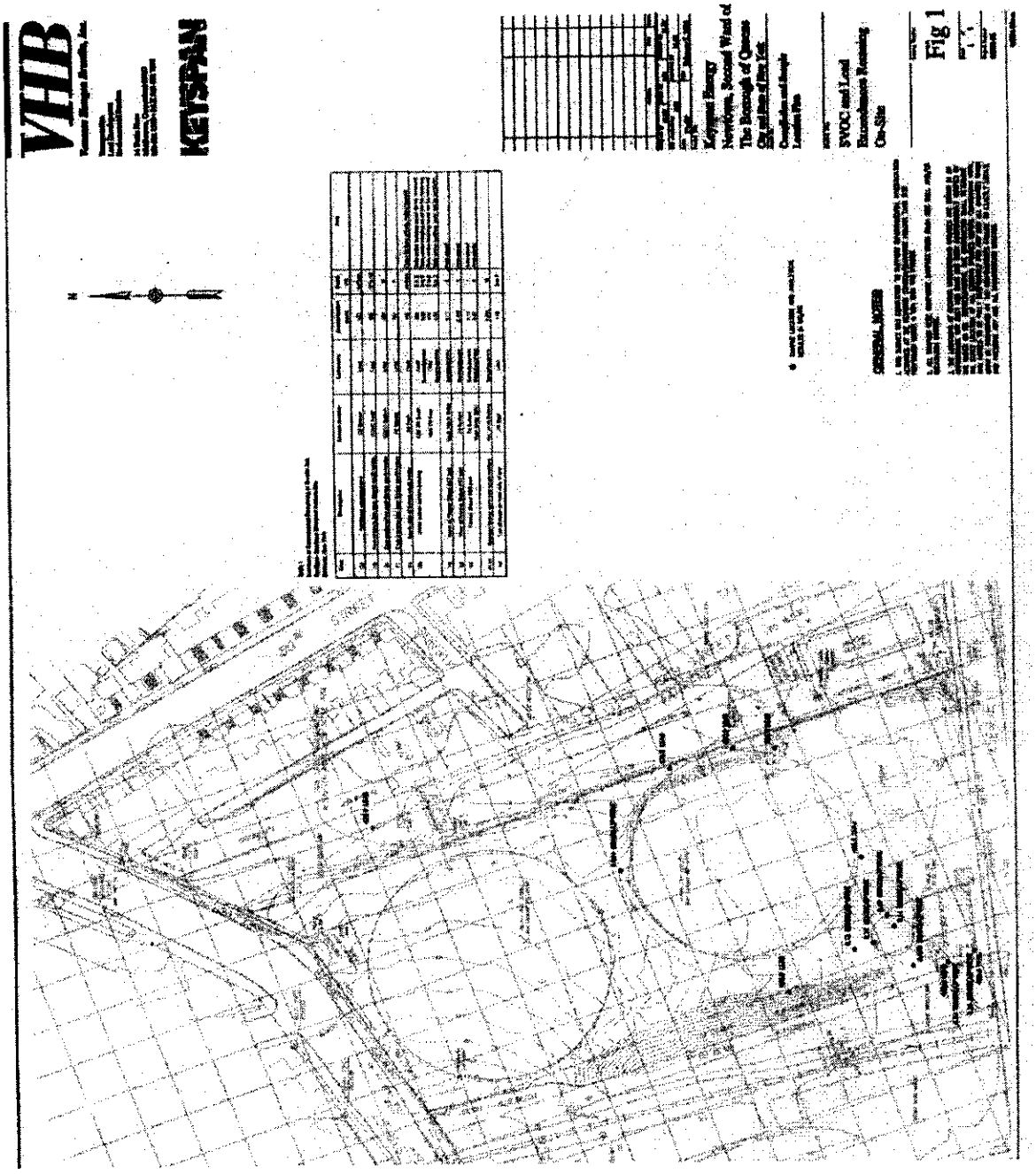


Figure 4
Residual Contamination

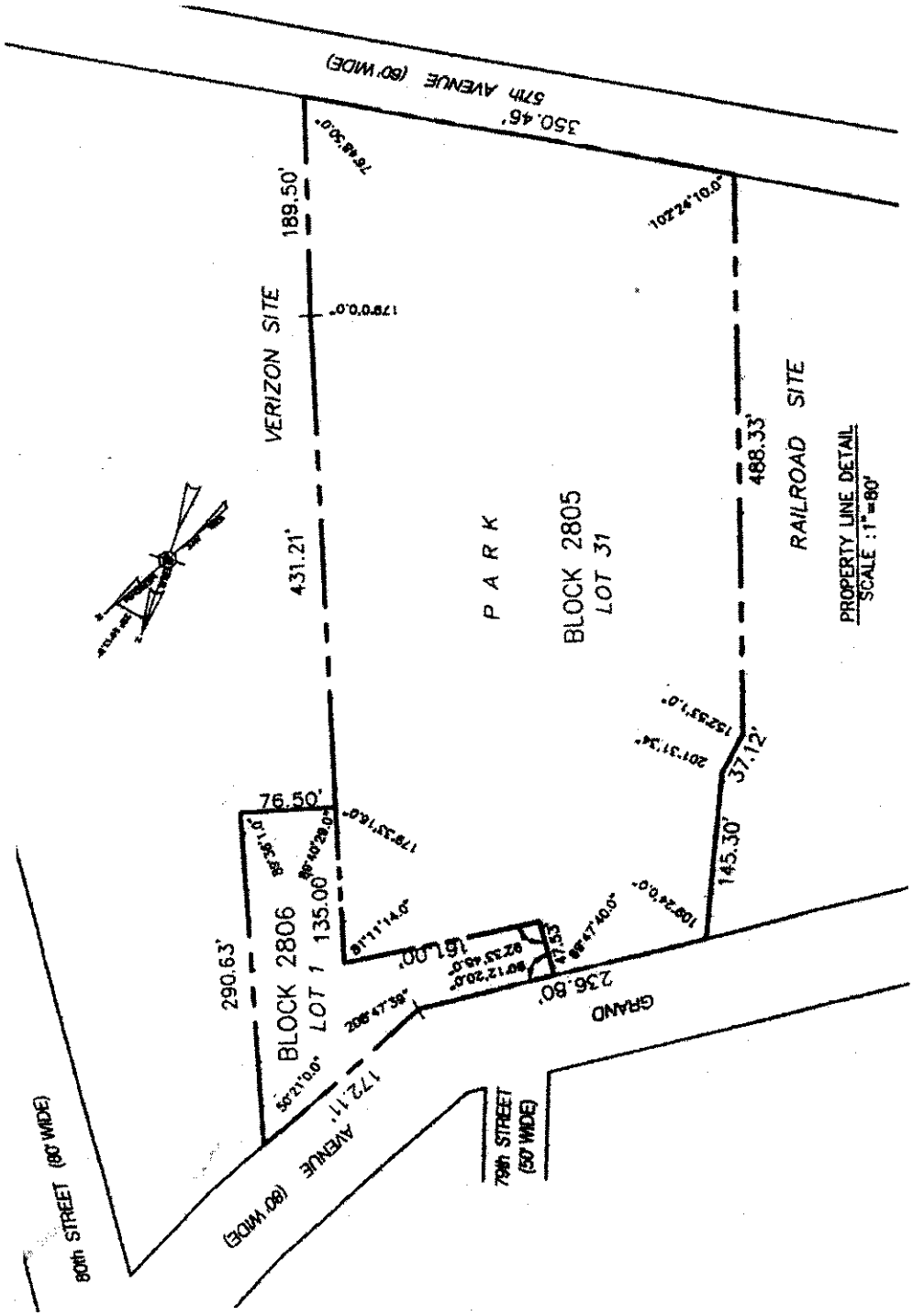


APPENDICES

Appendix A – Meets & Bounds
Appendix B – Deed Restriction
Appendix C- Site-wide Inspection Checklist

APPENDIX A

MEETS AND BOUNDS



SCHEDULE A-1

(Description)

AS TO BLOCK 2805 LOT 31:

ALL that certain plot, piece or parcel of land, situate, lying and being in the former Town of Newtown, now the Second Ward of the Borough of Queens, City and State of new York, being part of the Braw Farm and bounded and described as follows to Wit;

BEGINNING at the Northwesterly corner thereof at a point on the Southerly side of Grand Street where the same is intersected by the boundary line, between the premises hereby conveyed and land formerly belonging to William Fawn and now or late of S.M. Parker, as the fence now stands, and;

RUNNING THENCE along said side of Grand Street North sixty six degrees, forty six minutes, twenty five seconds East one hundred fifty six and thirty seven one hundredths feet to a fence separating the premises hereby conveyed from the land now or formerly belonging to Mary J. Robins on thence along said fence and land of Mary J. Robinson South twenty three degrees, one minute fifteen seconds East forty seven and fifty three one hundredths feet to the Southwesterly corner of said land of Robinson;

THENCE along said land of Robinson, as the fence now stands a North sixty nine degrees, thirty two minutes thirty seconds East, one hundred and sixty one feet;

THENCE still along said land of Robinson as the fence now stands, and along land now or late of J. Krum formerly of Edward Leverich the three following courses and distances South eleven degrees, thirty eight minutes forty four seconds East, one hundred and thirty five feet and South eleven degrees, twelve minutes East four hundred and thirty one and twenty one one hundredths feet, and South ten degrees, twelve minutes East, one hundred and eighty nine and fifty one hundredths feet to the Northerly side of the North Hempstead Plank Road;

THENCE along said side of said Road, North eighty seven degrees fifty seconds West, three hundred and fifty and forty six on hundredths feet to said land formerly belonging to William Swan as the fence now stands, and

THENCE along said last mentioned less as the fence now stands, North nine degrees, twenty five minutes West six hundred and fifty eight and eighty three one hundredths feet to the point or place of BEGINNING.

Excepting therefrom that portion of the premises that lies with lot 22 block 22 as shown on the present tax map for the City of New York, Queens County.

AS TO BLOCK 2806 LOT 1

ALL that certain tract, or parcel of land situate as Maspeth in the Second Ward of the Borough of Queens, City and State of new York, bounded and described as follows:

BEGINNING at a point in the southeasterly line of Grand Street, where the same is intersected by the easterly line of land of the Newtown Gas Company, which point of beginning is distant 67.78 feet Northeasterly from the Northeasterly line of Greiffenberg Street as established on the Final Map of the City of New York; and

RUNNING THENCE southeasterly along said land of the Newtown Gas company on a course which forms an interior angle of 90 degrees 12 minutes 20 seconds with the southeasterly line of Grand Street a distance of 47.53 feet to an angle in said land;

THENCE northeasterly still along said land on a course which forms and interior angle of 92 degrees 35 minutes 50 seconds with the last course a distance of 160.94 feet to an angle in said land;

THENCE southerly along said land on a course which forms an exterior angle of 81 degrees 18 minutes 20 seconds with the last course a distance of 134.95 feet to an angle in said land;

THENCE easterly still along said land on a course which forms an interior angle of 89 degrees 40 minutes 30 seconds with the last course a distance of 76.50 feet to the land now or formerly of Amelia Archer;

THENCE northerly along said land on a course which forms an interior angle of 89 degrees 56 minutes 290.63 feet to the southeasterly side of Grand Street; and

THENCE southwesterly along said Street 172 feet 11 inches; and

THENCE still along said Street 112.43 feet to the point or place of BEGINNING.

APPENDIX B

DEED RESTRICTION

DECLARATION of COVENANTS and RESTRICTIONS

THIS COVENANT, made the 22nd day of August 2007, by and through the City of New York, by and through its Department of Parks and Recreation, a duly authorized department of a municipal corporation organized and existing under the laws of the State of New York and having an office for the transaction of business at 1234 Fifth Avenue, New York, NY 10029 in favor of the New York State Department of Conservation ("the Department"), an agency of the State of New York, with offices at 625 Broadway, Albany, New York 12233;

WHEREAS, The City of New York is the owner of real property located at 78-01 57th Avenue in Queens County, State of New York, which is part of lands conveyed by the Brooklyn Union Gas Company to the City of New York by deed dated November 1, 2005 and recorded in the Office of the New York City Register on March 30, 2007, CRFN No. 2007000166275, and hereinafter referred to as "the Controlled Property"; and

WHEREAS, the Controlled Property is the subject of a Voluntary Cleanup Agreement entitled "In the Matter of the Implementation of an Investigation and, if needed, remediation of 78-01 57th Avenue, Elmhurst, Queens, by The Brooklyn Union Gas Company, d/b/a Brooklyn Union, Index No.: D2-0002-99-10, effective October 24, 2000 ("Agreement"); and

WHEREAS, the New York State Department of Environmental Conservation approved the Remedial Action Work Plan ("RAWP") for the Controlled Property which set forth the selected remedy for the Controlled Property, and such RAWP required submission of a Site Management Plan and that the Controlled Property be subject to restrictive covenants.

NOW, THEREFORE, New York City Department of Parks and Recreation, for itself and its successors and/or assigns, covenants that:

First, the Controlled Property subject to this Declaration of Covenants and Restrictions is as shown on the map attached to this declaration as Schedule "A" and made a part hereof, and consists of the parcel of land, in the Borough of Queens, County of Queens, State of New York, identified as Tax Map Block No. 2805, Lot No.31 and Block No. 2806, Lot No.1, and more particularly bounded and described in Schedule "B."

Second, unless prior written approval by the New York State Department of Environmental Conservation or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained:

- The Controlled Property shall not be used for a less restrictive use than restricted-residential. Restricted-residential includes active recreational uses, *ie.* parkland.

- Vegetable gardens and farming are prohibited.

2007-024713

- The owner must operate and maintain all engineering controls as specified in the Site Management Plan.

- The owner must cause all engineering controls on the Controlled Property to be inspected and certified at a frequency and in a manner as specified in the Site Management Plan.

- The owner must cause all data and information pertinent to management of the Controlled Property to be reported at the frequency and in the manner defined in the Site Management Plan.

- All future activities on the Controlled Property that will disturb residual contaminated material remaining under the soil cover system (consisting of at least two feet of clean imported soils and concrete building slabs) are prohibited unless such activities are conducted in accordance with the soil and piping management provisions in the Site Management Plan.

- The use of the groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for the intended purpose.

Third, this Declaration is and shall be deemed a covenant that shall run with the land and shall be binding upon the owner and all future owners of the Controlled Property and shall provide that the owner, and its successors and assigns, consent to the enforcement by the Relevant Agency of the prohibitions and restrictions contained herein, and hereby covenants not to contest the authority of the Department to seek enforcement.

Fourth, any deed of conveyance of the Controlled Property, or any portion thereof, shall recite, unless the Relevant Agency has consented to the termination of such covenants and restrictions, that said conveyance is subject to this Declaration of Covenants and Restrictions and the Site Management Plan.

IN WITNESS WHEREOF, the undersigned has executed this instrument the day written below.

CITY OF NEW YORK
Department of Parks and Recreation

By: _____

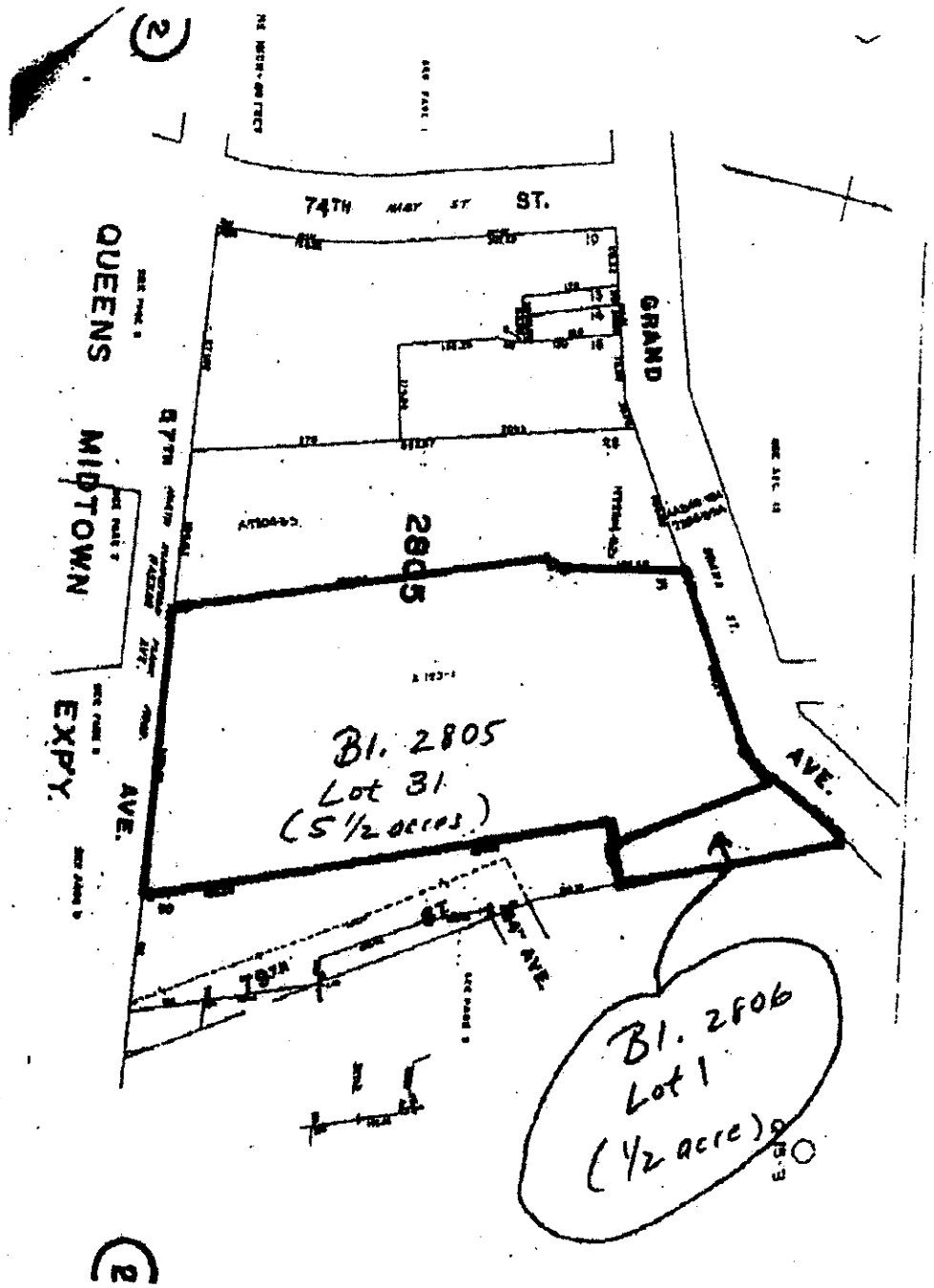
APPROVED AS TO FORM
_____
8/13/07

Sworn to before me this 22 day of August, 2007.

_____
Notary Public

Notary Public, State of New York
No. 02GL6003597
Qualified in New York County
Commission Expires 1/26/2010

Schedule "A"


74TH ST.
QUEENS MIDTOWN EXPY.
GRAND AVE.
2805
Bl. 2805
Lot 31
(5½ acres)
Bl. 2806
Lot 1
(½ acre)

Schedule "B"

(Description)

AS TO BLOCK 2805 LOT 31:

ALL that certain plot, piece or parcel of land, situate, lying and being in the former Town of Newtown, now the Second Ward of the Borough of Queens, City and State of new York, being part of the Braw Farm and bounded and described as follows to Wit;

BEGINNING at the Northwesterly corner thereof at a point on the Southerly side of Grand Street where the same is intersected by the boundary line, between the premises hereby conveyed and land formerly belonging to William Fawn and now or late of S.M. Parker, as the fence now stands, and;

RUNNING THENCE along said side of Grand Street North sixty six degrees, forty six minutes, twenty five seconds East one hundred fifty six and thirty seven one hundredths feet to a fence separating the premises hereby conveyed from the land now or formerly belonging to Mary J. Robins on thence along said fence and land of Mary J. Robinson South twenty three degrees, one minute fifteen seconds East forty seven and fifty three one hundredths feet to the Southwesterly corner of said land of Robinson;

THENCE along said land of Robinson, as the fence now stands a North sixty nine degrees, thirty two minutes thirty seconds East, one hundred and sixty one feet;

THENCE still along said land of Robinson as the fence now stands, and along land now or late of J. Krum formerly of Edward Laverich the three following courses and distances South eleven degrees, thirty eight minutes forty four seconds East, one hundred and thirty five fee: and South eleven degrees, twelve minutes East four hundred and thirty one and twenty one one hundredths feet, and South ten degrees, twelve minutes East, one hundred and eighty nine and fifty one hundredths feet to the Northerly side of the North Hempstead Plank Road;

THENCE along said side of said Road, North eighty seven degrees fifty seconds West, three hundred and fifty and forty six on hundredths feet to said land formerly belonging to William Swan as the fence now stands, and

THENCE along said last mentioned less as the fence now stands, North nine degrees, twenty five minutes West six hundred and fifty eight and eighty three one hundredths feet to the point or place of BEGINNING.

Excepting therefrom that portion of the premises that lies with lot 22 block 22 as shown on the present tax map for the City of New York, Queens County.

AS TO BLOCK 2806 LOT 1

ALL that certain tract, or parcel of land situate as Maspeth in the Second Ward of the Borough of Queens, City and State of new York, bounded and described as follows:

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THENCE northeasterly still along said land on a course which forms and interior angle of 92 degrees 35 minutes 50 seconds with the last course a distance of 160.94 feet to an angle in said land;

THENCE southerly along said land on a course which forms an exterior angle of 81 degrees 18 minutes 20 seconds with the last course a distance of 134.95 feet to an angle in said land;

THENCE easterly still along said land on a course which forms an interior angle of 89 degrees 40 minutes 30 seconds with the last course a distance of 76.50 feet to the land now or formerly of Amelia Archer;

THENCE northerly along said land on a course which forms an interior angle of 89 degrees 56 minutes 290.63 feet to the southeasterly side of Grand Street; and

THENCE southwesterly along said Street 172 feet 11 inches; and

THENCE still along said Street 112.43 feet to the point or place of BEGINNING.

On the 22nd day of August in the year 2007 before m
undersigned, personally appeared Liam Kavanagh

personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) w
names(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executec
same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individua
or the person upon behalf of which the individual(s) acted, executed the instrument.

1/26/2010

(signature and office of individual taking acknowledgment)

TO BE USED ONLY WHEN THE ACKNOWLEDGMENT IS MADE OUTSIDE NEW YORK STATE

State (or District of Columbia, Territory, or Foreign Country) of ss:

On the day of in the year before me, the undersigne
personally appeared

personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whos
names(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed th
same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), o
the person upon behalf of which the individual(s) acted, executed the instrument, and that such individual mad
such appearance before the undersigned in the .

_____ in _____
(insert the City or other political subdivision) (and insert the State or Country or other place the acknowledgment was taken)

_____
(signature and office of individual taking acknowledgment)

APPENDIX C

ENCLOSURE 1
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
INSTITUTIONAL AND ENGINEERING CONTROLS CERTIFICATION FORM

SITE DETAILS

SITE NO.	**V 00406**
SITE NAME:	**Gas Holders Site**
SITE ADDRESS:	78-01 57th Avenue
ZIP CODE:	11373
CITY/TOWN:	Elmhurst
COUNTY:	Queens
CURRENT USE:	Open Lot

CURRENT CERTIFICATION FREQUENCY: EVERY 1 YEAR(S)

VERIFICATION OF SITE DETAILS

	YES	NO
1. Are the SITE DETAILS above, correct?	☐	☐
If NO, are changes handwritten above or included on a separate sheet?	☐	
2. Has some or all of the Site property been sold, subdivided, merged, or undergone a tax map amendment since the initial/last certification?	☐	☐
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
3. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property since the initial/last certification?	☐	☐
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
4. Has a change of use occurred since the initial/last certification?	☐	☐
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
5. Has any new information come to your attention to indicate that assumptions made in the		

qualitative exposure assessment for offsite contamination are no longer valid (applies to non-significant threat sites subject to ECL 27-1415.7(c)? ☐ ☐

If YES, is the new information or evidence that new information has been previously submitted included with this certification? ☐

6. Are the assumptions in the qualitative exposure assessment still valid (must be certified every five years for non-significant threat sites subject to ECL 27-1415.7(c)? ☐ ☐

If NO, are changes in the assessment included with this certification: ☐ ☐

DEED RESTRICTIONS ☐

OTHER CONTROLS

COVER MATERIAL ☐

CONTROL CERTIFICATION STATEMENT

For each institutional or engineering control listed above, I certify by checking "Yes" that all of the following statements are true:

(a) the institutional control and/or engineering control employed at this site is unchanged from the date the control was put in-place, or last approved by the Department;'

(b) nothing has occurred that would impair the ability of such control to protect public health and the environment;

(c) nothing has occurred that would constitute a violation or failure to comply with any Site Management Plan for this control; and

(d) access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control.

(e) if a financial assurance mechanism is required under the remedial work plan for the Site, the mechanism remains valid and sufficient for their intended purpose under the work plan.

CONTROL CERTIFICATIONS
SITE NO. C-41049

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I _____ (print name),

_____

(print business address), am certifying as

_____ (Owner or Owner's Designated Site Representative (if the Site consists of multiple properties, I have been authorized and designated by all Site owners to sign this certification) for the Site named in the Site Details section of this form.

_____

_____

Signature of Site Owner or Representative Rendering Certification Date

QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) SIGNATURE

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I _____ (print name),

_____

(print business address), am certifying as a Qualified Environmental Professional for the

_____ _____ (Owner or Owner's Representative) for the Site named in the Site Details section of this form.

Signature of Qualified Environmental Professional, for Site Owner or Representative, Rendering Certification	Stamp (if Required)	Date

Enclosure 2

Certification of Institutional Controls/Engineering Controls (ICs/ECs) Step-by-Step Instructions, Certification Requirements and Definitions

The Site owner, or Site owner's representative, and when necessary, a Professional Engineer (P.E.), or the Qualified Environmental Professional (QEP), must review and complete the IC/EC Certification Form, sign it, and return it, along with the Periodic Site Management Report, within 45 days of the date of this notice.

Institutional Controls (defined below) are organized into 4 categories: Governmental Controls (e.g., groundwater-use restrictions), Proprietary Controls (e.g., Environmental Easements), Enforcement and Permit Tools (e.g., Consent Orders), and Information Devices (e.g., State Registries of Inactive Hazardous Waste Sites). The Certification Form shows the Control information the Department has for this Site. Please use the following instructions to complete the IC/EC Certification.

I. **Verification of Site Details** (First and Second Boxes):

1. Verify the accuracy of information in the **Site Details** section by answering the 6 questions. If necessary, you and/or your P.E. or QEP may handwrite changes and submit supporting documentation.

II. **Verification of Institutional/Engineering Controls** (Third and Fourth Boxes):

1. Review the listed Institutional/Engineering Controls and select "YES" or "NO" for **Control Certification** for each IC/EC, based on Sections (a)-(d) of the **Control Certification Statement.**

2. If you cannot certify "Yes" for each Control, please continue to complete the remainder of this **Control Certification** form. Attach supporting documentation that explains why the **Control Certification** cannot be rendered, as well as a statement of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Control Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is conducted.

   If the Department concurs with the explanation, the corrective measures, and the proposed schedule, a letter authorizing the

implementation of those corrective measures will be issued. If the Department has any questions or concerns regarding the completion of the certification, the Project Manager will contact you.

III. **Certification of Signature** (Fifth and Sixth Boxes):

1. WHY IC/EC Certification is required:
The Section of the New York Environmental Conservation Law that includes the requirement of a periodic certification of IC(s) and EC(s) is as follows:

For Environmental Restoration Projects: N.Y. Envtl Conserv. Law Section 56-0503 (Environmental restoration projects; state assistance)

For State Superfund Projects: Envtl Conserv. Law Section 27-1415. (Remedial program requirements)

Voluntary Cleanup Program: Applicable program guidance.

2. To determine WHO signs the **Control Certification,** please use the following table:

Signature Requirements for IC/EC Certification Form		
Type of Control	**Example of IC/EC**	**Required Signatures**
IC	Environmental Easement Deed Restriction.	Site Owner or their designated representative, e.g., a Property Manager.
EC with no treatment system, or engineered caps.	Fence, Clean Soil Cover.	Site Owner or their designated representative, and QEP. (P.E. license not required)
EC that includes treatment systems, or engineered caps.	Pump & Treat System providing hydraulic control of a plume, Part 360 Cap.	Site Owner or his designated representative, and QEP with P.E. License.

3. WHERE to mail the signed Certification Form within 45 days of the date of the notice:

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 2
47-40 21st Street
Long Island City, NY 11101-5407

Attn: Shaminder Chawla, Project Manager

Please note that extra postage may be required.

IV. Definitions:

"Engineering Control" (EC), means any physical barrier or method employed to actively or passively contain, stabilize, or monitor any hazardous waste or petroleum waste to ensure the long-term effectiveness of an inactive site remedial program or brownfield site remedial program or environmental restoration project, or to eliminate potential exposure pathways to any such hazardous waste or petroleum waste. Engineering Controls include, but are not limited to: pavement, caps, covers, subsurface barriers and slurry walls; building ventilation systems; fences, other barriers and access controls; and provision of alternative water supplies via connection to an existing public water supply, addition of treatment technologies to an existing public water supply, and installation of filtration devices on an existing private water supply.

"Institutional Control" (IC), means any non-physical means of enforcing a restriction on the use of real property, that limits human or environmental exposure to any hazardous waste or petroleum waste, restricts the use of groundwater; provides notice to potential owners, operators, or members of the public; or prevents actions that would interfere with the effectiveness of an inactive site remedial program or brownfield site remedial program or environmental restoration project, or with the effectiveness and/or integrity of Site Management activities at or pertaining to any site.

"Professional Engineer" means a person, including a firm headed by such a person, who holds a current New York State Professional Engineering license or registration,.

"Property Owner" means, for purposes of an IC/EC certification, the actual owner of a property. If the site has multiple properties with different owners, the Department requires that the owners be represented by a single representative to sign the certification.

"Oversight Document" means any document the Department issues pursuant to each Remedial Program (see below) to define the role of a person participating in the investigation and/or remediation of a site or area(s) of concern. Examples for the various programs are as follows:

BCP (after approval of the BCP application by DEC) – Brownfield Site Cleanup Agreement.
ERP (after approval of the ERP application by DEC) – State Assistance Contract.
Federal Superfund Sites - Federal Consent Decrees, Administrative Orders on Consent or Unilateral Orders issued pursuant to CERCLA.
Oil Spill Program – Order on Consent, or Stipulation pursuant to Article 12 of the Navigation Law (and the New York Environmental Conservation Law).
State Superfund Program – Administrative Consent Order.
VCP (after approval of the VCP application by DEC) – Voluntary Cleanup Agreement.
RCRA Corrective Action Sites - Federal Consent Decrees, Administrative Orders on Consent or permit conditions issued pursuant to RCRA.

"Qualified Environmental Professional" (QEP), means a person, including a firm headed by such a person, who possesses sufficient specific education, training, and experience necessary to exercise professional judgment, to develop opinions and

conclusions regarding the presence of releases or threatened releases to the surface or subsurface of a property or off-site areas, sufficient to meet the objectives and performance factors for the areas of practice identified by this guidance (DER10 Technical Guide).

1. Such a person must:
   i. Hold a current Professional Engineering or a Professional Geologist license or registration, and have the equivalent of three (3) years of full-time relevant experience in site investigation and remediation of the type detailed in this guidance; or
   ii. Be a site remediation professional licensed or certified by the federal government, a state; or a recognized, accrediting agency, to perform investigation or remediation tasks identified by this guidance, and have the equivalent of three (3) years of full-time relevant experience. Examples of such license or certification include, but are not limited to, the following titles:
      - Licensed Site Professional, by the State of Massachusetts
      - Licensed Environmental Professional, by the State of Connecticut
      - Qualified Environmental Professional, by the Institute of Professional Environmental Practice
      - Certified Hazardous Materials Manager, by the Institute of Hazardous Materials Management

2. The definition of QEP provided above does not preempt State Professional licensing or registration requirements such as those for a Professional Geologist, Engineer, or Site Remediation Professional. Before commencing work, a person should determine the applicability of State professional licensing or registration laws to the activities to be undertaken pursuant to section 1.5 (DER10 Technical Guide).

3. A person who does not meet the above definition of a QEP under the foregoing definition may assist in the conduct of all appropriate investigation or remediation activities in accordance with this document is such person is under the supervision or responsible charge of a person meeting the definition provided above.

"Remedial Party" means any person or persons, as defined in 6NYCRR 375, who executes, or is otherwise subject to, an oversight document (State Superfund, BCP, ERP or VCP Program). For purposes of this guidance, remedial party also includes:

1. Any person or persons who is performing the investigation and/or remediation, or has control over the person (for example, contractor or consultant) who is performing the investigation and/or remediation, including, without limitation, an owner, operator or volunteer; and

2. The DER for State-funded investigation and/or remediation activities.

"Site Management" (SM) means the activities included in the last phase of the remediation of a site, in accordance with a Site Management Plan, which continue until

the remedial action objectives for the project are met and the site can be closed-out. Site Management includes the management of the institutional and engineering controls required for a site, as well as the implementation of any necessary long-term monitoring and/or operation and maintenance of the remedy. (Formerly referred to as Operation and Maintenance (O&M)).

"Site Management Plan" (SMP) means a document which details the steps necessary to assure that the institutional and engineering controls required for a site are in-place, and any physical components of the remedy are operated, maintained and monitored to assure their continued effectiveness, developed pursuant to Section 6 (DER10 Technical Guide).

"Site Owner" means the actual owner of a site. If the Site has multiple owners of multiple properties with ICs and/or ECs, the Department requires that the owners designate a single representative for IC/EC Certification activities.

"Site Owner's Designated Representative" means a person, including a firm headed by such a person, who has been designated in writing by the Site Owner(s) to complete and sign the Institutional and Engineering Controls Certification Form.