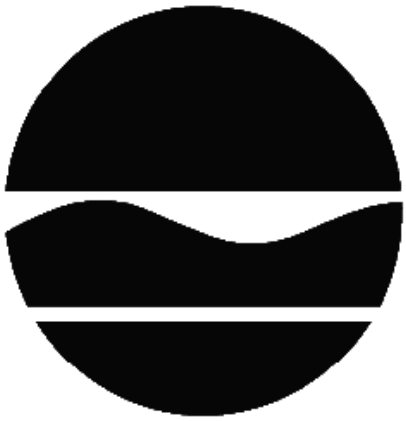
PROPOSED REMEDIAL ACTION PLAN

K - Wythe Ave. Station
Operable Unit Number 02: Mihata Corporation Properties
State Superfund Project
Brooklyn, Kings County
Site No. 224069
November 2018



Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

PROPOSED REMEDIAL ACTION PLAN

K - Wythe Ave. Station
Brooklyn, Kings County
Site No. 224069
November 2018

SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the above referenced site. The disposal of hazardous wastes at the site has resulted in threats to public health and the environment that would be addressed by the remedy proposed by this Proposed Remedial Action Plan (PRAP). The disposal of hazardous wastes at this site, as more fully described in Section 6 of this document, has contaminated various environmental media. The proposed remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This PRAP identifies the preferred remedy, summarizes the other alternatives considered, and discusses the reasons for the preferred remedy.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York; (6 NYCRR) Part 375. This document is a summary of the information that can be found in the site-related reports and documents in the document repositories identified below.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all PRAPs. This is an opportunity for public participation in the remedy selection process. The public is encouraged to review the reports and documents, which are available at the following repositories:

Brooklyn Public Library
Greenpoint Branch
107 Norman Avenue at Leonard Street
Brooklyn, NY 11222
Phone: (718) 349-8504

Brooklyn Community Board 1
Attn: Gerald A. Esposito
435 Graham Avenue
Brooklyn, NY 11211
Phone: (718)389-0009

A public comment period has been set from:

November 30, 2018
to
December 30, 2018

A public meeting is scheduled for the following date:

12/12/2018 at 6:30 PM

Public meeting location:

Bushwick Inlet Park Headquarters, Kent Ave. and N. 9th Street, Brooklyn NY

At the meeting, the findings of the remedial investigation (RI) will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP.

Written comments may also be sent through to:

Scott Deyette
NYS Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233
scott.deyette@dec.ny.gov

The Department may modify the proposed remedy or select another of the alternatives presented in this PRAP based on new information or public comments. Therefore, the public is encouraged to review and comment on the proposed remedy identified herein. Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program,

Brownfield Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location:
The former Wythe Avenue Station is located in the Williamsburg neighborhood of Brooklyn, New York, Kings County. The site occupies nine parcels, and is bounded by North 13th Street to the north, North 12th Street to the south, Berry Street to the east and Wythe Avenue to the west. These nine parcels are identified as Block 2283, Lots 1, 25, 28, 31, 33, 35, 38, 41 and 43, and comprise approximately 2.3 acres.

Site Features:
The site is comprised of commercial and industrial properties, and site topography is nearly flat. Lot 1 (OU1) contains a newly constructed twenty-one story hotel and retail stores, the remaining eight lots (OU2) comprise several one-story warehouse buildings on the east half of the site which are currently occupied by various commercial and industrial tenants.

Current Zoning and Land Use:
The area is zoned M1-1 and M1-2, which allow for light industrial and commercial uses. The site is surrounded by mixed use parcels, including light industrial, commercial and residential. The nearest residential area is within 100 feet to the southwest.

Past Use of the Site:
The site was operated as a Manufactured Gas Plant (MGP) holder station by Brooklyn Union Gas Co. from approximately 1903 to 1965. The station operated solely for gas distribution, and no gas production facilities were present at the site. Over the life of facility, manufactured gas, and possibly natural gas, based on the years of operation, was stored at the facility. In 1965 the holders and all associated MGP buildings were dismantled when the property was sold. Subsequent development of the site included two one-story buildings on the western two parcels, used for manufacturing and warehousing, in 1968. The eastern portion of the site was redeveloped with several warehouse buildings between 1985 and 1991.

Operable Units:
The site was divided into two operable units. An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of a release or exposure pathway resulting from the site contamination.

Operable Unit 1 (OU1) consists of the parcel (Lot 1) owned by Wythe Berry LLC on the western half of the site (approximate size of 1.15 acres). Operable Unit 2 (OU2) consists of the remaining eight parcels owned by Mihata Corporation on the eastern half of the site (approximate size of 0.92 acres).

Geology and Hydrogeology:

The site is underlain by up to 12 feet of urban fill material, then various layers of gravelly sands, silts and clays. Bedrock is approximately 100 feet below the ground surface.
Groundwater is encountered at depths of 7 to 10 feet beneath the site, and generally flows to the north in the western portion of the site, and to the east in the eastern portion of the site.

Operable Unit (OU) Number 02 is the subject of this document.

A Record of Decision was issued previously for OU 01.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in Part 375-1.8(g) are/is being evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site, documented to date, include:

National Grid USA

Mihata Corporation

The Department and Brooklyn Union Gas Company d/b/a KeySpan Energy Delivery New York and KeySpan Gas East Corporation d/b/a KeySpan Energy Delivery Long Island entered into a Consent Order on August 10, 2007 (Index #A2-0552-0606). KeySpan Corporation is now part of National Grid USA. The Order obligates the responsible parties to implement a full remedial program to address MGP-related contamination for this and 31 other former MGP and Holder Station sites.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the

nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified for this Operable Unit at this site is/are:

benzo(a)anthracene benzo(a)pyrene

benzo(b)fluoranthene
benzo[k]fluoranthene
chrysene
benzene
ethylbenzene
xylene (mixed)
toluene
isopropylbenzene
naphthalene
n-propylbenzene
styrene
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
butylbenzene
lead
indeno(1,2,3-cd)pyrene
mercury
dibenz[a,h]anthracene
arsenic
trichloroethene (TCE)

As illustrated in Exhibit A, the contaminant(s) of concern exceed the applicable SCGs for:

- groundwater
- soil
- soil vapor intrusion

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Record of Decision.

There were no IRMs performed at this site during the RI.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary for OU 02.

Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), and pesticides. Based upon investigations conducted, the primary contaminants of concern for OU 2 were BTEX and naphthalene (VOCs), and polycyclic aromatic hydrocarbons (PAHs) (SVOCs). A full investigation of these media could not be performed due to the presence of existing buildings.

The subsurface soil showed exceedances of the unrestricted soil cleanup objectives (SCOs) for benzene, toluene, ethylbenzene and xylene (BTEX), various PAH constituents, and several metals. Benzene was found as high as 330 parts per million (ppm), compared to an SCO of 0.06 ppm. Toluene was found as high as 840 ppm (0.7 SCO), ethylbenzene as high as 1,200 ppm (1 ppm SCO), and total xylenes as high as 1,600 ppm (0.26 ppm SCO). Naphthalene was detected as high as 1,300 ppm, compared to an SCO of 12 ppm. Several PAH compounds were detected

as high as 13 ppm, with most having an SCO of 1 ppm. The metal constituents that exceeded the unrestricted SCOs were as follows: lead as high as 1,600 ppm (63 ppm SCO); mercury as high as 2.3 ppm (0.18 ppm SCO); and arsenic as high as 77 ppm (13 ppm SCO). Subsurface soil offsite had minor exceedances of only the unrestricted SCOs.

Groundwater - Groundwater was sampled at two on-site locations during the investigation due to existing buildings, with one location within the holder footprint, and the other at the site boundary. The location within the holder was impacted by SVOCs and lead, while the boundary location had impacts from VOCs and one SVOC. Lead was detected at a concentration of 35 ppb (25 ppb standard); and the four PAHs detected (benz(a)anthracene, benz(a)pyrene, benzo(b)fluoranthene, and chrysene) had a maximum concentration of 0.25 ppb, with a standard of 0.002 ppb. The VOCs found to exceed standards were benzene at 2,200 ppb (1 ppb standard), toluene at 1,200 ppb (5 ppb standard), ethylbenzene at 600 ppb (5 ppb standard), xylene at 2,480 ppb (standard of 5 ppb), isopropyl benzene at 30 ppb (5 ppb standard), naphthalene at 1,200 ppb (guidance value of 10 ppb), n-propylbenzene at 42 ppb (5 ppb standard), styrene at 690 ppb (5 ppb standard), 1,2,4-trimethylbenzene at 600 ppb (5 ppb standard), and 1,3,5-trimethylbenzene at 160 ppb (5 ppb standard). Naphthalene was the SVOC which was found at 1,100 ppb (guidance value of 10 ppb). Groundwater sampled at one offsite location was found to be impacted by VOCs and SVOCs.

Soil Vapor - There were three soil vapor samples collected at OU-2 during the investigation. The sub-slab vapor samples contained compounds, including BTEX and trimethylbenzenes, which may be associated with gas holder operations and which are common petroleum products. One compound, TCE, was detected at 11 micrograms per cubic meter. This compound is a chlorinated solvent, which is not associated with former gas holder operations.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

Contaminated groundwater at the site is not used for drinking or other purposes and the area is served by a public water supply that is not affected by this contamination. Direct contact with contaminants in the soil is unlikely because the site is covered with pavement and buildings. Volatile organic compounds in the contaminated soil or contamination groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying structures and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The potential exists for people to inhale site contaminants in indoor air due to soil vapor intrusion for any future on-site redevelopment (OU-2). Environmental sampling indicates that soil vapor intrusion is not a concern for off-site buildings.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

RAOs

Groundwater

RAOs for Public Health Protection

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

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

SECTION 7: SUMMARY OF THE PROPOSED REMEDY

To be selected, the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives identified for the site, which are presented in Section 6.5. Potential remedial alternatives for the Site were identified, screened and evaluated in the FS report.

A summary of the remedial alternatives that were considered for this site is presented in Exhibit B. Cost information is presented in the form of present worth, which represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on

a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved. A summary of the Remedial Alternatives Costs is included as Exhibit C.

The basis for the Department's proposed remedy is set forth at Exhibit D.

The proposed remedy is referred to as the Site Management Plan with Institutional Controls remedy.

The estimated present worth cost to implement the remedy is $660,443. The cost to construct the remedy is estimated to be $10,000 and the estimated average annual cost is $21,681.

The elements of the proposed remedy are as follows:

1. A site cover (building) currently exists and will be maintained to allow for restricted residential use of the site. Any future site redevelopment will maintain the existing site cover, which consists either of the structures such as buildings, pavement, and sidewalks, or soil where the upper two feet of exposed surface soil meets the applicable soil cleanup objectives (SCOs) for restricted residential use. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6NYCRR part 375-6.7(d).

2. Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);

- allow the use and development of the controlled property for restricted residential use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOH; and

- require compliance with the Department-approved Site Management Plan.

3. A Site Management Plan is required, which includes the following:

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 2 above.

Engineering Controls: The site cover discussed in Paragraph 1.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;

- a provision for future investigation and remediation should large scale redevelopment occur, if any of the existing structures are demolished, or if the subsurface is otherwise made accessible. The nature and extent of contamination in areas where access was previously limited or unavailable will be immediately and thoroughly investigated pursuant to a plan approved by the Department. Based on the investigation results and the Department determination of the need for a remedy, a Remedial Action Work Plan (RAWP) will be developed for the final remedy for the site, including removal and/or treatment of any source areas to the extent feasible. Citizen Participation Plan (CPP) activities will continue through this process. Any necessary remediation will be completed prior to, or in association with, redevelopment. This includes all eight lots currently owned by the Mihata Corporation, identified as Block 2283, Lots 25, 28, 31, 33, 35, 38, 41, and 43;

-descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;

- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including a provision for implementing actions recommended to address exposures related to soil vapor intrusion;

- a provision that should a building foundation or building slab be removed in the future a cover system consistent with that described in Paragraph 1 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);

-provisions for the management and inspection of the identified engineering controls;

-maintaining site access controls and Department notification; and

-the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

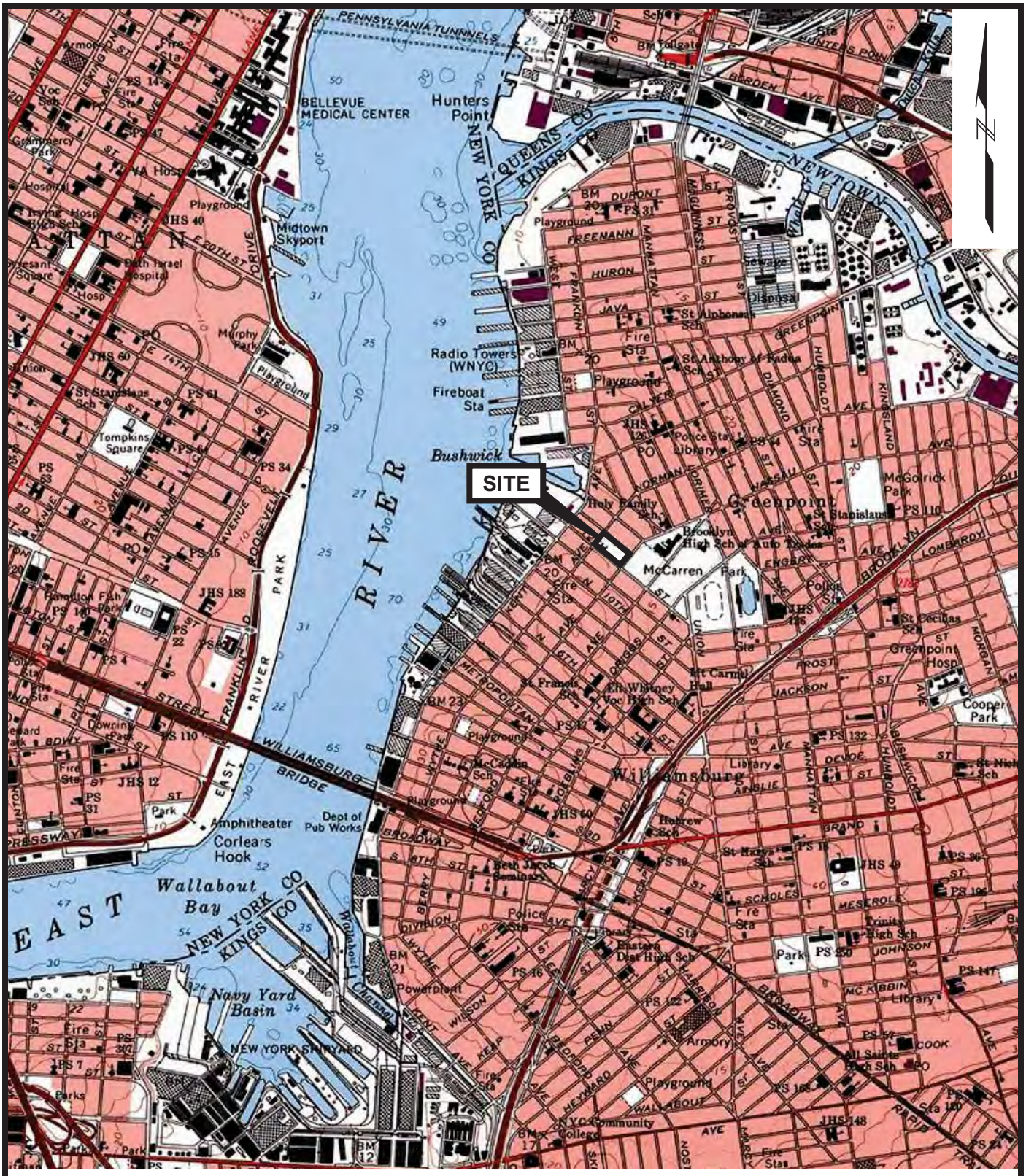
b. a monitoring plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

-a schedule of monitoring and frequency of submittals to the Department; and

-monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

4. Green remediation principals and techniques will be implemented to the extent feasible in the site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste.



SOURCE:
Map created with TOPO! ® ©2001 National Geographic
(www.nationalgeographic.com/topo)

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SCALE, FEET

Construction Completion Report
Wythe Ave. (Berry St.) Holder Station Site
Borough of Brooklyn, New York

nationalgrid

GEI Consultants

SITE LOCATION MAP

Project 101970 | May 2015 | Fig. 1

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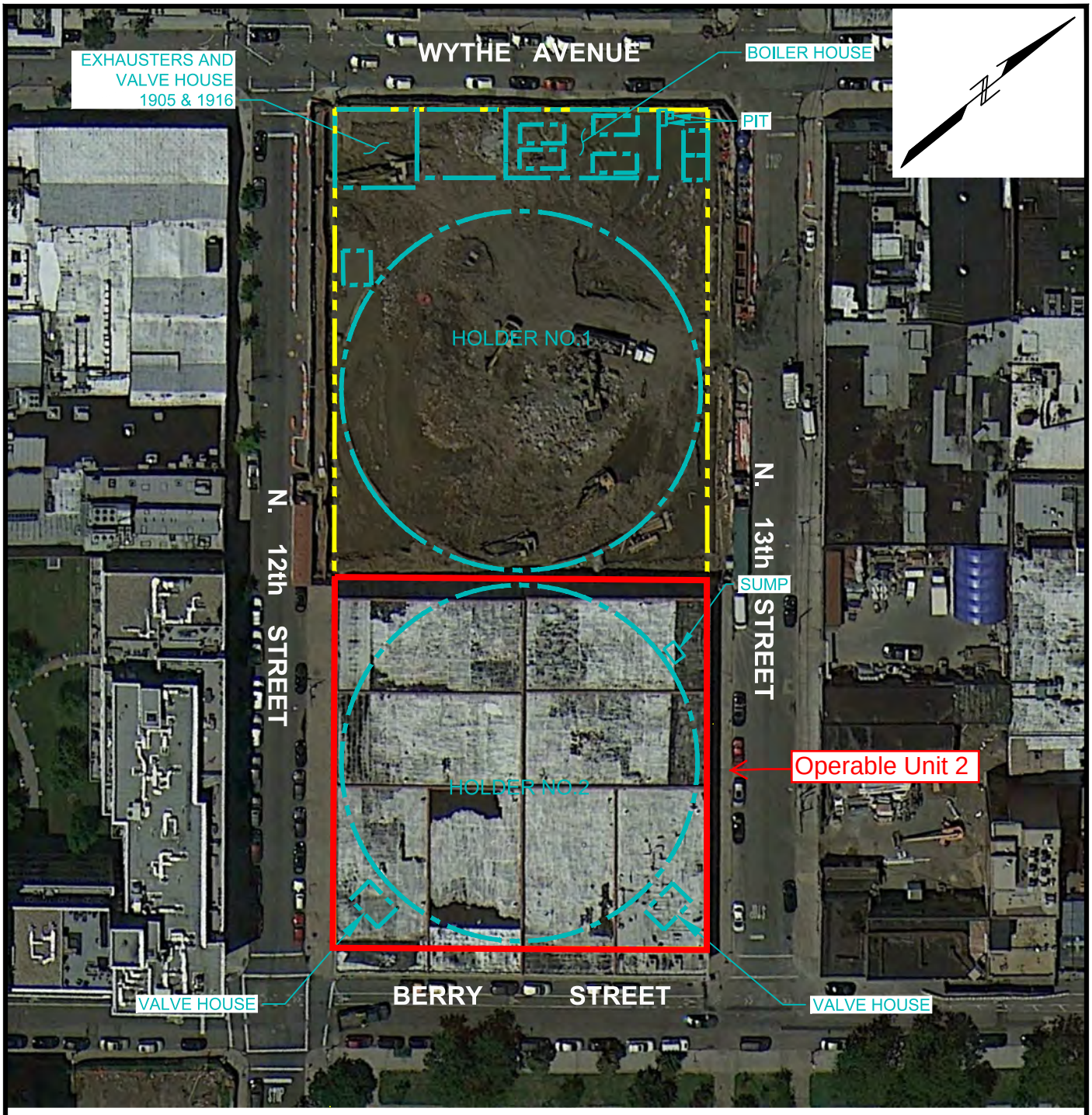

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SCALE: 1" = 80'

SO□RCES:

1. AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE™ EARTH PRO *(htt□//□□□g□gle□□m/earth/)*□IMAGERY DATE: 6/19/2014, ACCESSED ON: 1/19/2014.
2. SANBORN FIRE INSURANCE MAPS 1942, 1916 AND 1905.
3. SITE BOUNDARY WAS OBTAINED FROM NEW YORK CITY OPEN ACCESSIBLE SPACE INFORMATION SYSTEM *htt□//□□□□as□s□□□et*□ ACCESSED MAY 2010.

LEGEND:

SITE BOUNDARY

HISTORIC STRUCTURE (APPROXIMATE)

Construction Completion Report
Wythe Ave. (Berry Street) Holder Station Site
Borough of Brooklyn, New York

nationalgrid

GEI Consultants

HISTORIC SITE CONDITIONS

Project 101970 | May 2015 | Fig. 2

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Sample ID: / Sample Depth (feet bgs): / Sample Date:	Unrestricted SCO	Restricted Residential SCO	WA-SB-110 (0-4) 4/22/2014	WA-SB-110 (12-16) 4/22/2014	WA-SB-110 (16-20) 4/22/2014	WA-SB-110 (31-33) 4/22/2014
BTEX (mg/kg)						
Benzene	0.06	4.8	**3 J**	**75**	**61**	**0.003 J**
Ethylbenzene	1	41	**46**	**170**	**72**	**0.004 J**
Toluene	0.7	100	**23**	**840**	**480**	**0.00039 J**
o-Xylene	0.26	100	**26**	**520**	**210**	**0.00054 J**
m/p-Xylene	0.26	100	**56**	**1100**	**440**	**0.0011 J**
Total Xylene	0.26	100	**82**	**1600**	**650**	NA
Total BTEX	NE	NE	**236**	**4305**	**1913**	**0.009**
Other VOCs (mg/kg)						
Naphthalene	12	100	**410**	**1300**	**480**	0.0058 UJ
n-Propylbenzene	3.9	100	**2.6 J**	**45**	**19**	0.0012 UJ
1,2,4-Trimethylbenzene	3.6	52	**45**	**560**	**220**	0.0058 UJ
1,3,5-Trimethylbenzene	8.4	52	**16 J**	**160**	**65**	0.0058 UJ
Total VOCs	NE	NE	**805.8**	**6999.8**	**2900.3**	**0.0138**
PAHs (mg/kg)						
Naphthalene	12	100	**150**	**66**	**42**	0.19 U
Total PAHs	NE	NE	**186.1**	**73.14**	**45.86**	ND
Other SVOCs (mg/kg)						
Total SVOCs	NE	NE	**187.9**	**73.3**	**0.079**	ND
Metals (mg/kg)						
Arsenic	13	16	**14**	**7.6**	**4.9**	**4**
Copper	50	270	**98**	**14**	**12**	**22**
Lead	63	400	**840**	**4.8**	**4.1 J**	**7.5**
Mercury	0.18	0.81	**2.3**	0.09 U	0.08 U	0.08 U
Zinc	109	10000	**540**	**41**	**20**	**32**

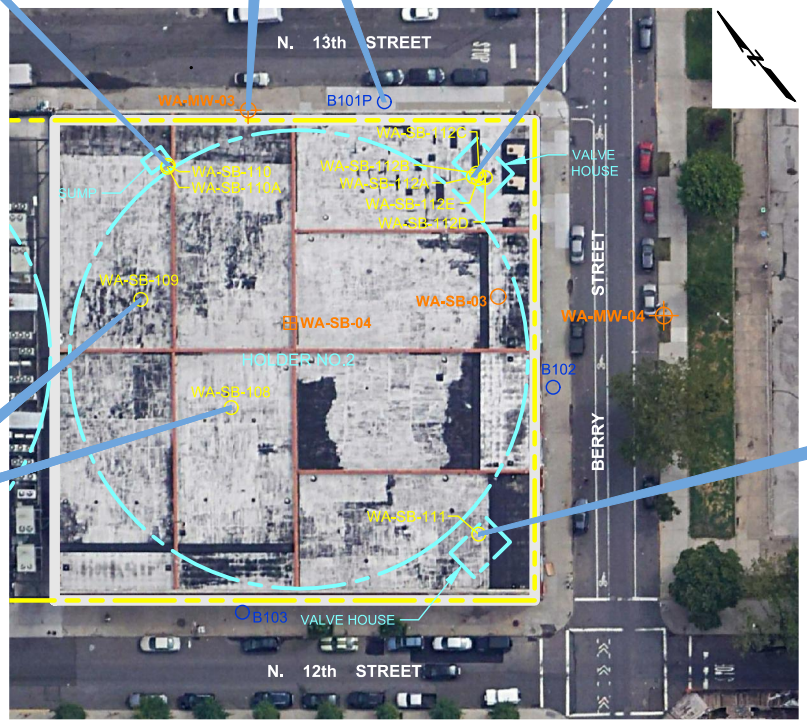
Sample ID: / Sample Depth (feet bgs): / Sample Date:	Unrestricted SCO	Restricted Residential SCO	WA-MW-03 (0.5-5) 12/15/2011	WA-MW-03 (15-17.5) 12/15/2011	WA-MW-03 (38-40) 12/15/2011
BTEX (mg/kg)					
Benzene	0.06	4.8	**0.006**	**36**	**0.0046**
Ethylbenzene	1	41	0.0029 U	**78**	**0.0026 J**
Toluene	0.7	100	**0.004 J**	**280**	**0.013**
o-Xylene	0.26	100	0.0058 U	**180**	**0.0042 J**
m,p-Xylene	0.26	100	0.0058 U	**370**	**0.0094**
Total BTEX	NE	NE	**0.01**	**944**	**0.0338**
Other VOCs (mg/kg)					
Naphthalene	12	100	0.014 U	**280**	0.014 U
n-Propylbenzene	3.9	100	0.0029 U	**15**	0.0028 U
1,2,4-Trimethylbenzene	3.6	52	0.014 U	**150**	0.014 UJ
1,3,5-Trimethylbenzene	8.4	52	0.014 U	**49**	**0.002 J**
Total VOCs	NE	NE	**0.01**	**1581.9**	**0.0372**
PAHs (mg/kg)					
Total PAHs	NE	NE	3.606	10	ND
Other SVOCs (mg/kg)					
Total SVOCs	NE	NE	**3.606**	**10.364**	ND
Metals (mg/kg)					
Copper	50	270	**78 J**	**19 J**	**24 J**
Lead	63	400	**250**	**7.3**	**8.1**
Mercury	0.18	0.81	**0.38 J**	0.08 U	0.09 U
Zinc	109	10000	**200 J**	**46 J**	**33 J**

Sample ID: / Sample Depth (feet bgs): / Sample Date:	Unrestricted SCO	Restricted Residential SCO	B101P (8-9.5) 2/26/2014	B101P (36-40) 2/27/2014
BTEX (mg/kg)				
Ethylbenzene	1	41	**200**	**0.00088 J**
Toluene	0.7	100	**95**	**0.0036 J**
o-Xylene	0.26	100	**160**	**0.0015 J**
m/p-Xylene	0.26	100	**360**	**0.0028 J**
Total BTEX	NE	NE	**815**	**0.0095**
Other VOCs (mg/kg)				
Naphthalene	12	100	**1100**	**0.0031 J**
n-Propylbenzene	3.9	100	**12 J**	0.0012 UJ
1,2,4-Trimethylbenzene	3.6	52	**240**	**0.00096 J**
1,3,5-Trimethylbenzene	8.4	52	**86**	**0.00032 J**
Total VOCs	NE	NE	**2622.7**	**0.0147**
PAHs (mg/kg)				
Naphthalene	12	100	**250**	0.19 U
Total PAHs	NE	NE	**286.177**	ND
Other SVOCs (mg/kg)				
Total SVOCs	NE	NE	**287.397**	ND
Metals (mg/kg)				
Lead	63	400	**84**	**7.4**

Sample ID: / Sample Depth (feet bgs): / Sample Date:	Unrestricted SCO	Restricted Residential SCO	WA-SB-112A (3.2-5) 5/8/2014
BTEX (mg/kg)			
Total BTEX	NE	NE	**0.0003**
Other VOCs (mg/kg)			
Total VOCs	NE	NE	**0.0018**
PAHs (mg/kg)			
Benzo(a)anthracene	1	1	**11**
Benzo(b)fluoranthene	1	1	**13**
Benzo(k)fluoranthene	0.8	3.9	**5.9**
Benzo(a)pyrene	1	1	**10**
Chrysene	1	3.9	**12**
Dibenz(a,h)anthracene	0.33	0.36	**1.7**
Indeno(1,2,3-cd)pyrene	0.5	0.5	**7.1**
Total PAHs	NE	NE	**147.94**
Other SVOCs (mg/kg)			
Total SVOCs	NE	NE	**149.64**
Metals (mg/kg)			
Arsenic	13	16	**77 J**
Copper	50	270	**440 J**
Lead	63	400	**1600**
Mercury	0.18	0.81	**0.42 J**
Nickel	30	310	**140**
Zinc	109	10000	**890**

Sample ID: / Sample Depth (feet bgs): / Sample Date:	Unrestricted SCO	Restricted Residential SCO	WA-SB-109 (0-4) 4/24/2014	WA-SB-109 (4-8) 4/24/2014	WA-SB-109 (8-10) 4/24/2014	WA-SB-109 (16-20) 4/24/2014	WA-SB-109 (15.5-17) 4/24/2014	WA-SB-109 (31-34) 4/25/2014
BTEX (mg/kg)								
Benzene	0.06	4.8	0.0015 U	0.0023 U	0.0016 U	**2.6**	**330 J**	**0.028 J**
Ethylbenzene	1	41	0.0015 U	0.0023 U	0.0016 U	**0.95**	**1200 J**	**0.031 J**
Toluene	0.7	100	0.0023 U	0.0034 U	0.0023 U	**7.1**	**150 J**	**0.022 J**
o-Xylene	0.26	100	0.003 U	0.0046 U	0.0031 U	**2.5**	**420 J**	**0.021 J**
m/p-Xylene	0.26	100	0.003 U	0.0046 U	0.0031 U	**5.4**	**920 J**	**0.039 J**
Total Xylene	0.26	100	0.003 U	0.0046 U	0.0031 U	**7.9**	**1300 J**	**0.06 J**
Total BTEX	NE	NE	ND	ND	ND	**18.55**	**3020**	**0.141**
Other VOCs (mg/kg)								
Naphthalene	12	100	0.0076 U	**0.0074 J**	0.0078 U	**2.3**	**450 J**	**0.043 J**
n-Propylbenzene	3.9	100	0.0015 U	0.0023 U	0.0016 U	**0.2**	**35 J**	**0.0014 J**
1,2,4-Trimethylbenzene	3.6	52	0.0076 U	0.011 U	0.0078 U	**2**	**340 J**	**0.016 J**
1,3,5-Trimethylbenzene	8.4	52	0.0076 U	0.011 U	0.0078 U	**0.61**	**100 J**	**0.0038 J**
Total VOCs	NE	NE	**0.021**	**0.053**	ND	**28.525**	**4682.5**	**0.2331**
PAHs (mg/kg)								
Benzo(a)anthracene	1	1	**3.2**	**3.5**	**7.5**	1.1 U	2.3 U	0.12 U
Benzo(b)fluoranthene	1	1	**5.1**	**5.3**	**13**	1.1 U	2.3 U	0.12 U
Benzo(k)fluoranthene	0.80	3.9	**1.6**	**1.9**	**6.4**	1.1 U	2.3 U	0.12 U
Benzo(a)pyrene	1	1	**3.4**	**3.7**	**18**	1.5 U	3 U	0.15 U
Chrysene	1	3.9	**3.9**	**3.7**	**7.6**	1.1 U	2.3 U	0.12 U
Dibenz(a,h)anthracene	0.33	0.33	**0.62**	**0.77**	**3.1**	1.1 U	2.3 U	0.12 U
Indeno(1,2,3-cd)pyrene	0.50	0.5	**2.6**	**3.2**	**16**	1.5 U	3 U	0.15 U
Naphthalene	12	100	**0.28 J**	**0.38**	**0.13 J**	**67**	**77**	0.19 U
Total PAHs	NE	NE	**45.19**	**47.41**	**109.47**	**75.5**	**86.6**	ND
Other SVOCs (mg/kg)								
Total SVOCs	NE	NE	**46.53**	**49.957**	**111.036**	**75.5**	**86.6**	ND
Metals (mg/kg)								
Copper	50	270	**75**	**54**	**5.4**	**10**	**16**	**25**
Lead	63	400	**170**	**76**	**7.4**	**1.4 J**	**3.6 J**	**4.8**
Mercury	0.18	0.81	**0.33**	**0.19**	0.08 U	0.07 U	0.08 U	0.08 U
Nickel	30	310	**52**	**41**	**4.1**	**9.9**	**32**	**14**
Zinc	109	10000	**150**	**82**	**9.6**	**22**	**32**	**34**

Sample ID: / Sample Depth (feet bgs): / Sample Date:	Unrestricted SCO	Restricted Residential SCO	SB-108 (20-21) 4/25/2014	SB-108 (33-35) 4/25/2014
BTEX (mg/kg)				
Benzene	0.06	4.8	**1.3 J**	**0.00036 J**
Ethylbenzene	1	41	**22 J**	**0.0014 J**
Toluene	0.7	100	**18 J**	0.0017 UJ
o-Xylene	0.26	100	**45 J**	**0.0025 J**
m/p-Xylene	0.26	100	**95 J**	**0.0053 J**
Total Xylene	0.26	100	**140 J**	**0.0078 J**
Total BTEX	NE	NE	**181.3**	**0.0096**
Other VOCs (mg/kg)				
Naphthalene	12	100	**100 J**	**0.011 J**
n-Propylbenzene	3.9	100	**4.5 J**	**0.00045 J**
1,2,4-Trimethylbenzene	3.6	52	**57 J**	**0.0047 J**
1,3,5-Trimethylbenzene	8.4	52	**18 J**	**0.0014 J**
Total VOCs	NE	NE	**414.52**	**0.0426**
PAHs (mg/kg)				
Total PAHs	NE	NE	**10.51**	ND
Other SVOCs (mg/kg)				
Total SVOCs	NE	NE	**10.51**	ND
Metals (mg/kg)				
Lead	63	400	**88 J**	**4 J**



Sample ID: / Sample Depth (feet bgs): / Sample Date:	Unrestricted SCO	Restricted Residential SCO	WA-SB-111 (4-5) 4/23/2014	WA-SB-111 (33-35) 4/23/2014
BTEX (mg/kg)				
Total BTEX	NE	NE	**0.0016**	ND
Other VOCs (mg/kg)				
Total VOCs	NE	NE	**0.0176**	**0.0314**
PAHs (mg/kg)				
Benzo(a)anthracene	1	1	**15**	0.13 U
Benzo(b)fluoranthene	1	1	**19**	0.13 U
Benzo(k)fluoranthene	0.8	3.9	**7.3**	0.13 U
Benzo(a)pyrene	1	1	**14**	0.17 U
Other SVOCs (mg/kg)				
Total SVOCs	NE	NE	**203.27**	ND
PAHs (mg/kg)				
Total PAHs	NE	NE	**200.18**	ND
Metals (mg/kg)				
Barium	350	400	**620 J**	**27 J**
Lead	63	400	**340**	**2.5 J**
Mercury	0.18	0.81	**0.63**	0.1 U
Zinc	109	10000	**490**	**15**

LEGEND:

- SITE BOUNDARY
- HISTORIC STRUCTURE (APPROXIMATE)
- OPERABLE UNIT 2 (OU2) BOUNDARY
- MONITORING WELL
- SOIL BORING / TEMPORARY GROUNDWATER SAMPLE
- SOIL BORING
- MIHATA SOIL BORING - PHASE 1
- ADDITIONAL INVESTIGATION BORING

6 NYCRR - NEW YORK STATE REGISTER AND OFFICIAL COMPILATION OF CODES, RULES AND REGULATIONS OF THE STATE OF NEW YORK

COMPARISON OF DETECTED RESULTS ARE PERFORMED AGAINST ONE OR MORE OF THE FOLLOWING NYCRR, CHAPTER IV, PART 375-6 SOIL CLEANUP OBJECTIVES (SCO)S: UNRESTRICTED USE, RESIDENTIAL, RESTRICTED-RESIDENTIAL, COMMERCIAL, INDUSTRIAL, PROTECTION OF ECOLOGICAL RESOURCES, OR PROTECTION OF GROUNDWATER

mg/kg	MILLIGRAMS/KILOGRAM OR PARTS PER MILLION (ppm)
feet bgs	FEET BELOW GROUND SURFACE
BTEX	BENZENE, TOLUENE, ETHLYBENZENE, AND XYLENE
PAHs	POLYCYCLIC AROMATIC HYDROCARBONS
VOCs	VOLATILE ORGANIC COMPOUNDS
SVOCs	SEMI-VOLATILE ORGANIC COMPOUNDS
NA	NOT ANALYZED
ND	NOT DETECTED; TOTAL CONCENTRATION IS LISTED AS ND BECAUSE NO COMPOUNDS WERE DETECTED IN THE GROUP
NE	NOT ESTABLISHED
J	ESTIMATED VALUE
U	INDICATES NOT DETECTED TO THE REPORTING LIMIT
UJ	NOT DETECTED AT OR ABOVE THE REPORTING LIMIT SHOWN AND THE REPORTING LIMIT IS ESTIMATED
BOLD	INDICATES A DETECTED CONCENTRATION
BOLD	INDICATES THAT THE DETECTED RESULT VALUE EXCEEDS THE UNRESTRICTED SCO
BOLD	INDICATES THAT THE DETECTED RESULT VALUE EXCEEDS THE RESTRICTED RESIDENTIAL SCO

0 80 160

SCALE: 1" = 80'

Additional Investigation Data Report
Wythe Ave. Station Site
Borough Of Brooklyn, New York

nationalgrid

GEI Consultants

Project 101970

SUBSURFACE SOIL ANALYTICAL RESULTS SUMMARY (mg/kg)

October 2018 Fig. 3a

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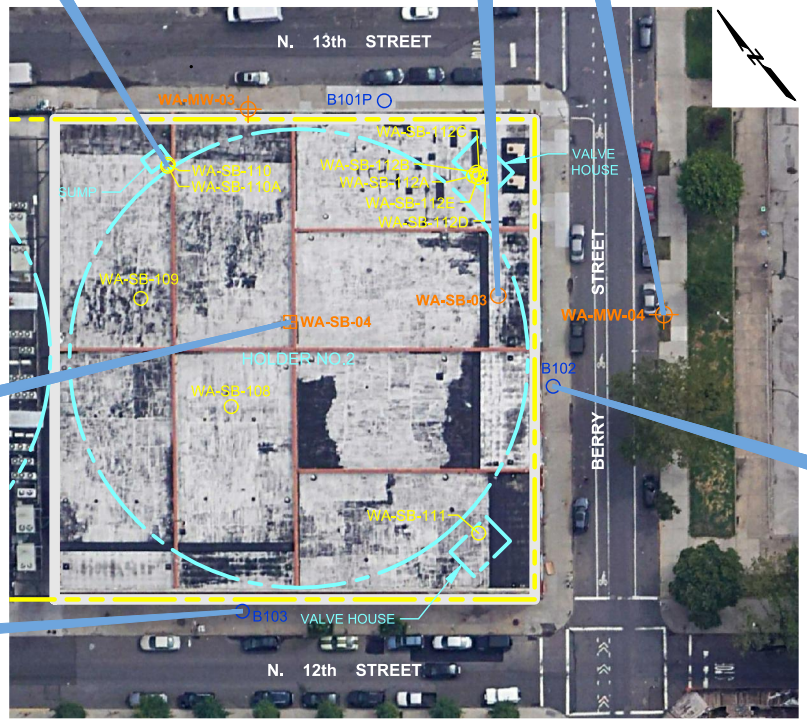
Sample ID: / Sample Depth (feet bgs): / Sample Date:	Unrestricted SCO	Restricted Residential SCO	WA-SB-110A (4-8) 4/23/2014	WA-SB-110A (8-12) 4/23/2014	WA-SB-110A (9-10) 4/23/2014	Duplicate of WA-SB-110A (9-10) 4/23/2014
BTEX (mg/kg)						
Benzene	0.06	4.8	**1.9 J**	**9.6**	**12 J**	**4 J**
Ethylbenzene	1	41	**26**	**64**	**140 J**	**40 J**
Toluene	0.7	100	**3.8**	**72**	**360 J**	**110 J**
o-Xylene	0.26	100	**25**	**110**	**350 J**	**120 J**
m/p-Xylene	0.26	100	**29**	**220**	**700 J**	**230 J**
Total Xylene	0.26	100	**54**	**330**	NA	NA
Total BTEX	NE	NE	**139.7**	**805.6**	**1562**	**504**
Other VOCs (mg/kg)						
Naphthalene	12	100	**220**	**260**	**880 J**	**340 J**
n-Propylbenzene	3.9	100	**4**	**8.7**	**27 J**	**8.8 J**
1,2,4-Trimethylbenzene	3.6	52	**81**	**110**	**360 J**	**130 J**
1,3,5-Trimethylbenzene	8.4	52	**23**	**35**	**110 J**	**39 J**
Total VOCs	NE	NE	**577.8**	**1416.3**	**3454.1**	**1246.4**
PAHs (mg/kg)						
Naphthalene	12	100	**91**	**38**	**170**	**180**
Total PAHs	NE	NE	**114.83**	**45.407**	**189.8**	**202.9**
Other SVOCs (mg/kg)						
Total SVOCs	NE	NE	**114.83**	**45.627**	**190.22**	**203.495**
Metals (mg/kg)						
Copper	50	270	**60**	**26**	**24**	**26**
Lead	63	400	**120**	**33**	**44 J**	**220 J**
Mercury	0.18	0.81	**0.22**	**0.06 J**	**0.27**	**0.45**
Zinc	109	10000	**220**	**74**	**72**	**110**

Sample ID: / Sample Depth (feet bgs): / Sample Date:	Unrestricted SCO	Restricted Residential SCO	WA-SB-03 (2-4) 4/23/2012	WA-SB-03 (10-12) 4/23/2012
BTEX (mg/kg)				
Total BTEX	NE	NE	ND	**0.0141**
Other VOCs (mg/kg)				
Total VOCs	NE	NE	ND	**0.1766**
PAHs (mg/kg)				
Benz[a]anthracene	1	1	**1.2**	**1.1**
Benzo[a]pyrene	1	1	**1.5**	**0.85**
Benzo[b]fluoranthene	1	1	**1.8**	**1.1**
Chrysene	1	3.9	**1.2**	**1.1**
Indeno[1,2,3-cd]pyrene	0.5	0.5	**1.2**	**0.55**
Total PAHs	NE	NE	**14.92**	**13.39**
Other SVOCs (mg/kg)				
Total SVOCs	NE	NE	**15.146**	**13.58**
Metals (mg/kg)				
Copper	50	270	**61 J**	**23 J**
Lead	63	400	**300**	**240**
Mercury	0.18	0.81	**0.32 J**	0.1 U
Nickel	30	310	**23**	**46**
Zinc	109	10000	**310**	**220**

Sample ID: / Sample Depth (feet bgs): / Sample Date:	Unrestricted SCO	Restricted Residential SCO	WA-MW-04 (0.5-5) 12/14/2011	WA-MW-04 (11-13) 12/14/2011
BTEX (mg/kg)				
Total BTEX	NE	NE	ND	ND
Other VOCs (mg/kg)				
Total VOCs	NE	NE	ND	**0.024**
PAHs (mg/kg)				
Benz[a]anthracene	1	1	**4.8**	0.12 U
Benzo[a]pyrene	1	1	**5**	0.16 U
Benzo[b]fluoranthene	1	1	**6**	0.12 U
Benzo[k]fluoranthene	0.8	3.9	**2.2**	0.12 U
Chrysene	1	3.9	**4.9**	0.12 U
Dibenz[a,h]anthracene	0.33	0.33	**0.81**	0.12 U
Indeno[1,2,3-cd]pyrene	0.5	0.5	**2.8 J**	0.16 U
Total PAHs	NE	NE	**59.8**	**0.164**
Other SVOCs (mg/kg)				
Total SVOCs	NE	NE	**60.4**	**0.164**
Metals (mg/kg)				
Barium	350	400	**2400 J**	**30 J**
Copper	50	270	**70 J**	**12 J**
Lead	63	400	**400 J**	**9.2 J**
Mercury	0.18	0.81	**0.59 J**	**0.09 J**
Zinc	109	10000	**2300 J**	**34**

Sample ID: / Sample Depth (feet bgs): / Sample Date:	Unrestricted SCO	Restricted Residential SCO	WA-SB-04 (2-3) 4/20/2012	Duplicate of WA-SB-04 (2-3) 4/20/2012	WA-SB-04 (10-12) 4/20/2012
BTEX (mg/kg)					
Ethylbenzene	1	41	0.0027 U	0.0029 U	**1.6**
m,p-Xylene	0.26	100	0.0054 U	0.0058 U	**1.8**
Total BTEX	NE	NE	ND	ND	**4.07**
Other VOCs (mg/kg)					
Acetone	0.05	100	**0.06**	**0.056**	6.7 UJ
Naphthalene	12	100	**0.0071 J**	**0.0027 J**	**76**
Total VOCs	NE	NE	**0.0671**	**0.0587**	**104.5**
PAHs (mg/kg)					
Benz[a]anthracene	1	1	**2.4**	**3.3**	**4.7**
Benzo[a]pyrene	1	1	**2.7**	**3.4**	**3.6**
Benzo[b]fluoranthene	1	1	**3.5**	**4.6**	**4.6**
Benzo[k]fluoranthene	0.8	3.9	**1.2**	**1.6**	**1.6**
Chrysene	1	3.9	**2.6**	**3.4**	**4.6**
Dibenz[a,h]anthracene	0.33	0.33	**0.51 J**	**0.57 J**	**0.48 J**
Indeno[1,2,3-cd]pyrene	0.5	0.5	**2.3**	**2.9 J**	**2.4**
Naphthalene	12	100	1.8 U	1.9 U	**75**
Total PAHs	NE	NE	**30.86**	**41.42**	**218.28**
Other SVOCs (mg/kg)					
Total SVOCs	NE	NE	**30.86**	**42.87**	**223.28**
Metals (mg/kg)					
Copper	50	270	**40**	**49**	**120**
Lead	63	400	**170**	**210**	**1400**
Mercury	0.18	0.81	**0.3 J**	**0.46 J**	**0.49 J**
Nickel	30	310	**26**	**24**	**43**
Zinc	109	10000	**150**	**180**	**690**

Sample ID: / Sample Depth (feet bgs): / Sample Date:	Unrestricted SCO	Restricted Residential SCO	B103 (15.5-20) 2/26/2014	B103 (32-34) 2/28/2014
BTEX (mg/kg)				
Total BTEX	NE	NE	**0.0023**	**0.0098**
Other VOCs (mg/kg)				
Total VOCs	NE	NE	**0.0058**	**0.0098**
PAHs (mg/kg)				
Total PAHs	NE	NE	ND	ND
Other SVOCs (mg/kg)				
Total SVOCs	NE	NE	ND	ND



Sample ID: / Sample Depth (feet bgs): / Sample Date:	Unrestricted SCO	Restricted Residential SCO	B102 (25.5-27.5) 3/3/2014	B102 (32-36) 3/3/2014	Duplicate of: B102 (32-36) 3/3/2014
BTEX (mg/kg)					
Total BTEX	NE	NE	**0.4843**	ND	ND
Other VOCs (mg/kg)					
Total VOCs	NE	NE	**1.0247**	ND	ND
PAHs (mg/kg)					
Total PAHs	NE	NE	ND	ND	ND
Other SVOCs (mg/kg)					
Total SVOCs	NE	NE	ND	ND	ND
Metals (mg/kg)					
Arsenic	13	16	**4.4**	**9.4**	**14**

LEGEND:

- SITE BOUNDARY
- HISTORIC STRUCTURE (APPROXIMATE)
- OPERABLE UNIT 2 (OU2) BOUNDARY
- MONITORING WELL
- SOIL BORING / TEMPORARY GROUNDWATER SAMPLE
- SOIL BORING
- MIHATA SOIL BORING - PHASE 1
- ADDITIONAL INVESTIGATION BORING

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mg/kg	MILLIGRAMS/KILOGRAM OR PARTS PER MILLION (ppm)
feet bgs	FEET BELOW GROUND SURFACE
BTEX	BENZENE, TOLUENE, ETHLYBENZENE, AND XYLENE
PAHs	POLYCYCLIC AROMATIC HYDROCARBONS
VOCs	VOLATILE ORGANIC COMPOUNDS
SVOCs	SEMI-VOLATILE ORGANIC COMPOUNDS
NA	NOT ANALYZED
ND	NOT DETECTED; TOTAL CONCENTRATION IS LISTED AS ND BECAUSE NO COMPOUNDS WERE DETECTED IN THE GROUP
NE	NOT ESTABLISHED
J	ESTIMATED VALUE
U	INDICATES NOT DETECTED TO THE REPORTING LIMIT
UJ	NOT DETECTED AT OR ABOVE THE REPORTING LIMIT SHOWN AND THE REPORTING LIMIT IS ESTIMATED
BOLD	INDICATES A DETECTED CONCENTRATION
BOLD	INDICATES THAT THE DETECTED RESULT VALUE EXCEEDS THE UNRESTRICTED SCO
BOLD	INDICATES THAT THE DETECTED RESULT VALUE EXCEEDS THE RESTRICTED RESIDENTIAL SCO

0 80 160

SCALE: 1" = 80'

Additional Investigation Data Report
Wythe Ave. Station Site
Borough Of Brooklyn, New York

nationalgrid

GEI Consultants

Project 101970

SUBSURFACE SOIL ANALYTICAL RESULTS SUMMARY (mg/kg)

October 2018 Fig. 3b

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Sample Name Well Screen Depth (feet bgs) Sample Date	NYS AW□S	WA-MW-03 (8-17) 4/24/2012	WA-MW-03 (8-17) 3/20/2014
BTEX (□g/L)			
Benzene	1	**2200**	**140**
Toluene	5	**1200**	**25**
Ethylbenzene	5	**600**	**180**
o-Xylene	5	**880**	**110**
m/p-Xylene	5	**1600**	**42**
Total BTEX	NE	**6480**	**497**
Other VOCs (□g/L)			
n-Butylbenzene	5	100 U	**5.7 J**
Isopropyl benzene	5	**30 J**	**21**
Naphthalene	10□	**1200**	**260**
n-Propylbenzene	5	**42 J**	**27**
Styrene	5	**690**	**4.5 J**
1,2,4,5-Tetramethylbenzene	5	80 UJ	**21**
1,2,4-Trimethylbenzene	5	**600**	**310**
1,3,5-Trimethylbenzene	5	**160 J**	**39**
Total VOCs	NE	**9679**	**1247.8**
PAHs (□g/L)			
Naphthalene	10□	**1100**	**170**
Total PAHs	NE	**1161**	**176.7**
Other SVOCs (□g/L)			
Phenol	1	5 U	**5.4**
Total SVOCs	NE	**1166.4**	**182.1**
Total Metals (□g/L)			
Antimony	3	**0.6 J**	**6.2**
Iron	300	**6700**	**7000 J**
Manganese	300	**1160**	**492.4 J**
Sodium	20000	**180000**	**226000**

Sample Name Well Screen Depth (feet bgs) Sample Date	NYS AW□S	WA-MW-01 (9.5-18) 4/24/2012	WA-MW-01 (9.5-18) 3/20/2014
BTEX (□g/L)			
Benzene	1	**91**	**21**
Ethylbenzene	5	**760**	**140**
o-Xylene	5	**160**	**45**
m/p-Xylene	5	**39 J**	**4.9 J**
Total BTEX	NE	**1050**	**212.9**
Other VOCs (□g/L)			
Isopropyl benzene	5	**75 J**	**32 J**
Naphthalene	10□	**1600 J**	**270**
n-Propylbenzene	5	100 U	**11**
1,2,4,5-Tetramethylbenzene	5	**26 J**	**10**
1,2,4-Trimethylbenzene	5	**170**	**52**
Total VOCs	NE	**2977**	**641.7**
PAHs (□g/L)			
Naphthalene	10□	**1500**	**110 J**
Total PAHs	NE	**1670.4**	**127.6**
Other SVOCs (□g/L)			
Biphenyl (1,1-Biphenyl)	5	**7.1**	**2.3**
Total SVOCs	NE	**1677.5**	**129.9**
Total Metals (□g/L)			
Arsenic	25	**21**	**30.8**
Iron	300	**12000**	**10700 J**
Magnesium	35000□	**61000**	**44100**
Manganese	300	**2100**	**1354 J**
Sodium	20000	**250000**	**362000**

Sample Name Well Screen Depth (feet bgs) Sample Date	NYS AW□S	WA-MW-02 (12.5-20) 4/24/2012	WA-MW-02 (12.5-20) 3/20/2014
BTEX (□g/L)			
Benzene	1	**3.4**	0.5 U
Total BTEX	NE	**6.55**	ND
Other VOCs (□g/L)			
Total VOCs	NE	**8.56**	**0.98**
PAHs (□g/L)			
Total PAHs	NE	**1.21**	**0.22**
Other SVOCs (□g/L)			
Total SVOCs	NE	**1.21**	**0.22**
Total Metals (□g/L)			
Iron	300	**2100**	**1570 J**
Manganese	300	**315**	**2208 J**
Sodium	20000	**340000**	**382000**

Sample Name Well Screen Depth (feet bgs) Sample Date	NYS AW□S	WA-MW-04 (10.5-19) 4/24/2012	Duplicate of: WA-MW-04 (10.5-19) 4/24/2012	WA-MW-04 (10.5-19) 3/20/2014	Duplicate of: WA-MW-04 (10.5-19) 3/20/2014
BTEX (□g/L)					
Total BTEX	NE	ND	ND	ND	ND
Other VOCs (□g/L)					
1,2-Dichloroethane	0.6	**18 J**	**25 J**	**0.82**	**0.82**
1,1-Dichloroethene	0.07	0.5 U	**0.37 J**	**0.59**	**0.56**
1,2-Dichloropropane	1	**1.5**	**2**	1 U	1 U
Total VOCs	NE	**24.08**	**33.05**	**7.97**	**7.99**
PAHs (□g/L)					
Total PAHs	NE	**4.3**	**4.02**	**0.45**	**0.57**
Other SVOCs (□g/L)					
Total SVOCs	NE	**4.39**	**4.02**	**0.45**	**0.57**
Total Metals (□g/L)					
Iron	300	**17000**	**16000**	**24300 J**	**24100 J**
Magnesium	35000□	**24000**	**22000**	**46900**	**46600**
Manganese	300	**4160**	**3900**	**8972 J**	**8724 J**
Sodium	20000	**230000**	**230000**	**255000**	**238000**

LEGEND:

- SITE BOUNDARY
- HISTORIC STRUCTURE (APPROXIMATE)
- MONITORING WELL
- 5.0 — GROUNDWATER CONTOUR (FEET NAVD)
- □□□ — GROUNDWATER ELEVATION (FEET NAVD)
- INFERRED GROUNDWATER FLOW DIRECTION

NYS AW□S - NEW YORK STATE AMBIENT WATER □UALITY STANDARDS AND GUIDANCE VALUES FOR GA GROUNDWATER

NE	NOT ESTABLISHED
ND	NOT DETECTED
J	ESTIMATED VALUE
U	INDICATES NOT DETECTED TO THE REPORTING LIMIT FOR ORGANIC ANALYSIS AND THE METHOD DETECTION LIMIT FOR INORGANIC ANALYSIS
□	INDICATES THE VALUE IS A GUIDANCE VALUE AND NOT A STANDARD
BOLD	INDICATES DETECTED CONCENTRATION
BOLD	INDICATES THAT THE DETECTED CONCENTRATION IS ABOVE THE NYS AW□S OBJECTIVE IT WAS COMPARED TO
□g/L	MICROGRAMS PER LITER OR PARTS PER BILLION (ppb)
BTEX	BENZENE, TOLUENE, ETHLYBENZENE, AND XYLENE
PAHs	POLYCYCLIC AROMATIC HYDROCARBONS
VOCs	VOLATILE ORGANIC COMPOUNDS
SVOCs	SEMI-VOLATILE ORGANIC COMPOUNDS

SO□RCES:.

1. BING AERIAL IMAGERY © 2010 MICROSOFT CORPORATION AND ITS DATA SUPPLIERS ACCESSED ON 07/23/12 VIA ARCGIS ONLINE (www.arcgis.com).
2. SANBORN FIRE INSURANCE MAPS 1942, 1916 AND 1905.
3. SITE BOUNDARY WAS OBTAINED FROM NEW YORK CITY OPEN ACCESSIBLE SPACE INFORMATION SYSTEM http://www.oasisnyc.net, ACCESSED MAY 2010.

0 40 80

SCALE: 1" = 40'

Additional Investigation Data Report
Wythe Ave. Station Site
Borough Of Brooklyn, New York

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MARCH 2014 OVERBURDEN GROUNDWATER CONTOURS (ft) AND GROUNDWATER ANALYTICAL RESULTS SUMMARY (µg/L)

Project 101970 | July 2015 | Fig. 4

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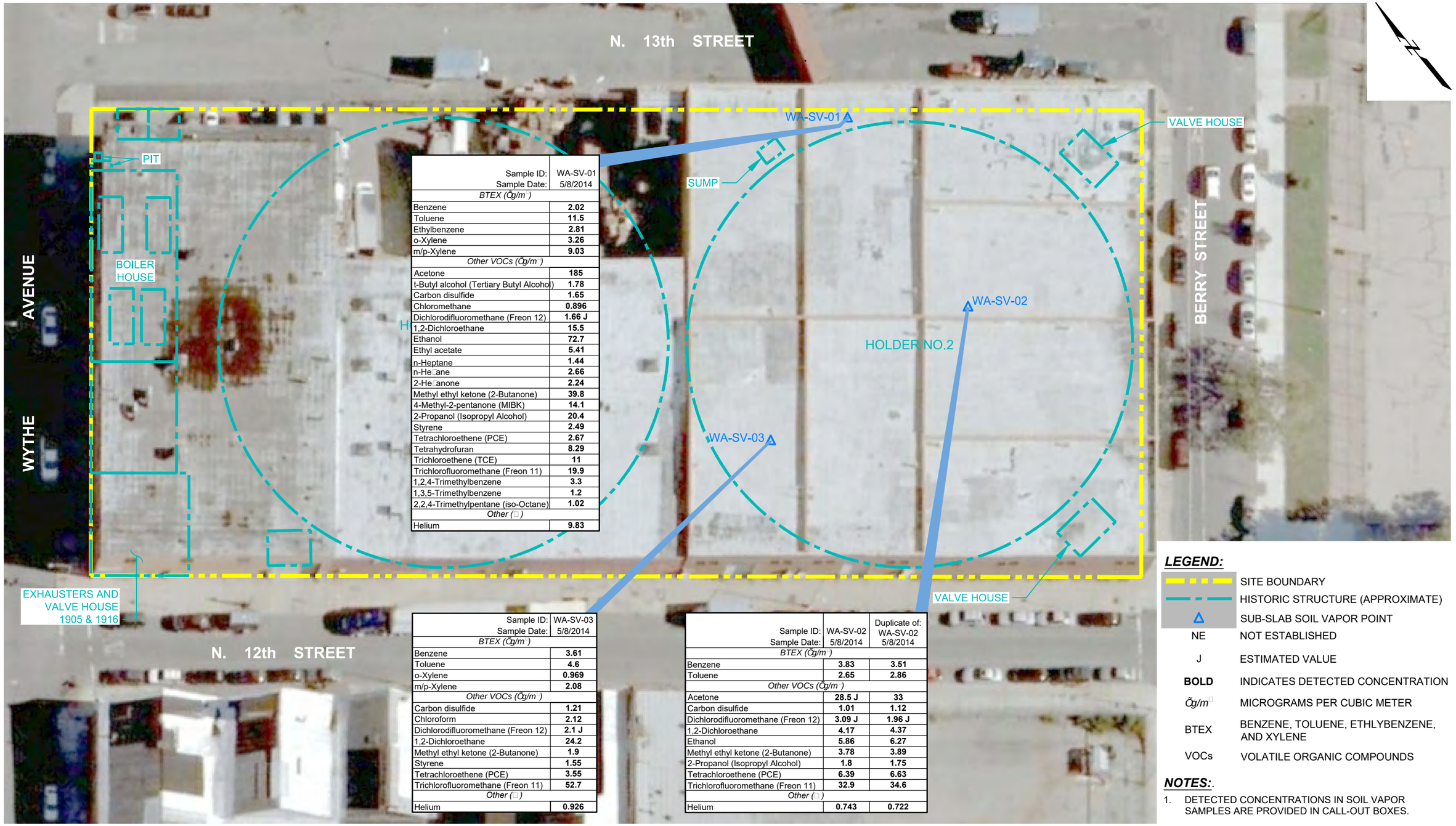

Sample ID:	WA-SV-01
Sample Date:	5/8/2014
BTEX (µg/m³)	
Benzene	**2.02**
Toluene	**11.5**
Ethylbenzene	**2.81**
o-Xylene	**3.26**
m/p-Xylene	**9.03**
Other VOCs (µg/m³)	
Acetone	**185**
t-Butyl alcohol (Tertiary Butyl Alcohol)	**1.78**
Carbon disulfide	**1.65**
Chloromethane	**0.896**
Dichlorodifluoromethane (Freon 12)	**1.66 J**
1,2-Dichloroethane	**15.5**
Ethanol	**72.7**
Ethyl acetate	**5.41**
n-Heptane	**1.44**
n-Hexane	**2.66**
2-Hexanone	**2.24**
Methyl ethyl ketone (2-Butanone)	**39.8**
4-Methyl-2-pentanone (MIBK)	**14.1**
2-Propanol (Isopropyl Alcohol)	**20.4**
Styrene	**2.49**
Tetrachloroethene (PCE)	**2.67**
Tetrahydrofuran	**8.29**
Trichloroethene (TCE)	**11**
Trichlorofluoromethane (Freon 11)	**19.9**
1,2,4-Trimethylbenzene	**3.3**
1,3,5-Trimethylbenzene	**1.2**
2,2,4-Trimethylpentane (iso-Octane)	**1.02**
Other (□)	
Helium	**9.83**

Sample ID:	WA-SV-03
Sample Date:	5/8/2014
BTEX (µg/m³)	
Benzene	**3.61**
Toluene	**4.6**
o-Xylene	**0.969**
m/p-Xylene	**2.08**
Other VOCs (µg/m³)	
Carbon disulfide	**1.21**
Chloroform	**2.12**
Dichlorodifluoromethane (Freon 12)	**2.1 J**
1,2-Dichloroethane	**24.2**
Methyl ethyl ketone (2-Butanone)	**1.9**
Styrene	**1.55**
Tetrachloroethene (PCE)	**3.55**
Trichlorofluoromethane (Freon 11)	**52.7**
Other (□)	
Helium	**0.926**

Sample ID:	WA-SV-02	Duplicate of: WA-SV-02
Sample Date:	5/8/2014	5/8/2014
BTEX (µg/m³)		
Benzene	**3.83**	**3.51**
Toluene	**2.65**	**2.86**
Other VOCs (µg/m³)		
Acetone	**28.5 J**	**33**
Carbon disulfide	**1.01**	**1.12**
Dichlorodifluoromethane (Freon 12)	**3.09 J**	**1.96 J**
1,2-Dichloroethane	**4.17**	**4.37**
Ethanol	**5.86**	**6.27**
Methyl ethyl ketone (2-Butanone)	**3.78**	**3.89**
2-Propanol (Isopropyl Alcohol)	**1.8**	**1.75**
Tetrachloroethene (PCE)	**6.39**	**6.63**
Trichlorofluoromethane (Freon 11)	**32.9**	**34.6**
Other (□)		
Helium	**0.743**	**0.722**

LEGEND:

	SITE BOUNDARY
	HISTORIC STRUCTURE (APPROXIMATE)
△	SUB-SLAB SOIL VAPOR POINT
NE	NOT ESTABLISHED
J	ESTIMATED VALUE
BOLD	INDICATES DETECTED CONCENTRATION
µg/m³	MICROGRAMS PER CUBIC METER
BTEX	BENZENE, TOLUENE, ETHLYBENZENE, AND XYLENE
VOCs	VOLATILE ORGANIC COMPOUNDS

NOTES:.

1. DETECTED CONCENTRATIONS IN SOIL VAPOR SAMPLES ARE PROVIDED IN CALL-OUT BOXES.

SOURCES:.

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2. SANBORN FIRE INSURANCE MAPS 1942, 1916 AND 1905.
3. SITE BOUNDARY WAS OBTAINED FROM NEW YORK CITY OPEN ACCESSIBLE SPACE INFORMATION SYSTEM http://www.oasisnyc.net, ACCESSED MAY 2010.

0 40 80

SCALE: 1" = 40'

Additional Investigation Data Report
Wythe Ave. Station Site
Borough Of Brooklyn, New York

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SUB-SLAB SOIL VAPOR ANALYTICAL RESULTS SUMMARY (µg/m3)

July 2015 Fig. 12

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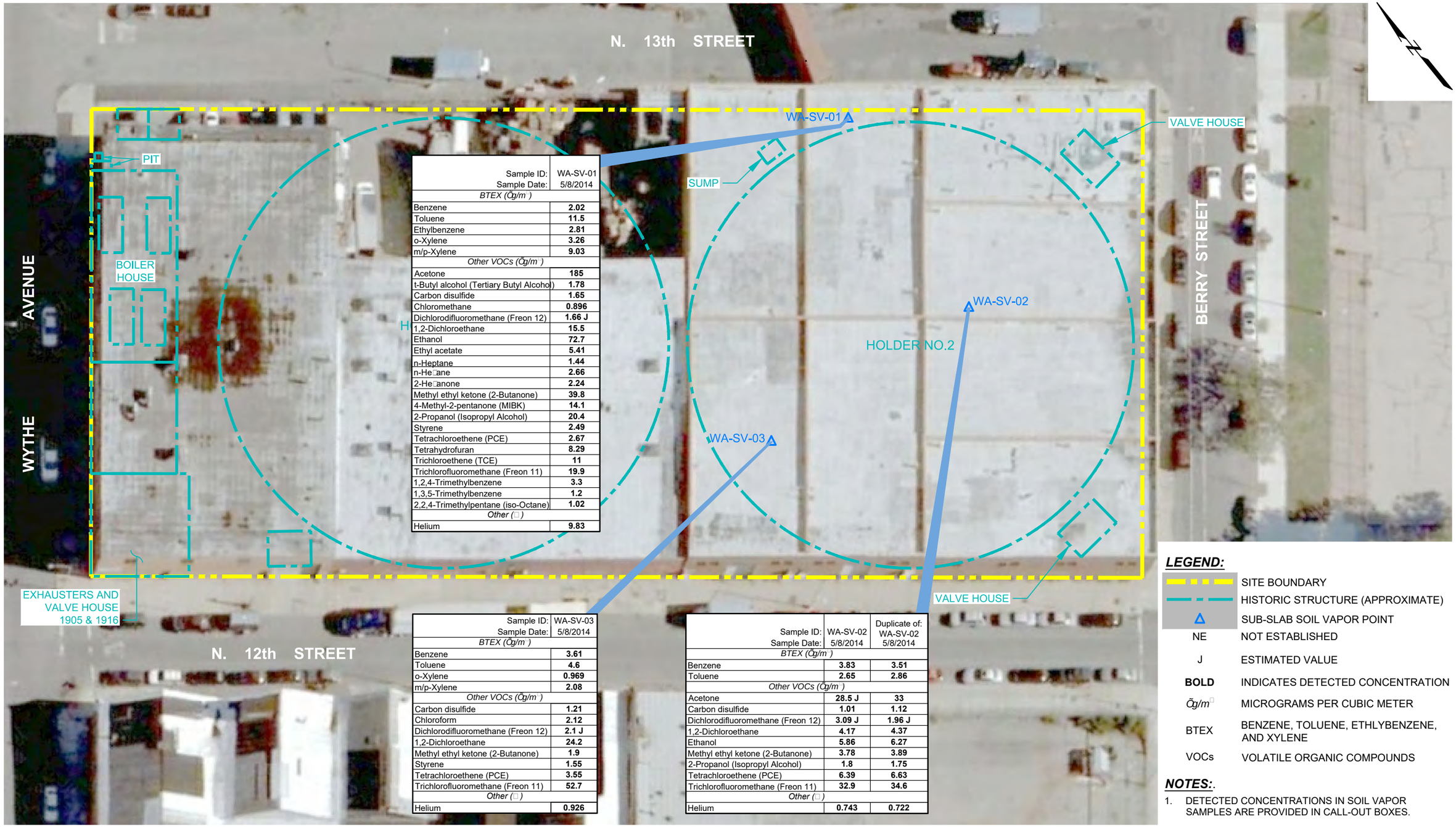

Sample ID:	WA-SV-01
Sample Date:	5/8/2014
BTEX (µg/m³)	
Benzene	**2.02**
Toluene	**11.5**
Ethylbenzene	**2.81**
o-Xylene	**3.26**
m/p-Xylene	**9.03**
Other VOCs (µg/m³)	
Acetone	**185**
t-Butyl alcohol (Tertiary Butyl Alcohol)	**1.78**
Carbon disulfide	**1.65**
Chloromethane	**0.896**
Dichlorodifluoromethane (Freon 12)	**1.66 J**
1,2-Dichloroethane	**15.5**
Ethanol	**72.7**
Ethyl acetate	**5.41**
n-Heptane	**1.44**
n-Hexane	**2.66**
2-Hexanone	**2.24**
Methyl ethyl ketone (2-Butanone)	**39.8**
4-Methyl-2-pentanone (MIBK)	**14.1**
2-Propanol (Isopropyl Alcohol)	**20.4**
Styrene	**2.49**
Tetrachloroethene (PCE)	**2.67**
Tetrahydrofuran	**8.29**
Trichloroethene (TCE)	**11**
Trichlorofluoromethane (Freon 11)	**19.9**
1,2,4-Trimethylbenzene	**3.3**
1,3,5-Trimethylbenzene	**1.2**
2,2,4-Trimethylpentane (iso-Octane)	**1.02**
Other (□)	
Helium	**9.83**

Sample ID:	WA-SV-03
Sample Date:	5/8/2014
BTEX (µg/m³)	
Benzene	**3.61**
Toluene	**4.6**
o-Xylene	**0.969**
m/p-Xylene	**2.08**
Other VOCs (µg/m³)	
Carbon disulfide	**1.21**
Chloroform	**2.12**
Dichlorodifluoromethane (Freon 12)	**2.1 J**
1,2-Dichloroethane	**24.2**
Methyl ethyl ketone (2-Butanone)	**1.9**
Styrene	**1.55**
Tetrachloroethene (PCE)	**3.55**
Trichlorofluoromethane (Freon 11)	**52.7**
Other (□)	
Helium	**0.926**

Sample ID:	WA-SV-02	Duplicate of: WA-SV-02
Sample Date:	5/8/2014	5/8/2014
BTEX (µg/m³)		
Benzene	**3.83**	**3.51**
Toluene	**2.65**	**2.86**
Other VOCs (µg/m³)		
Acetone	**28.5 J**	**33**
Carbon disulfide	**1.01**	**1.12**
Dichlorodifluoromethane (Freon 12)	**3.09 J**	**1.96 J**
1,2-Dichloroethane	**4.17**	**4.37**
Ethanol	**5.86**	**6.27**
Methyl ethyl ketone (2-Butanone)	**3.78**	**3.89**
2-Propanol (Isopropyl Alcohol)	**1.8**	**1.75**
Tetrachloroethene (PCE)	**6.39**	**6.63**
Trichlorofluoromethane (Freon 11)	**32.9**	**34.6**
Other (□)		
Helium	**0.743**	**0.722**

LEGEND:

	SITE BOUNDARY
	HISTORIC STRUCTURE (APPROXIMATE)
△	SUB-SLAB SOIL VAPOR POINT
NE	NOT ESTABLISHED
J	ESTIMATED VALUE
BOLD	INDICATES DETECTED CONCENTRATION
µg/m³	MICROGRAMS PER CUBIC METER
BTEX	BENZENE, TOLUENE, ETHLYBENZENE, AND XYLENE
VOCs	VOLATILE ORGANIC COMPOUNDS

NOTES:.

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SCALE: 1" = 40'

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SUB-SLAB SOIL VAPOR ANALYTICAL RESULTS SUMMARY (µg/m3)

July 2015 Fig. 5

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Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation (RI) for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination.

For each medium for which contamination was identified, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into three categories; volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and inorganics (metals and cyanide). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, if applicable, the Restricted Use SCGs identified in Section 4 and Section 6.1.1 are also presented.

Waste/Source Areas

As described in the RI report, waste/source materials were identified at the site and are impacting groundwater and soil.

Wastes are defined in 6 NYCRR Part 375-1.2(aw) and include solid, industrial and/or hazardous wastes. Source areas are defined in 6 NYCRR Part 375(au). Source areas are areas of concern at a site were substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Coal tar related contaminants were identified at the site within the former MGP structure, which was a former gas holder tank.

The production of manufactured gas created waste products which are resistant to natural decay and can result in potential impacts to public health and the environment. The primary waste was an oily liquid known as coal tar, which formed as a condensate during storage prior to distribution. The coal tar contains certain hazardous substances in the VOC and SVOC chemical classes. Specific VOCs of concern are benzene, toluene, ethylbenzene and xylenes (BTEX). Specific SVOCs of concern are polycyclic aromatic hydrocarbons (PAHs) such as: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, dibenz(a,h)anthracene and indeno(1,2,3-cd)pyrene; as well as naphthalene.

Evidence of potential coal tar-related source areas were found at and adjacent to the site, in both soil and limited groundwater samples, and are potentially present within and adjacent to the former MGP gas holder structure. However, these areas could not be fully investigated due to the presence of several occupied buildings on the site. The waste/source areas identified will be addressed in the remedy selection process.

Groundwater

Groundwater samples were collected to assess groundwater conditions on and off-site. Sampling results indicate that benzene, toluene, ethylbenzene and xylene (BTEX), isopropylbenzene, n-propylbenzene, styrene, naphthalene, 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene (VOCs); naphthalene, benz(a)anthracene, benzo(b)fluoranthene, benz(a)pyrene, and chrysene (SVOCs); and lead (inorganic) exceed standards or guidance values at the site.

There were also five other inorganic compounds that exceeded the groundwater standards in both on-site and off-site monitoring wells. These compounds were antimony, iron, manganese, magnesium and sodium, and they are not associated with the former MGP operations.

Table # 1 - Groundwater

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
VOCs			
Benzene	ND – 2,200	1	1 of 2
Toluene	ND – 1,200	5	1 of 2
Ethylbenzene	ND – 600	5	1 of 2
Xylene (total isomers)	ND – 2,480	5	1 of 2
1,3,5-Trimethylbenzene	ND – 160	5	1 of 2
1,2,4-Trimethylbenzene	ND – 600	5	1 of 2
Isopropylbenzene	ND – 30	5	1 of 2
Naphthalene	ND – 1200	10	1 of 2
n-Propylbenzene	ND – 42	5	1 of 2
Styrene	ND – 690	5	1 of 2
SVOCs			
Benz(a)anthracene	ND – 0.14	0.002	1 of 2
Benzo(b)fluoranthene	ND – 0.18	0.002	1 of 2
Benzo(k)fluoranthene	ND – 0.1	0.002	1 of 2
Benzo(a)pyrene	ND – 0.25	ND	1 of 2
Chrysene	ND – 0.13	0.002	1 of 2
Naphthalene	ND – 1,100	10	1 of 2
Inorganics			
Lead	ND – 35	25	1 of 2

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

Based on the findings of the RI, the presence of MGP-related wastes has resulted in the contamination of groundwater. The site contaminants that are considered to be the primary contaminants of concern which will drive the future remediation of groundwater to be addressed by the remedy selection process are: benzene, toluene, ethylbenzene, xylene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and styrene.

Soil

Subsurface soil samples were collected and analyzed for VOCs, SVOCs, and inorganics during the remedial investigation (RI) to determine the nature and extent of impacts to soil as a result of the former MGP operations. These samples were collected from 0 to 40 feet below ground surface.

Benzene, toluene, ethylbenzene, and Total xylene (BTEX), and naphthalene were the VOCs found to exceed both the unrestricted and restricted residential SCOs on site. There were no VOCs that exceeded the unrestricted SCOs off-site. Eight individual PAH compounds (benz(a)anthracene, benzo(a)pyrene benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, and naphthalene) exceeded both unrestricted and restricted residential SCOs.

Inorganic compounds arsenic, lead, and mercury exceeded both unrestricted and restricted residential SCOs.

Table # 2 - Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
VOCs					
Benzene	ND – 303	0.26	5 of 14	4.8	4 of 14
Toluene	ND – 840	0.7	6 of 14	100	4 of 14
Ethylbenzene	ND – 1,200	1.0	7 of 14	41	5 of 14
Xylene (total)	ND – 1,600	0.26	7 of 14	100	6 of 14
Naphthalene	ND – 1,300	12	7 of 14	100	6 of 14
SVOCs					
Benz(a)anthracene	ND – 15	1.0	6 of 14	1.0	6 of 14
Benzo(a)pyrene	ND – 18	1.0	6 of 14	1.0	6 of 14
Benzo(b)fluoranthene	ND – 13	1.0	6 of 14	1.0	6 of 14
Benzo(k)fluoranthene	ND – 7.3	0.8	4 of 14	3.9	2 of 14
Chrysene	ND – 12	1.0	5 of 14	3.9	4 of 14
Dibenz(a,h)anthracene	ND – 3.1	0.33	4 of 14	0.33	4 of 14
Indeno(1,2,3-cd)pyrene	ND – 16	0.5	5 of 14	0.5	5 of 14
Naphthalene	ND - 180	12	6 of 14	100	4 of 14
Inorganics					
Arsenic	ND – 77	13	3 of 14	16	1 of 14
Lead	ND – 1,600	63	11 of 14	400	4 of 14
Mercury	ND – 2.3	0.18	9 of 14	0.81	1 of 14

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Restricted Residential Use, unless otherwise noted.
d - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Groundwater.

Based on the findings of the RI, the presence of MGP-related wastes has resulted in the contamination of soil within the holder tanks. The site contaminants identified in soil which are considered to be the primary contaminants of concern, to be addressed by the remedy selection process are benzene, toluene, ethylbenzene, xylene, naphthalene, PAHs, arsenic, and lead.

Soil Vapor

The evaluation of the potential for soil vapor intrusion resulting from the presence of site related soil or groundwater contamination was evaluated by the sampling of sub-slab soil vapor under the existing structures. There were no indoor air samples collected at the site.

Soil vapor samples were collected from the sub-slab of the existing warehouse buildings at OU2. The results indicate BTEX (benzene, toluene, ethylbenzene and xylene), 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, tetrachloroethene (PCE), trichloroethene (TCE), 1,2-dichloroethane, and trichlorofluoromethane were detected in on-site sub-slab vapor.

Based on the concentration detected the primary soil vapor contaminant is trichloroethene (TCE), although it should be noted that indoor air sampling was not conducted. There were also no detections of TCE in the groundwater sampling conducted at the site. This chlorinated solvent is not associated with the former MGP operations, and may be related to subsequent site uses. The property owner was notified of these results after the sampling was conducted.

Exhibit B

Description of Remedial Alternatives

The following alternatives were considered based on the remedial action objectives (see Section 6.5) to address the contaminated media identified at the site as described in Exhibit A.

Alternative 1: No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative leaves the site in its present condition and does not provide any additional protection to public health and the environment.

Alternative 2: Interim Site Management with Institutional Controls

The Interim Site Management with Institutional Controls Alternative requires both institutional and engineering controls for the site. This alternative includes institutional controls, in the form of an environmental easement and an interim site management plan, and an engineering control in the form of a site cover, necessary to protect public health and the environment from any contamination identified at the site.

This alternative will include the following components:

- A site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of one foot of soil placed over a demarcation layer, with a minimum of six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.
- Placement of an institutional control in the form of an environmental easement to restrict the use of the on-site property to restricted residential, commercial or industrial uses and restrict the use of groundwater.
- Development of an Interim Site Management Plan (ISMP) to include institutional controls to address soil, groundwater and soil vapor contamination; and engineering controls to maintain the existing site cover (buildings and soil). This plan will include a provision for further investigation and remediation should large scale redevelopment occur, if the existing structures are demolished, or if the subsurface is otherwise accessible. Excavation or construction of any on site structures will be prohibited until such time as the above-stated further investigation and remediation has been completed. A provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion, will also be included. The presumptive remedy for MGP contamination will be excavation of the former MGP structure (if deemed impacted) and MGP-related source material, unless an alternative, equivalent remedy is developed based on new information.

The cost to implement Alternative 2 has been estimated as follows:

Present Worth: $660,443
Capital Cost:..... $10,000
Annual Costs:..... $21,681

Alternative 3: Excavation to Pre-Release Conditions

Alternative 3 is designed as a site-wide remedy to restore the site soils to pre-release conditions. All soils containing site contaminants at levels higher than specified in the Unrestricted SCOs would be excavated using conventional excavating equipment and taken off site in dump trucks for treatment and/or disposal. The excavation would be backfilled with uncontaminated soils from off-site sources.

Because soil exceedances were detected in samples collected at depths up to 22 feet below ground surface, the volume of soil to be excavated would be very large, and would require demolition of all on-site structures. An estimated 30,000 cubic yards of soil would need to be excavated and trucked off site for thermal treatment and/or landfilling depending on the level of contamination contained.

After removal of the subsurface soils, end-point samples would be collected to confirm that all soils above the unrestricted SCOs have been removed. The excavation would then be backfilled with general fill that meets unrestricted SCOs.

Exhibit C

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
No Action	0	0	0
Site Management with ICs	10,000	21,681	660,443
Excavation to Pre-Release Conditions	NE	NE	NE

NE = Not Evaluated due to infeasibility of performing this alternative under current site conditions. (See Exhibit D).

Exhibit D

SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternative 2, Interim Site Management with Institutional Controls as the remedy for this site. Alternative 2 would achieve the remediation goals for the site by protecting human health and the environment from exposure to impacted media. The elements of this remedy are described in Section 7. The proposed remedy is depicted in Figure 7.

Basis for Selection

The proposed remedy is based on the results of the investigation completed to date and the existing structures onsite which hinder the ability to implement a full investigation and remedy. The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

Alternative 1 (No Action) does not include active remedial actions or other controls at the site, and thus will not provide any additional protection to human health and the environment compared to what currently exists. Additionally, this alternative will not comply with SCGs, since source material will remain in place and continue to pose a threat to both human health and the environment. Therefore, Alternative 1 is eliminated from further evaluation.

Alternative 2 (Interim Site Management with Institutional Controls) will protect human health and the environment first through the institutional control and ISMP provisions that minimize exposures, restrict groundwater use and require excavation protocols under current site conditions. In the long term, environmental protection will be provided by further investigation if the site buildings are removed or vacated and remediation when the site becomes accessible.

Alternative 3 also meets this threshold criterion since all impacted soil will be removed from the site.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

Although Alternative 2 will not take immediate actions to address SCGs, the environmental easement and provisions in the ISMP will provide the framework for further investigation and remedial work should the site buildings be demolished, which would satisfy this criterion in the long term.

Alternative 3 will achieve compliance with the SCGs, but cannot be implemented until such time that the buildings are removed.

The next six "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

For Alternative 2, site management will be effective in the long term once the provisions for performing remedial actions are implemented when the site becomes accessible. The placement of an environmental easement and implementation of the ISMP, will provide a reliable level of control of the site, and will provide the framework for a permanent remedy when the site becomes accessible.

Alternative 3 will be effective over the long term since the maximum amount of material would be removed from the site, and thus would not require any long term monitoring.

4. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Alternative 2 will control potential exposures through the use of institutional and engineering controls (site cover) and will not in the near term reduce the toxicity, mobility or volume of contaminants remaining in place. The ultimate degree of reduction will depend on the specific remedy that is implemented when the site becomes accessible.

Alternative 3 would remove all of the contaminated soil from the site, as well as any groundwater collected during dewatering operations.

5. Short-term Impacts and Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

Alternative 2 would not have any short-term impacts, and would effectively protect human health in the short term through the implementation of institutional controls at the site.

Alternative 3 will have the greatest short-term impact due to the need to demolish the structures present at the site and relocate the current active business from the property. Significant efforts will also have to be undertaken during implementation to minimize impacts to human health and the environment with respect to air emissions, odor control, noise, dust suppression, and transportation/traffic in the local community. Excavation and off-site transport activities will generate noise associated with construction machinery, and truck traffic through the

surrounding community as contaminated soils are trucked out and backfill materials are trucked in. Due to the depth of soil removal, extensive excavation support, such as pile and lagging will need to be installed.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

Alternative 2 is readily implementable as it initially is an administrative task. However, it will require significant oversight and interaction with the current owners to ensure the ISMP is implemented and conditions of the environmental easement are complied with. Future actions are expected to be implementable, without significant short-term impacts, once the buildings have been removed.

Alternative 3 is not readily implementable as National Grid is not the property owner and this alternative requires significant disruption to the ongoing business at the site. An agreement between the two parties would have to be reached prior to any work starting and the existing businesses on the property would have to be closed and the buildings removed before further investigation and remediation could begin. The use of standard construction materials and machinery provides the appearance that this alternative is technically and administratively feasible. However, the proposed depth of soil removal and the support of excavation required to be engineered and installed makes this alternative extremely challenging.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

Alternative 2 is cost effective.

A cost estimate was not developed for Alternative 3 because it is not considered to be implementable at this time.

8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

For the current use of the site as active warehousing, the site management elements of the proposed remedy are protective of public health. Since the anticipated future use of the site may include restricted residential, Alternative 2 provides for the installation of a site cover, additional investigation, and remediation as necessary, to achieve restricted residential standards when the site use changes and large-scale redevelopment is planned.

The final criterion, Community Acceptance, is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of

alternatives, and the PRAP are evaluated. A responsiveness summary will be prepared that describes public comments received and the manner in which the Department will address the concerns raised. If the selected remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

Alternative 2 is being proposed because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.