

REMEDIAL ACTION WORK PLAN

K. FRONT ST STATION

SITE #224063

Prepared for:
The Brooklyn Union Gas Company
One Metrotech Center
Brooklyn, New York 11201

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Project Number: 60412543

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**REMEDIAL ACTION WORK PLAN
K - FRONT ST. STATION
BROOKLYN, NEW YORK 11202
NYSDEC SITE #224063**

Prepared For

**NATIONAL GRID
ONE METROTECH CENTER
BROOKLYN, NEW YORK 11201**

Prepared By

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Appendix A	Record of Decision
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ENGINEERING CERTIFICATION

I, Michael J. Gardner, certify that I am currently a NYS registered professional engineer and that this Remedial Action Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Michael Gardner

1/31/2022

Registered Professional Engineer

New York License No. 089344



1.0 INTRODUCTION

This Remedial Action Work Plan (RAWP) prepared by AECOM USA, Inc. (AECOM) on behalf of The Brooklyn Union Gas Company d/b/a National Grid NY (National Grid) provides the approach for the remediation of impacted soils and groundwater at the K - Front Street Station site, New York State Department of Environmental Conservation (NYSDEC) Site #224063 (the Site). The Site is located at 218 Front Street/171 York Street (Block 55, Lot 20) in Brooklyn, Kings County, New York.

The Site was operated as a holder station for gas produced at a nearby off-site manufactured gas plant (MGP), and its infrastructure was comprised of two water-sealed gas holders identified as Holder No. 4 and Holder No. 5. A Site Characterization (SC) was performed in phases from 2007 through 2013 by URS Corporation, an AECOM company, on behalf of National Grid. The SC investigation determined the presence of materials, such as benzene, ethylbenzene, toluene, and xylenes (BTEX) and polycyclic aromatic hydrocarbons (PAHs), within the fill inside Holder No. 5; these impacts were not present in the samples from Holder No. 4. In March 2018, the NYSDEC issued a Record of Decision (ROD) for the Site (**Appendix A**).

1.1 Background

The Site is comprised of one parcel of land located at 218 Front Street/171 York Street in the Vinegar Hill neighborhood of Brooklyn, Kings County, NY (**Figure 1**). The Site is approximately 1.13 acres in size, identified as Block 55, Lot 20. Block 55 is bordered by Front Street to the north, by Gold Street to the east, by York Street to the south, and by Bridge Street to the west.

On October 27, 2021, Macentico II LLC (Macentico or property owner), acquired the property from Great Front Realty, Inc. (Great Front Realty), which had owned the property since 1983. The property owner plans to demolish the existing structures and construct two residential buildings. The property owner has begun preliminary Site redevelopment activities and plans on starting construction activities in the very near future in order to meet the mid-June 2022 deadline related to the New York State 421a tax abatement program.

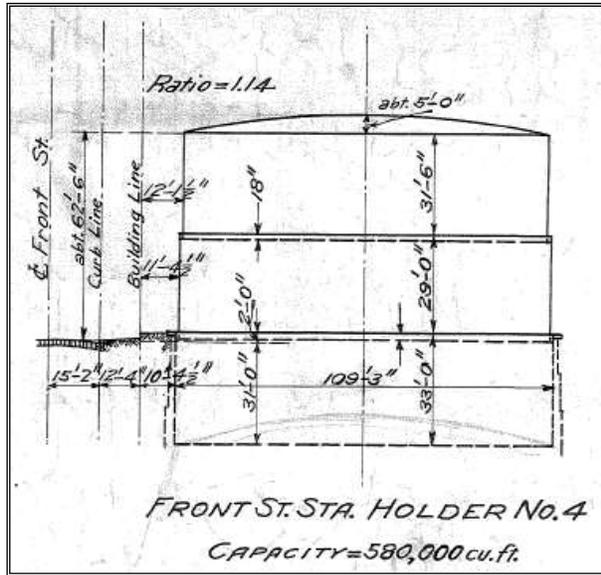
The main Site feature is a one-story building at 218 Front Street, which was used as a warehouse (mainly clothing). There are also three open-air sheds (corrugated metal roof on steel frames) at the 171 York Street address. The 171 York Street property was used for lumber and

building material storage. These sheds cover approximately 75 percent of the 171 York Street portion of the Site. The rest of the property is covered with pavement.

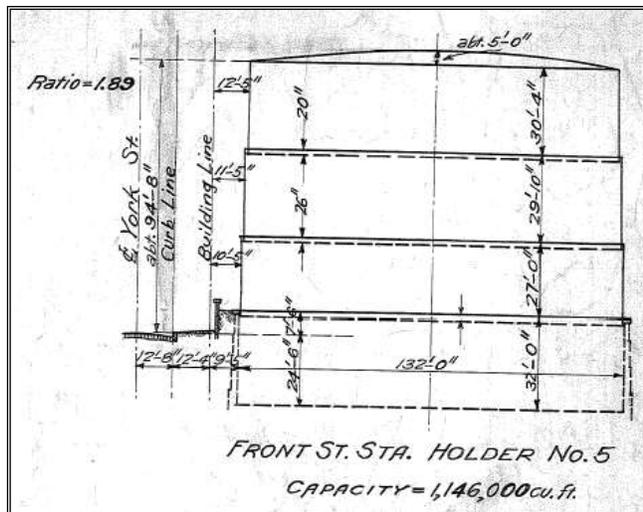
The Site is currently zoned for C2-4/R6A, which allows for residential, commercial, and light industrial uses. The nearest residential area is directly adjacent to the Site at the northwest and southeast site boundaries. The most recent use of the Site was commercial with an active warehouse and lumber yard.

The Site was operated as an MGP holder station by The Brooklyn Union Gas Company and one of its predecessors, The Brooklyn Gas Light Company, from approximately 1867 to 1935. The Standard Oil Company controlled The Brooklyn Gas Light Company and later The Brooklyn Union Gas Company from approximately 1883 to 1922. In the mid-1920s, The American Light and Traction Company, The United Light and Power Company, and Koppers obtained significant ownership interest in The Brooklyn Union Gas Company with The Brooklyn Union Gas Company being a subsidiary of Koppers from approximately 1927 to 1944.

The station operated solely for gas storage and distribution (*i.e.*, a holder station), and no gas production facilities were present at the Site. The holder station infrastructure included Holder No. 4 and Holder No. 5 and some associated holder station buildings (*e.g.*, boiler house, exhauster house, and valve house). The first gas holder (No. 4) was constructed circa 1867 in the northern portion of the Site (218 Front Street) and was approximately 109.2 feet in diameter and 62.5 feet tall. The second gas holder (No. 5) was constructed around 1890 in the southwestern portion of the Site (171 York Street) and was approximately 132 feet in diameter and 94.7 feet tall (see Drawings 1 and 2 below). The above-ground portions of both holders and all associated holder station buildings were removed between 1935 and 1938. The property was then used as a parking lot until it was sold by Brooklyn Union Gas in 1951. The 1969 Sanborn fire insurance map (**Figure 3**) shows that a filling station was located to the northwest of the Site (*i.e.*, at the 206 Front Street address).



Drawing 1 – Holder No. 4



Drawing 2 – Holder No. 5

1.1.1 Regulatory History

NYSDEC is the lead regulatory agency overseeing the investigation and remediation of the Site in accordance with the Order on Consent and Administrative Settlement, Index #A2-0552-0606 (the Order) negotiated with Brooklyn Union Gas Company.

National Grid conducted a SC investigation from 2007 to 2013 to define the nature and extent of any contamination. The investigation results identified potential MGP-related impacts in

Holder No. 5. The NYSDEC issued a Proposed Remedial Action Plan (PRAP) in October 2017 for the Site and a ROD in 2018.

The ROD requires an Interim Site Management Plan (ISMP) to be implemented to address intrusive activities prior to the final remedy or any portion of the final remedy at the Site. The ISMP has been prepared and was approved, with modification, by NYSDEC in December 2020. The final ISMP is dated January 2021.

Page 2 of the ROD requires a provision for:

...further 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 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 MGP contamination at the site, including removal and/or treatment of any source areas to the extent feasible..... If a remedy is determined to be necessary to address sources of non-MGP contamination present at the site, this will be evaluated separately for further action. Citizen Participation Plan (CPP) activities will continue through this process. Any necessary remediation will be completed prior to, or in association with, redevelopment

The Site became available for further investigation in Spring 2021 after Great Front Reality agreed to sell the Site to Macentico. The further investigation, referred to as the Remedial System Optimization Investigation (RSOI), was completed in April 2021 and the RSOI Report was submitted to NYSDEC in June 2021. NYSDEC approved the RSOI Report in August 2021.

In August 2021, National Grid submitted a summary of the proposed remedial action (RA) to the NYSDEC. The summary was approved by the NYSDEC in September 2021. In its approval letter, the NYSDEC requested the development of this complete RAWP.

1.2 Previous Site Investigations

Previous investigations at the Site consisted of the SC and the RSOI and are discussed below.

1.2.1 Site Characterization

The SC investigation included advancing five on-site borings and four off-site borings. The SC confirmed the locations of the holder tanks (*i.e.*, Holders No. 4 and 5) in the subsurface beneath the Site. The investigation borings determined that the Site is underlain by varying amounts of fill which is underlain by natural deposits of fine to coarse sand with gravel and cobbles. Material found within the holder tanks was fill consisting of sands and gravel and varying amounts of brick, concrete, and wood.

During the SC investigation, one on-site boring and the four off-site borings were completed as monitoring wells. Water level measurements determined that regional groundwater beneath the Site ranges from a depth of approximately 37 to 42 feet below ground surface (ft bgs; 2 to -2 ft mean sea level [msl]) with flow to the north towards the East River. Perched water encountered within the Holder No. 5 tank indicates that the tank is tight and not hydraulically connected to the regional groundwater.

Identified Soil Impacts

The SC investigation included soil and groundwater sampling and analysis for target compound list (TCL) volatile organic compounds (VOCs), TCL semi-volatile organic compounds (SVOCs), target analyte list (TAL) metals, and cyanide. The detected concentrations of VOCs, SVOCs, and metals in the subsurface soil samples from inside the holder tanks exceeded the 6 NYCRR Part 375 Restricted Residential and Commercial Use Soil Cleanup Objectives (SCOs) (**Figure 4**). However, sampling of subsurface soil was limited due to inability to access much of the property with a drill rig.

Analytes which were detected at concentrations exceeding Restricted Residential Use SCOs in the soil samples were:

- naphthalene (up to 280 milligrams per kilogram [mg/Kg], SCO of 100 mg/Kg),
- xylenes (up to 120 mg/Kg, SCO of 100 mg/Kg),
- benzo(a)anthracene (up to 8.4 mg/Kg, SCO of 1 mg/Kg),
- benzo(a)pyrene (up to 8.8 mg/Kg, SCO of 1 mg/Kg),
- benzo(b)fluoranthene (up to 8.2 mg/Kg, SCO of mg/Kg),
- chrysene (up to 9.1 mg/Kg, SCO of 1 mg/Kg),
- dibenzo(a,h)anthracene (up to 1.9 mg/Kg, SCO of 0.33 mg/Kg),

- indeno(1,2,3-cd)pyrene (up to 6.7 mg/Kg, SCO of 0.5 mg/Kg),
- copper (up to 564 mg/Kg, SCO of 270 mg/Kg),
- lead (up to 926 mg/Kg, SCO of 400 mg/Kg), and
- mercury (up to 4 mg/Kg, SCO of 0.81 mg/Kg).

Analytes which were detected at concentrations above the Commercial Use SCOs included SVOCs (five samples), copper (two samples), and mercury (one sample).

Adjacent to the Site, the detected concentrations of some SVOCs in soil samples slightly exceeded Restricted Residential Use SCOs. The suite of SVOCs and the concentrations at which they were detected is indicative of historical, urban fill.

Identified Groundwater Impacts

Detected analytical concentrations in groundwater samples collected from inside the Holder No. 5 tank exceeded groundwater quality standards (GWQSs) presented in NYSDEC's *Technical and Operational Guidance Series 1.1.1.*, dated June 1998 for:

- benzene at 210 micrograms per liter ($\mu\text{g/L}$) (standard of 1 $\mu\text{g/L}$),
- toluene at 55 $\mu\text{g/L}$ (standard of 5 $\mu\text{g/L}$),
- ethylbenzene at 110 $\mu\text{g/L}$ ppb (standard of 5 $\mu\text{g/L}$),
- xylenes at 210 $\mu\text{g/L}$ (standard of 5 $\mu\text{g/L}$),
- naphthalene at 70 $\mu\text{g/L}$ (standard 10 $\mu\text{g/L}$),
- 1,2,4-trimethylbenzene at 6 $\mu\text{g/L}$ (standard of 5 $\mu\text{g/L}$),
- isopropylbenzene at 10 $\mu\text{g/L}$ (standard of 5 $\mu\text{g/L}$),
- five SVOCs (benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene and indeno(1,2,3-cd)pyrene; all with a standard of 0.002 $\mu\text{g/L}$) ranging from non-detect to 1.8 $\mu\text{g/L}$,
- cyanide at 287 $\mu\text{g/L}$ (standard of 200 $\mu\text{g/L}$),
- chromium at 130 $\mu\text{g/L}$ (standard of 50 $\mu\text{g/L}$), and
- lead at 5,210 $\mu\text{g/L}$ (standard of 25 $\mu\text{g/L}$).

In the groundwater samples collected from one of the four off-site monitoring wells, chlorinated VOCs (1,2-dichloroethene, tetrachloroethene (PCE), trichloroethene (TCE)) and naphthalene were detected at concentrations exceeding GWQSs (see **Figure 5**). Chlorinated solvents are not considered to be attributable to the Front Street Holder Station or its operation. The

1969 Sanborn fire insurance map (**Figure 3**) shows a dry cleaner present at 191 York Street, near to the southeast corner of the Site. Considering that dry cleaners frequently used chlorinated solvents, and that groundwater flow at the Site is from south to north, the former dry cleaner may be considered a potential source of the chlorinated solvents detected in groundwater during the SC.

Because the perched groundwater in Holder No. 5 and regional groundwater outside the holder are not used as a water supply, the potential for human exposure through direct contact, inhalation, or ingestion of the perched or regional groundwater is minimal. All monitoring wells at the Site were decommissioned with NYSDEC approval in October 2013.

1.2.2 Remedial System Optimization Investigation

On May 18, 2020, National Grid was notified by Great Front Realty of their entry into a sales contract with a prospective buyer, Urban Realty Partners, LLC (Urban Realty), an entity related to Macentico. Through subsequent conversations with Great Front Realty and Urban Realty, National Grid and NYSDEC learned that Urban Realty/Macentico planned to redevelop the property on a scale that would trigger the RSOI required by the ROD and the ISMP. The RSOI Work Plan was finalized in February 2021 (approved as the Further Investigation Work Plan).

The RSOI was conducted in March and April 2021. The objective of the RSOI was to investigate the nature and extent of impacts, if any, in areas where access was previously limited or unavailable during the SC. This was attained through an investigation that included the collection and analysis of subsurface soil, groundwater, soil vapor, and indoor air samples from on-site areas not previously investigated.

The RSOI consisted of advancing 11 soil borings. Four of the 11 borings were located within the holder tanks and were advanced to the bottom of the tanks. The remaining seven borings were located outside the holder tanks and were advanced into the regional groundwater. A soil vapor intrusion (SVI) investigation was performed that included two soil vapor points in the lumber yard and two paired sub-slab soil vapor and indoor air samples in the warehouse. Ambient outdoor air samples were collected concurrently with the soil vapor points and sub-slab soil vapor/indoor air samples. Soil and groundwater samples were analyzed for TCL VOCs, TCL SVOCs, pesticides, herbicides, polychlorinated biphenyls, TAL metals, and cyanide. The soil vapor samples were analyzed for TO-15 VOCs.

The drilling provided additional information regarding the holders, which supported previous observations in the SC. The maximum depth drilled in Holder No. 4 was approximately 22 ft below the basement floor (16 ft msl). The materials encountered in the holder consisted of varying amounts of sand, gravel, brick, and concrete, which are interpreted as demolition debris. No water was encountered in Holder No. 4 and other than a slight petroleum odor at 15 to 17 ft below the basement floor in boring FS-SB-14, no impacts were observed in Holder No. 4. The absence of compounds detected at concentrations exceeding Part 375 soil criteria are consistent with the field observations.

Unlike Holder No. 4, impacted materials are present in the lower portion of Holder No. 5. The maximum depth drilled in Holder No. 5 was approximately 27 ft bgs (19 ft msl). The observed impacts included petroleum and naphthalene odors, elevated PID readings, and black staining. The analysis of soil samples from Holder No. 5 detected VOCs (benzene, ethylbenzene, toluene, xylenes), SVOCs (benzo(a)anthracene, benzo(b)fluoranthene, naphthalene), and metals (lead and mercury) at concentrations above Restricted Residential Use SCOs. Concentrations of benzene, ethylbenzene, toluene, lead, and mercury exceeded Commercial Use SCOs (**Figure 4**).

The analysis of groundwater samples from Holder No. 5 detected benzene, ethylbenzene, xylenes, iron, lead, magnesium, manganese, and sodium at concentrations exceeding GWQSS (**Figure 5**). Tetrachloroethene (PCE) and other chlorinated compounds were detected in a regional groundwater sample from one boring (FS-SB-17). PCE and chlorinated solvents are not considered to be associated with MGP sites.

Seven borings were completed outside of the holder tanks to characterize subsurface conditions across the Site. Fill was encountered in each boring with thicknesses ranging from approximately 7 to 15 ft, except at boring FS-SB-12 where 41 ft of fill was observed. No notable impacts were observed, except at FS-SB-12 where a maximum PID reading of 649.7 parts per million (ppm) and petroleum odors were present in the 50- to 60-ft bgs interval. No analytes were detected in soil samples collected from outside the holders at concentrations exceeding SCOs except for one detection of indeno(1,2,3-cd)pyrene detected in the 19- to 20-foot sample from boring FS-SB-19. In the sample, indeno(1,2,3-cd)pyrene was detected at a concentration of 0.51 mg/Kg, compared to the Restricted Residential Use SCO of 0.5 mg/Kg. The holders are not considered a source of petroleum odors and elevated PID readings.

PCE and other chlorinated compounds were detected in sub-slab soil vapor/indoor air samples (**Figure 6**). One of the two indoor air/sub-slab soil vapor samples had PCE detections at concentrations that warranted a “monitor” recommendation per New York State Department of Health (NYSDOH) SVI guidance. The detected methylene chloride concentrations in the FS-SV-03 indoor air/sub-slab soil vapor samples warranted an “identify sources and resample or mitigate” recommendation per NYSDOH guidance. PCE and chlorinated solvents are not considered to be associated with MGP sites. As such, AECOM concluded that the chlorinated impacts are from a non-MGP source, and are likely associated with the dry cleaner previously located at 191 York Street.

1.3 Site Geology and Hydrogeology

The Site is underlain by varying amounts of fill which is underlain by natural deposits of fine to coarse sand with gravel and cobbles. Material within the holder tanks is primarily fill consisting of sands and gravel and varying amounts of brick, concrete, and wood and are interpreted as demolition debris.

Cross Section A-A’ was generated using drilling information obtained during the SC and the RSOI. The location of Cross Section A-A’ is shown in **Figure 7**. **Figure 8** shows Cross Section A-A’. The cross section shows that the findings in the RSOI were consistent with the SC.

Regional groundwater occurs at a depth of approximately 37 to 42 ft bgs with flow to the north towards the East River. Perched water was observed in Holder No. 5, but not in Holder No. 4. The perched water encountered within the Holder No. 5 tank indicates that the tank is tight and not hydraulically connected to the regional groundwater.

1.4 Nature and Extent of Contamination

Constituent exceedances of NYSDEC regulatory criteria for soils, groundwater, and soil vapor are provided on **Figures 4, 5, and 6**. Elevated PID readings, staining, and naphthalene-like odors were found in samples from the bottom 7 feet of Holder No. 5.

1.4.1 Groundwater

Impacts likely associated with former gas holder impacts were identified in samples of perched water collected from Holder No. 5 (encountered at 10 ft bgs). Detected constituents include benzene, ethylbenzene, and xylenes.

Of the samples collected from regional groundwater at locations across the Site, the groundwater sample collected from one boring located outside the holders (FS-SB-12A) contained naphthalene and phenol and some metals at concentrations above NYS groundwater criteria. The exceedances are coincident with a limited observation of staining at a depth of 50 ft bgs and petroleum odors from 50 to 60 ft bgs.

Groundwater exceedances of chlorinated solvents were detected in three samples from locations outside of the holders. The chlorinated constituents are likely associated with the former dry cleaner located at 191 York Street.

1.4.2 Soil

Soil impacts likely associated with former gas holder operations, illustrated by elevated concentrations of organic constituents including benzene, ethylbenzene, and toluene, are located in the bottom portion of Holder No. 5. There were no observations of source material (e.g., non-aqueous phase liquid) in the structure. Because the water within the holder contains apparent MGP impacts, all of the soil below the water level (*i.e.*, below 10 ft bgs) are considered MGP-impacted and will require remediation as MGP-impacted material.

There were some SVOCs detected at concentrations slightly exceeding Restricted Residential Use SCOs in soil samples collected adjacent to the Site (*i.e.*, in sidewalk borings) and in the holders. These concentrations are generally consistent with urban fill material and the presence of these SVOCs are not considered to be associated with past gas holder operations.

1.4.3 Soil Vapor

Chlorinated compounds were also detected in soil gas and indoor air samples, but as stated above, these compound are not considered to be associated with MGP residuals.

1.5 Remedial Goals

The remedial goals for the Site have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. As stated in the ROD, “The selected remedy is protective of human health and the environment, complies with state and federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery

technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.”

In accordance with the ROD, the RA objectives (RAOs) for this Site are:

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.

1.6 Selected Remedy

The ROD states that the remedy will include a site cover to allow for restricted residential use of the Site in areas where the upper 2 feet of exposed surface soil will exceed the applicable SCOs. The ROD also states that a RAWP will be developed for the final remedy for MGP contamination at the Site, including removal and/or treatment of any source areas to the extent feasible. The removal or treatment would be sufficient in scope to address the Site as a source of on-site and potentially of off-site groundwater contamination. The selected remedy for MGP contamination is removal of materials in Holder No. 5.

2.0 DESIGN CONSIDERATIONS

The remedy will include the following elements:

1. Dewater Holder No. 5
2. Removal of MGP-impacted material in Holder No. 5
3. Address SVOC impacts in near surface soil/providing a cover system
4. Address CVOC impacts in soil vapor

National Grid is responsible for remediation of gas holder operations impacts (*i.e.*, above Items 1 and 2).

The ROD states: “If a remedy is determined to be necessary to address sources of non-MGP contamination present at the site, this will be evaluated separately for further action.” The property owner is responsible for non-MGP related impacts (*i.e.*, above Item 3). Based on the proposed development plan for the Site, addressing Item 3 will be performed incidental to Site redevelopment (*i.e.*, soils will be removed as needed for construction, and the buildings will function as a cover system).

Because the CVOC impacts are not MGP-related, the property owner, NYSDEC, and NYDOH will need to jointly determine appropriate actions to address CVOC impacts.

2.1 Discussion of Recent Developments with the Developer

As mentioned above in Section 1.2 - Background, the new property owner plans to demolish the existing structures and construct two residential buildings. On November 12, 2021, National Grid received drawing B-00 from the property owner showing a plan and section view of the proposed buildings (**Figure 9**). The drawing shows a proposed residential building on the 218 Front Street parcel and a smaller residential building on the 171 York Street parcel. A subsurface parking cellar is shown across the entire site. At the 171 York Street parcel, the subsurface parking cellar would extend approximately 20 ft bgs, which would be well into Holder No. 5.

During subsequent teleconference discussions attended by National Grid, AECOM, and the property owner, the property owner stated that they need to perform a geotechnical investigation that would involve penetrating the holder foundations, and that construction of the buildings would involve installing piles through the holder foundations. During a subsequent teleconference discussion attended by National Grid, AECOM, the property owner, and NYSDEC, NYSDEC

expressed its preference to have the contents of Holder No. 5 removed and the removal would need to be performed prior to the property owner penetrating the holder foundation.

Except for a Community Air Monitoring Plan (CAMP), which would be implemented by National Grid, National Grid and the property owner have tentatively agreed that the property owner would implement the RA as it applies to MGP-impacted materials (*e.g.*, disposal of MGP-impacted wastes from within Holder No. 5) as part of Site construction activities.

2.2 Pre-characterization Holder Contents for Proper Disposal

National Grid is currently preparing a Waste Characterization Work Plan (WCWP) which will be submitted to NYSDEC for their information. A copy will also be provided to the property owner. It is anticipated that this RAWP and the WCWP will be submitted simultaneously to the NYSDEC and the property owner.

While only the material below a depth of approximately 10 ft bgs is considered to be MGP-impacted, the waste characterization will address all of the material within the holder. The waste characterization of the material within the upper 10 ft would be available to the property owner for use in determining the disposition of those materials. The following presents a brief description of the anticipated waste characterization activities.

Once access is granted to National Grid, prior to the start of remedial activities, the fill and water within Holder No. 5 will be pre-characterized for proper disposal/treatment to facilitate direct loading of the waste during the redevelopment activities.

Waste characterization of the fill will be performed on samples collected in-situ. Six borings will be installed in the holder. Five of the six borings will be spaced equidistant around the interior perimeter of the holder where the fill is deepest (*i.e.*, ~27.5 ft bgs). The sixth boring will be advanced in the center of the holder where the bottom depth is approximately 19 ft bgs.

Sampling will consist of grab and composite soil samples. A grab sample consists of one sample collected from a discreet depth. Composite samples consist of five grab samples. The grab and composite soil samples will be collected at the frequencies required by the treatment facility. Three potential National Grid-approved thermal treatment facilities have been identified: the Bayshore Soil Management facility in Keasbey, NJ, the Clean Earth of Southern PA facility in Morrisville, PA, and the Clean Earth of New Castle facility in New Castle, DE. As it is not known

at this time which facility will be used, the currently planned sampling effort will include the analytical parameters and sampling frequencies required by each facility.

Composite soil samples will be collected on a depth basis, with each composite representing a specific depth interval (*e.g.*, 8 to 10 ft bgs, 16 to 18 ft bgs, etc.). The results will provide information to direct waste management activities based on the specific depth of the excavation.

It is assumed that the water in the holder will be transported to the Clean Water of New York facility located in Staten Island, NY, or the Veolia, Inc. facility in Middlesex, NJ, both National Grid approved facilities. Both facilities require one water sample for waste characterization. The water will be collected from one of the soil borings and analyzed for the required analytical parameters.

3.0 REMEDIAL ACTION SCOPE

National Grid has prepared a scope of work to conduct an RA to address MGP-impacted material on the 218 Front Street/171 York Street parcels to the extent practical in conjunction with the proposed redevelopment construction activities. As required by NYSDEC, the approach focuses on the use of removal of MGP-impacted material in Holder No. 5. Surface and near surface soils (*i.e.*, within the upper 2 feet) with non-MGP related PAH impacts will be removed by the property owner incidental to Site redevelopment. The need for remediation of CVOC impacts, which are not MGP-related, will need to be jointly determined by the property owner, NYSDEC, and NYDOH.

National Grid has not been provided with detailed redevelopment plans. Therefore, the following discussions pertaining to the RA are based on the current understanding of proposed redevelopment and environmental, health, and safety controls anticipated to be implemented during the remediation. The means and methods of the RA may be revised by the property owner and its contractors to be consistent with other site-wide construction activities.

3.1 Remediation Elements

The selected remedy for the Site described in the ROD includes the following site-specific elements.

3.1.1 Cover System

A cover system will be required to allow for restricted residential use of the Site in areas where the upper 2 ft of exposed surface soil will exceed the applicable SCOs (*i.e.*, non-MGP-related PAHs). It is anticipated that the redevelopment activities will include the removal of these materials. Should any impacted soil above PAH SCOs remain, the new building foundations and building slabs would function as the required cover system.

3.1.2 Institutional Control

An institutional control (IC) in the form of an environmental easement (EE) shall be granted by the property owner to NYSDEC, and shall include:

- annual certification of ICs and engineering controls (ECs) in accordance with Title 6 New York Codes, Rules and Regulations (NYCRR) Part 375-1.8(h)(3).

- a requirement to allow the use and development of the controlled property for restricted residential, commercial, and industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- a requirement to restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or the NYC Department of Health; and
- a requirement for compliance with the NYSDEC-approved ISMP. The ISMP has been prepared by National Grid and was approved, with modification, by NYSDEC in December 2020. The final ISMP is dated January 2021. National Grid shall update the ISMP to a SMP following development, pursuant to Section 6.0.

3.1.3 Green Remediation

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.

3.2 Remedial Approach

The water and fill within Holder No. 5 will be removed and taken off-site for proper treatment/disposal at National Grid-approved permitted facilities. The timing of water removal (*i.e.*, either prior or during construction) will be determined by the property owner.

3.3 Description of the Remedial Actions

The following sections outline the conceptual scope and current understanding of the Site redevelopment during which the RA will take place. The materials within Holder No. 5 will be removed to the extent practical. PAH-impacted shallow soils (0 to 2 ft bgs) that exceed Restricted Residential Use SCOs will be removed incidental to Site redevelopment. Any impacted soils

remaining after development-related excavation activities will be covered by the building foundation and floor slab, which would function as the cover system required by the ROD.

3.3.1 Site Preparation

The property owner will be responsible for obtaining necessary permits for Site redevelopment. Prior to start of the excavation work, Dig Safely New York will be contacted and companies with subsurface utilities present will be requested to mark-out their utilities in within public right-of-way areas. Although National Grid does not have the detailed redevelopment plans, Site preparation activities are anticipated to include installation of erosion and sediment controls and temporary facilities; environmental monitoring and controls as included in a project Community and Environmental Response Plan (CERP), see Section 3.6; delineation of soil stockpile and load-out areas; and construction of decontamination pads/facilities.

3.3.2 Pavement Removal

Within the proposed excavation area, the surface materials will be removed, stockpiled, sized, and loaded out for off-site transportation and disposal or recycling based on the waste stream and in accordance with the property owner's waste management plan.

3.3.3 Holder No. 5 Contents Excavation

Based on the findings of the SC and RSOI, apparent MGP-impacted materials (water and fill) are present below approximately 10 ft in Holder No. 5. The upper 10 ft of fill will need to be removed to access the MGP-impacted material below 10 ft. The upper 10 ft of fill is not considered MGP-impacted and would not need to be handled as MGP-impacted material. The MGP-impacted fill within Holder No. 5 will be removed to the extent practical to the full depth of the holder.

3.3.3.1 Excavation Support

The structures located to the east and west of Holder No. 5 will likely require the installation of temporary structural support during the excavation work. The temporary structural support design details will be developed by the property owner.

3.3.3.2 Management of Water from within Holder No. 5

Based on information obtained during the SC and RSOI, water within the holder is not considered to be hydraulically connected to the regional groundwater. The holder is estimated to

contain approximately 250,000 gallons of water. The means, methods, and timing of water removal be determined by the property owner. However, National Grid requires that the water be treated at a National Grid-approved treatment facility.

3.3.3.3 Excavation of Holder Contents

Historical Drawing No. 2 (presented above in Section 1.1) indicate that Holder No. 5 has an approximate outside diameter of 132 ft. Findings from the SC and RSOI suggest that the holder bottom is convex (referred to as “a dumpling”) with the center of the bottom at a depth of approximately 19 ft bgs and the perimeter bottom depth at approximately 27.5 ft bgs. The holder was not penetrated during the investigations. Based on drilling observations, the holder bottom is suspected to be concrete with an unknown thickness.

Based on exposure at ground surface, the side walls are brick and approximately 3 ft in width at the ground surface. The brick sidewalls are believed to thicken with depth based on the historical drawing (Drawing No. 2) and experiences on previous MGP projects, and the batter angle is unknown. Telescoping collapsed steel tanks are typically located in subsurface holders associated with former MGP activities, and therefore these features might be present and would be removed as part of the RA.

Based on the dimensions of the holder obtained during the investigation and using historic data and drawings, a total of approximately 11,200 cubic yards (cy) of material is present in the holder. Removal methods will be determined by the property owner but are anticipated to include a mechanical excavator and bucket.

3.3.4 Solid Waste Management

Waste streams anticipated to be encountered and generated during the RA include non-hazardous soils, construction and demolition (C&D) debris, asbestos containing material (ACM), and construction water. Hazardous materials are not anticipated.

MGP-related materials (*i.e.*, holder water and fill) for which National Grid will be considered the waste generator, will be taken to permitted facilities approved by National Grid. Soil will be treated by thermal desorption. The property owner will determine the disposal fate for non-MGP materials generated during Site redevelopment.

Off-site transport will occur using United States Department of Transportation (USDOT)-approved shipping containers. Copies of waste manifests, bills of lading, and other required

shipping documentation will accompany each load with all required information populated and signatures from owner, generator, and transporter affixed. Copies of this documentation will be sent to National Grid.

3.3.4.1 Soils and Debris

As previously mentioned in Section 1.2, soils outside Holder No. 5 and fill to a depth of approximately 10 ft within Holder No. 5 are considered non-MGP-impacted. SC and RSOI findings indicate that the fill below 10 ft in Holder No. 5 is nonhazardous MGP-impacted material and will require treatment by thermal desorption at a National Grid-approved facility. National Grid will have an on-site Engineer observing the excavation work and will perform inspection for visual and olfactory impacts within soils removed to determine if the soil/fill may potentially meet hazardous criteria. To the extent practical, it is anticipated that soil and debris will be direct loaded for off-site transportation and disposal. Soil and debris unable to be direct loaded or requiring further characterization will need to be stockpiled within a lined and bermed stockpile area and covered when not in-use.

Based on disposal facility acceptance criteria, debris that would need to be segregated from the excavated soils would include large rocks, wood, and other materials commonly found in urban fill. This material would be stockpiled and staged separately for off-site transportation and disposal at a National Grid-approved facility.

Miscellaneous C&D debris generated during construction will be staged in roll-off dumpsters or equivalent until the dumpster is picked-up for disposal off-site. This material may include, but is not limited to, concrete, metals, plastics and rubbers, wood, and packaging.

Material separated from impacted soils are not anticipated to be disposed with C&D debris unless the materials are decontaminated, or they meet the C&D disposal facility acceptance criteria.

3.3.4.2 Asbestos Containing Material

Based on previous MGP project site experiences, utilities and pipes associated with the former MGP and other historic operations may contain asbestos. Material suspected to be ACM will be wrapped in poly sheeting and staged on a lined stockpile area for characterization. Based on the characterization results, ACM will be transported off-site for disposal at an approved facility.

3.3.5 Off-site Transportation

Soils and impacted debris will be loaded onto trucks for off-site transportation and disposal. Trucks will be staged and trucking routes established in accordance with a traffic control plan prepared by the property owner. Trucks will be loaded to prevent recontamination of adjacent clean areas. Trucks will be inspected and decontaminated and/or undergo a wheel wash prior to departing from the Site as needed. All trucks will have wraps and covers over the load prior to exiting the Site.

3.4 Decontamination

Decontamination of equipment, trucks, and other materials will occur within a lined stockpile area, decontamination pad, or other equivalent form of secondary containment. The primary method for decontamination will be high pressure water and brushing/scrubbing. Hot water and surfactants, such as Biosolve® Pinkwater®, will be applied to facilitate removal of MGP-related impacts from the excavator bucket or other equipment handling such impacted materials. Water generated during decontamination will be collected and transferred to the on-site water storage tanks for treatment and disposal off-site at a National Grid-approved facility. Following use, the water storage tanks will be decontaminated as required from the vendor or supplier prior to demobilization from the Site; water generated will be collected and treated and disposed off-site.

3.5 Site Restoration

Following the completion of Holder No. 5 excavation work, the property owner will continue Site redevelopment as needed to complete the non-remedial work. This work includes, but is not limited to, construction of a building foundation, an underground parking garage, erection of two residential building, and restoration of the areas outside of the building and parking footprint.

Any backfill material from an off-site source will be required to meet the requirements of NYSDEC 6 NYCRR 375 Subpart 6.7 (d) and the NYSDEC 1,4-dioxane and per- and polyfluoroalkyl substances (PFAS) guidelines.

3.6 Community and Environmental Response Plan (CERP)

3.6.1.1 Erosion and Sediment Control

Erosion and Sediment Controls (E&SC) will be installed during Site preparation activities in accordance with the E&SC Plan and permit to be obtained by the property owner. Anticipated

E&SC components include, but are not limited to, curb cuts, rock construction entrances, rock construction access roads, storm drain inlet protection, geotextile tube dewatering bag, and silt fence, straw wattles, compost filter socks, or equivalent. All controls will be inspected, maintained, and replaced as required by the E&SC Plan and permit.

3.6.1.2 Community Air Monitoring Program (CAMP)

Community air monitoring will be performed by National Grid per NYSDOH and Occupational Safety and Health Administration (OSHA) requirements, and according to the site-specific CAMP to be generated by National Grid. The contaminants of concern are VOCs and particulates.

Community air monitoring will be continuous during activities capable of generating dust or releasing odors or vapors, such as soil erosion fencing installation, excavation and handling of impacted soils, and backfilling and grading.

CAMP reports will be submitted to NYSDEC and NYSDOH representatives on a weekly basis. Notification of exceedances of the Action/Alert Levels will be provided to NYSDEC and NYSDOH within 2 hours of the occurrence, with written notification provided to the agencies within 24 hours.

3.6.1.3 Odor Vapor and Dust Control

Odor, vapor, and dust controls will be applied and/or installed during the excavation of the material within the holder and other areas as needed based on field observation and air monitoring results. These controls include, but are not limited to, implementation of the CAMP, application of odor suppressants [Rusmar, Inc. RusFoam® OC (AC-645), Rusmar Inc. RusFoam® LM (AC-900), and Biosolve® Pinkwater®], sequencing the work to limit open excavations, covering of stockpiles, and application of non-potable water to soils to mitigate dust.

National Grid will require that the property owner use a temporary fabric structure (TFS) to minimize odor emissions while removing MGP-impacted materials. Excavation, stockpiling, and load-out of MGP-impacted materials will occur within the TFS.

3.6.1.4 Other CERP Elements

Other Project CERP elements, that may be developed and implemented as or if needed at the Site by the property owner include noise and vibration monitoring and traffic controls.

4.0 PERMITS AND AUTHORIZATIONS

The property owner and its contractor will be responsible for applying for, obtaining, and enforcing all local, state, and federal permits required to perform the construction and RA activities at the Site. All permit application and enforcement fees and costs will be borne by the property owner.

5.0 SCHEDULE

5.1 RAWP Approval and Design

The schedule provided below is based on the Order on Consent timeframes but may be expedited when possible and if needed:

- NYDEC RAWP Review: within 60 days of RAWP submittal
- Address NYSDEC Comments: 45 days
- Submit Final RAWP to NYSDEC: within 45 days of receipt of comments
- NYSDEC Final RAWP Review: 30 days after receipt of revised RAWP
- NYSDEC RAWP Approval: within 30 days of receipt of Final RAWP

There will be no design drawings or specifications development, or bidding, procurement, and contractor selection processes by National Grid associated with this RA. All design, bidding, and contracting will be conducted by the property owner.

5.2 Construction

The RA will be performed in conjunction with other Site redevelopment activities as denoted in the subsections above. The property owner and their contractor will be responsible for establishing a construction baseline schedule prior to mobilization and updating the progress schedule on weekly or biweekly basis or other approved timeframe as determined by the property owner. The property owner has noted that some construction elements (e.g., installation of piles) need to commence or be completed by June 15, 2022 in order to meet certain deadlines associated with New York States 421a tax abatement program.

The property owner is responsible for submitting a construction schedule to NYSDEC. National Grid has requested to be copied on the schedule submittal.

6.0 POST REMEDIAL ACTIONS

Following the completion of the RA, in accordance with the NYSDEC-approved ISMP, a Final Engineer Report (FER) will be prepared by National Grid. The ISMP will be revised by National Grid as an SMP, annual inspections will occur, and Periodic Review Reports (PRRs) will be generated.

6.1 Reporting

The RA will be documented in a FER. The document will include the following minimum content:

- A description of the constructed remedy.
- Quantities of contaminants treated or removed.
- The boundaries of the properties subject to the EE.
- As built drawings, where appropriate and as pertaining to the RA.
- Identification/documentation of the applicable EE.

The document will describe the ICs and provide the FER certification for the remedial program. The SMP for the property will be included as attachments to the document.

A draft FER will be submitted to NYSDEC within 90 days of the completion RA and receipt of necessary information from the property owner to develop the FER.

6.2 Periodic Review/Inspections

The property will be inspected on an annual basis and the findings reported in a PRR. The inspections will document, through certification by a Qualified Environmental Professional (QEP) that the institutional controls are in place and remain effective. The report will include a summary of inspections performed and the results of the inspections.

7.0 REFERENCES

AECOM, 2021: Interim Site Management Plan for the K-Front St. Station, Site #224063, January 2021.

Ibid: Remediation System Optimization Investigation Report, K-Front St Station, Site #224063, June 2021.

Ibid: Summary of Proposed Remedial Action Work Plan, K-Front Street Holder Station – NYSDE Site #224063, August 13, 2021

NYSDEC, 2007: Order on Consent, Index No. A2-0552-0606, between the Department and The Brooklyn Union Gas Company d/b/a KeySpan Energy Delivery New York & KeySpan Gas East Corporation d/b/a KeySpan Energy Delivery Long Island, executed in August 2007.

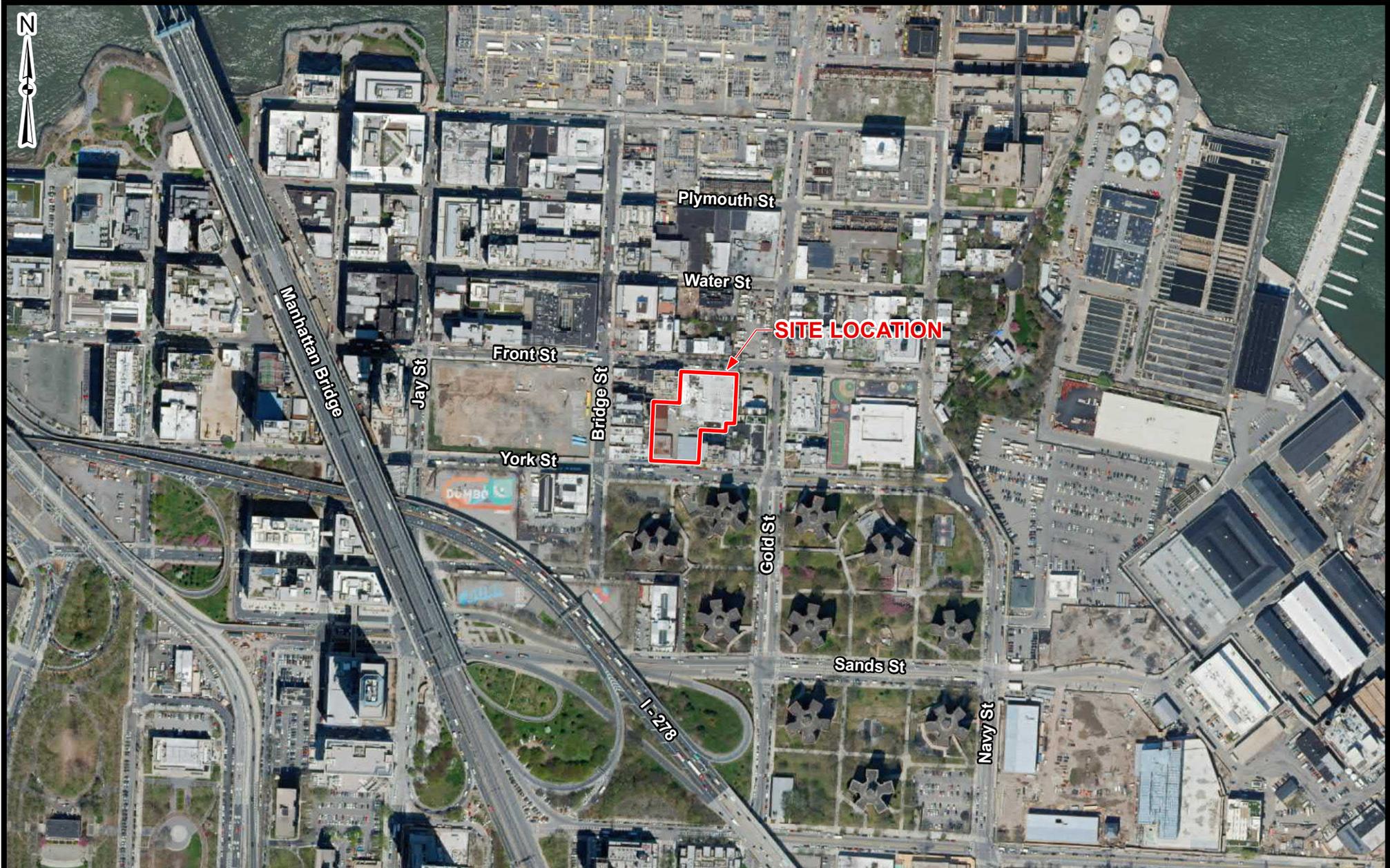
Ibid, 2018: Record of Decision, K-Front St. Station, State Superfund Project, Brooklyn, Kings County, Site No. 224063, March 2018.

Ibid: Remedial System Optimization (RSO) Investigation Report, Front Street Holder Station, Site No. 224063, Brooklyn, Kings County, August 5, 2021.

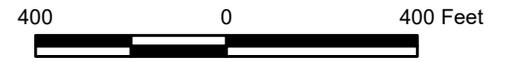
Ibid: Request for Complete Remedial Action Work Plan, Front Street Holder Station, Site No. 224063, Brooklyn, Kings County, September 16, 2021.

URS, 2015: Site Characterization Report for the Former Front Street Holder Station, 206 & 218 Front Street, Brooklyn, New York, 11202, NYSDEC Site #224063, July 2013, Revised April 2015, prepared by URS Corporation.

FIGURES

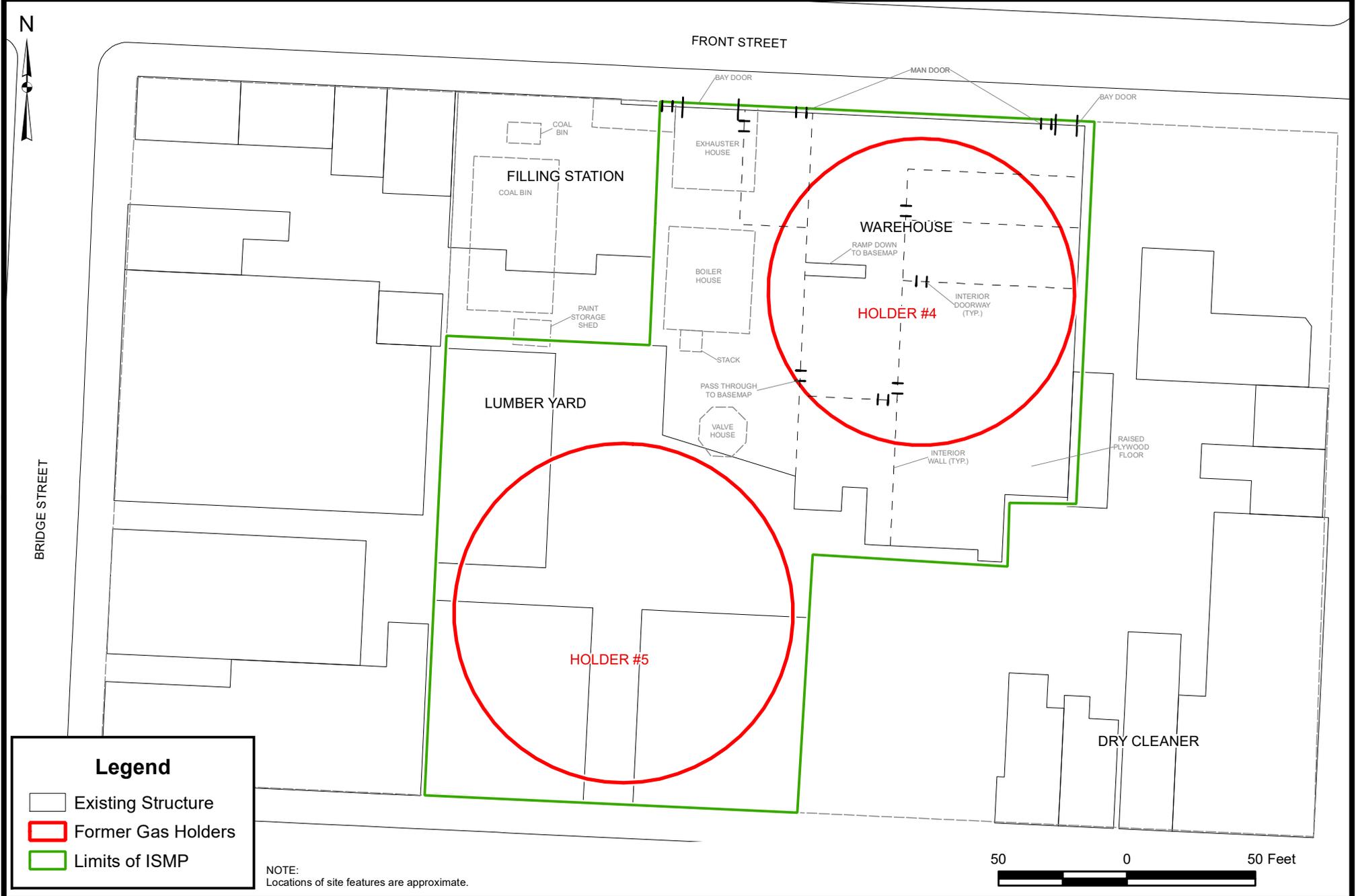


SOURCE:
- ESRI World imagery Service



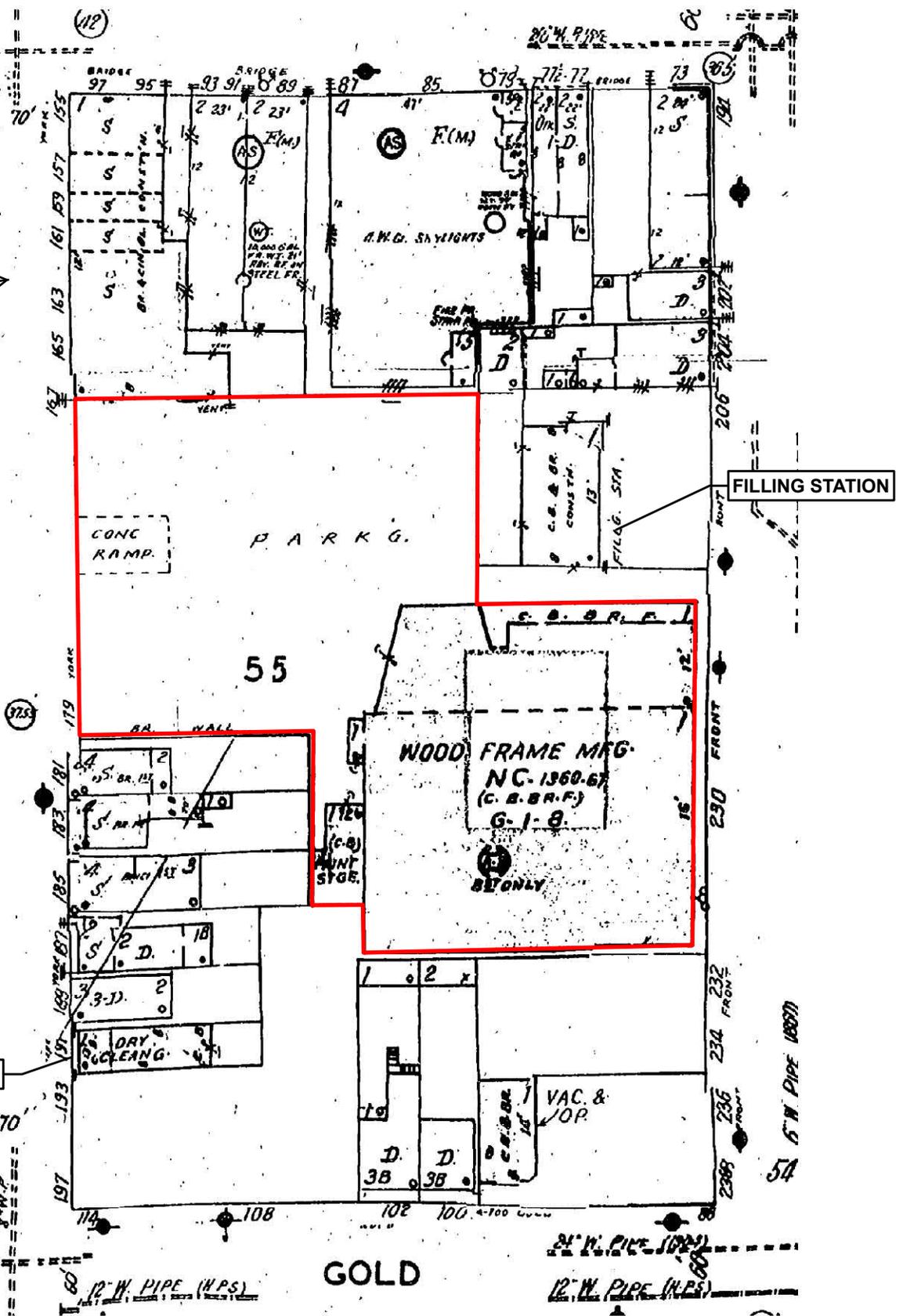
SITE ORTHOPHOTO
NATIONAL GRID K - FRONT STREET STATION

FIGURE 1





GROUNDWATER FLOW DIRECTION

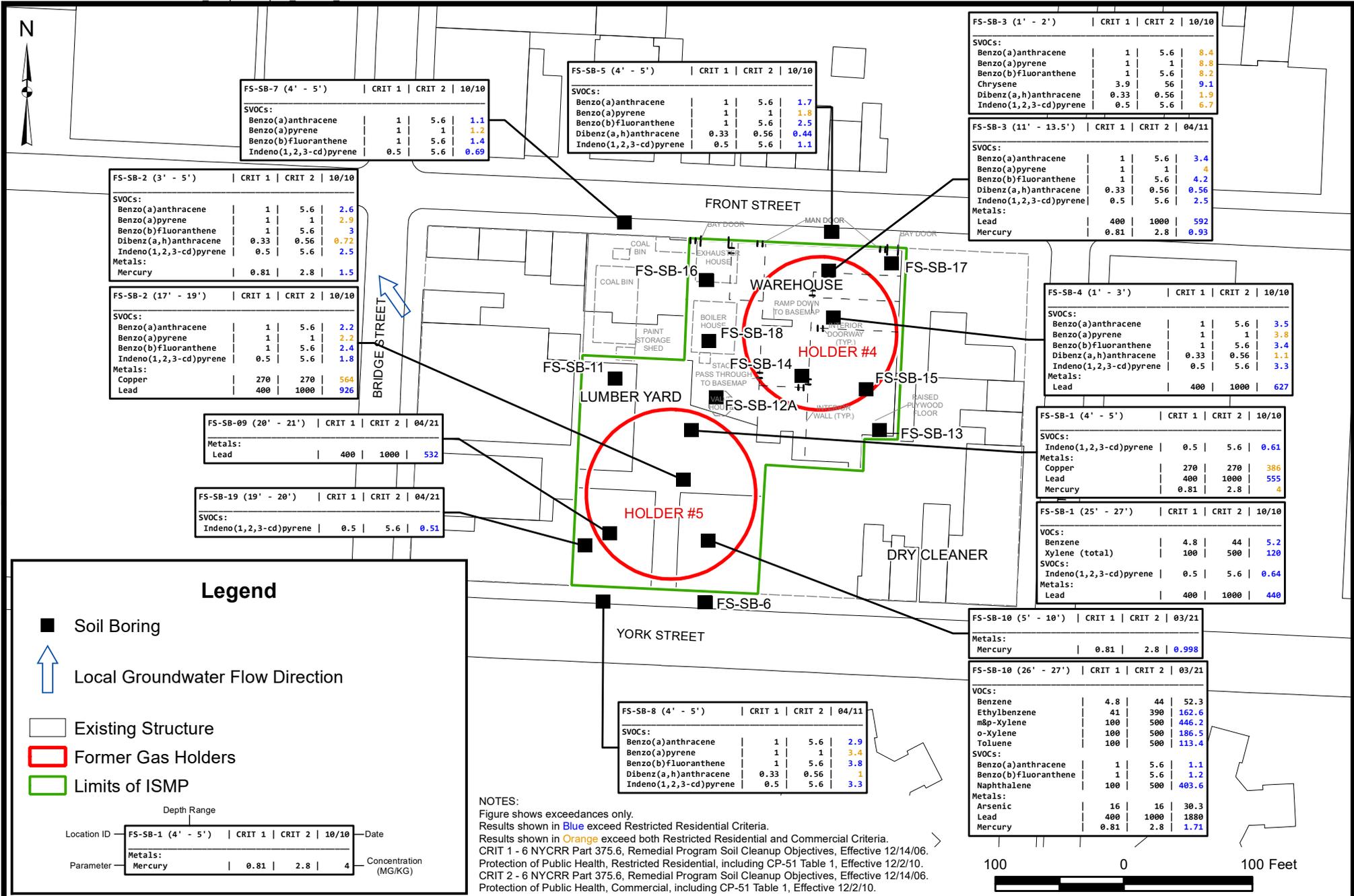


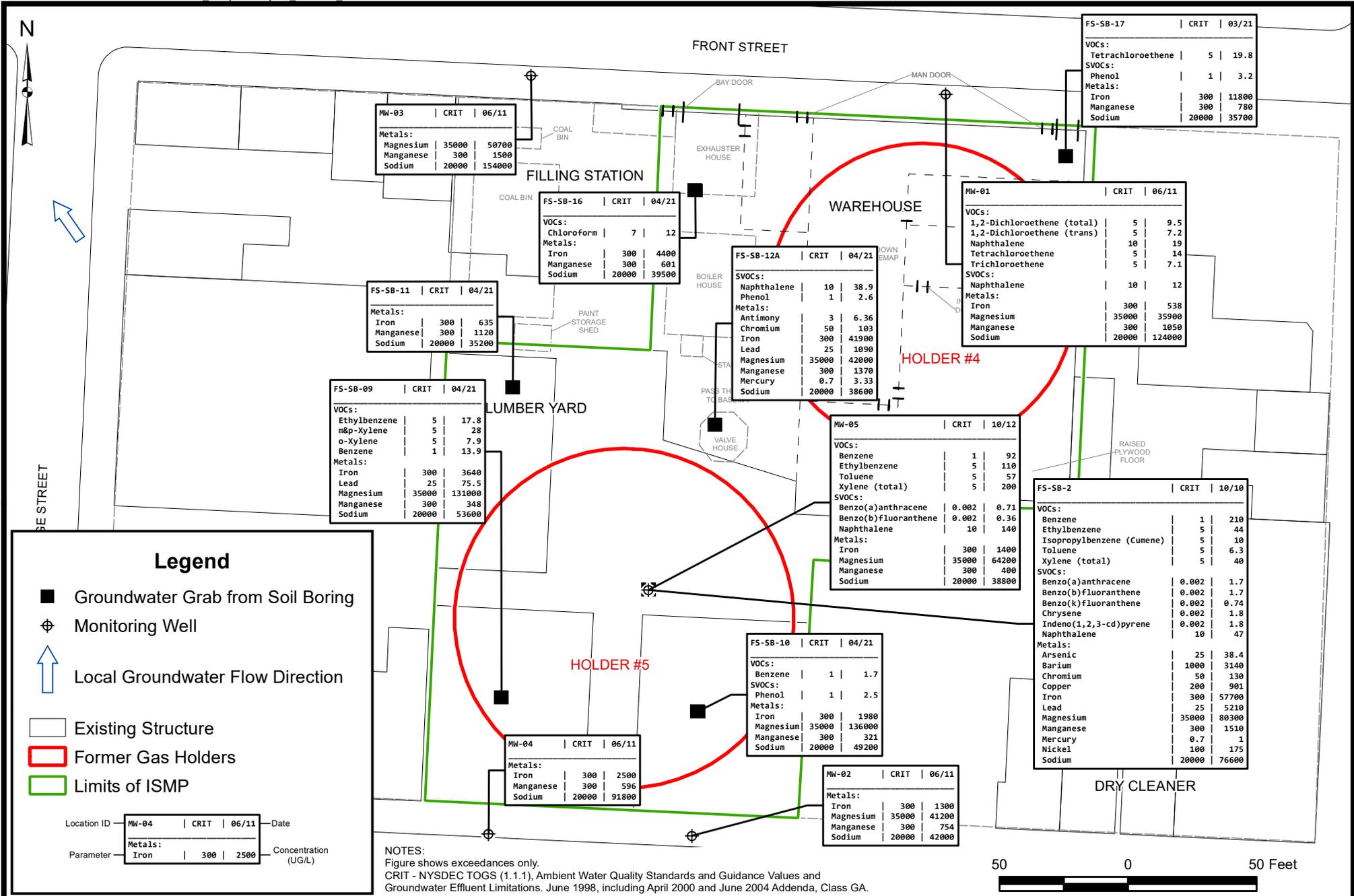
N:\myc\B\GIS\ARCMAP\B003(20120125) GROUNDWATER ELEVATION.mxd 8/6/2013



1969 SANBORN FIRE INSURANCE MAP
NATIONAL GRID K - FRONT STREET STATION

FIGURE 3

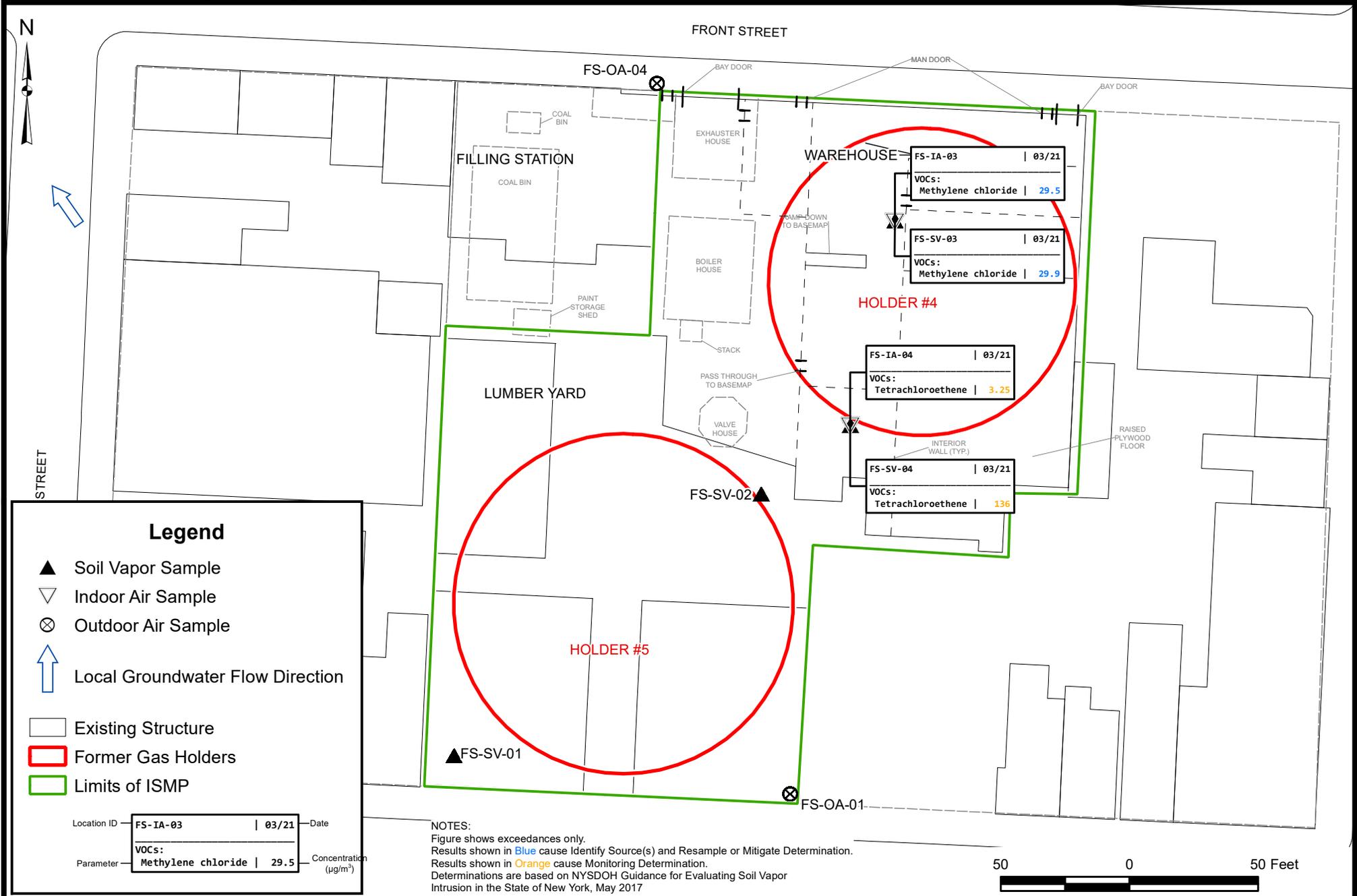




GROUNDWATER ANALYTICAL RESULTS EXCEEDANCES ONLY
 NATIONAL GRID K - FRONT STREET STATION

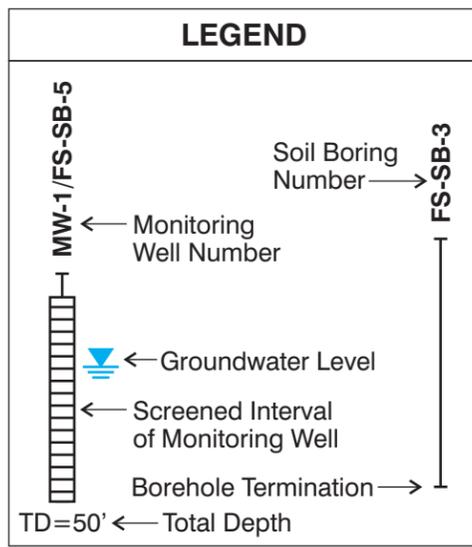
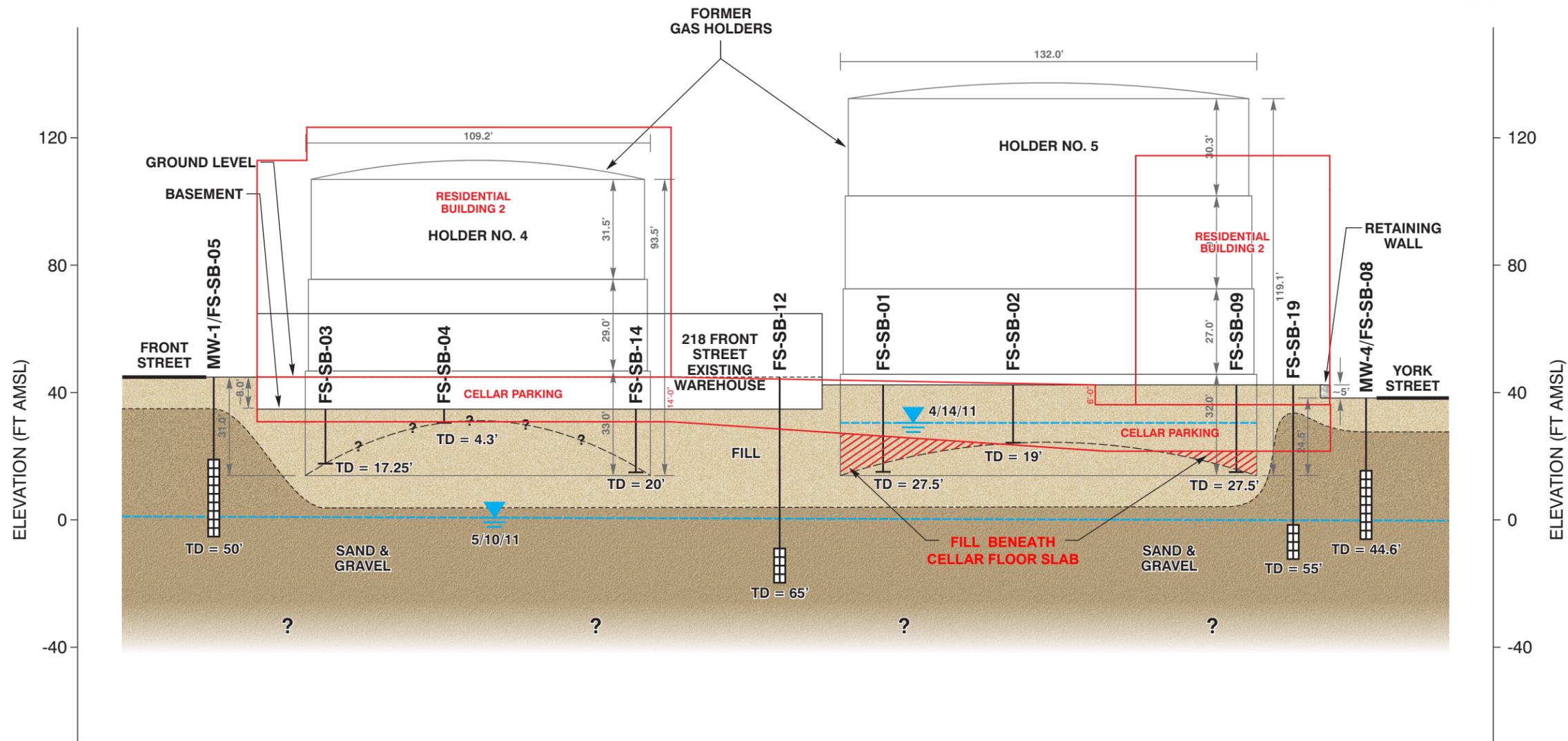
FIGURE 5





A
NORTH

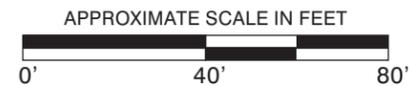
A'
SOUTH



NOTES: National Grid drawings show that some gas holder foundations had prominences that extended as much as 10 feet or more above the gas holder bottom. Drilling refusal depths suggest the presence of prominences in Holder No. 4 and No. 5.

Holder dimensions were taken from Brooklyn Union Gas Drawing No. 6-B-50. The holder dimensions do not reflect any distortion that may result from plotting the cross section along the length of the transect shown in Figure 3.

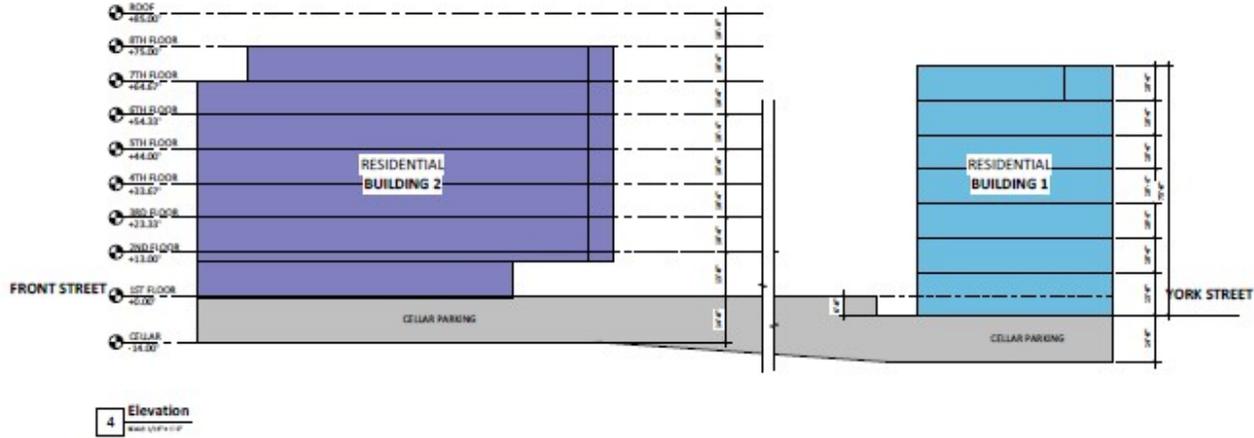
The site conditions depicted here were made from observations and information obtained from the investigation points and historic drawings. The interpretation of conditions between the investigation points is based on accepted professional hydrogeologic and engineering practices and principals. Actual conditions between the investigation points may vary from those shown.



NATIONAL GRID
FRONT STREET FORMER GAS HOLDER SITE
CROSS SECTION A-A'

AECOM

FIGURE 8



218 FRONT STREET
BROOKLYN, NY 11225



300 CLIFTON PLACE, SUITE 400 BROOKLYN, NY 11201
T: (718) 461-5200

PARKING AT CELLAR
CELLAR PLAN
8-00 07-18



DEVELOPER'S PLAN
NATIONAL GRID K - FRONT STREET STATION

FIGURE 9

APPENDIX A

ROD

RECORD OF DECISION

K - Front St. Station
State Superfund Project
Brooklyn, Kings County
Site No. 224063
March 2018



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

DECLARATION STATEMENT - RECORD OF DECISION

K - Front St. Station
State Superfund Project
Brooklyn, Kings County
Site No. 224063
March 2018

Statement of Purpose and Basis

This document presents the remedy for the K - Front St. Station site, a Class 2 inactive hazardous waste disposal site. The remedial program was chosen in accordance with the 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, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the K - Front St. Station site and the public's input to the proposed remedy presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1) Cover System: 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 two feet 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.

2) Imposition of an institutional control in the form of an environmental easement for the controlled property that:

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

- allows the use and development of the controlled property for restricted residential, commercial and industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or the NYC Department of Health; and
- requires compliance with the Department-approved Interim Site Management Plan.

3) An Interim Site Management Plan (ISMP) 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 Cover System discussed in Paragraph 1 above.

The ISMP will include, but may not be limited to:

- an Excavation Plan which details the provisions for management of limited excavations in areas of remaining contamination;
- a provision for further 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 MGP contamination at the site, including removal and/or treatment of any source areas to the extent feasible. This removal or treatment will be sufficient in scope to address the site as a source of on-site and potentially of off-site groundwater contamination. The presumptive remedy for MGP contamination will be excavation of both former holder tank structures and MGP-related source material, unless an alternative, equivalent remedy is developed based on new information. If a remedy is determined to be necessary to address sources of non-MGP contamination present at the site, this will be evaluated separately for further action. Citizen Participation Plan (CPP) activities will continue through this process. Any necessary remediation will be completed prior to, or in association with, redevelopment;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including 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; and
- maintenance of site access controls and Department notification.

In addition, the ISMP will include:

- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- the steps necessary for the annual 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.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

March 15, 2018

Date



Michael J. Ryan, P.E., Assistant Director
Division of Environmental Remediation

RECORD OF DECISION

K - Front St. Station
Brooklyn, Kings County
Site No. 224063
March 2018

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected 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. The disposal or release of hazardous wastes at this site, as more fully described in this document, has contaminated various environmental media. The remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This Record of Decision (ROD) identifies the selected remedy, summarizes the other alternatives considered, and discusses the reasons for selecting the 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 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repository:

Brooklyn Community Board 2
Attn: Robert Perris
350 Jay Street, 8th Floor
Brooklyn, NY 11201
Phone: 718-596-5410

A public meeting was also conducted. At the meeting, the findings of the site characterization

(SC) were presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period was held, during which verbal or written comments were accepted on the proposed remedy.

Comments on the remedy received during the comment period are summarized and addressed in the responsiveness summary section of the ROD.

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, Voluntary 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 Front Street Holder Station site is comprised of one parcel of land located at #218 Front Street in the Vinegar Hill neighborhood of Brooklyn, Kings County. The site is approximately 1.13 acres in size, identified as Block 55, Lot 20, and is bordered by Front Street to the north, by Gold Street to the east, by York Street to the south, and by Bridge Street to the west. The current owner of the site property is Great Front Realty Corp.

Site Features: The main site feature is a one-story building at #218 Front Street, which is used as a warehouse. There are also three open-air buildings at the south side of the property with an address of 171 York Street. The three open-air buildings are actively used for lumber and building material storage. These buildings cover approximately 90 percent of the site. The rest of the property is covered with pavement and/or, locally, gravel, and used for loading and unloading of materials in the lumber yard.

Current Zoning and Land Use: The site is currently zoned for C2-4/R6A, which allows for residential, commercial and light industrial uses. The actual use is commercial with an active warehouse, and lumber yard. The nearest residential area is directly adjacent to the site at the northwest and southeast site boundaries.

Past Use of the Site: The site was owned and/or operated as a Manufactured Gas Plant (MGP) holder station by The Brooklyn Gas Light Company from approximately 1867 to November 1895. Following incorporation of The Brooklyn Union Gas Company in September 1895, the site was then owned and operated by this company until 1935. The station operated solely for gas distribution, and no gas production facilities were present at the site. The site consisted of two water-sealed gas holders, identified as Holder No. 4 and Holder No. 5. The first gas holder (No. 4) was completed circa 1867, and the second gas holder (No. 5) was constructed around 1890 in the southwestern portion of the site. Both holders and all associated MGP buildings were

removed between 1935 and 1938. The property was used as a parking lot until it was sold in 1951. Subsequent use has been, and continues to be, as a lumberyard and warehouse.

Site Geology and Hydrogeology: The site is underlain by varying amounts of fill which is underlain by natural deposits of fine to coarse sand with gravel and cobbles. Material within the holder tanks is primarily fill consisting of sands and gravel and varying amounts of brick, concrete, and wood.

Regional groundwater occurs at a depth of approximately 40 feet below grade with flow to the north towards the East River. Perched groundwater was encountered within the Holder No. 5 tank, and is not hydraulically connected to the regional groundwater.

A site location map is attached as Figure 1 (orthophoto) and 2 (site plan).

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) were evaluated.

A comparison of the results of the SC 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

The Department and The Brooklyn Union Gas Company d/b/a KeySpan Energy Delivery New York; KeySpan Gas East Corporation d/b/a KeySpan Energy Delivery Long Island entered into an Order on Consent, as respondents, on March 4, 2007 (Index A2-0552-0606). The Order, including subsequent modifications, obligates the respondents to implement a full remedial program for this and 31 other former MGP and Holder Station sites.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Site Characterization

A Site Characterization (SC) has been conducted. The purpose of the SC 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 SC Report.

The following general activities are conducted during an SC:

- Research of historical information,
- 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.

The analytical data collected on this site includes data for:

- groundwater
- soil

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 SC 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: SC 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 SC Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

benzene	naphthalene
toluene	1,2-dichloroethene
ethylbenzene	trichloroethene (TCE)
xylene (mixed)	tetrachloroethene (PCE)
1,2,4-trimethylbenzene	benzo(a)anthracene
isopropylbenzene	benzo(a)pyrene

benzo(b)fluoranthene
dibenz[a,h]anthracene
indeno(1,2,3-CD)pyrene
benzo[k]fluoranthene
chrysene
cyanides(soluble cyanide salts)

arsenic
chromium
lead
mercury
1,3,5-trimethylbenzene

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

- groundwater
- soil

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 SC.

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 01.

Based upon investigations conducted to date, which included sampling of soil and groundwater for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOC), and inorganics (metals and cyanide), the primary contaminants of concern are benzene, toluene, ethylbenzene and xylene (together known as BTEX), 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene; polycyclic aromatic hydrocarbons (PAHs); and inorganics.

Soil - The subsurface soil on-site exceeded the unrestricted soil cleanup objectives (SCOs) for petroleum related VOCs, metals and SVOCs only inside the holder tanks (See Figure 3). However, sampling of subsurface soil was limited due to inability to access much of the property with a drill rig, and a source area of higher contaminant concentrations may be present beneath the buildings. The soil within the holder tanks had concentrations of naphthalene with a maximum of 280 parts per million (ppm), and xylene with a maximum of 120 ppm. (See Figure 4, soil which exceeds restricted residential SCOs, and Figure 5, soil which exceeds commercial SCOs).

There were no detections of chlorinated solvents or total cyanide above unrestricted SCOs in soils either on- or off-site.

The PAHs which exceeded unrestricted SCOs were benz(a)anthracene (maximum concentration of 8.4 ppm), benzo(a)pyrene (maximum of 8.8 ppm), and benzo(b)fluoranthene (maximum of 8.2 ppm), chrysene (maximum of 9.1 ppm), all have an SCO of 1 ppm; dibenz(a,h)anthracene (SCO of 0.33 ppm) had a maximum concentration of 1.9 ppm; and indeno(1,2,3-cd)pyrene (SCO of 0.5 ppm) had a maximum concentration of 6.7 ppm. Adjacent to the site, the soils only slightly exceeded the unrestricted SCOs, which is likely more indicative of historic, urban fill.

The only inorganics of concern in subsurface soils to exceed unrestricted SCOs were lead (SCO of 63 ppm) at a maximum concentration of 926 ppm, and mercury (SCO of 0.18 ppm) with a maximum of 4.0 ppm.

The current use of the property as a lumber yard prevented the collection of surface soil samples that would have been representative of past holder station operations from the small area where soil is exposed. However, since the working level of the former holder was below the current ground elevation, surface soil contamination related to the holder station operation is not expected.

Groundwater - Samples collected from monitoring wells on-site (water contained inside the Holder No. 5 tank) exceeded groundwater quality standards (GWQS) for benzene at 210 parts per billion (ppb) with a standard of 1 ppb, toluene at 55 ppb (standard of 5 ppb), ethylbenzene at 110 ppb (standard of 5 ppb), xylenes at 210 ppb (standard of 5 ppb), naphthalene at 70 ppb (standard 10 ppb), 1,2,4-trimethylbenzene at 6 ppb (standard of 5 ppb), isopropylbenzene at 10 ppb (standard of 5 ppb), five PAHs (benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene and indeno(1,2,3-cd)pyrene; all with an standard of 0.002 ppb) ranging from ND to 1.8 ppb, cyanide at a 287 ppb (standard of 200 ppb), and three metals consisting of arsenic at 38 ppb (standard of 25 ppb), chromium at 130 ppb (standard of 50 ppb), and lead at 5,210 ppb (standard of 25 ppb). The groundwater sampled from one of four off-site monitoring wells, only, contained chlorinated VOCs (1,2-dichloroethene, tetrachloroethene (PCE), trichloroethene (TCE)) and naphthalene exceeding GWQS. (See Figure 6, Groundwater Exceedances). It should be noted that the chlorinated solvents were not used during the holder station operations, and are not considered related to the former holder station operations.

Soil vapor sampling has not been conducted at the site due to existing infrastructure and operating businesses.

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*.

Persons who enter the site could contact contaminants in the soil by digging or otherwise disturbing the soil. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by the groundwater. Volatile organic compounds in soil vapor (air spaces within the soil) may move into overlying buildings 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 within the on-site buildings. Access to conduct the recommended sampling within the on-site structures has been impeded due to existing infrastructure and operating businesses. Environmental sampling indicates 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.

The remedial action objectives for this site are:

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 SELECTED 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.

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 remedy is set forth at Exhibit D.

The selected remedy is referred to as the Interim Site Management with Institutional Controls remedy.

The estimated present worth cost to implement the remedy is \$219,000. The cost to construct the remedy is estimated to be \$129,000 and the estimated average annual cost is \$3,000.

The elements of the selected remedy are as follows:

1) Cover System: 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 two feet 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.

2) Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- requires the remedial party or site owner to complete and submit to the Department an annual certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3);
- allows the use and development of the controlled property for restricted residential, commercial and industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or the NYC Department of Health; and
- requires compliance with the Department-approved Interim Site Management Plan.

3) An Interim Site Management Plan (ISMP) 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 Cover System discussed in Paragraph 1 above.

The ISMP will include, but may not be limited to:

- an Excavation Plan which details the provisions for management of limited excavations in areas of remaining contamination;
- a provision for further 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 MGP contamination at the site, including removal and/or treatment of any source areas to the extent feasible. This removal or treatment will be sufficient in scope to address the site as a source of on-site and potentially of off-site groundwater contamination. The presumptive remedy for MGP contamination will be excavation of both former holder tank structures and MGP-related source material, unless an alternative, equivalent remedy is developed based on new information. If a remedy is determined to be necessary to address sources of non-MGP contamination present at the site, this will be evaluated separately for further action. Citizen Participation Plan (CPP) activities will continue through this process. Any necessary remediation will be completed prior to, or in association with, redevelopment;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including 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; and,
- maintenance of site access controls and Department notification.

In addition, the ISMP will include:

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

- the steps necessary for the annual 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.

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Site Characterization (SC) 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 SC 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 where 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 structures, which are two gas holder tanks.

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 MGP-related impacts were found at the site in soil and limited groundwater samples, at one offsite groundwater monitoring well location, and are potentially present within and adjacent to the former MGP gas holder structures. However, these areas could not be fully investigated due to the presence of several occupied buildings on the site. The impacted 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, and 1,2,4-trimethylbenzene (VOCs); naphthalene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene and indeno(1,2,3-cd)pyrene (SVOCs); and arsenic, chromium, lead and total cyanide (inorganics) exceed standards or guidance values at the site. Only naphthalene was detected above standards at one offsite location.

Several chlorinated solvents, including 1,2-dichloroethene, tetrachloroethene and trichloroethene were detected in samples collected from one off-site monitoring well. These compounds are not associated with the former holder station operations.

There were also seven other inorganic compounds that exceeded the groundwater standards in both on-site and off-site monitoring wells. These compounds were barium, copper, iron, magnesium, manganese, nickel and sodium, and they are not associated with the former holder station operations.

Table # 1 – Groundwater (Onsite and Offsite-see notes)

Detected Constituents	Concentration Range Detected (ppb) ^a	SCG ^b (ppb)	Frequency Exceeding SCG
VOCs			
Benzene	ND – 210	1	2 of 6
Toluene	ND – 55	5	2 of 6
Ethylbenzene	ND – 110	5	2 of 6
Xylene (total isomers)	ND – 210	5	2 of 6
1,2,4-Trimethylbenzene	ND – 6	5	1 of 6
Isopropylbenzene	ND – 10	5	1 of 6
Naphthalene	ND – 70	10	2 of 6
1,2-Dichloroethene (total) ^c	ND – 9.5	5	1 of 6
1,2-Dichloroethene (trans) ^c	ND – 7.2	5	1 of 6
Tetrachloroethene ^c	ND – 14	5	1 of 6
Trichloroethene ^c	ND – 7.1	5	1 of 6
SVOCs			
Benzo(a)anthracene	ND – 1.7	0.002	2 of 6
Benzo(b)fluoranthene	ND – 1.7	0.002	2 of 6
Benzo(k)fluoranthene	ND – 1.0	0.002	2 of 6
Chrysene	ND – 1.8	0.002	2 of 6
Indeno(1,2,3-cd)pyrene	ND – 1.8	0.002	1 of 6
Naphthalene	ND - 140	10	3 of 6
Inorganics			
Arsenic	ND – 38	25	1 of 6
Cyanide (total)	ND – 287	200	1 of 6
Chromium	ND – 130	50	1 of 6
Lead	ND – 5,210	25	1 of 6

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).

c- Detected in one offsite monitoring well

Based on the findings of the SC, the presence of MGP-related wastes has resulted in the contamination of groundwater within the holder tanks. 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 and total cyanide.

Soil

Subsurface soil samples were collected and analyzed for VOCs, SVOCs, and inorganics during the site characterization (SC) 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 38 feet below ground surface.

Total xylene was the only VOC that exceeded both the unrestricted and restricted residential SCOs on site. There were no VOCs that exceeded the unrestricted SCOs off-site. Eight individual PAH compounds (benzo(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 chromium and lead exceeded both unrestricted and restricted residential SCOs.

Table # 2 – Soil (On-site)

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					
Xylene (total)	ND - 120	0.26	1 of 17	1.6 ^(d)	2 of 17
SVOCs					
Benzo(a)anthracene	ND – 8.4	1.0	9 of 17	1.0	9 of 17
Benzo(a)pyrene	ND – 8.8	1.0	9 of 17	1.0	9 of 17
Benzo(b)fluoranthene	ND – 8.2	1.0	9 of 17	1.0	9 of 17
Benzo(k)fluoranthene	ND – 3.4	0.8	7 of 17	1.7 ^(d)	3 of 17
Chrysene	ND – 9.1	1.0	8 of 17	1.0 ^(d)	8 of 17
Dibenz(a,h)anthracene	ND – 1.9	0.33	6 of 17	0.33	6 of 17
Indeno(1,2,3-cd)pyrene	ND – 6.7	0.5	11 of 17	0.5	11 of 17
Naphthalene	ND - 280	12	2 of 17	12 ^(d)	2 of 17
Inorganics					
Chromium	ND – 75	30	1 of 17	19 ^(d)	1 of 17
Lead	ND - 926	63	8 of 17	400	5 of 17

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 SC, 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 xylene, PAHs, and lead.

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 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 occupied buildings 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 both former MGP structures (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:	\$219,000
Capital Cost:.....	\$129,000
Annual Costs:.....	\$3,000

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 30 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 55,000 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	129,000	3,000	219,000
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 SELECTED REMEDY

The Department has selected 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 selected remedy is depicted in Figure 7.

Basis for Selection

The selected 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.

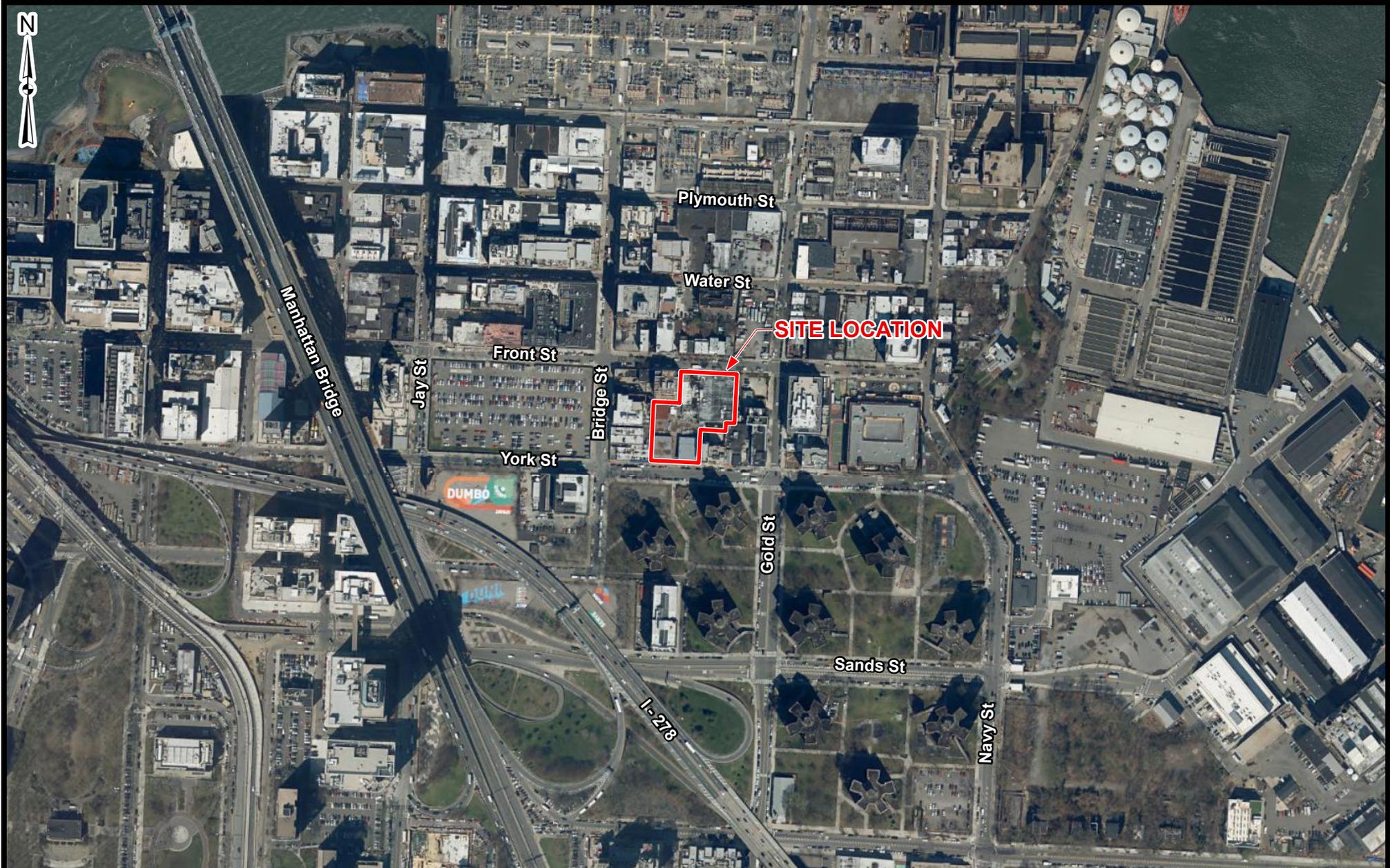
A cost estimate was not developed for Alternative 3 because it is not considered to be implementable.

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.

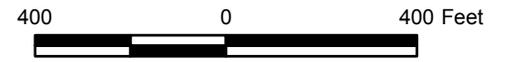
For the current use of the site as an active warehouse and lumber yard, the institutional and engineering controls of the selected remedy are protective of public health. Since the anticipated future use of the site may include restricted residential, Alternative 2 provides for the installation of a 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 was prepared that describes public comments received and the manner in which the Department will address the concerns raised. Alternative 2 is being selected because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.

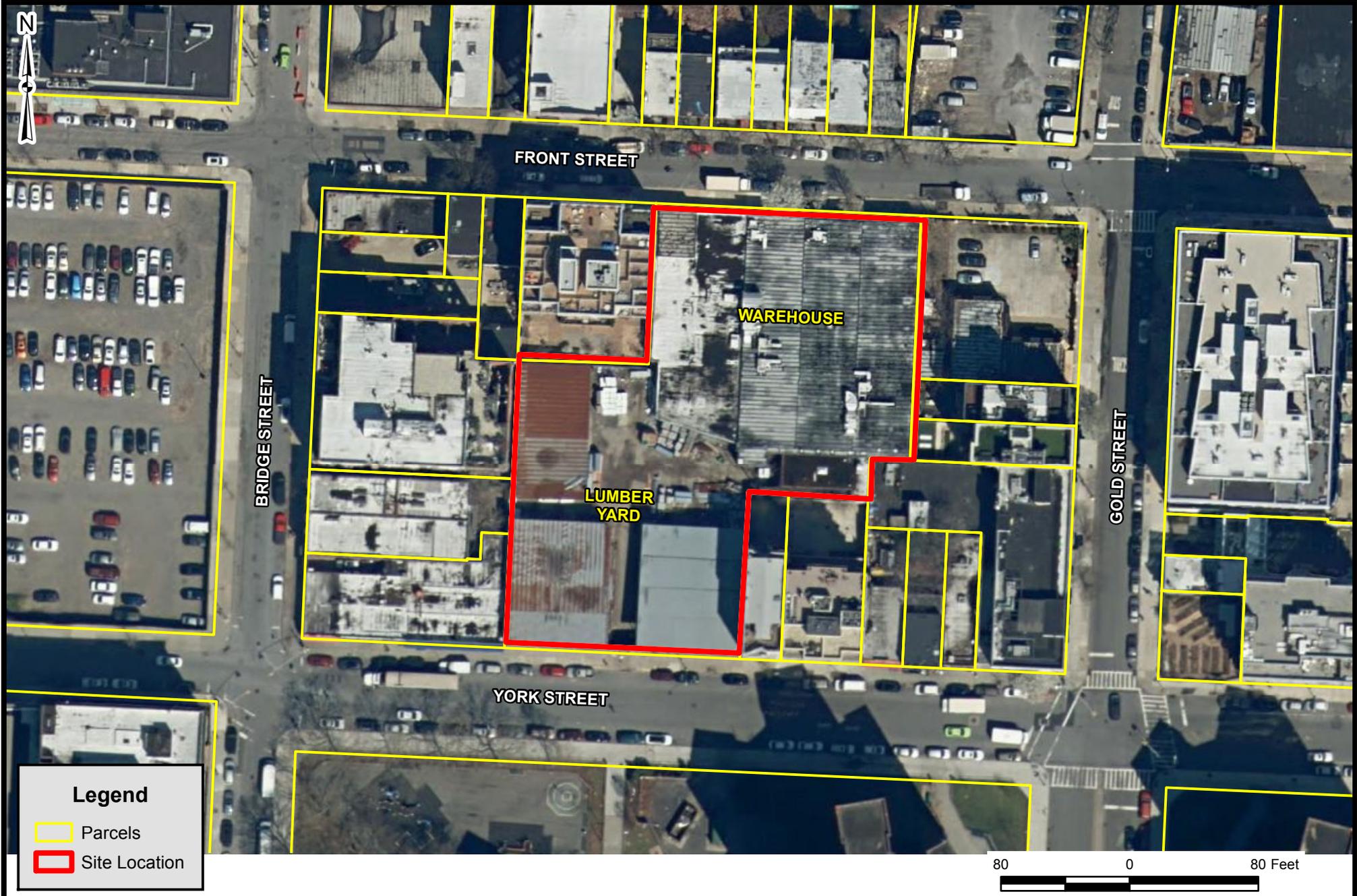


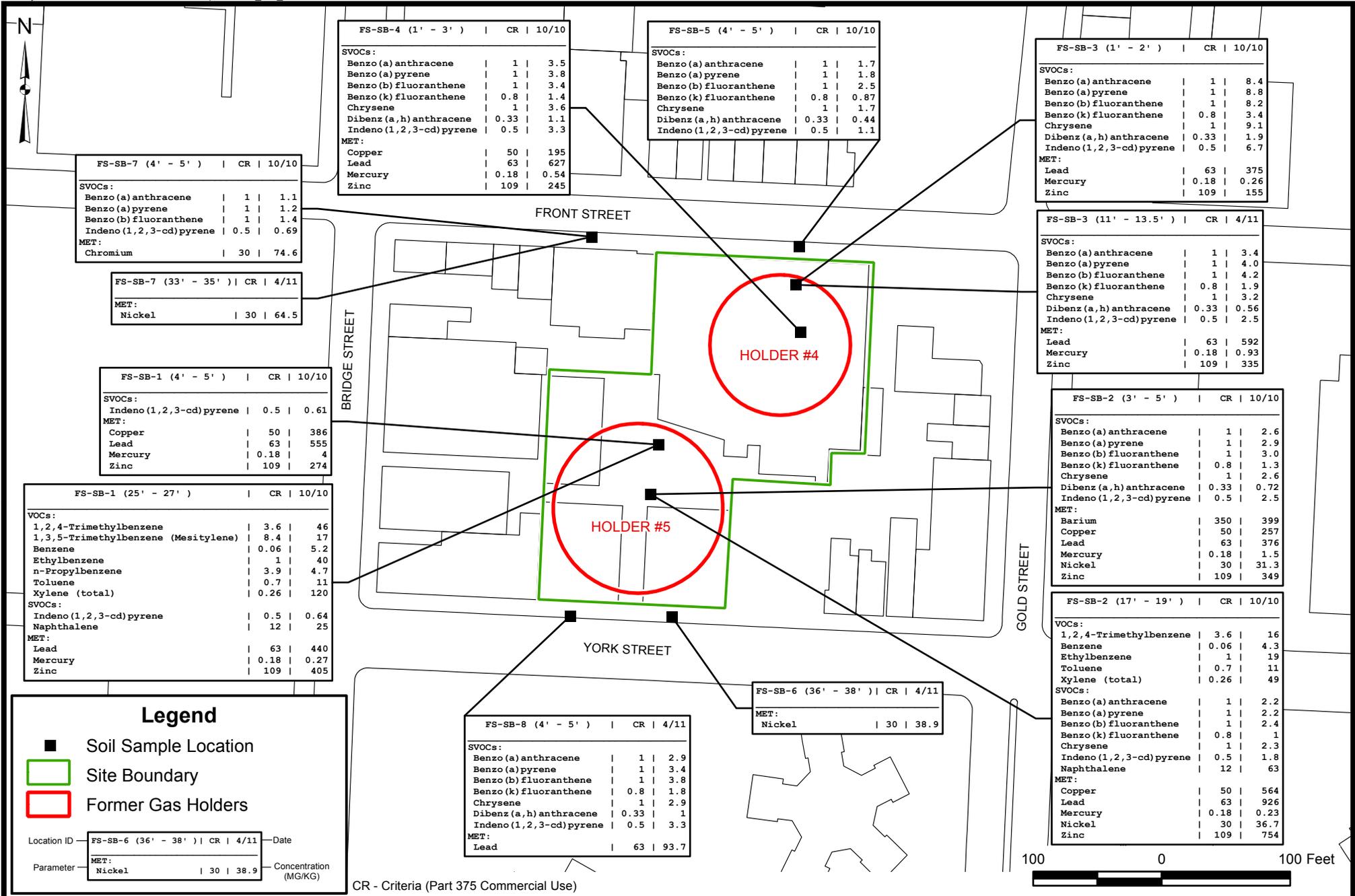
SOURCE:
- NYS DOP High Resolution imagery 2016

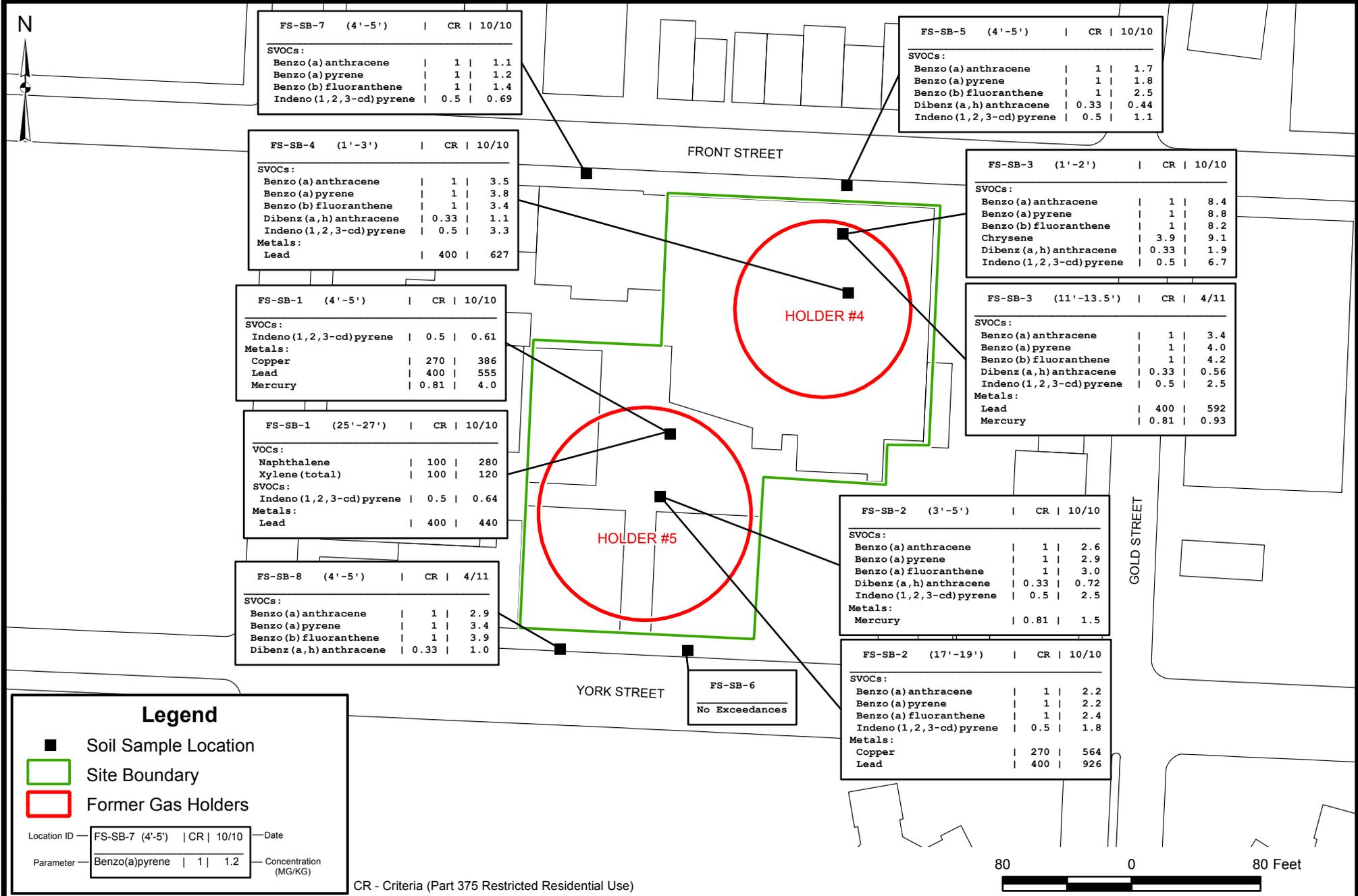


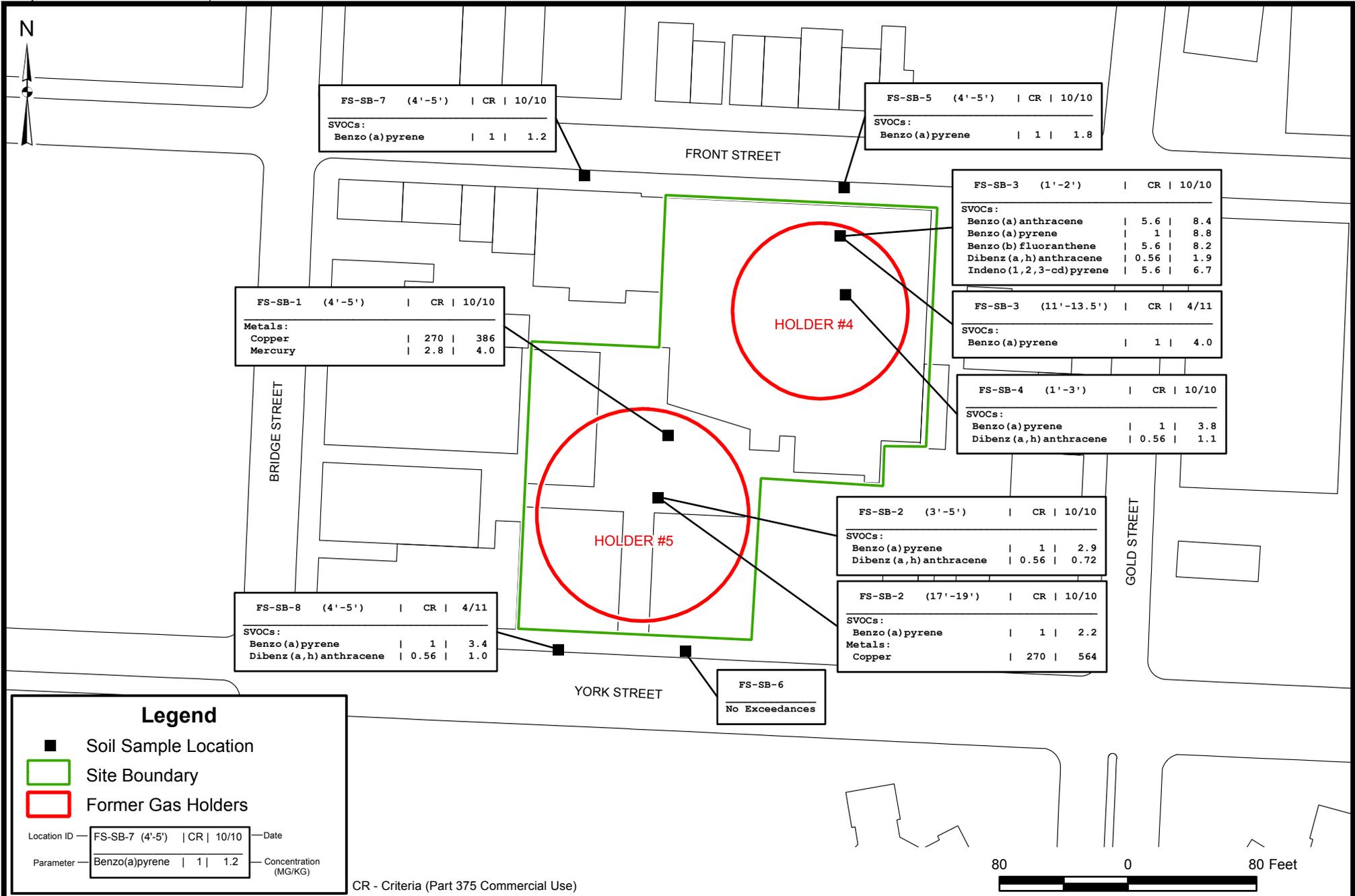
FORMER FRONT STREET HOLDER STATION
SITE ORTHOPHOTO

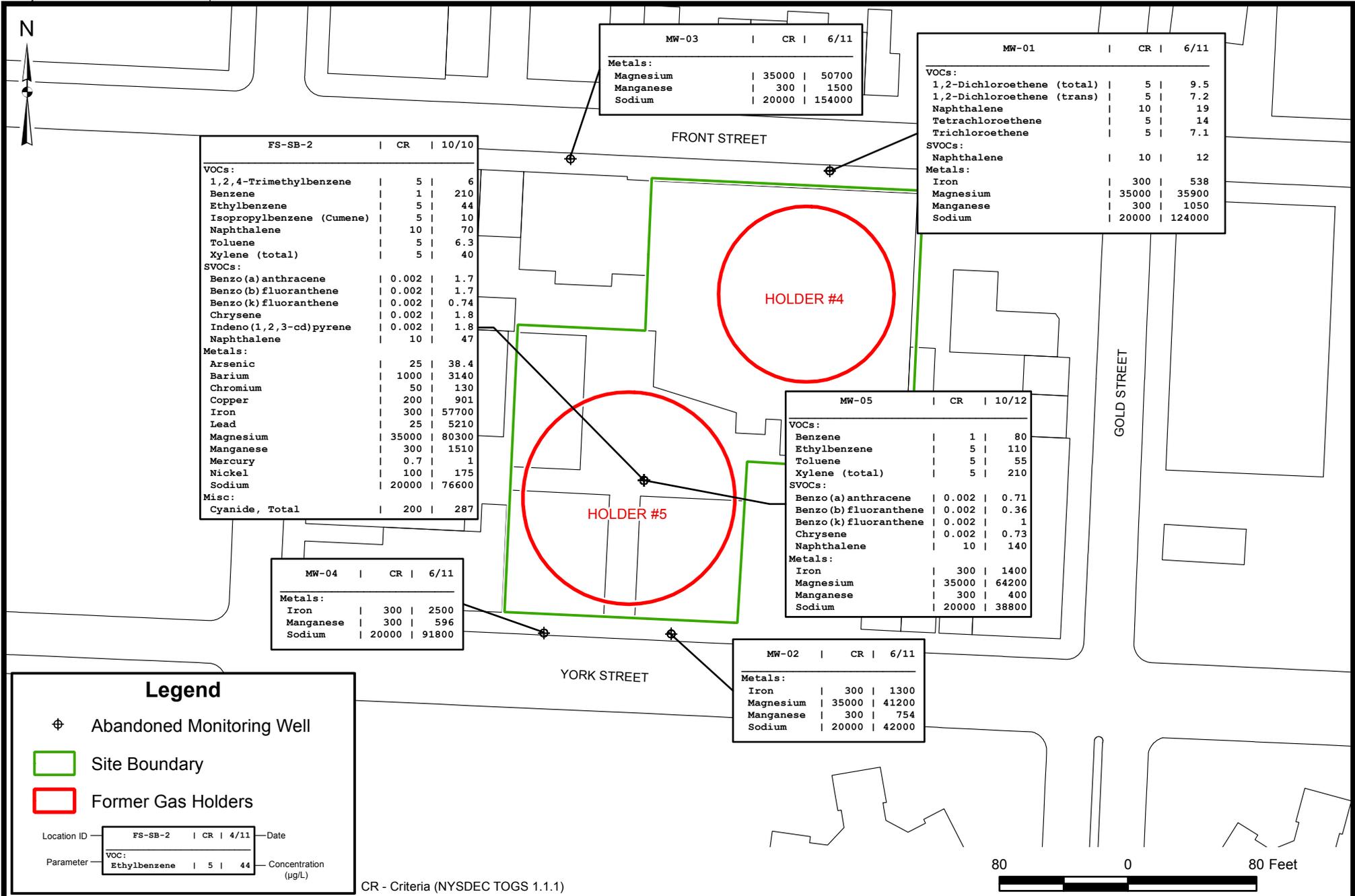
FIGURE 1

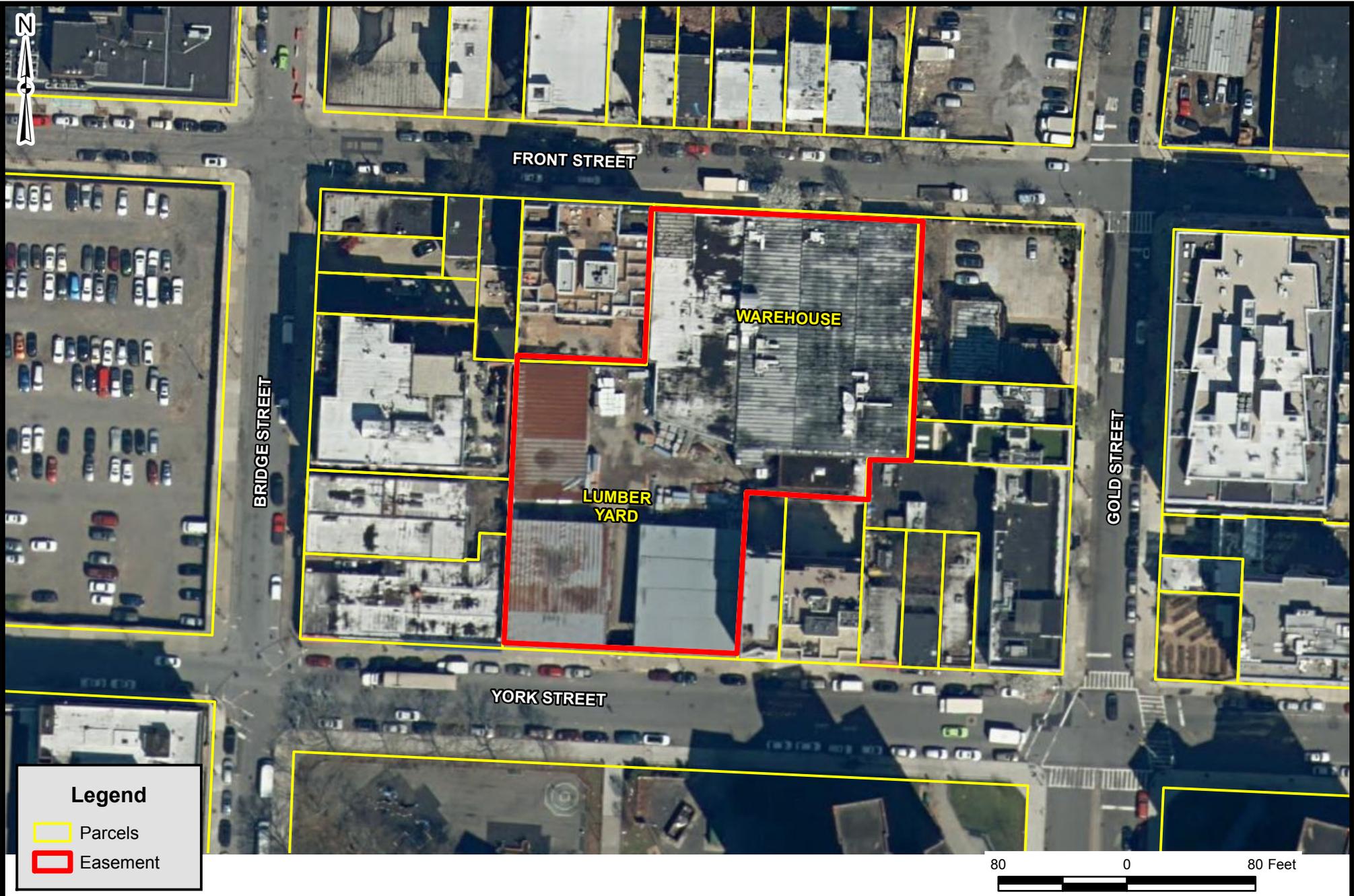












APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

**K – Front Street Holder Station
State Superfund Project
Brooklyn, Kings County, New York
Site No. 224063**

The Proposed Remedial Action Plan (PRAP) for the K-Front Street Holder Station site was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on October 11, 2017. The PRAP outlined the remedial measure proposed for the contaminated soil and groundwater at the K-Front Street Holder Station site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on October 18, 2017, which included a presentation of the site characterization for the K-Front Street Holder Station as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on November 11, 2017.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the Department's responses:

The following comments were received during the October 18, 2017 public meeting:

COMMENT 1: How soon after the buildings were demolished could the investigation begin?

RESPONSE 1: The Department expects that National Grid would be in communication with the property owner/developer before and during this process, so that an expedited investigation schedule could be agreed upon.

COMMENT 2: Why did it take so long to get to this point?

RESPONSE 2: The process involves preparation of work plans and subsequent reports by National Grid, which are all reviewed and commented on by both the Department and the NYS Department of Health (NYSDOH). Data that is collected during these investigations needs to be organized and presented in such a way that the review is clear and concise. Also, since this property is privately owned, and access agreement needed to be secured between National Grid and the property owner, as well as an agreed upon schedule so that the field activities did not interfere with existing businesses on the property.

COMMENT 3: Is a developer pressuring the Department to have this meeting now?

RESPONSE 3: The Department has not had any formal discussions regarding redevelopment of the property.

COMMENT 4: What is the difference between the restricted residential use and residential use? Across the street are row houses (townhouses), would they be allowed?

RESPONSE 4: Residential use allows for single family housing, while restricted residential use requires common ownership or a single owner/managing entity of the site. Since the row houses are individually owned, they would be considered single family housing, and would not be allowed.

COMMENT 5: Who is responsible for any other impacts at the site (non-MGP related material)?

RESPONSE 5: The property owner and/or developer would be responsible for any other impacts found at the site not co-mingled with MGP-related material.

Joshua M. Levy, Attorney, Tannenbaum Helpert Syracuse and Hirschtritt LLP, representing Great Front Realty Corp. (property owner), submitted a letter (dated November 6, 2017) which included the following comments:

COMMENT 6: Section 4: Land Use and Physical Setting. The first paragraph in this section provides that “alternatives (or an alternative) that restrict(s) the use of the site to commercial use . . . is being evaluated.” This does not appear to be accurate, as none of the three alternatives contemplate restricting the property to commercial use.

RESPONSE 6: This is an error the Department has acknowledged and corrected in the Record of Decision (ROD). The corrected text will refer to restricted residential use.

COMMENT 7: Section 6.3: Summary of Environmental Assessment. The fourth paragraph in this section provides that “a source area of higher contaminant concentrations may be present beneath the buildings.” This appears to be speculative and is not supported by the data. We respectfully request that it be removed from the PRAP.

RESPONSE 7: As explained in the PRAP as well as at the public meeting, a full remedial investigation could not be completed at the site due to the existing structures, which prevented the Department from proposing a complete remedial option at this time. There are two holders on the property, one of which sits fully underneath one building. The Department’s experience on these types of holder station sites is that any contamination, if present, would be contained within or adjacent to these holders.

COMMENT 8: Section 6.3: Summary of Environmental Assessment. The ninth paragraph in this section states that the standard for arsenic is 38 ppb however the table in Figure 6 indicates that the criteria level for arsenic is 25 ppb.

RESPONSE 8: The Department acknowledges this error, which has been corrected in the ROD.

COMMENT 9: Section 6.3: Summary of Environmental Assessment. The ninth paragraph in this section provides that “the chlorinated solvents were not used during the holder station operations and are not considered related to the site.” This statement appears to be speculative and without support. We respectfully request that it be removed from the PRAP.

RESPONSE 9: This site was used only as a gas storage facility, not for the production of the gas. The wastes found at holder station sites are, typically, primarily coal tar, or contaminants found in the tar such as VOCs and SVOCs. Chlorinated solvents were never used in the production or storage of manufactured gas.

COMMENT 10: Section 7: Summary of the Proposed Remedy. We respectfully request that this section be revised to make clear that the PRPs (not the property owner) are responsible for the implementation of the proposed remedy and the costs associated therewith.

RESPONSE 10: The Consent Owner for this site, which directs the respondents to investigate and remediate, if necessary the site, is between the Department and The Brooklyn Union Gas Company and its successors. In the PRAP, Section 5, Enforcement Status, clearly identifies the PRPs as legally liable for MGP-related contamination at the site.

COMMENT 11: Section 7: Summary of the Proposed Remedy. We respectfully request that this section be revised to clarify that the Cover System will not be required during the development (if any) of the property.

RESPONSE 11: The cover system element of the remedy is required only if there are areas of exposed soils that do not meet the criteria for the proposed use of the site (restricted residential). As stated in the PRAP, the cover may consist of soil, but also could be part of existing or planned redevelopment components, such as pavement, concrete, building foundations or slabs.

COMMENT 12: Summary of the Proposed Remedy. Element #2 provides that the remedial party or site owner must complete and submit an annual certification. We respectfully request that this be revised to clarify that the PRPs are responsible for such certification.

RESPONSE 12: The PRPs are required to submit that certification, but the site owner should cooperate in gathering the requested information. There are situations where the site owner becomes the remedy party, and is then responsible for this submittal.

COMMENT 13: Exhibit B: The second bullet point erroneously restricts the use of the on-site property to commercial or industrial uses. We respectfully request that it be revised to indicate that the property can be utilized for restricted residential use.

RESPONSE 13: Acknowledged. See Response #6.

COMMENT 14: Exhibit B: The PRAP assumes that Alternative 3 is not feasible. We disagree and request that this alternative be further explored. To that end, my client invites the Department to visit the property to better determine whether this alternative is feasible.

RESPONSE 14: Alternative 3 was deemed not feasible based on the limited data that was collected during the site characterization, as well as an understanding that not all of the site impacts are related to the former MGP holder station operations, which would preclude the PRP from conducting such a cleanup. See Response #7. At such time in the future the site becomes accessible in all areas to collect enough data to propose a full remedial option, this Alternative could be re-evaluated. The Department would be more than willing to visit the site to discuss the needs of the future investigation.

Donald P. Campbell, Project Manager, National Grid, submitted a letter (dated November 9, 2017) which included the following comments:

COMMENT 15: Section 2: Citizen Participation. As previously discussed, the library repository information provided in the PRAP is in error, and the library should not be identified as a repository.

RESPONSE 15: This information will be removed from the ROD.

COMMENT 16: Section 3: Site Description and History, Site Features paragraph. There appears to be an omission in the sentence “There are three open-air [sic] at the south side of the property with an

address of 171 York Street.” National Grid proposes the sentence to be revised to read “There are also three open-air buildings at the south side of the property with an address of 171 York Street.”

The last sentence of the paragraph reads, “The rest of the property is covered in dirt and pavement and used for loading and unloading of materials in the lumber yard.” Based on a review of the site characterization report, National Grid proposes that the sentence be changed to read, “The rest of the property is covered with pavement and/or, locally, gravel and used for loading and unloading of materials in the lumber yard.”

RESPONSE 16: Acknowledged. The text has been revised accordingly.

COMMENT 17: Section 3: Site Description and History, Past Use of the Site paragraph. The text states, “The site was operated as a Manufactured Gas Plant (MGP) holder station by The Brooklyn Union Gas Company from approximately 1867 to 1935.” The Brooklyn Union Gas Company was not incorporated until September 1895. From 1867 to November 1895, the site was owned and/or operated by a predecessor-in-interest of The Brooklyn Union Gas Company, namely The Brooklyn Gas Light Company.

RESPONSE 17: Acknowledged. The text has been revised accordingly.

COMMENT 18: Section 3: Site Description and History, Past Use of the Site paragraph. There appears to be an omission or omissions in the last sentence, which reads, “Subsequent, including current [sic] was as a lumber yard, and warehousing.” National Grid proposes the sentence be revised to read, “Subsequent use has been, and continues to be, as a lumber yard and warehouse.”

RESPONSE 18: Acknowledged. The text has been revised accordingly.

COMMENT 19: Section 4: Land Use and Physical Setting. Based on conversations with the property owner, National Grid understands that the property owner may intend the future use of the property to include restricted residential. Based on this understanding, shouldn't the alternatives being evaluated include one(s) which would allow for restricted residential use of the site?

RESPONSE 19: See Response #6.

COMMENT 20: Section 5: Enforcement Status. National Grid's November 9, 2017 letter included a recitation of national Grid's position regarding Site history and Potentially Responsible Parties (PRPs).

RESPONSE 20: National Grid's letter is part of the Administrative Record held by the document repositories for the site.

COMMENT 21: Subsection 6.2: Interim Remedial Measure. This sentence includes the sentence “There were no IRMs performed at this site to date.” National Grid understands that, after issuance of the ROD, it will no longer be possible for the term “Interim” to be applied to a remediation at the site. If this understanding is correct, the words “to date” should be removed from the identified sentence. If this understanding is not correct, the word “were” should be replaced with “have been” in the identified sentence.

RESPONSE 21: The text will be revised to for clarification.

COMMENT 22: Subsection 6.3: Summary of Environmental Assessment, Groundwater paragraph. National Grid agrees with the last sentence in the penultimate paragraph, which reads,

“It should be noted that chlorinated solvents were not used during the holder station operations, and are not considered related to the site.” However, it should be also be noted that while some compounds and analytes detected during the Site Characterization are potentially related to the manufacture of, or storage of manufactured, gas, they are not definitely or may not be solely related to the manufacture of, or storage of manufactured, gas.

RESPONSE 22: The comment is acknowledged.

COMMENT 23: Subsection 6.4: Summary of Human Exposure Pathways. The first sentence of the subsection states, “This human exposure assessment identifies ways in which people may be exposed to site-related contaminants.” The fifth sentence of the second paragraph states, “The people to inhale site contaminants in indoor air due to soil vapor intrusion within the on-site buildings.” Not all of the compounds and analytes detected during the Site Characterization, nor even all of the contaminants of concern listed in subsection 6.1.2:SC Results, are site-related.

RESPONSE 23: Based on the fact that a complete investigation of onsite groundwater could not be conducted, and the detections of VOCs in groundwater from another location onsite, the Department believes that the text is appropriate as written.

COMMENT 24: Section 7: Summary of the Proposed Remedy, Paragraph 4. On April 26, 2017 National Grid and the Department met to discuss site management plans (SMP)/interim site management plans(ISMP). One of the topics discussed was Section 6.2 of the Department’s SMP template, which discusses green remediation. National Grid recollects that, with respect to green remediation, it was agreed that a Green Remediation Evaluation may not be applicable to every SMP and ISMP and that the decision on its applicability would be left to National Grid. National Grid will not include green remediation principles and techniques in the ISMP. As it is too early to know if site management will be required post redevelopment, National Grid holds in abeyance its decision to include green remediation principles and techniques in post-remedial site management.

RESPONSE 24: While the Department agrees that the green remediation discussion is not needed in the ISMP, the decision to include this section in the final SMP will be determined when that document is submitted for review.

COMMENT 24: Exhibit A: Nature and Extent of Contamination. The last sentence of the second paragraph in the Waste/Source Areas section reads, “Coal tar related contaminants were identified at the site within the former MGP structures, which are two gas holder tanks.” Similarly, the penultimate sentence of the last paragraph in both the Groundwater section and the Soil section reads, “Based on the findings of the SC, the presence of MGP-related wastes has resulted in contamination of ...”

National Grid agrees that, during the Site Characterization, compounds and analytes potentially related to the manufacture of, or storage of manufactured, gas, were detected. However, these compounds and analytes are not definitely or may not be solely related to the manufacture of, or storage of manufactured, gas.

RESPONSE 24: The comment is acknowledged.

APPENDIX B

Administrative Record

Administrative Record

**K-Front Street Holder Station
State Superfund Project
Brooklyn, Kings County, New York
Site No. 224063**

1. Proposed Remedial Action Plan for the K-Front Street Holder Station site, dated October 2017, prepared by the Department.
2. Order on Consent, Index No. A2-0552-0606, between the Department and The Brooklyn Union Gas Company d/b/a KeySpan Energy Delivery New York & KeySpan Gas East Corporation d/b/a KeySpan Energy Delivery Long Island, executed in August 2007.
3. “Site Characterization Report for the Former Front Street Holder Station, 206 & 218 Front Street, Brooklyn, New York, 11202, NYSDEC Site #224063”, July 2013, Revised April 2015, prepared by URS Corporation.
4. Letter dated November 6, 2017 from Joshua M. Levy, Tannenbaum Helpern Syracuse & Hirschtritt LLP.
5. Letter dated November 9, 2017 from Donald Campbell, National Grid.

