



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
DIVISION OF ENVIRONMENTAL REMEDIATION  
**BCP Significant Threat Determination Report**



5/13/2021

<b>Site Code</b>	C241244	<b>Site Name</b>	22-60 46th Street
<b>City</b>	Queens	<b>Town</b>	New York City
<b>Region</b>	2	<b>County</b>	Queens
<b>Current Classification</b>	A		
<b>Estimated Size</b>	0.6890	<b>Allowable Use</b>	
<b>Significant Threat:</b>	Yes	<b>Project Manager</b>	Meghan Medwid

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### Summary of Approvals

**Originator/Supervisor:** Heide-Marie Dudek **04/13/2021**

**Regional Hazardous Waste Remedial Engineer:** Jane O'Connell **04/16/2021**

**BEEI of NYSDOH:** **04/15/2021**

**CO Bureau Director:** Gerard Burke, Director, Remedial Bureau E **04/13/2021**

**Assistant Division Director:** George Heitzman, P.E.: **05/13/2021**

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### Basis for Significant Threat Determination

High levels of PCE were detected in groundwater and soil vapor on-site. The PCE may be moving off-site and posing a threat to public health. Further investigation is required to determine if off-site migration is occurring and if it requires mitigation.

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### Site Description - Last Review: 04/15/2021

**Location:** The site is located at 22-60 46th Street, in the Astoria section of Queens, New York. The Site is abutted to the north by a parking garage, followed by a multi-story residential building; to the east by 46th Street, followed by private residences; to the south by private residences and commercial buildings; and to the west by 45th Street, followed by a shopping center and warehouses.

**Site Features:** The site consists of two buildings on an approximately 0.689-acre parcel. The eastern portion of the site (former Lot 25) contains a one-story (slab-on-grade), masonry and steel frame industrial/warehouse building that occupies the entire lot. The building is divided into two separate spaces, both of which consist of office space and warehouse/truck storage space. The western portion of the site (former Lot 42) contains a one-story (slab-on-grade) vacant warehouse which occupies the entire lot.

**Current Zoning and Land Use:** The site was rezoned in February 2020 from M1-1 (manufacturing)



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to R6A (residential) and C2-3 (commercial). The eastern portion of the site (former Lot 25) contains a slab-on-grade, one-story warehouse occupied by Williams Specialty Services, an electrical contractor, and Minosis Group, an insulation contractor. The warehouse contains office space, truck storage, and storage of electrical and insulation supplies and equipment. The western portion of the site (former Lot 42) contains a slab-on-grade, vacant, one-story warehouse, most recently occupied by a plumbing supply distributor (Three Way Plumbing Supply). The surrounding area is predominately residential with some commercial and industrial uses.

**Past Use of the Site:** The eastern portion of the site (former Lot 25) was undeveloped up until approximately 1967, when it was developed with a warehouse utilized by an electronics manufacturer through approximately 2006. Former Lot 25 was additionally identified as part of the west-adjacent knitting mill (former Lot 42) between approximately 1981 and 1993. The western portion of the site (former Lot 42) was undeveloped up until approximately 1967, when it was developed with a knitting mill through approximately 1993, and unspecified manufacturing between 1994 and 2006.

**Site Geology and Hydrology:** The site generally slopes downward to the north and east. Bowery Bay and the East River, both tidal water bodies, are located approximately ¾-mile northeast of the site. The general direction of groundwater flow below the site is anticipated to be in a northeasterly direction, towards Bowery Bay and the East River. Groundwater was encountered at the site between approximately 45 feet below surface grade.

The stratigraphy beneath the site consists of historic fill material down to approximately 7 feet below surface grade, underlain by fine sand and silt with fine gravel, down to the maximum boring terminus of 17 feet below grade. Bedrock was not encountered during any of the previous subsurface investigations.

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<b>Contaminants of Concern (Including Materials Disposed)</b>	<b>Quantity Disposed</b>
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**OU 01**

tetrachloroethene (PCE)

UNKNOWN

lead

UNKNOWN

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**Analytical Data Available for :** Groundwater, Soil, Soil Vapor

**Applicable Standards Exceeded for:** Groundwater, Soil

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**Site Environmental Assessment - Last Review: 04/15/2021**

**Nature and Extent of Contamination:**

Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), pesticides, Per- and Polyfluoroalkyl Substances (PFAS), and 1,4-dioxane. Soil vapor samples were analyzed for VOCs. Based upon investigations conducted to date, the primary contaminants of concern for the



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site include SVOCs and metals in soil, and VOCs in groundwater and soil vapor.

Soil - The soil data indicates that the site is underlain by historic fill contaminated with SVOCs and metals. SVOCs identified include benzo(a)pyrene at a maximum concentration of 1.2 parts per million (ppm) which exceeds the restricted residential soil cleanup objective (RRSCO) of 1 ppm, and benzo(a)fluoranthene at 1.5 ppm (RRSCO is 1 ppm). The following metals were found above the RRSCOs: mercury at a maximum detection of .29 ppm (UUSCO is 0.18 ppm) and lead at a maximum of 249 ppm (UUSCO is 63 ppm). The emerging contaminants, perfluorooctanesulfonic acid (PFOS) was not detected above UUSCOs and perfluorooctanoic acid (PFOA) was detected at .89 parts per billion (ppb) (UUSCO is 0.66 ppb). 1,4-dioxane was not detected above the reporting limit. No VOCs, pesticides or PCBs were detected at concentrations exceeding the RRSCOs. Data does not indicate any off-site impacts in soil related to this site.

Groundwater – Groundwater data was compared to Ambient Water Quality Standards and Guidance Values for Class GA groundwater (AWQSGVs). VOCs were present in the water above AWQSGVs. PCE was detected at a maximum detection of 14 ppb (AWQSGV is 5 ppb) and chloroform was detected at a maximum detection of 9 ppb (AWQSGV is 7 ppb). No SVOCs, pesticides, or PCBs exceeded their water quality standards in groundwater. PFOA and PFOS were detected at maximum concentrations of 34.1 part per trillion (ppt) and 15.7 ppt, respectively, compared to the NYS maximum contaminant limit of 10 ppt. PFOA and PFOS concentrations may have been used as part of historic site operations. 1,4 Dioxane was not detected in the groundwater. Data indicates potential off-site impacts in groundwater related to this site.

Soil Vapor – PCE was detected at a maximum level of 1,200 micrograms per cubic meter ?g/m<sup>3</sup>. Data indicates potential off-site impacts due to soil vapor related to this site.

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**Site Health Assessment - Last Update: 04/13/2021**

Since the entire site is covered by buildings, it is unlikely that people will come into direct contact with site-related soil and groundwater contamination. The area is served by a public water supply that is not affected by the groundwater contamination. Volatile organic compounds in soil vapor (air spaces within the soil) may move into 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. Because the on-site buildings are vacant, the inhalation of site-related contaminants in indoor air due to soil vapor intrusion does not represent a current concern. The potential exists for the inhalation of site contaminants due to soil vapor intrusion off-site and for any future on-site redevelopment and occupancy.

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**OU 01**

Start

End



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Agreement	9/10/20	ACT	9/17/20	ACT
Application Approval	7/10/20	ACT	9/10/20	ACT
Application Completion	5/22/20	ACT	7/10/20	ACT
Certificate of Completion	3/1/22	PLN	6/30/22	PLN
OGC Docket - Eligibility Determination	7/10/20	ACT	9/10/20	ACT
Reclass Pkg.	4/8/21	ACT	5/31/21	PLN
Remedial Action	11/12/20	ACT	5/31/21	PLN
Remedial Action	6/30/21	PLN	2/28/22	PLN
Remedial Investigation	11/12/20	ACT	5/31/21	PLN

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**Remedy Description and Cost**

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**Remedy Description for Operable Unit 00**

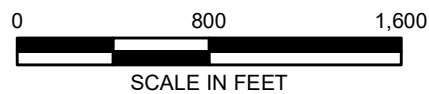
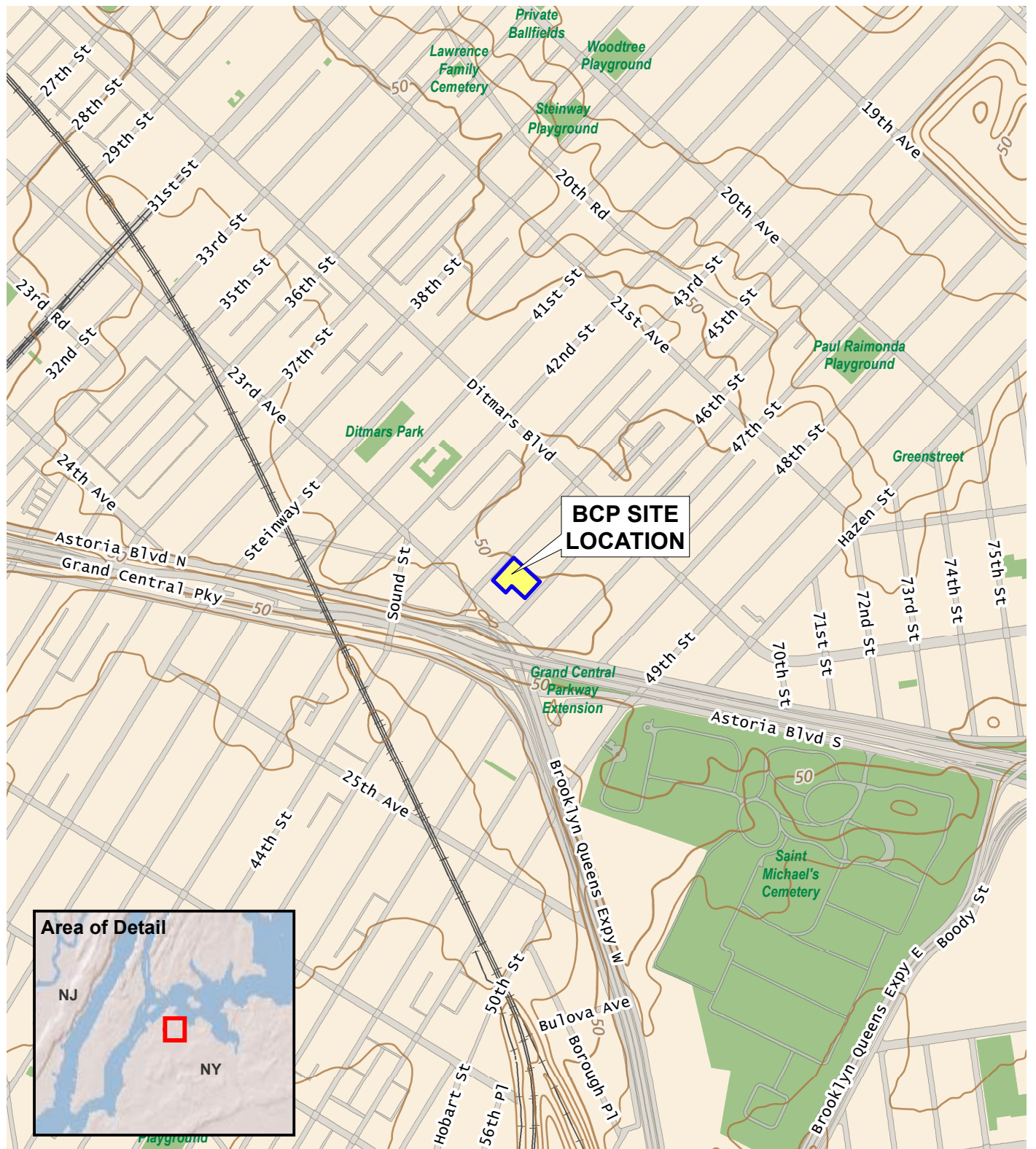
**Total Cost**

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**Remedy Description for Operable Unit 01**

**Total Cost**

© 2021 AKRF W:\Projects\190275 - 22-60 46TH STREET\Technical\GIS and Graphics\hazmat\190275 Fig. 1 BCP Site Location.mxd 2/11/2021 8:31:04 AM mvelieux



440 Park Avenue South, New York, NY 10016

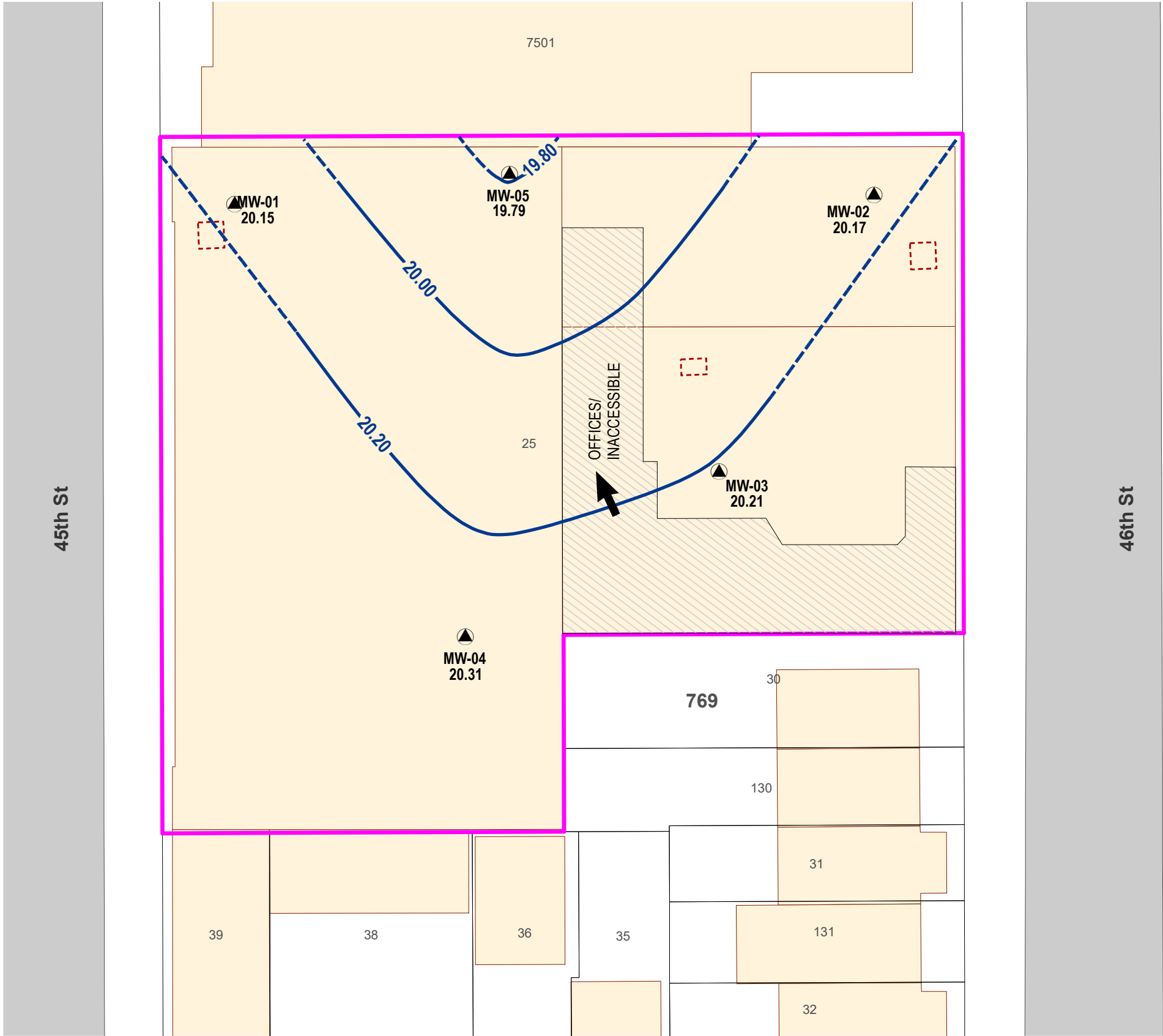
**22-60 46<sup>th</sup> Street**  
Queens, New York

**SITE LOCATION**

DATE
<b>2/11/2021</b>
PROJECT NO.
<b>190275</b>
FIGURE
<b>1</b>

© 2021 AKRF W:\Projects\190275 - 22-60 46TH STREET\Technical\GIS and Graphics\hazmat\RI\190275 Fig 6 Groundwater Contour Map Dec 2020.mxd 12/2/2021 12:55:04 PM nveilleux

Map Source:  
NYC DCP (NYC Dept. of City Planning) GIS database



LEGEND

- PROJECT SITE BOUNDARY
- LOT BOUNDARY AND TAX LOT NUMBER
- 769** BLOCK NUMBER
- BUILDING
- PERMANENT MONITORING WELL LOCATION
- SUSPECT UST
- GROUNDWATER ELEVATION CONTOUR LINE (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION
- UST: UNDERGROUND STORAGE TANK

Well ID	Top of Casing Elevation (ft.)	Depth to Groundwater (ft. below TOC)	Groundwater Elevation (ft.)
RI-MW-01	53.48	33.33	20.15
RI-MW-02	53.32	33.15	20.17
RI-MW-03	53.90	33.69	20.21
RI-MW-04	53.56	33.25	20.31
RI-MW-05	53.52	33.73	19.79

Notes:  
ft. = feet  
TOC = top of casing  
Elevation = feet above mean sea level based on the North American Vertical Datum of 1988(NAVD88).



22-60 46<sup>th</sup> Street  
Queens, New York



440 Park Avenue South, New York, NY 10016

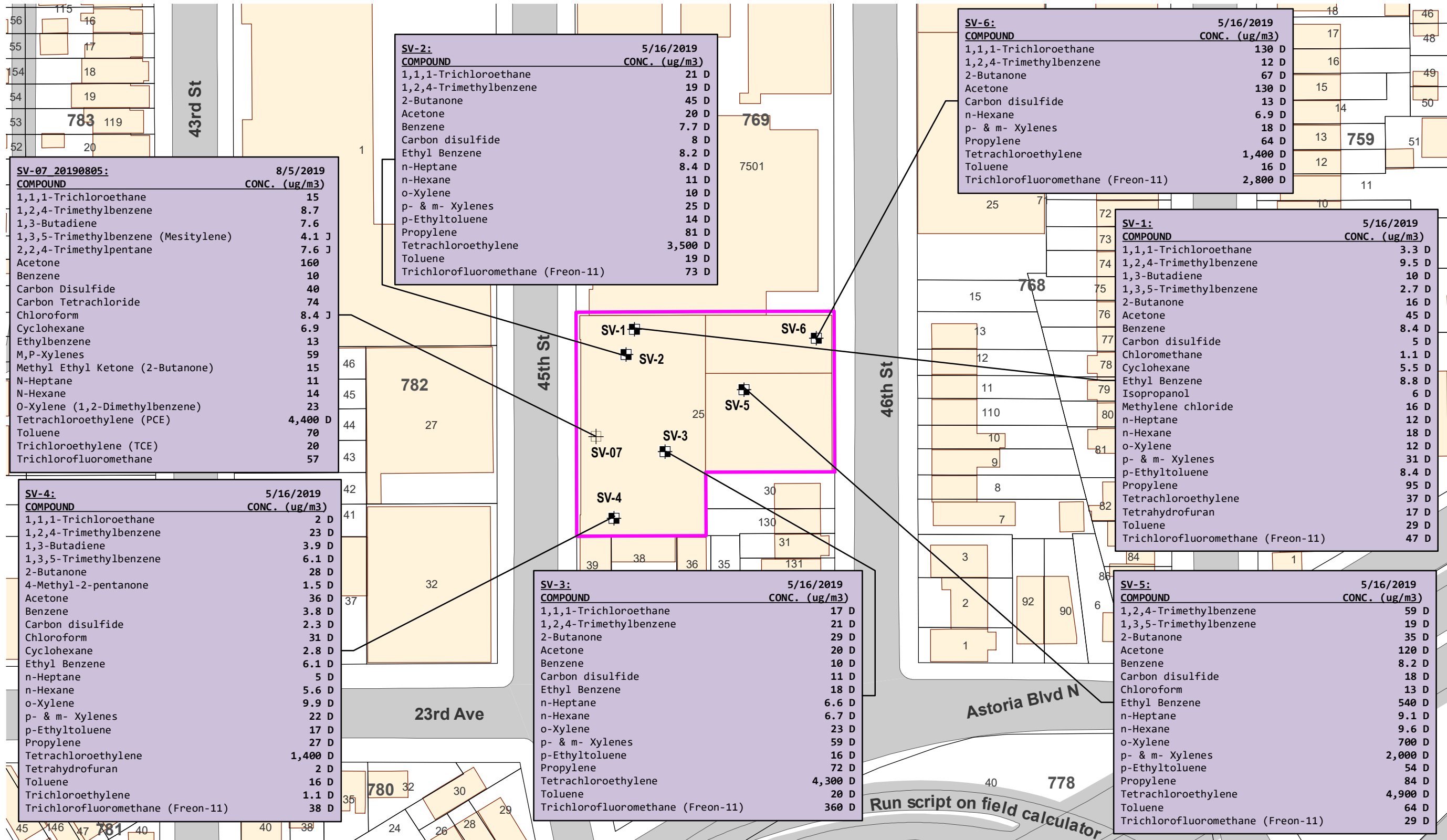
GROUNDWATER ELEVATION CONTOUR MAP - DECEMBER 22, 2020

DATE  
2/12/2021

PROJECT NO.  
190275

FIGURE  
6





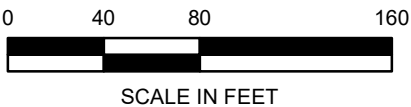
LEGEND

- PROJECT SITE BOUNDARY
- BUILDING
- LOT BOUNDARY AND TAX LOT NUMBER
- 769 BLOCK NUMBER

- SUPPLEMENTAL PHASE II INVESTIGATION SOIL VAPOR SAMPLE LOCATION (AUGUST 2019)
- PHASE II INVESTIGATION SOIL VAPOR SAMPLE LOCATION (MAY 2019)

NOTES

µg/m³ - micrograms per cubic meter  
D: Analyte concentration obtained from dilution.  
J: Concentration is estimated.  
Only detections are shown in this figure.



22-60 46th Street  
Queens, New York

SOIL VAPOR DETECTIONS



440 Park Avenue South, New York, NY 10016

DATE

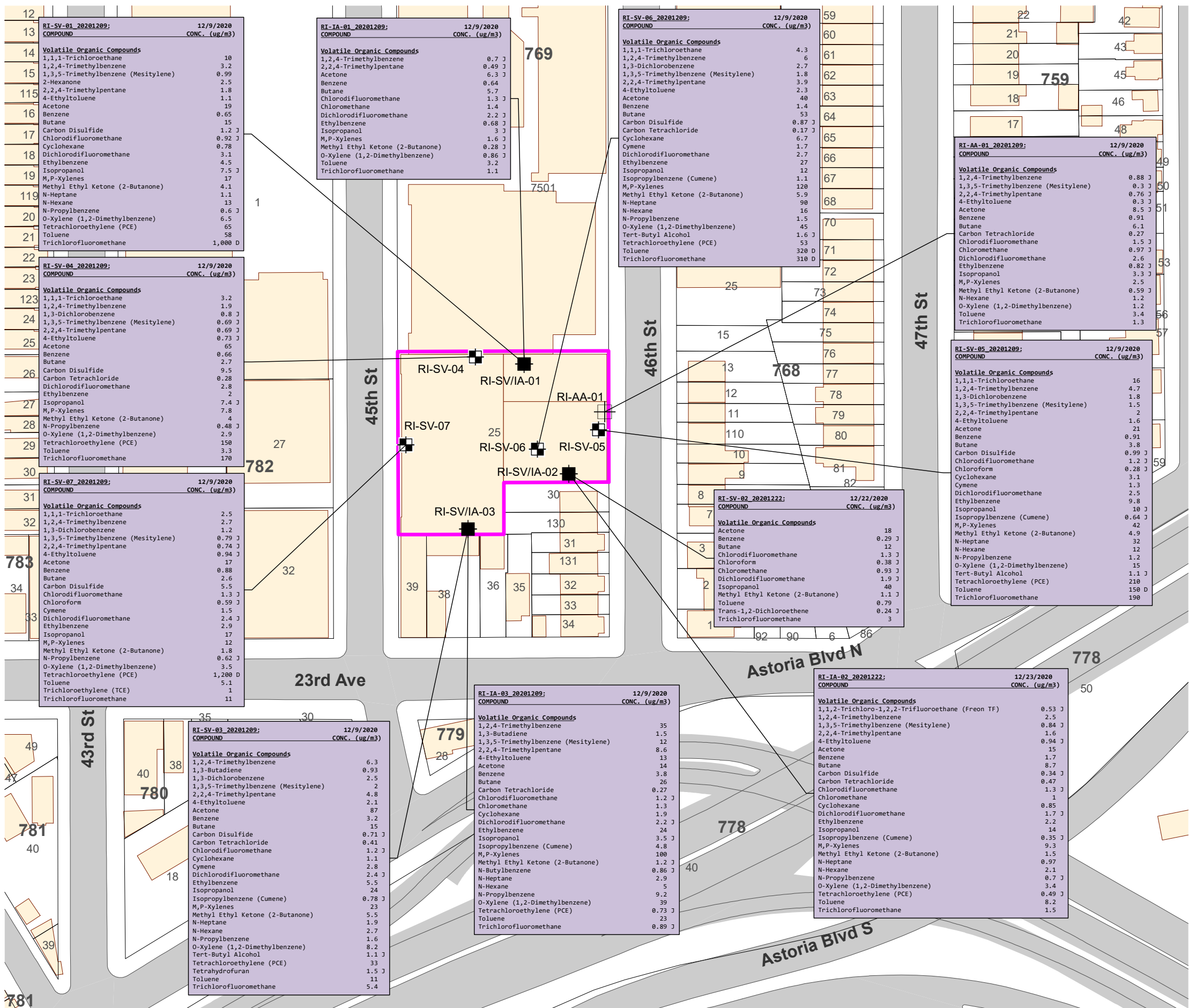
5/8/2020

PROJECT NO.

190275

FIGURE

6



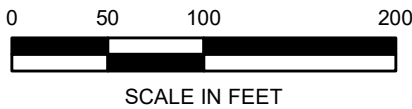
LEGEND

- PROJECT SITE BOUNDARY
- BUILDING
- 25 LOT BOUNDARY AND TAX LOT NUMBER
- 769 BLOCK NUMBER
- REMEDIAL INVESTIGATION CO-LOCATED SOIL VAPOR/INDOOR AIR SAMPLE LOCATION
- REMEDIAL INVESTIGATION AMBIENT AIR SAMPLE
- REMEDIAL INVESTIGATION SOIL VAPOR POINT LOCATION

µg/m³- micrograms per cubic meter

- D: Analyte concentration obtained from dilution.
- J: The concentration given is an estimated value.

Sample ID	Sample Date
RI-IA-01 20201209:	12/9/2020
CONC. (ug/m3)	
Volatile Organic Compounds	
1,2,4-Trimethylbenzene	0.7 J
2,2,4-Trimethylpentane	0.49 J
Acetone	6.3 J
Benzene	0.64
Butane	5.7
Chlorodifluoromethane	1.3 J
Chloromethane	1.4
Dichlorodifluoromethane	2.2 J
Ethylbenzene	0.68 J
Isopropanol	3 J
M,P-Xylenes	1.6 J
Methyl Ethyl Ketone (2-Butanone)	0.28 J
O-Xylene (1,2-Dimethylbenzene)	0.86 J
Toluene	3.2
Trichlorofluoromethane	1.1



22-60 46th Street  
Queens, New York

SOIL VAPOR AND INDOOR AIR DETECTIONS

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DATE
2/11/2021
PROJECT NO.
190275
FIGURE
9





## Department of Health

**ANDREW M. CUOMO**  
Governor

**HOWARD A. ZUCKER, M.D., J.D.**  
Commissioner

**LISA J. PINO, M.A., J.D.**  
Executive Deputy Commissioner

April 15, 2021

Gerard Burke, Director  
Remedial Bureau B  
Division of Environmental Remediation  
NYS Department of Environmental Conservation  
625 Broadway  
Albany, New York 12233

Re: **Significant Threat Determination**  
22-60 46<sup>th</sup> Street  
Site # C241244  
Astoria, Queens County

Dear Mr. Burke,

At your Department's request, we have reviewed available information including the February 2021 draft *Remedial Investigation Report* for the referenced site. I understand that on-site soil and groundwater are contaminated with metals, volatile organic compounds (VOCs), and perfluorinated compounds (PFOA and PFOS). Soil contamination also includes semi volatile organic compounds (SVOCs). In addition, soil vapor is contaminated with VOCs. Sampling results also indicate that site related contamination in soil vapor may be migrating off-site and if occurring, could affect the indoor air quality of off-site buildings as a result of soil vapor intrusion.

Based on the available information and the potential for human exposures to site-related contamination both on and off-site, I believe that the site represents a significant threat to public health. If you have any questions, please contact me at (518) 402-7874.

Sincerely,

Scarlett McLaughlin, P.G.  
Chief, Regions 2 & 7  
Bureau of Environmental Exposure Investigation

Ec: C. Vooris / S. Rushford / e-File  
M. Vaccaro – NYSDOH MARO  
M. Little – NYC DOHMH  
H. Dudek/ M. Medwid– NYSDEC Central Office  
J. O'Connell – NYSDEC Region 2