SESI
CONSULTING
ENGINEERS

Remedial Investigation/Interim Remedial Measures Workplan

For:

Proposed SNL Storage Facility
1426-1460 39th Street
Brooklyn, New York 11218

Prepared for:

SNLXXII,LLC
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Project No.: 10737

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I, Justin Protasiewicz, certify that I am a professional engineer, and meet the definition of qualified environmental professional as defined in 6 NYCRR Part 375 and that this Remedial Investigation/Interim Remedial Measures 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)

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NJ Professional Engineer # Date Signature

It is a violation of Article 130 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 130, New York State Education Law.

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1.0 INTRODUCTION

SESI Consulting Engineers D.P.C. (SESI) has prepared this Remedial Investigation Workplan (RIWP) and Interim Remedial Measure Workplan (IRMP) on behalf of SNLXXII,LLC (the "Volunteer"), for the 0.64-acre property, located at 1426-1460 39th Street, Brooklyn, New York (the "Site"). This document comprises a RIWP and IRMP to be conducted at the Site, as part of the site's planned remedial investigation and remediation. It includes a description of the Site, summary of the Site history and previous environmental investigations, a description of the Site's physical, geologic, hydrogeologic setting and subsurface features, a plan of action for further investigation of the areas of concern (AOCs) identified previously and an IRM workplan.

This RIWP/IRMP has been prepared to achieve the following objectives:

- To complete the delineation of the nature and extent of contamination on the Site, which will involve certain interim remedial measures including underground storage tank (UST) removals in order to complete the investigation,
- To identify any potential source areas of contamination,
- To determine the remedial action needed to protect human health and the environment, and
- To collect sufficient data to advance the remediation of the Site.

This RIWP/IRMP is developed in general accordance with the Department's Remediation Technical Guidance for Site Investigation and Remediation (DER-10).

2.0 PROJECT BACKGROUND

2.1 SITE DESCRIPTION

The Site consists of an approximately 0.64-acre area parcel located at 1426-1460 39th Street, Kings County, Brooklyn, New York. The Site is improved by three (3) single story structures and two (2) two-story structures. The site building operations include warehouse and office space uses. Approximately 0.52 acres of the Site is covered by structures. The remaining estimated 0.12 acres of the Site is improved by concrete surface cover and is utilized for automotive parking. **Figure 2.1** presents a Site Location Map.

The Site is located in a residential and commercial area and is bounded by 39th Street to the north, beyond which lies a school, auto repair and maintenance services, and commercial/industrial warehouses; to the east by commercial retail and warehouses; to the south by residential properties; and to the west by commercial retail and warehouses. The Site has been developed since the 1920s and was historically occupied by automotive repair, poultry storage, and unspecified manufacturing operations. **Figure 2.2** presents a Site Plan.

Adjacent properties are tabulated below:

Direction	**Adjacent Property**
Northeast	39th Street, commercial properties beyond
Southeast	1 and 2-Story Commercial Properties
Southwest	2-Story Residential Properties, 40th Street Beyond
Northwest	1 and 2-Story Commercial Properties

The purpose of the project is to remediate and redevelop a contaminated brownfield site, while implementing remedial measures that are protective of human health and the environment. The property is proposed to be redeveloped with a four-story self-storage facility with cellar and sub-cellar. The estimated building footprint will encompass approximately 24,125 square feet.

2.2 SITE HISTORY

Based on review of Sanborn fire insurance maps, automotive repair businesses operated on-Site beginning as early as 1929, including an associated gasoline UST on the Site between 1929 and 2007. Previous environmental investigations (summarized below) also identified seven (7) former heating oil USTs on the Site. Other uses included unspecified manufacturing (circa 1969), poultry storage (circa 1950) and knit wear (circa 1950).

2.3 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

The following environmental reports are attached in **Appendix A** and summarized below:

- Phase I Environmental Site Assessment Report, 1426-1460 39th Street, Brooklyn, New York 11218, prepared for Dime Community Bank, by Merritt Environmental Consulting Corp., dated February 7, 2019;

- Phase I Environmental Site Assessment Report, 1426-1460 39th Street, Brooklyn, NY, for SNL Development Group, prepared by Soil Mechanics Environmental Services, dated April 2019;
- Preliminary Geotechnical Report, 1460 39th Street, Brooklyn, NY, prepared for Mr. Philip Lepine, SNL Construction, by Structural Engineering Technologies, P.C., dated April 23, 2019;
- Technical Report, York Analytical Laboratory, Waste Characterization Laboratory Samples Collected by PG Environmental Services, dated April 19, 2019;
- Phase I Environmental Site Assessment Report, 1426-1460 39th Street, Brooklyn, NY, for SNLXXII,LLC, prepared by SESI, dated November 2019;
- Phase II Environmental Site Assessment Report 1426-1460 39th Street, Brooklyn, NY, for SNLXXII,LLC, prepared by SESI, dated December 2019.

2.3.1 Phase I Environmental Site Assessment Report, 1426-1460 39th Street, Brooklyn, New York 11218, prepared by Merritt Environmental Consulting Corp. (February 7, 2019)

Merritt Environmental Consulting Corp. (MEC) completed a Phase I Environmental Site Assessment (ESA) investigation and concluded the following:

- Identified that six (6) 550-gallon heating oil USTs filled with water, one (1) 1,080-gallon heating oil UST filled with sand, one (1) gasoline tank of unknown size/closure method and one (1) heating oil tank of unknown size/closure method are present at the site.
- Filling a UST is no longer an approved method of abandonment.
- A UST integrity test (tightness test) was performed on the 1,080-gallon UST, the results of which did not identify evidence to suggest UST failure.
- Soil samples were not collected in any of the UST abandonment methods.
- The historic USTs were considered a Recognized Environmental Condition (REC).
- MEC recommended obtaining additional information regarding the closures and/or performing Phase II Site Investigation sampling to assess subsurface conditions.

2.3.2 Phase I Environmental Site Assessment Report, 1426-1460 39th Street, Brooklyn, NY, Soil Mechanics Environmental Services, (April 2019)

Soil Mechanics Environmental Services (SMES) identified four (4) RECs at the Site, which included the following:

- Identified historic Site uses including auto garage and motor vehicle repair as a REC and a vapor encroachment condition (VEC). A previous Site occupant, Super Body Collision, was listed as a hazardous waste generator under the Resource Conservation and Recovery Act (RCRA).
- Identified historic nearby Site uses including industrial, motor vehicle repair, and manufacturing north of the Site within an adjoining building as a REC and a VEC.
- Identified historic UST operations as a REC and VEC.
- Identified historic floor drains in conjunction with historic Site operations as an REC.

2.3.3 Preliminary Geotechnical Report, 1460 39th Street, Brooklyn, NY, Structural Engineering Technologies, P.C. (April 23, 2019)

Structural Engineering Technologies conducted a geotechnical investigation at the Site and concluded the following:

- Six (6) geotechnical soil borings were advanced to depths ranging between 52 and 102 feet below grade (ft-bg).
- Uncontrolled fill or historic fill was observed immediately below ground surface extending to an estimated depth of 12 ft-bg. The fill material consisted of sand, silt, gravel, wood, cobbles, boulders and concrete.
- The fill material is underlain by a glacial till layer of fine to coarse sand.
- Groundwater was observed at approximately 45 ft-bg.

2.3.4 Technical Report, York Analytical Laboratory, Waste Characterization Laboratory Samples by PG Environmental Services, April 19, 2019

PG Environmental Services collected a total of ten (10) composite soil samples in April 2019 as summarized below.

- Six (6) of the samples were composited over 4-foot depth intervals per boring down to 24 ft-bg, and four (4) of the samples were composited over 12 ft depth intervals down to 24 ft-bg. The samples were collected for target compound list (TCL) volatile organics (VOCs), semi-volatile organics (SVOCs), PCBs, target analyte list (TAL) metals, TCLP RCRA

Metals, RCRA characteristics, and total petroleum hydrocarbons diesel range organics (TPH-DRO).

- The SVOCs, benzo (k) fluoranthene, chrysene and indeno(1,2,3-cd)pyrene were detected in soil sample WC-1 (0-4') exceeding its unrestricted use soil cleanup objectives (URSCO) and restricted residential soil cleanup objectives (RRSCO). In addition, benzo (a) anthracene, benzo(a)pyrene, benzo (b) fluoranthene and dibenzo(a,h)anthracene were identified in soil sample WC-1 (0-4') at concentrations exceeding their URSCOs, the RRSCO and the commercial use soil cleanup objectives (CMSCO).
- Lead was detected in sample WC-1 at a concentration exceeding its URSCO, RRSCO and CMSCO. In sample WC-3, lead was detected above the URSCO and the RRSCO. Lead also exceeded the URSCO in samples WC-4 and WC-5. Mercury was detected in sample WC-1 above the URSCO.

2.3.5 Phase I Environmental Site Assessment, 1426-1460 39th Street, Brooklyn, NY, Safe N Lock Self-Storage, LLC, prepared by SESI, dated November 2019

The Phase I ESA prepared by SESI identified the following three (3) RECs associated with the site:

- **REC 1 – Underground Storage Tank(s):** Evidence of a historic gasoline UST(s) was identified on Sanborn Maps between 1929 and 2007 and observed during site inspection activities. Additional USTs reportedly improperly abandoned at the Site without soil investigation activities warrants additional investigation. SESI recommended reidentifying the suspected UST(s) by retaining a specialty sub-contractor to conduct a ground penetrating radar (GPR) and Electromagnetic (EM) survey at the Site to locate underground structures including USTs. Subsurface soil evaluation was recommended in the vicinity of the suspected UST.
- **REC 2 – Historical Site Operations:** Based on a review of Sanborn Map records, automotive repair businesses operated beginning as early as 1929. Operations in the vicinity of potential floor drains may have resulted release(s) of automotive fluids to floor drains within the Site buildings. Additional investigation of the floor drainage construction and soil sampling is recommended.
- **REC 3 – Historic Fill:** Historic fill has reportedly been identified at the site during geotechnical investigations. Additional soil investigation activities to characterize fill material should be completed. Special handling and/or disposal of disturbed soil may be required during site redevelopment.

These RECs are identified on **Figure 2.3.**

2.3.6 Phase II Environmental Assessment Report, 1426-1460 39th Street, Brooklyn, NY, SNL XX, LLC, prepared by SESI, dated December 2019

SESI conducted a Phase II Environmental Site Assessment, dated December 2019. Sampling was conducted in May 2019 and November 2019 as summarized below:

- Thirty-one (31) soil borings were advanced and thirty-two (32) soil samples were collected, which were analyzed for various parameters. The samples were collected at 0.5-foot intervals at various depths biased toward the highest potential for contamination based on field screening and observations.
- Historic fill material was observed to depths between 5 to 10 ft-bg.
- Soil sampling results have identified SVOCs, mostly PAHs, impacts that exceed the URSCO, RRSCO, and the CMSCOs to depths up to 4 ft-bg. Metals including Arsenic, Cadmium, Copper, Lead, Mercury, Nickel, Silver and Zinc exceeded their respective URSCO. Arsenic, Cadmium, Lead and Mercury exceeded the RRSCOs and Mercury also exceeded the CMSCO.

2.4 GEOLOGIC SETTING

According to the 1970 Geologic Map of New York – Lower Hudson Sheet published by the University of the State of New York, the Site is underlain by coastal plain deposits of silty clay, sandy clay, sand, and gravel of upper cretaceous age. Soil borings were advanced by Structural Engineering Technologies (SET) during their geotechnical investigation in April 2019, as summarized above. Historic fill was observed immediately below ground surface extending to estimated depths up to 12 ft-bg. The fill material consisted of sand, silt, gravel, wood, cobbles, boulders and concrete. The fill material is underlain by coastal plain deposits of fine to coarse sand, with varying amounts of silt, gravel and cobbles. No bedrock was encountered in any of the borings, which reached a maximum depth of 102 ft-bg.

2.5 HYDROGEOLOGIC SETTING

Soil borings advanced by SET identified groundwater underlying the site at approximately 45 ft-bg. No additional information regarding the hydrogeologic conditions at the Site were documented.

2.6 SUBSURFACE FEATURES

As described in Section 2.3 above, previous environmental investigations have identified evidence of a historic gasoline UST at the Site as identified on the 1929 and 2007 Sanborn maps. Previous environmental investigations also identified seven (7) former heating oil USTs on the Site. These USTs were reportedly improperly abandoned at the Site without soil investigation activities.

2.7 SUMMARY OF ENVIRONMENTAL ASSESSMENT

Based upon the soil boring investigation, historic fill material extends approximately five to 12 ft-bg sitewide. Soil sampling results indicated the primary COCs at the Site identified are SVOCs, mostly PAHs, impacts that exceed the RRSCO and the CMSCOs to depths up to 4 ft-bg. Metals including arsenic, cadmium, lead, mercury, nickel and zinc exceeded their respective RRSCO. Arsenic, cadmium, lead and mercury exceeded the RRSCOs and mercury also exceeded the CMSCO. The COCs will be further refined as part of the Remedial Investigation Report (RIR). A summary of the COCs identified and their maximum concentrations identified at the Site is presented below and on **Figure 2.4**:

Soil

- SVOCs – benzo(a)anthracene 79.6 mg/kg maximum (Max), benzo(a)pyrene 48.5 mg/kg Max, benzo(b)fluoranthene 84.9 mg/kg Max, benzo(k)fluoranthene 24.3 mg/kg Max, chrysene 69.7 mg/kg Max, dibenzo(a,h)anthracene 9.51 mg/kg Max, ideno(1,2,3-cd)pyrene 31.8 mg/kg Max, fluoranthene 190 mg/kg Max, 3+4 methylphenol 0.665 mg/kg Max, naphthalene 16.6 mg/kg Max, phenanthrene 220 mg/kg Max, and pyrene 176 mg/kg Max.
- Metals – arsenic 14.1 mg/kg Max, Barium 1,660 mg/kg Max, cadmium 4.13 mg/kg Max, copper 188 mg/kg Max, lead 1,080 mg/kg Max, mercury 14.2 mg/kg Max, nickel 57 mg/kg Max, silver 5.12 mg/kg Max and zinc 774 mg/kg Max.
- Pesticides – 4,4'-DDT 0.0163 mg/kg Max.

Groundwater

- Groundwater was not encountered were during the Phase II ESA; therefore, no testing was completed during the investigation.

Soil Vapor

- The results of the soil vapor samples showed no exceedances of the New York State Department of Health (NYSDOH) Lower Threshold Guidance values.

3.0 INTERIM REMEDIAL MEASURES

3.1 SITE PREPARATION AND BUILDING DEMOLITION

As part of the proposed brownfield remediation project, the Volunteer shall remove any contaminated equipment and chemical and hazardous waste from the building, demolish the existing buildings, and remediate the environmental media at the Site. Site preparation, including building demolition, will take place prior to start of the soil excavation. Demolition of the existing structures is required to obtain access to the surface and subsurface sufficient to delineate the nature and extent of soil and groundwater impacts on the Site.

The Volunteer will retain a certified professional to perform a pre-demolition asbestos containing material (ACM) and lead-based paint (LBP), and PCB surveys and collect bulk material samples from the Site buildings. A New York State Department of Labor (NYSDOL) Certified Asbestos Inspector will perform asbestos inspections and collect bulk material samples from suspect ACM identified to be present on the interior and exterior of the Site buildings.

A NYSDOL Certified Project Monitor will perform the third-party project monitoring activities throughout the duration of abatement; if required. Prior to the commencement of the abatement activities a Certified Project Monitor will collect pre-abatement air samples. Additionally, a Certified Project Monitor will collect area air samples continuously during each work shift for the whole duration of the abatement project. Air samples will be logged and transported under a chain-of-custody to a NYSDOH Environmental Laboratory Approval Program (ELAP) accredited laboratory. The Community Air Monitoring Plan (CAMP) will be implemented during the demolition work and all remedial work described in this IRM plan. The CAMP is described in **Section 13.0.**

Upon completion of the abatement activities, the Certified Project Monitor will conduct a visual inspection throughout each building to confirm that all surfaces abated contain no visible ACM, LBP or PCB debris or residue, and that all containerized waste has been removed from the facility. The Certified Project Monitor will collect air samples utilizing aggressive sampling

procedures from random locations within the abatement work areas, as well as representative locations outside of the abatement work areas.

All demolition permits obtained will be included in and submitted to the NYSDEC as part of the combined remedial investigation and IRM report (RIR/IRM). After the completion of the demolition, all manifests for the disposal of the ACM, LBP or PCB material and non-ACM material will be provided to the NYSDEC as part of the RIR/IRM.

3.2 SUPPORT OF EXCAVATION INSTALLATION

The Support of Excavation (SOE) installation, which includes installation of H-beams or other types of support systems, will start during the RI phase. The installation of SOE will involve minor earth disturbance during which some of the soils will be required to be shipped off-site. All earth intrusive and disturbing activities will be conducted under the CAMP, as described further in **Section 13.0,** below.

3.3 UNDERGROUND STORAGE TANK REMOVAL

Evidence of historic USTs was identified on Sanborn maps and observed during SESI's May 2019 site inspection. The UST locations will be reidentified by a specialty sub-contractor utilizing GPR and EM survey technologies. The USTs will be registered with the NYSDEC, following the submittal of a Petroleum Bulk Storage Application. Following completion of the registration, the UST IRM will consist of completing UST closures by removal. All UST work will be conducted by a New York City licensed subcontractor.

The NYSDEC Division of Environmental Remediation (DER) BCP Project Manager will be provided a ten (10)-day notice prior to the start of UST removal activities. The petroleum bulk storage (PBS) modification form will be filed and provided as required by 6 NYCRR 612.2(d) subsequent to this IRMP.

If any liquids have accumulated in the tanks, they will be pumped and disposed of accordingly. The disposal of the liquids will be manifested. The tanks will be cleaned for appropriate scrap metal disposal.

During the IRM UST and piping removal effort, the following field observations will be made and documented:

- A description and photographic documentation of tank and pipeline conditions (e.g., pitting, holes or leak points)
- The excavation floor and sidewalls will be:
  - examined for any physical evidence of soil or groundwater contamination;

- field screened with a calibrated PID at transects spaced no more than five (5) feet apart, so that sampling may be biased to the suspected location of greatest contamination.

Immediately after tank removal, if there is no evidence of a discharge in the existing UST excavations, confirmatory soil samples will be collected to demonstrate that the remaining soils meet the SCOs. If no groundwater is present in the excavation, discrete center line soil samples from the bottom of the excavation will be collected at a frequency equal to the total length of the tank in feet divided by five (5) (minimum of one (1) sample) and one (1) sample will be added for the fraction thereof. The samples will be spaced equidistantly, and the outermost samples will be obtained at greater than 2.5-feet from each end of the tank.

Groundwater is deep and not expected to be encountered in the excavation. However, if groundwater is present in the excavation, because the USTs are anticipated to have contained gasoline and heating oil, which has a density that is less than water, soil samples will be collected as follows:

- One sample biased based upon field screening results will be taken near or above the water table from each excavation sidewall for every 30 linear feet of sidewall (minimum of one (1) sample per sidewall).
- Where seasonal fluctuations in the water table elevation can submerge and smear product over a range of several feet, additional samples will be collected in the smear zone (if encountered).

If there is evidence of a discharge, excavation will continue until all contaminated soils are removed. All grossly contaminated soils as determined by field screening will be removed. Then excavation will continue until all post-excavation confirmatory samples meet the unrestricted SCOs, or until further excavation is no longer feasible.

Confirmatory post excavation soil samples will be collected to demonstrate that all the contamination has been removed as follows:

- A minimum of five (5) soil samples will be taken, consisting of one (1) sidewall sample for each 15 linear feet of excavation, minimum four (4) samples one on each sidewall and a minimum of one (1) bottom sample. Based upon field screening, the samples will be biased toward the suspected location of greatest contamination.

The confirmatory soil samples will be sent to an ELAP-certified laboratory for TCL + 30/TAL metals + cyanide including VOCs by EPA Method 8260, SVOCs by EPA Method 8270,

pesticides by EPA Method 8081, PCBs by EPA Method 8082, TAL metals by EPA Methods 6010, 7471, and 9012, PFAS by EPA Modified Method 537, and 1-4,dioxane by EPA Method 8270. If analytical results of soil sampling identify impacts exceeding the unrestricted SCOs, additional excavation will be conducted to the extent possible in hotspot areas, and additional confirmatory soil samples will be collected. SESI's Sampling Plan for Emerging Contaminants is presented in **Appendix G**.

Any contaminated groundwater will be addressed as part of the groundwater investigation and remediation. However, if groundwater is encountered in the excavation, it will be observed for sheen or Light Non-Aqueous Phase Liquid (LNAPL) and a sample may be collected from the excavation. If any LNAPL is observed, it will be removed to the extent possible.

All excavated soils will be characterized for proper disposal. The characterization samples will be collected in accordance with the disposal facility requirement. Any groundwater or LNAPL that requires removal from the excavation will be either pumped in a Frac Tank or removed with a Vacuum Truck depending on the quantity and properly disposed of off-site.

3.4 DEMOLITION DEBRIS MANAGEMENT DISPOSAL

Stockpiles of demolition debris or IRM excavated soil will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points. Stockpiles will be kept covered with appropriately anchored tarps. Stockpiles, if needed, will be routinely inspected and damaged tarp covers will be promptly replaced.

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and New York State Department of Transportation (NYSDOT) requirements (and all other applicable transportation requirements). A truck wash will be operated on-site, if needed. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete.

Locations where vehicles enter or exit the Site will be inspected daily for evidence of off-Site soil tracking. The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the Site are clean of dirt and other materials derived from the Site during intrusive excavation activities. Cleaning of the adjacent

streets will be performed as needed to maintain a clean condition with respect to Site-derived materials and to avoid exposure in the community to Site-related dust.

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded. If loads contain wet material capable of producing free liquid, truck liners will be used.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site. Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

All solid waste excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6 NYCRR Part 360) and Federal regulations. Off-site disposal facilities for demolition debris and soils will be identified pre-construction work for approval. Actual disposal quantities and associated documentation will be reported to the NYSDEC. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

4.0 REMEDIAL INVESTIGATION WORKPLAN

Soil borings, groundwater monitoring wells, and soil vapor points are proposed below based on the following rationale to complete the nature and extent delineation of contaminated soil, groundwater and soil vapor on the Site.

4.1 SOIL REMEDIAL INVESTIGATION

In order to further evaluate the soils, fourteen (14) soil borings will be performed on the Site in an approximate 40-foot grid pattern to evaluate and delineate soil contamination from historical operations, USTs, and other potential sources. In addition, waste characterization samples will be collected from the borings for disposal approval. The proposed soil boring locations are shown on **Figure 4.1.**

The borings will be advanced using direct-push or other drilling methods as needed. The borings will extend to a depth of 50 ft-bg. Soil samples will be at a minimum of one sample per 5-foot depth interval biased based on field screening that includes visual observations, PID readings

and olfactory observations. Boring logs documenting soil classifications, PID readings, and visual observations will be provided in the final report.

Soil samples collected from the fourteen (14) boring locations will be analyzed by a NYSDOH ELAP certified laboratory for TCL + 30/TAL including VOCs by EPA Method 8260, SVOCs by EPA Method 8270, pesticides by EPA Method 8081, polychlorinated biphenyls (PCBs) by EPA Method 8082, TAL metals by EPA Methods 6010, 7471, and 9012, the 21 PFASs by EPA Modified Method 537 and 1-4,dioxane by EPA Method 8270. Category B deliverables will be requested on each sample chain of custody. SESI's field sampling procedures are described in the quality assurance project plan (QAPP) presented in **Appendix B** SESI's Sampling Plan Emerging Contaminants is presented in **Appendix G** and the Sampling Plan Emerging Contaminants is presented in **Appendix G.**

In addition, quality assurance/quality control (QA/QC) samples will be collected and analyzed as specified in the QAPP. Specifically, the number of duplicate, spiked and blank samples analyzed will a minimum of 1 duplicate for every 20 samples. The inclusion and frequency of analysis of field blanks will be on the order of one per every 20 soil samples but not more than one per day. Samples to be analyzed for volatile organic compounds will be accompanied by a trip blank (water matrix only) for each shipment and field blanks (water matrix) or field blanks (soil, sediment matrix).

4.2 GROUNDWATER REMEDIAL INVESTIGATION

Groundwater monitoring wells are proposed to determine the current groundwater conditions at the Site. Note that the depth to groundwater at the Site is approximately 45 ft-bg. Therefore, during the excavation activities, contaminated soil will be removed, and groundwater is not anticipated to be encountered.

To investigate the Site groundwater, a total of six (6) permanent groundwater monitoring wells will be installed as shown on **Figure 4.2**. The wells will be installed to a depth of 10 feet below the groundwater table, or refusal on bedrock, whichever occurs first. Each monitoring well will be constructed with 2-inch diameter well screens. The well screening will intersect the water table and extend to the bottom of the well boring. The annular space of each well will be filled with well sand to at least 2' above the screening and will be sealed with hydrated bentonite or cement grout. Finally, each monitoring well will be completed with a flush-mount road-box or stickup as necessary. A typical boring and well construction log is provided in **Appendix C**.

The applicable standards criteria and guidance (SCGs) for the Site groundwater are the Groundwater Effluent Limitations Class GA standards (cf. Section 703.6) and the proposed standards for PFOA, PFOS and 1-4-dioxane. Although the NYS Drinking Water Quality Council has proposed standards for PFOA, PFOS and 1,4-dioxane, these standards have not yet been adopted into regulation. Nevertheless, the State has determined these are hazardous substances in regulation.

The Groundwater RI is conducted to achieve the following:

- delineate the nature and extent of REC-specific contaminants (if found) in the site groundwater;
- identify actual or potential impacts to sensitive receptors, e.g. surface water;
- determine whether the contaminant plume (if any) is expanding, contracting or stable;
- gather sufficient data to determine groundwater flow direction, develop a contour map and evaluate groundwater Remedial alternatives (if required), including, as appropriate, Monitored Natural Attenuation (MNA); and
- provide information on the background quality of the groundwater flowing into the Site.

All the wells will be surveyed for location and elevation. The survey data will be provided pursuant to the DER-10 requirements in an acceptable format (e.g., North America Datum 83 [NAD83]). The wells will be gauged for groundwater depth to determine the groundwater elevation. The Site-specific groundwater flow direction and gradient will be determined based on the latest elevation data and summarized in the Remedial Investigation Report (RIR).

One round of sampling will be conducted from the newly installed wells. The data will be analyzed to determine whether groundwater contamination exists, the magnitude and the extent of the potential contaminant plume. In addition to the analytical data, field measurements and chemical analyses will be conducted to characterize the impacted groundwater.

All the wells will be sampled for TCL + 30/TAL including VOCs by EPA Method 8260, SVOCs by EPA Method 8270, pesticides by EPA Method 8081, PCBs by EPA Method 8082, TAL metals by EPA Methods 6010, 7471, and 9012, for 21 PFASs compounds by Modified EPA Method 537, and 1-4,dioxane by EPA Method 8270. SESI's field sampling procedures are described in the QAPP presented in **Appendix B** and the Sampling Plan for Emerging Contaminants is presented in **Appendix G**.

All groundwater samples will be analyzed by a NYSDOH ELAP certified laboratory and Category B deliverables will be requested on each sample chain of custody. In addition, QA/QC samples will be collected and analyzed as specified in the QAPP. Specifically, the number of

duplicate, spiked and blank samples analyzed will be a minimum of 1 duplicate for every 20 samples. For the aqueous matrix field blanks will be collected at a frequency of one per day. Samples to be analyzed for volatile organic compounds will be accompanied by a trip blank for each shipment and field blanks water matrix.

The wells will be sampled using the low flow technique, when possible. A flow rate of 100 ml to 250 ml per minute is used to purge the wells. Drawdown should not exceed 0.3 feet. At the initiation of low flow purging a water level is recorded as well as field parameters. Field parameters are then monitored every five minutes during low flow purging using a flow through cell. When three consecutive measurements of pH differ by 0.1 units or less, with ORP within 10 mv or less, turbidity varies 10 percent or less, conductivity differs by 3 percent or less and dissolved oxygen by 10 percent or less, sampling may begin. Flow through cells are used so continuous real time readings are made. When the parameters stabilize the flow through cell is disconnected and sample bottles are filled directly from the tubing. If the parameters of a well do not stabilize in a timely manner, the groundwater sample will be collected after emptying three well volumes from the well being sampled.

In addition to water samples collected from the monitoring wells, two types of "blanks" will be collected and submitted to the chemical laboratory for analyses. The blanks will consist of 40 ml VOA vials, as follows:

- A trip blank will be prepared before the sample bottles are sent by the laboratory. It consists of a sample of distilled, deionized water which accompanies the other sample bottles into the field and back to the laboratory. A trip blank will be included with each shipment of samples where sampling and analysis for TCL volatiles is planned (water matrix only). The trip blank will be analyzed for TCL volatile organic compounds as a measure of potential contamination from background sources and their effect on the results.
- In order to check for contaminant carryover when non-dedicated sampling equipment is used, a rinsate blank will be submitted to the laboratory. This blank will also be analyzed for TCL volatile organic compounds.

The proposed groundwater monitoring wells and the rationale for their locations are presented in the table below:

Well Name	Location	Rationale
MW-1	northwestern property corner	Evaluate groundwater quality for potential upgradient off-site sources.
MW-2	southwestern property boundary	Evaluate groundwater quality for potential upgradient off-site sources.
MW-3	Parking Lot along northcentral property boundary	Evaluate groundwater quality for on-site sources.
MW-4	Parking Lot along southcentral property boundary	Evaluate groundwater quality for on-site sources.
MW-5	Northeastern property boundary	Evaluate groundwater quality for on-site sources. Evaluate groundwater quality for potential downgradient migration.
MW-6	Southeastern property boundary	Evaluate groundwater quality for on-site sources. Evaluate groundwater quality for potential downgradient migration.

4.3 SOIL VAPOR INVESTIGATION

SESI will collect five (5) soil vapor samples from soil vapor points in the footprint of the proposed building. The proposed soil vapor point locations are shown on **Figure 4.3**. The purpose of the soil vapor points is to assess the potential for vapor intrusion into future buildings. All soil vapor points will be installed within two (2) feet below the proposed foundation elevation.

The soil gas samples will be collected in accordance with the procedures of the NYS Department of Health October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York. Specifically, the soil vapor probes will be advanced using direct push sampling equipment and samples will be collected by installing vapor implants. The soil vapor depth will be based on final construction and development plan. A sacrificial vapor point connected to flexible tubing will be inserted into the borehole. The annular space of the borehole will be filled sand and the surface will be sealed with bentonite to seal the surface. Prior to sampling the tubing system will be purged of ambient air with a low-flow pump.

The soil vapor samples will be collected into laboratory supplied 1-liter, stainless-steel, summa canisters. The summa canisters will be equipped with a manometer to verify the canister is under vacuum, and a flow controller set to a flow rate of 100 ml/min. A sample log sheet will be maintained summarizing sample identification, date and time of sample collection, sampling depth, identity of samplers, sampling methods and devices, soil vapor purge volumes, volume of the soil vapor extracted, vacuum of canisters before and after the samples are collected, apparent moisture content of the sampling zone, and chain of custody protocols. The vapor samples will be sent to a certified laboratory for analysis of VOCs in accordance with EPA Method TO-15.

As part of the vapor sampling, a tracer gas will be used to serve as a QA/QC device to verify the integrity of the soil vapor probe seal. Helium will be used as the tracer gas and a box will serve to keep it in contact with the probe during testing. A portable monitoring device will be used to analyze a sample of soil vapor for the tracer prior to sampling. If the tracer sample results show a significant presence of the tracer, the probe seals will be adjusted to prevent infiltration. At the conclusion of the sampling round, tracer monitoring will be performed a second time to confirm the integrity of the probe seals. SESI's field sampling procedures are described in the QAPP presented in **Appendix B.**

In addition to the soil vapor, one ambient air sample will be collected with a 6-liter summa canister set to a flow rate of 100 ml/min.

5.0 DECONTAMINATION AND IDW

Equipment utilized for ground intrusive activities (i.e. borings and wells) will be decontaminated between each boring. Equipment utilized for sample collection (i.e. spoons, trowels) will be decontaminated between each sample unless disposable equipment is utilized, where the equipment will be disposed after each sample is collected. Appropriate decontamination areas will be established to support work being conducted in each area of the Site.

All investigative derived waste (IDW) of soil cuttings and purged groundwater will be containerized, sampled, and properly disposed of pursuant to DER-10 requirements. Disposable sampling equipment, including macro core liners, spoons, gloves, bags, paper towels, and PPE etc. that come in contact with environmental media will be double bagged and disposed of as municipal trash in a facility trash dumpster as non-hazardous refuse.

6.0 SURVEY

After the RI sampling scope is completed, a survey will be completed, which includes the locations and elevations of all the monitoring wells and all the soil samples.

7.0 HUMAN HEALTH EXPOSURE ASSESSMENT

A qualitative human health exposure assessment will be performed for the Site in accordance with the New York State Department of Health's Qualitative Human Health Exposure Assessment guidance document. Sampling data will be reviewed along with the physical conditions of the contaminant sources or physical hazards near the Site. Potential on-site and off-

site exposures will be evaluated. The Exposure Assessment will describe the nature and size of the population exposed, or potentially exposed, to the contaminants that are present at, or migrating from the Site, and will characterize the exposure setting, identify exposure pathways and evaluate contaminant fate and transport.

Several objectives will be met by the exposure assessment. First, applicable Site information and characterization data for environmental media of concern will be evaluated. Applicable Standards, Criteria, and Guidance (SCGs) including Part 375 Soil Cleanup Objectives (SCOs) and CP-51 SCOs for soil and Technical and Operational Guidance Series (TOGS) Class GA water quality standards and guidance values for groundwater and surface water will be applied.

An assessment of current and future Site activities and Site use will be conducted in relation to potential human exposure. Next, potential exposure pathways will be identified, and each aspect of the potential exposure pathway will be evaluated. Soil and groundwater contamination will be addressed and the impact of remediation on future exposure scenarios will be analyzed.

8.0 FISH AND WILDLIFE IMPACT ANALYSIS

A Fish and Wildlife Resources Impact Analysis (FWIA) Decision Key will be completed by SESI prior to the excavation work to determine if a FWIA is needed. Contaminant migration pathways and any fish and wildlife exposure pathways will be identified. As stated in the FWIA, "if no resources are associated with the site or if there is no potential for contaminant migration to the resources, then only the necessary information to support that conclusion should be provided." If the results from the RI, along with site inspections, support this conclusion, documentation will be submitted with the RI Report.

If resources are identified, or migration pathways exist, a FWIA will be completed and submitted as part of the RI Report. The FWIA would be completed to identify actual or potential impacts to fish and wildlife resources from Site contaminants. The FWIA would qualitatively determine the route, intensity, frequency, and duration of actual or potential exposures to chemicals, describe the nature and size of the population exposed to the contaminants that are present at or migrating from the site, and characterize the exposure setting, identifying exposure pathways, and evaluating contaminant fate and transport.

A Fish & Wildlife assessment is not anticipated for this Site as it is located in an urban setting and is not adjacent to a waterbody.

9.0 DUSR

Following the completion of the laboratory analysis program, a Data Usability Summary Report (DUSR) will be completed for the lab data and included as part of the RI Report. The DUSR will include available datasets from previous investigations, as well as data from this phase of Site characterization. The DUSR is carried out as specified in DER-10 to evaluate the quality control measures that were implemented during the field and laboratory analytical programs, with the objective of determining whether the reported analytical data are representative and usable for decision making. The DUSR will evaluate whether the data are technically defensible (i.e. were all analytical data requirements met and documented?). Data usability analysis reviews the Site data to determine whether they are adequate to draw conclusions regarding the nature and extent of contamination.

The items that will be reviewed as part of the DUSR will include the following:

- Completeness (number of samples collected and analyzed compared to plans)
- Chains of custody are complete and accurate
- Holding times
- Instrument calibration
- Relative percent difference between field duplicates
- Reasonableness of data (e.g. relationships between total and soluble analytes)
- Blank contamination

The DUSR will be conducted in accordance with guidelines provided under Appendix 2B of DER-10. The site-specific QAPP is included in **Appendix B**.

10.0 REMEDIAL INVESTIGATION REPORT

Following the completion of the RI activities and the receipt of sample results, a Remedial Investigation Report (RIR) will be prepared. The RIR will summarize the activities completed during the RI including analytical results, well construction and sampling logs, waste characterization information for disposal purposes, conclusions from the FWIA if necessary, a DUSR and laboratory data packages. Scaled figures showing the sample locations and areas of contamination exceeding applicable standards will be prepared for soil, soil vapor and groundwater. Sampling results will be summarized and discussed and the need for additional investigation and remediation will be evaluated. In addition, analytical summary tables will be prepared for soil, soil vapor, and groundwater compared to applicable standards.

The RIR will also include a summary of the site history, previous investigations, description of site conditions, analysis of the results, conclusions and recommendations, nature and extent of contamination, identify exposure pathways via a Qualitative Human Health Exposure Assessment.

Analytical data collected during the Remedial Investigation and previous data used for the selection of the remedy will be submitted in the NYSDEC approved Electronic Data Deliverable (EDD) format. EDDs will be prepared using the DEC's Environmental Information Management System (EIMS) database software application EQuIS™ for submission.

11.0 QUALITY ASSURANCE/QUALITY CONTROL

QA/QC is addressed in the QAPP included as **Appendix B**. The QAPP outlines procedures to be followed for sampling and analysis to ensure quality of the results. A DUSR will be prepared with the final reports to document the reliability of the sample results.

12.0 HEALTH AND SAFETY PLAN

A Site-specific Health and Safety Plan (HASP) has been prepared and is included as **Appendix D**. All on-site personnel and visitors involved in the RI will be required to read and sign the HASP prior to entry of the Site.

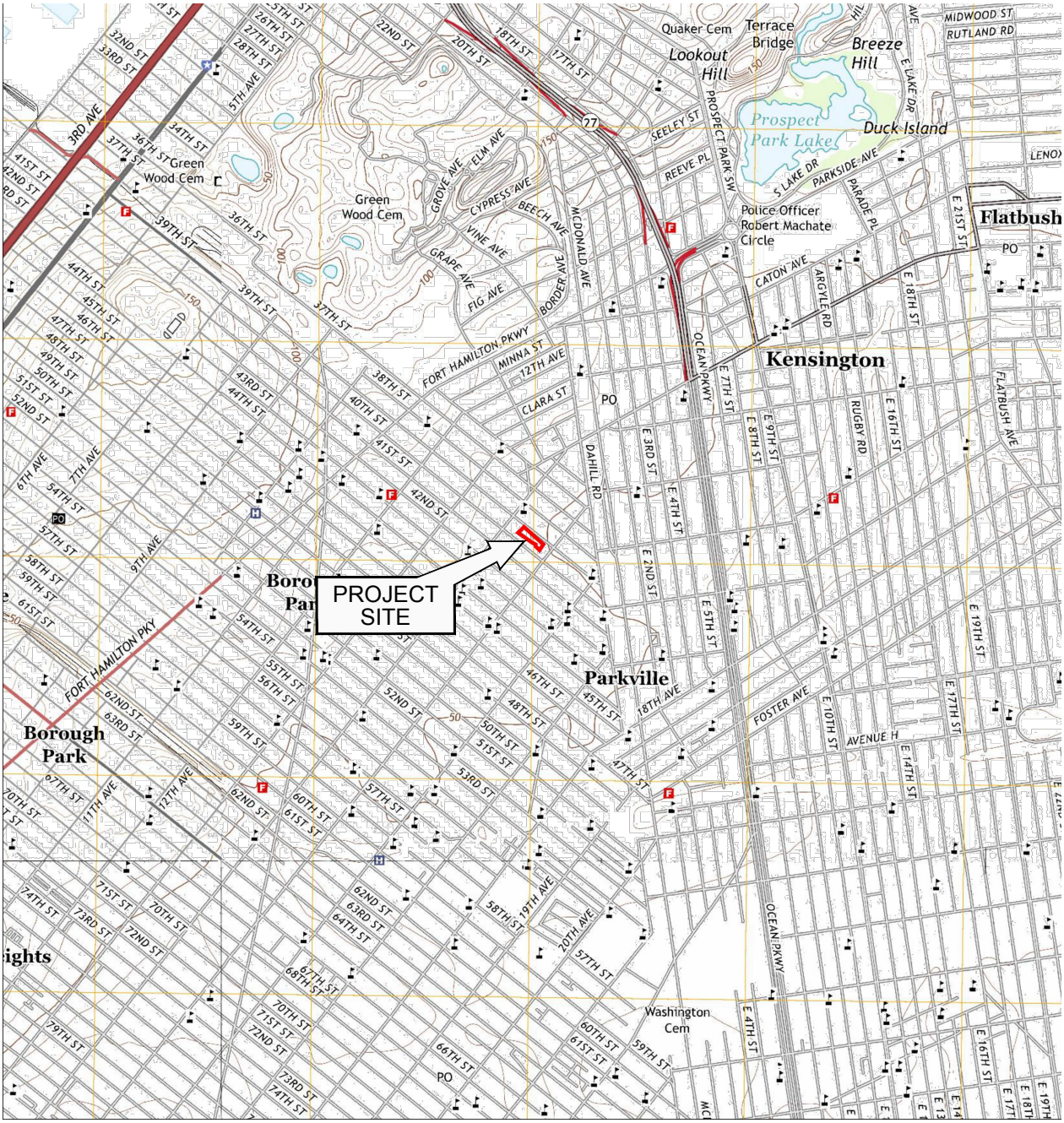
13.0 COMMUNITY AIR MONITORING

A CAMP is provided as **Appendix E**, in accordance with DER-10 requirements for remedial investigation. The CAMP sets forth air monitoring procedures that will be utilized to measure airborne emissions during the RI, in order to minimize the release of contaminants to off-Site areas.

14.0 CITIZEN PARTICIPATION

Citizen participation activities will be performed throughout the RI process to involve and inform the public. The specific citizen participation activities to be performed are outlined in the Citizen Participation Plan (CPP), included as **Appendix F**.

FIGURES



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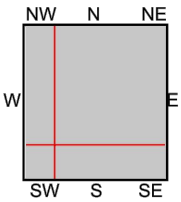

TP, Brooklyn, 2013, 7.5-minute
SE, Coney Island, 2013, 7.5-minute
SW, The Narrows, 2013, 7.5-minute
NW, Jersey City, 2014, 7.5-minute

Scale 1"=2500'

0 2500 5000

1426-1460 39TH STREET
BLOCK 5346; LOTS 15, 16, 17, 26, 28, 149
BROOKLYN, NY

SITE LOCATION MAP

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SOILS / FOUNDATIONS
SITE DESIGN
ENVIRONMENTAL
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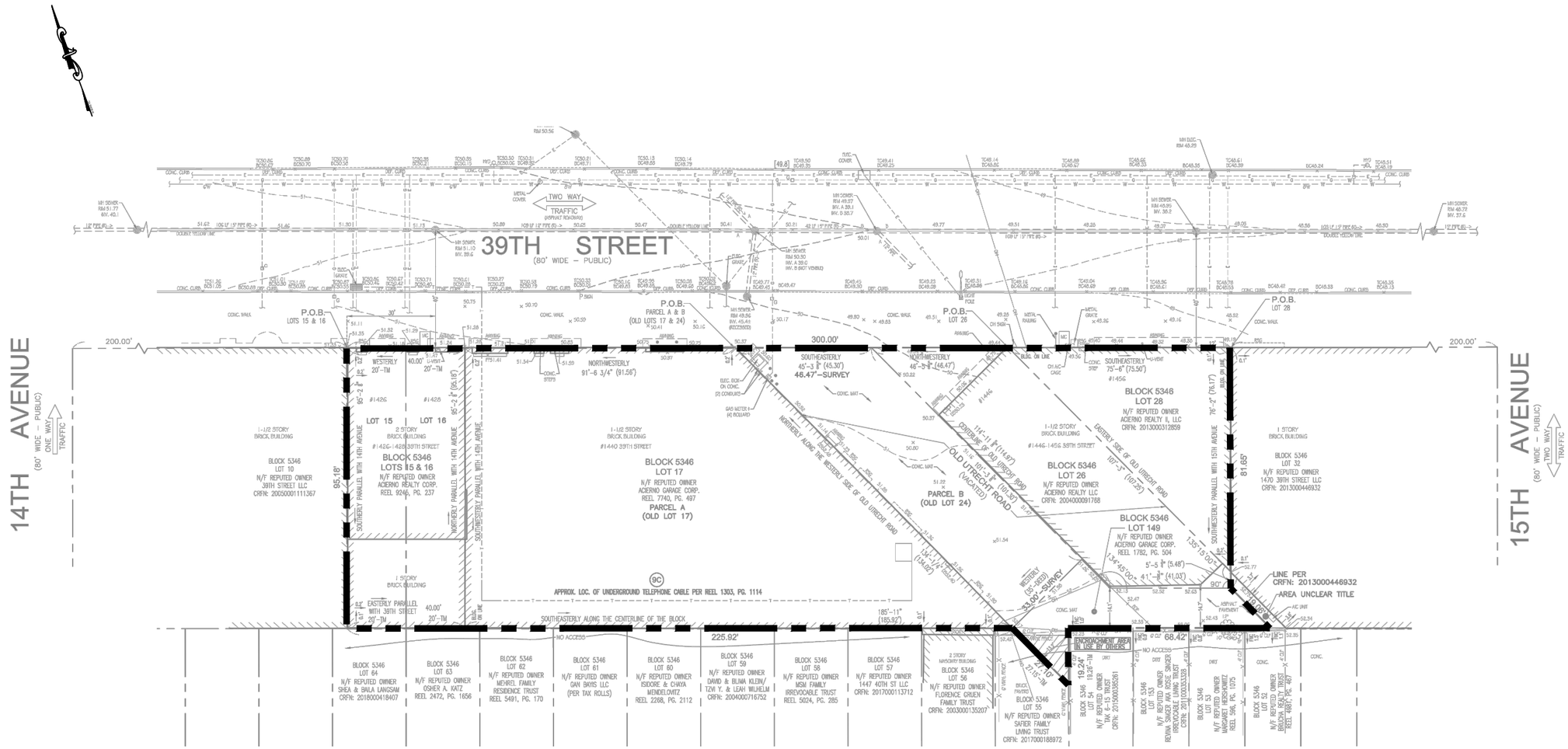
FIG-2.1
DRAWN BY: yy
CHECKED BY: TTK
SCALE: AS NOTED
DATE: 12/16/19
JOB NO.: 10737

N:\ACAD\10737\RIWP\10737 FIG-2.1 SITE LOCATION MAP.DWG 12/16/19 02:08:59PM, jenny, LAYOUT:FIG-2.1



LEGEND:

- PROPERTY BOUNDARY (APPROX.)

SCALE: 1"=40'

0 40 80

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N: \ACAD\10737\RIWP\10737 FIG-2.2 SITE PLAN.DWG 12/16/19 02:13:01PM, jenny, LAYOUT:FIG-2.2

dwg by: yy
chk by: JS
scale: AS NOTED
date: 12/16/19

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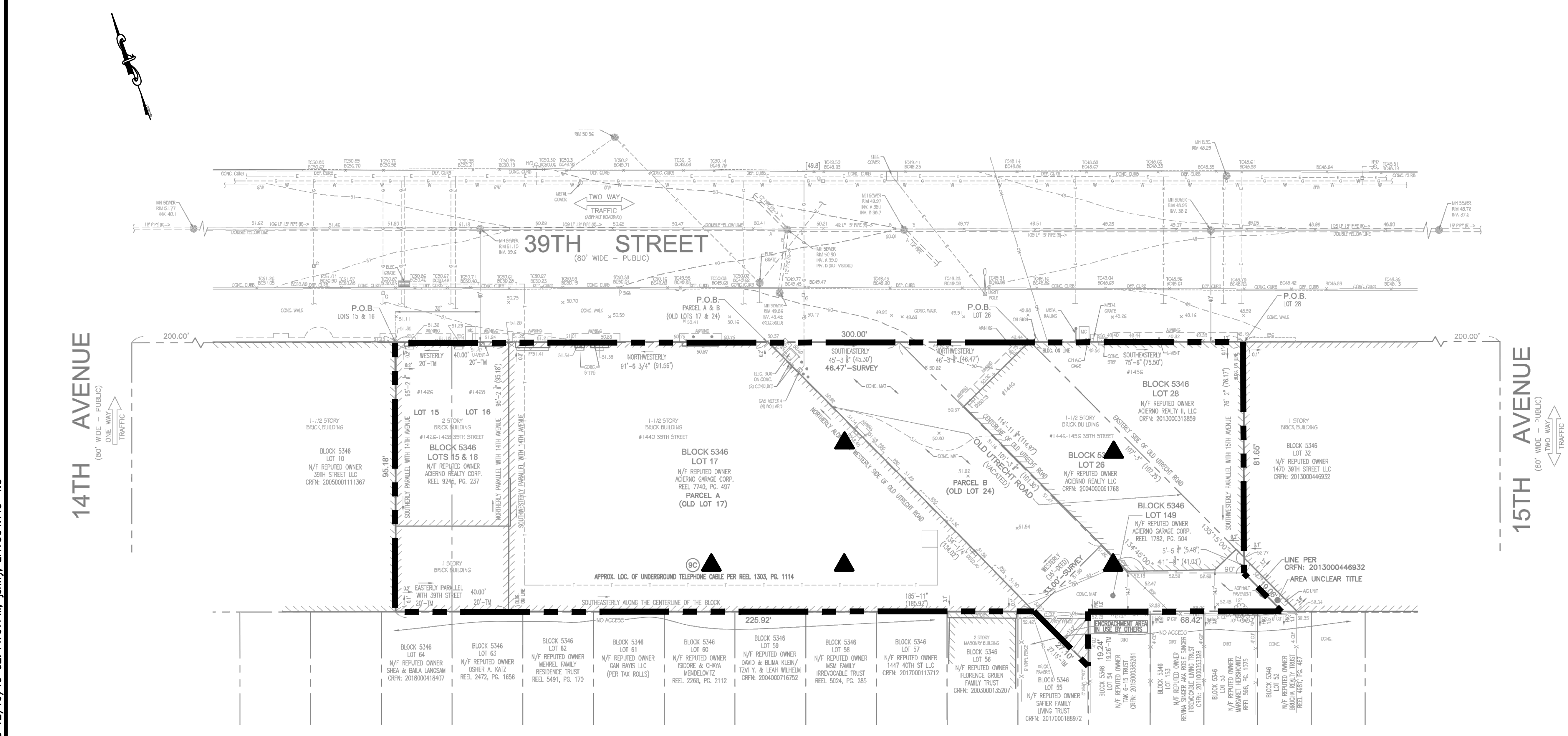
SITE PLAN

job no: 10737
drawing no:

FIG-2.2



LEGEND:

- PROPERTY BOUNDARY
- ▲ SOIL VAPOR POINT APPROX. LOCATION

SCALE: 1"=40'

0 40 80

N:\ACAD\10737\RIWP\10737 FIG–4.3 SOIL VAPOR POINTS.DWG 12/16/19 02:44:07PM, jenny, LAYOUT:FIG–4.3

dwg by: yy
chk by: JS
scale: AS NOTED
date: 12/16/19

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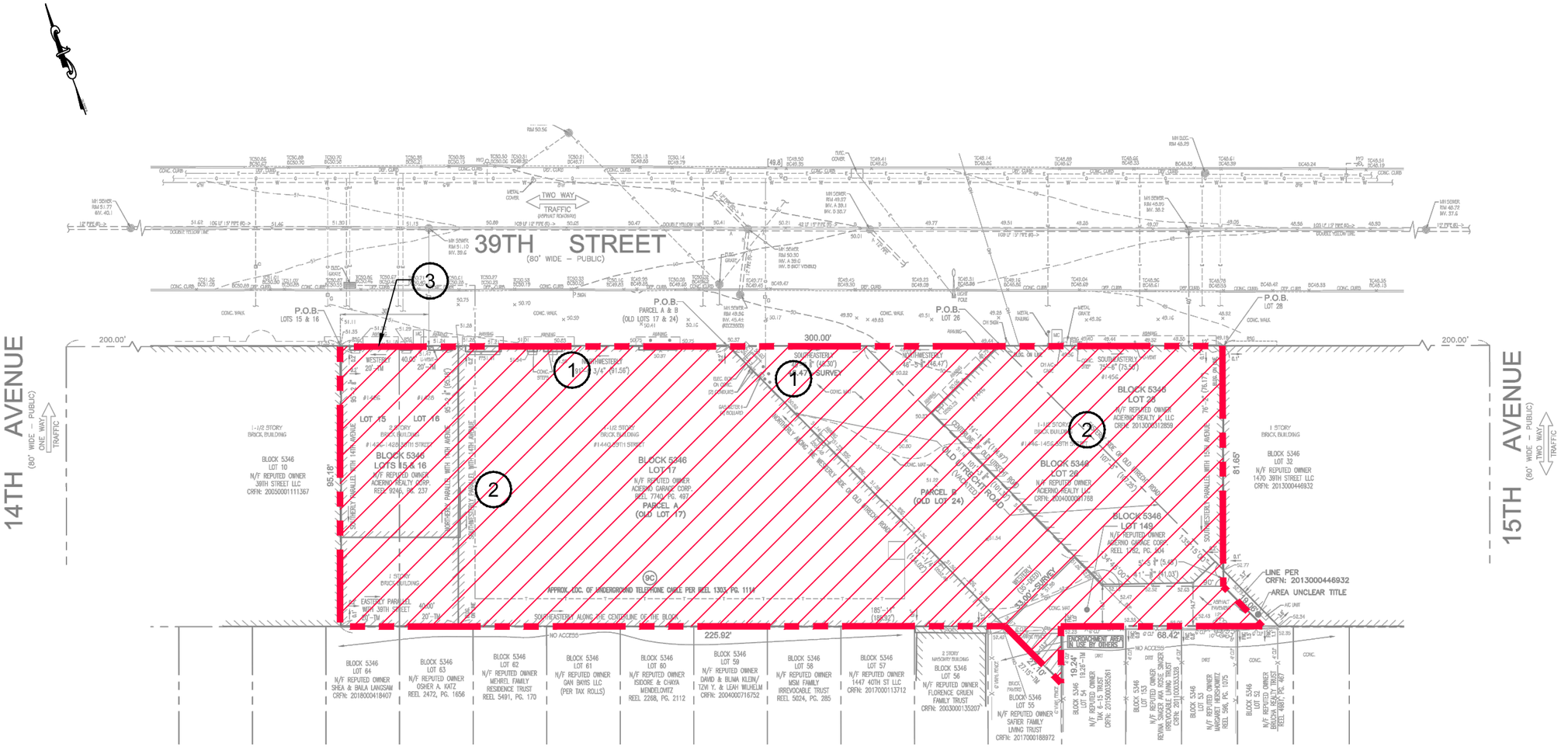
PROPOSED SOIL VAPOR POINTS

job no: 10737
drawing no:

FIG-4.3



REC KEY	
REC-1	SUSPECTED UST LOCATIONS
REC-2	SITE OPERATIONS
REC-3	HISTORIC FILL

LEGEND:

- PROPERTY BOUNDARY (APPROX.)

(1) - RECOGNIZED ENVIRONMENTAL CONDITIONS

SCALE: 1"=40'

0 40 80

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date: 12/17/19

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REC LOCATION PLAN

job no: 10737
drawing no:

FIG-2.3

N:\ACAD\10737\PHASE I REPORT\10737 FIG-2.3 REC LOCATION PLAN.DWG 12/17/19 04:59:14PM, gas, LAYOUT:FIG-2.3

Analyte	NY Soil Clean-up, Unrestricted Use	NY Soil Clean-up, Restricted Residential	NY Soil Clean-up, Commercial
Total Metals (mg/kg)			
Arsenic	13	16	16
Silver	2	180	1,500
Barium	350	400	400
Cadmium	2.5	4.3	9.3
Copper	50	270	270
Lead	63	400	1,000
Mercury	0.18	0.81	2.8
Nickel	30	310	310
Zinc	109	10,000	10,000
Semivolatile Organics - GC/MS (mg/kg)			
3+4-Methylphenol	0.33	100	500
Benzo(a)anthracene	1	1	5.6
Benzo(a)pyrene	1	1	1
Benzo(b)fluoranthene	1	1	5.6
Benzo(k)fluoranthene	0.8	3.9	56
Chrysene	1	3.9	56
Dibenzo(a,h)anthracene	0.33	0.33	0.56
Dibenzofuran	7	59	350
Fluoranthene	100	100	500
Indeno(1,2,3-cd)pyrene	0.5	0.5	5.6
Naphthalene	12	100	500
Phenanthrene	100	100	500
Pyrene	100	100	500
4,4'-DDT	0.0033	7.9	47

Sample Number	S-31
Depth	(2.0-2.5)
Date	11/19/2019
4,4'-DDT [2C]	0.00623
Benzo(a)anthracene	3.88
Benzo(a)pyrene	5.12
Benzo(b)fluoranthene	7.69
Benzo(k)fluoranthene	2.23
Chrysene	3.87
Dibenzo(a,h)anthracene	1.12
Indeno(1,2,3-cd)pyrene	3.25
Lead	75.2
Mercury	0.208
Zinc	260

Sample Number	S-9
Depth	(3-3.5)
Date	05/11/2019
Nickel	57.0

Sample Number	S-26
Depth	3.5-4
Date	11/18/2019
Benzo(a)anthracene	1.03
Benzo(a)pyrene	1.02
Benzo(b)fluoranthene	1.46
Indeno(1,2,3-cd)pyrene	0.82
Mercury	0.19
Lead	128
Zinc	117

Sample Number	S-3
Depth	(4.0)
Date	05/02/2019
Lead	112

Sample Number	S-20
Depth	(3.5-4.0)
Date	11/19/2019
4,4'-DDT	0.0163
Benzo(a)anthracene	4.05
Benzo(a)pyrene	3.38
Benzo(b)fluoranthene	4.62
Benzo(k)fluoranthene	2.09
Chrysene	4.02
Dibenzo(a,h)anthracene	0.719
Indeno(1,2,3-cd)pyrene	2.00
Barium	1660
Copper	115
Lead	1080
Mercury	1.39
Silver	5.12
Zinc	764

Sample Number	S-29
Depth	1.5-2
Date	11/18/2019
Mercury	0.22
Copper	105

Sample Number	S-5
Depth	(2.5)
Date	05/02/2019
Copper	186
Lead	167
Zinc	774
Benzo(a)anthracene	1.09
Benzo(b)fluoranthene	1.43
Chrysene	1.02
Indeno(1,2,3-cd)pyrene	0.562

Sample Number	S-12
Depth	(1-1.5)
Date	5/11/2019
Cadmium	4.13
Lead	247
Mercury	0.239
Zinc	1390

Sample Number	S-11
Depth	(4-4.5)
Date	05/11/2019
Lead	388.0

Sample Number	S-23
Depth	3-3.5
Date	11/18/2019
Benzo(a)anthracene	4.65
Benzo(a)pyrene	4.09
Benzo(b)fluoranthene	5.37
Benzo(k)fluoranthene	2.47
Chrysene	3.88
Dibenzo(a,h)anthracene	0.89
Indeno(1,2,3-cd)pyrene	2.47

Sample Number	S-24
Depth	3-3.5
Date	11/18/2019
4,4'-DDT	0.01
Benzo(a)anthracene	1.65
Benzo(a)pyrene	1.59
Benzo(b)fluoranthene	2.04
Chrysene	1.61
Indeno(1,2,3-cd)pyrene	0.91
Mercury	0.23

Sample Number	S-22
Depth	(1.5-2.0)
Date	11/19/2019
4,4'-DDT	0.0141
Benzo(a)anthracene	2.47
Benzo(a)pyrene	2.21
Benzo(b)fluoranthene	2.75
Benzo(k)fluoranthene	1.31
Chrysene	2.18
Dibenzo(a,h)anthracene	0.402
Indeno(1,2,3-cd)pyrene	1.23
Barium	353
Copper	57.4
Lead	295
Mercury	0.189
Zinc	314

Sample Number	S-21
Depth	(2.5-3.0)
Date	11/19/2019
4,4'-DDT	0.01
Mercury	0.21
Zinc	138
Benzo(a)anthracene	1.98
Benzo(a)pyrene	1.67
Benzo(b)fluoranthene	2.3
Benzo(k)fluoranthene	1.13
Chrysene	2.07

Sample Number	S-2
Depth	(3.0)
Date	05/02/2019
Arsenic	14.1
Lead	135
Mercury	14.2

Sample Number	S-2
Depth	(9.0)
Date	05/02/2019
Mercury	4.33
Nickel	32.8

Sample Number	S-16
Depth	(2.5-3.0)
Date	11/19/2019
4,4'-DDT	0.00841
Copper	188
Lead	75.6
Mercury	0.185
Zinc	136
Benzo(a)anthracene	2.95
Benzo(a)pyrene	3.13
Benzo(b)fluoranthene	4.14
Benzo(k)fluoranthene	1.86
Chrysene	3.19
Dibenzo(a,h)anthracene	0.735
Indeno(1,2,3-cd)pyrene	2.41

Sample Number	S-27
Depth	(3.0-3.5)
Date	11/19/2019
Lead	181
Mercury	0.229
Nickel	31.7
Zinc	125

Sample Number	S-28
Depth	1.5-2
Date	11/18/2019
Mercury	0.19

Sample Number	S-19
Depth	(2.5-3.0)
Date	11/19/2019
Copper	55.6
Mercury	0.244

Sample Number	S-7
Depth	(2.0)
Date	05/02/2019
Barium	891
Copper	97.5
Lead	528
Mercury	0.189
Zinc	403
Benzo(k)fluoranthene	21.6
Dibenzo(a,h)anthracene	7.43
Dibenzofuran	9.37
Indeno(1,2,3-cd)pyrene	22.3
Benzo(a)anthracene	59.5
Benzo(a)pyrene	48.5
Benzo(b)fluoranthene	67.9
Chrysene	55.1
Fluoranthene	127
Phenanthrene	117
Pyrene	115

Sample Number	S-4
Depth	(2.5)
Date	05/02/2019
3+4-Methylphenol	0.655
Benzo(k)fluoranthene	24.3
Dibenzo(a,h)anthracene	9.51
Dibenzofuran	21.9
Indeno(1,2,3-cd)pyrene	31.8
Naphthalene	16.6
Benzo(a)anthracene	79.6
Benzo(a)pyrene	17.1
Benzo(b)fluoranthene	84.9
Chrysene	69.7
Fluoranthene	190
Phenanthrene	220
Pyrene	176
Lead	121
Zinc	137

Sample Number	S-18
Depth	(2.5-3.0)
Date	11/19/2019
Benzo(a)anthracene	2.63
Benzo(a)pyrene	1.96
Benzo(b)fluoranthene	2.47
Benzo(k)fluoranthene	1.09
Chrysene	2.81
Dibenzo(a,h)anthracene	0.351
Indeno(1,2,3-cd)pyrene	0.988
Lead	91.1
Mercury	0.230
Zinc	174

Sample Number	S-10
Depth	(7-7.5)
Date	05/11/2019
Nickel	39.9

Sample Number	S-6
Depth	(3.0)
Date	05/02/2019
Lead	122
Zinc	141
Benzo(a)anthracene	5.76
Benzo(a)pyrene	5.32
Benzo(b)fluoranthene	7.93
Benzo(k)fluoranthene	2.56
Chrysene	5.84
Dibenzo(a,h)anthracene	0.942
Indeno(1,2,3-cd)pyrene	2.92

SCALE: 1"=40'

0 40 80

LEGEND:

- PROPERTY BOUNDARY
- SESI FEATURES/ OBSERVATIONS DOCUMENTED BY SESI IN MAY 2019
- B-1 - PREVIOUS SOIL BORING LOCATION COMPLETED BY STRUCTURAL ENGINEERING TECHNOLOGIES IN APRIL 2019.
- S-8 - SOIL BORING LOCATION COMPLETED BY SESI IN MAY AND NOVEMBER 2019.
- S-11/SV-4 - CONCRETE CORE AND SOIL BORING/ SOIL VAPOR POINT COMPLETED BY SESI IN MAY 2019.
- S-20 - SOIL BORING AND TEMPORARY WELL LOCATION
- EXCEEDING LEVELS OF URSCO'S
- EXCEEDING LEVELS IN BOTH URSCO'S AND RRSCO'S
- EXCEEDING LEVELS IN ALL 3 AREAS; URSCO'S, RRSCO'S & CMSCO'S

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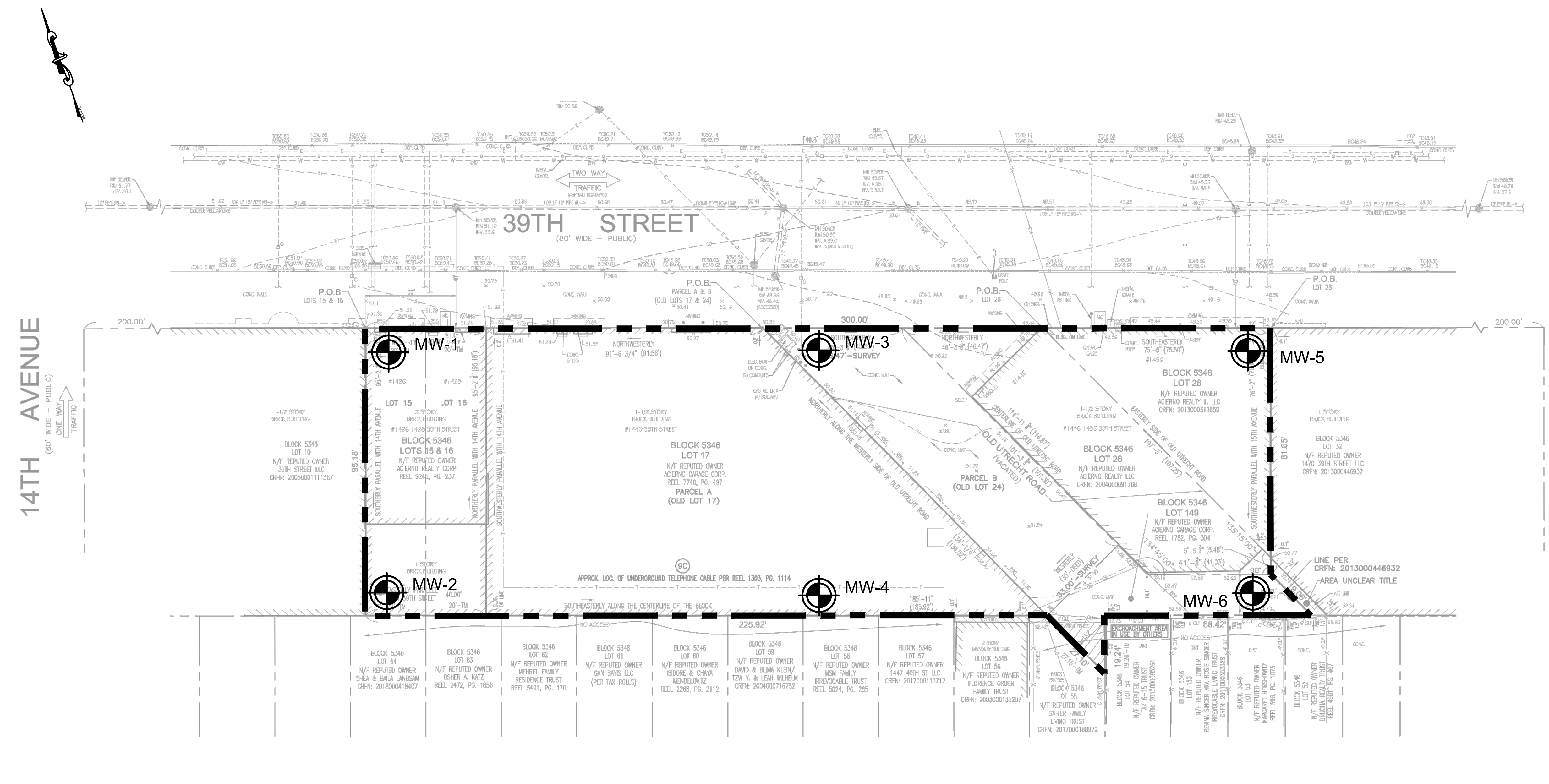
dwg by: yy
chk by: JS
scale: AS NOTED
date: 12/16/19

1426-1460 39TH STREET
BLOCK 5346; LOTS 15, 16, 17, 26, 28, 149
BROOKLYN, NY

BORING AND SOIL VAPOR POINT LOCATION PLAN

job no: 10737
drawing no:

FIG-2.4



SCALE: 1"=40'

0 40 80

LEGEND:

- PROPERTY BOUNDARY

MW-1 - PROPOSED MONITORING WELL NUMBER AND APPROXIMATE LOCATION

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N:\ACAD\10737\RIWP\10737 FIG-4.2 PROP MW LOCATION PLAN.DWG 12/16/19 02:31:38PM, jenny, LAYOUT:FIG-4.2

dwg by: yy
chk by: JS
scale: AS NOTED
date: 12/16/19

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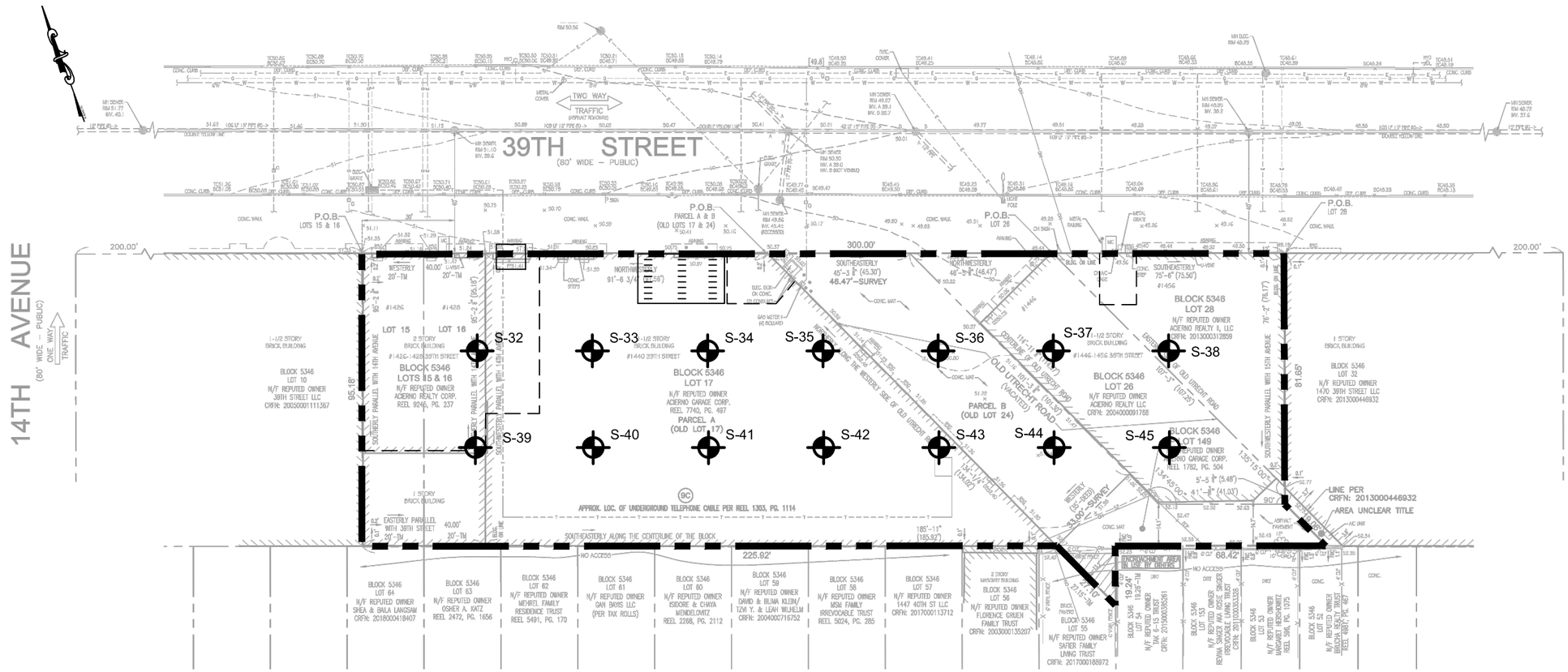
PROPOSED MONITORING WELL LOCATIONS

job no: 10737
drawing no:

FIG-4.2



SCALE: 1"=40'

0 40 80

LEGEND:

- PROPERTY BOUNDARY

B-32 - PROPOSED SOIL BORING LOCATION

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chk by: JS
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date: 12/16/19

1426-1460 39TH STREET
BLOCK 5346; LOTS 15, 16, 17, 26, 28, 149
BROOKLYN, NY

PROPOSED BORING LOCATION PLAN

job no: 10737
drawing no:

FIG-4.1

APPENDIX A:

PREVIOUS ENVIRONMENTAL REPORTS

(ELECTRONIC)

APPENDIX B

QUALITY ASSURANCE PROJECT PLAN (QAPP)

APPENDIX C

TYPICAL BORING/WELL CONSTRUCTION LOG

APPENDIX D

HEALTH AND SAFETY PLAN (HASP)

APPENDIX E

COMMUNITY AIR MONITORING PLAN (CAMP)

APPENDIX F

CITIZEN PARTICIPATION PLAN (CPP)

APPENDIX G

SAMPLING PLAN FOR EMERGING CONTAMINANTS