

**SOIL VAPOR INTRUSION (SVI)
EVALUATION WORK PLAN**

**458 EAST 99TH STREET
BROOKLYN, NEW YORK 11234
Block 8131, Lot 56
Site No. C224254
GCI Project No. 2026018**

Prepared For:

**458 East Owners, LLC
and
New York State
Department of Environmental Conservation (NYS DEC)
and
New York State Department of Health (NYS DOH)**

March 6, 2026

Prepared by:

**General Consolidated Industries, Inc. (GCI)
Environmental Professional Services
1092 Motor Parkway
Hauppauge, New York 11788-5228
516-984-0160**

EXECUTIVE SUMMARY

This Soil Vapor Intrusion (SVI) Evaluation Work Plan has been prepared for the subject site: 458 East 99th Street, Borough of Brooklyn, City of New York, New York, 11236706; identified on the tax map as Block 8131, Lot 56.

The scope of work is being conducted at the request of the New York State Department of Environmental Conservation (NYS DEC) and the New York State Department of Health (NYS DOH), as part of the satisfaction of the requirements of the Certificate of Completion (COC), dated December 9, 2025. The SVI Evaluation is to be conducted under the governing documents of the Site Management Plan (SMP), dated November 2025.

Site Description

The subject site is an 0.14 acre parcel, improved by one (1) story, 5,000 square foot, industrial office / warehouse building, with no basement, and with a ten (10) foot wide, 1,000 square foot, west side alleyway. The subject building was built in 1952. The building is currently occupied by “Euro Woodworking, LLC”, as a millwork and cabinet making shop. The subject site is bound by East 99th Street to the east, and similar industrial office / warehouse buildings to the north, south and west.

Background

The owner of the subject site at the time of issuance of this Work Plan “458 East Owners, LLC”. The subject site existed as vacant undeveloped land from as early as 1907 through 1950. The current existing building was built in 1952. The site operations have included “Abe’s Radio”, “Bagels by Bell”, and “Pinnacle Lift of NY”. The historical records indicated that the building was occupied by “Newport Chemical and Supply Co.” from 1966 through 1973, as dry cleaning chemical warehousing operation. The subject site has the following Engineering Control: Sub-Slab Depressurization System (SSDS) / Soil Vapor Extraction System (SVES).

Proposed Investigation Scope of Work

A “Soil Vapor Intrusion (SVI) Evaluation” will be conducted at the subject site. The investigation will consist of the following:

- Indoor air sampling, at four (4) locations, with laboratory analysis of all samples.
- Outdoor ambient air sampling, at one (1) location, with laboratory analysis of the sample.
- Pressure field extension testing at the three (3) vapor monitoring points.

Indoor Air and Outdoor Ambient Air Sampling

The air sampling procedure will be conducted in conformance with the New York State Department of Health (NYS DOH) “Guidance for Evaluating Soil Vapor Intrusion in the State of New York”, dated October 2006, as well as the November 2017 updates, and the February 2024 updates to the Soil Vapor / Indoor Air Decision Matrices.

This Work Plan details the investigation activities for the subject site. The investigation presented in this Work Plan will focus on the investigation of indoor air and outdoor ambient air, and will have the following objectives:

- To determine if the indoor air has been impacted by VOC contamination at the subject site.

A Pre-Sampling Building Inspection will be performed prior to each sampling event in order to identify and minimize conditions that may interfere with the proposed testing. The inspection will evaluate the type of structure(s), floor layout(s), air flows and physical conditions of the building being studied.

A Building Inventory Form will be prepared. The information from the Pre-Sampling Building Inspection, along with information on sources of potential indoor air contamination, will be identified on the Building Inventory Form.

The survey will include a minimum of five (5) indoor air and outdoor ambient air samples to be obtained, specifically as follows:

- Four (4) indoor ambient air samples will be obtained from the first floor level. The indoor ambient air samples will be obtained from approximately three (3) to five (5) feet above the floor level in order to represent a height at which occupants normally are seated.
- One (1) outdoor air control sample will be obtained from an area just outside of the subject building, specifically in an upwind location. The outdoor sample will be located away from any wind obstructions, such as trees, bushes, etc. The outdoor sample will be obtained from a height above the ground level to represent breathing zones; specifically three (3) to five (5) feet above the ground level.

The sampling of the indoor air and the outdoor air will all be conducted concurrently. The samples will be obtained over a duration of eight (8) hours from each sampling point.

The vapor and air samples will be analyzed by a National Environmental Laboratory Approval Program (NELAP) certified laboratory. The sample will be analyzed for volatile organic compounds (VOCs) utilizing EPA Method TO-15.

The results of the laboratory analysis will be reviewed and compared to the New York State Department of Health Guidelines for volatile chemicals in air which are listed in the New York State Department of Health (NYS DOH) “Guidance for Evaluating Soil Vapor Intrusion in the State of New York”, dated October 2006, as well as the November 2017 updates, and the February 2024 updates to the Soil Vapor / Indoor Air Decision Matrices.

Sub-Slab Vapor Pressure Monitoring

In order to verify the effectiveness of the SSDS/SVES at mitigating the soil vapor intrusion, vacuum monitoring will be conducted at the soil vapor monitoring points. The monitoring will verify that the extent of the building footprint is depressurized.

The three (3) soil vapor monitoring points will be utilized to confirm the presence of the sub-slab vacuum. The vapor pin soil vapor monitoring points will be checked with a micromanometer to confirm SSDS is operating properly; specifically maintaining a pressure of -0.004 inches of water column (in. w.c.) or less. The results will be summarized in the SVI Evaluation report.

SVI Evaluation Report

The results from the investigation will be compiled into a comprehensive SVI Evaluation report. The report will include the summary of the indoor air and outdoor ambient air laboratory analysis results, as well as a summary of the sub-slab vapor pressure monitoring.

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List of Acronyms

AS	Air Sparging
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
BMP	Best Management Practice
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
CLP	Contract Laboratory Program
COC	Certificate of Completion
CO2	Carbon Dioxide
CP	Commissioner Policy
DER	Division of Environmental Remediation
DUSR	Data Usability Summary Report
EC	Engineering Control
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Approval Program
ERP	Environmental Restoration Program
EWP	Excavation Work Plan
GHG	Greenhouse Gas
GWE&T	Groundwater Extraction and Treatment
HASP	Health and Safety Plan
IC	Institutional Control
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
O&M	Operation and Maintenance
OM&M	Operation, Maintenance and Monitoring
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
P.E. or PE	Professional Engineer
PFAS	Per- and Polyfluoroalkyl Substances
PID	Photoionization Detector
PRP	Potentially Responsible Party
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
QEP	Qualified Environmental Professional
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision

RP	Remedial Party
RSO	Remedial System Optimization
SAC	State Assistance Contract
SCG	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective
SMP	Site Management Plan
SOP	Standard Operating Procedures
SOW	Statement of Work
SPDES	State Pollutant Discharge Elimination System
SSD	Sub-slab Depressurization
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VCA	Voluntary Cleanup Agreement
VCP	Voluntary Cleanup Program

1.0 INTRODUCTION

1.1 Overview

This Soil Vapor Intrusion (SVI) Evaluation Work Plan has been prepared for the subject site: 458 East 99th Street, Borough of Brooklyn, City of New York, New York, 11236706; identified on the tax map as Block 8131, Lot 56.

The scope of work is being conducted at the request of the New York State Department of Environmental Conservation (NYS DEC) and the New York State Department of Health (NYS DOH), as part of the satisfaction of the requirements of the Certificate of Completion (COC), dated December 9, 2025. The SVI Evaluation is to be conducted under the governing documents of the Site Management Plan (SMP), dated November 2025.

The SVI Evaluation Work Plan has been designed to sample and analyze indoor air and outdoor ambient air samples, to measure the sub-slab vapor pressure, and to identify contaminant sources that may be present on the subject site.

1.2 Purpose

This Work Plan details the investigation activities for the subject site. The investigation presented in this Work Plan will focus on the investigation of indoor air and outdoor ambient air, and will have the following objectives:

- To determine if the indoor air has been impacted by VOC contamination at the subject site.

The locations of the above noted issues / concerns are depicted on the Site Diagram - Proposed Sample Location Map - Figure 6.

1.3 Applicable Guidance

The following regulatory guidance applies to this project:

- New York State Department of Health (NYS DOH) “Guidance for Evaluating Soil Vapor Intrusion in the State of New York”, dated October 2006, as well as the November 2017 updates, and the February 2024 updates to the Soil Vapor / Indoor Air Decision Matrices.

2.0 SITE BACKGROUND

2.1 Site Location and Site Description	
Street Address	458 East 99 th Street
Municipality	Borough of Brooklyn, City of New York
State	New York
Tax ID Number	Block 8131, Lot 56
Owner	458 East Owners, LLC
Site Size	0.14 acres
Building Size	5,000 square feet
Property Type	Single lot parcel, improved by a one (1) story, industrial office / warehouse building, with no basement, and with a ten (10) foot wide, 1,000 square foot, west side alleyway. The building is currently occupied by “Euro Woodworking, LLC”, as a millwork and cabinet making shop.
Date of Construction	1952
References	Subject Site Area Location Map - Figure 1 Subject Site Tax Map - Figure 2 Subject Site Aerial Photograph - Figure 3 Subject Site U.S.G.S. Topographic Map - Figure 4 Subject Site Survey - Figure 5 Site Diagram - Proposed Sample Location Map - Figure 6

2.2 Site History and Site Operations

The subject site is an 0.14 acre parcel, improved by one (1) story, 5,000 square foot, industrial office / warehouse building, with no basement, and with a ten (10) foot wide, 1,000 square foot, west side alleyway. The subject building was built in 1952. The building is currently occupied by “Euro Woodworking, LLC”, as a millwork and cabinet making shop. The subject site is bound by East 99th Street to the east, and similar industrial office / warehouse buildings to the north, south and west.

The owner of the subject site at the time of issuance of this Work Plan “458 East Owners, LLC”. The subject site existed as vacant undeveloped land from as early as 1907 through 1950. The current existing building was built in 1952. The site operations have included “Abe’s Radio”, “Bagels by Bell”, and “Pinnacle Lift of NY”. The historical records indicated that the building was occupied by “Newport Chemical and Supply Co.” from 1966 through 1973, as dry cleaning chemical warehousing operation. The subject site has the following Engineering Control: Sub-Slab Depressurization System (SSDS) / Soil Vapor Extraction System (SVES).

2.3 Proposed Site Use

Upon completion of the investigation and any remediation activities, the proposed use of the subject site will be the same as it is now. The existing building will remain and the existing site operations will remain the same.

3.0 INVESTIGATION ACTIVITIES

The objectives of the Subsurface Investigation activities are to investigate the indoor air and the outdoor ambient air at the subject site, as well as to measure the sub-slab vapor pressure at the subject site.

3.1 Pre-Sampling Building Inspection and Building Inventory Form

A Pre-Sampling Building Inspection will be performed prior to each sampling event in order to identify and minimize conditions that may interfere with the proposed testing. The inspection will evaluate the type of structure(s), floor layout(s), air flows and physical conditions of the building(s) being studied.

A Building Inventory Form will be prepared. The information from the Pre-Sampling Building Inspection, along with information on sources of potential indoor air contamination, will be identified on the Building Inventory Form.

3.2 Indoor Air and Outdoor Ambient Air Sampling

An indoor air and outdoor ambient air survey will be conducted at the subject site. The mitigation system will be running for the field sampling.

The air sampling procedure will be conducted in conformance with the New York State Department of Health (NYS DOH) “Guidance for Evaluating Soil Vapor Intrusion in the State of New York”, dated October 2006, as well as the November 2017 updates, and the February 2024 updates to the Soil Vapor / Indoor Air Decision Matrices.

The survey will include a minimum of five (5) indoor air and outdoor ambient air samples to be obtained, specifically as follows:

- Four (4) indoor ambient air samples will be obtained from the first floor level. The indoor ambient air samples will be obtained from approximately three (3) to five (5) feet above the floor level in order to represent a height at which occupants normally are seated.

The indoor air samples will be specifically obtained from the following locations:

- Storage Room, Restroom, Office and Main Building.
- One (1) outdoor air control sample will be obtained from an area just outside of the subject building, specifically in an upwind location. The outdoor sample will be located away from any wind obstructions, such as trees, bushes, etc. The outdoor sample will be obtained from a height above the ground level to represent breathing zones; specifically three (3) to five (5) feet above the ground level.

A representative air sample will be obtained from the locations utilizing a Summa Canister and polyethylene tubing.

The sampling of the indoor air and the outdoor air will all be conducted concurrently. The samples will be obtained over a duration of eight (8) hours from each sampling point.

The vapor and air samples will be analyzed by a National Environmental Laboratory Approval Program (NELAP) certified laboratory. The sample will be analyzed for volatile organic compounds (VOCs) utilizing EPA Method TO-15.

The results of the laboratory analysis will be reviewed and compared to the New York State Department of Health Guidelines for volatile chemicals in air which are listed in the New York State Department of Health (NYS DOH) “Guidance for Evaluating Soil Vapor Intrusion in the State of New York”, dated October 2006, as well as the November 2017 updates, and the February 2024 updates to the Soil Vapor / Indoor Air Decision Matrices.

3.3 Sub-Slab Vapor Pressure Monitoring

In order to verify the effectiveness of the SSDS/SVES at mitigating the soil vapor intrusion, vacuum monitoring will be conducted at the soil vapor monitoring points. The monitoring will verify that the extent of the building footprint is depressurized.

The three (3) soil vapor monitoring points will be utilized to confirm the presence of the sub-slab vacuum. The vapor pin soil vapor monitoring points will be checked with a micromanometer to confirm SSDS is operating properly; specifically maintaining a pressure of -0.004 inches of water column (in. w.c.) or less. The results will be summarized in the SVI Evaluation report.

3.4 Field Instrument Calibration / Maintenance

Routine maintenance and calibration schedules will be established according to manufacturer recommendations for all field instruments. The maintenance and calibration program is described below.

Routine daily maintenance will be performed to ensure that the Perkin-Elmer Model 2020 photo-ionization detector operates properly. Field maintenance procedures include:

- Removal of dirt and debris;
- Replacement of disposable parts (i.e. filters, probe membranes, etc.) as required;
- Storage of equipment in a secure, dry area; and,
- Recharging of battery packs when not in use.

The Perkin - Elmer Model 2020 PID will be calibrated to an isobutylene standard before and after use to insure reliability. Calibration data will be recorded in the project field book.

3.5 Sampling Equipment Decontamination Procedures

All non-disposable sampling equipment (i.e., augers, hand augers, bailers, sampling devices, etc.) will be decontaminated between use to prevent cross contamination. The decontamination procedures are as follows:

- Equipment will be scrubbed in a bath of potable water and low-phosphate detergent.
- Potable water rinse.
- Scrub with low-phosphate detergent.
- Potable water rinse.
- Air dry.

3.6 Quality Assurance (QA) / Quality Control (QC) Procedures

Appropriate Quality Assurance/Quality Control (QA/QC) procedures will be utilized during implementation of all field activities, including but not limited to the following:

- Use of disposable vinyl gloves during all sampling.
- All sampling will be conducted with disposable, hermetically sealed, sampling equipment.
- Routine maintenance and calibration schedules will be established according to manufacturer recommendations for all field instruments.
- All non-disposable sampling equipment (i.e., augers, hand augers, Geoprobe sampling devices, etc.) will be decontaminated between use to prevent cross contamination.
- Laboratory sample containers will be shipped to the site in a sealed cooler.
- A chain of custody form will accompany the containers during transportation, sample collection and analysis.
- Upon receipt of the sample cooler, field staff will inspect the custody seal to determine if it is intact. The seal number and condition of the cooler upon arriving at the Site will be recorded in a field book.
- The chain of custody form will be completed at the time of sample collection and included with samples during shipment to the laboratory for signature upon receipt.
- The QA/QC samples collected and/or analyzed during the course of the Subsurface Investigation will be documented.

3.7 Laboratory Analysis Protocol

All samples will be stored in appropriate laboratory containers and placed on ice immediately. The samples will be delivered to a National Environmental Laboratory Approval Program (NELAP) certified laboratory for analysis. The samples will be delivered to the laboratory within twenty-four (24) hours of being collected.

New York State ELAP certified labs will be used for all sample analyses. Labs for sample analyses will be reported in the Subsurface Investigation report. The Subsurface Investigation report will provide a tabular and map summary of all sample results and will include all data including non-detects and applicable standards and/or guidance values.

The laboratory analysis methods will include the following analysis for all media sampled:

- Volatile Organic Compounds (VOCs) via EPA Method TO-15.

3.8 Chain of Custody Procedures

A chain of custody form will accompany the containers during transportation, sample collection and analysis. Upon receipt of the sample cooler, field staff will inspect the custody seal to determine if it is intact. The seal number and condition of the cooler upon arriving at the subject site will be recorded in a field book. The chain of custody form will be completed at the time of sample collection and included with samples during shipment to the laboratory for signature upon receipt:

Chain of custody forms will include the following information:

- Sample identification/number;
- Date and time of collection;
- Sample matrix;
- Sample location;
- Number of containers;
- Analytical parameters;
- Dates of possession; and,
- Signatures of all individuals involved in possession.

The custody seal number will be recorded in the project field book prior to shipment of samples from the field to the laboratory. Copies of all Chain of Custody forms will be included.

4.0 INVESTIGATION REPORT

Upon completion of the field activities, a Soil Vapor intrusion (SVI) Evaluation report will be prepared to document the findings of the investigations performed at the subject site. The report will include:

- An executive summary.
- A site description and history.
- Summary information regarding previous investigations performed at the site.
- Descriptions of all field activities performed.
- A summary of all field observations, field measurements, and laboratory analytical data summarized in tabular format. The results of the indoor air and ambient air results will be evaluated by first comparing the VOC concentrations to typical background values published by NYS DOH.
- A summary of the sub-slab pressures at the soil vapor monitoring points.
- A set of conclusions and recommendations for the investigation.

Deliverables

- Two (2) original reports and one (1) electronic report will be forwarded to the client.
- One (1) electronic report will be forwarded to the NYS DEC.
- One (1) electronic report will be forwarded to the NYS DOH.

5.0 INVESTIGATION HEALTH AND SAFETY PLAN (HASP)

An OSHA compliant Health and Safety Plan (HASP) that meets all OSHA HAZWOPER requirements will be implemented during the site work to protect worker safety. The Site Safety Coordinator will be the geologist / engineer responsible for overseeing and completing investigation activities. The Site Safety Coordinator will ensure full compliance of the HASP in accordance with applicable health and safety laws and regulations. All field personnel involved in investigation activities will participate in training required under OSHA HAZWOPER 29 CFR 1910.120, including 40-hour hazardous waste operator training and annual 8-hour refresher training. The Site Safety Coordinator will be responsible for maintaining workers training records.

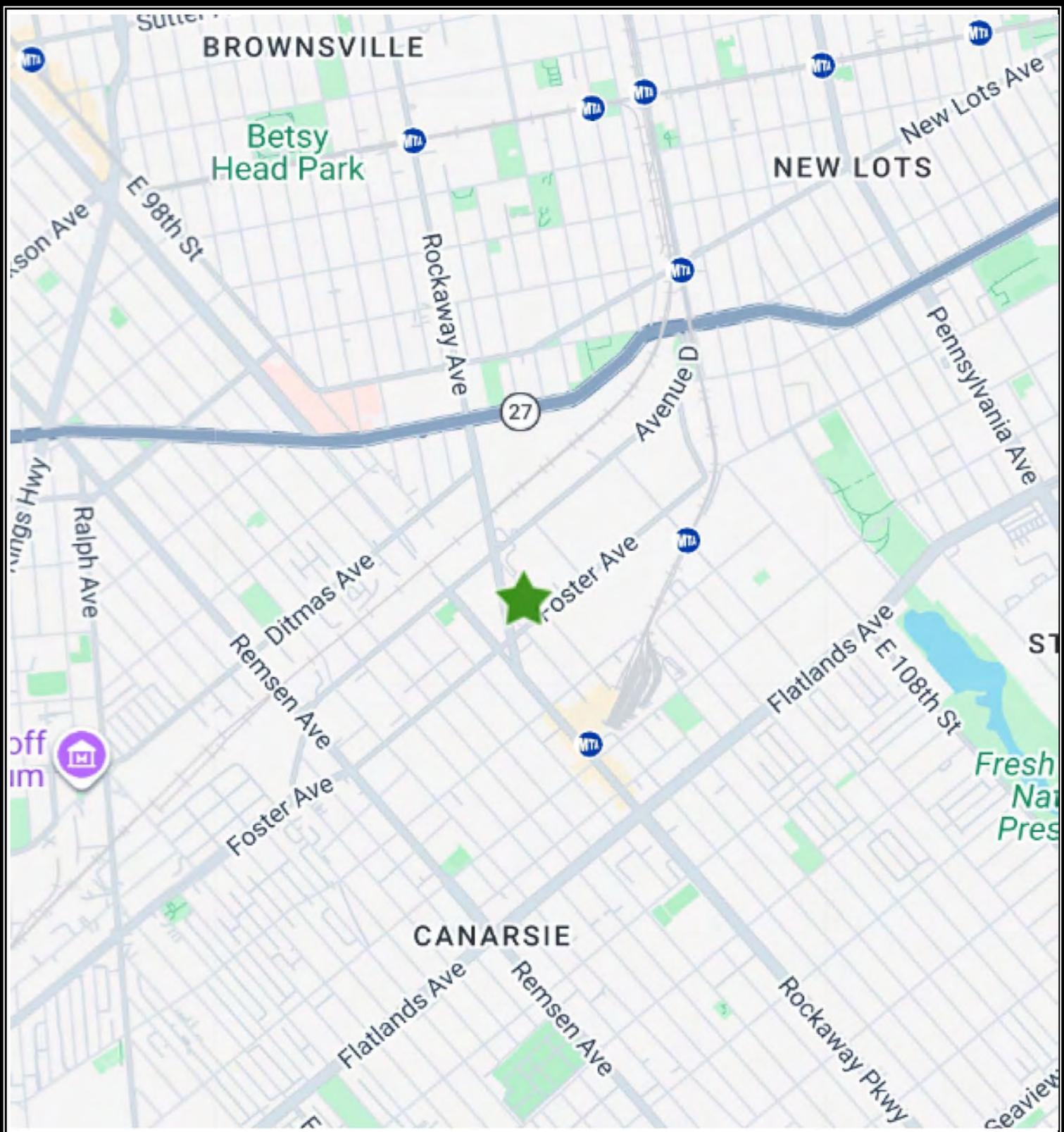
Investigative work performed under this Work Plan will be in full compliance with applicable health and safety laws and regulations, including Site and OSHA worker safety requirements and HAZWOPER requirements. Confined space entry, if any, will comply with OSHA requirements and industry standards and will address potential risks. The parties performing the investigation work will ensure that performance of work is in compliance with the HASP and applicable laws and regulations.

Personnel entering any exclusion zone will be trained in the provisions of the HASP and be required to sign a HASP acknowledgment. Site-specific training will be provided to field personnel. Additional safety training may be added depending on the tasks performed. Emergency telephone numbers will be posted at the site location before any work begins. A safety meeting will be conducted before each shift begins. Topics to be discussed include task hazards and protective measures (physical, chemical, environmental); emergency procedures; PPE levels and other relevant safety topics, including a highlighted route map to the nearest hospital / emergency room. Meetings will be documented in a log book or specific form. Potential on-site chemicals of concern include VOCs. Information fact sheets for each contaminant group and/or MSDS' and/or summary tables for each contaminant group are included in the HASP.

An emergency contact sheet with names and phone numbers for all pertinent project personnel as well as regulatory hotline information is included in the HASP. That document will define the specific project contacts for use in case of emergency.

A copy of the HASP will be on-site during each sampling event.

Subject Site Location Map - Figure 1



Subject Site Location Map

Site Address:

458 East 99th Street, Brooklyn, NY 11236

GCI Project No.:

2026018

Subject Site Tax Map - Figure 2



NYC Digital Tax Map

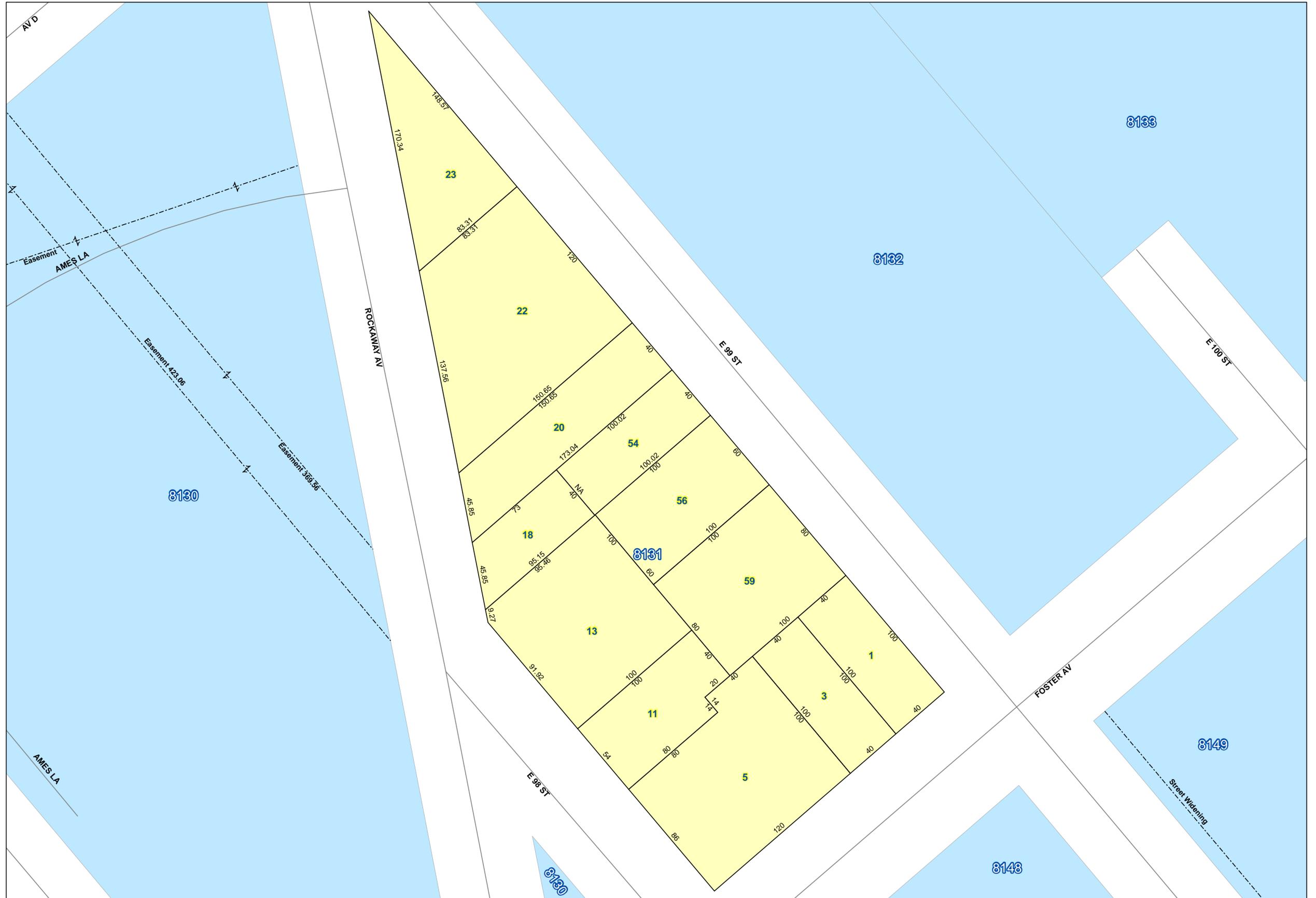
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End Date : Current

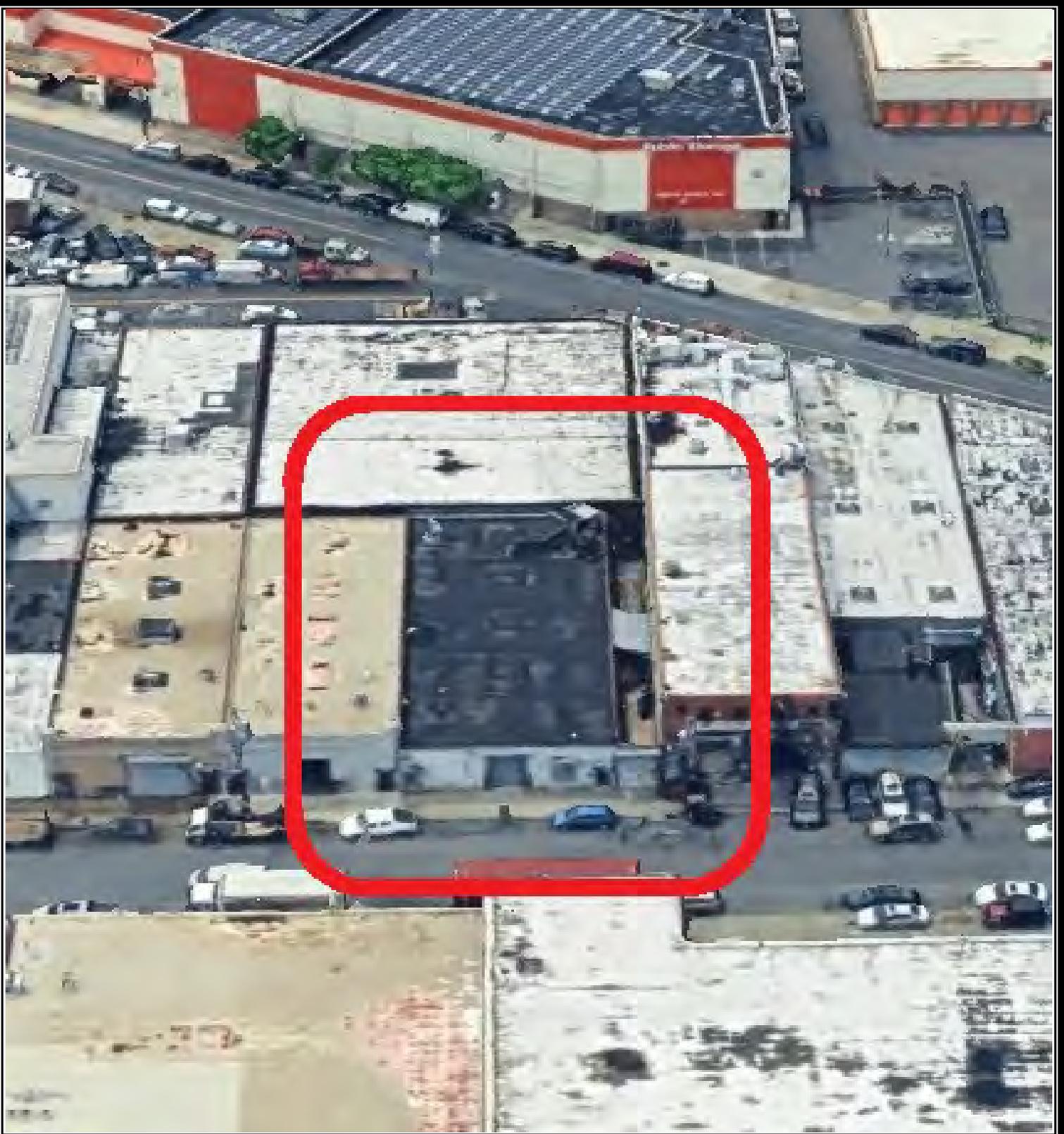
Brooklyn Block: 8131

Legend

- Streets
- Miscellaneous Text
- Possession Hooks
- Boundary Lines
- Lot Face Possession Hooks Regular
- Underwater
- Tax Lot Polygon
- Condo Number
- Tax Block Polygon



Subject Site Aerial Photograph - Figure 3



Subject Site Aerial Photograph

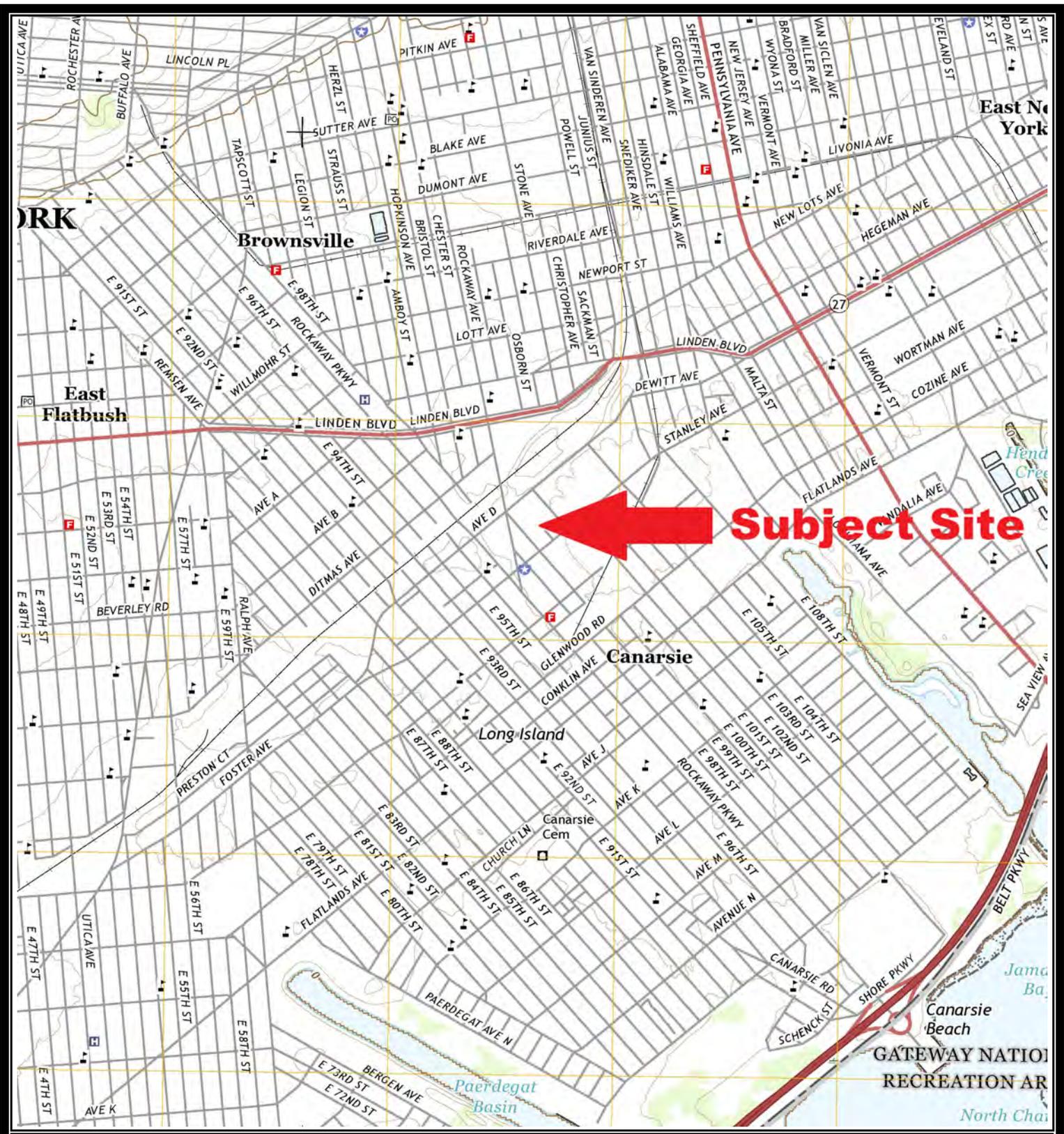
Site Address:

458 East 99th Street, Brooklyn, NY 11236

GCI Project No.:

2026018

U.S.G.S. 7.5 Minute Topographic Map - Figure 4



Subject Site U.S.G.S. Topographic Map

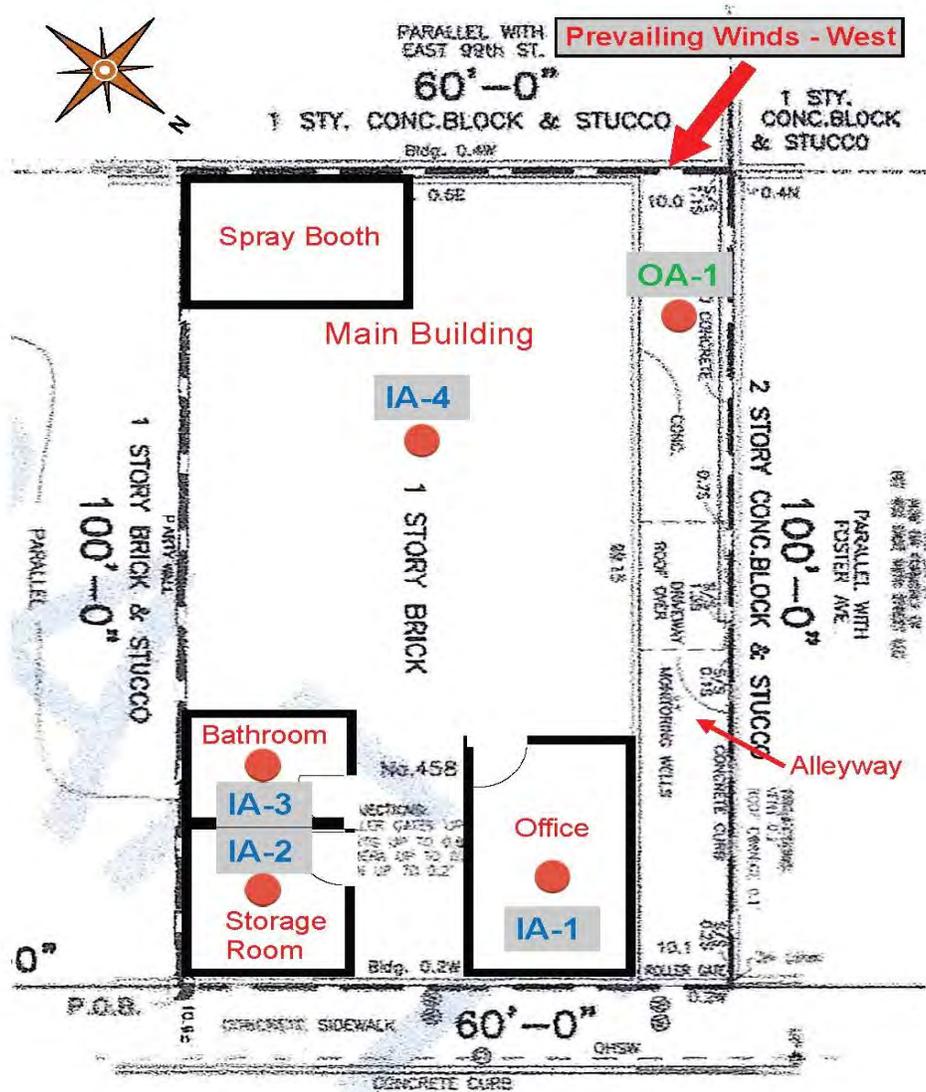
Site Address: 458 East 99th Street, Brooklyn, NY 11236

GCI Project No.: 2026018



Subject Site Survey - Figure 5

Site Diagram - Proposed Sample Location Map - Figure 6



EAST 99th (60' WIDE) STREET

LEGEND

IA-1 Indoor Air Sample

OA-1 Outdoor Air Sample



Site Diagram - Proposed Sample Location Map

Site Address:	458 East 99th Street, Brooklyn, NY 11236
GCI Project No.:	2026018