55 ECKFORD ST LLC

KINGS COUNTY

BROOKLYN, NEW YORK

Remedial Action Work Plan

NYSDEC BCP Number: C224168

Prepared for:

New York State Department of Environmental Conservation

Division of Environmental Remediation

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FEBRUARY 2026

CERTIFICATION STATEMENT

I, Karen Tyll, P.E. certify that I am currently a NYS registered professional engineer and that this Remedial Action Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and Green Remediation (DER-31).

Karen Tyll, P.E. _____

NYS Professional Engineer # Date Signature

I, Victoria D. Whelan. P.G., certify that I am currently a Qualified Environmental Professional as defined in 6 New York Codes, Rules, and Regulations (NYCRR) Part 375 and that this Remedial Action Work Plan was prepared in accordance with all applicable statutes and regulations and substantial conformance with New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation.

Victoria D. Whelan, P.G. _____

NYS Professional Geologist # 0318 Date Signature

REMEDIAL ACTION WORK PLAN

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LIST OF ACRONYMS

ACRONYM	DEFINITION
AOC	Area of Concern
AGV	Air Guidance Values
ASTM	American Society for Testing and Materials
AWQS	Ambient Water Quality Standards
BCA	Brownfield Clean-up Agreement
BGS	Below Ground Surface
BOA	Brownfield Opportunity Area
CAMP	Community Air Monitoring Plan
CHASP	Construction Health and Safety Plan
Cr6+	Hexavalent Chromium
CSOP	Contractors Site Operation Plan
COPCs	Chemicals Of Potential Concern
CVOCs	Chlorinated Volatile Organic Compounds
DCR	Declaration of Covenants and Restrictions
DER	Department of Environmental Remediation
DNAPL	Dense Non-Aqueous Phase Liquid
DUSR	Data Usability Summary Report
ECs/ICs	Engineering and Institutional Controls
ESA	Environmental Site Assessment
FER	Final Engineering Report
ft	Feet
ft2	Square Feet
GC	General Contractor
GPS	Global Positioning System
GZA	GZA GeoEnvironmental of New York
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
IDW	Investigation Derived Waste
LNAPL	Light Non-Aqueous Phase Liquid
MCG/M3	Micrograms per Cubic Meter
NOC	Notice of Completion
NYC VCP	New York City Voluntary Clean-up Program
NYC DEP	New York City Department of Environmental Protection
NYC DOB	New York City Department of Buildings
NYC DOF	New York City Department of Finance
NYC OER	New York City Office of Environmental Remediation
NYCRR	New York Codes Rules and Regulations
NYS DEC	New York State Department of Environmental Conservation
NYS DOH	New York State Department of Health
NYS DOT	New York State Department of Transportation
NYS ELAP	Environmental Laboratory Accreditation Program
ORP	Oxygen Release Compound
OSHA	United States Occupational Health and Safety Administration
PBS	Petroleum Bulk Storage
PCBs	Polychlorinated Biphenyls
PCE	Tetrachloroethene
PE	Professional Engineer

ACRONYM	DEFINITION
PID	Photo Ionization Detector
PPE	Personal Protective Equipment
PPM	Parts Per Million
QA/QC	Quality Assurance/ Quality Control
QEP	Qualified Environmental Professional
QHHEA	Qualitative Human Health Exposure Assessment
RAOs	Remedial Action Objectives
RAWP	Remedial Action Work Plan
RECs	Recognized Environmental Condition
RI	Remedial Investigation
RIR	Remedial Investigation Report
RMZ	Residual Management Zone
Sanborn	Sanborn Fire Insurance Map
SCOs	Soil Cleanup Objectives
SCG	Standards, Criteria and Guidance
SMP	Site Management Plan
SHWS	Solid Hazardous Waste Site
SMMP	Soils/ Materials Management Plan
SQ FT	Square Feet
SVI	Soil Vapor Intrusion (Guideline)
SVOC	Semi-Volatile Organic Compound
TCE	Trichloroethene
TOGS	Technical and Operational Guidance Series
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

This Remedial Action Work Plan (RAWP) was prepared by Tyll Engineering & Consulting PC (Remedial Engineer) and Goldberg-Zoino Associates of New York P.C. d/b/a GZA GeoEnvironmental of New York (GZA / QEP), on behalf of 55 Eckford St LLC (Volunteer/Owner), which entered into the Brownfield Cleanup Program (BCP) as a Volunteer, to investigate and remediate the property located at 55 Eckford Street, in the Greenpoint-Williamsburg Special Mixed Use District (MX-8) of Brooklyn, New York (herein referred to as the Site). The Brownfield Cleanup Agreement (BCA) was executed between the Volunteer and New York State Department of Environmental Conservation (NYSDEC) on October 21, 2024, under BCA Index No. C224168-10-24.

This RAWP summarizes the nature and extent of contamination as determined from data gathered during a Remedial Investigation (RI), completed by GZA in December 2024 to August 2025, as documented in the final Remedial Investigation Report (RIR) dated September 2025.

The selected remedy is consistent with the procedures defined in the NYSDEC Division of Environmental Remediation Technical Guidance for Site Investigation and Remediation (DER-10) and complies with applicable environmental standards, criteria, and guidance, and conforms to applicable laws and regulations.

SITE DESCRIPTION AND HISTORY

The Site is located in an area zoned for residential (R6A and R6B) and light manufacturing (M1-2). The 10,376 square feet (approximately 0.238 acres) Site is identified as Block 2698, Lot 32 on the New York City Tax Map. The Site formally included the remnants of a 6-story steel structure that has since been demolished. It was an unfinished building with a partially constructed cellar including an elevator pit and unfinished foundation elements (e.g. spread footing, cellar slab, etc.). Some portions of cellar showed bare soil with vegetation, while some portions were partially finished with concrete. The exterior portions of the structure are bare soil with vegetation or gravel along with a paved driveway at the entrance along Eckford Street. The Site is surrounded by a construction fencing.

Records from 1887 show the Site as four abutting vacant undeveloped lots. By 1905, the Site is shown as being part of Meisel Danowitz & Co. woodworking operation and contained four 1- to 2-story buildings identified as “moulding shed”, “planning & moulding lumber racks”, “kiln house” and an office. By 1916, the structures remain but were identified as “vacant and dilapidated”; by 1942 identified as “wool & rags sorting and baling”; and from 1951 until 1992 identified as “electric plating, storage, lacquer spraying”. NYC Department of Finance (DOF) records showed the Site was owned by the Berkman Family from 1971-2003. Between 1993 and 2004, the structures remain but the use was unknown. By 2003, the Berkman Family sold the property to Blue Diamond Development, LLC.

In August 2005, the NYC Department of Buildings (DOB) issued a demolition order, and the original buildings were later demolished. By 2009, the Site was sold to 55 Eckford Street Brooklyn LLC / Madison Realty Capital L.P. Between 2009 and 2015, construction permits were issued by NYC DOB for the Site redevelopment into residential apartments. By 2016, a stop work order had been issued for the Site, thus the remnants of a 6-story steel structure remained, and construction had been paused since. In 2017, the Site was entered into the BCP under Site No. C224168, with TCJ Construction, as the former Applicant, which subsequently withdrew from the program. In October 2018, a tax lien was assigned to the property by the City of New York. The property was then sold to 55 Eckford St LLC (Volunteer) on April 24, 2024. In June 2025, the 6-story steel structure was demolished, and the Site is currently vacant with exposed soils.

The NYC Department of Finance (DOF) website lists the following ownership records and deed transfers:

Party 1	Party 2	Address	Date of Ownership or Operation
Eckford-Greenpoint LLC	55 Eckford St LLC	100 Jericho Quadrangle, Jericho, NY	04/24/2024 to present
55 Eckford Street Brooklyn LLC	Eckford-Greenpoint LLC	10 Glenville Street, Greenwich CT	12/28/20212 to 02/12/2013
Blue Diamond Development LLC	55 Eckford Street Brooklyn LLC	825 Third Avenue, New York, NY	06/22/2009 to 12/17/2009
Berkman, Theodore as co-trustees of Arlyne Berkman Revocable Living Trust	Blue Diamond Development LLC	199 Lee St., Suite 287 Brooklyn, NY	09/16/2003 to 03/16/2004
Berkman, Donald	Berkman, Gerald	55 Eckford St., Brooklyn, NY	01/30/2002 to 02/25/2002
Berkman, Arlyne	Berkman, Arlyne Revocable Living Trust	6655 NY 15th St. Margate, FL	10/31/1995 to 12/21/1995
Berkman, Lillie	Berkman, Donald	71 Margaret Drive, Valley Stream, NY	03/04/1994 to 04/15/1994
Berkman, Lillie	Berkman, Donald	71 Margaret Drive, Valley Stream, NY	01/05/1972 to 01/05/1972
Berkman, Lillie	Berkman, Donald	71 Margaret Drive, Valley Stream, NY	12/27/1971 to 12/27/1971

SUMMARY OF REMEDIAL INVESTIGATION

After acquisition of the property on April 24, 2024, the Volunteer proceeded to undertake reasonable and practical actions to evaluate the Site contamination. GZA, on behalf of the Volunteer, performed an RI based on a Remedial Investigation Work Plan (RIWP) and Quality Assurance Project Plan (QAPP), dated November 20, 2024 and a Supplemental RIWP, dated July 22, 2025. GZA performed all RI activities from December 2024 through August 2025, with the scope of work that includes the following:

- The advancement of soil borings, collection of soil samples, installation of permanent groundwater monitoring wells, collection of groundwater samples from new monitoring wells, installation of soil vapor points, and sampling of new soil vapor points;
- The collection of soil, groundwater, and soil vapor sufficient to define the nature and extent of impacted media and current Site conditions and offsite groundwater and/or soil vapor migration potential;
- The collection of a synoptic round of groundwater level measurements and the collection of additional land survey data as needed for developing a groundwater elevation contour map; and
- The performance of a qualitative human health exposure assessment (QHHEA) to identify existing and potential exposure pathways and evaluate contaminant fate and transport.

The initial RI scope of work included the following:

<u>Soil</u>

- Advancement of ten (10) soil borings to a maximum depth of 30 feet below ground surface (ft bgs) (or 20 feet below the existing cellar slab (bcs). Seven (7) of the borings were located at the exterior portion of the partially constructed building structure. Three (3) of the borings were located within the cellar of the partially constructed building structure.
- Collection and laboratory analyses of 62 samples from the exterior borings, and 16 samples from the interior borings. In total, 78 soil samples were collected for laboratory analyses.

<u>Groundwater</u>

- Conversion of six (6) borings to permanent stick-up monitoring wells.
- Gauging and development of the permanent monitoring wells.
- Collection and laboratory analyses of six (6) groundwater samples.

<u>Soil Vapor</u>

- Advancement of eight (8) soil vapor points to a depth of 2 feet above the groundwater interface.

- Collection and laboratory analyses of eight soil vapor samples.

Outdoor Air
- Collection and laboratory analyses of two outdoor ambient air samples.

The August 2025 Supplemental RI scope of work included the following:

Groundwater
- Installation of four (4) monitoring wells (designated as GMW-07 to GMW-10) to 20 ft bgs.
- Collection and laboratory analyses of groundwater samples from the four newly installed monitoring wells.

Soil Vapor
- Installation of four (4) soil vapor probes (designated GSV-09 to GSV-12) to a depth of 2 feet above the groundwater interface.
- Collection and laboratory analyses of four soil vapor samples.

Chemical Analytical Work Performed

The chemical analytical work for the RI was performed in the following manner:

Sample Media	Laboratory analyses
Soil Analytical Methods	*Focused Soil Samples + PFAS* o Target compound list (TCL) VOCs by USEPA Method 8260 (discrete) with TICs; o TCL SVOC by USEPA Method 8270 with TICs, including 1,4 Dioxane; o Target analyte list (TAL) Metals by USEPA Method 6010C / 7471B, including hexavalent chromium and total cyanide; o Per- and Polyfluoroalkyl Substances (PFAS) by USEPA Method 1633.
	Full Suite o TCL VOCs by USEPA Method 8260 (discrete) with TICs; o TCL SVOC by USEPA Method 8270 with TICs, including 1,4 Dioxane; o TAL Metals by USEPA Method 6010C / 7471B, including hexavalent chromium and total cyanide; o TCL Pesticides by USEPA Method 8081/ Herbicides by USEPA Method 8151; o PCBs by USEPA Method 8082A; and o PFAS by USEPA Method 1633.
	Limited o TCL SVOC by USEPA Method 8270 with TICs; including 1,4 dioxane; o TAL Metals by USEPA Method 6010C / 7471B, including hexavalent chromium and total cyanide;
Groundwater Analytical Methods	*Full Suite* o TCL VOCs by USEPA Method 8260C with TICs (rev. 2006); o TCL SVOCs by USEPA Method 8270D with TICs (rev. 2007); o Total TAL Metals by USEPA Method 6010C/6020/7470 (rev. 2007) including hexavalent chromium and total cyanide by Methods 9010/9012B (rev. 2004); o Pesticides by USEPA Method 8081B (rev. 2000); o Herbicides by USEPA method 8151; o PCBs by USEPA Method 8082A (rev. 2000); o 1,4-Dioxane by USEPA Method SW 846 8260 (isotope dilution for 1-4 Dioxane); and o PFAS by USEPA Method 1633. Focused Groundwater o Total and dissolved TAL Metals by USEPA Method 6010C/6020/7471B; o Total and dissolved Cyanide by USEPA Method 9010/9012; and o Total and dissolved Mercury by USEPA Method 7471
Soil vapor and outdoor air analytical methods	o TCL VOCs by TO-15 VOC parameters.

Geological and Hydrogeological Conditions

Based on our review of the *1776-7 Original High and Low Grounds, Salt Marsh and Shorelines in the City of Brooklyn Map*, the Site lies within the border line where a salt marsh was located adjacent to a stream flowing into the East River (see below). The grade in this area was raised by backfilling to develop the street grid. The fill used to raise grades in the area of the Site is underlain by clayey silts.

In January 2025, Fehringer conducted a survey of the Site which showed that the ground elevation ranges (proximate to monitoring wells) from elevation (EL) 17.27 feet NAVD88 at the western portion of the Site, to EL 15.62 feet NAVD 88 to the eastern portion of the Site. The topographic gradient at the Site slopes generally down from southwest to northeast. The nearest water body is the East River at approximately 2,800 feet to the west, and Newtown Creek at approximately 4,000 feet to the North of the Site.

According to USGS Publication, Bedrock-Surface Elevation and Overburden Thickness Maps of the Five Boroughs, New York City, New York (De Mott, 2023), the anticipated depth to bedrock is approximately 150 ft bgs or greater. Bedrock is generally comprised of consists of interbedded units of gray thinly laminated muscovite-biotite-quartz schist, and white to pinkish with light green weathering gneiss. Bedrock was not encountered during this RI.

Subsurface Soil Conditions

Based on the results of our subsurface exploration program, the subsurface conditions at the Site generally consist of the following observed soil profile.

- SURFACE COVER: Surface cover on the Site consists of either exposed soil (fill) or concrete. Soil boring locations were advanced in areas without concrete.

- FILL: Fill, consisting of brown/dark brown fine to medium sand containing construction debris (such as brick and concrete), was encountered below the Surface Cover in the borings extending to depths of approximately between 12 to 17 ft bgs.

- CLAYEY SILT: A clayey silt layer was encountered interbedded with the peat stratum that extended to depths ranging from approximately 12 to 25 ft bgs. This stratum consists of gray/dark gray clayey silt, and trace fine to coarse sand.

- FIBROUS PEAT / FINE GRAINED PEAT: A peat stratum was encountered interbedded with clayey silt stratum to depths ranging from approximately 11 ft bgs to 33 ft bgs. This peat stratum consisted of fibrous peat that transitioned into fine grained peat. Fibrous peat is identified as a coarse, organic, fibrous dark gray to black colored material while organic peat is identified as a more decomposed, colloidal organic material.

- SAND: A sand stratum was encountered underlying the peat and clayey silt layers ranging from approximately 25 ft bgs to deepest boring termination depth of 35 ft bgs. The sand stratum is comprised of gray to brown fine to medium Sand, little Silt.

The subsurface condition at the Site is typical of a subsurface tidal waterbody. The Site was historically part of a salt marsh adjacent to an East River tributary which received an intermittent inflow and outflow of discharges.

Groundwater Conditions

GZA performed a synoptic groundwater well gauging event of the shallow wells on January 3, 2025. The groundwater elevation data collected from each monitoring well was used to prepare a groundwater contour map with measurements presented in elevations) above mean sea level (amsl) relative to the North American Vertical Datum 1988 (NAV88). During this groundwater gauging event, depth to groundwater (i.e., below top of casing [BTOC]) ranges from 11.90 to 13.97 ft. Based on Fehringer's survey of each monitoring well, groundwater elevation ranged from 5.19 to 5.63 ft amsl NAVD88.

The groundwater elevation data (at the time of the gauging event) shows that groundwater flows generally from southwest to northeast across the Site, towards Newton Creek. Note that the area was part of a historical salt marsh, so the water table may be tidally influenced.

Remedial Investigation Findings

The following sections detail the contamination conditions that exist at the Site in soil, groundwater, and soil vapor based on RI findings. Soil analytical results were compared to 6 NYCRR Part 375 Unrestricted Use SCOs (UUSCOs), Restricted-Residential Use SCOs (RRUSCOs), and Protection of Groundwater Resources SCOs (PGSCOs). Perfluoroalkyl substances in soil were compared to 6 NYCRR Part 375-6 Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS) Guidance values. Groundwater analytical results were compared to the NYSDEC Technical Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS) & Guidance Values and Groundwater Effluent Limitations. Elevated concentrations of analytes in soil vapor and ambient are presented.

Soil Results

Volatile Organic Compounds

- Most VOCs were either below detection limits or below UUSCOs, RRUSCOs, and PGWSCOs. Acetone (max of 0.51 mg/kg at GZ-06 [0-2 ft bgs]) and methylene chloride (max of 0.069 mg/kg at GZ-07 [18-20 ft bgs]) were detected above UUSCOs and PGWSCOs in some samples, but below RRUSCOs throughout the site.

Semi-Volatile Organic Compounds

- Acenaphthene (max of 128 mg/kg), anthracene (max of 120 mg/kg), benzo(a)anthracene (max of 142 mg/kg), benzo(a)pyrene (max of 138 mg/kg), benzo(b)fluoranthene (max of 105 mg/kg), benzo(g,h,i)perylene (max of 153 mg/kg), benzo(k)fluoranthene (max of 81.9 mg/kg), chrysene (max of 97.9 mg/kg), dibenzo(a,h)anthracene (max of 36.3 mg/kg), dibenzofuran (max of 95.2 mg/kg), fluoranthene (max of 298 mg/kg), fluorene (max of 149 mg/kg), indeno(1,2,3-cd)pyrene (max of 175 mg/kg), napthalene (max of 86.3 mg/kg), phenanthrene (max of 337 mg/kg) and pyrene (max of 243 mg/kg) were detected above UUSCOs, PGWSCOs and/or RRUSCOs in multiple samples. The SVOC maximum detections were found in sample GZ-02F (18-20 ft bgs). SVOCs were found throughout the sites entirely except for the soil samples collected on the Eckford Street side (east) of the Subject Property.
- 1,4- dioxane was below the detection limit in every sample.

Metals

- Several metals were detected above the UUSCOs, RRUSCOs, and PGWSCOs in multiple samples including: arsenic (max of 240 mg/kg at GZ-01 [8-10 ft bgs]), cadmium (max of 16.5 mg/kg at GZ-10[8-10 ft bcs]), copper (max of 1,810 mg/kg at GZ-06 [4-6 ft bgs]), lead (max of 2,370 mg/kg at GZ-03 [0-2ft bgs]), mercury (max of 24.1 mg/kg at GZ-02 [18-20 ft bgs]), nickel (max of 1,300 mg/kg at GZ-08 [10-13ft bcs]).

- Hexavalent chromium (max of 2.94 mg/kg at GZ-03 [16-18ft bgs]) was detected above UUSCOs, but below RRUSCOs and PGWSCOs in multiple samples.
- Barium (max of 725 mg/kg at GZ-10 [8-10 ft bcs]) was detected above UUSCOs and RRUSCOs, but below PGWSCOs in multiple samples.
- Zinc (max of 4,690 mg/kg at GZ-10 [13-16ft bcs]) and selenium (max of 12.8 mg/kg at GZ-04C [4-6ft bgs]) were detected above UUSCOs and PGWSCOs, but below RRUSCOs in multiple samples.

Pesticides, Herbicides and polychlorinated biphenyls

- The pesticide Dieldrin (max of 0.00774 mg/kg), was detected above UUSCOs, but below RRUSCOs and PGWSCOs in one sample.
- PCBs were either below their detection limits or detected below their respective UUSCOs, RRUSCOs and PGWSCOs.
- Herbicides were either below their detection limits or detected below their respective UUSCOs, RRUSCOs and PGWSCOs.

Per and Polyfluoroalkyl Substances

- Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) were either below their detection limits or detected below their respective UUSCOs, RUSCOs and PGWSCOs.

Groundwater Results

Volatile Organic Compounds

- tert-Butylbenzene at (max of 7.25 µg/L from GMW-04) was detected above the TOGS 1.1.1 AWQS in one sample. Note that the field blank sample (GMW-FB-01) show a detection of chloroform (max of 16.8 µg/L) above TOGS 1.1.1 AWQS.

Semi-Volatile Organic Compounds

- Benzo(a)anthracene and chrysene were detected above the TOGS 1.1.1 AWQS in two monitoring wells (GMW-01 and GMW-02). Benzo(a)pyrene, benzo(b)fluoranthene and benzo(k)fluoranthene were detected above TOGS 1.1.1 AWQS in one well (GMW-02).

Total Metals

- Antimony (max of 5,876.80 µg/L), arsenic (max of 763 µg/L), iron (max 16,900 µg/L), lead (max of 182.60 µg/L), magnesium (max of 54,000 µg/L), manganese (max of 864 µg/L) and sodium (max of 200,000 µg/L) were detected above the TOGS 1.1.1 AWQS in multiple monitoring wells.

Dissolved Metals

- Dissolved arsenic (94.19 µg/L) was detected in one groundwater sample (GMW-07)
- Dissolved magnesium (51,400 µg/L) was detected in one groundwater sample (GMW-09)
- Dissolved Iron (max of 1,520 µg/L), dissolved manganese (max of 712 µg/L), and dissolved sodium (max of 169,000 µg/L) were detected above TOGS 1.1.1 AWQS in multiple monitoring wells.

Pesticides / Herbicides / Polychlorinated Biphenyls

- Pesticides, herbicides, and PCBs were below detection limits or were detected below TOGS 1.1.1 AWQS.

Per- and Polyfluoroalkyl Substances

- PFOS (max of 0.00885 ug/L) were detected in three (3) samples above NYSDEC Part 375 PFAS Remedial Program 2023 of 0.0027 µg/L and PFOA (max of 0.0488 µg/L) were detected in six (6) samples above NYSDEC Part 375 PFAS Remedial Program 2023 of 0.0067 µg/L.

- These concentrations of PFOS and PFOA are consistent with background concentrations in the area and are not considered attributable to the Site.

Soil Vapor - Volatile Organic Compounds

The total Chlorinated VOCs (CVOCs) concentrations ranged from 13 µg/m^3 to 4,421.7 µg/m^3, while total petroleum hydrocarbon concentrations ranged from 9.2 µg/m^3 to 2,320.9 µg/m^3.

CVOCs

- Carbon tetrachloride (max of 0.44 µg/m^3)was detected in three soil vapor samples
- 1,1-dichloroethene (max of 0.22 µg/m^3) was detected in two soil vapor samples
- Cis-1,2-Dichloroethylene (max of 151 µg/m^3) was detected in nine soil vapor samples.
- Trichloroethylene (max of 3,910 µg/m^3) was detected in all twelve soil vapor samples.
- Methylene chloride (max of 3.2 µg/m^3) was detected in two soil vapor samples.
- Tetrachloroethylene (max of 477 µg/m^3) was detected in all twelve soil vapor samples.
- 1,1,1-thrichloroethane (max of 2.8 µg/m^3) was detected in one soil vapor sample.
- Vinyl Chloride (25.3 µg/m^3) was detected in five soil vapor samples.

Petroleum Hydrocarbons

- Benzene (max of 35 µg/m^3) was detected in nine soil vapor samples.
- Ethylbenzene (max of 28.5 µg/m^3) was detected in six soil vapor samples.
- Naphthalene (max of 2.86 µg/m^3) was detected in one soil vapor sample.
- Cyclohexane (max of 104 µg/m^3) was detected in five soil vapor samples.
- 2,2,4 trimethylpentane (max of 13.8 µg/m^3) was detected in two soil vapor samples.
- 1,2,4-trimethylbenzene(max of 129 µg/m^3) was detected in six soil vapor samples.
- O-xylene(max of 22 µg/m^3) was detected in eight soil vapor samples.
- m,p-xylene (max of 42 µg/m^3) was detected in eight soil vapor samples.
- N-Heptane (max of 1,300 µg/m^3) was detected in six soil vapor samples.
- N-Hexane (max of 1,120 µg/m^3) was detected in seven soil vapor samples.
- Toluene (max of 49.4 µg/m^3) was detected in ten soil vapor samples.

Outdoor Air – Volatile Organic Compounds

- No elevated concentrations of VOCs were detected in the outdoor air samples.

QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT

Based on the conceptual site model and the review of the environmental data, complete on-site exposure pathways appear to be present in current, construction phase, and future conditions. The QHHEA identified soil, groundwater and soil vapor as the primary impacted media and Constituents of Potential Concern (COPCs).

The complete exposure pathways indicate there is a risk of exposure to humans from site Contaminants via exposure to soil, groundwater, and soil vapor if appropriate measures, including institutional and engineering controls as necessary, are not implemented. A qualitative human health exposure assessment was performed to evaluate the exposure pathways, and the following conclusions were developed.

1. Under current conditions, human exposure to on-Site receptors is limited due to restricted Site access to trespassers, Site representatives, and visitors granted access to the Site only. The primary exposure pathways

are dermal contact, ingestion, and inhalation of soil. The exposure risks can be avoided or minimized by following the appropriate Construction Health and Safety Plan (CHASP) and vapor and dust suppression measures, and by implementing a Community Air Monitoring Plan (CAMP) during activities.

2. A complete exposure pathway is possible for the migration of Site contaminants to offsite human receptors during the remedial construction phase. During this phase, Site access will be limited to authorized visitors and workers and protective measures will be used during construction to prevent completion of this pathway, including following Site-specific HASP and implementation of a CAMP and SMMP.

3. The existence of a complete exposure pathway for Site contaminants to human receptors under future conditions is unlikely, as contaminant sources will undergo chemical injection treatment during the remedial action phase and residual soil will be underneath a composite cover (Track 4 only). Regional groundwater is not used as a potable water source in New York City, exposure to Site groundwater contaminants is unlikely by human receptors, but may be encountered during the remedial action. The potential pathway for soil vapor intrusion into the buildings will be addressed through the construction of an engineered composite cover (Track 4 only) and the use of soil vapor mitigation measures such as the active sub-slab depressurization system (SSDS), thereby minimizing the risk of exposure to soil vapor.

4. The potential for a complete exposure pathway exists for the migration of Site contaminants to off-site human receptors for current conditions. Under future conditions, the Site will be remediated to either a Track 2 or Track 4 cleanup to prevent future completion of this pathway.

FISH AND WILDLIFE ASSESSMENT (FWIA)

The Fish and Wildlife Impact Analysis (FWIA) is unnecessary for the Site. A search of the United States Fish and Wildlife Service Information for Planning and Consultation indicates that there are no critical habitats within the Site boundary. The Site is located in an area predominantly composed of residential, commercial, and industrial buildings, with minimal ecological habitat. Additionally, the majority of soils on the Site will be covered, thereby reducing the potential for ecological impact. Therefore, the potential for Site-related COPCs to migrate to fish and wildlife resources, if present, is considered minimal.

SUMMARY OF THE REMEDY

The selected Track 2 Restricted Residential remedy, with contingent Track 4 cleanup, will include the following elements:

1. Green and Sustainable Remedial (GSR) Goals will continue to be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:
   - Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
   - Reducing direct and indirect greenhouse gas and other emissions;
   - Increasing energy efficiency and minimizing use of non-renewable energy;
   - Conserving and efficiently managing resources and materials;
   - Reducing waste, increasing recycling, and increasing reuse of materials that would otherwise be considered a waste;
   - Fostering green and healthy communities and working landscapes that balance ecological, economic, and social goals; and
   - Integrating the remedy with the end-use where possible and encouraging green and sustainable re-development.

- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

As part of the remedial program, to evaluate the remedial alternatives with respect to green and sustainable remediation principles, a *SiteWise™* environmental footprint analysis has been completed. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use for the proposed remedy have been estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial program, as appropriate. The project will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics that have been established by the *SiteWise™* model will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial program.

Additionally, the remedial program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

2. Development and implementation of a CHASP and CAMP for the protection of on-site workers, community/residents, and the environmental during remediation and construction activities.

3. Chemical injections will be used to treat dissolved metals (i.e. arsenic) and contaminants below the excavation footprint within saturated soils. The injections will be performed to treat the vertical extent of contamination identified in the RI from depths of 15 ft bls to 30 ft bls across Site footprint. MetaFix® I-7A and GeoForm ER® will be injected into the subsurface to stabilize and degrade the targeted metals. After the implementation of the chemical injections, a groundwater monitoring program will be implemented to evaluate the effectiveness of the remedy.

4. Implementation of soil erosion, pollution, and sediment control measures in compliance with applicable laws and regulations.

5. Support of Excavation, Excavation, stockpiling, off-site transport, and disposal of the following:
The terminal depth of excavation is 15 feet from sidewalk elevation, or to approximate elevation 0 NAVD88, across the entire Site (approximately 5,764 cubic yards [CY]) for Track 2. It should be noted that existing surface grade varies widely across the Site due to a former cellar excavation (**Figure 11B)**. The Site will default to the contingent Track 4 if excavation to a terminal depth of 15 feet is unfeasible due to unforeseen conditions.

6. Localized dewatering will occur in areas of the Site where excavation to 15 feet is proposed.

7. Screening for indications of contamination (by visual means, odor, and monitoring with a photoionization detector [PID] of excavated soil during any intrusive Site work.

8. Collection and analysis of documentation endpoint soil samples to document soil quality remaining after the remedial excavation is complete. Endpoint soil samples will be collected and analyzed for the following:
    - Target Compound List (TCL) VOC plus 10 Tentatively Identified Compounds by USEPA Method 8260;

- TCL SVOC plus 20 TICs by USEPA Method 8270;
- Target Analyte List (TAL) Metals by USEPA Method 6010C/6020/7471B; Total Cyanide by USEPA method 9010/9012; Mercury by USEPA method 7471.
- TCL Pesticides by USEPA Method 8081/ Herbicides by USEPA Method 8151;
- PCBs by USEPA Method 8082A; and
- PFAS by USEPA Method 1633.

9. Removal and decommissioning of any encountered USTs and/or associated appurtenances (e.g., fill lines, vent line, and electrical conduit) and disposal off-site, in accordance with DER-10, 6 New York Codes, Rules, and Regulations (NYCRR) Part 613.9, NYSDEC Commissioner Policy 51 (CP-51), and other applicable NYSDEC UST closure requirements.

10. Appropriate off-Site disposal of all material removed from the Site in accordance with all Federal, State, and local rules and regulations for handling, transport, and disposal.

11. Import of materials to be used for backfill and cover in compliance with 6 NYCRR § 375-6.7(d), the established lower of PGW SCOs or Restricted Residential SCOs, and Federal, State, and local rules and regulations for handling and transport of material. A Request to Import / Reuse Soil form will be submitted to NYSDEC for approval prior to importing the material.

12. Construction and maintenance of a cover system, if only the contingent Tack 4 Cleanup is achieved, consisting of a 8-inch clean granular sub-base beneath the building footprint, or 4-inch poured concrete on a 6-inch sub-base in hardscaped areas, a vapor barrier or waterproofing barrier, as an element of construction, consisting of a nominal 20-mil Class A (Stego® Wrap 20-mil or equivalent), topped with 6-inch minimum concrete slab.

13. Construction and operation of a ground level parking garage with high volume air exchange in conformance with NYC Building Code.

14. Installation of an active SSDS in areas where groundwater is not encountered for the mitigation of contaminated soil vapors from off-site. The operation, monitoring, and maintenance requirements for the SSDS will be described in a Site Management Plan (SMP).

15. Completion of a survey to document the extents of the permanent and temporary components of the Site cover system.

16. Recording of an Environmental Easement (EE), including Institutional Controls (ICs), to prevent future exposure to any residual contamination remaining at the Site.

17. Publication of a Site Management Plan for long term management of residual contamination as required by the Environmental Easement, including plans for: (1) Institutional Controls, (2) monitoring, (3) operation and maintenance and (4) reporting.

18. All responsibilities associated with the Remedial Action, including permitting requirements and pretreatment requirements, will be addressed in accordance with all applicable Federal, State, and local rules and regulations.

REMEDIAL ACTION WORK PLAN

1.0 INTRODUCTION

The Volunteer, 55 Eckford St LLC, entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) in October 2024, to investigate and remediate a 0.238-acre property located at 55 Eckford Street, Brooklyn, Kings County, New York (Site). The BCA Applicant is a Volunteer in the Brownfield Cleanup Program (BCP). Restricted Residential use is proposed for the property. When completed, the Site will contain a 5-story multi-family residential building with a cellar. The building will provide twenty-one residential units, an eight-car garage and a landscaped rear yard on-grade (at the western portion of the Site), and a cellar that will be used for accessory space, residential storage, refuse room, and utility rooms. Refer to the BCP Application for additional details.

This Remedial Action Work Plan (RAWP) summarizes the nature and extent of contamination as determined from data gathered during the Remedial Investigation (RI), performed between November 2024 and August 2025. It provides an evaluation of a Track 1 cleanup and a Track 2 cleanup with contingent Track 4, their associated costs, and the recommended and preferred remedy. The remedy described in this document is consistent with the procedures defined in DER-10, DER-31, and complies with all applicable standards, criteria and guidance. The remedy described in this document also complies with all applicable Federal, State and local laws, regulations and requirements. A significant threat determination to human health and the environment was determined by the NYSDEC and New York State Department of Health (NYSDOH) in November 2025 and the Site was determined to be a significant threat. The RI for this Site did not identify fish and wildlife resources. A formal Remedial Design document will not be prepared.

1.1 Site Location and Description

The Site is located in the County of Kings, Brooklyn, New York and is identified as Block 2698 Lot 32 on the New York City Tax Map. A United States Geological Survey (USGS) topographical quadrangle map (**Figure 1**) shows the Site location. The Site is located in an area zoned for residential (R6A, R6B), light manufacturing (M1-2) and is situated on an approximately 0.238-acre area bounded by residential structures to the north and south, Eckford Street to the east, and commercial and residential structure to the west (see **Figure 2**). A boundary map is attached to the BCA as required by Environmental Conservation Law (ECL) Title 14 Section 27-1419. The 0.238-acre property is fully described in **Appendix A– Metes and Bounds**.

1.2 Contemplated Redevelopment Plan

The Remedial Action to be performed under the RAWP is intended to make the Site protective of human health and the environment consistent with the contemplated end use. The proposed redevelopment plan and end use is described here to provide the basis for this assessment. However, the Remedial Action contemplated under this RAWP may be implemented independent of the proposed redevelopment plan.

The proposed Site redevelopment includes a 5-story multi-family residential building with a cellar. The building will provide twenty-one residential units, an eight-car garage and a landscaped rear yard on-grade (at the western portion of the Site), and a cellar that will be used for accessory space, residential storage, refuse room, and utility rooms. A copy of the redevelopment plan is included in **Appendix B**. The proposed cellar and ground floor plans are included in **Figures 3A and 3B**.

1.3 Description of Surrounding Property

The Remedial Action to be performed under the RAWP is intended to make the Site protective of human health and the environment consistent with the contemplated end use. The proposed redevelopment plan and end use is described here to provide the basis for this assessment. However, the Remedial Action contemplated under this RAWP may be implemented independent of the proposed redevelopment plan.

Information about the surrounding properties were assessed from the Phase I Environmental Site Assessment, performed in October 2023, by Touchstone Environmental Geology, P.C. Records from as early as 1887 show the surrounding areas to the north, west and east of the Site as subdivided vacant interspersed with 2- to 3-story dwellings while the property to the south of the Site is shown with several 1-to 2-story story buildings labeled as "Plastering Hair Manufacturing Co.". By early 1900s until the mid-2000s, the surrounding vicinity saw denser development with multiple 2 to 3-story -story dwellings and several manufacturing and commercial facilities (e.g., cooperage, lumber yards, moving pictures, cab company, garage, printing, furniture manufacturing, etc.). By late 2000s, the manufacturing properties were redeveloped into multi-story residential apartments. By July 16, 2015, the property that abuts the Site to the north (Former Carter Spray Finishing Corp. at 65 Eckford Street), was entered into the BCP under Site No. C224218 with documented contamination in soil related to historical operations and fuel storage in underground tanks (USTs).

Currently the surrounding properties remain mostly residential and commercial and are described as follows:

Direction	Street Address / Block and Lot	Property Use / Name
North	65 Eckford St./Block 2698 Lot 26	5-story residential building, with cellar and sub-cellar / Hotel Condominium (Former Carter Spray Finishing Corp. BCP Site No. C224218)
West Northwest	488 Leonard St. / Block 2698 Lot 7	1-story warehouse / Kam Kuo Wine Co. Wine Wholesaler
West Southwest	482 Leonard St./ Block 2698 Lot 5	Vacant / Unlicensed Parking Lot
South	49 Engert Avenue/ Block 2698 Lot 7501	Eight 4-story residential buildings / Condominium
	67 Engert Avenue/ Block 2698 Lot 37	3-story residential building with rear yard
East (across Eckford St.)	62 Eckford Street / Block 2699 Lot 5	2-story residential building with cellar / rear yard
	60 Eckford Street / Block 2699 Lot 4	2-story residential building with cellar / rear yard
	58 Eckford Street / Block 2699 Lot 3	2-story residential building with cellar / rear yard
	56 Eckford Street / Block 2699 Lot 2	2-story residential building with cellar / rear yard
	54 Eckford Street / Block 2699 Lot 1	2-story residential building with cellar / rear yard

The Site is currently located in an area designated by the United States Environmental Protection Agency (USEPA) as a Disadvantaged Community Environmental and Climate Justice area. The surrounding vicinity property use is shown in **Figure 4**.

2.0 DESCRIPTION OF REMEDIAL INVESTIGATION FINDINGS

The Site was investigated in accordance with DER-10 and other applicable Federal, State, and local laws, regulations, and requirements. The RI was performed in accordance with the Remedial Investigation Work Plan (RIWP) for BCP Site No.C224168 dated November 20, 2024, prepared by GZA, approved by NYSDEC on December 3, 2024, and a RIWP Addendum dated, February 7, 2025, was prepared by GZA.

2.1 Summary Remedial Investigations Performed

After acquisition of the property on April 24, 2024, the Volunteer proceeded to undertake reasonable and practical actions to evaluate the Site contamination. GZA, on behalf of the Volunteer, performed an RI based on a Remedial Investigation Work Plan (RIWP) and Quality Assurance Project Plan (QAPP), dated November 20, 2024, as well as a Supplemental RIWP, dated July 22, 2025. GZA performed the RI work in December 2024 to August 2025. The objectives of the RI:

1. Define the nature and extent of Site contamination;
2. Identify contaminant source areas; and
3. Produce data of sufficient quantity and quality to support the development of a NYSDEC acceptable Remedial Action Work Plan.

The December 2024 to August 2025 RI the scope of work included the following:

- The advancement of soil borings, collection of soil samples, installation of permanent groundwater monitoring wells, collection of groundwater samples from new monitoring wells, installation of soil vapor points, and sampling of new soil vapor points;
- The collection of soil, groundwater, and soil vapor sufficient to define the nature and extent of impacted media and current Site conditions and offsite groundwater and/or soil vapor migration potential;
- The collection of a synoptic round of groundwater level measurements and the collection of additional land survey data as needed for developing a groundwater elevation contour map; and
- The performance of a qualitative human health exposure assessment (QHHEA) to identify existing and potential exposure pathways and evaluate contaminant fate and transport.

The initial RI scope of work included the following:

<u>Soil</u>

- Advancement of ten (10) soil borings to a maximum depth of 30 feet below ground surface (bgs) (or 20 feet below the existing cellar slab (bcs). Seven (7) of the borings were located at the exterior portion of the partially constructed building structure. Three (3) of the borings were located within the cellar of the partially constructed building structure.
- Collection and laboratory analyses of 62 samples from the exterior borings, and 16 samples from the interior borings. In total, 78 soil samples were collected for laboratory analyses.

<u>Groundwater</u>

- Conversion of six (6) borings to permanent stick-up monitoring wells.
- Gauging and development of the permanent monitoring wells.
- Collection and laboratory analyses of six (6) groundwater samples.

Soil Vapor
- Advancement of eight (8) soil vapor points to a depth of 2 feet above the groundwater interface.
- Collection and laboratory analyses of eight soil vapor samples.

Outdoor Air
- Collection and laboratory analyses of two outdoor ambient air samples.

The August 2025 Supplemental RI scope of work included the following:

Groundwater
- Installation of four (4) monitoring wells (designated as GMW-07 to GMW-10) to 20 ft bgs.
- Collection and laboratory analyses of groundwater samples from the four newly installed monitoring wells.

Soil Vapor
- Installation of four (4) soil vapor probes (designated GSV-09 to GSV-12) to a depth of 2 feet above the groundwater interface.
- Collection and laboratory analyses of four soil vapor samples.

2.1.1 Borings and Wells

To characterize site soils during the 2024/2025 RI, ten (10) soil borings were drilled across the Site. Depths of the soil borings varied between 20 and 30 feet below ground surface. Surface grade varies at the site due to an existing cellar. Soil borings were drilled prior to installation of monitoring wells to develop a conceptual site model of the subsurface lithology, in order to determine depths of the well screens.

In total, monitoring wells were drilled in ten (10) locations (denoted as GMW-01 to GMW-10) and with various depth intervals.

The summary of samples collected with corresponding laboratory analyses are shown on **Table 1**. The sample locations are shown in **Figure 5**.

2.1.2 Samples Collected

During the investigation the following samples were collected:

1. Seventy-eight (78) soil samples were submitted for laboratory analysis and additional QA/QC samples
2. Ten (10) groundwater samples and additional QA/QC samples for laboratory analyses;
3. Twelve (12) soil vapor samples and additional QA/QC samples for laboratory analyses; two ambient air samples

The evaluation from the sample collection is summarized below.

2.1.3 Chemical Analytical Work Performed

Table 1 provides sampling rational, and analysis performed on specific samples. Chemical analysis presented in the RIR has been performed in the following manner:

Sample Media	Laboratory analyses
Soil Analytical Methods	*Focused Soil Samples + PFAS* o Target compound list (TCL) VOCs by USEPA Method 8260 (discrete) with TICs; o TCL SVOC by USEPA Method 8270 with TICs, including 1,4 Dioxane; o Target analyte list (TAL) Metals by USEPA Method 6010C / 7471B, including hexavalent chromium and total cyanide; o Per- and Polyfluoroalkyl Substances (PFAS) by USEPA Method 1633.
	Full Suite o TCL VOCs by USEPA Method 8260 (discrete) with TICs; o TCL SVOC by USEPA Method 8270 with TICs, including 1,4 Dioxane; o TAL Metals by USEPA Method 6010C / 7471B, including hexavalent chromium and total cyanide; o TCL Pesticides by USEPA Method 8081/ Herbicides by USEPA Method 8151; o PCBs by USEPA Method 8082A; and o PFAS by USEPA Method 1633.
	Limited o TCL SVOC by USEPA Method 8270 with TICs; including 1,4 dioxane; o TAL Metals by USEPA Method 6010C / 7471B, including hexavalent chromium and total cyanide;
Groundwater Analytical Methods	*Full Suite* o TCL VOCs by USEPA Method 8260C with TICs (rev. 2006); o TCL SVOCs by USEPA Method 8270D with TICs (rev. 2007); o Total TAL Metals by USEPA Method 6010C/6020/7470 (rev. 2007) including hexavalent chromium and total cyanide by Methods 9010/9012B (rev. 2004); o Pesticides by USEPA Method 8081B (rev. 2000); o Herbicides by USEPA method 8151; o PCBs by USEPA Method 8082A (rev. 2000); o 1,4-Dioxane by USEPA Method SW 846 8260 (isotope dilution for 1-4 Dioxane); and o PFAS by USEPA Method 1633. Focused Groundwater o Total and dissolved TAL Metals by USEPA Method 6010C/6020/7471B; o Total and dissolved Cyanide by USEPA Method 9010/9012; and o Total and dissolved Mercury by USEPA Method 7471
Soil vapor and outdoor air analytical methods	o TCL VOCs by TO-15 VOC parameters.

2.1.4 Best Management Practices

Best Management Practices (BMPs) were implemented at the Site to reduce the environmental footprint of the RI include:

- Reducing total energy use;
- Reduce air pollutants and greenhouse gas emissions;
- Reduce water use, preserve water quality;
- Conserve material resources;
- Reduce waste; and
- Protect land and ecosystem services.

Real-time data collecting technologies utilized during the RI were minimally invasive, protecting the local ecosystem and ecosystem services. The BMP implemented under that principle is part of the Site's CAMP. The Site had portable photoionization detectors (PIDs) and portable dust-monitors that protected the workers on-site and the surrounding community, while remaining minimally invasive on-site.

Reducing the amount of time and distance for transporting materials to and from the Site will reduce fuel consumption and associated air emissions. The BMPs implemented under this principle are:

- Ensuring any heavy diesel trucks transporting materials had a Clean Idle Certification Label;
- Ensuring proper scheduling so that trucks did not need to idle longer than necessary to load or unload the material and minimize multiple mobilization/demobilizations from the Site;
- Reuse of clean, recyclable materials reduces consumption of non-renewable virgin resources and can provide energy savings and greenhouse gas reduction since these materials can be locally derived, thus reducing transportation and processing emissions; and
- Whenever possible, meetings were held using remote communication technologies, such as videoconferencing and teleconferencing to reduce energy consumption and traffic congestion associated with personal transportation.

2.1.5 Documentation

The following sections detail the contamination conditions that exist at the Site in soil, groundwater, and soil vapor based on RI findings. The RI Sampling Summary is presented in **Table 1**.

SOIL RESULTS

The soil analytical results were compared to 6 NYCRR Part 375 Unrestricted Use SCOs (UUSCOs), Restricted -Residential Use SCOs (RRUSCOs), and Protection of Groundwater Resources SCOs (PGWSCOs). Perfluoroalkyl substances (PFAS) results were compared 6 NYCRR Part 375-6 PFOA and PFOS Guidance Values for Anticipated Site Use. The RI sampling summary is presented in **Table 1.**

Volatile Organic Compounds

- Most VOCs were either below detection limits or below UUSCOs, RRUSCOs, and PGWSCOs. Acetone (max of 0.51 mg/kg at GZ-06 [0-2 ft bgs]) and methylene chloride (max of 0.069 mg/kg at GZ-07 [18-20 ft bgs]) were detected above UUSCOs and PGWSCOs in some samples, but below RRUSCOs throughout the site.

Semi-Volatile Organic Compounds

- Acenaphthene (max of 128 mg/kg), anthracene (max of 120 mg/kg), benzo(a)anthracene (max of 142 mg/kg), benzo(a)pyrene (max of 138 mg/kg), benzo(b)fluoranthene (max of 105 mg/kg), benzo(g,h,i)perylene (max of 153 mg/kg), benzo(k)fluoranthene (max of 81.9 mg/kg), chrysene (max of 97.9 mg/kg), dibenzo(a,h)anthracene (max of 36.3 mg/kg), dibenzofuran (max of 95.2 mg/kg), fluoranthene (max of 298 mg/kg), fluorene (max of 149 mg/kg), indeno(1,2,3-cd)pyrene (max of 175 mg/kg), napthalene (max of 86.3 mg/kg), phenanthrene (max of 337 mg/kg) and pyrene (max of 243 mg/kg) were detected above UUSCOs, PGWSCOs and/or RRUSCOs in multiple samples. The SVOC maximum detections were found in sample GZ-02F (18-20 ft bgs). SVOCs were found throughout the sites entirely except for the soil samples collected on the Eckford Street side (east) of the Subject Property.
- 1,4- dioxane was below the detection limit in every sample.

Metals

- Several metals were detected above the UUSCOs, RRUSCOs, and PGWSCOs in multiple samples including: arsenic (max of 240 mg/kg at GZ-01 [8-10 ft bgs]), cadmium (max of 16.5 mg/kg at GZ-10[8-10 ft bcs]), copper (max of 1,810 mg/kg at GZ-06 [4-6 ft bgs]), lead (max of 2,370 mg/kg at GZ-03 [0-2ft bgs]), mercury (max of 24.1 mg/kg at GZ-02 [18-20ft bgs]), nickel (max of 1,300 mg/kg at GZ-08 [10-13ft bcs]).
- Hexavalent chromium (max of 2.94 mg/kg at GZ-03 [16-18ft bgs]) was detected above UUSCOs, but below RRUSCOs and PGWSCOs in multiple samples.
- Barium (max of 725 mg/kg at GZ-10 [8-10 ft bcs]) was detected above UUSCOs and RRUSCOs, but below PGWSCOs in multiple samples.
- Zinc (max of 4,690 mg/kg at GZ-10 [13-16ft bcs]) and selenium (max of 12.8 mg/kg at GZ-04C [4-6ft bgs]) were detected above UUSCOs and PGWSCOs, but below RRUSCOs in multiple samples.

Pesticides, Herbicides and polychlorinated biphenyls

- The pesticide Dieldrin (max of 0.00774 mg/kg), was detected above UUSCOs, but below RRUSCOs and PGWSCOs in one sample.

- PCBs were either below their detection limits or detected below their respective UUSCOs, RRUSCOs and PGWSCOs.

- *Herbicides* were either below their detection limits or detected below their respective UUSCOs, RRUSCOs and PGWSCOs.

Per and Polyfluoroalkyl Substances

- Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) were either below their detection limits or detected below their respective UUSCOs, RUSCOs and PGWSCOs.

The soil analytical results for the Remedial Investigation are summarized in **Tables 2 to 6**. **Figure 6A, 6B, 6C1 and 6C2** show the soil sample locations and spider diagrams summarizing exceedances of UUSCOs, RRUSCOs, and PGWSCOs.

GROUNDWATER RESULTS

The groundwater analytical results were compared to NYSDEC TOGS 1.1.1 AWQS and Guidance Values. PFAS results were compared to NYSDEC Part 375 PFAS Remedial Program April 2023.

Volatile Organic Compounds

- tert-Butylbenzene at (max of 7.25 microgram per liter [µg/L] from GMW-04) was detected above the TOGS 1.1.1 AWQS in one sample. Note that the field blank sample (GMW-FB-01) show a detection of chloroform (max of 16.8 µg/L) above TOGS 1.1.1 AWQS.

Semi-Volatile Organic Compounds

- Benzo(a)anthracene and chrysene were detected above the TOGS 1.1.1 AWQS in two monitoring wells (GMW-01 and GMW-02). Benzo(a)pyrene, benzo(b)fluoranthene and benzo(k)fluoranthene were detected above TOGS 1.1.1 AWQS in one well (GMW-02).

Total Metals

- Antimony (max of 5,876.80 µg/L), arsenic (max of 763 µg/L), iron (max 16,900 µg/L), lead (max of 182.60 µg/L), magnesium (max of 54,000 µg/L), manganese (max of 864 µg/L) and sodium (max of 200,000 µg/L) were detected above the TOGS 1.1.1 AWQS in multiple monitoring wells.

Dissolved Metals

- Dissolved arsenic (94.19 µg/L) was detected in one groundwater sample (GMW-07).
- Dissolved magnesium (51,400 µg/L) was detected in one groundwater sample (GMW-09).
- Dissolved Iron (max of 1,520 µg/L), dissolved manganese (max of 712 µg/L), and dissolved sodium (max of 169,000 µg/L) were detected above TOGS 1.1.1 AWQS in multiple monitoring wells.

Pesticides / Herbicides / Polychlorinated Biphenyls

- Pesticides, herbicides, and PCBs were below detection limits or were detected below TOGS 1.1.1 AWQS.

Per- and Polyfluoroalkyl Substances

- PFOS (max of 0.00885 ug/L) were detected in three (3) samples above NYSDEC Part 375 PFAS Remedial Program 2023 of 0.0027 µg/L and PFOA (max of 0.0488 µg/L) were detected in six (6) samples above NYSDEC Part 375 PFAS Remedial Program 2023 of 0.0067 µg/L.
    - These concentrations of PFOS and PFOA are consistent with background concentrations in the area and are not considered attributable to the Site.

The groundwater analytical results are summarized in **Tables 7 to 11**. **Figure 7** shows the sample locations and spider diagrams summarizing the exceedances, compared to TOGS 1.1.1 AWQS / Part 375 PFAS Remedial Program.

SOIL VAPOR RESULTS

Volatile Organic Compounds

The total CVOCs concentrations ranged from 13 µg/m^3 to 4,421.7 µg/m^3, while total petroleum hydrocarbon concentrations ranged from 9.2 µg/m^3 to 2,320.9 µg/m^3:

CVOCs

- Carbon tetrachloride (max of 0.44 µg/m^3)was detected in three soil vapor samples
- 1,1-dichloroethene (max of 0.22 µg/m^3) was detected in two soil vapor samples
- Cis-1,2-Dichloroethylene (max of 151 µg/m^3) was detected in nine soil vapor samples.
- Trichloroethylene (max of 3,910 µg/m^3) was detected in all twelve soil vapor samples.
- Methylene chloride (max of 3.2 µg/m^3) was detected in two soil vapor samples.
- Tetrachloroethylene (max of 477 µg/m^3) was detected in all twelve soil vapor samples.
- 1,1,1-thrichloroethane (max of 2.8 µg/m^3) was detected in one soil vapor sample.

- Vinyl Chloride (25.3 µg/m^3) was detected in five soil vapor samples.

Petroleum Hydrocarbons

- Benzene (max of 35 µg/m^3) was detected in nine soil vapor samples.
- Ethylbenzene (max of 28.5 µg/m^3) was detected in six soil vapor samples.
- Naphthalene (max of 2.86 µg/m^3) was detected in one soil vapor sample.
- Cyclohexane (max of 104 µg/m^3) was detected in five soil vapor samples.
- 2,2,4 trimethylpentane (max of 13.8 µg/m^3) was detected in two soil vapor samples.
- 1,2,4-trimethylbenzene(max of 129 µg/m^3) was detected in six soil vapor samples.
- O-xylene(max of 22 µg/m^3) was detected in eight soil vapor samples.
- m,p-xylene (max of 42 µg/m^3) was detected in eight soil vapor samples.
- N-Heptane (max of 1,300 µg/m^3) was detected in six soil vapor samples.
- N-Hexane (max of 1,120 µg/m^3) was detected in seven soil vapor samples.
- Toluene (max of 49.4 µg/m^3) was detected in ten soil vapor samples.

OUTDOOR AIR RESULTS

Volatile Organic Compounds

- No elevated concentrations of VOCs were detected in the outdoor air samples.

The soil vapor and outdoor air results are summarized in **Table 12**. **Figure 8** shows the sample locations and spider diagrams summarizing the results.

2.2 Significant Threat

A significant threat determination to human health and the environment was issued in November 2025 by NYSDEC and NYSDOH. The determination was that the site poses a significant threat.

2.3 Site History

The following sections outline the Site History, including previous environmental assessments of the Site and surrounding area.

2.3.1 Past Uses and Ownership

Records from 1887 show the Site as four abutting vacant undeveloped lots. By 1905, the Site is shown as being part of Meisel Danowitz & Co. woodworking operation and contained four 1- to 2-story buildings identified as “moulding shed”, “planning & moulding lumber racks”, “kiln house” and an office. By 1916, the structures remain but were identified as “vacant and dilapidated”; by 1942 identified as “wool & rags sorting and baling”; and from 1951 until 1992 identified as “electric plating, storage, lacquer spraying”. NYC DOF records showed the Site was owned by the Berkman Family from 1971-2003. Between 1993 and 2004, the structures remain but the use was unknown. By 2003, the Berkman Family sold the property to Blue Diamond Development, LLC.

In August 2005, the NYC Department of Buildings (DOB) issued a demolition, and buildings were later demolished. By 2009, the Site was sold to 55 Eckford Street Brooklyn LLC / Madison Realty Capital L.P. Between 2009 and 2015, construction permits were issued by NYCOB for the Site redevelopment into residential apartments. By 2016, a stop work order had been issued for the Site, and construction has been paused since. The Site was entered into the BCP under Site No. C224168 in 2017, with the Applicant, TCJ Construction, deemed a Volunteer, then subsequently withdrew from the program. A tax lien was assigned to the property between 2016 to 2023 by the City of New York. The property was then sold to the Volunteer in 2024.

The NYC DOF website lists the following ownership records and deed transfers:

Party 1	Party 2	Address	Date of Ownership or Operation
Eckford-Greenpoint LLC	55 Eckford St LLC	100 Jericho Quadrangle, Jericho, NY	04/24/2024 to present
55 Eckford Street Brooklyn LLC	Eckford-Greenpoint LLC	10 Glenville Street, Greenwich CT	12/28/20212 to 02/12/2013
Blue Diamond Development LLC	55 Eckford Street Brooklyn LLC	825 Third Avenue, New York, NY	06/22/2009 to 12/17/2009
Berkman, Theodore as co-trustees of Arlyne Berkman Revocable Living Trust	Blue Diamond Development LLC	199 Lee St., Suite 287 Brooklyn, NY	09/16/2003 to 03/16/2004
Berkman, Donald	Berkman, Gerald	55 Eckford St., Brooklyn, NY	01/30/2002 to 02/25/2002
Berkman, Arlyne	Berkman, Arlyne Revocable Living Trust	6655 NY 15th St. Margate, FL	10/31/1995 to 12/21/1995
Berkman, Lillie	Berkman, Donald	71 Margaret Drive, Valley Stream, NY	03/04/1994 to 04/15/1994
Berkman, Lillie	Berkman, Donald	71 Margaret Drive, Valley Stream, NY	01/05/1972 to 01/05/1972
Berkman, Lillie	Berkman, Donald	71 Margaret Drive, Valley Stream, NY	12/27/1971 to 12/27/1971

2.3.2 Phase I and Phase II Reports

The following sub-sections outline previous environmental assessments conducted at the Site. The previous environmental assessments are available on the NYSDEC Document Repository, DEC Locator.

2.3.2.1 Phase I Environmental Site Assessment Report – October 27, 2011

In October 2011, Hydro Tech Environmental, Corp. (HTE) of Hauppauge, NY performed a Phase I ESA for 55 Eckford Street Brooklyn LLC (former Owner) and identified two Recognized Environmental Conditions (RECs) related to the Site which are as follows:

- The historical use of the Site as manufacturing facility
- The undocumented removal of a 2,500-gallon #2 fuel oil aboveground storage tank (AST).

As a manufacturing facility, the Site was known to use chemicals during its operations. The Site was listed under NYSDEC Chemical Bulk Storage (CBS) facility no. 2-000058 with documented 500-gallon fiberglass reinforced plastic (FRP) tank that contained sodium hypochlorite. The CBS tank was reportedly closed in 1998.

The Site was listed under NYSDEC Petroleum Bulk Storage (PBS) facility no. 2-268666 which identified the 2,500-gallon #2 fuel oil AST as being installed in 1976 and subsequently closed and removed in January 2005. The AST was in contact with soil within a vault. On March 26, 1993, the Site was listed under NYSDEC Spill Case No. 92-14462 for a release due to tank overfilling. The Spill was subsequently closed on March 31, 1993.

2.3.2.2 Draft Phase II Environmental Subsurface Investigation – December 2011

In December 2011, EEA Inc. of Garden City, NY, performed a Phase II Environmental Subsurface Investigation (ESI) for Madison Realty Capital to address the RECs noted in the 2011 HTE Phase I ESA. The 2011 EEA Phase II ESI included the advancement of six (6) soil borings for the collection of soil samples and the installation of four (4) monitoring wells for the collection of groundwater samples.

Based upon visual, olfactory, and photoionization detector (PID) screening analysis, the soils were observed with strong solvent odors, grey staining and elevated PID readings (at max of 1,085 parts per million [ppm]) at or in close proximity to the groundwater interface.

Based upon their analysis of laboratory and field data, the Site soils contained volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) that exceeded the NYSDEC Commissioner Policy-51 (CP-51) soil cleanup guidance values and groundwater contained metals that exceeded the NYSDEC Technical Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS). Metals such as mercury and arsenic were listed as past hazardous wastes produced at the Site and were detected above regulatory guidelines in soil and unfiltered groundwater (arsenic also found above guidelines in filtered groundwater). According to EEA, Inc., these contaminants were likely due to releases from the former electroplating facility operations performed at the Site.

2.3.2.3 Phase II Subsurface Investigation – April 5, 2012

In April 2012, HTE performed a Phase II Subsurface Investigation for Mr. Tomer Yogev which included the advancement of nine (9) soil probes and the installation seven (7) monitoring wells and seven (7) soil vapor implants to collect soil, groundwater, and soil vapor samples for laboratory analyses.

The laboratory analytical results reported soil samples detected at concentrations that exceeded regulatory standards containing:

- SVOCs, specifically:
  - benzo (a) anthracene [max of 2.25 mg/kg]
  - benzo (a) pyrene [max of 1.57 mg/kg],
  - benzo(b)fluoranthene [max of 1.21mg.kg],
  - benzo(k)fluoranthene[max of 1.81 mg/kg], and,
  - chrysene [max of 2.14 mg/kg]
- metals, specifically:
  - arsenic [max of 273 milligrams per kilogram {mg/kg}],
  - barium [max of 605 mg/kg],
  - cadmium [max of 4.62 mg/kg],

- trivalent chromium [max of 51.5 mg/kg],
- copper [max of 1,020 mg/kg],
- lead [max of 2,980 mg/kg],
- nickel [max of 1,030 mg/kg], and
- mercury [max of 27.4 mg/kg]

The laboratory analytical results revealed groundwater samples at concentrations that exceeded regulatory standards containing:

- VOCs specifically:
  - sec-butylbenzene [at max of 8.82 micrograms per liter {µg/L}] and
  - tert-butylbenzene [max of 6.98 µg/L]
- metals specifically:
  - arsenic [max of 0.564 milligrams per liter {mg/L}],
  - iron [max of 30.5 mg/L],
  - manganese [max of 0.822 mg/L],
  - silver [max of 0.073 mg/L], and
  - sodium [max of 298 mg/L]).

The laboratory analytical results revealed soil vapor samples containing:

- acetone (max of 2,400 micrograms per cubic meter [ug/m^3]),
- petroleum-related VOCs, specifically:
  - benzene [max of 19 ug/m^3],
  - 1,3,5-trimethylbenzene [max of 40 ug/m^3],
  - n-heptane [max of 28 ug/m^3],
  - n-hexane [max of 95 ug/m^3],
  - p & m-xylene [max of 33 ug/m^3], and
  - toluene [max of 39 ug/m^3]
- CVOCs specifically:
  - 1,1 dichloroethene [max of 26 ug/m^3],
  - cis-1,2 dichloroethene [max of 49 ug/m^3],
  - methylene chloride [max of 33 ug/m^3],
  - PCE [max of 84 ug/m^3], and,
  - TCE [max of 1,700 ug/m^3],)

The maximum total VOC concentration in soil vapor is 4,344 ug/m^3.

2.3.2.4 Phase I Environmental Site Assessment Report – June 3, 2013

In June 2013, HTE performed a Phase I ESA for Olden Equities of Brooklyn, NY and identified five RECs in connection with the Site, namely:

- The historic use of the Site as a manufacturing facility;
- The presence of SVOC and metal-impacted soil at the Site;
- The presence of VOC and metal impacted groundwater at the Site;
- The presence of both petroleum and chlorinated solvent-impacted soil vapors at the Site; and
- The undocumented removal of the fuel oil AST.

2.3.2.5 *Phase I Environmental Site Assessment Report – July 25, 2016*

In July 2016, HTE performed a Phase I ESA for Madison Realty Capital of New York, NY and identified the following RECs in connection with the Site:

- The historic use of the Site as a manufacturing facility;
- The presence of SVOC and metal-impacted soil at the Site;
- The presence of VOC and metal impacted groundwater at the Site;
- The presence of both petroleum and chlorinated solvent-impacted soil vapors at the Site;
- The undocumented removal of an aboveground fuel oil storage tank;
- The presence of NYS BCP Site No. C224218 in the northern adjacent property;
- The presence of a petroleum and chlorinated potential vapor encroachment condition (PVEC) at the Site; and
- The presence of mold at the Site.

2.3.2.6 Phase I Environmental Site Assessment Report – October 2019

In October 2019, HTE performed a Phase I ESA for Avo Construction of New York, NY and identified the following RECs in connection with the Site:

- The historic use of the Site as a manufacturing facility;
- The presence of SVOC and metal-impacted soil at the Site;
- The presence of VOC and metal impacted groundwater at the Site;
- The presence of both petroleum and chlorinated solvent-impacted soil vapors at the Site;
- The undocumented removal of an aboveground fuel oil storage tank;
- The presence of NYS BCP Site No. C224218 in the northern adjacent property;
- The listing of the Site under BCP Site No. C224168.

The October 2019 Phase I ESA noted that the Site was entered into the NYS BCP in 2017. The entrant, TCJ Construction Inc. (TCJ), was accepted into the program as a Volunteer.

2.3.2.7 Phase I Environmental Site Assessment Report – October 2023

In October 2023, Touchstone Environmental Geology, P.C. (Touchstone) performed a Phase I ESA for the Volunteer, Daniel Kaykov, and identified several RECs or a potential vapor encroachment condition (VEC) in connection with the Site:

- The listing of the Site under BCP Site No. C224168 (which was subsequently rescinded in September 2021)
- The historic use of the Site as a manufacturing facility (listed as Former Berkman Bros. Site);
- The presence of a BCP Site No. C224218 (65 Eckford Street / Former Carter Spray Finishing) located adjacent to the north.

Touchstone also identified the following Historical Recognized Environmental Condition (HREC):

- The Site was listed in the State Leaking Tanks (LTANKS) database under Spill Number 92-14462. According to the database, the incident occurred on March 26, 1993, as the result of a tank overfill. The database indicated petroleum/No. 6 Fuel Oil was spilled and that the spill was cleaned by Mystic with Speedi-Dry which was picked up and disposed of. The spill case was closed to the satisfaction of the NYSDEC on March 31, 1993.

2.3.2.8 Remedial Investigation Work Plan - December 2018

HTE prepared a Remedial Investigation Work Plan for TCJ in accordance with the requirements of the BCP and proposed the advancement of ten (10) soil borings, installation of six (6) monitoring wells, and eight (8) soil vapor sampling points. No other information on the implementation of the RIWP is available in the NYSDEC Document Repository.

2.3.2.9 Brownfield Cleanup Program Application – March 4, 2020

A BCP Application was filed with the NYSDEC on March 4, 2020, by 55 Eckford Acquisition LLC (former Requestor). The application indicated that the known contaminants were CVOCs and metals in the soil. The BCP Application also noted the change of ownership for 55 Eckford 1875 DNB LLC to 55 Eckford Acquisition LLC.

2.3.3 Sanborn Maps

Records from 1887 show the Site as four abutting vacant undeveloped lots. By 1905, the Site is shown as being part of Meisel Danowitz & Co. woodworking operation and contained four 1- to 2-story buildings identified as "moulding shed", "planning & moulding lumber racks" , "kiln house", and an office. By 1916, the structures remain but were identified as "vacant and dilapidated"; by 1942 identified as "wool & rags sorting and baling"; and from 1951 until 1992 identified as "electric plating, storage, lacquer spraying". All Sanborn Maps available for this Site were reviewed prior to preparation of the RAWP. The Sanborn Maps are included in **Appendix C**.

2.4 Geologic and Hydrogeologic Conditions

In January 2025, Fehringer conducted a survey of the monitoring wells which showed that the ground elevation ranges (proximate to monitoring wells) from EL 17.27 feet NAVD88 at the western portion of the Site, to 15.62 feet NAVD 88 to the eastern portion of the Site. The topographic gradient at the Site slopes generally down from southwest to northeast (see **Figure 1**). The nearest water body is the East River at approximately 2,800 feet to the west, and Newtown Creek at approximately 4,000 feet to the North, of the Site.

2.4.1 Soil and Rock Conditions

Based on our review of the *1776-7 Original High and Low Grounds, Salt Marsh and Shorelines in the City of Brooklyn Map*, the Site lies within the border line where a salt marsh was located adjacent to a stream flowing into the East River (see inset). The grade in this area was raised by backfilling to develop the street grid. The fill used to raise grades in the area of the Site is underlain by clayey silts.



According to USGS Publication, Bedrock-Surface Elevation and Overburden Thickness Maps of the Five Boroughs, New York City, New York (De Mott, 2023), the anticipated depth to bedrock is approximately

150 ft bgs or greater. Bedrock is generally comprised of consists of interbedded units of gray thinly laminated muscovite-biotite-quartz schist, and white to pinkish with light green weathering gneiss. Bedrock was not encountered during this RI.

Based on the results of our subsurface exploration program, the subsurface conditions at the Site generally consist of the following observed soil profile.

- SURFACE COVER: Surface cover on the Site consists of either exposed soil (fill) or concrete. Soil boring locations were advanced in areas without concrete.

- FILL: Fill, consisting of brown/dark brown fine to medium sand containing construction debris (such as brick and concrete), was encountered below the Surface Cover in the borings extending to depths of approximately between 12 to 17 ft bgs.

- CLAYEY SILT: A clayey silt layer was encountered interbedded with the peat stratum that extended to depths ranging from approximately 12 to 25 ft bgs. This stratum consists of gray/dark gray clayey silt, and trace fine to coarse sand.

- FIBROUS PEAT / FINE GRAINED PEAT: A peat stratum was encountered interbedded with the clayey silt stratum to depths ranging from approximately 11 ft bgs to 33 ft bgs. This peat stratum consisted of fibrous peat that transitioned into fine grained peat. Fibrous peat is identified as a coarse, organic, fibrous dark gray to black colored material while organic peat is identified as a more decomposed, colloidal organic material.

- SAND: A sand stratum was encountered underlying the peat and clayey silt layers ranging from approximately 25 ft bgs to deepest boring termination depth of 35 ft bgs. The sand stratum is comprised of gray to brown fine to medium Sand with little Silt.

The subsurface condition at the Site is typical of a subsurface tidal waterbody. The Site was historically part of a salt marsh adjacent to an East River tributary which received an intermittent inflow and outflow of tidal discharges. The Site Plan showing the boring locations profile layout is in **Figure 5**. The subsurface profiles are included as **Figures 9A to 9B**.

2.4.2 Groundwater Conditions

GZA performed a synoptic groundwater well gauging event of the shallow wells on January 3, 2025. The groundwater elevation data collected from each monitoring well was used to prepare a groundwater contour map with measurements presented in elevations (EL) above mean sea level (amsl) relative to the North American Vertical Datum 1988 (NAV88). During this groundwater gauging event, depth to groundwater (i.e., below top of casing [BTOC]) ranged from 11.90 to 13.97 ft. Based on Fehringer's survey of each monitoring well, groundwater elevation ranged from 5.19 to 5.63 ft amsl NAVD88.

The groundwater elevation data (at the time of the gauging event) shows that groundwater flows generally from southwest to northeast across the Site, towards Newton Creek. Note that the area was part of a historical salt marsh, so the water table may be tidally influenced. The groundwater contour map from the shallow wells is included as **Figure 10**. The following table summarizes the depth to water table readings and calculated groundwater elevations from the monitoring wells.

Well ID	Well Diameter (inches)	Depth to Bottom[1] (ft BTOC)[2]	Well Screen Interval (BTOC)	Ground Elevation (ft amsl NAVD88)	TOC Elevation[3] (ft amsl NAVD88)	Depth to Water (BTOC)	Groundwater Elevation[4] (ft amsl NAVD88)
GMW-01	2	21.45	11.45-21.45	17.27	19.20	13.97	5.23
GMW-02	2	22.81	12.81-22.81	16.09	17.42	11.90	5.52
GMW-03	2	22.85	12.85-22.85	16.53	18.08	12.45	5.63
GMW-04	2	21.95	11.95-21.95	16.66	18.03	12.42	5.61
GMW-05	2	22.75	12.75-22.75	15.62	17.48	12.29	5.19
GMW-06	2	22.07	12.07-22.07	16.32	18.53	13.32	5.21

Table Notes:
1. BTOC – Below top of casing
2. Depth to bottom – Distance of the top of casing to the bottom of the well during gauging in feet.
3. TOC – Top of casing
4. Elevations – feet above mean sea level based (amsl) on North American Vertical Datum of 1988 (NAVD 88)

2.5 Contamination Conditions

The information collected during the investigation was compared to the respective regulatory standards and were evaluated to determine the nature and extent of the contamination at the Site. The entire Site is considered the Area of Concern (AOC) based on contaminants in all three media: soil, groundwater, and soil vapor.

During the various phases of investigation onsite, soil boring and well construction logs were completed to describe the Site geology. The Conceptual Model of the Site is based on the findings of the previous investigations.

2.5.1 Conceptual Model of Site Contamination

A Conceptual Site Model has been developed based on the findings of the Site subsurface investigations described above and from the anticipated future use of the Site.

Potential Sources of Constituent of Potential Concern

Soil - Constituents of potential concern (COPCs) identified in Site soils above RRUSCOs include:

- SVOCs
  - Acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, dibenzofuran, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene and pyrene
- Metals
  - Arsenic, barium, cadmium, copper, lead, mercury, nickel, and zinc

Groundwater - COPCs identified in groundwater above TOGS 1.1.1 AWQS include:

- VOCs
  - tert-Butylbenzene
- SVOCs
  - PAHs – benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene and chrysene
- Metals
  - Antimony, arsenic, lead, manganese and sodium.

Soil Vapor - COPCs identified in soil vapor include:

- VOCs
  - Cis-1,2-Dichloroethylene, n-Heptane, n-Hexane, tetrachloroethylene, trichloroethylene and vinyl chloride.

Outdoor Air - There were no COPCs identified in outdoor air.

Potential Release Mechanisms

The possible explanations as to the occurrence of constituents of potential concern in soil, groundwater, and soil vapor at the Site are described below.

1. Constituents of potential concern in SVOCs above RUSCOs were mainly observed in the fill layer (0-23 ft bgs) and metals above RUSCOs were mainly observed (0-26 ft bgs) at the Site.

2. PAHs and metals in the groundwater may be from the groundwater in close proximity to elevated soil concentrations associated with the fill material with these constituents.
3. Constituents of concern such as chlorinated VOCs and petroleum hydrocarbons in soil vapor may be related to the historical use of the Site, but are likely sourced from surrounding properties with soil vapors migrating through the unsaturated soils

Potential Human Receptors and Exposure Pathways

Potential On-Site Exposures: Inhalation, ingestion and dermal contact are the possible routes of exposure to potential receptors with respect to impacted soils on Site. The Site is secured with a locked construction fence. Note that exterior air sample results did not report COPCs. On-site receptors are currently limited to trespassers, Site representatives, and visitors granted access to the Site. Under proposed future conditions, potential on-site receptors will include workers, visitors, and construction and utility workers who are engaged in intrusive activities / excavation of impacted soil at the Site.

A site-specific CHASP has been developed to identify and minimize the potential hazards to on-site workers. The CHASP is included as **Appendix D** to this RAWP. Site trespassers could also be exposed to impacted soil during excavation; however, security measures including an 8-foot high construction fence will minimize potential exposure to trespassers.

Potential Off-Site Exposures: Off-Site residents could also be exposed to dust or vapors during the excavation of impacted soil. A site-specific CAMP has been developed to identify and minimize the potential for off-site exposure to residents through continuous air monitoring during excavation activity. The CAMP is included as an appendix to this RAWP.

Potential Ecological Impacts

Based upon the investigations conducted at the Site, it does not appear that a Fish and Wildlife Impact Analysis (FWIA) is necessary. A search of the United State Fish and Wildlife Service Information for Planning and Consultation shows that there are no critical habitats within the Site boundary. The Site is in an area consisting of mostly residential, commercial, and industrial buildings with minimal ecological habitat. The majority of soils on Site will be covered thereby reducing the potential for ecological impact.

Therefore, the potential for Site-related constituents of potential concern to migrate to the fish and wildlife resources, if present, is considered minimal.

2.5.2 Description of Areas of Concern

Based on the history and the findings of the previous studies, the Areas of Concern (AOCs) that were investigated and found during the RI are as described below:

AOC-1 Site and Area Historical Use

Information obtained from multiple historic sources revealed that the Site was utilized for various industrial/manufacturing operations as lumber processing facility (ca1887-1905), a wool rag sorting and baling facility (ca1942), a lacquer spraying and electric plating facility (ca1951-1992). In addition, the Site was previously approved to enter the BCP. Previous investigations also documented the presence of metals in the soil and groundwater, with limited SVOCs and minimal VOCs. Operations electric plating typically utilize chemical agents, metals and/or hazardous materials, the discharge of which may have adversely impacted the environmental quality of the property. Therefore, the historical use of the Site as a manufacturing facility with chemical storage represented a potential for historic operations to have impacted the subsurface.

AOC-2 – Historical Petroleum Storage and Release

Multiple Phase I ESAs completed between 2011 and 2023 identified the undocumented removal of a #2 fuel-oil AST. The 2011 Phase I conducted by HTE states that a 2,500-gallon #2 fuel oil AST was installed in 1976 and subsequently closed and removed in January 2005. This Phase I assessment also notes a release of fuel due to tank over filling in 1993. The Phase I ESA database indicated that the spill was cleaned by Mystic with Speedi-Dry which was picked up and disposed of. The spill case was closed to the satisfaction of the NYSDEC on March 31, 1993. This AST release may have a minimal impact to the subsurface.

AOC-3 – RI Findings

Based on the RI, contaminated media exists across the property:

1. Soils observed in boring logs advanced on Site indicate that subsurface soil at the Site consists of the following: A surface cover which consists of either exposed soil (fill) or concrete underlain by fill layer, consisting of brown/dark brown fine to medium sand containing construction debris, such as brick and concrete to depths of approximately 12 to 17ft bgs. A clayey silt stratum was encountered interbedded with a peat stratum that extended to depths ranging from approximately 12 to 25 ft bgs. This stratum consists of gray/dark gray clayey silt, and trace fine to coarse sand. A peat stratum was encountered interbedded with the clayey silt stratum ranging from approximately 11 ft bgs to 33 ft bgs. This peat stratum consisted of fibrous peat that transitioned into fine grained peat. Fibrous peat is identified as a coarse, organic, fibrous dark gray to black colored material while organic peat is identified as a more decomposed, colloidal organic material. A sand stratum was encountered underlying the peat and clayey silt layers ranging from approximately 25 ft bgs to deepest boring termination depth of 35 ft bgs.

2. Constituents of potential concern identified in shallow soils (from 0 to 30 ft bgs) above UUSCOS, RUSCOs and/or PGWSCOs include: SVOCs (Acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene,

dibenzo(a,h)anthracene, dibenzofuran, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene and pyrene; and Metals (arsenic, barium, cadmium, copper, lead, mercury, nickel, and zinc).

3. Constituents of potential concern identified in groundwater above TOGS 1.1.1 AWQS include: VOC (tert-Butylbenzene); SVOCs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene and chrysene; and metals (antimony, arsenic, lead, manganese and sodium).

4. Constituents of potential concern identified in soil vapor include: VOCs such as cis-1,2-Dichloroethylene, n-Heptane, n-Hexane, tetrachloroethylene, trichloroethylene and vinyl chloride.

5. Contamination from historical Site use and the area's historical industrial use. Constituents of potential concern in SVOCs above RRUSCOs were observed in the fill layer (0-23 ft bgs) and metals above RRUSCOs were observed (0-30 ft bgs) at the Site. PAHs and metals in the groundwater may be from the groundwater in close proximity to elevated soil concentrations associated with the fill material with these constituents. Constituents of concern such as CVOCs and petroleum hydrocarbons in soil vapor are likely sourced from surrounding properties with soil vapors migrating through the unsaturated soils.

AOCs are described further in sections below.

2.5.3 Identification of Standards, Criteria and Guidance

See **Table 13** of this document for Applicable SCOs. In addition, the following SCGs also apply:

- 6 NYCRR Part 375 - Environmental Remediation Programs
- CP-51: Soil Cleanup Guidance Policy - Issued October 21, 2010; Effective December 03, 2010;
- NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations – TOGS 1.1.1, with revisions through June 2021
- NYSDEC DER-10 Technical Guidance for Site Remediation, May 2010, with revisions through April 9, 2019.
- NYSDEC DER-31 Green Remediation, August 2010
- Guidelines for Sampling and Analysis of PFAS, Issued January 6, 2021, amended April 2023;
- Public Water Systems and NYS Drinking Water Standards for PFAS and Other Emerging Contaminants, July 2022;
- Technical Fact Sheet: Drinking Water Health Advisories for Four PFAS (PFOA, PFOS, GenX chemicals, and PFBS), June 2022
- New York State Department of Health Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006/February 2024 and Decision Matrices
- New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan
- NYS Waste Transporter permits – 6 NYCRR Part 364.
- NYS Solid Waste Management Requirements – 6NYCRR Part 360 and Part 364.
- NYSDEC Draft Brownfield Cleanup Program Guide – May 2004.

2.5.4 Soil/Fill Contamination

Soil samples were collected above and below the groundwater interface. Fill, consisting of brown/dark brown fine to medium sand containing construction debris (such as brick and concrete), was encountered below the surface cover in the borings extending to depths of approximately between 12 to 17 ft bgs.

A clayey silt layer was encountered interbedded with the peat stratum that extended to depths ranging from approximately 12 to 25 ft bgs. This stratum consists of gray/dark gray clayey silt, and trace fine to coarse sand. A peat stratum was encountered interbedded with clayey silt stratum to depths ranging from approximately 11 ft bgs to 33 ft bgs. This peat stratum consisted of fibrous peat that transitioned into fine grained peat. Fibrous peat is identified as a coarse, organic, fibrous dark gray to black colored material while organic peat is identified as a more decomposed, colloidal organic material.

A sand stratum was encountered underlying the peat and clayey silt layers ranging from approximately 25 ft bgs to deepest boring termination depth of 35 ft bgs. The sand stratum is comprised of gray to brown fine to medium Sand, little Silt. The subsurface condition at the Site is typical of the deposits found in and around a subsurface tidal waterbody. The Site was historically part of a salt marsh adjacent to an East River tributary which received an intermittent inflow and outflow of discharges.

2.5.4.1 Summary of Soil/Fill Data

SOIL SUMMARY TABLE

Analytes > RRUSCOs	Detections > UUSCOs	Detections > RRUSCOs	Detections > POGSCOs	Maximum Detection (ppm)	UUSCO (ppm)	RRUSCO (ppm)	PGWSCO (ppm)	Sample ID
Acetone	7	0	7	0.51	0.05	100	0.05	GZ-06A (0-2")
Methylene Chloride	2	2	2	0.06	0.05	100	0.05	GZ-07F (18-20')
Benz0(a)anthracene	13	13	13	142	1	1	1	GZ-02F (18-20)
Acenaphthene	1	1	1	128	1	1	22	GZ-02F (18-20)
Anthracene	1	1	1	120	1	1	1.7	GZ-02F (18-20)
Benzo(a)pyrene	12	12	12	138	1	1	22	GZ-02F (18-20)
Benzo(b)fluoranthene	13	13	13	105	1	1	1.7	GZ-02F (18-20)
Benzo(k)fluoranthene	11	7	7	81.9	0.8	3.9	1.7	GZ-02F (18-20)
Benzo(g,h,i)perylene	1	1	1	153	0.5	0.5	8.2	GZ-02F (18-20)
Chrysene	13	9	9	97.9	1	3.9	1	GZ-02F (18-20)
Dibenzo(a,h)anthracene	8	8	8	36.3	0.33	0.33	1000	GZ-02F (18-20)
Dibenzofuran	1	1	1	95.2	0.5	0.5	8.2	GZ-02F (18-20)
Fluoranthene	2	2	2	298	12	100	12	GZ-02F (18-20)
Fluorene	1	1	1	149	12	100	12	GZ-02F (18-20)
Indeno(1,2,3-cd)pyrene	9	9	9	175	0.5	0.5	8.2	GZ-02F (18-20)
Naphthalene	1	0	1	86.3 D	12	100	12	GZ-02F (18-20)
Phenanthrene	1	1	1	337	12	100	12	GZ-02F (18-20)
Pyrene	1	1	1	243	3.9	100	3.9	GZ-02F (18-20)
Arsenic, Total	51	50	50	240	13	16	16	GZ-1D (8-10)
Barium, Total	12	11	11	725	350	400	820	GZ-10C (8-10)
Cadminum, Total	5	3	1	16.5	2.5	4.3	7.5	GZ-10C (8-10)
Chromium (Hexavalent), Total	2	0	0	2.94	1	110	19	GZ-03F (16-18)
Copper, Total	46	18	4	1,810	50	270	1720	GZ-06C (4-6)
Lead, Total	55	24	23	2,370	63	400	450	GZ-03B (0-2)
Mercury, Total	65	42	41	24	0.18	0.81	0.73	GZ-02 (20-23)
Nickel, Total	43	15	24	1,280	30	310	130	GZ-06D (8-10)
Selenium, Total	21	0	21	12.80	4	180	4	GZ-04C (4-6)
Zinc, Total	49	0	2	4,690	109	10,000	2,480	GZ-10 (16-20)
Dieldrin	1	0	0	.00774D	0.005	0.2	0.1	GZ-06B (0-2)

Notes:
Analytes > UUSCOs: Displays analytes that exceeded the NYSDEC Part 375 Unrestricted Use Soil Cleanup Objective.
Analytes > RRUSCOs: Displays analytes that exceeded the NYSDEC Part 375 Restricted Residential Use Soil Cleanup Objective.
Analytes > PGWSCOs: Displays analytes that exceeded the NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objective.
Maximum Detection (ppm): Maximum detection in parts per million.

2.5.4.2 Comparison of Soil/Fill with SCGs

The soil analytical results were compared to 6 NYCRR Part 375 Unrestricted Use SCOs (UUSCOs), Restricted-Residential Use SCOs (RRUSCOs), and Protection of Groundwater Resources SCOs (PGWSCOs). Perfluoroalkyl substances (PFAS) results were compared 6 NYCRR Part 375-6 PFOA and PFOS Guidance Values for Anticipated Site Use. The RI sampling summary is presented in **Table 1.**

Volatile Organic Compounds

- Most VOCs were either below detection limits or below UUSCOs, RRUSCOs, and PGWSCOs. Acetone (max of 0.51 mg/kg at GZ-06 [0-2 ft bgs]) and methylene chloride (max of 0.069 mg/kg at GZ-07 [18-20 ft bgs]) were detected above UUSCOs and PGWSCOs in some samples, but below RRUSCOs throughout the site.

Semi-Volatile Organic Compounds

- Acenaphthene (max of 128 mg/kg), anthracene (max of 120 mg/kg), benzo(a)anthracene (max of 142 mg/kg), benzo(a)pyrene (max of 138 mg/kg), benzo(b)fluoranthene (max of 105 mg/kg), benzo(g,h,i)perylene (max of 153 mg/kg), benzo(k)fluoranthene (max of 81.9 mg/kg), chrysene (max of 97.9 mg/kg), dibenzo(a,h)anthracene (max of 36.3 mg/kg), dibenzofuran (max of 95.2 mg/kg), fluoranthene (max of 298 mg/kg), fluorene (max of 149 mg/kg), indeno(1,2,3-cd)pyrene (max of 175 mg/kg), napthalene (max of 86.3 mg/kg), phenanthrene (max of 337 mg/kg) and pyrene (max of 243 mg/kg) were detected above UUSCOs, PGWSCOs and/or RRUSCOs in multiple samples. The SVOC maximum detections were found in sample GZ-02F (18-20ft bgs). SVOCs were found throughout the sites entirely except for the soil samples collected on the Eckford Street side (east) of the Subject Property.
- 1,4- dioxane was below the detection limit in every sample.

Metals

- Several metals were detected above the UUSCOs, RRUSCOs, and PGWSCOs in multiple samples including: arsenic (max of 240 mg/kg at GZ-01 [8-10 ft bgs]), cadmium (max of 16.5 mg/kg at GZ-10[8-10 ft bcs]), copper (max of 1,810 mg/kg at GZ-06[4-6 ft bgs]), lead (max of 2,370 mg/kg at GZ-03 [0-2ft bgs]), mercury (max of 24.1 mg/kg at GZ-02 [18-20ft bgs]), nickel (max of 1,300 mg/kg at GZ-08 [10-13ft bcs]).
- Hexavalent chromium (max of 2.94 mg/kg at GZ-03 [16-18ft bgs]) was detected above UUSCOs, but below RRUSCOs and PGWSCOs in multiple samples.
- Barium (max of 725 mg/kg at GZ-10 [8-10 ft bcs]) was detected above UUSCOs and RRUSCOs, but below PGWSCOs in multiple samples.
- Zinc (max of 4,690 mg/kg at GZ-10 [13-16ft bcs]) and selenium (max of 12.8 mg/kg at GZ-04C [4-6ft bgs]) were detected above UUSCOs and PGWSCOs, but below RRUSCOs in multiple samples.

Pesticides, Herbicides and polychlorinated biphenyls

- The pesticide Dieldrin (max of 0.00774 mg/kg), was detected above UUSCOs, but below RRUSCOs and PGWSCOs in one sample.
- PCBs were either below their detection limits or detected below their respective UUSCOs, RRUSCOs and PGWSCOs.
- *Herbicides* were either below their detection limits or detected below their respective UUSCOs, RRUSCOs and PGWSCOs.

Per and Polyfluoroalkyl Substances

- Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) were either below their detection limits or detected below their respective UUSCOs, RUSCOs and PGWSCOs.

The soil analytical results for the Remedial Investigation are summarized in **Tables 2 to 6**. **Figure 6A, 6B, 6C1, and 6C2** show the soil sample locations and spider diagrams summarizing exceedances of UUSCOs, RUSCOs, and PGWSCOs.

2.5.5 Groundwater Contamination

2.5.5.1 Summary of Groundwater Data

A groundwater sampling summary table showing the number of detections exceeding the AWQS and the maximum concentrations is presented below:

Groundwater Summary Table				
Analytes > AWQS	Detections > AWQS	AWQS (ppb)	Maximum Detection (ppb)	Sample ID
Chloroform	1	7	16.8	FB-01
tert-Butylbenzene	1	5	7.25	GMW-04
Benzo(a)anthracene	2	0.002	0.1	GMW-01
Benzo(a)pyrene	1	0.002	0.07	GMW-02
Benzo(b)fluoranthene	1	0.002	0.07	GMW-02
Benzo(k)fluoranthene	1	0.002	0.06	GMW-02
Chrysene	2	0.002	0.09	GMW-1 and GMW-02
Antimony, Total	1	3	6	GMW-01
Arsenic, Total	10	25	763	GMW-01
Arsenic, Dissolved	1	25	94.19	GMW-07
Iron, Total	10	300	16,900	GMW-08
Iron, Dissolved	2	300	1,520	GMW-08
Lead, Total	4	25	183	GMW-08
Magnesium, Total	1	35,000	54,000	GMW-09
Magnesium, Dissolved	1	35,000	51,400	GMW-09
Manganese, Total	10	300	864	GMW-01
Manganese, Dissolved	4	300	712	GMW-09
Sodium, Total	8	20,000	200,000	GMW-05
Sodium, Dissolved	4	20,000	169,000	GMW-07
Perfluorooctanesulfonic acid (PFOS)	4	0.0027	0.0089	GMW-01
Perfluorooctanoic acid (PFOA)	6	0.0067	0.0488	GMW-05

Notes:

Analytes > AWQS:	Displays analytes that exceed the NYSDEC Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values.
Detections > AWQS:	Number of detections over the applicable AWQS.
AWQS (ppb):	Ambient Water Quality Standard and Guidance Value in parts per billion.
Maximum Detection (ppb):	Maximum detection in parts per billion.

2.5.5.2 Comparison of Groundwater with SCGS

The groundwater analytical results were compared to NYSDEC TOGS 1.1.1 AWQS and Guidance Values. PFAS results were compared to NYSDEC Part 375 PFAS Remedial Program April 2023.

Volatile Organic Compounds

- Tert-Butylbenzene at (max of 7.25 µg/L from GMW-04) was detected above the TOGS 1.1.1 AWQS in one sample. Note that the field blank sample (GMW-FB-01) show a detection of chloroform (max of 16.8 µg/L) above TOGS 1.1.1 AWQS.

Semi-Volatile Organic Compounds

- Benzo(a)anthracene and chrysene were detected above the TOGS 1.1.1 AWQS in two monitoring wells (GMW-01 and GMW-02). Benzo(a)pyrene, benzo(b)fluoranthene and benzo(k)fluoranthene were detected above TOGS 1.1.1 AWQS in one well (GMW-02).

Total Metals

- Arsenic (max of 763 µg/L), iron (max 16,900 µg/L), lead (max of 182.60 µg/L), manganese (max of 864 µg/L) and sodium (max of 200,000 µg/L) were detected above the TOGS 1.1.1 AWQS in multiple monitoring wells.
- Antimony (5.87 µg/L) was detected in one groundwater sample (GMW-01)
- Magnesium (54,000 µg/L) was detected in one groundwater sample (GMW-08).

Dissolved Metals

- Dissolved arsenic (94.19 µg/L) was detected in one groundwater sample (GMW-07).
- Dissolved magnesium (51,400 µg/L) was detected in one groundwater sample (GMW-09).
- Dissolved Iron (max of 1,520 µg/L), dissolved manganese (max of 712 µg/L), and dissolved sodium (max of 169,000 µg/L) were detected above TOGS 1.1.1 AWQS in multiple monitoring wells.

Pesticides / Herbicides / Polychlorinated Biphenyls

- Pesticides, herbicides, and PCBs were below detection limits or were detected below TOGS 1.1.1 AWQS.

Per- and Polyfluoroalkyl Substances

- PFOS (max of 0.00885 ug/L) were detected in three (3) samples above NYSDEC Part 375 PFAS Remedial Program 2023 of 0.0027 µg/L and PFOA (max of 0.0488 µg/L) were detected in six (6) samples above NYSDEC Part 375 PFAS Remedial Program 2023 of 0.0067 µg/L.
    - These concentrations of PFOS and PFOA are consistent with background concentrations in the area and are not considered attributable to the Site.

The groundwater analytical results are summarized in **Tables 7 to 11**. **Figure 7** shows the sample locations and spider diagrams summarizing the exceedances, compared to TOGS 1.1.1 AWQS / Part 375 PFAS Remedial Program.

2.5.6 Soil Vapor Contamination

Soil vapor samples identified concentrations of VOCS including petroleum and chlorinated compounds. A soil vapor sampling summary table showing the number of detections, and the maximum concentrations are presented below.

Soil Vapor VOCs Summary Table			
Analytes	Total Detections	Maximum Detection (µg/m^3)	Type and Sample ID
Carbon tetrachloride	3	0.44 D	Soil Vapor (GSV-06)
1,1-dichloroethene	3	7.53 D	Soil Vapor (GSV-12)
cis-1,2-Dichloroethene	9	151 D	Soil Vapor (GSV-12)
Trichloroethylene	12	3,910 D	Soil Vapor (GSV-11)
Methylene chloride	3	3.2 J	Soil Vapor (GSV-03)

Tetrachloroethene	12	477 D	Soil Vapor (GSV-11)
1,1,1-thrichloroethane	1	0.28	Soil Vapor (GSV-06)
Vinyl Chloride	5	D	Soil Vapor (GSV-12)
Benzene	9	35 D	Soil Vapor (GSV-01)
Ethylbenzene	6	28.5 D	Soil Vapor (GSV-12)
Naphthalene	1	2.86 D	Soil Vapor (GSV-10)
Cyclohexane	5	104 D	Soil Vapor (GSV-09)
2,2,4 trimethylpentane	4	1,880 D	Soil Vapor (GSV-09)
1,2,4-trimethylbenzene	6	129 D	Soil Vapor (GSV-10)
O-xylene	8	22 D	Soil Vapor (GSV-08)
m,p-xylene	8	42 D	Soil Vapor (GSV-08)
n-heptane	6	1,300 D	Soil Vapor (GSV-01)
n-hexane	7	1,120 D	Soil Vapor (GSV-09)
Toluene	10	49.4 D	Soil Vapor (GSV-09)

Notes:

Total Detections:	Number of samples with detections of CVOCs.
Maximum Detection (µg/m3):	Maximum detection in micrograms per cubic meter.
J Qualifier:	Estimated Value
D Qualifier:	Sample under dilution

2.5.6.1 Soil Vapor

Chlorinated VOCs

- Carbon tetrachloride (max. of 0.44 µg/m^3) was detected in three soil vapor samples
- 1,1-dichloroethene (max. of 7.53 µg/m^3) was detected in three soil vapor samples
- Cis-1,2-Dichloroethylene (max. of 151 µg/m^3) was detected in nine soil vapor samples.
- Trichloroethylene (max. of 3,910 µg/m^3) was detected in all twelve soil vapor samples.
- Methylene chloride (max. of 3.2 µg/m^3) was detected in three soil vapor samples.
- Tetrachloroethene (max. of 477 µg/m^3) was detected in all twelve soil vapor samples.
- 1,1,1-thrichloroethane (max. of 11.3 µg/m^3) was detected in four soil vapor samples.
- Vinyl Chloride (25.3 µg/m^3) was detected in five soil vapor samples.

Petroleum Hydrocarbons

- Benzene (max. of 35 µg/m^3) was detected in nine soil vapor samples.
- Ethylbenzene (max. of 28.5 µg/m^3) was detected in six soil vapor samples.
- Naphthalene (max. of 2.86 µg/m^3) was detected in one soil vapor sample.
- Cyclohexane (max. of 104 µg/m^3) was detected in five soil vapor samples.
- 2,2,4 trimethylpentane (max. of 1,880 µg/m^3) was detected in four soil vapor samples.
- 1,2,4-trimethylbenzene (max. of 129 µg/m^3) was detected in six soil vapor samples.
- 1,3,5-trimethylbenzene (max. of 69.8 µg/m^3) was detected in three soil vapor samples.
- O-xylene(max. of 22 µg/m^3) was detected in eight soil vapor samples.
- m,p-xylene (max. of 42 µg/m^3) was detected in eight soil vapor samples.
- N-Heptane (max. of 1,300 µg/m^3) was detected in six soil vapor samples.

- N-Hexane (max. of 1,120 µg/m^3) was detected in seven soil vapor samples.
- Toluene (max. of 49.4 µg/m^3) was detected in ten soil vapor samples.

The soil vapor and ambient air analytical results were analyzed using the USEPA Method TO-15 Compound List. The RI sampling summary is presented in **Table 1**. A spider map that indicates the location(s) of and summarizes soil vapor data prior to the remedy is shown in **Figure 8**.

Additionally, an offsite soil vapor intrusion investigation is currently ongoing as part of the adjacent Former Carter Spray Finishing Corp site (BCP #C224218A).

2.6 Environmental and Public Health Assessments

The objective of the environmental and public health assessment is to evaluate how the environment and the public might be exposed to Site-related contaminants.

2.6.1 Qualitative Human Health Exposure Assessment

A Qualitative Human Health Exposure Assessment (QHHEA) for the Site has been prepared in accordance with the requirements of DER-10/Technical Guidance for Site Investigation and Remediation, Appendix 3B, May 2010, and is presented in the following subsections. The QHHEA characterizes the exposure setting, identifies potentially complete exposure pathways, and qualitatively evaluates potential fate and transport of constituents from one medium to another (i.e., soil-to-air or soil-to-groundwater).

The QHHEA identified soil, groundwater, and soil vapor as the primary impacted media and the primary potential sources of COPCs. There is one complete pathway for exposure to contaminated soil, visitors to the site would be exposed to on-site surface soil contamination. The Site is fenced off to keep people off of the Site. During remediation and redevelopment, construction or utility workers conducting intrusive subsurface activities could potentially be exposed to COPCs in the Site soils, groundwater, and soil vapor. This RAWP outlines soil and groundwater handling practices to prevent exposure. After remediation and redevelopment is complete, there will be no complete exposure pathways due to the installation of a composite cover (contingent Track 4 only) over the residual Site soils, active SSDS, and a chemical vapor barrier, etc.).

2.6.2 Fish & Wildlife Remedial Impact Analysis

The Fish and Wildlife Impact Analysis (FWIA) is unnecessary for the Site. A search of the United States Fish and Wildlife Service Information for Planning and Consultation indicates that there are no critical habitats within the Site boundary. The Site is located in an area predominantly composed of residential, commercial, and industrial buildings, with minimal ecological habitat. Additionally, the majority of soils on the Site are covered, thereby reducing the potential for ecological impact. Therefore, the potential for Site-related COC to impact fish and wildlife resources, if present, is considered minimal.

2.7 Interim Remedial Action

Interim remedial measures have not and will not be completed for the site.

2.8 Remedial Action Objectives

Based on the results of the Remedial Investigation, the following Remedial Action Objectives (RAOs) have been identified for this Site.

2.8.1 Groundwater

RAOs for Public Health Protection

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

RAOs for Environmental Protection

- Remove the source of groundwater contamination.
- Prevent contact with, or inhalation of, volatiles emanating from contaminated groundwater.

2.8.2 Soil

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

2.8.3 Soil Vapor

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

3.0 DESCRIPTION OF REMEDIAL ACTION PLAN

This section presents an analysis of remedial alternatives that could achieve the RAOs. The Remedial Action standards, criteria and guidance used to develop these remedial alternatives were described in Section 2.5.3. Given the known contamination, correspondence and guidance from the DEC, and the additional Remedial Investigation, the proposed remedial alternatives are Alternative 1 (Track 1 to Unrestricted Use SCOs) or Alternative 2 (Track 2 Restricted Residential SCO with contingent Track 4). The proposed SCOs under Alternative 1 would be Part 375 Unrestricted Use SCOs under a Track 1 cleanup. Alternative 2 would be a Track 2 cleanup with contingent Track 4, utilizing the Part 375 Restricted Residential Use SCOs and implementation of long-term institutional controls pursuant to an Environmental Easement and long-term engineering controls under a Site Management Plan. Both alternatives are expected to achieve the identified RAOs.

3.1 Evaluation of Remedial Alternatives

The goal of the remedy selection process is to select a remedy that is protective of human health and the environment taking into consideration the current, intended, and anticipated future use of the property. The remedy selection process begins by establishing RAOs for media in which chemical constituents were found in exceedance of applicable SCGs. A remedy is then developed based on the following criteria:

- Protection of human health and the environment;
- Compliance with SCGs;
- Short-term effectiveness and impacts;
- Long-term effectiveness and permanence;
- Reduction of toxicity, mobility, or volume of contaminated material;
- Implementability;
- Cost effectiveness;
- Community acceptance; and
- Land use.

3.1.1 Technical Description of Alternative 1 – Track 1

A remedial program would be implemented to provide the details necessary for construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The following actions would be completed as part of a Track 1 remedy:

1. Green remediation components are as follows:
    - Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
    - Reducing direct and indirect greenhouse gas and other emissions;
    - Increasing energy efficiency and minimizing use of non-renewable energy;
    - Conserving and efficiently managing resources and materials;

- Reducing waste, increasing recycling, and increasing reuse of materials that would otherwise be considered a waste;
- Fostering green and healthy communities and working landscapes that balance ecological, economic, and social goals; and
- Integrating the remedy with the end-use where possible and encouraging green and sustainable re-development.
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

As part of the remedial program, to evaluate the remedial alternatives with respect to green and sustainable remediation principles, a ***SiteWise*™** environmental footprint analysis was completed. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use for the proposed remedy have been estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial program, as appropriate. The project will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics that have been established by the ***SiteWise*™** model will be tracked during implementation of the remedial action and reported in the FER, including a comparison to the goals established during the remedial program.

Additionally, the remedial program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

2. Development and implementation of a CHASP and CAMP for the protection of on-site workers, community/residents, and the environment during remediation and construction activities.

3. Construction of a Support-of-Excavation (SOE) system to facilitate remedial excavation of all soil the exceeds the Unrestricted Use SCOs.

4. Implementation of soil erosion, pollution, and sediment control measures in compliance with applicable laws and regulations.

5. Screening for indications of contamination (by visual means, odor, and monitoring with PIDs) of excavated material during intrusive work.

6. Excavation, stockpiling, off-site transportation, and disposal of soil that exceeds Unrestricted Use SCOs. Excavation would extend to approximately 30 feet bgs to remove all impacted soils totaling approximately 11,529 cubic yards.

7. Dewatering the Site from the groundwater interface (approximately 10 ft bgs) to the base of excavation (approximately 30 ft bgs) to allow removal of all soil that exceeds Unrestricted Use SCOs.

8. Off-site soil disposal of material removed from the Site in accordance with federal, state, and local rules and regulations for handling, transport, and disposal.

9. Implementing a groundwater monitoring program for one year after the remedy to evaluate the effectiveness of the remedy.

10. Removal and decommissioning of any encountered USTs and/or associated appurtenances (e.g., fill lines, vent line, and electrical conduit) and disposal off-site, in accordance with DER-10, 6 New York Codes, Rules, and Regulations (NYCRR) Part 613.9, NYSDEC Commissioner Policy 51 (CP-51), and other applicable NYSDEC UST closure requirements.

11. Collection and analysis of confirmation endpoint soil samples from the excavation base in accordance with DER-10 to confirm Track 1 SCOs were achieved. Confirmation sidewall sample collection will likely not occur due to the anticipated SOE. Confirmation endpoint soil samples will be collected and analyzed for the following:
    - Target Compound List (TCL) VOC plus 10 Tentatively Identified Compounds by USEPA Method 8260;
    - TCL SVOC plus 20 TICs by USEPA Method 8270;
    - Target Analyte List (TAL) Metals by USEPA Method 6010C/6020/7471B;
    - Total Cyanide by USEPA method 9010/9012; and
    - Mercury by USEPA method 7471
    - TCL Pesticides by USEPA Method 8081/ Herbicides by USEPA Method 8151;
    - PCBs by USEPA Method 8082A; and
    - PFAS by USEPA Method 1633.

12. Importation and backfilling of remediated areas, as necessary for development with certified-clean material, Recycled Concrete Aggregate (RCA) or virgin, native crushed stone (all meeting Unrestricted use SCOs.)

13. All responsibilities associated with the Remedial Action, including permitting requirements and pretreatment requirements, will be addressed in accordance with all applicable Federal, State, and local rules and regulations.

3.1.1.1 On-Site Worker, Public Health, and Environmental Protection

A Site-specific CHASP would be enforced during excavation and foundation construction to protect on-site workers from accidents and acute and chronic exposures to the identified contaminated media. Public health would be protected by implementing and enforcing dust, odor, and organic vapor control and monitoring procedures included in the CAMP and in this RAWP. The CAMP would include continuous perimeter monitoring of dust and organic vapor using DustTrak aerosol monitors and PIDs capable of recording data and calculating 15-minute averages. A field engineer, scientist, or geologist would monitor Site perimeters for visible dust and odors. The environment would be protected by implementing and enforcing the appropriate soil erosion prevention measures.

3.1.1.2 Excavation and Dewatering

Extensive dewatering of groundwater would be required to accommodate the remedial excavation of soil that exceeds Unrestricted Use SCOs. The proposed excavation would extend up to approximately 30 feet bgs which corresponds to a depth approximately 20 feet below the groundwater elevation at the Site. The contractor would be responsible for dewatering in accordance with applicable laws and regulations. Treatment of dewatering fluids to remove impacts would be required to reduce contaminant concentrations below NYCDEP/NYSDEC effluent limitations prior to discharge. The dewatering and treatment system would be designed by the contractor's NYS-licensed Professional Engineer. For the approximate excavation footprint for Alternative 1, see **Figure 11A**

3.1.1.3 SOE Construction and Fill and Soil Removal

SVOCs and metals were detected at concentrations that exceed the Unrestricted Use SCOs. To achieve a Track 1 remedy, soil removal and disposal would extend from surface grade to between 30 feet bgs across the Site to remove impacted material.

3.1.1.4 UST System Removal

Although no subsurface metallic anomalies were identified during the RI, the potential exists for USTs to be encountered during Site remediation. Any USTs encountered during remedial excavation, would be decommissioned in accordance with applicable NYSDEC tank closure requirements, including DER-10 Section 5.5 and 6 NYCRR Part 613.9, and NYSDEC CP-51. The USTs and/or associated appurtenances would be registered and administratively closed with the NYSDEC Petroleum Bulk Storage (PBS) unit. All excavation areas would be screened and inspected for the presence of petroleum-impacts to the surrounding soils. Petroleum-impacted soil, if encountered, would be excavated, stockpiled separately, characterized, and disposed of off-site at an approved and permitted disposal facility in accordance with applicable regulations. If the remedial or development excavation does not extend beyond the bottom of the encountered tank, additional confirmation soil samples would be collected as described below. Following removal of UST(s), affidavits of closure would be submitted to the FDNY, and PBS registration/de-registration applications would be submitted to NYSDEC.

3.1.1.5 Confirmation Soil Sampling

Confirmation endpoint soil samples would be collected from the excavation base at a frequency of one per 900 square feet. An estimated 12 endpoint confirmation soil samples plus QA/QC samples, would be collected to confirm remedial performance and would be analyzed for the Part 375 list of VOCs, SVOCs, PCBs, pesticides/herbicides, cyanide, (metals including hexavalent and trivalent chromium), PFAS and 1,4-dioxane. Confirmation sidewall soil sample collection will likely not occur due to the anticipated SOE.

In the event that unidentified USTs are discovered during Site remedial activities, if the remedial or development excavation does not extend beyond the bottom of the encountered tank, five documentation samples would be collected from each excavation and would consist of one sample per excavation sidewall and a sample from each excavation base. As necessary, post removal soil samples would be collected in accordance with the requirements of CP-51. Samples would be analyzed for CP-51 List VOCs and SVOCs and compared to the CP-51 Table 2 Soil Cleanup Levels for Gasoline Contaminated Soils or Table 3 Soil Cleanup Levels for Fuel Oil Contaminated Soil and the 6 NYCRR Part 375-6.8(a) Unrestricted Use SCOs, depending on the contents of the USTs.

3.1.1.6 Excavation Backfill

Approximately 7,685 cubic yards of clean backfill material would be required to restore the Site grade to the development elevation needed for foundation construction. Any imported backfill shall comply with 6 NYCRR Part 375-6.7(d) and NYSDEC DER-10 Section 5.4(e), Table 5.4(e)10, and Appendix 5. Imported material for excavation backfill would consist of clean fill that meets the lower of Unrestricted Use SCOs or PGW SCOs, such as virgin stone from a quarry or RCA. If RCA is imported to the Site, it would come from a NYSDEC-registered facility in compliance with 6 NYCRR Part 360 registration and permitting requirements for the period of RCA acquisition. RCA imported from compliant facilities would not require chemical testing, unless required by NYSDEC under its terms for operation of the facility. Imported RCA must be derived from recognizable and uncontaminated concrete (less than 10% by weight passing through a No. 80 sieve). RCA is not acceptable for, and would not be used as, Site cover or drainage material, and may not be used below the groundwater interface.

3.1.2 Technical Description of Alternative 2 – Track 2 with Contingent Track 4

Alternative 2 is a Track 2 Remedy with contingent Track 4 that would include the following tasks:

1. Green and Sustainable Remedial (GSR) Goals will continue to be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:
   - Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
   - Reducing direct and indirect greenhouse gas and other emissions;
   - Increasing energy efficiency and minimizing use of non-renewable energy;
   - Conserving and efficiently managing resources and materials;
   - Reducing waste, increasing recycling, and increasing reuse of materials that would otherwise be considered a waste;
   - Fostering green and healthy communities and working landscapes that balance ecological, economic, and social goals; and
   - Integrating the remedy with the end-use where possible and encouraging green and sustainable re-development.
   - Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

   As part of the remedial program, to evaluate the remedial alternatives with respect to green and sustainable remediation principles, a *SiteWise*™ environmental footprint analysis has been completed. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use for the proposed remedy have been estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial program, as appropriate. The project will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to

green and sustainable remediation metrics that have been established by the *SiteWise*™ model will be tracked during implementation of the remedial action and reported in the FER, including a comparison to the goals established during the remedial program.

Additionally, the remedial program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

2. Development and implementation of a CHASP and CAMP for the protection of on-site workers, community/residents, and the environmental during remediation and construction activities.

3. Chemical injections will be used to treat dissolved metals (i.e. arsenic) and contaminants below the excavation footprint within saturated soils. The injections will be performed to treat the vertical extent of contamination identified in the RI from depths of 15 ft bls to 30 ft bls across Site footprint. MetaFix® I-7A and GeoForm ER® will be injected into the subsurface to stabilize and degrade the targeted metals. After the implementation of the chemical injections, a groundwater monitoring program will be implemented, for a minimum of two rounds, to evaluate the effectiveness of the remedy. Additional information is described below in Section 3.1.2.6 and in **Appendix E**.

4. Implementation of soil erosion, pollution, and sediment control measures in compliance with applicable laws and regulations.

5. Support of Excavation, Excavation, stockpiling, off-site transport, and disposal of the following:
The terminal depth of excavation is 15 feet from sidewalk elevation, or to approximate elevation 0 NAVD88, across the entire Site (approximately 5,764 cubic yards [CY]) for Track 2. It should be noted that existing surface grade varies widely across the Site due to a former cellar excavation (**Figure 11B)**. The Site will default to the contingent Track 4 if excavation to a terminal depth of 15 feet is unfeasible due to unforeseen conditions.

6. Localized dewatering will occur in areas of the Site where excavation to 15 feet is proposed. A preliminary dewatering permit from NYCDEP has been received and is included in Appendix Q.

7. Screening for indications of contamination (by visual means, odor, and monitoring with a photoionization detector [PID] of excavated soil during any intrusive Site work.

8. Collection and analysis of documentation endpoint soil samples to document soil quality remaining after the remedial excavation is complete. Endpoint soil samples will be collected and analyzed for the following:
    - Target Compound List (TCL) VOC plus 10 Tentatively Identified Compounds by USEPA Method 8260;
    - TCL SVOC plus 20 TICs by USEPA Method 8270;
    - Target Analyte List (TAL) Metals by USEPA Method 6010C/6020/7471B; Total Cyanide by USEPA method 9010/9012; Mercury by USEPA method 7471.
    - TCL Pesticides by USEPA Method 8081/ Herbicides by USEPA Method 8151;
    - PCBs by USEPA Method 8082A; and
    - PFAS by USEPA Method 1633.

9. Removal and decommissioning of any encountered USTs and/or associated appurtenances (e.g., fill lines, vent line, and electrical conduit) and disposal off-site, in accordance with DER-10, 6 New York Codes, Rules, and Regulations (NYCRR) Part 613.9, NYSDEC Commissioner Policy 51 (CP-51), and other applicable NYSDEC UST closure requirements.

10. Appropriate off-Site disposal of all material removed from the Site in accordance with all Federal, State, and local rules and regulations for handling, transport, and disposal.

11. Import of materials to be used for backfill and cover in compliance with 6 NYCRR § 375-6.7(d), the established lower of PGW SCOs or Restricted Residential SCOs, and Federal, State, and local rules and regulations for handling and transport of material. A Request to Import / Reuse Soil form will be submitted to NYSDEC for approval prior to importing the material.

12. Construction and maintenance of a cover system (contingent Track 4 scenario) consisting of a 8-inch clean granular sub-base beneath the building footprint, or 4-inch placed concrete on a 6-inch sub-base in hardscaped areas, a vapor barrier or waterproofing barrier, as an element of construction, consisting of a nominal 20-mil Class A (Stego® Wrap 20-mil or equivalent), topped with 6-inch minimum concrete slab.

13. Construction and operation of a ground level parking garage with high volume air exchange in conformance with NYC Building Code.

14. Installation of an active SSDS in areas where groundwater is not encountered for the mitigation of contaminated soil vapors from off-site. The operation, monitoring, and maintenance requirements for the SSDS will be described in a Site Management Plan (SMP).

15. Completion of a survey to document the extents of the permanent and temporary components of the Site cover system.

16. Recording of an Environmental Easement (EE), including Institutional Controls (ICs), to prevent future exposure to any residual contamination remaining at the Site.

17. Publication of a Site Management Plan for long term management of residual contamination as required by the Environmental Easement, including plans for: (1) Institutional Controls, monitoring, (3) operation and maintenance and (4) reporting.

18. All responsibilities associated with the Remedial Action, including permitting requirements and pretreatment requirements, will be addressed in accordance with all applicable Federal, State, and local rules and regulations.

3.1.2.1 On-Site Worker, Public Health, and Environmental Protection

A Site-specific CHASP would be enforced during excavation and foundation construction to protect on-site workers from accidents and acute and chronic exposures to the identified contaminated media. Public health would be protected by implementing and enforcing dust, odor, and organic vapor control and monitoring procedures included in the CAMP and in this RAWP. The CAMP would include continuous perimeter monitoring of dust and organic vapor using DustTrak aerosol monitors and PIDs capable of recording data and calculating 15-minute averages. A field engineer, scientist, or geologist would monitor Site perimeters

for visible dust and odors. The environment would be protected by implementing and enforcing the appropriate soil erosion prevention measures.

3.1.2.2 Excavation and Soil Disposal

A remedial excavation of soil to fifteen (15) feet across the entire Site. Approximately 5,764 cubic yards of soil will be excavated. Soil will be disposed of at a permitted facility in accordance with all regulations. For the excavation footprint for Alternative 2 see **Figure 11B.** Any Investigation Derived Waste (IDW) drums generated as part of the Remedial Action will be staged in a designated area at the Site, properly characterized, and disposed off-site at a NYSDEC approved facility.

3.1.2.3 UST System Removal

Although no subsurface metallic anomalies were identified during the RI, the potential exists for USTs to be encountered during Site remediation. Any USTs encountered during remedial excavation, would be decommissioned in accordance with applicable NYSDEC tank closure requirements, including DER-10 Section 5.5 and 6 NYCRR Part 613.9, and NYSDEC CP-51. The USTs and/or associated appurtenances would be registered and administratively closed with the NYSDEC Petroleum Bulk Storage (PBS) unit. All excavation areas would be screened and inspected for the presence of petroleum-impacts to the surrounding soils. Petroleum-impacted soil, if encountered, would be excavated, stockpiled separately, characterized, and disposed of off-site at a permitted disposal facility in accordance with applicable regulations. If the remedial or development excavation does not extend beyond the bottom of the encountered tank, additional confirmation soil samples would be collected as described below. Following removal of UST(s), affidavits of closure would be submitted to the FDNY, and PBS registration/de-registration applications would be submitted to NYSDEC.

3.1.2.4 Confirmation Soil Sampling

Confirmation sidewall sample collection will likely not occur due to the anticipated SOE. If a depth of 15 feet is not achieved, confirmation bottom endpoint soil samples would be collected from the excavation base (i.e. at 12 ft bgs) at a frequency of one per 900 square feet. An estimated 12 bottom confirmation endpoint soil samples plus QA/QC samples, would be collected to confirm remedial performance and would be analyzed for the Part 375 list of VOCs, SVOCs, PCBs, pesticides/herbicides, cyanide, (metals including hexavalent and trivalent chromium), PFAS and 1,4-dioxane.

In the event that unidentified USTs are discovered during Site remedial activities, if the remedial or development excavation does not extend beyond the bottom of the encountered tank, five documentation samples would be collected from each excavation and would consist of one sample per excavation sidewall and a sample from each excavation base. As necessary, post removal soil samples would be collected in accordance with the requirements of CP-51. Samples would be analyzed for CP-51 List VOCs and SVOCs and compared to the CP-51 Table 2 Soil Cleanup Levels for Gasoline Contaminated Soils or Table 3 Soil Cleanup Levels for Fuel Oil Contaminated Soil and the 6 NYCRR Part 375-6.8(a) Unrestricted Use SCOs, depending on the contents of the USTs.

3.1.2.5 Backfill

Any imported backfill shall comply with 6 NYCRR Part 375-6.7(d) and NYSDEC DER-10 Section 5.4(e), Table 5.4(e)10, and Appendix 5. Imported material for excavation backfill would consist of clean fill that meets the Unrestricted Use SCOs or other acceptable fill material such as virgin stone from a quarry or RCA. If RCA is imported to the Site, it would come from a NYSDEC-registered facility in compliance with 6 NYCRR Part 360 registration and permitting requirements for the period of RCA acquisition. RCA imported from compliant facilities would not require chemical testing, unless required by NYSDEC under its terms for operation of the facility. Imported RCA must be derived from recognizable and uncontaminated concrete (less than 10% by weight passing through a No. 80 sieve). RCA is not acceptable for, and would not be used as, Site cover or drainage material, and may not be used below the groundwater interface.

3.1.2.6 Chemical Injection

Chemical injections will be used to treat remaining contaminants below the excavation footprint for metals including the contaminant of concern, arsenic. Data from monitoring well purge logs indicate that groundwater Oxygen Reduction Potential (ORP) is largely reducing, which favors the use of a reductive approach to precipitate and remove arsenic. Groundwater pH is circumneutral to slightly acidic, which is an optimum pH range for sulfate reducing bacteria to work with GeoForm ER® in forming iron sulfides *in-situ* and in the process, co-precipitate arsenic with ferrous iron and free sulfide. Both MetaFix® and GeoForm ER® contain reductants which will remove dissolved oxygen. Dissolved oxygen measurements currently vary from non-detect up to 4 mg/L in the monitoring wells at the Site. A drop in dissolved oxygen, if observed after treatment, will support that the remedy is working.

MetaFix® reagents include custom formulated products for immobilization of metals, comprised of zero-valent iron (ZVI), iron sulfides, iron oxides, pH modifiers, and activated carbon. Following placement of MetaFix® into the saturated zone, a number of physical and chemical processes will combine to create geochemical conditions under which common heavy metals, such as arsenic and lead,are subjected to reduction, adsorption, precipitation, and conversion to stable mineral forms.

GeoForm® Biogeochemical Reagents are specifically designed to generate reactive iron sulfide minerals *in-situ*. GeoForm® includes the key building blocks needed, including a source of sulfate, a source of ferrous iron and electron donor to establish sulfate reducing conditions. It will serve to immobilize heavy metals via reductive precipitation and adsorption. GeoForm® Extended Release formulation provides an extended reactive life of 5-10 years or more and is ideal for long lasting reagent reactions.

The combination of MetaFix® and GeoForm® ER provides the benefits of both geochemical and biogeochemical reductive reactions that each promote the reduction and precipitation of minerals that can remove dissolved metals from solution. The primary mechanism of arsenic immobilization in soil or groundwater treated with MetaFix® is the reduction of arsenate anions to arsenite. This reduction step is facilitated by two components of MetaFix®: ZVI and iron sulfides, both of which are powerful reductants. The slow release of ferrous iron prevents the arsenic remobilization under oxic conditions by creating protective coatings on the adsorbed arsenic and precipitated arsenic mineral phases and facilitating precipitating and/or adsorption of any arsenic that is potentially mobilized under extreme changes in geochemical conditions.

GeoForm® ER also promotes the precipitation of dissolved metals by forming arsenopyrite when reducing conditions exist. GeoForm® ER consists of an extended release of organic carbon, microscale ZVI, sulfate, ferrous iron, pH buffers and nutrients.

The chemical injections proposed for the Site will consist of injecting the above described reagents into a 15-foot vertical treatment zone within the saturated subsurface (i.e. 15 ft bls to 30 ft bls) across the Site prior to mass soil excavation.

Mixing will be completed by a selected drilling subcontractor who will mix a total of approximately 70,050 pounds of MetaFix® and GeoForm® ER to create the appropriate treatment slurry.. The total approximate volume of slurry to be injected is approximately 67,182 gallons, which will be divided across 85 injection points, spaced 8 feet apart, equivalent to approximately 824 lbs per injection point. Based on work done by Evonik and similar suppliers, the injection of solids in the form of a slurry using direct push technology results in a radius of influence ranging from 6 to 12 feet, depending on the type of soil. A conservative approach using an 8-foot radius of influence has been selected for this Site.

Prior to chemical injections, baseline samples will be collected from newly installed monitoring wells along the sidewalk of Eckford Street (off-Site wells) as well as from four existing monitoring wells on-Site within the footprint of the treatment area. Notification and permit approval from any agencies, (i.e. USEPA) will be received prior to initiating the chemical injections.

During the chemical injections, the four existing on-Site monitoring wells and three newly installed off-Site wells will be monitored for water levels and water quality parameters (e.g. pH, dissolved oxygen, ORP, etc.). The existing on-Site monitoring wells will be used to assess the effective radius of influence by continuously monitoring the changes in pH, dissolved oxygen, and ORP. Adjacent property basements and the surrounding area of the Site will be monitored for any potential daylighting during the injections.

One month after the injections are completed, both the on-Site and off-Site monitoring wells will be sampled for SVOCs as well as total and dissolved metals. Subsequent, post injection sampling will be performed every three months to monitor the effectiveness of the chemical injection program.

The remedial action objective will be met by chemical treatment of COPCs. A treatability study was performed to evaluate the subsurface soils at the Site and to confirm the adequate mixture to achieve the remedial goal. The chemical injection specifications, treatability study report describing the results, and additional case studies for reference are included in **Appendix E**. The chemical injection extent is shown in **Figure 13**.

3.1.2.7 Sub-Slab Depressurization System

To mitigate potential soil vapor intrusion, an active SSDS consisting of horizontal solid and perforated piping within a gravel vapor collection layer has been designed and would be installed beneath the new building during implementation of the remedy, as shown on **Figure 14A**. The SSDS would be constructed with 4-inch, Schedule 40 (SCH40) PVC header pipes and associated 4-inch, perforated vapor collection piping within a minimum 12-inch, gas permeable aggregate ventilation layer of ¾-inch gravel. A warning device or indicator will be installed to provide notification if the system stops working properly. Additionally, four monitoring points (MPs) will be installed to demonstrate the SSDS effectiveness.

Once through the building slab, the header line would transition to a 4-inch SCH 40 steel riser equipped with a ball valve and sample port for monitoring and performance adjustments. The riser would then

manifold below the first-floor ceiling into a 4-inch SCH 40 steel riser pipe. During the completion of the construction of the building, the system will be completed with the steel riser pipe penetrating the first through seventh floor roof. All SSDS manifold piping will be clearly labeled. Typical SSDS details are provided on **Figure 14B.**

Within 30 days of SSDS startup and prior to building occupancy, three indoor air samples will be collected at the Site. The proposed indoor air sample locations are shown on **Figure 14A**.

3.1.2.8 Site Cover System

Although Track 2 does not require a cover system as an Engineering Control, a permanent Site cover system would be constructed throughout the Site if the contingent Track 4 remedy is achieved. The cover will consist of a concrete building slab and foundation elements parking. The proposed site cover system for the Track 4 scenario is depicted on **Figure 15**.

3.1.2.9 Long-Term Monitoring Well Placement

Permanent monitoring wells, GMW-11 through GMW-13, will be installed to monitor the long-term effectiveness of the chemical injection program.

3.1.3 Protection of Public Health and the Environment

This criterion is an evaluation of the remedy's ability to protect public health and the environment, and an assessment of how risks posed through each existing or potential pathway of exposure are prevented, reduced, or controlled through the removal, treatment, and implementation of ECs or ICs. Protection of public health and the environment must be achieved for approved remedial actions. The two alternatives proposed will protect human health and the environment by eliminating or reducing levels of contamination, and/or reducing potential pathways of exposure.

Alternative 1 – The remedy would protect human health and the environment through removal of contaminants above Unrestricted Use SCOs. The source of any soil vapor contamination would be removed. Groundwater use will be restricted at the Site until groundwater quality recovers.

Alternative 2 – The remedy would protect human health and the environment through removal and treatment of contaminants exceeding. RRUSCOs. The remedy would protect human health and the environment through excavation, injection and treatment of contaminants above RRUSCOs and the Site subsurface would not be an on-going source of contamination. Groundwater use will be restricted at the Site. The building and surrounding parking/sidewalk will act as a Site cover system. Depressurization and indoor air testing from three locations, within 30 days of SSDS startup, will be performed to evaluate the SSDS Operation and Maintenance (O&M).

3.1.4 Compliance with Standards, Criteria, and Guidelines (SCGs)

The proposed remedies for the Site would conform to relevant and/or applicable standards and soil cleanup objectives.

Alternative 1 demonstrates conformance by eliminating source areas through excavating contaminated soils/fill to approximately 30 feet bgs. Soils across the Site would meet UUSCOs.

Alternative 2 demonstrates conformance by eliminating source areas through the soil removal of the top 15 feet. The application of reagents through the chemical injection program reduce concentration of contaminants to below the applicable standard in depth greater than 15 feet. Groundwater would be monitored for a defined period and the details of which will be outlined in the Site Management Plan (SMP) to evaluate groundwater conditions and/or trends in groundwater quality.

The alternatives will be in compliance with applicable standards, criteria, and guidance by removing Site sources of contamination to achieve the RAOs. Under both alternatives, protection of public health and the environment will be maintained by implementing a site-specific CHASP and CAMP during the remedial action. U.S. Occupational Safety and Health Administration (OSHA) requirements for on-site construction safety will be followed by site contractors performing work.

3.1.5 Short-Term Effectiveness and Impacts

Alternative 1 - In the short-term, there would be significantly increased truck traffic and operational noise levels associated with the construction of SOE, excavation and transport of impacted material excavated to achieve a Track 1 remedy, as well as the import of backfill material required to bring the Site to construction grade.

Disposal of the excavated soil and fill of more than 10,000 cubic yards would require more than 500 20-cubic-yard trips and importing material to backfill the excavation and raise Site grades to the development elevation would require about 500 20-cubic yard trips. Implementing the Alternative 1 concept would require approximately 18 months of effort.

Alternative 2 - A Track 2 remedial excavation would remove significantly less soil, would involve less truck traffic and would occur for a shorter duration than Alternative 1. Disposal of the excavated soil and fill of approximately 5,764 cubic yards would only require approximately 288 20-cubic-yard truck trips and importing material to backfill the excavation and raise Site grades to the development elevation would not be necessary. Implementing the Alternative 2 concept would require approximately 8 months of effort.

The smaller excavation volume required and the implementation of the chemical injection program would generate less exposure to dust, odors, and potential organic vapor from the excavation and would have a shorter duration of construction-related noise, relative to Alternative 1.

Under both remedial alternatives, dust would be controlled by the on-Site application of water spray as needed and the truck inspection station to avoid off-site tracking of soil. Engineering controls, such as slowing the pace of work, applying foam and/or dust suppressant, and/or covering portions of the excavation would be used to suppress odors/dust when required. Work would be modified or stopped according to the action levels defined in the CAMP. Short term impacts are less for Alternative 2.

3.1.6 Long-Term Effectiveness and Permanence

Alternative 1 - Under Remedial Alternative 1, all impacted soil would be removed from the Site resulting in an effective and permanent long-term remedy for soils at the Site. This alternative includes removal and offsite disposal of on-Site impacted soil and thus permanently reduces the amount of impacted soil. Remedial Alternative 1 will continue to meet RAOs for soil in the future, providing a permanent long-term solution for the Site. Long-term exposure to contaminated soil vapor would be prevented by the vapor barrier system. Groundwater remediation will achieve a bulk reduction in on-Site groundwater contaminant concentrations.

Alternative 2 - The long-term effectiveness of this remedy similarly (as stated in Alternative 1) mitigates environmental risks and satisfies the objectives of the long-term effectiveness and permanence criterion.

3.1.7 Reduction of Toxicity, Mobility and Volume

This evaluation criterion assesses the remedial alternative's use of remedial technologies that permanently and significantly reduce toxicity, mobility, or volume of contaminants as their principal element. The following is the hierarchy of source removal and control measures that are to be used to remediate a Site, ranked from most preferable to least preferable: removal and/or treatment, containment, elimination of exposure and treatment of source at the point of exposure. It is preferred to use treatment or removal to reduce contaminants at a Site, reduce the total mass of toxic contaminants, cause irreversible reduction in contaminants mobility, or reduce the total volume of contaminated media.

Alternative 1 - Remedial Alternative 1 provides for a greater reduction of toxicity, mobility, and/or volume of contaminants by excavating a greater volume of material. Contaminants in on-site groundwater will be reduced overtime and the source area will be removed.

Alternative 2 - Remedial Alternative 2 provides for a reduction of toxicity and volume of contaminants in soil and groundwater through treatment from the chemical injection program as well as the excavation of Site soils to a depth of 15 ft bgs.

3.1.8 Implementability

This evaluation criterion addresses the technical and administrative feasibility of implementing an alternative and the availability of various services and materials required during its implementation, including technical feasibility of construction and operation, reliability of the selected technology, ease of undertaking remedial action, monitoring considerations, administrative feasibility (e.g., obtaining permits for remedial activities), and availability of services and materials.

Alternative 1 – The Track 1 remedy would consist primarily of excavation and backfilling with an excavator. The implementability of this remedy is low due to the challenging nature of excavating to 30 feet bgs with groundwater at 10 feet. This alternative is not feasible.

Alternative 2 – The technical feasibility of implementing the Alternative 2, Track 2 remedy is much greater than Alternative 1. Alternative 2 requires an excavation depth of 15 feet below grade across the majority of the Site. The implementability of this remedy is high due to the availability of local contractors, personnel, and suitable equipment. This alternative is considered feasible. The chemical injection program in Alternative 2 is a remediation method that utilizes well established technologies for reducing contaminant concentrations. Implementation of chemical injection program will require additional testing of soil and groundwater characteristics at the Site to select the proper reagent mixture to sufficiently reduce concentrations of contaminants at the Site.

3.1.9 Cost Effectiveness

This evaluation criterion addresses the cost of alternatives, including capital costs (such as construction costs, equipment costs, disposal costs, and engineering expenses) and Site management costs (costs incurred after remedial construction is complete) necessary to meet the continued effectiveness of a remedial action.

Alternative 1 – Based on the assumptions detailed for Alternative 1, the estimated remediation cost of a Track 1 Cleanup is about $5,144,790. This Alternative is not considered a cost-effective option because it requires excavation to approximately 30 feet bgs.

Alternative 2 – Based on the assumptions detailed for Alternative 2, the estimated cost of remediation for the Track 2 Cleanup is $3,019,240.

A breakdown of estimates costs is provided in **Appendix F.**

3.1.10 Community Acceptance

This evaluation criterion addresses community opinion and support for the remedial action. This RAWP will undergo a 45-day public comment period to provide for community input on the remedy. Alternative 2 is expected to be preferable to the community, given that it would have lesser community impacts.

3.1.11 Compatibility with Land Use

The proposed redevelopment of the Site is compatible with its current zoning. Following remediation under either Alternative 1 or Alternative 2, the Site will meet the objectives for its planned restricted-residential use.

3.1.12 Green and Sustainable Remediation

Each alternative was evaluated with respect to the green and sustainable remediation principles. An environmental footprint analysis was conducted using the SiteWise™ footprint analysis tool. The footprint calculator provides an evaluation of the alternative's impact related to greenhouse gas emissions, total energy usage, water consumption, electrical usage, onsite and offsite emissions of nitrous oxide, sulfur oxides, and particulate matter, and fatality and injury risks. Details of the assumptions used for each alternative and its components are outlined in **Appendix G**.

Using the SiteWise™ tool, Alternative 2 was determined to have the lowest environmental impact. Alternative 2's smaller excavation volume compared to Alternatives 1's excavation volume significantly reduced the onsite emissions and water consumption. The summary of the green and sustainable remediation evaluation is presented in the table below.

Green Sustainable Remediation Evaluation Summary

Evaluation Criterion	Alternative 1	Alternative 2
GHG Emissions (metric ton)	617.95	1,271.20
Total energy Used (MMBTU)	10,901.30	10,989.59
Water Consumption (gallons)	523,231.63	71,213.63
Electricity Usage (MWH)	2.77	4.65
Onsite NO_x Emissions (metric ton)	0.15	0.04
Onsite SO_x Emissions (metric ton)	0.03	0.01
Onsite PM_{10} Emissions (metric ton)	0.01	0.003

Evaluation Criterion	Alternative 1	Alternative 2
Total NO_x Emissions (metric ton)	2.51	2.94
Total SO_x Emissions (metric ton)	2.1	4.89
Total PM_{10} Emissions (metric ton)	3.28	2.40
Accident Risk Fatality	0.0005	0.0005
Accident Risk Injury	0.09	0.11

3.2 Selection of the Preferred Remedy

Utilizing the evaluation criteria, both Alternatives would be protective of human health and the environment and meet the remedy section criteria. Alternative 2 achieves all the remedial action goals established for the redevelopment project and is effective in the reduction of contaminant toxicity and volume. Alternative 2 will require the implementation of ICs and ECs, however these controls will be implementable through an SMP and EE. **Alternative 2** is the selected remedy.

3.2.1 Zoning

The proposed redevelopment project includes the construction of one new five-story residential building. The building will provide twenty-one residential units, an eight-car garage and a landscaped rear yard on-grade (at the western portion of the Site), and a cellar that will be used for bike parking and utility spaces. The proposed development will be built as-of-right and will comply with current R6A and R6B zoning.

3.2.2 Applicable Comprehensive Community Master Plans or Land Use Plans

On September 28, 2004, the Department of City Planning adopted the Greenpoint-Williamsburg Rezoning, which rezoned a 184-block in Greenpoint and Williamsburg, and is bounded generally by the East River, the Williamsburg Bridge, the Brooklyn-Queens Expressway, and McGuinness Boulevard. The Greenpoint-Williamsburg rezoning created opportunities for new housing development on underutilized and vacant lands formerly used for manufacturing. This area is no longer a concentration of industrial activity and there is a strong demand for housing. The proposed redevelopment project and selected remedy are believed to be consistent with current land use plans.

3.2.3 Surrounding Property Uses

The area surrounding the Site consists of a mix of residential and commercial properties. The proposed remedy will not interfere with the surrounding property uses and considers the short-term effects to neighboring properties.

3.2.4 Citizen Participation

Both Alternative 1 and Alternative 2 would undergo a 45-day public comment period to provide for community input on the remedy. **Alternative 2** is expected to be preferable to the community, given that it would have lesser community impacts.

A certification of mailing will be sent by the Volunteer to the NYSDEC project manager following the distribution of all Fact Sheets and notices that includes: (1) certification that the Fact Sheets were mailed,

(2) the date they were mailed; (3) a copy of the Fact Sheet, (4) a list of recipients (contact list); and (5) a statement that the repository was inspected on (specific date) and that it contained all of the applicable project documents.

No changes will be made to approved Fact Sheets authorized for release by NYSDEC without written consent of the NYSDEC. The Citizen Participation Plan prepared for this project is available on DEC locator and at document repositories listed below**.**

Brooklyn Public Library - Greenpoint Branch
107 Norman Ave. at Leonard St.
Brooklyn, NY 11222
(718) 389-4394

Brooklyn Community Board 1
435 Graham Avenue,
Brooklyn, NY 11211
(718) 389-0009
bk01@cb.nyc.gov

3.2.5 Environmental Justice

The Site is located within a potential environmental justice area. The NYSDEC defines a potential environmental justice area as a "minority or low-income community that may bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies."

Environmental justice means the fair treatment and meaningful involvement of all people regardless of race, color, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. Since the construction process will include safety measures to protect the public, such as a CAMP, and the redevelopment plan will include engineering controls, the remedy poses no environmental justice concerns. Since the goal of the remedy will achieve the applicable SCOs and will remove contaminated materials from the community, the remedy poses no environmental justice concerns.

3.2.6 Proximity to Natural Resources

The proposed remedy will not negatively impact natural resources

3.2.7 Off-Site Groundwater Impacts

The proposed remedy will improve potential off-site groundwater impacts by removing contaminated soil and treating any remaining contaminants. The proposed remedy will not affect natural resources other than to potentially improve the quality of groundwater on a local basis.

3.2.8 Proximity to Floodplains

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) (Map 3604970202F, effective on 9/5/2007**)** , the Site is not located within a flood plain.

3.2.9 Current Institutional Controls

There are no known Institutional Controls on the Site.

3.3 Summary of selected Remedial Actions

Alternative 2 was selected based on the evaluation of each alternative relative to the eight criteria, the existing and anticipated redevelopment and use of the Site in the near future, the absence and anticipated continued absence of groundwater use, and the potential exposure scenarios for the identified impacts. The proposed remedial action will consist of a Track 2 with contingent Track 4: Restricted-Residential Use as follows;

1. Green and Sustainable Remedial (GSR) Goals will continue to be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:
   - Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
   - Reducing direct and indirect greenhouse gas and other emissions;
   - Increasing energy efficiency and minimizing use of non-renewable energy;
   - Conserving and efficiently managing resources and materials;
   - Reducing waste, increasing recycling, and increasing reuse of materials that would otherwise be considered a waste;
   - Fostering green and healthy communities and working landscapes that balance ecological, economic, and social goals; and
   - Integrating the remedy with the end-use where possible and encouraging green and sustainable re-development.
   - Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

   As part of the remedial program, to evaluate the remedial alternatives with respect to green and sustainable remediation principles, a *SiteWise*™ environmental footprint analysis has been completed. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use for the proposed remedy have been estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial program, as appropriate. The project will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics that have been established by the *SiteWise*™ model will be tracked during implementation of the remedial action and reported in the FER, including a comparison to the goals established during the remedial program.

Additionally, the remedial program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

2. Development and implementation of a CHASP CAMP for the protection of on-site workers, community/residents, and the environmental during remediation and construction activities.

3. Chemical injections will be used to treat dissolved metals (i.e. arsenic) and contaminants below the excavation footprint within saturated soils. The injections will be performed to treat the vertical extent of contamination identified in the RI from depths of 15 ft bls to 30 ft bls across Site footprint. MetaFix® I-7A and GeoForm ER® will be injected into the subsurface to stabilize and degrade the targeted metals. After the implementation of the chemical injections, a groundwater monitoring program will be implemented, for a minimum of two rounds, to evaluate the effectiveness of the remedy. Additional information is described above in Section 3.1.2.6 and in Appendix E.

4. Implementation of soil erosion, pollution, and sediment control measures in compliance with applicable laws and regulations.

5. Support of Excavation, Excavation, stockpiling, off-site transport, and disposal of the following:
The terminal depth of excavation is 15 feet from sidewalk elevation, or to approximate elevation 0 NAVD88, across the entire Site (approximately 5,764 cubic yards [CY]) for Track 2. It should be noted that existing surface grade varies widely across the Site due to a former cellar excavation (**Figure 11B)**. The Site will default to the contingent Track 4 if excavation to a terminal depth of 15 feet is unfeasible due to unforeseen conditions.

6. Screening for indications of contamination (by visual means, odor, and monitoring with a photoionization detector [PID] of excavated soil during any intrusive Site work.

7. Localized dewatering will occur in areas of the Site where excavation to 15 feet is proposed. A preliminary dewatering permit from NYCDEP has been received and is included in Appendix Q.

8. Collection and analysis of documentation endpoint soil samples, if the terminal depth of 15 feet is not achieved, to document soil quality remaining after the remedial excavation is complete. Endpoint soil samples will be collected and analyzed for the following:
    - Target Compound List (TCL) VOC plus 10 Tentatively Identified Compounds by USEPA Method 8260;
    - TCL SVOC plus 20 TICs by USEPA Method 8270;
    - Target Analyte List (TAL) Metals by USEPA Method 6010C/6020/7471B; Total Cyanide by USEPA method 9010/9012; Mercury by USEPA method 7471.
    - TCL Pesticides by USEPA Method 8081/ Herbicides by USEPA Method 8151;
    - PCBs by USEPA Method 8082A; and
    - PFAS by USEPA Method 1633.

9. Removal and decommissioning of any encountered USTs and/or associated appurtenances (e.g., fill lines, vent line, and electrical conduit) and disposal off-site, in accordance with DER-10, 6 New York Codes, Rules, and Regulations (NYCRR) Part 613.9, NYSDEC Commissioner Policy 51 (CP-51), and other applicable NYSDEC UST closure requirements.

10. Appropriate off-Site disposal of all material removed from the Site in accordance with all Federal, State, and local rules and regulations for handling, transport, and disposal.

11. Import of materials to be used for backfill and cover in compliance with 6 NYCRR § 375-6.7(d), the established lower of PGW SCOs or Restricted Residential SCOs, and Federal, State, and local rules and regulations for handling and transport of material. A Request to Import / Reuse Soil form will be submitted to NYSDEC for approval prior to importing the material.

12. Construction and maintenance of a cover system consisting of a 8-inch clean granular sub-base beneath the building footprint, or 4-inch placed concrete on a 6-inch sub-base in hardscaped areas, a vapor barrier or waterproofing barrier, as an element of construction, consisting of a nominal 20-mil Class A (Stego® Wrap 20-mil or equivalent), topped with 6-inch minimum concrete slab.

13. Construction and operation of a ground level parking garage with high volume air exchange in conformance with NYC Building Code.

14. Installation of a active SSDS in areas where groundwater is not encountered for the mitigation of contaminated soil vapors from off-site. The operation, monitoring, and maintenance requirements for the SSDS will be described in a Site Management Plan (SMP).

15. Completion of a survey to document the extents of the permanent and temporary components of the Site cover system.

16. Recording of an Environmental Easement (EE), including Institutional Controls (ICs), to prevent future exposure to any residual contamination remaining at the Site.

17. Publication of a Site Management Plan for long term management of residual contamination as required by the Environmental Easement, including plans for: (1) Institutional Controls, (2) monitoring, (3) operation and maintenance and (4) reporting.

18. All responsibilities associated with the Remedial Action, including permitting requirements and pretreatment requirements, will be addressed in accordance with all applicable Federal, State, and local rules and regulations.

4.0 REMEDIAL ACTION PROGRAM

The remediation of the Site is subject to various guidance documents and rules and regulations from various departments within the NYSDEC and NYSDOH and others.

4.1 Governing Documents

The primary documents governing the remedial action are summarized in this section.

4.1.1 Standards, Criteria and Guidance (SCGs)

The following standards, criteria, and guidance are typically applicable to Remedial Action projects in New York State, and will be consulted and adhered to as applicable:

- 6 NYCRR Part 364 - NYS Waste Transporter Permits
- 6 NYCRR Part 360 - NYS Solid Waste Management Requirements
- 6 NYCRR Part 371 - Identification and Listing of Hazardous Wastes
- 6 NYCRR Part 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities
- 6 NYCRR Subpart 374-2 - Standards for the Management of Used Oil
- 6 NYCRR Part 375 - Environmental Remediation Programs
- 6 NYCRR Part 376 - Land Disposal Restrictions
- 6 NYCRR Part 613 - Petroleum Bulk Storage
- 6 NYCRR Part 661 - Tidal Wetlands - Land Use Regulations
- 6 NYCRR Part 663 - Freshwater Wetlands - Permit Requirements
- 6 NYCRR Parts 700-706 – Classes and Standards of Quality and Purity
- 6 NYCRR Part 750 - State Pollutant Discharge Elimination System (SPDES) Permits
- 29 CFR Part 1910.120 - Hazardous Waste Operations and Emergency Response
- 40 CFR Part 144 - Underground Injection Control Program
- CP-43 - Commissioner Policy on Groundwater Monitoring Well Decommissioning (December 2009)
- CP-49 – Climate Change and DEC Action (2022)
- CP-51- Soil Cleanup Guidance (2010)
- CP-60 – Screening and Assessment of Contaminated Sediment (2014)
- DER-2 - Making Changes to Selected Remedies (April 2008)
- DER-4 – Management of Coal Tar Waste & Coal Tar Contaminated Soils from Manufactured Gas Plants (2001)
- DER-10 – Technical Guidance for Site Investigation and Remediation (2010)
- DER-13 – Strategy for Evaluating Soil Vapor Intrusion at Remedial Sites in New York (2006)
- DER-23 – Citizen Participation Handbook for Remedial Programs (2010)
- DER-31 – Green Remediation (2010)
- DER-32 – Brownfield Cleanup Program Applications and Agreements (2017)
- DER-33 – Guide to Drafting and Recording Institutional Controls (2010)
- TAGM 3028 - "Contained In" Criteria for Environmental Media: Soil Action Levels (August 1997)
- TOGS 1.1.1 - Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations (1998, Addenda 2000, 2004 and 2023)

- TOGS 1.3.8 - New Discharges to Publicly Owned Treatment Works (1994)
- TOGS 2.1.2 - Underground Injection/Recirculation (UIR) at Groundwater Remediation Sites (1990)
- New York State Standards and Specifications for Erosion and Sediment Control (2016)
- DAR-1 (formerly Air Guide 1) - Guidelines for the Control of Toxic Ambient Air Contaminants (1997)
- USEPA OSWER Directive 9200.4-17 - Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites (December 1997)
- New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan
- NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (2006)
- New York State Climate Act (2019)
- NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (2023)

4.1.2 Green and Sustainable Remediation and Climate Resiliency

According to NYSDEC DER-31 Green Remediation guidance document, green Remediation approaches should be considered during site remediation. GZA, the Volunteer and its subcontractors plan to incorporate sustainable practices with the goal to reduce the environmental footprint of the remediation efforts. In accordance with ASTM E2893-16e1 the project GSR goals included the following:

- To minimize total energy use and maximize use of renewable energy,
- To minimize air pollutants and greenhouse gas emissions,
- To minimize water, use and impact to water resources,
- To reduce, reuse and recycle materials and waste; and
- To protect land and ecosystems

GZA plans to incorporate best management practices to lower the environmental footprint during the remediation phase of the project. GZA, the Volunteer, and the subcontractors will incorporate the following practicable measures during the implementation of the remedy:

1. Limit the use and idling of generators, excavation equipment, and vehicles to reduce emissions.
2. Minimize truck travel for disposal of waste generated during the implementation of the remedy by selecting local disposal facilities.
3. Manage onsite resources and materials efficiently.
4. Use local subcontractors to minimize vehicle emissions during commute.
5. Request that subcontractors use clean diesel equipment to reduce emissions.
6. Request project staff and subcontractors to use public transportation to the extent practicable.
7. Reduce waste, increase recycling, and increase reuse of materials that otherwise would be considered waste.
8. Implement an *in-situ* remediation option for groundwater rather than an extraction and treatment option.

As required, a Climate screen checklist and an environmental footprint analysis has been completed for each alternative and are attached in **Appendix G**.

4.1.3 Site Specific Construction Health & Safety Plan (HASP)

All remedial work performed under this plan will be in full compliance with governmental requirements, including Site and worker safety requirements mandated by OSHA.

During remedial activities, a representative of GZA will be present for additional health and safety observation. Remedial work performed under this work plan will follow applicable health and safety laws and regulations, including Site and OSHA worker safety requirements and Hazardous Waste Operations and Emergency Response (HAZWOPER) requirements. Confined space entry, if any, will comply with OSHA requirements and industry standards and will address potential health and safety risks. The parties performing the remedial construction work will document that performance of the work follows the HASP and applicable laws and regulations. The CHASP pertains to remedial and invasive work performed at the Site until the issuance of the notice of completion (NOC). The CHASP is included as **Appendix D**.

Field personnel involved in remedial excavation activities will participate in training required under 29 CFR 1910.120, including 40-hour Hazardous Waste Operations and Response Training (HAZWOPER) and annual 8-hour refresher training. A designated Site Safety Officer will be responsible for maintaining workers training records. Other intrusive site work training requirements will be evaluated for chemical exposures during the Job Hazard Analyses.

Personnel entering any remediation work area (exclusion zone) will be trained in the provisions of the CHASP and be required to sign a CHASP acknowledgment form. Site-specific training will be provided to field personnel and additional safety training may be added depending on the tasks performed. Emergency telephone numbers will be posted at the Site location before any remedial 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. Meetings will be documented in a logbook or other specific form.

An emergency contact sheet with names and phone numbers is included in the CHASP. That document will define the specific project contacts for use in case of emergency.

All remedial work performed under this plan will be in full compliance with governmental requirements, including Site and worker safety requirements mandated by Federal OSHA.

The Volunteer and associated parties preparing the remedial documents submitted to the State and those performing the construction work, are completely responsible for the preparation of an appropriate Health and Safety Plan and for the appropriate performance of work according to that plan and applicable laws.

The CHASP and requirements defined in this RAWP pertain to all remedial and invasive work performed at the Site until the issuance of a Certificate of Completion (COC).

4.1.4 Quality Assurance Project Plan (QAPP)

A QAPP has been prepared in accordance with DER-10 that describes the quality control components and will ensure the proposed remedy accomplishes the remedial action objectives. The QAPP has been included as **Appendix H**.

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4.1.5 Construction Quality Assurance Plan (CQAP)

A Construction Quality Assurance Plan (CQAP) has been prepared that describes the quality control components that will ensure that the selected remedial alternative accomplishes the remedial goals and is completed in accordance with the design specifications. Because portions of the remedy will be accomplished concurrently with building construction, the contractor and construction manager will have the primary responsibility to provide construction quality. A list of engineering personnel involved with the implementation of the CQAP and procedures that will be carried out by the remedial engineering team are listed in Section 4.2.1. The CQAP is provided as **Appendix I**.

4.1.6 Soil/Materials Management Plan (SMMP)

A Soils/Materials Management Plan (SMMP) has been prepared that includes detailed plans for managing soils/materials that are disturbed at the Site, including excavation, handling, storage, transport, and disposal. The SMMP also includes controls that will be applied to these efforts to ensure conformance with all applicable federal, state, and local laws and regulations. The SMMP is included as Section 5.4 in this RAWP and appended as **Appendix J**.

4.1.7 Stormwater Pollution Prevention Plan (SWPPP)

Erosion and sediment controls will be implemented as necessary in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control. Best management practices for soil erosion and sediment control will be selected to minimize erosion and sedimentation offsite from the onset of remediation to the completion of development. A Stormwater Pollution Prevention Plan (SWPPP) is not necessary because the project will disturb less than 20,000 square feet.

4.1.8 Community Air Monitoring Plan (CAMP)

Continuous air monitoring will be required during ground intrusive activities and other activities where equipment is disturbing the ground surface. Ground intrusive activities include, but are not limited to, soil/fill excavation and handling, test pitting or trenching, grading of existing Site soils and the installation of soil borings, or monitoring wells. The CAMP is provided in **Appendix K**.

<u>VOC Monitoring, Response Levels, and Actions</u>

VOCs will be monitored at the Site perimeter on a continuous basis during earthwork activities unless otherwise specified in the CAMP. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. A central computer system will receive information from the meteorological system and compute a two-minute average wind speed and direction value. The VOC monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for a 15-minute average,

work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors will be identified, corrective actions will be taken to abate emissions, and monitoring will be continued. After these steps, work activities will resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet - is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shut down until the source of the problem is identified and corrective action is taken to reduce organic vapor levels.

4. Fifteen-minute readings will be recorded and be available for State (NYSDEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored at the Site perimeter and in work zones on a continuous basis during earthwork. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities. Visible dust from the work area will trigger the initiation of dust suppression procedures.

1. If the downwind PM-10 particulate level is 100 ug/m3 greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 ug/m3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 ug/m3 above the upwind level, work will be stopped, and a re-evaluation of activities initiated. Work will resume when dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 ug/m3 of the upwind level and in preventing visible dust migration.

Readings will be recorded and provided to the NYSDEC and NYSDOH Project Managers weekly, at a minimum, and any CAMP exceedances will be reported the same day, or next business day, along with the reason for exceedance, the corrective action and it’s effectiveness.

4.1.9 Contractors Site Operations Plan (SOP);

The Remedial Engineer has reviewed all plans and submittals for this remedial project (including those listed above and contractor and sub-contractor document submittals) and confirms that they comply with this RAWP. The Remedial Engineer is responsible to ensure that all later document submittals for this remedial project, including contractor and sub-contractor document submittals, comply with this RAWP. All remedial documents will be submitted to NYSDEC and NYSDOH in a timely manner and prior to the start of work.

4.1.10 Citizen Participation Plan

A certification of mailing will be sent to the NYSDEC project manager following the distribution of all Fact Sheets and notices that includes: (1) certification that the Fact Sheets were mailed, (2) the date they were mailed; (3) a copy of the Fact Sheet, (4) a list of recipients (contact list); and (5) a statement that the repository was inspected on (specific date) and that it contained all of applicable project documents.

No changes will be made to the approved Fact Sheets authorized for release by NYSDEC without written consent of the NYSDEC. No other information, such as brochures and flyers, will be included with the Fact Sheet mailing. The approved Citizen Participation Plan for this project is attached in **Appendix L**. Document repositories have been established at the following locations and contain all applicable project documents:

Brooklyn Public Library - Greenpoint Branch
107 Norman Ave. at Leonard St.
Brooklyn, NY 11222
(718) 389-4394

Brooklyn Community Board 1
435 Graham Avenue,
Brooklyn, NY 11211
(718) 389-0009
bk01@cb.nyc.gov

In addition, an electronic repository can be accessed via DEC Info Locator at the following link: https://extapps.dec.ny.gov/data/DecDocs/C224168/

4.2 General Remedial construction information

4.2.1 Project Organization

The Principal personnel who will participate in the remedial action include staff of Tyll Engineering and Consulting, P.C. and GZA GeoEnvironmental as the Environmental Consultant. Subcontractors will be identified upon acceptance of the RAWP:

Principal personnel who will participate in the remedial action include the following:

- Volunteer: 55 Eckford St LLC
- Remedial Engineer – Karen Tyll, PE

- Qualified Environmental Professional – Victoria Whelan, PG
- Project Manager – Ronald A. Lombino II
- Architect of Record: INOA Architecture
- Environmental Consultant: GZA GeoEnvironmental of New York
- General Contractor: TBD
- Transport and Disposal Contractor: TBD

An organization chart is included in **Figure 16**. Resumes of key personnel are included in **Appendix M**.

4.2.2 Remedial Engineer

The Remedial Engineer for this project will be Karen Tyll, P.E of Tyll Engineering and Consulting PC. The Remedial Engineer is a registered professional engineer licensed by the State of New York. The Remedial Engineer will have primary direct responsibility for implementation of the remedial program for the 55 Eckford St LLC Site (Site No. C224168). The Remedial Engineer will certify in the FER that the remedial activities were observed by qualified environmental professionals under her supervision and that the remediation requirements set forth in this Remedial Action Work Plan and any other relevant provisions of ECL 27-1419 have been achieved in full conformance with that Plan. Other Remedial Engineer certification requirements are listed later in this RAWP.

The Remedial Engineer will coordinate the work of other contractors and subcontractors involved in all aspects of remedial construction, including soil excavation, stockpiling, characterization, removal and disposal, air monitoring, emergency spill response services, import of back fill material, and management of waste transport and disposal. The Remedial Engineer will be responsible for all appropriate communication with NYSDEC and NYSDOH.

The Remedial Engineer will review all pre-remedial plans submitted by contractors for compliance with this RAWP and will certify compliance in the FER.

The Remedial Engineer will provide the certifications listed in Section 10.1 in the FER.

4.2.3 Remedial Action Construction Schedule

A schedule for the major elements of the remedial construction and the redevelopment construction are presented below and included as **Appendix N**.

4.2.4 Work Hours

The hours of operation of remedial construction will conform to the NYC DOB construction code requirements or according to specific variances issued by that agency. NYSDEC will be notified by the Volunteer of any variances issued by DOB. NYSDEC reserves the right to deny alternate remedial construction hours.

4.2.5 Site Security

Security measures including a locked 8-foot-high construction fence, and 24-hour security will minimize potential exposure to site trespassers. The fence will be maintained as required and secured at the end of each work day.

4.2.6 Traffic Control

Drivers of trucks leaving the Site with soil/fill will be instructed to proceed without stopping in the vicinity of the Site to prevent neighborhood impacts. Drivers of trucks will follow the New York City Department of Transportation (NYC DOT) Truck Route Network as defined in Section 4-13 (pdf) of the New York City Traffic Rules.

4.2.7 Contingency Plan

The General Contractor will provide contingency plans that identify key operational decision points and the expected completion date of each activity. The contingency plan will identify the critical path and establish when a contingency will be implemented.

4.2.8 Worker Training and Monitoring

Site workers will be required, at a minimum, to have completed 29 CFR 1910.120 HAZWOPER, and NYC Site Safety Training (Local Law 196), and medical monitoring for Site workers.

4.2.9 Agency Approvals

The Volunteer has addressed State Environmental Quality Review Act (SEQRA) requirements for this Site. All permits or government approvals required for remedial construction have been, or will be, obtained prior to the start of remedial construction.

The planned end use for the Site is in conformance with the current zoning for the property as determined by New York City Department of City Planning. Zoning designations will be provided to the NYSDEC prior to issuance of a COC. A COC will not be issued for the project unless conformance with zoning designation is demonstrated.

This list includes a citation of the law, statute, or code to be complied with, the originating agency, and a contact name and phone number in that agency. This list will be updated in the FER.

4.2.10 NYSDEC BCP Signage

A project sign is not required for this Site.

4.2.11 Pre-Construction Meeting with NYSDEC

A pre-construction meeting with the NYSDEC will take place prior to the start of any major construction activities or as required by the NYSDEC.

4.2.12 Emergency Contact Information

An emergency contact sheet with names and phone numbers is included in the HASP. That document will define the specific project contacts for use by NYSDEC and NYSDOH in case of a day or night emergency.

4.2.13 Remedial Action Costs

The total estimated cost of the Remedial Action is approximately $3,019,240. An itemized and detailed summary of estimated costs for all remedial activity is attached as **Appendix F**. This will be revised based on actual costs and submitted as an Appendix to the FER.

4.3 Site Preparation

The following sections describe the Site preparation activities associated with the preferred remedy for the Site.

4.3.1 Mobilization

Mobilization will be conducted as necessary for each phase of work at the Site. Mobilization includes field personnel orientation, equipment mobilization (including securing sampling, dust control and decontamination equipment needed for the remedial action), marking/staking sampling locations and utility mark-outs. Each field team member will attend an orientation meeting to become familiar with the general operation of the Site, health and safety requirements, and field procedures.

4.3.2 Monitoring Well / Vapor Probe Decommissioning

Existing groundwater monitoring wells will be properly decommissioned during excavation and after the remedy is implemented. Post remedial monitoring wells will be installed to monitor the effectiveness of the injections and sampled for a minimum of two rounds.

4.3.3 Erosion and Sedimentation Controls

Soil erosion and sediment control measures for management of storm water will be installed in accordance with the New York Guidelines for Urban Erosion and Sediment Control. Straw/haybales, coir wattles and/or silt fence will be placed by the remedial contractor at locations surrounding excavation areas and within the perimeter fencing as needed, to control stormwater runoff and surface water from exiting the excavation. These control measures will be installed prior to initiating the soil excavation.

4.3.4 Stabilized Construction Entrance(s)

Stabilized construction entrances will be installed at points of entry and egress from the Site to prevent the tracking of sediment onto public roadways. Construction traffic must enter and exit the Site at the stabilized

entrances. Measures will be taken to minimize construction and Site vehicles coming into contact with contaminated soils. If construction or Site vehicles come into contact with contaminated soils, steps will be taken so that vehicles departing the Site will not track soil, fill or debris off-Site onto roadways. Such actions may include the use of water, cleaning asphalt or concrete roads, using stone or other aggregate-based egress paths between the truck inspection station and the property exit, and frequently placing additional aggregate on filter fabric to maintain a minimum thickness. Periodic inspections and needed maintenance of entrances will be performed after substantial rainfall events. Adjacent roadways will be kept clean of project related soils, fill, and debris.

4.3.5 Utility Marker and Easements Layout

The Volunteer and its contractors are solely responsible for the identification of utilities that might be affected by work under the RAWP and implementation of all required, appropriate, or necessary health and safety measures during performance of work under this RAWP. The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under this RAWP. The Volunteer and its contractors must obtain any local, State or Federal permits or approvals pertinent to such work that may be required to perform work under this RAWP. Approval of this RAWP by NYSDEC does not constitute satisfaction of these requirements.

The presence of utilities and easements on the Site has been investigated by the Remedial Engineer. It has been determined that no risk or impediment to the planned work under this RAWP is posed by utilities or easements on the Site.

4.3.6 Sheeting and Shoring

Appropriate management of structural stability of on-Site or off-Site structures during on-Site activities include excavation is the sole responsibility of the Volunteer and its contractors. The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under this RAWP. The Volunteer and its contractors must obtain any local, State or Federal permits or approvals that may be required to perform work under this RAWP. Further, the Volunteer and its contractors are solely responsible for the implementation of all required, appropriate, or necessary health and safety measures during performance of work under the approved RAWP.

4.3.7 Equipment and Material Staging

Equipment and materials will be stored and staged in a manner that complies with applicable laws and regulations. The location of proposed equipment and material staging areas, truck inspection station, stockpile areas, and other pertinent remedial management features will remain on-Site. It is anticipated that equipment and material staging areas and stockpile areas will be temporary and placed in the immediate vicinity of the work area(s).

4.3.8 Decontamination Area

An outbound-truck inspection station and equipment decontamination pad will be set up as decontamination area close to the Site exit. Before exiting the Site, any trucks, equipment, and/or personnel that may come in contact with impacted materials during remediation will be required to stop at the truck inspection station/decontamination pad and will be examined for evidence of impacted soil. For each truck, the undercarriage, body, and wheels will be inspected and ensure that the material is covered with tarp prior to leaving the Site. In addition, outbound-truck inspection and soil removal will also be performed close to

the loading area so that removed soil can be managed within the area of origin and limit soiling on-Site roadways. Brooms, shovels, and potable water will be utilized for the removal of soil from vehicles and equipment, as necessary.

4.3.9 Site Fencing

A construction fence will be erected around the entire property as required by NYC DOB. The fence will be maintained as required and secured at the end of each field day.

4.3.10 Odor, Dust, and Noise Control

Measures to limit off-Site odor and dust nuisances will be taken, as needed. Dust will be managed by the application of physical covers, by limiting the drop height of soil material, by cleaning of equipment leaving the Site, and by water sprays. Odors will be controlled by limiting the area of open excavations. If nuisance odors are observed or reported, physical covers and/or spray foams will be employed. As described in the SMMP (see **Appendix J**), GZA will closely monitor for the presence of odors, dust, and other nuisances during the RAWP.

Odor controls will be employed to prevent on- and off-Site odor nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) use of odor suppressants to cover exposed odorous soils. If nuisance odors develop and cannot otherwise be controlled, additional means to eliminate them will include: (d) direct load-out of soils to trucks for off-Site disposal; and (e) use of chemical odorant suppressants in spray or misting systems. The proposed odor suppressant for this Site is Rusmar AC-645 Long-Duration Foam, or an approved equivalent. The Contractor who uses Rusmar AC-645 Long-Duration Foam, or an approved equivalent for odor suppression will fully understand the manufacturer's specifications prior to usage.

This odor control plan is capable of controlling emissions of nuisance odors. If nuisance odors are identified, the source of odors will be identified and corrected. If necessary, to identify or correct a nuisance odor source, work will be temporarily halted and will not resume until such nuisance odors have been identified and abated. NYSDEC will be notified of all odor complaint events on a daily basis in the Daily Reports or via email within 24 hours of the event.

4.3.11 Demobilization

Demobilization will include:

- As necessary, restoration of temporary access areas and areas that may have been disturbed to accommodate support areas (e.g., staging areas, decontamination areas, storage areas, temporary water management areas, and access area);
- Removal of sediment from erosion control measures and truck wash and the disposal of materials in accordance with applicable laws and regulations;
- Equipment decontamination; and
- General refuse collection and disposal.

Equipment will be decontaminated and demobilized at the completion of all field activities. Investigation equipment and large equipment (e.g., soil excavators) will be washed at the truck inspection station, as necessary. In addition, all investigation and remediation derived waste will be appropriately disposed.

4.4 Reporting

All daily and monthly reports will be included in the FER.

4.4.1 Daily Reports

Daily reports will be submitted to NYSDEC and NYSDOH Project Managers by noon of each day following the reporting period and will include:

- An update of progress made during the reporting day;
- Locations of work and quantities of material imported and exported from the Site;
- References to alpha-numeric map for Site activities;
- A summary of any and all complaints with relevant details (names, phone numbers);
- A summary of CAMP finding, including excursions;
- Photographs of site activities;
- An explanation of notable Site conditions.

Daily reports are not intended to be the mode of communication for notification to the NYSDEC of emergencies (accident, spill), requests for changes to the RAWP or other sensitive or time critical information. However, such conditions must also be included in the daily reports. Emergency conditions and changes to the RAWP will be addressed directly to NYSDEC Project Manager via personal communication.

Daily reports will include a description of daily activities keyed to an alpha-numeric map for the Site that identifies work areas. These reports will include a summary of CAMP results, odor and dust excursions and corrective actions, and all complaints received from the public.

A Site map that shows a predefined alpha-numeric grid for use in identifying locations described in reports submitted to NYSDEC is attached in **Figure 12**.

The NYSDEC assigned project number will appear on all reports.

4.4.2 Monthly Reports

Monthly reports will be submitted to NYSDEC and NYSDOH Project Managers by the 10th day of each month following the reporting period and will include:

- Activities relative to the Site during the previous reporting period and those anticipated for the next reporting period, including a quantitative presentation of work performed;
- Description of approved activity modifications, including changes of work scope and/or schedule;
- Sampling results received following internal data review and validation, as applicable; and,
- An update of the remedial schedule including the percentage of project completion, unresolved delays encountered or anticipated that may affect the future schedule, and efforts made to mitigate such delays.

- Tracking of GSR metrics determined during the design process should be included in monthly reports.

4.4.3 Other Reporting

Photographs will be taken of all remedial activities and submitted to NYSDEC in digital (JPEG) format. Photos will illustrate all remedial program elements and will be of acceptable quality. Representative photos of the Site prior to any Remedial Actions will be provided. Representative photos will be provided of each contaminant source, source area and Site structures before, during and after remediation. Photos will be included in the daily reports as needed, and a comprehensive collection of photos will be included in the FER.

Progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the FER, including a comparison to the goals established during the remedial program. Regular updates to the metrics used (SEFA, SiteWise™ or otherwise approved method) should be included.

The Climate Screening process and results will be documented in the form of a completed checklist and brief letter report. If the Climate Screening results indicate that a CVA is necessary, a complete CVA Report will be developed. The CVA Report will be included as an Appendix or Attachment in relevant documents and/or submitted as a standalone report.

Job-site record keeping for all remedial work will be appropriately documented. These records will be maintained on-Site at all times during the project and be available for inspection by NYSDEC and NYSDOH staff.

4.4.4 Complaint Management Plan

All complaints from citizens will be promptly reported to the NYSDEC. Complaints will be addressed, and outcomes will also be reported to NYSDEC in daily reports. Notices to NYSDEC will include the nature of the complaint, the party providing the complaint, and the actions taken to resolve any problems

4.4.5 Deviations from the Remedial Action Work Plan

Changes to the RAWP will be presented in writing to the NYSDEC Project Manager for written approval prior to implementation and will be documented in daily reports and reported in the FER. The process to be followed if there are any deviations from the RAWP will include a written request for approval for the change from NYSDEC noting the following:

- Reasons for deviating from the approved RAWP;
- Effect of the deviations on overall remedy; and
- Determination that the remedial action with the deviation(s) is protective of public health and the environment.

Notification will be provided to the NYSDEC by telephone for conditions requiring immediate action (e.g., conditions judged to be a danger to on-site personnel or the surrounding community).

5.0 REMEDIAL ACTION: MATERIAL REMOVED FROM SITE

The QHHEA (see **Section 2.6.1**) identified soil and groundwater as the impacted media and contaminated soil as the primary source of COPCs. The SMP will outline soil and groundwater handling practices to minimize exposure to COPCs. Extracted groundwater will be containerized and treated, as necessary. The groundwater will be extracted through the use of drainage sumps, perimeter well points, or similar system as required by the dewatering design. The water from the drainage pumps will be pumped to either an on-Site wastewater storage tank or an on-Site treatment system. The water will be periodically sampled, as required by the NYCDEP requirements and/or permit, prior to discharge to the city sewer system. Soil vapor will be addressed by soil removals and engineering controls incorporated into future site buildings. The SMP will outline soil, soil vapor, and groundwater handling practices to minimize exposure Site soil is identified as the primary impacted media and the primary potential sources of COPCs. Documentation endpoint soil samples will be collected to evaluate the performance of the remedy.

5.1 Soil Cleanup Objectives

The Soil Cleanup Objectives for this Site are listed in **Table 13.**

Remedial Alternative 1 will be a Track 1 remedy and Remedial Alternative 2 will be a Track 2 with contingent Track 4 remedy. Soil and materials management on-Site and off-Site will be conducted in accordance with the Soil/Materials Management Plan as described below.

Management of excavated materials will include temporarily stockpiling and segregating materials in accordance with defined material types and to limit comingling of contaminated material and non-contaminated material (see **Appendix J**, Soils/Materials Management Plan (SMMP) for details). Transportation and off-Site disposal of excavated soils at permitted facilities will occur in accordance with applicable state and federal requirements for handling, transport, and disposal. Sampling and analysis of excavated media, as required by disposal facilities, will be conducted. Soils will be either live loaded into trucks or placed in temporary stockpiles near the excavation area and subsequently placed in trucks for off-site disposal on the same or next day. The SMMP provides additional detail on soil management procedures including soil stockpiling, materials excavation and load out, off-site materials transport, dust control measures, etc.

Tables 2 through 6 summarize all soil samples that exceed the SCOs proposed for this Remedial Action. A spider map that shows all soil samples that exceed the SCOs proposed for this Remedial Action is shown on **Figures 6A, 6B, 6C1, and 6C2.**

No UST closures are anticipated during the remedial action. However, if encountered, UST closures will, at a minimum, conform to criteria discussed in Section 3.1.1.4.

5.2 Remedial Performance Evaluation

Sampling across the post excavation depth (0-15 feet bgs) will be performed and remedial endpoint soil samples will be collected during the remedial action implementation.

5.2.1 End-Point Sampling Frequency

In accordance with Section 5.4 of DER-10, the documentation endpoint samples are proposed to be collected as follows:

- Endpoint documentation samples will be collected at the bottom of the excavation (15 ft bgs) at a frequency of one sample per every 900 square feet.
- The Site is 0.238 acres in size (approximately 10,376 SF) and will be divided into 12 grid cells for the collection of twelve (12) bottom endpoint for laboratory analyses.

The documentation endpoint soil samples are shown in **Figure 12**.

5.2.2 Methodology

Documentation endpoint soil samples will be collected at the end of remedial excavation (at 15 ft bgs) across the Site.

Discrete soil samples will be collected using 5-gram Terracore™ samplers. Soil duplicates will not be mixed but collected within as close proximity of each other as site conditions permitted. Additional sample volume will be collected for samples slated for quality assurance/quality control (i.e. matrix spike / matrix spike duplicates [MS/MSD] analysis). Composite samples will be collected using a stainless-steel trowel.

Soil samples will be collected in laboratory provided containers and transported to a NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory, under standard chain-of-custody procedures for analysis. Once the sample containers are filled, they will be immediately placed in the cooler with ice (in Ziploc plastic bags to prevent leaking) or synthetic ice packs to maintain the samples at below 4^{o}C.

5.2.3 Reporting of Results

Endpoint sample results will be compared to NYSDEC Part 375 UUSCOs, RRUSCOs, and PGWSCOs and will be regularly submitted to NYSDEC and NYSDOH.

5.2.4 QA/QC

A QAPP (Section 4.1.4) was prepared to ensure that field sampling procedures, selected analytical methods, and chemical analytical data are of sufficient quality to meet the intended usage. This RA sampling program has been designed to evaluate the groundwater and soil vapor during the RA phase.

The fundamental QA objective with respect to accuracy, precision, and sensitivity of analysis for laboratory analytical data is to achieve the QC acceptance of the analytical protocol. The accuracy, precision and completeness requirements will be addressed by the laboratory for the data generated.

GZA will collect Quality Assurance/Quality Control (QA/QC) samples to: (1) check sample bottle preparation; (2) evaluate contamination introduced during transport; (3) evaluate the effectiveness of field decontamination procedures; and (4) evaluate the “reproducibility and accuracy of the laboratory analytical procedures. QA/QC samples will be collected at the frequency outlined in **Appendix H**.

5.2.5 Data Usability Summary Report (DUSR) and Electronic Data Deliverables (EDDs)

The Data Usability Summary Report (DUSR) provides a thorough evaluation of analytical data. The primary objective of the DUSR is to determine whether the data, as presented, meets the site/project specific criteria for data quality and data use. Verification and/or performance monitoring samples collected under this RAWP will be reviewed and evaluated in accordance with the Guidance for the Development of Data Usability Summary Reports as presented in Appendix 2B of DER-10. The completed DUSR for verification/performance samples collected during implementation of this RAWP will be included in the FER.

The NYSDEC has implemented an Environmental Information Management System (EIMS) that uses the EQuIS™ database software application from EarthSoft® Inc. (EarthSoft) to store and report on data from remediation sites, inactive landfills, and other facilities managed by DEC. Laboratory analytical results for the documentation endpoint soil samples and groundwater monitoring samples will be provided in the NYSDEC's electronic data deliverable (EDD) format for EQuIS™ in accordance with the NYSDEC Electronic Data Deliverable Manual, (NYSDEC EDD Format v.5) dated January 21, 2025.

5.2.6 Reporting of End-Point Data in FER

Chemical labs used for all endpoint sample results and contingency sampling will be NYSDOH ELAP certified. Endpoint sampling was performed in accordance with DER-10 and the NYSDEC approved sample frequency requirements. The FER will provide a tabular and map summary of all endpoint sample results and exceedances of SCOs.

5.3 Estimated Material Removal Quantities

Excavation across the Site varies widely dependent on the current ground surface elevation (i.e., because of the previously unfinished construction of the ground level and cellar level). In general, the Site will be excavated to a depth 15 ft bgs to remove soil exceeding PGWSCOs. It was estimated that the remedial excavation will generate approximately 5,764 CY of excavated material.

5.4 Soil / Materials Management Plan

The Soil / Materials Management Plan (Section 4.1.6) describes the procedures for remedial excavation operations, including shoring/sheeting, handling, and staging of materials at the Site.

5.4.1 Soil Screening Methods

Visual, olfactory and PID soil screening and assessment will be performed by a qualified environmental professional or experienced field geologist under the direction of the Remedial Engineer during all remedial and development excavations into known or potentially contaminated material. Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during the remedy and during development phase, such as excavations for foundations and utility work, prior to issuance of the COC.

All primary contaminant sources (including but not limited to tanks and hotspots) identified during Site Characterization, Remedial Investigation, and Remedial Action will be surveyed by a surveyor licensed to practice in the State of New York. This information will be provided on maps in the FER.

Screening will be performed by qualified environmental professionals. Resumes will be provided for all personnel responsible for field screening (e.g., those representing the Remedial Engineer) of invasive work for unknown contaminant sources during remediation and development work.

5.4.2 Stockpile Methods

Excavated soil from suspected areas of contamination (e.g., remedial excavations, USTs, drains, etc.) will be stockpiled separately and will be segregated from clean soil and construction materials. Stockpiles will be used only when necessary and will be removed as soon as practicable. While stockpiles are in place, they will be inspected daily, and before and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. At a minimum, a storm event should be considered a rainfall of three inches or greater in 12 hours. Judgement should be used to evaluate water infiltration, nearby waterbodies where runoff is likely, and engineering controls that may be affected.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected, and damaged tarp covers will be promptly replaced.

Soil stockpiles will be continuously encircled with silt fences. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Water will be available on-site at suitable supply and pressure for use in dust control.

5.4.3 Materials Excavation and Load Out

The Remedial Engineer and/or Qualified Environmental Professional under his/her supervision will oversee all invasive work and the excavation and load-out of all excavated material. The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the Site has been investigated by the Remedial Engineer. It has been determined that no risk or impediment to the planned work under this Remedial Action Work Plan is posed by utilities or easements on the Site.

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

Vehicles leaving the Site will not be overloaded. The Remedial Engineer's representative will make reasonable efforts to ensure that vehicles are not loaded beyond their NYSDOT weight rating and that all material is secured beneath the truck bed cover.

A truck wash will be operated on-Site. The Remedial Engineer will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the Site until the remedial construction is complete.

Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-Site sediment tracking.

The Remedial Engineer will be responsible for ensuring that all egress points for truck and equipment transport from the Site will be clean of dirt and other materials derived from the Site during Site remediation and development. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site -derived materials.

The Volunteer and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all invasive work, the structural integrity of excavations, and for structures that may be affected by excavations (such as building foundations and bridge footings).

The Remedial Engineer will ensure that Site development activities will not interfere with, or otherwise impair or compromise, remedial activities proposed in this Remedial Action Work Plan.

Each remedial excavation location will be removed and end-point remedial performance sampling completed before excavations related to Site development commence proximal to the hotspot or structure. Development-related grading cuts and fills will not be performed without NYSDEC approval and will not interfere with, or otherwise impair or compromise, the performance of remediation required by this plan.

Mechanical processing of historical fill and contaminated soil on-Site is prohibited.

All primary contaminant sources (including but not limited to tanks and hotspots) identified during Site Characterization, Remedial Investigation, and Remedial Action will be surveyed by a surveyor licensed to practice in the State of New York. The survey information will be shown on maps to be reported in the FER.

5.4.4 Materials Transport Off-Site

Loaded vehicles leaving the Site will comply with all applicable materials transportation requirements (including appropriate covering, manifests, and placards) in accordance with applicable laws and regulations, including use of licensed haulers in accordance with 6 NYCRR Part 364. If loads contain wet material capable of causing leakage from trucks, truck liners will be used. Queuing of trucks will be performed on-Site, when possible, in order to minimize off Site disturbance. Off-Site queuing will be minimized.

Outbound trucks will use Eckford Street, then turning east along Nassau Avenue, then south along McGuinness Boulevard, to access Brooklyn Queens Expressway. Inbound trucks from Brooklyn Queens Expressway will use McGuinness Boulevard then turning west along Driggs Avenue, then south along Leaonard Street. This routing takes into account the following factors: (a) limiting transport through residential areas and past sensitive sites; (b) use of mapped truck routes; (c) minimizing off-Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport. To the extent possible, all trucks loaded with Site materials will travel from the Site using these truck routes. Trucks will not stop or idle in the neighborhood after leaving the project Site. The truck transport routes are shown on **Figure 17**.

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.

All trucks loaded with Site materials will exit the vicinity of the Site using only these approved truck routes. Proposed in-bound and out-bound truck routes to the Site. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off- Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; (f) overall safety in transport; and (g) community input.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site.

Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development.

Queuing of trucks will be performed on-Site in order to minimize off-Site disturbance. Off-Site queuing will be prohibited.

Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks will be washed prior to leaving the Site. Truck wash waters will be collected and disposed of off-Site in an appropriate manner.

5.4.5 Materials Disposal Off-Site

Disposal location established at a later date will be reported to the NYSDEC Project Manager. The total quantity of material expected to be disposed off-Site is 5,764 CY.

All soil/fill/solid waste excavated and removed from the Site will be treated as contaminated and regulated material and will be disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this Site is proposed for unregulated disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to NYSDEC's Project Manager. Unregulated off-Site management of materials from this Site is prohibited without formal NYSDEC approval.

Material that does not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360.15 Registration Facility).

The following documentation will be obtained and reported by the Remedial Engineer for each disposal location used in this project to fully demonstrate and document that the disposal of material derived from the Site conforms with all applicable laws: (1) a letter from the Remedial Engineer or BCP Volunteer to the receiving facility describing the material to be disposed and requesting formal written acceptance of the material. This letter will state that material to be disposed is contaminated material generated at an environmental remediation Site in New York State. The letter will provide the project identity and the name and phone number of the Remedial Engineer. The letter will include as an attachment a summary of all

chemical data for the material being transported (including Site Characterization data); and (2) a letter from all receiving facilities stating it is in receipt of the correspondence (above) and is approved to accept the material. These documents will be included in the FER.

Non-hazardous historic fill and contaminated soils taken off-Site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360.2. The Remedial Engineer is responsible for assuring material is properly characterized and determining the appropriate disposal methods based on the characterization results.

Historical fill and contaminated soils from the Site are prohibited from being disposed at Part 360.15 Registration Facilities (also known as Soil Recycling Facilities).

Soils that are contaminated but non-hazardous and are being removed from the Site are considered by the NYSDEC Division of Materials Management (DMM) to be Construction and Demolition (C/D) materials with contamination not typical of virgin soils. These soils may be sent to a permitted Part 360 landfill. They may be sent to a permitted C/D processing facility without permit modifications only upon prior notification of NYSDEC DMM. This material is prohibited from being sent or redirected to a Part 360-15 Registration Facility. In this case, as dictated by DMM, special procedures will include, at a minimum, a letter to the C/D facility that provides a detailed explanation that the material is derived from a DER remediation Site, that the soil material is contaminated and that it must not be redirected to on-Site or off-Site Soil Recycling Facilities. The letter will provide the project identity and the name and phone number of the Remedial Engineer. The letter will include as an attachment a summary of all chemical data for the material being transported.

The FER will include an accounting of the destination of all material removed from the Site during this Remedial Action, including excavated soil, contaminated soil, historic fill, solid waste, and hazardous waste, non-regulated material, and fluids. Documentation associated with disposal of all material must also include records and approvals for receipt of the material. This information will also be presented in a tabular form in the FER.

Bill of Lading system or equivalent will be used for off-Site movement of non-hazardous wastes and contaminated soils. This information will be reported in the FER.

Hazardous wastes derived from on-Site will be stored, transported, and disposed of in full compliance with applicable local, State, and Federal regulations.

Appropriately licensed haulers will be used for material removed from this Site and will be in full compliance with all applicable local, State and Federal regulations.

Waste characterization sampling will be performed exclusively for the purposes of off-Site soil disposal in a manner suitable to receiving facilities and in conformance with applicable federal, state and local laws rules and regulations and facility-specific permits. Sampling and analytical methods, sampling frequency, analytical results and QA/QC associated with waste characterization activities will be reported in the FER. All data available for soil/material to be disposed at a given facility must be submitted to the disposal facility with suitable explanation prior to shipment and receipt. Waste characterization data will be used solely for complying with requirements for off-site disposal. Waste Characterization sampling cannot be utilized for:

- Delineating the extent of contamination required for remediation at a Site.

- Replacing or substituting data collected as part of Site Characterization and/or Remedial Investigation.
- Replacing or substituting confirmation or documentation sampling as described in NYSDEC DER-10, Section 5.4.
- To modify remedial decisions as formalized in a NYSDEC approved Decision Document or Record of Decision.

5.4.6 Materials Reuse On-Site

Chemical criteria for on-Site reuse of material have been approved by NYSDEC. These criteria are listed in **Table 14**. The Remedial Engineer will ensure that procedures defined for materials reuse in this RAWP are followed and that unacceptable material will not remain on-Site.

A "Request to Import/Reuse Fill Material" form will be filed with the NYSDEC project manager for review and approval prior to material reuse on the site. A copy of the form is presented in **Appendix O**. Acceptable demolition material proposed for reuse on-Site, if any, will be sampled for asbestos.

Concrete crushing or processing on-Site is prohibited, unless NYSDEC has specifically approved on-site processing and reuse of acceptable demolition material.

Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the Site is prohibited for reuse on-Site.

Contaminated on-Site material, including historic fill and contaminated soil, removed for grading or other purposes will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines. This will be expressed in the Site Management Plan (SMP).

5.4.7 Fluids Management

All liquids to be removed from the Site, including dewatering fluids, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Liquids discharged into the New York City sewer system will be addressed through approval by NYCDEP.

Dewatered fluids will not be recharged back to the land surface or subsurface of the Site. Dewatering fluids will be discharged to NYCDEP sewer and will not exceed 291,046 gallons, in accordance with NYCDEP Permit C004688828.

5.4.8 Backfill from Off-Site Sources

Import of soils (e.g., gravel, rock, stone, etc.) onto the property will be performed as needed to backfill the over excavation to for building foundation and SSDS construction. Backfill materials used at the Site will meet the requirements of 6 NYCRR Part 375-6.7(d) for use as backfill to establish redevelopment design grades, as necessary. Backfill materials will also be suitable for the Track 2 (active SSDS) that will be constructed.

Quarry material (gravel and stone) will not require testing prior to placement. Soils imported to the Site will be tested at the point of origin and imported as outlined in the Soils/Materials Management Plan

(**Appendix J**) and in accordance with DER-10. Soils will be approved for use as backfill by NYSDEC prior to transport to the Site unless exempt from DER-10.

All materials proposed for import onto the Site will be approved by the Remedial Engineer and will be in compliance with provisions in this RAWP prior to receipt at the Site.

Material from industrial sites, spill sites, other environmental remediation sites or other potentially contaminated sites will not be imported to the Site. Solid waste will not be imported onto the Site.

The FER will include the following certification by the Remedial Engineer: "I certify that all import of soils from off-Site, including source evaluation, approval and sampling, has been performed in a manner that is consistent with the methodology defined in the Remedial Action Work Plan".

All imported soils will meet NYSDEC approved backfill or cover soil quality objectives for this Site. These NYSDEC approved backfill or cover soil quality objectives are the lower of the protection of groundwater or the protection of public health soil cleanup objectives for Track 1 restricted residential SCOs as set forth in Table 375-6.8(b) of 6 NYCRR Part 375 and listed in **Tables 14**. Non-compliant soils will not be imported onto the Site without prior approval by NYSDEC. Nothing in the approved RAWP or its approval by NYSDEC should be construed as an approval for this purpose.

Soils that meet 'general fill' requirements under 6 NYCRR Part 360.13, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC. Nothing in this RAWP should be construed as an approval for this purpose.

A "Request to Import/Reuse Fill Material" form will be filed with the NYSDEC project manager for review and approval prior to import to the site. A copy of the form is presented in **Appendix O**.

5.4.9 Stormwater Pollution Prevention

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the RAWP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the remedial construction area.

5.4.10 Contingency Plan

This contingency plan is developed for the remedial construction to address the discovery of unknown structures or contaminated media during excavation. Identification of unknown contamination source areas during invasive Site work will be promptly communicated to NYSDEC's Project Manager. The selected remedy for the Site is Alternative 2, Track 2. In the event a Track 2 is not achieved, then the contingent Track 4 cleanup will be implemented.

If underground tanks or other previously unidentified contaminant sources are found during on-Site remedial excavation or development related construction, sampling will be performed on product, sediment and surrounding soils, etc. in accordance with DER-10. Chemical analytical work will be for full scan parameters (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides, PCBs and PFAS). Analyses will not be otherwise limited without NYSDEC approval.

Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone to NYSDEC's Project Manager. These findings will be also included in daily and periodic electronic media reports.

Petroleum spills will be reported to the NYSDEC Spill Hotline within 2 hours. These findings will be included in the daily report. If previously unidentified contaminant sources are found during on-Site remedial excavation or development-related excavation, sampling will be performed on contaminated source material and surrounding soils and reported to NYSDEC.

5.4.11 Extreme Storm Preparedness and Response Contingency Plan

Damage from flooding or storm surge can include dislocation of soil and stockpiled materials, dislocation of site structures and construction materials and equipment, and dislocation of support of excavation structures. Damage from wind during an extreme storm event can create unsafe or unstable structures, damage safety structures and cause downed power lines creating dangerous site conditions and loss of power. In the event of emergency conditions caused by an extreme storm event, the Volunteer will undertake the following steps for site preparedness prior to the event and response after the event.

5.4.11.1 Storm Preparedness

Preparations in advance of an extreme storm event will include the following: containerized hazardous materials and fuels will be removed from the property; loose materials will be secured to prevent dislocation and blowing by wind or water; heavy equipment such as excavators and generators will be removed from excavated areas, trenches and depressions on the property to high ground or removed from the property; an inventory of the property with photographs will be performed to establish conditions for the site and equipment prior to the event; stockpile covers for soil and fill will be secured by adding weights such as sandbags for added security and worn or ripped stockpile covers will be replaced with competent covers; stockpiled hazardous wastes will be removed from the property; stormwater management systems will be inspected and fortified, including, as necessary: clean and reposition silt fences, hay bales; clean storm sewer filters and traps; and secure and protect pumps and hoses.

5.4.11.2 Storm Response

At the conclusion of an extreme storm event, as soon as it is safe to access the property, a complete inspection of the property will be performed. A site inspection report will be submitted to NYSDEC at the completion of site inspection and after the site security is assessed. Site conditions will be compared to the inventory of site conditions and material performed prior to the storm event and significant differences will be noted. Damage from storm conditions that result in acute public safety threats, such as downed power lines or imminent collapse of buildings, structures or equipment will be reported to public safety authorities via appropriate means such as calling 911.

Petroleum spills will be reported to NYSDEC within 2 hours of identification and consistent with State regulations. Public safety structures, such as construction security fences will be repaired promptly to eliminate public safety threats. Debris will be collected and removed.

Dewatering will be performed in compliance with existing laws and regulations and consistent with emergency notifications, if any, from proper authorities. Eroded areas of soil including unsafe slopes will be stabilized and fortified. Dislocated materials will be collected and appropriately managed. Support of excavation structure will be inspected and fortified as necessary. Impacted stockpiles will be contained and damaged stockpile covers will be replaced. Stormwater control systems and structures will be inspected and maintained as necessary.

If soil or fill materials are discharged off site to adjacent properties, property owners and NYSDEC will be notified, and corrective measure plan designed to remove and clean dislocated material will be submitted to NYSDEC and implemented following approval by NYSDEC and granting of site access by the property owner. Impacted offsite areas may require characterization based on site conditions, at the discretion of NYSDEC.

If onsite petroleum spills are identified, a qualified environmental professional will determine the nature and extent of the spill and report to NYSDEC's spill hotline at (800) 457-7362 within statutory defined timelines. If the source of the spill is ongoing and can be identified, it should be stopped if this can be done safely. Potential hazards will be addressed immediately, consistent with guidance issued by NYSDEC.

5.4.11.3 Storm Response Reporting

A site inspection report will be submitted to NYSDEC at the completion of site inspection. An inspection report will be used for this purpose. Site conditions will be compared to the inventory of site conditions and material performed prior to the storm event and significant differences will be noted. The site inspection report will be sent to the NYSDEC project manager and will include the site name, address, tax block and lot, site primary and alternate contact name and phone number.

Damage and soil release assessment will include: whether the project had stockpiles; whether stockpiles were damaged; photographs of damage and notice of plan for repair; report of whether soil from the site was dislocated and whether any of the soil left the site; estimates of the volume of soil that left the site, nature of impact, and photographs; description of erosion damage; description of equipment damage; description of damage to the remedial program or the construction program, such as damage to the support of excavation; presence of onsite or offsite exposure pathways caused by the storm; presence of petroleum

or other spills and status of spill reporting to NYSDEC; description of corrective actions; schedule for corrective actions.

This report should be completed and submitted to NYSDEC project manager with photographs within 24 hours of the time of safe entry to the property after the storm event.

5.4.12 Community Air Monitoring Plan

Real-time air monitoring for VOCs and particulate levels at the perimeter of the proposed excavation areas will be performed in accordance with the CAMP (see **Appendix K**) in accordance with *Appendix 1A of DER-10, Generic Community Air Monitoring Plan*. Continuous air monitoring will be required during ground intrusive activities and other activities where equipment is disturbing the ground surface. Ground intrusive activities include, but are not limited to, soil/fill excavation and handling, test pitting or trenching, grading of existing Site soils and the installation of soil borings, or monitoring wells.

Exceedances observed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers and included in the Daily Report

5.4.12.1 VOC Monitoring, Response Levels, and Actions

VOCs will be monitored at the Site perimeter on a continuous basis during earthwork activities unless otherwise specified in the CAMP. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. Wind direction will be evaluated using an on-site meteorological tower (RM Young sensors) that measures wind speed, direction, dry-bulb temperature, and relative humidity. A central computer system will receive information from the meteorological system and compute a two-minute average wind speed and direction value. The VOC monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

5. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.

6. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors will be identified, corrective actions will be taken to abate emissions, and monitoring will be continued. After these steps, work activities will resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet - is below 5 ppm over background for the 15-minute average.

7. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shut down until the source of the problem is identified and corrective action is taken to reduce organic vapor levels.

8. Fifteen-minute readings will be recorded and be available for State (NYSDEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

5.4.12.2 Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored at the Site perimeter and in work zones on a continuous basis during earthwork. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities. Visible dust from the work area will trigger the initiation of dust suppression procedures.

3. If the downwind PM-10 particulate level is 100 ug/m3 greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 ug/m3 above the upwind level and provided that no visible dust is migrating from the work area.

4. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 ug/m3 above the upwind level, work will be stopped, and a re-evaluation of activities initiated. Work will resume when dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 ug/m3 of the upwind level and in preventing visible dust migration.

Readings will be recorded and provided to the NYSDEC and NYSDOH Project Managers weekly, at a minimum, and any CAMP exceedances will be reported the same day, or next business day, along with the reason for exceedance, the corrective action and it's effectiveness.

5.4.13 Odor, Dust and Nuisance Control Plan

The FER will include the following certification by the Remedial Engineer: "I certify that all invasive work during the remediation and all invasive development work were conducted in accordance with dust and odor suppression methodology defined in the Remedial Action Work Plan."

5.4.13.1 Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors off-Site [we note that there will not be residents or tenants on the property during the Remedial Action]. Odor controls will be employed to prevent on- and off-Site odor nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) use of odor suppressants to cover exposed odorous soils. If nuisance odors develop and cannot otherwise be controlled, additional means to eliminate them will include: (d) direct load-out of soils to trucks for off-Site disposal; and (e) use of chemical odorant suppressants in spray or misting systems. The proposed odor suppressant for this Site is Rusmar AC-645 Long-Duration Foam. The contractor who uses Rusmar AC-645 Long-Duration Foam for odor suppression will fully understand the manufacturer's specifications prior to usage

If nuisance odors are identified, work will be halted, and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of all other complaints about the project. Implementation of all odor controls, including the halt of work, will be the responsibility of the Volunteer's Remedial Engineer, who is responsible for certifying the FER.

Where odor nuisances have developed during remedial work and cannot be corrected, or where the release of nuisance odors cannot otherwise be avoided due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering excavation and handling areas under tented containment structures equipped with appropriate air venting/filtering systems.

5.4.13.2 Dust Control Plan

A dust suppression plan that addresses dust management during invasive on-Site work will include, at a minimum, the items listed below:

- Water will be available on-site at suitable supply and pressure for use in dust control.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on the construction entrance to provide a clean and dust-free road surface.
- On-Site trucks ingress / egress will be limited in total area (because of the existing cellar level) to minimize the area required for water spraying.

5.4.13.3 Other Nuisances

A plan for rodent control will be developed and utilized by the contractor prior to and during Site clearing and Site grubbing, and during all remedial work. A plan will be developed and utilized by the contractor for all remedial work and will conform, at a minimum, to NYCDEP noise control standards.

6.0 RESIDUAL CONTAMINATION TO REMAIN ON-SITE

Remedial Alternative 2 is the preferred remedial alternative which consists of a Track 2 Approach, with contingent Track 4, that will comply with Restricted Residential SCOs to a specified depth (i.e., down to 15 ft bgs) at the Site. **Remedial Alternative 2** will include institutional controls for the protection of public health and the environment.

The Track 2 Remedy will not have Engineering Controls when the remediation is complete. If the depth of the excavation does not reach 15 feet, a contingent Track 4 remedy will be part of the contingency plan. A Track 4 remediation will require ECs, thus this section of the report discusses both IC's and EC's.

Residual groundwater contamination will remain on-Site; however, most of the previous fill and contamination found during the RI would be excavated and removed from the Site during redevelopment. A site-specific SMP will be developed and included in the FER to address the residual contamination and discuss management of the ICs. **Remedial Alternative 2** will allow for restricted-residential use of the property consistent with its development as a residential building.

Since residual contaminated groundwater will exist beneath the Site after the remedy is complete, Institutional Controls (ICs) are required to protect human health and the environment. These ICs are described hereafter. Long-term management of EC/ICs and of residual contamination will be executed under a Site specific Site Management Plan (SMP) that will be developed and included in the FER.

ECs may be implemented to protect public health and the environment by appropriately managing residual contamination. If a Track 2 is not met, the contingent Track 4 will be achieved, and the Site will have the following primary EC systems. Long term ECs to be implemented will include:

1. A composite cover system including the building foundation and the associated hardscape (sidewalks, driveways), or landscaped areas with 2 feet of clean fill;
2. Operation of parking garage in the ground level with high volume air exchange in conformance with NYC Building Code; and
3. Operation of an active SSDS.

The FER will report residual contamination remaining on the Site in tabular and map form. This will include presentation of exceedances of both Track 1 and Track 2 standards.

7.0 ENGINEERING CONTROLS: SITE COVER SYSTEM

If the Track 2 excavation depth of 15 feet is not met (i.e. contingent Track 4) the Site Cover system will act as an Engineering Control. Exposure to residual contaminated soils will be prevented by an engineered site cover system that will be built on the Site.

7.1 Green Remediation Considerations

Green remediation BMPs for designing and installing a conventional cover system include:

- Design in ways that mimic rather than alter the site's natural setting, to improve the cover's long-term performance and protect ecosystem services such as potable water, wildlife habitat, and carbon storage;
- Design a cover accounting for potential effects of climate change, which could involve changes in onsite soil development or increased vulnerability to flooding;
- Use uncontaminated soil or sediment from onsite excavation instead of imported soil/sediment for the cover's frost prevention and erosion control layers; similarly, uncontaminated sand, gravel, and rocks from onsite instead of offsite areas may be used for drainage;
- Apply low impact development strategies such as installing earthen berms to manage stormwater;
- Choose geotextile fabric or drainage tubing composed of 100% recycled materials rather than virgin materials for lining, erosion control, and drainage;
- Select materials with biobased content for daily activities during cover construction;
- Use clean fuel and emission control technologies for routine field vehicles and machinery such as backhoes and bulldozers to reduce fuel consumption and emission of air pollutants such as GHGs and particulate matter; and
- Investigate onsite solar and wind resources to power equipment such as leachate pumps and flare units.

For alternative cover designs,

- Consider using asphalt rubber (containing recycled tires) where the cover system includes a layer of asphalt;
- Substitute concrete with high albedo pavement, which reflects sunlight and heat away from the cover surface and may aid growth of nearby vegetation; and
- Consider using concrete containing a high percentage of industrial waste by-products as a substitute for cement, if tests show no contaminant leaching.

In addition to BMPs that apply to conventional covers, BMPs for designing and installing an ET cover include:

- Choose recycled (crushed) concrete for biobarriers or capillary breaks instead of natural rock;
- Select native drought-resistant plants for the upper vegetative layer to reduce maintenance needs;
- Preserve biodiversity and related ecosystem services by installing a suitable mix of native shrubs, grasses, and forbs; and
- Use non-synthetic amendments such as compost instead of chemical fertilizers if the soil or vegetation is found to need supplementation over time.

7.2 Composite Cover System

If a Track 2 excavation is not achieved (contingent Track 4) the cover system will be an EC. The remedy includes the construction and maintenance of an engineered composite cover consisting of a 8-inch clean granular sub-base beneath the building footprint, or 4-inch placed concrete on a 6-inch sub-base in hardscaped areas, a vapor barrier or waterproofing barrier, as an element of construction, consisting of a nominal 20-mil Class A (Stego® Wrap 20-mil or equivalent), topped with 6-inch minimum concrete slab. Where a soil cover is to be used (i.e. rear yard area), it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the established SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d).

A map showing the aerial distribution of each of the cover types to be built at the Site and the design detail is included in **Figure 15**.

An Excavation Plan will be included in the Site Management Plan and will outline the procedures to be followed if the site cover system and underlying residual contamination are disturbed after the Remedial Action is complete.

The components of the Site cover system will be documented in the FER. Maintenance of this Site cover system will be described in the SMP.

8.0 ENGINEERING CONTROLS

If a Track 2 excavation is not achieved, the Site will achieve a contingent Track 4 and will require ECs. Engineering Controls supplementing the cover system will be employed in the remedial action to address residual contamination remaining at the Site. These are:

- Active Sub-Slab Depressurization System
- Ventilated Parking Garage

8.1 Sub-Slab Depressurization System

Migration of soil vapor into the building will be mitigated with the construction of a active SSDS. The SSDS will consist of a gas permeable layer immediately beneath the building slab and vapor barrier system. The gas permeable layer will consist of a 12-inch-thick gas permeable aggregate layer of ¾-inch gravel. The piping will consist of 4" perforated PVC pipe within gravel lined trenches and 6" cast iron vertical riser pipe travels through the building to the roof. The exhaust stack will consist of 6-inch galvanized steel, contain a chimney cap, and be at least 10-feet from any operable window or public space. The exhaust stack elevation is higher than any occupiable space on the final building design. The active SSDS layout, product plans, and details are included **in Figures 14A and 14B.**

The SSDS and vapor barrier installation will be observed and documented by the Remedial Engineer prior to the placement of building foundation concrete or backfill. The field inspector under the direct supervision of a professional engineer will inspect and photograph the SSDS at several critical stages before during and after the installation is complete, to assure compliance with design specifications. Maintenance of these systems will be described in the Site Management Plan in the FER.

A water proofing or vapor barrier will consist of Stego® Wrap 20-mil or equivalent which will be incorporated into the building foundation slab and wall, as an element of construction, to make the active SSDS more efficient. The vapor barrier and/or waterproofing barrier will extend under the building footprint area and up the foundation sidewalls and will be installed in accordance with manufacturer specifications. Vapor barrier will not be installed beneath any exterior open space (i.e., courtyard areas). Product specification sheets are provided in **Appendix P**. The FER will include record (as-built) drawings and diagrams; manufacturer documentation; and photographs.

8.2 Ventilated Parking Garage

The ground level parking garage will be ventilated in accordance with provisions of New York City Building Code Section 27-766 of article 8 of subchapter 12. The garage space will be provided with mechanical ventilation with air exhaust at the rate of not less than one cubic feet per minute (cfm) per square foot of total floor area with properly designed means for air inflow and air exhaust at a rate sufficient to maintain an average concentration of carbon monoxide not to exceed 100 parts per million (ppm) for periods longer than one hour and with a maximum concentration at any time not to exceed four hundred parts of carbon monoxide per one million parts of air. The concentration of carbon monoxide will be determined by periodic tests taken between three and four feet from the floor by means of approved carbon monoxide detector tubes or other equivalent means. No air used for heating, cooling, or ventilation will be circulated from the garage to the rest of the occupied building areas.

9.0 CRITERIA FOR COMPLETION OF REMEDIATION / TERMINATION OF REMEDIAL SYSTEMS

9.1 Composite Cover System

The composite cover system and the vapor barrier system are permanent controls, and the quality and integrity of this system will be inspected at defined, regular intervals in perpetuity.

9.2 Sub-Slab Depressurization System

In the SMP, there will be monitoring criteria for the performance of the SSDS. If the annual SMP monitoring is favorable, then a request may be made to the discontinue the monitoring. A proposal to discontinue the monitoring may be submitted by the property owner based on confirmatory data that justifies such a request based on sampling of soil vapor during the heating season of the building.

The SSDS is a permanent control, and monitoring will not be discontinued without written approval by NYSDEC and NYSDOH. Sampling/monitoring activities will adhere to stipulations outlined in the Monitoring Plan section of the SMP.

9.3 Groundwater Monitoring

Groundwater monitoring activities to assess the performance of the remedy, or natural attenuation following the removal of contaminant sources, will be performed at a minimum of two rounds and will continue, as determined by NYSDOH and NYSDEC, until residual groundwater concentrations are found to be below NYSDEC standards or have become asymptotic over an extended period. Monitoring will continue until permission to discontinue is granted in writing by NYSDEC and NYSDOH. Monitoring activities will be outlined in the Monitoring Plan of the SMP.

10.0 INSTITUTIONAL CONTROLS

Institutional controls will be part of the final remedy for the proposed Track 2 Restricted Residential Use cleanup. After the remedy is complete, the Site will have residual contamination remaining in place. Two elements have been designed to ensure continual and proper management of residual contamination in perpetuity: an Environmental Easement and a Site Management Plan.

All as-built drawings, diagrams, calculation and manufacturer documentation for treatment systems will be presented in the FER. A Site -specific Environmental Easement will be recorded with the NYC Office of the City Register to provide an enforceable means of ensuring the continual and proper management of residual contamination and protection of public health and the environment in perpetuity or until released in writing by NYSDEC. It requires that the grantor of the Environmental Easement and the grantor's successors and assigns adhere to all Engineering and Institutional Controls (ECs/ICs) placed on this Site by this NYSDEC-approved remedy. ICs provide restrictions on Site usage and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. The SMP describes appropriate methods and procedures to ensure compliance with all ECs and ICs that are required by the Environmental Easement. Once the SMP has been approved by the NYSDEC, compliance with the SMP is required by the grantor of the Environmental Easement and grantor's successors and assigns

10.1 Environmental Easement

An Environmental Easement, as defined in Article 71 Title 36 of the Environmental Conservation Law, is required when residual contamination is left on-Site after the Remedial Action is complete. As part of this remedy, an Environmental Easement approved by NYSDEC will be filed and recorded with the NYC Office of the City Register. The Environmental Easement will be submitted as part of the FER.

The Environmental Easement renders the Site a Controlled Property. The Environmental Easement must be recorded with the NYC Office of the City Register before the COC can be issued by NYSDEC. A series of Institutional Controls are required under this remedy to implement, maintain and monitor these Engineering Control systems, prevent future exposure to residual contamination by controlling disturbances of the subsurface soil and restricting the use of the Site to restricted-residential use only. These Institutional Controls are requirements or restrictions placed on the Site that are listed in, and required by, the Environmental Easement. Institutional Controls can, generally, be subdivided between controls that support Engineering Controls, and those that place general restrictions on Site usage or other requirements. Institutional Controls in both of these groups are closely integrated with the SMP, which provides all of the methods and procedures to be followed to comply with this remedy.

The ICs are:

- Compliance with the Environmental Easement by the Grantee and the Grantee's successors and adherence of all elements of the SMP is required;
- The Site must be operated and maintained as specified in this SMP;
- A Site cover system consisting of asphalt covered roads, concrete covered sidewalks, and concrete building slabs must be inspected, certified and maintained as required in the SMP; if Track 2 is not met (contingent Track 4);
- A soil vapor mitigation system consisting of an active SSDS under the building must be inspected, certified, operated and maintained as required by the SMP; (if Track 2 is not met)

- The ventilated parking garage must be inspected and certified at a frequency and in a manner defined in the SMP; (if Track 2 is not met)
- The Site must be inspected and certified at a frequency and in a manner defined in the SMP;
- Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;
- Data and information pertinent to Site Management for the Site must be reported at the frequency and in a manner defined in the SMP;
- On-Site environmental monitoring devices, including but not limited to, [groundwater monitor wells and soil vapor probes], must be protected and replaced as necessary to ensure proper functioning in the manner specified in the SMP; and
- ECs (If Track 2 is not met) may not be discontinued without an amendment or extinguishment of the Environmental Easement.

The Site will also have a series of ICs in the form of Site restrictions and requirements. The Site restrictions that apply to the Controlled Property are:

- Vegetable gardens and farming on the Site are prohibited;
- Use of groundwater underlying the Site is prohibited without treatment rendering it safe for intended purpose;
- All future activities on the Site that will disturb residual contaminated material are prohibited unless they are conducted in accordance with the soil management provisions in the SMP;
- The Site may be used for restricted residential use only, provided the long-term Engineering and Institutional Controls included in the SMP are employed;
- The Site may not be used for a higher level of use, such as unrestricted use without an amendment or extinguishment of this Environmental Easement;
- Grantor agrees to submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Site are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access the Site at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow. This time period statement must be certified by an expert that the NYSDEC finds acceptable.

10.2 Site Management Plan

Site Management is the last phase of remediation and begins with the approval of the FER and issuance of the COC for the Remedial Action. The SMP is submitted as part of the FER but will be written in a manner that allows its removal and use as a complete and independent document. Site Management continues in perpetuity or until released in writing by NYSDEC. The property owner is responsible to ensure that all Site Management responsibilities defined in the Environmental Easement and the SMP are performed.

The SMP should include methods to incorporate and track GSR. Measures should be taken to maintain a cost-effective, protective remedy that remains conscientious of the Site's environmental footprint. At a minimum, the following should be assessed: waste generation, energy usage, emissions, and water usage.

The SMP is intended to provide a detailed description of the procedures required to manage residual contamination left in place at the Site following completion of the Remedial Action in accordance with the

BCA with the NYSDEC. This includes: (1) development, implementation, and management of all Engineering and Institutional Controls; (2) development and implementation of monitoring systems and a Monitoring Plan; (3) development of a plan to operate and maintain any treatment, collection, containment, or recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual); (4) submittal of Site Management Reports, performance of inspections and certification of results, and demonstration of proper communication of Site information to NYSDEC; and (5) defining criteria for termination of treatment system operation.

To address these needs, this SMP will include four plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; (3) an Operation and Maintenance Plan for implementation of remedial collection, containment, treatment, and recovery systems; and (4) a Site Management Reporting Plan for submittal of data, information, recommendations, and certifications to NYSDEC. The SMP will be prepared in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation and the guidelines provided by NYSDEC.

Site management activities, reporting, and EC/IC certification will be scheduled on a certification period basis. The certification period will be annually. The SMP will be based on the certifying period relative to the date of issuance of the COC. The first submission will be due 16 months after the issuance of the COC, and annually (or at another frequency as approved by NYSDEC) thereafter.

The SMP in the FER will include a monitoring plan for groundwater at the Site perimeter to evaluate Site-wide performance of the remedy.

No exclusions for handling of residual contaminated soils will be provided in the SMP. All handling of residual contaminated material will be subject to provisions contained in the SMP.

11.0 FINAL ENGINEERING REPORT

A FER will be submitted to NYSDEC following implementation of the Remedial Action defined in this RAWP. The FER provides the documentation that the remedial work required under this RAWP has been completed and has been performed in compliance with this plan. The FER will provide a comprehensive account of the locations and characteristics of all material removed from the Site including the surveyed map(s) of all sources. The FER will include as-built drawings for all constructed elements, calculation and manufacturer documentation for treatment systems, certifications, manifests, bills of lading as well as the complete SMP. The FER will provide a description of the changes in the Remedial Action from the elements provided in the RAWP and associated design documents. The FER will provide a tabular summary of all performance evaluation sampling results and all material characterization results and other sampling, and chemical analysis performed as part of the Remedial Action. The FER will provide test results demonstrating that all mitigation and remedial systems are functioning properly. The FER will be prepared in conformance with DER-10.

Where determined to be necessary by NYSDEC, a Financial Assurance Plan will be required to ensure the sufficiency of revenue to perform long-term operations, maintenance and monitoring tasks defined in the Site Management Plan and Environmental Easement. This determination will be made by NYSDEC in the context of the FER review.

The FER will include written and photographic documentation of all remedial work performed under this remedy.

The FER will include an itemized tabular description of actual costs incurred during all aspects of the Remedial Action.

The FER will provide a thorough summary of all residual contamination left on the Site after the remedy is complete. Residual contamination includes all contamination that exceeds the Track 1 Unrestricted Use SCO in 6NYCRR Part 375-6. A table that shows exceedances from Track 1 Unrestricted SCOs for all soil/fill remaining at the Site after the Remedial Action and a map that shows the location and summarizes exceedances from Track 1 Unrestricted SCOs for all soil/fill remaining at the Site after the Remedial Action will be included in the FER.

The FER will provide a thorough summary of all residual contamination that exceeds the SCOs defined for the Site in the RAWP and must provide an explanation for why the material was not removed as part of the Remedial Action. A table that shows residual contamination in excess of Site SCOs and a map that shows residual contamination in excess of Site SCOs will be included in the FER.

The FER will include an accounting of the destination of all material removed from the Site, including excavated contaminated soil, historic fill, solid waste, hazardous waste, non-regulated material, and fluids. Documentation associated with disposal of all material must also include records and approvals for receipt of the material. It will provide an accounting of the origin and chemical quality of all material imported onto the Site.

The FER must include a discussion of the green remediation practices/technologies employed throughout the remedial program. A final footprint analysis using a DER accepted model, and any tracking methods used through the construction including restoration activities. Before approval of a FER and issuance of a COC, all project reports must be submitted in digital form on electronic media (PDF).

11.1 Certifications

The following certification will appear in front of the Executive Summary of the FER. The FER will be prepared, stamped and the following certification signed by an individual licensed or otherwise authorized in accordance with article 145 of the education law to practice the profession of engineering. The certification will include the following statements:

I, _____, am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Remedial Action Work Plan was implemented and that all construction activities were completed in substantial conformance with the Department-approved Remedial Action Work Plan.

I certify that the data submitted to the Department with this Final Engineering Report demonstrates that the remediation requirements set forth in the [Remedial Action Work Plan or Remedial Design] and in all applicable statutes and regulations have been or will be achieved in accordance with the time frames, if any, established for the remedy.

I certify that all use restrictions, Institutional Controls, Engineering Controls, and/or any operation and maintenance requirements applicable to the Site are contained in an environmental easement created and recorded pursuant ECL 71-3605 and that all affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded.

I certify that a Site Management Plan has been submitted for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, and that such plan has been approved by Department.

I certify that any financial assurance mechanisms required by the Department pursuant to Environmental Conservation Law have been executed.

I certify that all data generated in support of this report have been submitted in accordance with the Department's electronic data deliverable and have been accepted by the Department.

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as Owner's Designated Site Representative (and if the site consists of multiple properties): [and I have been authorized and designated by all site owners to sign this certification] for the site.

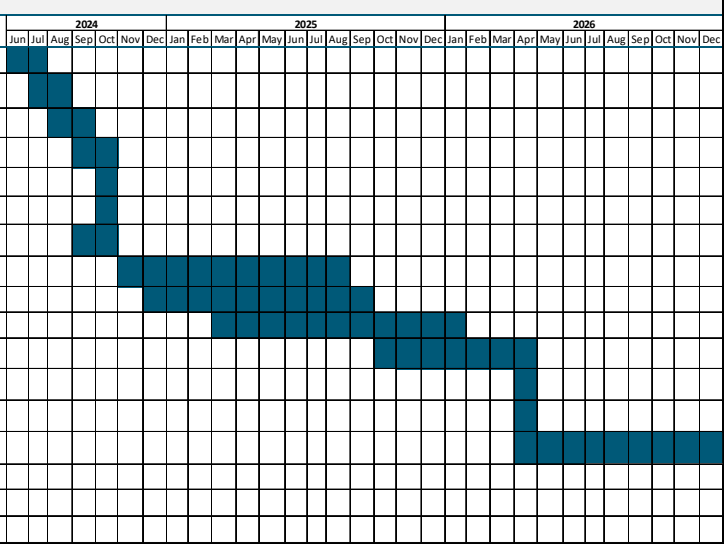
It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

12.0 SCHEDULE

The table below presents a schedule for the RAWP and reporting. If the schedule for remediation and development activities changes, it will be updated and submitted to NYSDEC, as necessary. Our anticipated schedule is:

BROWNFIELD CLEANUP PROGRAM
55 ECKFORD ST. LLC SITE

Project Milestones	Start	End
BCP Application and RIWP Submission to NYSDEC	6/21/2024	7/19/2024
NYSDEC BCP Application Review and Determination of Completeness	7/22/24	8/19/2024
Revisions to BCP Application and RIWP	8/20/2024	9/13/2024
30-Day Public Comment for BCP Application	9/16/2024	10/15/2024
BCA Execution	10/21/2024	10/21/2024
CPP Submission and Review	10/21/2024	10/25/2024
NYSDEC and NYSDOH Review of RIWP and Submission of Revisions	9/16/2024	10/31/2024
RIWP Implementation with Supplemental RI	11/1/2024	8/25/2025
RIR Preparation	12/16/2024	9/16/2025
RAWP Preparation	4/15/2025	2/5/2025
NYSDEC and NYSDOH Review of RIR and RAWP, Submission of Revisions and 45-Day Comment Period	10/15/2025	4/1/2026
Approval of the RIR and RAWP, Issuance of Decision Document	4/1/2026	4/1/2026
Pre-construction Meeting with NYSDEC	4/15/2026	4/30/2026
Construction and RAWP Implementation, Documentation of Engineering Controls	4/30/2026	3/30/2027
Preparation of FER and SMP	1/1/2027	3/30/2027
NYSDEC Review of FER and SMP	3/30/2027	6/1/2027
Issuance of COC	6/1/2027	6/1/2027



TABLES

Table 1 - Sample Summary and Rationale
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

Sample Name	Location	Sample / Boring Termination Depth (feet below ground surface [bgs] or cellar slab [bcs])	Number of Samples	Rationale for Sampling	Laboratory Analysis
Soil					**Analyses**
GZ-01	Approximately 20 feet east and 10 feet south of the northwest property corner	30 ft bgs	9	To characterize soil conditions and delineate extent and depths of contamination outside of the existing structure	GZ-01(0-2 in) - Focused; GZ-01 (0-2 ft bgs) - Full suite; GZ-01 (4-6ft bgs) -Focused +PFAS; GZ-01 (8-10 ft bgs) - Full suite; GZ-01 (12-14 ft bgs) - Focused; GZ-01 (18-20 ft bgs) - Focused, GZ-01 (20 -23 ft bgs) - TAL Metals; GZ-01 (23-26 ft bgs)- TAL Metals; and GZ-01 (26-30 ft bgs)- TAL Metals
GZ-02	Approximately 35 feet south and 3 feet east of the northwest property corner	30 ft bgs	9		GZ-02(0-2 in) - Focused; GZ-02 (0-2 ft bgs) - Full suite; GZ-02 (4-6ft bgs) -Focused +PFAS; GZ-02 (8-10 ft bgs) - Full suite; GZ-02 (12-14 ft bgs) - Focused; GZ-02 (18-20 ft bgs) - Focused ; GZ-02 (20 -23 ft bgs) - TAL Metals,TCL SVOCs ; GZ-02 (23-26 ft bgs)- TAL Metals, TCL SVOCs; and GZ-02 (26-30 ft bgs)- TAL Metals, TCL SVOCs.
GZ-03	Approximately 18.5 feet east and 18.5 feet north from the southwest property corner	30 ft bgs	9		GZ-03(0-2 in) - Focused; GZ-03 (0-2 ft bgs) - Full suite; GZ-03(4-6ft bgs) -Focused +PFAS;GZ-03 (8-10 ft bgs) - Full suite; GZ-03 (12-14 ft bgs) - Focused; GZ-03 (16-18 ft bgs) - Focused ; GZ-03 (20 -23 ft bgs) - TAL Metals ; GZ-03 (23-26 ft bgs)- TAL Metals; and GZ-03 (26-30 ft bgs)- TAL Metals
GZ-04	Approximately 65 feet east and 5 feet north from the southwest property corner	30 ft bgs	9		GZ-04(0-2 in) - Focused; GZ-04 (0-2 ft bgs) - Full suite; GZ-04 (4-6ft bgs) -Focused +PFAS; GZ-04 (8-10 ft bgs) - Full suite; GZ-04 (12-14 ft bgs) - Focused; GZ-04 (18-20 ft bgs) - Focused; GZ-04 (20 -23 ft bgs) - TAL Metals,TCL SVOCs ; GZ-04 (23-26 ft bgs)- TAL Metals, TCL SVOCs; and GZ-04 (26-30 ft bgs)- TAL Metals, TCL SVOCs ;
GZ-05	Approximately 60 feet south and 12 feet west from the northeast property corner	20 ft bgs	6		GZ-05(0-2 in) - Focused; GZ-05 (0-2 ft bgs) - Full suite; GZ-05 (4-6ft bgs) -Focused +PFAS; GZ-05 (8-10 ft bgs) - Full suite; GZ-05 (12-14 ft bgs) - Focused; and GZ-05 (18-20 ft bgs) - Focused
GZ-06	Approximately 17 feet south and 17 feet west of the northeast property corner	32 ft bgs	10		GZ-06(0-2 in) - Focused; GZ-06 (0-2 ft bgs) - Full suite; GZ-06 (4-6ft bgs) -Focused +PFAS; GZ-06 (8-10 ft bgs) - Full suite; GZ-06 (12-14 ft bgs) - Focused; GZ-06 (18-20 ft bgs) - Focused; GZ-06 (20 -23 ft bgs) - TAL Metals ; GZ-06 (23-26 ft bgs)- TAL Metals; GZ-06 (26-30 ft bgs)- TAL Metals ; and GZ-06 (30-32 ft bgs)- TAL Metals ;
GZ-07	Approximately 16.5 feet south and 40 feet west of the northeast property corner	33 ft bgs	10		GZ-07(0-2 in) - Focused; GZ-07 (0-2 ft bgs) - Full suite; GZ-07 (4-6ft bgs) -Focused +PFAS; GZ-07 (8-10 ft bgs) - Full suite; GZ-07 (12-14 ft bgs) - Focused; GZ-07 (18-20 ft bgs) - Focused; GZ-07 (20 -23 ft bgs) - TAL Metals ; GZ-07 (23-26 ft bgs)- TAL Metals; GZ-07 (26-30 ft bgs)- TAL Metals ; and GZ-07 (30-32 ft bgs)- TAL Metals
GZ-08	Approximately 30 feet south and 25 feet east of the northwest property corner	22 ft bcs	7	To characterize soil conditions and delineate extent and depths of contamination below existing cellar and structure.	GZ-08 (0-2 ft bcs) - Full Suite ; GZ-08 (4-6ft bcs) -Focused; GZ-08 (8-10 ft bcs) - Focused; GZ-08 (10 -13 ft bcs) - TAL Metals ; GZ-08 (13-16 ft bcs)- TAL Metals; GZ-08 (16-20 ft bcs)- TAL Metals ; and GZ-08 (20-22 ft bcs)- TAL Metals
GZ-09	Approximately 43 feet west and 45 feet south of the northeast property corner	10 ft bcs	3		GZ-09 (0-2 ft bcs) - Full Suite ; GZ-09 (4-6ft bcs) -Focused; and GZ-09 (8-10 ft bcs) - Focused
GZ-10	Approximately 11 feet north and 20 feet west of the southeast property corner	20 ft bcs	6		GZ-10 (0-2 ft bcs) - Full Suite ; GZ-10 (4-6ft bcs) -Focused; GZ-10 (8-10 ft bcs) - Focused; GZ-10 (10 -13 ft bcs) - TAL Metals ; GZ-10 (13-16 ft bcs)- TAL Metals; and GZ-10 (16-20 ft bcs)- TAL Metals

Soil Analysis Description

Full Suite : TCL VOCs + TICs, including 1-4 Dioxane (EPA Method SW 846 8260, isotope dilution for 1-4 Dioxane), TCL SVOCs + TICs (EPA Method 8270), TAL metals (EPA Methods SW 846 6010/6020/7470) + cyanide (EPA Method SW 846 9010/9012) and hexavalent chromium, pesticides/herbicides/PCBs (EPA Methods SW 846 8081/8151/8082), Per- and polyfluoroalkyl substances (EPA Method 1633)

Focused : TCL VOCs + TICs, including 1-4 Dioxane (EPA Method SW 846 8260, isotope dilution for 1-4 Dioxane), TCL SVOCs + TICs (EPA Method 8270), TAL metals (EPA Methods SW 846 6010/6020/7470) + cyanide (EPA Method SW 846 9010/9012) and hexavalent chromium

Notes:

ft bgs = feet below ground surface
ft bcs = feet below cellar slab
TCL = Target Compound List
TAL = Target Analyte List
VOCs + TICs = volatile organic compounds plus tentatively identified compounds
SVOCs + TICs = semi-volatile organic compounds plus tentatively identified compounds
PCBs = polychlorinated biphenyls
PFAS = per and polyfluoroalkyl substances

Table 1 - Sample Summary and Rationale
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

Sample Name	Location	Sample / Boring Termination Depth	Number of Samples	Rationale for Sampling	Laboratory Analysis
Soil Vapor					**Analysis**
GSV-01	Approximately 5.5 feet south and 25 feet east of northwest property corner	2 feet above water table	1	To characterize the soil vapor and delineate the extent of impacts	EPA Method TO-15 for VOCs
GSV-02	Approximately 35 feet south and 3 feet east of the northwest property corner	2 feet above water table	1		
GSV-03	Approximately 20 feet north and 25 feet east of southwest property corner	2 feet above water table	1		
GSV-04	Approximately 5 feet north and 65 feet east of southwest property corner	2 feet above water table	1		
GSV-05	Approximately 10 feet west and 58 feet south of northeast property corner	2 feet above water table	1		
GSV-06	Approximately 20 feet west and 5 feet south of northeast property corner	2 feet above water table	1		
GSV-07	Approximately 38 feet east and 48 feet north of southwest property corner	2 feet above water table	1		
GSV-08	Approximately 26 feet north and 67 feet east of southwest property corner	2 feet above water table	1		
GSV-09	Approximately 25 feet south and 45 feet west of northeast property corner	2 feet above water table	1		
GSV-10	Approximately 17 feet south and 75 feet west of northeast property corner	2 feet above water table	1		
GSV-11	Approximately 8 feet south and 20 feet west of northeast property corner	2 feet above water table	1		
GSV-12	Approximately 45 feet south and 15 feet west of northeast property corner	2 feet above water table	1		
Ambient Air/Indoor Air					**Analysis**
OA-01	Approximately 68 feet east and 50 feet north of southwest property corner	3 feet above ground surface	1	To characterize the concentration of VOCs in ambient air and analyze vapor intrusion of the existing cellar	EPA Method TO-15 for VOCs
OA-02	Approximately 8 feet east and 45 feet north of southwest property corner	3 feet above ground surface	1		

Table 1 - Sample Summary and Rationale
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

Sample Name	Location	Well Termination Depth (feet below ground surface)	Number of Samples	Rationale for Sampling	Laboratory Analysis
Groundwater - Permanent Wells					**Analyses**
GMW-01	Approximately 20 feet east and 10 feet south of the northwest property corner	20	1	To characterize the groundwater conditions at the Site	Full Suite
GMW-02	Approximately 40 feet north and 6 feet west of the southeast property corner	20	1		Full Suite
GMW-03	Approximately 18.5 feet east and 18.5 feet north from the southwest property corner	20	1		Full Suite
GMW-04	Approximately 65 feet east and 5 feet north from the southwest property corner	20	1		Full Suite
GMW-05	Approximately 60 feet south and 12 feet west from the northeast property corner	20	1		Full Suite
GMW-06	Approximately 17 feet south and 17 feet west of the northeast property corner	20	1		Full Suite
GMW-07	Approximately 15 feet south and 55 feet west of the northeast property corner	20	1		Focused
GMW-08	Approximately 50 feet north and 10 feet east of the southwest property corner	20	1		Focused
GMW-09	Approximately 10 feet north and 45 feet east of the southwest property corner	20	1		Focused
GMW-10	Approximately 50 feet south and 15 feet west of the northeast property corner	20	1		Focused

Notes:

Based on the Previous Phase II Reports, the water table is anticipated to be between 7 to 13 feet below ground surface, or 10 to 13 feet below ground surface.

Groundwater Analysis Description

Full Suite: TCL VOCs + TICs, including 1-4 Dioxane (EPA Method SW 846 8260, isotope dilution for 1-4 Dioxane), TCL SVOCs + TICs (EPA Method SW 846 8270), pesticides/herbicides/PCBs (EPA Methods SW 846 8081/8151/8082), total and dissolved TAL metals (EPA Methods SW 846 6010/6020/7470), cyanide (EPA Method SW 846 9010/9012), and mercury (EPA Method SW 846 7471); PFAS (EPA Method 1633)

Focused: Total and dissolved Target Analyte List (TAL) Metals by EPA Method 6010C/6020/7471B; Total and dissolved Cyanide by EPA method 9010/9012; and Total and dissolved Mercury by EPA method 7471

Table 2 - Volatile Organic Compounds in Soil
55 Eckford Street, Brooklyn, NY

Remedial Investigation Report
BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-01A (0-2in bgs)		GZ-01B (0-2ft bgs)		GZ-01C (4-6ft bgs)		GZ-01D (8-10ft bgs)		GZ-01E (12-14ft bgs)		GZ-01F (18-20ft bgs)	
LAB SAMPLE ID				24L0931-01		24L0931-02		24L0931-03		24L0931-04		24L0931-05		24L0931-06	
SAMPLE DATE				12/12/2024 8:00:00 AM		12/12/2024 8:20:00 AM		12/12/2024 8:10:00 AM		12/12/2024 8:40:00 AM		12/12/2024 8:50:00 AM		12/12/2024 8:30:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organic Compounds (VOC) BY EPA Method 5035/8260 (mg/kg)															
1,1,1,2-Tetrachloroethane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,1,1-Trichloroethane	0.68	100	0.68	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,1,2,2-Tetrachloroethane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,1,2-Trichloro-1,2,2-trifluoroethane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,1,2-Trichloroethane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,1-Dichloroethane	0.27	26	0.27	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,1-Dichloroethylene	0.33	100	0.33	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,1-Dichloropropylene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,2,3-Trichlorobenzene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,2,3-Trichloropropane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,2,4,5-Tetramethylbenzene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,2,4-Trichlorobenzene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,2,4-Trimethylbenzene	3.6	52	3.6	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,2-Dibromo-3-chloropropane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,2-Dibromoethane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,2-Dichloroethane	0.02	3.1	0.02	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,2-Dichloropropane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,3,5-Trimethylbenzene	8.4	52	8.4	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,3-Dichloropropane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
1,4-Dioxane	0.1	13	0.1	0.047	U	0.044	U	0.057	U	0.049	U	0.045	U	0.045	U
2,2-Dichloropropane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
2-Butanone	0.12	100	0.12	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0038	J	0.0028	J
2-Chloroethylvinyl ether	~	~	~	0.0094	U	0.0089	U	0.011	U	0.0098	U	0.009	U	0.009	U
2-Chlorotoluene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
2-Hexanone	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
4-Chlorotoluene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
4-Methyl-2-pentanone	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Acetone	0.05	100	0.05	0.0047	U	0.0044	U	0.0057	U	0.0049	U	0.016		0.013	
Acrolein	~	~	~	0.0047	U	0.0044	U	0.0057	U	0.0049	U	0.0045	U	0.0045	U
Acrylonitrile	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Benzene	0.06	4.8	0.06	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Bromobenzene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Bromochloromethane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Bromodichloromethane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Bromoform	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Bromomethane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Carbon disulfide	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Carbon tetrachloride	0.76	2.4	0.76	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Chlorobenzene	1.1	100	1.1	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Chloroethane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Chloroform	0.37	49	0.37	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Chloromethane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
cis-1,2-Dichloroethylene	0.25	100	0.25	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
cis-1,3-Dichloropropylene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Cyclohexane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Dibromochloromethane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Dibromomethane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Dichlorodifluoromethane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Diisopropyl ether (DIPE)	~	~	~	0.0038	U	0.0036	U	0.0046	U	0.0039	U	0.0036	U	0.0036	U
Ethanol	~	~	~	0.038	U	0.036	U	0.046	U	0.039	U	0.036	U	0.036	U
Ethyl Benzene	1	41	1	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Ethyl tert-butyl ether (ETBE)	~	~	~	0.0038	U	0.0036	U	0.0046	U	0.0039	U	0.0036	U	0.0036	U
Hexachlorobutadiene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Iodomethane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Isopropylbenzene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Methyl acetate	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Methyl Methacrylate	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Methyl tert-butyl ether (MTBE)	0.93	100	0.93	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Methylcyclohexane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Methylene chloride	0.05	100	0.05	0.0047	U	0.0044	U	0.0057	U	0.0049	U	0.0045	U	0.0045	U
Naphthalene	12	100	12	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
n-Butylbenzene	12	100	12	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
n-Propylbenzene	3.9	100	3.9	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
o-Xylene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
p- & m- Xylenes	~	~	~	0.0047	U	0.0044	U	0.0057	U	0.0049	U	0.0045	U	0.0045	U
p-Diethylbenzene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
p-Ethyltoluene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
p-Isopropyltoluene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
sec-Butylbenzene	11	100	11	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Styrene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
tert-Amyl alcohol (TAA)	~	~	~	0.038	U	0.036	U	0.046	U	0.039	U	0.036	U	0.036	U
tert-Amyl methyl ether (TAME)	~	~	~	0.0038	U	0.0036	U	0.0046	U	0.0039	U	0.0036	U	0.0036	U
tert-Butyl alcohol (TBA)	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
tert-Butylbenzene	5.9	100	5.9	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Tetrachloroethylene	1.3	19	1.3	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Tetrahydrofuran	~	~	~	0.0047	U	0.0044	U	0.0057	U	0.0049	U	0.0045	U	0.0045	U
Toluene	0.7	100	0.7	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
trans-1,2-Dichloroethylene	0.19	100	0.19	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
trans-1,3-Dichloropropylene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
trans-1,4-dichloro-2-butene	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Trichloroethylene	0.47	21	0.47	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Trichlorofluoromethane	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Vinyl acetate	~	~	~	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Vinyl Chloride	0.02	0.9	0.02	0.0024	U	0.0022	U	0.0029	U	0.0024	U	0.0022	U	0.0022	U
Xylenes, Total	0.26	100	1.6	0.0071	U	0.0067	U	0.0086	U	0.0073	U	0.0067	U	0.0067	U

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
B: Analyte found in the analysis batch blank.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or est.imated detection
E: Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
in / ft bgs: inches / feet below ground surface.
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use and Protection of Groundwater Soil Cleanup Objectives.

Table 2 - Volatile Organic Compounds in Soil
55 Eckford Street
Brooklyn, NY

Remedial Investigation Report
BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-02A (0-2in bgs)		GZ-02B (0-2ft bgs)		GZ-02C (4-6ft bgs)		GZ-02D (8-10ft bgs)		GZ-02E (12-14ft bgs)		GZ-02F (18-20ft bgs)	
LAB SAMPLE ID				24L0931-07		24L0931-08		24L0931-09		24L0931-10		24L0931-11		24L0931-12	
SAMPLE DATE				12/12/2024 9:00:00 AM		12/12/2024 9:10:00 AM		12/12/2024 9:20:00 AM		12/12/2024 9:30:00 AM		12/12/2024 9:40:00 AM		12/12/2024 9:50:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organic Compounds (VOC) BY EPA Method 5035/8260 (mg/kg)															
1,1,1,2-Tetrachloroethane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,1,1-Trichloroethane	0.68	100	0.68	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,1,2,2-Tetrachloroethane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,1,2-Trichloro-1,2,2-trifluoroethane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,1,2-Trichloroethane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,1-Dichloroethane	0.27	26	0.27	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,1-Dichloroethylene	0.33	100	0.33	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,1-Dichloropropylene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,2,3-Trichlorobenzene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,2,3-Trichloropropane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,2,4,5-Tetramethylbenzene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,2,4-Trichlorobenzene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,2,4-Trimethylbenzene	3.6	52	3.6	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,2-Dibromo-3-chloropropane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,2-Dibromoethane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,2-Dichloroethane	0.02	3.1	0.02	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,2-Dichloropropane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,3,5-Trimethylbenzene	8.4	52	8.4	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,3-Dichloropropane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
1,4-Dioxane	0.1	13	0.1	0.051	U	0.051	U	0.062	U	0.066	U	0.087	U	0.068	U
2,2-Dichloropropane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
2-Butanone	0.12	100	0.12	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.031	
2-Chloroethylvinyl ether	~	~	~	0.01	U	0.01	U	0.012	U	0.013	U	0.017	U	0.014	U
2-Chlorotoluene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
2-Hexanone	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
4-Chlorotoluene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
4-Methyl-2-pentanone	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Acetone	0.05	100	0.05	0.0051	U	0.0051	U	0.0062	U	0.0066	U	0.049		**0.11**	
Acrolein	~	~	~	0.0051	U	0.0051	U	0.0062	U	0.0066	U	0.0087	U	0.0068	U
Acrylonitrile	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Benzene	0.06	4.8	0.06	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Bromobenzene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Bromochloromethane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Bromodichloromethane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Bromoform	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Bromomethane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Carbon disulfide	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0039	J
Carbon tetrachloride	0.76	2.4	0.76	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Chlorobenzene	1.1	100	1.1	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Chloroethane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Chloroform	0.37	49	0.37	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Chloromethane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
cis-1,2-Dichloroethylene	0.25	100	0.25	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
cis-1,3-Dichloropropylene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Cyclohexane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Dibromochloromethane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Dibromomethane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Dichlorodifluoromethane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Diisopropyl ether (DIPE)	~	~	~	0.0041	U	0.0041	U	0.005	U	0.0053	U	0.007	U	0.0054	U
Ethanol	~	~	~	0.041	U	0.041	U	0.05	U	0.053	U	0.07	U	0.12	
Ethyl Benzene	1	41	1	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Ethyl tert-butyl ether (ETBE)	~	~	~	0.0041	U	0.0041	U	0.005	U	0.0053	U	0.007	U	0.0054	U
Hexachlorobutadiene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Iodomethane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Isopropylbenzene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Methyl acetate	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	J	0.0034	U
Methyl Methacrylate	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Methyl tert-butyl ether (MTBE)	0.93	100	0.93	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Methylcyclohexane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Methylene chloride	0.05	100	0.05	0.0051	U	0.0051	U	0.0062	U	0.0066	U	0.012	J	0.0068	U
Naphthalene	12	100	12	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
n-Butylbenzene	12	100	12	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
n-Propylbenzene	3.9	100	3.9	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
o-Xylene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
p- & m- Xylenes	~	~	~	0.0051	U	0.0051	U	0.0062	U	0.0066	U	0.0087	U	0.0068	U
p-Diethylbenzene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
p-Ethyltoluene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
p-Isopropyltoluene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
sec-Butylbenzene	11	100	11	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Styrene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
tert-Amyl alcohol (TAA)	~	~	~	0.041	U	0.041	U	0.05	U	0.053	U	0.07	U	0.054	U
tert-Amyl methyl ether (TAME)	~	~	~	0.0041	U	0.0041	U	0.005	U	0.0053	U	0.007	U	0.0054	U
tert-Butyl alcohol (TBA)	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
tert-Butylbenzene	5.9	100	5.9	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0063	J
Tetrachloroethylene	1.3	19	1.3	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Tetrahydrofuran	~	~	~	0.0051	U	0.0051	U	0.0062	U	0.0066	U	0.0087	U	0.0068	U
Toluene	0.7	100	0.7	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
trans-1,2-Dichloroethylene	0.19	100	0.19	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
trans-1,3-Dichloropropylene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
trans-1,4-dichloro-2-butene	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Trichloroethylene	0.47	21	0.47	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0046	J	0.0034	U
Trichlorofluoromethane	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Vinyl acetate	~	~	~	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Vinyl Chloride	0.02	0.9	0.02	0.0025	U	0.0026	U	0.0031	U	0.0033	U	0.0044	U	0.0034	U
Xylenes, Total	0.26	100	1.6	0.0076	U	0.0077	U	0.0094	U	0.0099	U	0.013	U	0.01	U

Table Notes:
--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
B: Analyte found in the analysis batch blank.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or est.imated detection limit (EDL)
E: Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
in / ft bgs: inches / feet below ground surface.
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use and Protection of Groundwater Soil Cleanup Objectives.

Table 2 - Volatile Organic Compounds in Soil
55 Eckford Street
Brooklyn, NY

Remedial Investigation Report
BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-03A (0-2in bgs)		GZ-03B (0-2ft bgs)		GZ-03C (4-6ft bgs)		GZ-03D (8-10ft bgs)		GZ-03E (12-14ft bgs)		GZ-03F (16-18ft bgs)	
LAB SAMPLE ID				24L0931-13		24L0931-14		24L0931-15		24L0931-16		24L0931-17		24L0931-18	
SAMPLE DATE				12/12/2024 10:30:00 AM		12/12/2024 10:40:00 AM		12/12/2024 10:50:00 AM		12/12/2024 11:00:00 AM		12/12/2024 11:10:00 AM		12/12/2024 11:20:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organic Compounds (VOC) BY EPA Method 5035/8260 (mg/kg)															
1,1,1,2-Tetrachloroethane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,1,1-Trichloroethane	0.68	100	0.68	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,1,2,2-Tetrachloroethane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,1,2-Trichloro-1,2,2-trifluoroethane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,1,2-Trichloroethane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,1-Dichloroethane	0.27	26	0.27	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,1-Dichloroethylene	0.33	100	0.33	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,1-Dichloropropylene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,2,3-Trichlorobenzene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,2,3-Trichloropropane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,2,4,5-Tetramethylbenzene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.023		0.0066	U
1,2,4-Trichlorobenzene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,2,4-Trimethylbenzene	3.6	52	3.6	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,2-Dibromo-3-chloropropane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,2-Dibromoethane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,2-Dichloroethane	0.02	3.1	0.02	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,2-Dichloropropane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,3,5-Trimethylbenzene	8.4	52	8.4	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,3-Dichloropropane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
1,4-Dioxane	0.1	13	0.1	0.052	U	0.057	U	0.086	U	0.1	U	0.048	U	0.13	U
2,2-Dichloropropane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
2-Butanone	0.12	100	0.12	0.0026	U	0.0028	U	0.0043	U	0.037		0.0071		0.009	J
2-Chloroethylvinyl ether	~	~	~	0.01	U	0.011	U	0.017	U	0.02	U	0.0096	U	0.026	U
2-Chlorotoluene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
2-Hexanone	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
4-Chlorotoluene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
4-Methyl-2-pentanone	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Acetone	0.05	100	0.05	0.0052	U	0.009	J	0.0086	U	**0.18**		0.027		0.049	
Acrolein	~	~	~	0.0052	U	0.0057	U	0.0086	U	0.01	U	0.0048	U	0.013	U
Acrylonitrile	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Benzene	0.06	4.8	0.06	0.0026	U	0.0028	U	0.0043	U	0.0099	J	0.0024	U	0.0066	U
Bromobenzene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Bromochloromethane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Bromodichloromethane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Bromoform	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Bromomethane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Carbon disulfide	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.029		0.0024	U	0.04	
Carbon tetrachloride	0.76	2.4	0.76	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Chlorobenzene	1.1	100	1.1	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Chloroethane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Chloroform	0.37	49	0.37	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Chloromethane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
cis-1,2-Dichloroethylene	0.25	100	0.25	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
cis-1,3-Dichloropropylene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Cyclohexane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Dibromochloromethane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Dibromomethane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Dichlorodifluoromethane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Diisopropyl ether (DIPE)	~	~	~	0.0041	U	0.0045	U	0.0069	U	0.0081	U	0.0038	U	0.01	U
Ethanol	~	~	~	0.041	U	0.045	U	0.069	U	0.081	U	0.038	U	0.1	U
Ethyl Benzene	1	41	1	0.0026	U	0.0028	U	0.0043	U	0.013		0.0024	U	0.0066	U
Ethyl tert-butyl ether (ETBE)	~	~	~	0.0041	U	0.0045	U	0.0069	U	0.0081	U	0.0038	U	0.01	U
Hexachlorobutadiene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Iodomethane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Isopropylbenzene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Methyl acetate	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0096	J	0.0024	U	0.0066	U
Methyl Methacrylate	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Methyl tert-butyl ether (MTBE)	0.93	100	0.93	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Methylcyclohexane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Methylene chloride	0.05	100	0.05	0.0052	U	0.0057	U	0.0086	U	0.01	U	0.0048	U	0.013	U
Naphthalene	12	100	12	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
n-Butylbenzene	12	100	12	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
n-Propylbenzene	3.9	100	3.9	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
o-Xylene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
p- & m- Xylenes	~	~	~	0.0052	U	0.0057	U	0.0086	U	0.01	U	0.0048	U	0.013	U
p-Diethylbenzene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
p-Ethyltoluene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
p-Isopropyltoluene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
sec-Butylbenzene	11	100	11	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Styrene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
tert-Amyl alcohol (TAA)	~	~	~	0.041	U	0.045	U	0.069	U	0.081	U	0.038	U	0.1	U
tert-Amyl methyl ether (TAME)	~	~	~	0.0041	U	0.0045	U	0.0069	U	0.0081	U	0.0038	U	0.01	U
tert-Butyl alcohol (TBA)	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
tert-Butylbenzene	5.9	100	5.9	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Tetrachloroethylene	1.3	19	1.3	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Tetrahydrofuran	~	~	~	0.0052	U	0.0057	U	0.0086	U	0.01	U	0.0048	U	0.013	U
Toluene	0.7	100	0.7	0.0026	U	0.0028	U	0.0043	U	0.03		0.0024	U	0.0066	U
trans-1,2-Dichloroethylene	0.19	100	0.19	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
trans-1,3-Dichloropropylene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
trans-1,4-dichloro-2-butene	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Trichloroethylene	0.47	21	0.47	0.0058		0.045		0.0043	U	0.0051	U	0.0024	U	0.0066	U
Trichlorofluoromethane	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Vinyl acetate	~	~	~	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Vinyl Chloride	0.02	0.9	0.02	0.0026	U	0.0028	U	0.0043	U	0.0051	U	0.0024	U	0.0066	U
Xylenes, Total	0.26	100	1.6	0.0077	U	0.0085	U	0.013	U	0.015	U	0.0072	U	0.02	U

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
B: Analyte found in the analysis batch blank.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or est.imated detection limit (EDL)
E: Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
in / ft bgs: inches / feet below ground surface.
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use and Protection of Groundwater Soil Cleanup Objectives.

Table 2 - Volatile Organic Compounds in Soil
55 Eckford Street
Brooklyn, NY

Remedial Investigation Report
BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-04A (0-2in bgs)		GZ-04B (0-2ft bgs)		GZ-04C (4-6ft bgs)		GZ-04D (8-10ft bgs)		GZ-04E (12-14ft bgs)		GZ-04F (18-20ft bgs)	
LAB SAMPLE ID				24L0931-19		24L0931-20		24L0931-21		24L0931-22		24L0931-23		24L0931-24	
SAMPLE DATE				12/12/2024 12:00:00 PM		12/12/2024 12:10:00 PM		12/12/2024 12:20:00 PM		12/12/2024 12:30:00 PM		12/12/2024 12:50:00 PM		12/12/2024 1:00:00 PM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organic Compounds (VOC) BY EPA Method 5035/8260 (mg/kg)															
1,1,1,2-Tetrachloroethane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,1,1-Trichloroethane	0.68	100	0.68	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,1,2,2-Tetrachloroethane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,1,2-Trichloro-1,2,2-trifluoroethane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,1,2-Trichloroethane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,1-Dichloroethane	0.27	26	0.27	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,1-Dichloroethylene	0.33	100	0.33	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,1-Dichloropropylene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,2,3-Trichlorobenzene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,2,3-Trichloropropane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,2,4,5-Tetramethylbenzene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,2,4-Trichlorobenzene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,2,4-Trimethylbenzene	3.6	52	3.6	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,2-Dibromo-3-chloropropane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,2-Dibromoethane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,2-Dichloroethane	0.02	3.1	0.02	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,2-Dichloropropane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,3,5-Trimethylbenzene	8.4	52	8.4	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,3-Dichloropropane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
1,4-Dioxane	0.1	13	0.1	0.055	U	0.05	U	0.063	U	0.064	U	0.09	U	0.33	U
2,2-Dichloropropane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
2-Butanone	0.12	100	0.12	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.01		0.016	U
2-Chloroethylvinyl ether	~	~	~	0.011	U	0.01	U	0.013	U	0.013	U	0.018	U	0.065	U
2-Chlorotoluene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
2-Hexanone	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
4-Chlorotoluene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
4-Methyl-2-pentanone	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Acetone	0.05	100	0.05	0.016		0.005	U	0.0063	U	0.0064	U	0.049		**0.061**	**J**
Acrolein	~	~	~	0.0055	U	0.005	U	0.0063	U	0.0064	U	0.009	U	0.033	U
Acrylonitrile	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Benzene	0.06	4.8	0.06	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Bromobenzene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Bromochloromethane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Bromodichloromethane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Bromoform	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Bromomethane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Carbon disulfide	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.027	J
Carbon tetrachloride	0.76	2.4	0.76	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Chlorobenzene	1.1	100	1.1	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Chloroethane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Chloroform	0.37	49	0.37	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Chloromethane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
cis-1,2-Dichloroethylene	0.25	100	0.25	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
cis-1,3-Dichloropropylene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Cyclohexane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Dibromochloromethane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Dibromomethane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Dichlorodifluoromethane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Diisopropyl ether (DIPE)	~	~	~	0.0044	U	0.004	U	0.005	U	0.0051	U	0.0072	U	0.026	U
Ethanol	~	~	~	0.044	U	0.04	U	0.05	U	0.051	U	0.072	U	0.26	U
Ethyl Benzene	1	41	1	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Ethyl tert-butyl ether (ETBE)	~	~	~	0.0044	U	0.004	U	0.005	U	0.0051	U	0.0072	U	0.026	U
Hexachlorobutadiene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Iodomethane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Isopropylbenzene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Methyl acetate	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Methyl Methacrylate	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Methyl tert-butyl ether (MTBE)	0.93	100	0.93	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Methylcyclohexane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Methylene chloride	0.05	100	0.05	0.0055	U	0.005	U	0.0065	J	0.0064	U	0.009	U	0.033	U
Naphthalene	12	100	12	0.0028	U	0.0025	U	0.35		0.0032	U	0.0045	U	0.016	U
n-Butylbenzene	12	100	12	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.009		0.016	U
n-Propylbenzene	3.9	100	3.9	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
o-Xylene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
p- & m- Xylenes	~	~	~	0.0055	U	0.005	U	0.0063	U	0.0064	U	0.009	U	0.033	U
p-Diethylbenzene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
p-Ethyltoluene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
p-Isopropyltoluene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
sec-Butylbenzene	11	100	11	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Styrene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
tert-Amyl alcohol (TAA)	~	~	~	0.044	U	0.04	U	0.05	U	0.051	U	0.072	U	0.26	U
tert-Amyl methyl ether (TAME)	~	~	~	0.0044	U	0.004	U	0.005	U	0.0051	U	0.0072	U	0.026	U
tert-Butyl alcohol (TBA)	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
tert-Butylbenzene	5.9	100	5.9	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Tetrachloroethylene	1.3	19	1.3	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Tetrahydrofuran	~	~	~	0.0055	U	0.005	U	0.0063	U	0.0064	U	0.009	U	0.033	U
Toluene	0.7	100	0.7	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
trans-1,2-Dichloroethylene	0.19	100	0.19	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
trans-1,3-Dichloropropylene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
trans-1,4-dichloro-2-butene	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Trichloroethylene	0.47	21	0.47	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Trichlorofluoromethane	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Vinyl acetate	~	~	~	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Vinyl Chloride	0.02	0.9	0.02	0.0028	U	0.0025	U	0.0031	U	0.0032	U	0.0045	U	0.016	U
Xylenes, Total	0.26	100	1.6	0.0083	U	0.0076	U	0.0094	U	0.0096	U	0.014	U	0.049	U

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
B: Analyte found in the analysis batch blank.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or est.imated detection limit (EDL)
E: Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
in / ft bgs: inches / feet below ground surface.
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use and Protection of Groundwater Soil Cleanup Objectives.

Table 2 - Volatile Organic Compounds in Soil
55 Eckford Street
Brooklyn, NY

Remedial Investigation Report
BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-05A (0-2in bgs)		GZ-05B (0-2ft bgs)		GZ-05C (4-6ft bgs)		GZ-05D (8-10ft bgs)		GZ-05E (12-14ft bgs)		GZ-05F(18-20ft bgs)	
LAB SAMPLE ID				24L0797-01		24L0797-02		24L0797-03		24L0797-04		24L0797-05		24L0797-06	
SAMPLE DATE				12/11/2024 12:05:00 PM		12/11/2024 12:50:00 PM		12/11/2024 1:00:00 PM		12/11/2024 12:40:00 PM		12/11/2024 12:30:00 PM		12/11/2024 12:20:00 PM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organic Compounds (VOC) BY EPA Method 5035/8260 (mg/kg)															
1,1,1,2-Tetrachloroethane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,1,1-Trichloroethane	0.68	100	0.68	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,1,2,2-Tetrachloroethane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,1,2-Trichloro-1,2,2-trifluoroethane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,1,2-Trichloroethane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,1-Dichloroethane	0.27	26	0.27	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,1-Dichloroethylene	0.33	100	0.33	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,1-Dichloropropylene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,2,3-Trichlorobenzene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,2,3-Trichloropropane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,2,4,5-Tetramethylbenzene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,2,4-Trichlorobenzene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,2,4-Trimethylbenzene	3.6	52	3.6	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,2-Dibromo-3-chloropropane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,2-Dibromoethane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,2-Dichloroethane	0.02	3.1	0.02	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,2-Dichloropropane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,3,5-Trimethylbenzene	8.4	52	8.4	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,3-Dichloropropane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
1,4-Dioxane	0.1	13	0.1	0.051	U	0.058	U	0.051	U	0.076	U	0.087	U	0.16	U
2,2-Dichloropropane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
2-Butanone	0.12	100	0.12	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0082	J	0.046	
2-Chloroethylvinyl ether	~	~	~	0.01	U	0.012	U	0.01	U	0.015	U	0.017	U	0.032	U
2-Chlorotoluene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
2-Hexanone	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
4-Chlorotoluene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
4-Methyl-2-pentanone	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Acetone	0.05	100	0.05	0.0051	U	0.0058	U	0.0051	U	0.0076	U	0.04		**0.15**	
Acrolein	~	~	~	0.0051	U	0.0058	U	0.0051	U	0.0076	U	0.0087	U	0.016	U
Acrylonitrile	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Benzene	0.06	4.8	0.06	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Bromobenzene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Bromochloromethane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Bromodichloromethane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Bromoform	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Bromomethane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Carbon disulfide	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0059	J	0.008	U
Carbon tetrachloride	0.76	2.4	0.76	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Chlorobenzene	1.1	100	1.1	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Chloroethane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Chloroform	0.37	49	0.37	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Chloromethane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
cis-1,2-Dichloroethylene	0.25	100	0.25	0.0026	U	0.0052	J	0.0026	U	0.0038	U	0.0044	U	0.008	U
cis-1,3-Dichloropropylene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Cyclohexane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Dibromochloromethane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Dibromomethane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Dichlorodifluoromethane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Diisopropyl ether (DIPE)	~	~	~	0.0041	U	0.0046	U	0.0041	U	0.0061	U	0.007	U	0.013	U
Ethanol	~	~	~	0.041	U	0.046	U	0.041	U	0.061	U	0.07	U	0.13	U
Ethyl Benzene	1	41	1	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Ethyl tert-butyl ether (ETBE)	~	~	~	0.0041	U	0.0046	U	0.0041	U	0.0061	U	0.007	U	0.013	U
Hexachlorobutadiene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Iodomethane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Isopropylbenzene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Methyl acetate	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Methyl Methacrylate	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Methyl tert-butyl ether (MTBE)	0.93	100	0.93	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Methylcyclohexane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Methylene chloride	0.05	100	0.05	0.0051	U	0.0058	U	0.0051	U	0.0076	U	0.0087	U	0.016	J
Naphthalene	12	100	12	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
n-Butylbenzene	12	100	12	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
n-Propylbenzene	3.9	100	3.9	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
o-Xylene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
p- & m- Xylenes	~	~	~	0.0051	U	0.0058	U	0.0051	U	0.0076	U	0.0087	U	0.016	U
p-Diethylbenzene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
p-Ethyltoluene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
p-Isopropyltoluene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
sec-Butylbenzene	11	100	11	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.055		0.008	U
Styrene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
tert-Amyl alcohol (TAA)	~	~	~	0.041	U	0.046	U	0.041	U	0.061	U	0.07	U	0.13	U
tert-Amyl methyl ether (TAME)	~	~	~	0.0041	U	0.0046	U	0.0041	U	0.0061	U	0.007	U	0.013	U
tert-Butyl alcohol (TBA)	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
tert-Butylbenzene	5.9	100	5.9	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.059		0.008	U
Tetrachloroethylene	1.3	19	1.3	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Tetrahydrofuran	~	~	~	0.0051	U	0.0058	U	0.0051	U	0.0076	U	0.0087	U	0.016	U
Toluene	0.7	100	0.7	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
trans-1,2-Dichloroethylene	0.19	100	0.19	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
trans-1,3-Dichloropropylene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
trans-1,4-dichloro-2-butene	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Trichloroethylene	0.47	21	0.47	0.0026	U	0.028		0.005	J	0.0073	J	0.0044	U	0.008	U
Trichlorofluoromethane	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Vinyl acetate	~	~	~	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Vinyl Chloride	0.02	0.9	0.02	0.0026	U	0.0029	U	0.0026	U	0.0038	U	0.0044	U	0.008	U
Xylenes, Total	0.26	100	1.6	0.0077	U	0.0086	U	0.0077	U	0.011	U	0.013	U	0.024	U

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
B: Analyte found in the analysis batch blank.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or est.imated detection limit (EDL)
E: Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
in / ft bgs: inches / feet below ground surface.
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use and Protection of Groundwater Soil Cleanup Objectives.

Table 2 - Volatile Organic Compounds in Soil
55 Eckford Street
Brooklyn, NY

Remedial Investigation Report
BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-06A (0-2in bgs)		GZ-06B (0-2ft bgs)		GZ-06C (4-6ft bgs)		GZ-06D (8-10ft bgs)		GZ-06E (12-14ft bgs)		GZ-06F (18-20ft bgs)	
LAB SAMPLE ID				24L0646-01		24L0646-02		24L0646-03		24L0646-04		24L0646-05		24L0646-06	
SAMPLE DATE				12/10/2024 9:20:00 AM		12/10/2024 9:30:00 AM		12/10/2024 9:45:00 AM		12/10/2024 10:10:00 AM		12/10/2024 10:30:00 AM		12/10/2024 10:45:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organic Compounds (VOC) BY EPA Method 5035/8260 (mg/kg)															
1,1,1,2-Tetrachloroethane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,1,1-Trichloroethane	0.68	100	0.68	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,1,2,2-Tetrachloroethane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,1,2-Trichloro-1,2,2-trifluoroethane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,1,2-Trichloroethane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,1-Dichloroethane	0.27	26	0.27	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,1-Dichloroethylene	0.33	100	0.33	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,1-Dichloropropylene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,2,3-Trichlorobenzene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,2,3-Trichloropropane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,2,4,5-Tetramethylbenzene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.092		0.0039	U
1,2,4-Trichlorobenzene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,2,4-Trimethylbenzene	3.6	52	3.6	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,2-Dibromo-3-chloropropane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,2-Dibromoethane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,2-Dichloroethane	0.02	3.1	0.02	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,2-Dichloropropane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,3,5-Trimethylbenzene	8.4	52	8.4	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,3-Dichloropropane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
1,4-Dioxane	0.1	13	0.1	0.072	U	0.066	U	0.088	U	0.061	U	0.1	U	0.078	U
2,2-Dichloropropane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
2-Butanone	0.12	100	0.12	0.032		0.0033	U	0.0044	U	0.003	U	0.005	U	0.0064	J
2-Chloroethylvinyl ether	~	~	~	0.014	U	0.013	U	0.018	U	0.012	U	0.02	U	0.016	U
2-Chlorotoluene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
2-Hexanone	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
4-Chlorotoluene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
4-Methyl-2-pentanone	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Acetone	0.05	100	0.05	**0.51**		0.0066	U	0.0088	U	0.0061	U	0.016	J	0.022	
Acrolein	~	~	~	0.0072	U	0.0066	U	0.0088	U	0.0061	U	0.01	U	0.0078	U
Acrylonitrile	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Benzene	0.06	4.8	0.06	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Bromobenzene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Bromochloromethane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Bromodichloromethane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Bromoform	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Bromomethane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Carbon disulfide	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Carbon tetrachloride	0.76	2.4	0.76	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Chlorobenzene	1.1	100	1.1	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Chloroethane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Chloroform	0.37	49	0.37	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Chloromethane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
cis-1,2-Dichloroethylene	0.25	100	0.25	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
cis-1,3-Dichloropropylene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Cyclohexane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Dibromochloromethane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Dibromomethane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Dichlorodifluoromethane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Diisopropyl ether (DIPE)	~	~	~	0.0058	U	0.0052	U	0.007	U	0.0049	U	0.008	U	0.0063	U
Ethanol	~	~	~	0.16	J	0.052	U	0.07	U	0.049	U	0.08	U	0.063	U
Ethyl Benzene	1	41	1	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Ethyl tert-butyl ether (ETBE)	~	~	~	0.0058	U	0.0052	U	0.007	U	0.0049	U	0.008	U	0.0063	U
Hexachlorobutadiene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Iodomethane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Isopropylbenzene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Methyl acetate	~	~	~	0.013		0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Methyl Methacrylate	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Methyl tert-butyl ether (MTBE)	0.93	100	0.93	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Methylcyclohexane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Methylene chloride	0.05	100	0.05	0.0072	U	0.0066	U	0.0088	U	0.0061	U	0.025	B	0.0078	U
Naphthalene	12	100	12	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
n-Butylbenzene	12	100	12	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
n-Propylbenzene	3.9	100	3.9	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
o-Xylene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
p- & m- Xylenes	~	~	~	0.0072	U	0.0066	U	0.0088	U	0.0061	U	0.01	U	0.0078	U
p-Diethylbenzene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.0098	J	0.0039	U
p-Ethyltoluene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
p-Isopropyltoluene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
sec-Butylbenzene	11	100	11	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.57		0.0039	U
Styrene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
tert-Amyl alcohol (TAA)	~	~	~	0.058	U	0.052	U	0.07	U	0.049	U	0.08	U	0.063	U
tert-Amyl methyl ether (TAME)	~	~	~	0.0058	U	0.0052	U	0.007	U	0.0049	U	0.008	U	0.0063	U
tert-Butyl alcohol (TBA)	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
tert-Butylbenzene	5.9	100	5.9	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.11		0.0039	U
Tetrachloroethylene	1.3	19	1.3	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Tetrahydrofuran	~	~	~	0.0072	U	0.0066	U	0.0088	U	0.0061	U	0.01	U	0.0078	U
Toluene	0.7	100	0.7	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
trans-1,2-Dichloroethylene	0.19	100	0.19	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
trans-1,3-Dichloropropylene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
trans-1,4-dichloro-2-butene	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Trichloroethylene	0.47	21	0.47	0.0036	U	0.0033	U	0.0045	J	0.003	U	0.005	U	0.0039	U
Trichlorofluoromethane	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Vinyl acetate	~	~	~	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Vinyl Chloride	0.02	0.9	0.02	0.0036	U	0.0033	U	0.0044	U	0.003	U	0.005	U	0.0039	U
Xylenes, Total	0.26	100	1.6	0.011	U	0.0098	U	0.013	U	0.0091	U	0.015	U	0.012	U

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
B: Analyte found in the analysis batch blank.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or est.imated detection limit (EDL)
E: Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
in / ft bgs: inches / feet below ground surface.
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use and Protection of Groundwater Soil Cleanup Objectives.

Table 2 - Volatile Organic Compounds in Soil
55 Eckford Street
Brooklyn, NY

Remedial Investigation Report
BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-07A (0-2in bgs)		GZ-07B (0-2ft bgs)		GZ-07C (4-6ft bgs)		GZ-07D (8-10ft bgs)		GZ-07E (12-14ft bgs)		GZ-07F (18-20ft bgs)	
LAB SAMPLE ID				24L0646-07		24L0646-08		24L0646-09		24L0646-10		24L0646-11		24L0646-12	
SAMPLE DATE				12/10/2024 11:30:00 AM		12/10/2024 11:40:00 AM		12/10/2024 11:50:00 AM		12/10/2024 12:00:00 PM		12/10/2024 12:30:00 PM		12/10/2024 12:45:00 PM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organic Compounds (VOC) BY EPA Method 5035/8260 (mg/kg)															
1,1,1,2-Tetrachloroethane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,1,1-Trichloroethane	0.68	100	0.68	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,1,2,2-Tetrachloroethane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,1,2-Trichloro-1,2,2-trifluoroethane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,1,2-Trichloroethane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,1-Dichloroethane	0.27	26	0.27	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,1-Dichloroethylene	0.33	100	0.33	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,1-Dichloropropylene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,2,3-Trichlorobenzene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,2,3-Trichloropropane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,2,4,5-Tetramethylbenzene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,2,4-Trichlorobenzene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,2,4-Trimethylbenzene	3.6	52	3.6	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,2-Dibromo-3-chloropropane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,2-Dibromoethane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,2-Dichloroethane	0.02	3.1	0.02	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,2-Dichloropropane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,3,5-Trimethylbenzene	8.4	52	8.4	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,3-Dichloropropane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
1,4-Dioxane	0.1	13	0.1	0.052	U	0.066	U	0.056	U	0.088	U	0.076	U	0.14	U
2,2-Dichloropropane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
2-Butanone	0.12	100	0.12	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0044	J	0.063	
2-Chloroethylvinyl ether	~	~	~	0.01	U	0.013	U	0.011	U	0.018	U	0.015	U	0.027	U
2-Chlorotoluene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
2-Hexanone	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
4-Chlorotoluene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
4-Methyl-2-pentanone	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Acetone	0.05	100	0.05	0.0052	U	0.0066	U	0.0056	U	0.0088	U	0.015		**0.25**	
Acrolein	~	~	~	0.0052	U	0.0066	U	0.0056	U	0.0088	U	0.0076	U	0.014	U
Acrylonitrile	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Benzene	0.06	4.8	0.06	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Bromobenzene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Bromochloromethane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Bromodichloromethane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Bromoform	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Bromomethane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Carbon disulfide	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Carbon tetrachloride	0.76	2.4	0.76	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Chlorobenzene	1.1	100	1.1	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Chloroethane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Chloroform	0.37	49	0.37	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Chloromethane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
cis-1,2-Dichloroethylene	0.25	100	0.25	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
cis-1,3-Dichloropropylene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Cyclohexane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Dibromochloromethane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Dibromomethane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Dichlorodifluoromethane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Diisopropyl ether (DIPE)	~	~	~	0.0042	U	0.0053	U	0.0044	U	0.0071	U	0.0061	U	0.011	U
Ethanol	~	~	~	0.042	U	0.053	U	0.044	U	0.071	U	0.061	U	0.11	U
Ethyl Benzene	1	41	1	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Ethyl tert-butyl ether (ETBE)	~	~	~	0.0042	U	0.0053	U	0.0044	U	0.0071	U	0.0061	U	0.011	U
Hexachlorobutadiene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Iodomethane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Isopropylbenzene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Methyl acetate	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Methyl Methacrylate	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Methyl tert-butyl ether (MTBE)	0.93	100	0.93	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Methylcyclohexane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Methylene chloride	0.05	100	0.05	0.0052	U	0.0066	U	0.0056	U	0.0088	U	0.0076	U	**0.069**	**B**
Naphthalene	12	100	12	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
n-Butylbenzene	12	100	12	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
n-Propylbenzene	3.9	100	3.9	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
o-Xylene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
p- & m- Xylenes	~	~	~	0.0052	U	0.0066	U	0.0056	U	0.0088	U	0.0076	U	0.014	U
p-Diethylbenzene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
p-Ethyltoluene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
p-Isopropyltoluene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
sec-Butylbenzene	11	100	11	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Styrene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
tert-Amyl alcohol (TAA)	~	~	~	0.042	U	0.053	U	0.044	U	0.071	U	0.061	U	0.11	U
tert-Amyl methyl ether (TAME)	~	~	~	0.0042	U	0.0053	U	0.0044	U	0.0071	U	0.0061	U	0.011	U
tert-Butyl alcohol (TBA)	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
tert-Butylbenzene	5.9	100	5.9	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.019		0.0068	U
Tetrachloroethylene	1.3	19	1.3	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Tetrahydrofuran	~	~	~	0.0052	U	0.0066	U	0.0056	U	0.0088	U	0.0076	U	0.014	U
Toluene	0.7	100	0.7	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
trans-1,2-Dichloroethylene	0.19	100	0.19	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
trans-1,3-Dichloropropylene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
trans-1,4-dichloro-2-butene	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Trichloroethylene	0.47	21	0.47	0.0026	U	0.0052	J	0.0038	J	0.018		0.0038	U	0.0068	U
Trichlorofluoromethane	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Vinyl acetate	~	~	~	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Vinyl Chloride	0.02	0.9	0.02	0.0026	U	0.0033	U	0.0028	U	0.0044	U	0.0038	U	0.0068	U
Xylenes, Total	0.26	100	1.6	0.0078	U	0.01	U	0.0083	U	0.013	U	0.011	U	0.02	U

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
B: Analyte found in the analysis batch blank.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or est.imated detection limit
E: Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
in / ft bgs: inches / feet below ground surface.
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use and Protection of Groundwater Soil Cleanup Objectives.

Table 2 - Volatile Organic Compounds in Soil
55 Eckford Street
Brooklyn, NY

Remedial Investigation Report
BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-08A(0-2 ft bcs)		GZ-08B (4-6ft bcs)		GZ-08C(8-10 ft bcs)		GZ-09A (0-2 ft bcs)		GZ-09B(4-6ft bcs)		GZ-09C (8-10 ft bcs)	
LAB SAMPLE ID				24L0797-07		24L0797-08		24L0797-09		24L0797-10		24L0797-11		24L0797-12	
SAMPLE DATE				12/11/2024 9:50:00 AM		12/11/2024 10:00:00 AM		12/11/2024 10:10:00 AM		12/11/2024 8:45:00 AM		12/11/2024 9:15:00 AM		12/11/2024 9:30:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organic Compounds (VOC) BY EPA Method 5035/8260 (mg/kg)															
1,1,1,2-Tetrachloroethane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,1,1-Trichloroethane	0.68	100	0.68	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,1,2,2-Tetrachloroethane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,1,2-Trichloro-1,2,2-trifluoroethane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,1,2-Trichloroethane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,1-Dichloroethane	0.27	26	0.27	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,1-Dichloroethylene	0.33	100	0.33	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,1-Dichloropropylene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,2,3-Trichlorobenzene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,2,3-Trichloropropane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,2,4,5-Tetramethylbenzene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.046		0.017	
1,2,4-Trichlorobenzene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,2,4-Trimethylbenzene	3.6	52	3.6	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.052		0.012	
1,2-Dibromo-3-chloropropane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,2-Dibromoethane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,2-Dichloroethane	0.02	3.1	0.02	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,2-Dichloropropane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,3,5-Trimethylbenzene	8.4	52	8.4	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.026		0.0068	
1,3-Dichlorobenzene	2.4	49	2.4	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,3-Dichloropropane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
1,4-Dioxane	0.1	13	0.1	0.054	U	0.062	U	0.043	U	0.05	U	0.062	U	0.053	U
2,2-Dichloropropane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
2-Butanone	0.12	100	0.12	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
2-Chloroethylvinyl ether	~	~	~	0.011	U	0.012	U	0.0086	U	0.01	U	0.012	U	0.011	U
2-Chlorotoluene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
2-Hexanone	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
4-Chlorotoluene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
4-Methyl-2-pentanone	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Acetone	0.05	100	0.05	0.0054	U	0.014		0.0075	J	0.005	U	0.014		0.012	
Acrolein	~	~	~	0.0054	U	0.0062	U	0.0043	U	0.005	U	0.0062	U	0.0053	U
Acrylonitrile	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.006	J	0.0027	U
Benzene	0.06	4.8	0.06	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Bromobenzene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Bromochloromethane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Bromodichloromethane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Bromoform	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Bromomethane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Carbon disulfide	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0053	J	0.0031	J
Carbon tetrachloride	0.76	2.4	0.76	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Chlorobenzene	1.1	100	1.1	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Chloroethane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Chloroform	0.37	49	0.37	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Chloromethane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
cis-1,2-Dichloroethylene	0.25	100	0.25	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
cis-1,3-Dichloropropylene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Cyclohexane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.029		0.0078	
Dibromochloromethane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Dibromomethane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Dichlorodifluoromethane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Diisopropyl ether (DIPE)	~	~	~	0.0044	U	0.005	U	0.0035	U	0.004	U	0.0049	U	0.0043	U
Ethanol	~	~	~	0.044	U	0.05	U	0.035	U	0.04	U	0.049	U	0.043	U
Ethyl Benzene	1	41	1	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0086		0.0027	J
Ethyl tert-butyl ether (ETBE)	~	~	~	0.0044	U	0.005	U	0.0035	U	0.004	U	0.0049	U	0.0043	U
Hexachlorobutadiene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Iodomethane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Isopropylbenzene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0096		0.0043	J
Methyl acetate	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Methyl Methacrylate	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Methyl tert-butyl ether (MTBE)	0.93	100	0.93	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Methylcyclohexane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.047		0.01	
Methylene chloride	0.05	100	0.05	0.0054	U	0.0062	U	0.0043	U	0.005	U	0.0062	U	0.0053	U
Naphthalene	12	100	12	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0072	J	0.0027	J
n-Butylbenzene	12	100	12	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0079		0.0027	U
n-Propylbenzene	3.9	100	3.9	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.01		0.0029	J
o-Xylene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.02		0.01	
p- & m- Xylenes	~	~	~	0.0054	U	0.0062	U	0.0043	U	0.005	U	0.028		0.013	
p-Diethylbenzene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.022		0.0055	
p-Ethyltoluene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.03		0.0069	
p-Isopropyltoluene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0037	J	0.0027	U
sec-Butylbenzene	11	100	11	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.05		0.024	
Styrene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
tert-Amyl alcohol (TAA)	~	~	~	0.044	U	0.05	U	0.035	U	0.04	U	0.049	U	0.043	U
tert-Amyl methyl ether (TAME)	~	~	~	0.0044	U	0.005	U	0.0035	U	0.004	U	0.0049	U	0.0043	U
tert-Butyl alcohol (TBA)	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
tert-Butylbenzene	5.9	100	5.9	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.012		0.0073	
Tetrachloroethylene	1.3	19	1.3	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Tetrahydrofuran	~	~	~	0.0054	U	0.0062	U	0.0043	U	0.005	U	0.0062	U	0.0053	U
Toluene	0.7	100	0.7	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0074		0.0027	U
trans-1,2-Dichloroethylene	0.19	100	0.19	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
trans-1,3-Dichloropropylene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
trans-1,4-dichloro-2-butene	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Trichloroethylene	0.47	21	0.47	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.015		0.012	
Trichlorofluoromethane	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Vinyl acetate	~	~	~	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Vinyl Chloride	0.02	0.9	0.02	0.0027	U	0.0031	U	0.0022	U	0.0025	U	0.0031	U	0.0027	U
Xylenes, Total	0.26	100	1.6	0.0082	U	0.0093	U	0.0065	U	0.0075	U	0.048		0.023	

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
B: Analyte found in the analysis batch blank.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or est.imated detection limit
E: Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
in / ft bgs: inches / feet below ground surface.
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use and Protection of Groundwater Soil Cleanup Objectives.

Table 2 - Volatile Organic Compounds in Soil
55 Eckford Street
Brooklyn, NY

Remedial Investigation Report
BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-10A (0-2 ft bcs)		GZ-10B (4-6ft bcs)		GZ-10C (8-10 ft bcs)		GZ-FD-01		GZ-FD-02		GZ-FD-03	
LAB SAMPLE ID				24L0797-13		24L0797-14		24L0797-15		24L0646-13		24L0797-16		24L0931-25	
SAMPLE DATE				12/11/2024 11:10:00 AM		12/11/2024 11:20:00 AM		12/11/2024 11:30:00 AM		12/10/2024 11:40:00 AM		12/11/2024 3:00:00 PM		12/12/2024 3:00:00 PM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organic Compounds (VOC) BY EPA Method 5035/8260 (mg/kg)															
1,1,1,2-Tetrachloroethane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,1,1-Trichloroethane	0.68	100	0.68	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,1,2,2-Tetrachloroethane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,1,2-Trichloro-1,2,2-trifluoroethane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,1,2-Trichloroethane	~	~	~	0.0034	U	0.021	U	0.29		0.0033	U	0.0046	U	0.0042	U
1,1-Dichloroethane	0.27	26	0.27	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,1-Dichloroethylene	0.33	100	0.33	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,1-Dichloropropylene	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,2,3-Trichlorobenzene	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,2,3-Trichloropropane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,2,4,5-Tetramethylbenzene	~	~	~	0.0034	U	0.021	U	0.19		0.0033	U	0.0048	J	0.0042	U
1,2,4-Trichlorobenzene	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,2,4-Trimethylbenzene	3.6	52	3.6	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,2-Dibromo-3-chloropropane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,2-Dibromoethane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,2-Dichloroethane	0.02	3.1	0.02	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,2-Dichloropropane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,3,5-Trimethylbenzene	8.4	52	8.4	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,3-Dichloropropane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
1,4-Dioxane	0.1	13	0.1	0.068	U	0.42	U	0.09	U	0.066	U	0.091	U	0.084	U
2,2-Dichloropropane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
2-Butanone	0.12	100	0.12	0.0034	U	0.021	U	0.016		0.0033	U	0.018		0.022	
2-Chloroethylvinyl ether	~	~	~	0.014	U	0.085	U	0.018	U	0.013	U	0.018	U	0.017	U
2-Chlorotoluene	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
2-Hexanone	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
4-Chlorotoluene	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
4-Methyl-2-pentanone	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Acetone	0.05	100	0.05	0.0068	U	0.042	U	**0.054**		0.0066	U	**0.061**		**0.077**	
Acrolein	~	~	~	0.0068	U	0.042	U	0.009	U	0.0066	U	0.0091	U	0.0084	U
Acrylonitrile	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Benzene	0.06	4.8	0.06	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Bromobenzene	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Bromochloromethane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Bromodichloromethane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Bromoform	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Bromomethane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Carbon disulfide	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0053	J	0.0042	U
Carbon tetrachloride	0.76	2.4	0.76	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Chlorobenzene	1.1	100	1.1	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Chloroethane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Chloroform	0.37	49	0.37	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Chloromethane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
cis-1,2-Dichloroethylene	0.25	100	0.25	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
cis-1,3-Dichloropropylene	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Cyclohexane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0095	
Dibromochloromethane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Dibromomethane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Dichlorodifluoromethane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Diisopropyl ether (DIPE)	~	~	~	0.0054	U	0.034	U	0.0072	U	0.0053	U	0.0073	U	0.0067	U
Ethanol	~	~	~	0.054	U	0.34	U	0.072	U	0.053	U	0.073	U	0.067	U
Ethyl Benzene	1	41	1	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Ethyl tert-butyl ether (ETBE)	~	~	~	0.0054	U	0.034	U	0.0072	U	0.0053	U	0.0073	U	0.0067	U
Hexachlorobutadiene	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Iodomethane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Isopropylbenzene	~	~	~	0.0034	U	0.021	U	0.12		0.0033	U	0.0046	U	0.0042	U
Methyl acetate	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Methyl Methacrylate	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Methyl tert-butyl ether (MTBE)	0.93	100	0.93	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Methylcyclohexane	~	~	~	0.0034	U	0.021	U	0.014		0.0033	U	0.0046	U	0.0042	U
Methylene chloride	0.05	100	0.05	0.0068	U	**0.066**	**J**	0.009	U	0.011	JB	0.0091	U	0.0084	U
Naphthalene	12	100	12	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
n-Butylbenzene	12	100	12	0.0034	U	0.021	U	0.15		0.0033	U	0.0046	U	0.0042	U
n-Propylbenzene	3.9	100	3.9	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
o-Xylene	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
p- & m- Xylenes	~	~	~	0.0068	U	0.042	U	0.009	U	0.0066	U	0.0091	U	0.0084	U
p-Diethylbenzene	~	~	~	0.0034	U	0.021	U	0.24		0.0033	U	0.0046	U	0.0042	U
p-Ethyltoluene	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
p-Isopropyltoluene	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
sec-Butylbenzene	11	100	11	0.0034	U	0.021	U	6.5	D	0.0033	U	0.033		0.0042	U
Styrene	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
tert-Amyl alcohol (TAA)	~	~	~	0.054	U	0.34	U	0.072	U	0.053	U	0.073	U	0.067	U
tert-Amyl methyl ether (TAME)	~	~	~	0.0054	U	0.034	U	0.0072	U	0.0053	U	0.0073	U	0.0067	U
tert-Butyl alcohol (TBA)	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
tert-Butylbenzene	5.9	100	5.9	0.0034	U	0.021	U	0.26		0.0033	U	0.06		0.18	
Tetrachloroethylene	1.3	19	1.3	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Tetrahydrofuran	~	~	~	0.0068	U	0.042	U	0.009	U	0.0066	U	0.0091	U	0.0084	U
Toluene	0.7	100	0.7	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
trans-1,2-Dichloroethylene	0.19	100	0.19	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
trans-1,3-Dichloropropylene	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
trans-1,4-dichloro-2-butene	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Trichloroethylene	0.47	21	0.47	0.0034	U	0.021	U	0.0045	U	0.0034	J	0.0046	U	0.0042	U
Trichlorofluoromethane	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Vinyl acetate	~	~	~	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Vinyl Chloride	0.02	0.9	0.02	0.0034	U	0.021	U	0.0045	U	0.0033	U	0.0046	U	0.0042	U
Xylenes, Total	0.26	100	1.6	0.01	U	0.063	U	0.014	U	0.0099	U	0.014	U	0.013	U

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
B: Analyte found in the analysis batch blank.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or est.imated detection
E: Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
in / ft bgs: inches / feet below ground surface.
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use and Protection of Groundwater Soil Cleanup Objectives.

Table 3 - Semi-Volatile Organic Compounds in Soil
55 Eckford Street,
Brooklyn, New York

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-01A (0-2in bgs)		GZ-01B (0-2ft bgs)		GZ-01C (4-6ft bgs)		GZ-01D (8-10ft bgs)		GZ-01E (12-14ft bgs)		GZ-01F (18-20ft bgs)	
LAB SAMPLE ID				24L0931-01		24L0931-02		24L0931-03		24L0931-04		24L0931-05		24L0931-06	
DATE				12/12/2024 8:00:00 AM		12/12/2024 8:20:00 AM		12/12/2024 8:10:00 AM		12/12/2024 8:40:00 AM		12/12/2024 8:50:00 AM		12/12/2024 8:30:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Semi-Volatile Organic Compounds (VOC) BY EPA Method 8270 (mg/kg)															
1,1-Biphenyl	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
1,2,4,5-Tetrachlorobenzene	~	~	~	0.0935	U	0.0917	U	0.0925	U	0.0936	U	0.0942	U	0.0956	U
1,2,4-Trichlorobenzene	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
1,2-Diphenylhydrazine (as Azobenzene)	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
2,3,4,6-Tetrachlorophenol	~	~	~	0.0935	U	0.0917	U	0.0925	U	0.0936	U	0.0942	U	0.0956	U
2,4,5-Trichlorophenol	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
2,4,6-Trichlorophenol	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
2,4-Dichlorophenol	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
2,4-Dimethylphenol	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
2,4-Dinitrophenol	~	~	~	0.0935	U	0.0917	U	0.0925	U	0.0936	U	0.0942	U	0.0956	U
2,4-Dinitrotoluene	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
2,6-Dinitrotoluene	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
2-Chloronaphthalene	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
2-Chlorophenol	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
2-Methylnaphthalene	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
2-Methylphenol	0.33	100	0.33	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
2-Nitroaniline	~	~	~	0.0935	U	0.0917	U	0.0925	U	0.0936	U	0.0942	U	0.0956	U
2-Nitrophenol	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
3- & 4-Methylphenols	0.33	100	0.33	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
3,3-Dichlorobenzidine	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
3-Nitroaniline	~	~	~	0.0935	U	0.0917	U	0.0925	U	0.0936	U	0.0942	U	0.0956	U
4,6-Dinitro-2-methylphenol	~	~	~	0.0935	U	0.0917	U	0.0925	U	0.0936	U	0.0942	U	0.0956	U
4-Bromophenyl phenyl ether	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
4-Chloro-3-methylphenol	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
4-Chloroaniline	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
4-Chlorophenyl phenyl ether	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
4-Nitroaniline	~	~	~	0.0935	U	0.0917	U	0.0925	U	0.0936	U	0.0942	U	0.0956	U
4-Nitrophenol	~	~	~	0.0935	U	0.0917	U	0.0925	U	0.0936	U	0.0942	U	0.0956	U
Acenaphthene	20	100	98	0.0837	JD	0.0689	JD	0.0791	JD	0.0831	JD	0.0472	U	0.0479	U
Acenaphthylene	100	100	107	0.0651	JD	0.146	D	0.261	D	0.0501	JD	0.0472	U	0.0479	U
Acetophenone	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Aniline	~	~	~	0.187	U	0.184	U	0.185	U	0.187	U	0.189	U	0.191	U
Anthracene	100	100	1,000	0.278	D	0.397	D	0.546	D	0.232	D	0.0472	U	0.0479	U
Atrazine	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Benzaldehyde	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Benzidine	~	~	~	0.187	U	0.184	U	0.185	U	0.187	U	0.189	U	0.191	U
Benzo(a)anthracene	1	1	1	0.656	D	**1.07**	**D**	**1.33**	**D**	0.457	D	0.0472	U	0.107	D
Benzo(a)pyrene	1	1	22	0.668	D	**1.01**	**D**	**1.38**	**D**	0.436	D	0.0472	U	0.109	D
Benzo(b)fluoranthene	1	1	1.7	0.526	D	0.915	D	**1.18**	**D**	0.376	D	0.0472	U	0.0864	JD
Benzo(g,h,i)perylene	100	100	1,000	0.395	D	0.590	D	0.749	D	0.290	D	0.0472	U	0.0726	JD
Benzo(k)fluoranthene	0.8	3.9	1.7	0.514	D	**0.833**	**D**	**1.21**	**D**	0.337	D	0.0472	U	0.0864	JD
Benzoic acid	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Benzyl alcohol	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Benzyl butyl phthalate	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Bis(2-chloroethoxy)methane	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Bis(2-chloroethyl)ether	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Bis(2-chloroisopropyl)ether	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Bis(2-ethylhexyl)phthalate	~	~	~	0.0469	U	0.0460	U	0.0636	JD	0.0469	U	0.0472	U	0.0479	U
Caprolactam	~	~	~	0.0935	U	0.0917	U	0.0925	U	0.0936	U	0.0942	U	0.0956	U
Carbazole	~	~	~	0.0636	JD	0.103	D	0.0473	JD	0.0606	JD	0.0472	U	0.0479	U
Chrysene	1	3.9	1	0.651	D	**1.06**	**D**	**1.27**	**D**	0.472	D	0.0472	U	0.105	D
Dibenzo(a,h)anthracene	0.33	0.33	1,000	0.129	D	0.205	D	0.279	D	0.0606	JD	0.0472	U	0.0479	U
Dibenzofuran	7	59	210	0.0469	U	0.0623	JD	0.0464	U	0.0487	JD	0.0472	U	0.0479	U
Diethyl phthalate	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Dimethyl phthalate	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Di-n-butyl phthalate	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Di-n-octyl phthalate	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Fluoranthene	100	100	1,000	1.280	D	2.470	D	2.560	D	1.070	D	0.0472	U	0.232	D
Fluorene	30	100	386	0.0763	JD	0.126	D	0.145	D	0.0936	D	0.0472	U	0.0479	U
Hexachlorobenzene	0.33	1.2	3.2	0.0469	U	0.0460	U	0.0464	U	0.0689	JD	0.0472	U	0.0479	U
Hexachlorobutadiene	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Hexachlorocyclopentadiene	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Hexachloroethane	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Indeno(1,2,3-cd)pyrene	0.5	0.5	8.2	0.363	D	**0.605**	**D**	**0.776**	**D**	0.268	D	0.0472	U	0.0642	JD
Isophorone	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Naphthalene	12	100	12	0.0469	U	0.0460	U	0.0464	U	0.0487	JD	0.0472	U	0.0479	U
Nitrobenzene	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
N-Nitrosodimethylamine	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
N-nitroso-di-n-propylamine	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
N-Nitrosodiphenylamine	~	~	~	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Pentachlorophenol	0.8	6.7	0.8	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Phenanthrene	100	100	1,000	1.230	D	1.580	D	0.803	D	1.020	D	0.0472	U	0.140	D
Phenol	0.33	100	0.33	0.0469	U	0.0460	U	0.0464	U	0.0469	U	0.0472	U	0.0479	U
Pyrene	100	100	1,000	1.230	D	1.920	D	2.170	D	0.951	D	0.0472	U	0.191	D
Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil (mg/kg)															
1,4-Dioxane	0.1	13	0.1	0.0185	U	0.0190	U	0.0194	U	0.0190	U	0.0185	U	0.0190	U

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).
D: Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
NA: Not analyzed
in / ft bgs: inches / feet below ground
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs)

Value exceeds its Part 375 Protection of Groundwater Use Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 UUSCOs and Residential Use Soil Cleanup Obejctives (RUSCOs) or PGWSCOs

Table 3 - Semi-Volatile Organic Compounds in Soil
55 Eckford Street,
Brooklyn, New York

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-02A (0-2in bgs)		GZ-02B (0-2ft bgs)		GZ-02C (4-6ft bgs)		GZ-02D (8-10ft bgs)		GZ-02E (12-14ft bgs)		GZ-02F (18-20ft bgs)	
LAB SAMPLE ID				24L0931-07		24L0931-08		24L0931-09		24L0931-10		24L0931-11		24L0931-12	
DATE				12/12/2024 9:00:00 AM		12/12/2024 9:10:00 AM		12/12/2024 9:20:00 AM		12/12/2024 9:30:00 AM		12/12/2024 9:40:00 AM		12/12/2024 9:50:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Semi-Volatile Organic Compounds (VOC) BY EPA Method 8270 (mg/kg)															
1,1-Biphenyl	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	9.600	D
1,2,4,5-Tetrachlorobenzene	~	~	~	0.0927	U	0.105	U	0.103	U	0.0939	U	0.158	U	5.970	U
1,2,4-Trichlorobenzene	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
1,2-Diphenylhydrazine (as Azobenzene)	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
2,3,4,6-Tetrachlorophenol	~	~	~	0.0927	U	0.105	U	0.103	U	0.0939	U	0.158	U	5.970	U
2,4,5-Trichlorophenol	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
2,4,6-Trichlorophenol	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
2,4-Dichlorophenol	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
2,4-Dimethylphenol	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
2,4-Dinitrophenol	~	~	~	0.0927	U	0.105	U	0.103	U	0.0939	U	0.158	U	5.970	U
2,4-Dinitrotoluene	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
2,6-Dinitrotoluene	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
2-Chloronaphthalene	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
2-Chlorophenol	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
2-Methylnaphthalene	~	~	~	0.0845	JD	0.0528	U	0.0519	U	0.0471	U	0.176	D	47.200	D
2-Methylphenol	0.33	100	0.33	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
2-Nitroaniline	~	~	~	0.0927	U	0.105	U	0.103	U	0.0939	U	0.158	U	5.970	U
2-Nitrophenol	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
3- & 4-Methylphenols	0.33	100	0.33	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
3,3-Dichlorobenzidine	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
3-Nitroaniline	~	~	~	0.0927	U	0.105	U	0.103	U	0.0939	U	0.158	U	5.970	U
4,6-Dinitro-2-methylphenol	~	~	~	0.0927	U	0.105	U	0.103	U	0.0939	U	0.158	U	5.970	U
4-Bromophenyl phenyl ether	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
4-Chloro-3-methylphenol	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
4-Chloroaniline	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
4-Chlorophenyl phenyl ether	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
4-Nitroaniline	~	~	~	0.0927	U	0.105	U	0.103	U	0.0939	U	0.158	U	5.970	U
4-Nitrophenol	~	~	~	0.0927	U	0.105	U	0.103	U	0.0939	U	0.158	U	5.970	U
Acenaphthene	20	100	98	0.290	D	0.149	D	0.0519	U	0.0471	U	0.774	D	**128**	**D**
Acenaphthylene	100	100	107	0.222	D	0.0716	JD	0.0519	U	0.0471	U	0.226	D	27.100	D
Acetophenone	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Aniline	~	~	~	0.186	U	0.211	U	0.207	U	0.188	U	0.317	U	12	U
Anthracene	100	100	1,000	0.828	D	0.290	D	0.0943	JD	0.125	D	1.650	D	**120**	**D**
Atrazine	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Benzaldehyde	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Benzidine	~	~	~	0.186	U	0.211	U	0.207	U	0.188	U	0.317	U	12	U
Benzo(a)anthracene	1	1	1	**2.58**	**D**	0.729	D	0.565	D	0.302	D	**2.78**	**D**	**142**	**D**
Benzo(a)pyrene	1	1	22	**1.68**	**D**	0.778	D	0.904	D	0.312	D	**2.69**	**D**	**138**	**D**
Benzo(b)fluoranthene	1	1	1.7	**2.6**	**D**	0.686	D	0.758	D	0.333	D	**2.40**	**D**	**105**	**D**
Benzo(g,h,i)perylene	100	100	1,000	1.490	D	0.394	D	0.642	D	0.219	D	1.550	D	**153**	**D**
Benzo(k)fluoranthene	0.8	3.9	1.7	**2.33**	**D**	0.719	D	0.705	D	0.232	D	**1.97**	**D**	**81.9**	**D**
Benzoic acid	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Benzyl alcohol	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Benzyl butyl phthalate	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Bis(2-chloroethoxy)methane	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Bis(2-chloroethyl)ether	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Bis(2-chloroisopropyl)ether	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Bis(2-ethylhexyl)phthalate	~	~	~	1.140	D	0.443	D	0.0519	U	0.0676	JD	0.522	D	2.990	U
Caprolactam	~	~	~	0.0927	U	0.105	U	0.103	U	0.0939	U	0.158	U	5.970	U
Carbazole	~	~	~	**0.381**	D	0.120	D	0.0519	U	0.0471	U	0.387	D	42.300	D
Chrysene	1	3.9	1	**2.67**	**D**	0.751	D	0.583	D	0.291	D	**2.64**	D	**97.9**	**D**
Dibenzo(a,h)anthracene	0.33	0.33	1,000	**0.539**	**D**	0.0927	JD	0.184	D	0.0743	JD	0.231	D	**36.3**	**D**
Dibenzofuran	7	59	210	0.165	D	0.0699	JD	0.0519	U	0.0471	U	0.0793	U	**95.2**	**D**
Diethyl phthalate	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Dimethyl phthalate	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Di-n-butyl phthalate	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Di-n-octyl phthalate	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Fluoranthene	100	100	1,000	4.620	D	1.670	D	0.659	D	0.635	D	5.090	D	**298**	**D**
Fluorene	30	100	386	0.299	D	0.127	D	0.0519	U	0.0471	U	0.808	D	**149**	**D**
Hexachlorobenzene	0.33	1.2	3.2	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Hexachlorobutadiene	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Hexachlorocyclopentadiene	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Hexachloroethane	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Indeno(1,2,3-cd)pyrene	0.5	0.5	8.2	**1.58**	**D**	0.434	D	0.0711	JD	0.195	D	**1.58**	**D**	**175**	**D**
Isophorone	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Naphthalene	12	100	12	0.150	D	0.0741	JD	0.0519	U	0.0471	U	0.331	D	**86.3**	**D**
Nitrobenzene	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
N-Nitrosodimethylamine	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
N-nitroso-di-n-propylamine	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
N-Nitrosodiphenylamine	~	~	~	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Pentachlorophenol	0.8	6.7	0.8	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Phenanthrene	100	100	1,000	2.780	D	1.220	D	0.331	D	0.465	D	4.740	D	**337**	**D**
Phenol	0.33	100	0.33	0.0465	U	0.0528	U	0.0519	U	0.0471	U	0.0793	U	2.990	U
Pyrene	100	100	1,000	4.290	D	1.350	D	0.611	D	0.489	D	5.330	D	**243**	**D**
Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil (mg/kg)															
1,4-Dioxane	0.1	13	0.1	0.0192	U	0.0194	U	0.0183	U	0.0190	U	0.0198	U	0.0196	U

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).
D: Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
NA: Not analyzed
in / ft bgs: inches / feet below ground
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs)

Value exceeds its Part 375 Protection of Groundwater Use Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 UUSCOs and Residential Use Soil Cleanup Obejctives (RUSCOs) or PGWSCOs

Table 3 - Semi-Volatile Organic Compounds in Soil
55 Eckford Street,
Brooklyn, New York

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-02 (20-23 ft bgs)		GZ-02 (23-26 ft bgs)		GZ-02 (26-30 ft bgs)		GZ-03A (0-2in bgs)		GZ-03B (0-2ft bgs)		GZ-03C (4-6ft bgs)		GZ-03D (8-10ft bgs)	
LAB SAMPLE ID				25B0531-04		25B0531-05		25B0531-06		24L0931-13		24L0931-14		24L0931-15		24L0931-16	
DATE				2/10/2025 12:25		2/10/2025 12:30		2/10/2025 12:35		12/12/2024 10:30:00 AM		12/12/2024 10:40:00 AM		12/12/2024 10:50:00 AM		12/12/2024 11:00:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Semi-Volatile Organic Compounds (VOC) BY EPA Method 8270 (mg/kg)																	
1,1-Biphenyl	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
1,2,4,5-Tetrachlorobenzene	~	~	~	0.101	U	0.101	U	0.103	U	0.0948	U	4.710	U	0.0941	U	0.0963	U
1,2,4-Trichlorobenzene	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
1,2-Diphenylhydrazine (as Azobenzene)	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
2,3,4,6-Tetrachlorophenol	~	~	~	0.101	U	0.101	U	0.103	U	0.0948	U	4.710	U	0.0941	U	0.0963	U
2,4,5-Trichlorophenol	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
2,4,6-Trichlorophenol	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
2,4-Dichlorophenol	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
2,4-Dimethylphenol	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
2,4-Dinitrophenol	~	~	~	0.101	U	0.101	U	0.103	U	0.0948	U	4.710	U	0.0941	U	0.0963	U
2,4-Dinitrotoluene	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
2,6-Dinitrotoluene	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
2-Chloronaphthalene	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
2-Chlorophenol	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
2-Methylnaphthalene	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
2-Methylphenol	0.33	100	0.33	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
2-Nitroaniline	~	~	~	0.101	U	0.101	U	0.103	U	0.0948	U	4.710	U	0.0941	U	0.0963	U
2-Nitrophenol	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
3- & 4-Methylphenols	0.33	100	0.33	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
3,3-Dichlorobenzidine	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
3-Nitroaniline	~	~	~	0.101	U	0.101	U	0.103	U	0.0948	U	4.710	U	0.0941	U	0.0963	U
4,6-Dinitro-2-methylphenol	~	~	~	0.101	U	0.101	U	0.103	U	0.0948	U	4.710	U	0.0941	U	0.0963	U
4-Bromophenyl phenyl ether	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
4-Chloro-3-methylphenol	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
4-Chloroaniline	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
4-Chlorophenyl phenyl ether	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
4-Nitroaniline	~	~	~	0.101	U	0.101	U	0.103	U	0.0948	U	4.710	U	0.0941	U	0.0963	U
4-Nitrophenol	~	~	~	0.101	U	0.101	U	0.103	U	0.0948	U	4.710	U	0.0941	U	0.0963	U
Acenaphthene	20	100	98	0.0504	U	0.0504	U	0.0515	U	0.127	D	5.650	D	0.0472	U	0.0483	U
Acenaphthylene	100	100	107	0.0504	U	0.0504	U	0.0515	U	0.0917	JD	6.290	D	0.0472	U	0.0483	U
Acetophenone	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Aniline	~	~	~	0.201	U	0.201	U	0.206	U	0.190	U	9.440	U	0.188	U	0.193	U
Anthracene	100	100	1,000	0.0504	U	0.0504	U	0.0515	U	0.231	D	21.900	D	0.0670	JD	0.0483	U
Atrazine	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Benzaldehyde	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Benzidine	~	~	~	0.201	U	0.201	U	0.206	U	0.190	U	9.440	U	0.188	U	0.193	U
Benzo(a)anthracene	1	1	1	0.0504	U	0.0504	U	0.0515	U	0.859	D	**58.3**	**D**	0.180	D	0.0483	U
Benzo(a)pyrene	1	1	22	0.0504	U	0.0504	U	0.0515	U	0.864	D	**51**	**D**	0.175	D	0.0483	U
Benzo(b)fluoranthene	1	1	1.7	0.0504	U	0.0504	U	0.0515	U	0.873	D	**66.1**	**D**	0.156	D	0.0483	U
Benzo(g,h,i)perylene	100	100	1,000	0.0504	U	0.0504	U	0.0515	U	0.485	D	39.800	D	0.0472	U	0.0483	U
Benzo(k)fluoranthene	0.8	3.9	1.7	0.0504	U	0.0504	U	0.0515	U	0.720	D	**28.4**	**D**	0.141	D	0.0483	U
Benzoic acid	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Benzyl alcohol	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Benzyl butyl phthalate	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Bis(2-chloroethoxy)methane	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Bis(2-chloroethyl)ether	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Bis(2-chloroisopropyl)ether	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Bis(2-ethylhexyl)phthalate	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0962	D	2.360	U	0.0472	U	0.0483	U
Caprolactam	~	~	~	0.101	U	0.101	U	0.103	U	0.0948	U	4.710	U	0.0941	U	0.0963	U
Carbazole	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.108	D	7.950	D	0.0472	U	0.0483	U
Chrysene	1	3.9	1	0.0504	U	0.0504	U	0.0515	U	0.887	D	**55.7**	**D**	0.179	D	0.0483	U
Dibenzo(a,h)anthracene	0.33	0.33	1,000	0.0504	U	0.0504	U	0.0515	U	0.184	D	**9.19**	**D**	0.0472	U	0.0483	U
Dibenzofuran	7	59	210	0.0504	U	0.0504	U	0.0515	U	0.0508	JD	2.750	JD	0.0472	U	0.0483	U
Diethyl phthalate	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Dimethyl phthalate	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Di-n-butyl phthalate	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Di-n-octyl phthalate	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.126	D	2.360	U	0.0472	U	0.0483	U
Fluoranthene	100	100	1,000	0.0504	U	0.0504	U	0.0515	U	2	D	**128**	**D**	0.395	D	0.0855	JD
Fluorene	30	100	386	0.0504	U	0.0504	U	0.0515	U	0.108	D	5.610	D	0.0472	U	0.0483	U
Hexachlorobenzene	0.33	1.2	3.2	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Hexachlorobutadiene	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Hexachlorocyclopentadiene	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Hexachloroethane	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Indeno(1,2,3-cd)pyrene	0.5	0.5	8.2	0.0504	U	0.0504	U	0.0515	U	0.0651	JD	**43.3**	**D**	0.0985	D	0.0483	U
Isophorone	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Naphthalene	12	100	12	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Nitrobenzene	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
N-Nitrosodimethylamine	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
N-nitroso-di-n-propylamine	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
N-Nitrosodiphenylamine	~	~	~	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Pentachlorophenol	0.8	6.7	0.8	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Phenanthrene	100	100	1,000	0.0504	U	0.0504	U	0.0515	U	1.030	D	74.600	D	0.251	D	0.0708	JD
Phenol	0.33	100	0.33	0.0504	U	0.0504	U	0.0515	U	0.0475	U	2.360	U	0.0472	U	0.0483	U
Pyrene	100	100	1,000	0.0504	U	0.0504	U	0.0515	U	1.560	D	**104**	**D**	0.341	D	0.0708	JD
Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil (mg/kg)																	
1,4-Dioxane	0.1	13	0.1	NA		NA		NA		0.0190	U	0.0185	U	0.0189	U	0.0194	U

Table Notes:

--: No guidance value.

mg/kg: Milligrams per Kilogram.

U: Not detected at the reported detection limit for the sample.

J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).

D: Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

NA: Not analyzed

in / ft bgs: inches / feet below ground surface.

in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs)

Value exceeds its Part 375 Protection of Groundwater Use Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 UUSCOs and Residential Use Soil Cleanup Obejctives (RUSCOs) or PGWSCOs

Table 3 - Semi-Volatile Organic Compounds in Soil
55 Eckford Street,
Brooklyn, New York

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-03E (12-14ft bgs)		GZ-03F (16-18ft bgs)		GZ-04A (0-2in bgs)		GZ-04B (0-2ft bgs)		GZ-04C (4-6ft bgs)		GZ-04D (8-10ft bgs)	
LAB SAMPLE ID				24L0931-17		24L0931-18		24L0931-19		24L0931-20		24L0931-21		24L0931-22	
DATE				12/12/2024 11:10:00 AM		12/12/2024 11:20:00 AM		12/12/2024 12:00:00 PM		12/12/2024 12:10:00 PM		12/12/2024 12:20:00 PM		12/12/2024 12:30:00 PM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Semi-Volatile Organic Compounds (VOC) BY EPA Method 8270 (mg/kg)															
1,1-Biphenyl	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0891	JD	0.254	U
1,2,4,5-Tetrachlorobenzene	~	~	~	0.0989	U	0.218	U	0.110	U	0.0938	U	0.0969	U	0.507	U
1,2,4-Trichlorobenzene	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
1,2-Diphenylhydrazine (as Azobenzene)	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
2,3,4,6-Tetrachlorophenol	~	~	~	0.0989	U	0.218	U	0.110	U	0.0938	U	0.0969	U	0.507	U
2,4,5-Trichlorophenol	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
2,4,6-Trichlorophenol	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
2,4-Dichlorophenol	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
2,4-Dimethylphenol	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
2,4-Dinitrophenol	~	~	~	0.0989	U	0.218	U	0.110	U	0.0938	U	0.0969	U	0.507	U
2,4-Dinitrotoluene	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
2,6-Dinitrotoluene	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
2-Chloronaphthalene	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
2-Chlorophenol	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
2-Methylnaphthalene	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0600	JD	0.374	D	0.741	D
2-Methylphenol	0.33	100	0.33	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
2-Nitroaniline	~	~	~	0.0989	U	0.218	U	0.110	U	0.0938	U	0.0969	U	0.507	U
2-Nitrophenol	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
3- & 4-Methylphenols	0.33	100	0.33	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
3,3-Dichlorobenzidine	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
3-Nitroaniline	~	~	~	0.0989	U	0.218	U	0.110	U	0.0938	U	0.0969	U	0.507	U
4,6-Dinitro-2-methylphenol	~	~	~	0.0989	U	0.218	U	0.110	U	0.0938	U	0.0969	U	0.507	U
4-Bromophenyl phenyl ether	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
4-Chloro-3-methylphenol	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
4-Chloroaniline	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
4-Chlorophenyl phenyl ether	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
4-Nitroaniline	~	~	~	0.0989	U	0.218	U	0.110	U	0.0938	U	0.0969	U	0.507	U
4-Nitrophenol	~	~	~	0.0989	U	0.218	U	0.110	U	0.0938	U	0.0969	U	0.507	U
Acenaphthene	20	100	98	0.0495	U	0.109	U	0.0784	JD	0.270	D	0.860	D	0.855	D
Acenaphthylene	100	100	107	0.0495	U	0.109	U	0.0573	JD	0.232	D	0.145	D	1.030	D
Acetophenone	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Aniline	~	~	~	0.198	U	0.436	U	0.221	U	0.188	U	0.194	U	1.010	U
Anthracene	100	100	1,000	0.0656	JD	0.109	U	0.256	D	0.727	D	1.490	D	2.400	D
Atrazine	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Benzaldehyde	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Benzidine	~	~	~	0.198	U	0.436	U	0.221	U	0.188	U	0.194	U	1.010	U
Benzo(a)anthracene	1	1	1	0.141	D	0.109	U	0.530	D	**2.52**	**D**	**2.14**	**D**	**5.5**	**D**
Benzo(a)pyrene	1	1	22	0.105	D	0.109	U	0.546	D	**2.49**	**D**	**2.03**	**D**	**3.8**	**D**
Benzo(b)fluoranthene	1	1	1.7	0.111	D	0.109	U	0.523	D	**2.48**	**D**	**1.84**	**D**	**5.7**	**D**
Benzo(g,h,i)perylene	100	100	1,000	0.0909	JD	0.109	U	0.264	D	1.280	D	1.020	D	5.050	D
Benzo(k)fluoranthene	0.8	3.9	1.7	0.0853	JD	0.109	U	0.457	D	**2.01**	**D**	**1.9**	**D**	**2.54**	**D**
Benzoic acid	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Benzyl alcohol	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Benzyl butyl phthalate	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Bis(2-chloroethoxy)methane	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Bis(2-chloroethyl)ether	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Bis(2-chloroisopropyl)ether	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Bis(2-ethylhexyl)phthalate	~	~	~	0.447	D	0.109	U	0.103	JD	0.360	D	0.0876	JD	0.254	U
Caprolactam	~	~	~	0.0989	U	0.218	U	0.110	U	0.0938	U	0.0969	U	0.507	U
Carbazole	~	~	~	0.0495	U	0.109	U	0.0758	JD	0.300	D	0.544	D	0.705	D
Chrysene	1	3.9	1	0.115	D	0.109	U	0.546	D	**2.59**	**D**	**2.21**	**D**	**4.89**	**D**
Dibenzo(a,h)anthracene	0.33	0.33	1,000	0.0495	U	0.109	U	0.102	JD	**0.476**	**D**	**0.373**	**D**	**1.15**	**D**
Dibenzofuran	7	59	210	0.0495	U	0.109	U	0.0553	U	0.118	D	0.0486	U	1	D
Diethyl phthalate	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Dimethyl phthalate	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Di-n-butyl phthalate	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Di-n-octyl phthalate	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Fluoranthene	100	100	1,000	0.0495	U	0.230	D	1.330	D	4.460	D	4.600	D	10.800	D
Fluorene	30	100	386	0.0640	JD	0.109	U	0.0873	JD	0.253	D	0.698	D	1.310	D
Hexachlorobenzene	0.33	1.2	3.2	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Hexachlorobutadiene	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Hexachlorocyclopentadiene	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Hexachloroethane	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Indeno(1,2,3-cd)pyrene	0.5	0.5	8.2	0.0537	JD	0.109	U	0.289	D	**1.37**	**D**	**1.09**	**D**	**4.87**	**D**
Isophorone	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Naphthalene	12	100	12	0.0495	U	0.109	U	0.0553	U	0.0817	JD	1.140	D	1.230	D
Nitrobenzene	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
N-Nitrosodimethylamine	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
N-nitroso-di-n-propylamine	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
N-Nitrosodiphenylamine	~	~	~	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Pentachlorophenol	0.8	6.7	0.8	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Phenanthrene	100	100	1,000	0.115	D	0.164	JD	0.994	D	2.590	D	4.620	D	11.900	D
Phenol	0.33	100	0.33	0.0495	U	0.109	U	0.0553	U	0.0470	U	0.0486	U	0.254	U
Pyrene	100	100	1,000	0.0495	U	0.195	JD	1.070	D	3.890	D	4.420	D	12.700	D
Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil (mg/kg)															
1,4-Dioxane	0.1	13	0.1	0.0196	U	0.0183	U	0.0196	U	0.0189	U	0.0194	U	0.0196	U

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).
D: Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
NA: Not analyzed
in / ft bgs: inches / feet below ground
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs)

Value exceeds its Part 375 Protection of Groundwater Use Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 UUSCOs and Residential Use Soil Cleanup Obejctives (RUSCOs) or PGWSCOs

Table 3 - Semi-Volatile Organic Compounds in Soil
55 Eckford Street,
Brooklyn, New York

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-04E (12-14ft bgs)		GZ-04F (18-20ft bgs)		GZ-04 (20-23 ft bgs)		GZ-04 (23-26 ft bgs)		GZ-04 (26-30 ft bgs)	
LAB SAMPLE ID				24L0931-23		24L0931-24		25B0531-12		25B0531-13		25B0531-14	
DATE				12/12/2024 12:50:00 PM		12/12/2024 1:00:00 PM		2/10/2025 13:15		2/10/2025 13:25		2/10/2025 13:20	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Semi-Volatile Organic Compounds (VOC) BY EPA Method 8270 (mg/kg)													
1,1-Biphenyl	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
1,2,4,5-Tetrachlorobenzene	~	~	~	0.101	U	0.243	U	0.099	U	0.201	U	0.364	U
1,2,4-Trichlorobenzene	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
1,2-Diphenylhydrazine (as Azobenzene)	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
2,3,4,6-Tetrachlorophenol	~	~	~	0.101	U	0.243	U	0.099	U	0.201	U	0.364	U
2,4,5-Trichlorophenol	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
2,4,6-Trichlorophenol	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
2,4-Dichlorophenol	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
2,4-Dimethylphenol	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
2,4-Dinitrophenol	~	~	~	0.101	U	0.243	U	0.099	U	0.201	U	0.364	U
2,4-Dinitrotoluene	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
2,6-Dinitrotoluene	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
2-Chloronaphthalene	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
2-Chlorophenol	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
2-Methylnaphthalene	~	~	~	0.0505	U	0.130	JD	0.101	D	0.327	D	0.182	U
2-Methylphenol	0.33	100	0.33	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
2-Nitroaniline	~	~	~	0.101	U	0.243	U	0.099	U	0.201	U	0.364	U
2-Nitrophenol	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
3- & 4-Methylphenols	0.33	100	0.33	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
3,3-Dichlorobenzidine	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
3-Nitroaniline	~	~	~	0.101	U	0.243	U	0.099	U	0.201	U	0.364	U
4,6-Dinitro-2-methylphenol	~	~	~	0.101	U	0.243	U	0.099	U	0.201	U	0.364	U
4-Bromophenyl phenyl ether	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
4-Chloro-3-methylphenol	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
4-Chloroaniline	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
4-Chlorophenyl phenyl ether	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
4-Nitroaniline	~	~	~	0.101	U	0.243	U	0.099	U	0.201	U	0.364	U
4-Nitrophenol	~	~	~	0.101	U	0.243	U	0.099	U	0.201	U	0.364	U
Acenaphthene	20	100	98	0.0505	U	0.279	D	0.19	D	0.667	D	0.182	U
Acenaphthylene	100	100	107	0.0505	U	0.122	U	0.356	D	0.101	U	0.182	U
Acetophenone	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Aniline	~	~	~	0.202	U	0.486	U	0.198	U	0.402	U	0.729	U
Anthracene	100	100	1,000	0.0505	U	0.677	D	0.722	D	0.578	D	0.182	U
Atrazine	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Benzaldehyde	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Benzidine	~	~	~	0.202	U	0.486	U	0.198	U	0.402	U	0.729	U
Benzo(a)anthracene	1	1	1	0.0505	U	**1.33**	**D**	**2.75**	**D**	**2.5**	**D**	0.182	U
Benzo(a)pyrene	1	1	22	0.0505	U	0.756	D	**2.69**	**D**	**3.63**	**D**	0.182	U
Benzo(b)fluoranthene	1	1	1.7	0.0505	U	0.617	D	**2.8**	**D**	**4.22**	**D**	0.182	U
Benzo(g,h,i)perylene	100	100	1,000	0.0505	U	0.122	U	1.92	D	2.2	D	0.182	U
Benzo(k)fluoranthene	0.8	3.9	1.7	0.0505	U	**0.805**	**D**	**0.86**	**D**	**1.2**	**D**	0.182	U
Benzoic acid	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Benzyl alcohol	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Benzyl butyl phthalate	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Bis(2-chloroethoxy)methane	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Bis(2-chloroethyl)ether	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Bis(2-chloroisopropyl)ether	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Bis(2-ethylhexyl)phthalate	~	~	~	0.0505	U	0.122	U	0.0496	U	0.518	D	0.182	U
Caprolactam	~	~	~	0.101	U	0.243	U	0.099	U	0.201	U	0.364	U
Carbazole	~	~	~	0.0505	U	0.229	JD	0.205	D	0.33	D	0.182	U
Chrysene	1	3.9	1	0.0505	U	**1.14**	**D**	**2.59**	**D**	**2.67**	**D**	0.182	U
Dibenzo(a,h)anthracene	0.33	0.33	1,000	0.0505	U	0.122	U	**0.406**	**D**	**0.427**	**D**	0.182	U
Dibenzofuran	7	59	210	0.0505	U	0.182	JD	0.149	D	0.343	D	0.182	U
Diethyl phthalate	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Dimethyl phthalate	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Di-n-butyl phthalate	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Di-n-octyl phthalate	~	~	~	0.0505	U	0.122	U	0.0736	JD	0.101	U	0.182	U
Fluoranthene	100	100	1,000	0.0505	U	2.400	D	6.32	D	5.26	D	0.182	U
Fluorene	30	100	386	0.0505	U	0.322	D	0.184	D	0.395	D	0.182	U
Hexachlorobenzene	0.33	1.2	3.2	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Hexachlorobutadiene	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Hexachlorocyclopentadiene	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Hexachloroethane	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Indeno(1,2,3-cd)pyrene	0.5	0.5	8.2	0.0505	U	0.304	D	**1.74**	**D**	**1.93**	**D**	0.182	U
Isophorone	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Naphthalene	12	100	12	0.0505	U	0.169	JD	0.31	D	1.11	D	0.182	U
Nitrobenzene	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
N-Nitrosodimethylamine	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
N-nitroso-di-n-propylamine	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
N-Nitrosodiphenylamine	~	~	~	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Pentachlorophenol	0.8	6.7	0.8	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Phenanthrene	100	100	1,000	0.0505	U	2.510	D	2.9	D	3.8	D	0.182	U
Phenol	0.33	100	0.33	0.0505	U	0.122	U	0.0496	U	0.101	U	0.182	U
Pyrene	100	100	1,000	0.0505	U	2.910	D	6.4	D	5.8	D	0.182	U
Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil (mg/kg)													
1,4-Dioxane	0.1	13	0.1	0.0192	U	0.0190	U	NA		NA		NA	

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).
D: Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
NA: Not analyzed
in / ft bgs: inches / feet below ground surface.
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs)
Value exceeds its Part 375 Protection of Groundwater Use Soil Cleanup Objectives (PGWSCOs).
Value exceeds its Part 375 UUSCOs and Residential Use Soil Cleanup Obejctives (RUSCOs) or PGWSCOs

Table 3 - Semi-Volatile Organic Compounds in Soil
55 Eckford Street,
Brooklyn, New York

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-05A (0-2in bgs)		GZ-05B (0-2ft bgs)		GZ-05C (4-6ft bgs)		GZ-05D (8-10ft bgs)		GZ-05E (12-14ft bgs)		GZ-05F(18-20ft bgs)	
LAB SAMPLE ID				24L0797-01		24L0797-02		24L0797-03		24L0797-04		24L0797-05		24L0797-06	
DATE				12/11/2024 12:05:00 PM		12/11/2024 12:50:00 PM		12/11/2024 1:00:00 PM		12/11/2024 12:40:00 PM		12/11/2024 12:30:00 PM		12/11/2024 12:20:00 PM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Semi-Volatile Organic Compounds (VOC) BY EPA Method 8270 (mg/kg)															
1,1-Biphenyl	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
1,2,4,5-Tetrachlorobenzene	~	~	~	0.0966	U	0.0927	U	0.0899	U	0.105	U	0.118	U	0.232	U
1,2,4-Trichlorobenzene	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
1,2-Diphenylhydrazine (as Azobenzene)	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
2,3,4,6-Tetrachlorophenol	~	~	~	0.0966	U	0.0927	U	0.0899	U	0.105	U	0.118	U	0.232	U
2,4,5-Trichlorophenol	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
2,4,6-Trichlorophenol	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
2,4-Dichlorophenol	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
2,4-Dimethylphenol	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
2,4-Dinitrophenol	~	~	~	0.0966	U	0.0927	U	0.0899	U	0.105	U	0.118	U	0.232	U
2,4-Dinitrotoluene	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
2,6-Dinitrotoluene	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
2-Chloronaphthalene	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
2-Chlorophenol	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
2-Methylnaphthalene	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
2-Methylphenol	0.33	100	0.33	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
2-Nitroaniline	~	~	~	0.0966	U	0.0927	U	0.0899	U	0.105	U	0.118	U	0.232	U
2-Nitrophenol	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
3- & 4-Methylphenols	0.33	100	0.33	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
3,3-Dichlorobenzidine	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
3-Nitroaniline	~	~	~	0.0966	U	0.0927	U	0.0899	U	0.105	U	0.118	U	0.232	U
4,6-Dinitro-2-methylphenol	~	~	~	0.0966	U	0.0927	U	0.0899	U	0.105	U	0.118	U	0.232	U
4-Bromophenyl phenyl ether	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
4-Chloro-3-methylphenol	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
4-Chloroaniline	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
4-Chlorophenyl phenyl ether	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
4-Nitroaniline	~	~	~	0.0966	U	0.0927	U	0.0899	U	0.105	U	0.118	U	0.232	U
4-Nitrophenol	~	~	~	0.0966	U	0.0927	U	0.0899	U	0.105	U	0.118	U	0.232	U
Acenaphthene	20	100	98	0.0484	U	0.0637	JD	0.0450	U	0.0528	U	0.0590	U	0.116	U
Acenaphthylene	100	100	107	0.0484	U	0.0570	JD	0.0450	U	0.0528	U	0.0590	U	0.116	U
Acetophenone	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Aniline	~	~	~	0.193	U	0.186	U	0.180	U	0.211	U	0.236	U	0.464	U
Anthracene	100	100	1,000	0.0484	U	0.211	D	0.0453	JD	0.0910	JD	0.0590	U	0.116	U
Atrazine	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Benzaldehyde	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Benzidine	~	~	~	0.193	U	0.186	U	0.180	U	0.211	U	0.236	U	0.464	U
Benzo(a)anthracene	1	1	1	0.178	D	0.772	D	0.183	D	0.291	D	0.0590	U	0.116	U
Benzo(a)pyrene	1	1	22	0.131	D	0.603	D	0.143	D	0.437	D	0.0590	U	0.116	U
Benzo(b)fluoranthene	1	1	1.7	0.0934	JD	0.439	D	0.123	D	0.355	D	0.0590	U	0.116	U
Benzo(g,h,i)perylene	100	100	1,000	0.0687	JD	0.340	D	0.0450	U	0.356	D	0.0590	U	0.116	U
Benzo(k)fluoranthene	0.8	3.9	1.7	0.124	D	0.547	D	0.127	D	0.282	D	0.0590	U	0.116	U
Benzoic acid	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Benzyl alcohol	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Benzyl butyl phthalate	~	~	~	0.0484	U	0.0465	U	0.0675	JD	0.0528	U	0.0590	U	0.116	U
Bis(2-chloroethoxy)methane	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Bis(2-chloroethyl)ether	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Bis(2-chloroisopropyl)ether	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Bis(2-ethylhexyl)phthalate	~	~	~	0.103	D	0.0993	D	50	D	0.0528	U	0.699	D	0.116	U
Caprolactam	~	~	~	0.0966	U	0.0927	U	0.0899	U	0.105	U	0.118	U	0.232	U
Carbazole	~	~	~	0.0484	U	0.0548	JD	0.0450	U	0.0528	U	0.0590	U	0.116	U
Chrysene	1	3.9	1	0.174	D	0.747	D	0.193	D	0.295	D	0.0590	U	0.116	U
Dibenzo(a,h)anthracene	0.33	0.33	1,000	0.0484	U	0.0985	D	0.0450	U	0.0977	JD	0.0590	U	0.116	U
Dibenzofuran	7	59	210	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Diethyl phthalate	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Dimethyl phthalate	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Di-n-butyl phthalate	~	~	~	0.923	D	0.0465	U	0.0560	JD	0.0528	U	0.0590	U	0.116	U
Di-n-octyl phthalate	~	~	~	0.0484	U	0.0465	U	0.0481	JD	0.0528	U	0.0590	U	0.116	U
Fluoranthene	100	100	1,000	0.266	D	1.320	D	0.287	D	0.565	D	0.0590	U	0.116	U
Fluorene	30	100	386	0.0484	U	0.0600	JD	0.0450	U	0.0528	U	0.0590	U	0.116	U
Hexachlorobenzene	0.33	1.2	3.2	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Hexachlorobutadiene	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Hexachlorocyclopentadiene	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Hexachloroethane	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Indeno(1,2,3-cd)pyrene	0.5	0.5	8.2	0.0625	JD	0.343	D	0.0460	JD	0.307	D	0.0590	U	0.116	U
Isophorone	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Naphthalene	12	100	12	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Nitrobenzene	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
N-Nitrosodimethylamine	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
N-nitroso-di-n-propylamine	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
N-Nitrosodiphenylamine	~	~	~	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Pentachlorophenol	0.8	6.7	0.8	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Phenanthrene	100	100	1,000	0.195	D	0.954	D	0.177	D	0.330	D	0.0590	U	0.116	U
Phenol	0.33	100	0.33	0.0484	U	0.0465	U	0.0450	U	0.0528	U	0.0590	U	0.116	U
Pyrene	100	100	1,000	0.347	D	1.660	D	0.395	D	0.424	D	0.0590	U	0.116	U
Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil (mg/kg)															
1,4-Dioxane	0.1	13	0.1	0.0189	U	0.0189	U	0.0198	U	0.0194	U	0.0189	U	0.0198	U

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).
D: Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
NA: Not analyzed
in / ft bgs: inches / feet below ground
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs)

Value exceeds its Part 375 Protection of Groundwater Use Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 UUSCOs and Residential Use Soil Cleanup Obejctives (RUSCOs) or PGWSCOs

Table 3 - Semi-Volatile Organic Compounds in Soil
55 Eckford Street,
Brooklyn, New York

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-06A (0-2in bgs)		GZ-06B (0-2ft bgs)		GZ-06C (4-6ft bgs)		GZ-06D (8-10ft bgs)		GZ-06E (12-14ft bgs)		GZ-06F (18-20ft bgs)	
LAB SAMPLE ID				24L0646-01		24L0646-02		24L0646-03		24L0646-04		24L0646-05		24L0646-06	
DATE				12/10/2024 9:20:00 AM		12/10/2024 9:30:00 AM		12/10/2024 9:45:00 AM		12/10/2024 10:10:00 AM		12/10/2024 10:30:00 AM		12/10/2024 10:45:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Semi-Volatile Organic Compounds (VOC) BY EPA Method 8270 (mg/kg)															
1,1-Biphenyl	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
1,2,4,5-Tetrachlorobenzene	~	~	~	0.0952	U	0.0924	U	0.117	U	0.0973	U	0.130	U	0.124	U
1,2,4-Trichlorobenzene	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
1,2-Diphenylhydrazine (as Azobenzene)	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
2,3,4,6-Tetrachlorophenol	~	~	~	0.0952	U	0.0924	U	0.117	U	0.0973	U	0.130	U	0.124	U
2,4,5-Trichlorophenol	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
2,4,6-Trichlorophenol	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
2,4-Dichlorophenol	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
2,4-Dimethylphenol	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
2,4-Dinitrophenol	~	~	~	0.0952	U	0.0924	U	0.117	U	0.0973	U	0.130	U	0.124	U
2,4-Dinitrotoluene	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
2,6-Dinitrotoluene	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
2-Chloronaphthalene	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
2-Chlorophenol	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
2-Methylnaphthalene	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
2-Methylphenol	0.33	100	0.33	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
2-Nitroaniline	~	~	~	0.0952	U	0.0924	U	0.117	U	0.0973	U	0.130	U	0.124	U
2-Nitrophenol	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
3- & 4-Methylphenols	0.33	100	0.33	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
3,3-Dichlorobenzidine	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
3-Nitroaniline	~	~	~	0.0952	U	0.0924	U	0.117	U	0.0973	U	0.130	U	0.124	U
4,6-Dinitro-2-methylphenol	~	~	~	0.0952	U	0.0924	U	0.117	U	0.0973	U	0.130	U	0.124	U
4-Bromophenyl phenyl ether	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
4-Chloro-3-methylphenol	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
4-Chloroaniline	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
4-Chlorophenyl phenyl ether	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
4-Nitroaniline	~	~	~	0.0952	U	0.0924	U	0.117	U	0.0973	U	0.130	U	0.124	U
4-Nitrophenol	~	~	~	0.0952	U	0.0924	U	0.117	U	0.0973	U	0.130	U	0.124	U
Acenaphthene	20	100	98	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Acenaphthylene	100	100	107	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Acetophenone	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Aniline	~	~	~	0.191	U	0.185	U	0.234	U	0.195	U	0.261	U	0.248	U
Anthracene	100	100	1,000	0.0898	JD	0.129	D	0.0784	JD	0.0778	JD	0.0652	U	0.0622	U
Atrazine	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Benzaldehyde	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Benzidine	~	~	~	0.191	U	0.185	U	0.234	U	0.195	U	0.261	U	0.248	U
Benzo(a)anthracene	1	1	1	0.218	D	0.722	D	0.254	D	0.211	D	0.0652	U	0.0622	U
Benzo(a)pyrene	1	1	22	0.156	D	0.310	D	0.145	D	0.112	D	0.0652	U	0.0622	U
Benzo(b)fluoranthene	1	1	1.7	0.276	D	0.525	D	0.248	D	0.201	D	0.0652	U	0.0622	U
Benzo(g,h,i)perylene	100	100	1,000	0.180	D	0.296	D	0.168	D	0.131	D	0.0652	U	0.0622	U
Benzo(k)fluoranthene	0.8	3.9	1.7	0.126	D	0.219	D	0.229	D	0.0856	JD	0.0652	U	0.0622	U
Benzoic acid	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Benzyl alcohol	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Benzyl butyl phthalate	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Bis(2-chloroethoxy)methane	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Bis(2-chloroethyl)ether	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Bis(2-chloroisopropyl)ether	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Bis(2-ethylhexyl)phthalate	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Caprolactam	~	~	~	0.0952	U	0.0924	U	0.117	U	0.0973	U	0.130	U	0.124	U
Carbazole	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Chrysene	1	3.9	1	0.221	D	0.749	D	0.224	D	0.186	D	0.0652	U	0.0622	U
Dibenzo(a,h)anthracene	0.33	0.33	1,000	0.0477	U	0.0923	JD	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Dibenzofuran	7	59	210	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Diethyl phthalate	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Dimethyl phthalate	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Di-n-butyl phthalate	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Di-n-octyl phthalate	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Fluoranthene	100	100	1,000	0.492	D	0.845	D	0.439	D	0.377	D	0.0652	U	0.0622	U
Fluorene	30	100	386	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Hexachlorobenzene	0.33	1.2	3.2	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Hexachlorobutadiene	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Hexachlorocyclopentadiene	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Hexachloroethane	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Indeno(1,2,3-cd)pyrene	0.5	0.5	8.2	0.193	D	0.320	D	0.0585	U	0.128	D	0.0652	U	0.0622	U
Isophorone	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Naphthalene	12	100	12	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Nitrobenzene	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
N-Nitrosodimethylamine	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
N-nitroso-di-n-propylamine	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
N-Nitrosodiphenylamine	~	~	~	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Pentachlorophenol	0.8	6.7	0.8	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Phenanthrene	100	100	1,000	0.330	D	0.251	D	0.323	D	0.268	D	0.0652	U	0.0622	U
Phenol	0.33	100	0.33	0.0477	U	0.0463	U	0.0585	U	0.0488	U	0.0652	U	0.0622	U
Pyrene	100	100	1,000	0.507	D	1.550	D	0.524	D	0.432	D	0.0652	U	0.0622	U
Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil (mg/kg)															
1,4-Dioxane	0.1	13	0.1	0.0196	U	0.0198	U	0.0198	U	0.0198	U	0.0183	U	0.0194	U

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).
D: Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
NA: Not analyzed
in / ft bgs: inches / feet below ground
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs)

Value exceeds its Part 375 Protection of Groundwater Use Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 UUSCOs and Residential Use Soil Cleanup Obejctives (RUSCOs) or PGWSCOs

Table 3 - Semi-Volatile Organic Compounds in Soil
55 Eckford Street,
Brooklyn, New York

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-07A (0-2in bgs)		GZ-07B (0-2ft bgs)		GZ-07C (4-6ft bgs)		GZ-07D (8-10ft bgs)		GZ-07E (12-14ft bgs)		GZ-07F (18-20ft bgs)	
LAB SAMPLE ID				24L0646-07		24L0646-08		24L0646-09		24L0646-10		24L0646-11		24L0646-12	
DATE				12/10/2024 11:30:00 AM		12/10/2024 11:40:00 AM		12/10/2024 11:50:00 AM		12/10/2024 12:00:00 PM		12/10/2024 12:30:00 PM		12/10/2024 12:45:00 PM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Semi-Volatile Organic Compounds (VOC) BY EPA Method 8270 (mg/kg)															
1,1-Biphenyl	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
1,2,4,5-Tetrachlorobenzene	~	~	~	0.0924	U	0.0907	U	0.0910	U	0.115	U	0.115	U	0.214	U
1,2,4-Trichlorobenzene	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
1,2-Diphenylhydrazine (as Azobenzene)	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
2,3,4,6-Tetrachlorophenol	~	~	~	0.0924	U	0.0907	U	0.0910	U	0.115	U	0.115	U	0.214	U
2,4,5-Trichlorophenol	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
2,4,6-Trichlorophenol	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
2,4-Dichlorophenol	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
2,4-Dimethylphenol	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
2,4-Dinitrophenol	~	~	~	0.0924	U	0.0907	U	0.0910	U	0.115	U	0.115	U	0.214	U
2,4-Dinitrotoluene	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
2,6-Dinitrotoluene	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
2-Chloronaphthalene	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
2-Chlorophenol	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
2-Methylnaphthalene	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
2-Methylphenol	0.33	100	0.33	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
2-Nitroaniline	~	~	~	0.0924	U	0.0907	U	0.0910	U	0.115	U	0.115	U	0.214	U
2-Nitrophenol	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
3- & 4-Methylphenols	0.33	100	0.33	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
3,3-Dichlorobenzidine	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
3-Nitroaniline	~	~	~	0.0924	U	0.0907	U	0.0910	U	0.115	U	0.115	U	0.214	U
4,6-Dinitro-2-methylphenol	~	~	~	0.0924	U	0.0907	U	0.0910	U	0.115	U	0.115	U	0.214	U
4-Bromophenyl phenyl ether	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
4-Chloro-3-methylphenol	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
4-Chloroaniline	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
4-Chlorophenyl phenyl ether	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
4-Nitroaniline	~	~	~	0.0924	U	0.0907	U	0.0910	U	0.115	U	0.115	U	0.214	U
4-Nitrophenol	~	~	~	0.0924	U	0.0907	U	0.0910	U	0.115	U	0.115	U	0.214	U
Acenaphthene	20	100	98	0.0463	U	0.0783	JD	0.0456	U	0.0574	U	0.0574	U	0.107	U
Acenaphthylene	100	100	107	0.0510	JD	0.168	D	0.0456	U	0.0574	U	0.0574	U	0.107	U
Acetophenone	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Aniline	~	~	~	0.185	U	0.182	U	0.182	U	0.230	U	0.229	U	0.428	U
Anthracene	100	100	1,000	0.108	D	0.326	D	0.0967	D	0.0574	U	0.0574	U	0.107	U
Atrazine	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Benzaldehyde	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Benzidine	~	~	~	0.185	U	0.182	U	0.182	U	0.230	U	0.229	U	0.428	U
Benzo(a)anthracene	1	1	1	0.386	D	0.934	D	0.240	D	0.0574	U	0.0574	U	0.107	U
Benzo(a)pyrene	1	1	22	0.206	D	0.485	D	0.161	D	0.0574	U	0.0574	U	0.107	U
Benzo(b)fluoranthene	1	1	1.7	0.395	D	0.335	D	0.297	D	0.0574	U	0.0574	U	0.107	U
Benzo(g,h,i)perylene	100	100	1,000	0.231	D	0.519	D	0.192	D	0.0574	U	0.0574	U	0.107	U
Benzo(k)fluoranthene	0.8	3.9	1.7	0.160	D	**0.855**	**D**	0.111	D	0.0574	U	0.0574	U	0.107	U
Benzoic acid	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Benzyl alcohol	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Benzyl butyl phthalate	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Bis(2-chloroethoxy)methane	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Bis(2-chloroethyl)ether	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Bis(2-chloroisopropyl)ether	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Bis(2-ethylhexyl)phthalate	~	~	~	0.478	D	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Caprolactam	~	~	~	0.0924	U	0.0907	U	0.0910	U	0.115	U	0.115	U	0.214	U
Carbazole	~	~	~	0.0463	U	0.0544	JD	0.0456	U	0.0574	U	0.0574	U	0.107	U
Chrysene	1	3.9	1	0.323	D	0.849	D	0.244	D	0.0574	U	0.0574	U	0.107	U
Dibenzo(a,h)anthracene	0.33	0.33	1,000	0.0658	JD	0.154	D	0.0509	JD	0.0574	U	0.0574	U	0.107	U
Dibenzofuran	7	59	210	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Diethyl phthalate	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Dimethyl phthalate	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Di-n-butyl phthalate	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Di-n-octyl phthalate	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Fluoranthene	100	100	1,000	0.637	D	1.480	D	0.466	D	0.0574	U	0.0574	U	0.107	U
Fluorene	30	100	386	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Hexachlorobenzene	0.33	1.2	3.2	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Hexachlorobutadiene	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Hexachlorocyclopentadiene	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Hexachloroethane	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Indeno(1,2,3-cd)pyrene	0.5	0.5	8.2	0.258	D	0.0455	U	0.201	D	0.0574	U	0.0574	U	0.107	U
Isophorone	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Naphthalene	12	100	12	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Nitrobenzene	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
N-Nitrosodimethylamine	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
N-nitroso-di-n-propylamine	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
N-Nitrosodiphenylamine	~	~	~	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Pentachlorophenol	0.8	6.7	0.8	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Phenanthrene	100	100	1,000	0.321	D	0.968	D	0.239	D	0.0574	U	0.0574	U	0.107	U
Phenol	0.33	100	0.33	0.0463	U	0.0455	U	0.0456	U	0.0574	U	0.0574	U	0.107	U
Pyrene	100	100	1,000	0.618	D	1.630	D	0.476	D	0.0574	U	0.0574	U	0.107	U
Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil (mg/kg)															
1,4-Dioxane	0.1	13	0.1	0.0198	U	0.0190	U	0.0198	U	0.0183	U	0.0196	U	0.0194	U

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).
D: Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
NA: Not analyzed
in / ft bgs: inches / feet below ground
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs)

Value exceeds its Part 375 Protection of Groundwater Use Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 UUSCOs and Residential Use Soil Cleanup Obejctives (RUSCOs) or PGWSCOs

Table 3 - Semi-Volatile Organic Compounds in Soil
55 Eckford Street,
Brooklyn, New York

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-08A(0-2 ft bcs)		GZ-08B (4-6ft bcs)		GZ-08C(8-10 ft bcs)		GZ-09A (0-2 ft bcs)		GZ-09B(4-6ft bcs)		GZ-09C (8-10 ft bcs)	
LAB SAMPLE ID				24L0797-07		24L0797-08		24L0797-09		24L0797-10		24L0797-11		24L0797-12	
DATE				12/11/2024 9:50:00 AM		12/11/2024 10:00:00 AM		12/11/2024 10:10:00 AM		12/11/2024 8:45:00 AM		12/11/2024 9:15:00 AM		12/11/2024 9:30:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Semi-Volatile Organic Compounds (VOC) BY EPA Method 8270 (mg/kg)															
1,1-Biphenyl	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
1,2,4,5-Tetrachlorobenzene	~	~	~	0.102	U	0.104	U	0.102	U	0.105	U	0.101	U	0.107	U
1,2,4-Trichlorobenzene	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
1,2-Diphenylhydrazine (as Azobenzene)	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
2,3,4,6-Tetrachlorophenol	~	~	~	0.102	U	0.104	U	0.102	U	0.105	U	0.101	U	0.107	U
2,4,5-Trichlorophenol	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
2,4,6-Trichlorophenol	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
2,4-Dichlorophenol	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
2,4-Dimethylphenol	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
2,4-Dinitrophenol	~	~	~	0.102	U	0.104	U	0.102	U	0.105	U	0.101	U	0.107	U
2,4-Dinitrotoluene	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
2,6-Dinitrotoluene	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
2-Chloronaphthalene	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
2-Chlorophenol	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
2-Methylnaphthalene	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.154	D	0.0537	U
2-Methylphenol	0.33	100	0.33	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
2-Nitroaniline	~	~	~	0.102	U	0.104	U	0.102	U	0.105	U	0.101	U	0.107	U
2-Nitrophenol	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
3- & 4-Methylphenols	0.33	100	0.33	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
3,3-Dichlorobenzidine	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
3-Nitroaniline	~	~	~	0.102	U	0.104	U	0.102	U	0.105	U	0.101	U	0.107	U
4,6-Dinitro-2-methylphenol	~	~	~	0.102	U	0.104	U	0.102	U	0.105	U	0.101	U	0.107	U
4-Bromophenyl phenyl ether	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
4-Chloro-3-methylphenol	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
4-Chloroaniline	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
4-Chlorophenyl phenyl ether	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
4-Nitroaniline	~	~	~	0.102	U	0.104	U	0.102	U	0.105	U	0.101	U	0.107	U
4-Nitrophenol	~	~	~	0.102	U	0.104	U	0.102	U	0.105	U	0.101	U	0.107	U
Acenaphthene	20	100	98	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.207	D	0.0993	JD
Acenaphthylene	100	100	107	0.0510	U	0.0521	U	0.0511	U	0.0639	JD	0.0724	JD	0.0574	JD
Acetophenone	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Aniline	~	~	~	0.204	U	0.208	U	0.204	U	0.211	U	0.201	U	0.214	U
Anthracene	100	100	1,000	0.0510	U	0.0521	U	0.0511	U	0.141	D	0.617	D	0.236	D
Atrazine	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Benzaldehyde	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Benzidine	~	~	~	0.204	U	0.208	U	0.204	U	0.211	U	0.201	U	0.214	U
Benzo(a)anthracene	1	1	1	0.0659	JD	0.0922	JD	0.162	D	0.440	D	**1.11**	**D**	0.550	D
Benzo(a)pyrene	1	1	22	0.0642	JD	0.0521	U	0.202	D	0.436	D	**1.09**	**D**	0.603	D
Benzo(b)fluoranthene	1	1	1.7	0.0537	JD	0.0864	JD	0.158	D	0.382	D	0.889	D	0.455	D
Benzo(g,h,i)perylene	100	100	1,000	0.0510	U	0.0640	JD	0.126	D	0.241	D	0.724	D	0.359	D
Benzo(k)fluoranthene	0.8	3.9	1.7	0.0510	U	0.0706	JD	0.160	D	0.336	D	**0.84**	**D**	0.477	D
Benzoic acid	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Benzyl alcohol	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Benzyl butyl phthalate	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Bis(2-chloroethoxy)methane	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Bis(2-chloroethyl)ether	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Bis(2-chloroisopropyl)ether	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Bis(2-ethylhexyl)phthalate	~	~	~	0.0510	U	0.0598	JD	0.0511	U	0.0528	U	0.0700	JD	0.0736	JD
Caprolactam	~	~	~	0.102	U	0.104	U	0.102	U	0.757	D	0.101	U	0.107	U
Carbazole	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.105	D	0.0537	U
Chrysene	1	3.9	1	0.0593	JD	0.0889	JD	0.159	D	0.478	D	**1.05**	**D**	0.547	D
Dibenzo(a,h)anthracene	0.33	0.33	1,000	0.0510	U	0.0521	U	0.0511	U	0.0799	JD	0.223	D	0.116	D
Dibenzofuran	7	59	210	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.121	D	0.0537	U
Diethyl phthalate	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Dimethyl phthalate	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Di-n-butyl phthalate	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Di-n-octyl phthalate	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Fluoranthene	100	100	1,000	0.124	D	0.142	D	0.286	D	0.928	D	2.480	D	1.110	D
Fluorene	30	100	386	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.251	D	0.0993	JD
Hexachlorobenzene	0.33	1.2	3.2	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Hexachlorobutadiene	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Hexachlorocyclopentadiene	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Hexachloroethane	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Indeno(1,2,3-cd)pyrene	0.5	0.5	8.2	0.0510	U	0.0631	JD	0.118	D	0.241	D	**0.667**	**D**	0.332	D
Isophorone	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Naphthalene	12	100	12	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.117	D	0.0537	U
Nitrobenzene	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
N-Nitrosodimethylamine	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
N-nitroso-di-n-propylamine	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
N-Nitrosodiphenylamine	~	~	~	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Pentachlorophenol	0.8	6.7	0.8	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Phenanthrene	100	100	1,000	0.0748	JD	0.0856	JD	0.158	D	0.589	D	2.560	D	1.070	D
Phenol	0.33	100	0.33	0.0510	U	0.0521	U	0.0511	U	0.0528	U	0.0504	U	0.0537	U
Pyrene	100	100	1,000	0.103	D	0.136	D	0.242	D	0.852	D	2.110	D	0.998	D
Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil (mg/kg)															
1,4-Dioxane	0.1	13	0.1	0.0194	U	0.0190	U	0.0190	U	0.0187	U	0.0198	U	0.0194	U

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).
D: Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
NA: Not analyzed
in / ft bgs: inches / feet below ground
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs)

Value exceeds its Part 375 Protection of Groundwater Use Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 UUSCOs and Residential Use Soil Cleanup Obejctives (RUSCOs) or PGWSCOs

Table 3 - Semi-Volatile Organic Compounds in Soil
55 Eckford Street,
Brooklyn, New York

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-10A (0-2 ft bcs)		GZ-10B (4-6ft bcs)		GZ-10C (8-10 ft bcs)		GZ-FD-01		GZ-FD-02		GZ-FD-03		GZ-FD-2025-02-10	
LAB SAMPLE ID				24L0797-13		24L0797-14		24L0797-15		24L0646-13		24L0797-16		24L0931-25		25B0531-08	
DATE				12/11/2024 11:10:00 AM		12/11/2024 11:20:00 AM		12/11/2024 11:30:00 AM		12/10/2024 11:40:00 AM		12/11/2024 3:00:00 PM		12/12/2024 3:00:00 PM		2/10/2025	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Semi-Volatile Organic Compounds (VOC) BY EPA Method 8270 (mg/kg)																	
1,1-Biphenyl	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
1,2,4,5-Tetrachlorobenzene	~	~	~	0.120	U	0.138	U	0.281	U	0.113	U	0.130	U	0.217	U	0.190	U
1,2,4-Trichlorobenzene	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
1,2-Dichlorobenzene	1.1	100	1.1	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
1,2-Diphenylhydrazine (as Azobenzene)	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
1,3-Dichlorobenzene	2.4	49	2.4	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
1,4-Dichlorobenzene	1.8	13	1.8	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
2,3,4,6-Tetrachlorophenol	~	~	~	0.120	U	0.138	U	0.281	U	0.113	U	0.130	U	0.217	U	0.190	U
2,4,5-Trichlorophenol	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
2,4,6-Trichlorophenol	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
2,4-Dichlorophenol	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
2,4-Dimethylphenol	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
2,4-Dinitrophenol	~	~	~	0.120	U	0.138	U	0.281	U	0.113	U	0.130	U	0.217	U	0.190	U
2,4-Dinitrotoluene	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
2,6-Dinitrotoluene	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
2-Chloronaphthalene	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
2-Chlorophenol	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
2-Methylnaphthalene	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
2-Methylphenol	0.33	100	0.33	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
2-Nitroaniline	~	~	~	0.120	U	0.138	U	0.281	U	0.113	U	0.130	U	0.217	U	0.190	U
2-Nitrophenol	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
3- & 4-Methylphenols	0.33	100	0.33	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
3,3-Dichlorobenzidine	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
3-Nitroaniline	~	~	~	0.120	U	0.138	U	0.281	U	0.113	U	0.130	U	0.217	U	0.190	U
4,6-Dinitro-2-methylphenol	~	~	~	0.120	U	0.138	U	0.281	U	0.113	U	0.130	U	0.217	U	0.190	U
4-Bromophenyl phenyl ether	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
4-Chloro-3-methylphenol	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
4-Chloroaniline	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
4-Chlorophenyl phenyl ether	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
4-Nitroaniline	~	~	~	0.120	U	0.138	U	0.281	U	0.113	U	0.130	U	0.217	U	0.190	U
4-Nitrophenol	~	~	~	0.120	U	0.138	U	0.281	U	0.113	U	0.130	U	0.217	U	0.190	U
Acenaphthene	20	100	98	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Acenaphthylene	100	100	107	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Acetophenone	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Aniline	~	~	~	0.241	U	0.277	U	0.562	U	0.226	U	0.260	U	0.435	U	0.380	U
Anthracene	100	100	1,000	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.269	D	0.095	U
Atrazine	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Benzaldehyde	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Benzidine	~	~	~	0.241	U	0.277	U	0.562	U	0.226	U	0.260	U	0.435	U	0.380	U
Benzo(a)anthracene	1	1	1	0.125	D	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.639	D	0.095	U
Benzo(a)pyrene	1	1	22	0.168	D	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.375	D	0.095	U
Benzo(b)fluoranthene	1	1	1.7	0.140	D	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.268	D	0.095	U
Benzo(g,h,i)perylene	100	100	1,000	0.115	JD	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Benzo(k)fluoranthene	0.8	3.9	1.7	0.122	D	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.330	D	0.095	U
Benzoic acid	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Benzyl alcohol	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Benzyl butyl phthalate	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Bis(2-chloroethoxy)methane	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Bis(2-chloroethyl)ether	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Bis(2-chloroisopropyl)ether	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Bis(2-ethylhexyl)phthalate	~	~	~	0.0603	U	0.415	D	0.141	U	0.0566	U	0.0650	U	0.109	U	0.229	D
Caprolactam	~	~	~	0.120	U	0.138	U	0.281	U	0.113	U	0.130	U	0.217	U	0.190	U
Carbazole	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Chrysene	1	3.9	1	0.129	D	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.596	D	0.095	U
Dibenzo(a,h)anthracene	0.33	0.33	1,000	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Dibenzofuran	7	59	210	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Diethyl phthalate	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Dimethyl phthalate	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Di-n-butyl phthalate	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Di-n-octyl phthalate	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Fluoranthene	100	100	1,000	0.218	D	0.0807	JD	0.141	U	0.0566	U	0.0650	U	1.130	D	0.095	U
Fluorene	30	100	386	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.118	JD	0.095	U
Hexachlorobenzene	0.33	1.2	3.2	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Hexachlorobutadiene	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Hexachlorocyclopentadiene	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Hexachloroethane	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Indeno(1,2,3-cd)pyrene	0.5	0.5	8.2	0.101	JD	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Isophorone	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Naphthalene	12	100	12	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.144	JD
Nitrobenzene	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
N-Nitrosodimethylamine	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
N-nitroso-di-n-propylamine	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
N-Nitrosodiphenylamine	~	~	~	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Pentachlorophenol	0.8	6.7	0.8	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Phenanthrene	100	100	1,000	0.114	JD	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.989	D	0.100	JD
Phenol	0.33	100	0.33	0.0603	U	0.0693	U	0.141	U	0.0566	U	0.0650	U	0.109	U	0.095	U
Pyrene	100	100	1,000	0.198	D	0.0693	U	0.141	U	0.0566	U	0.0650	U	1.280	D	0.095	U
Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil (mg/kg)																	
1,4-Dioxane	0.1	13	0.1	0.0183	U	0.0189	U	0.0398	U	0.0187	U	0.0190	U	0.0198	U	NA	

Table Notes:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).
D: Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
NA: Not analyzed
in / ft bgs: inches / feet below ground
in / ft bcs : inches / feet below cellar slab.

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs)

Value exceeds its Part 375 Protection of Groundwater Use Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 UUSCOs and Residential Use Soil Cleanup Obejctives (RUSCOs) or PGWSCOs

Table 4 - Total Metals in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-01A (0-2in bgs)		GZ-01B (0-2ft bgs)		GZ-01C (4-6ft bgs)		GZ-01D (8-10ft bgs)		GZ-01E (12-14ft bgs)		GZ-01F (18-20ft bgs)	
LAB SAMPLE ID				24L0931-01		24L0931-02		24L0931-03		24L0931-04		24L0931-05		24L0931-06	
DATE				12/12/2024 8:00:00 AM		12/12/2024 8:20:00 AM		12/12/2024 8:10:00 AM		12/12/2024 8:40:00 AM		12/12/2024 8:50:00 AM		12/12/2024 8:30:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Total Metals By EPA Method 6010 (mg/kg)															
Aluminum	~	~	~	10,200		10,400		8,610		7,120		7,160		8,430	
Antimony	~	~	~	2.34	U	2.3	U	2.32	U	19.90		2.38	U	2.41	U
Arsenic	13	16	16	7.6		6.18		6.33		**240**		**43.6**		**13.8**	
Barium	350	400	820	244		190		79.3		259		49.200		47.800	
Beryllium	7.2	72	47	0.047	U	0.046	U	0.047	U	0.047	U	0.048	U	0.049	U
Cadmium	2.5	4.3	7.5	**3.32**		2.18		0.278	U	0.282	U	0.285	U	0.289	U
Calcium	~	~	~	5,190		8,470		6,800		2,130		1,430		1,400	
Chromium	~	~	~	31.2		23.6		20.2		20.4		16.6		17.1	
Chromium, Hexavalent	1	110	19	0.563	U	0.552	U	0.556	U	0.563	U	0.570	U	0.579	U
Cobalt	~	~	~	6.19		6.37		6.43		3.82		5.98		6.53	
Copper	50	270	1,720	46.4		35.1		47.5		44.9		32.1		33.7	
Cyanide, total	27	27	40	0.563	U	0.552	U	0.556	U	2.61		0.57	U	1.0	
Iron	~	~	~	18,200		20,600		14,200		16,700		15,900		19,000	
Lead	63	400	450	**182**		**161**		**68**		60.2		47.7		**64.4**	
Magnesium	~	~	~	2,470		4,460		4,290		2,080		2,450		2,240	
Manganese	1,600	2,000	2,000	433		371		262		322		391		439	
Mercury	0.18	0.81	0.73	**0.186**		**0.292**		**0.368**		**0.61**		**0.424**		**0.395**	
Nickel	30	310	130	28.9		29.1		**61.8**		18.7		18.5		19	
Potassium	~	~	~	1,470		1,700		1,320		1,060		1,530		1,240	
Selenium	3.9	180	4	2.78		2.30	U	2.32	U	3.41		**10.3**		3.34	
Silver	2	180	8.3	0.473	U	0.463	U	0.467	U	0.473	U	0.479	U	0.486	U
Sodium	~	~	~	351		256		140		198		1,070		881	
Thallium	~	~	~	2.34	U	2.3	U	2.32	U	2.35	U	2.38	U	2.41	U
Vanadium	~	~	~	28.1		32.9		26.9		28.0		26.5		23.6	
Zinc	109	10,000	2,480	**170**		**172**		68.5		42.6		47.1		42	

Table Notes:

--: No guidance value
mg/kg: Milligrams per Kilogram
U: Not detected at the reported detection limit for the sample.

J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL)
in / ft bgs inches / feet below ground
in / ft bcs inches / feet below cellar slab

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Value exceeds its Part 375 UUSCOs and Protection of Groundwater Soil Cleanup Objectives (PGWSCOs)

Value exceeds its Part 375 Unrestricted, Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) and/ or PGWSCOs.

Table 4 - Total Metals in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-01 (20-23 ft bgs)		GZ-01 (23-26 ft bgs)		GZ-01 (26-30 ft bgs)		GZ-02A (0-2in bgs)		GZ-02B (0-2ft bgs)		GZ-02C (4-6ft bgs)	
LAB SAMPLE ID				25B0531-01		25B0531-02		25B0531-03		24L0931-07		24L0931-08		24L0931-09	
DATE				2/10/2025 11:25		2/10/2025 11:30		2/10/2025 11:35		12/12/2024 9:00:00 AM		12/12/2024 9:10:00 AM		12/12/2024 9:20:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Total Metals By EPA Method 6010 (mg/kg)															
Aluminum	~	~	~	8000		2170		3450		10,600		10,100		6,080	
Antimony	~	~	~	2.41	U	16		6.76	U	3.41		3.73		18.50	
Arsenic	13	16	16	**76.7**		**82.3**		4.06	U	9.69		**39**		**138**	
Barium	350	400	820	58		32.3		288		153		157		230	
Beryllium	7.2	72	47	0.409		0.076	U	0.349		0.047	U	0.143		0.204	
Cadmium	2.5	4.3	7.5	0.289	U	0.452	U	0.811	U	1.67		0.756		0.347	
Calcium	~	~	~	5900		1080		11500		7,180		14,000		4,890	
Chromium	~	~	~	19.4		7.0		10.7		30.7		27.7		26.1	
Chromium, Hexavalent	1	110	19	NA		NA		NA		0.561	U	0.638	U	0.626	U
Cobalt	~	~	~	7.11		4.68		1.38		6.56		3.18		7.34	
Copper	50	270	1,720	25.20		**65.2**		15.7		**77.1**		**85.9**		**368**	
Cyanide, total	27	27	40	NA		NA		NA		0.561	U	2.220		5.110	
Iron	~	~	~	28,300		31,800		7500		17,100		53,300		17,400	
Lead	63	400	450	31.2		**486**		9.17		**180**		**2,050**		**1,690**	
Magnesium	~	~	~	2190		558		6630		2,620		5,730		1,460	
Manganese	1,600	2,000	2,000	514		100		19.7		319		429		269	
Mercury	0.18	0.81	0.73	**0.387**		**2.79**		**0.472**		**0.604**		**7.52**		**3.4**	
Nickel	30	310	130	27.1		283		10		**36.1**		**52.7**		**804**	
Potassium	~	~	~	1250		302		686		1,250		937		803	
Selenium	3.9	180	4	2.41	U	3.76	U	6.76	U	2.34	U	**5.35**		**4.45**	
Silver	2	180	8.3	0.486	U	0.759	U	1.36	U	0.472	U	0.536	U	0.526	U
Sodium	~	~	~	224		200		1140		192		190		225	
Thallium	~	~	~	1.93	U	3.02	U	5.42	U	2.34	U	2.66	U	2.61	U
Vanadium	~	~	~	31.2		8.5		13.0		32.4		25.1		23.7	
Zinc	109	10,000	2,480	42.1		41.4		6.73	U	**179**		**194**		**327**	

Table Notes:

--: No guidance value
mg/kg: Milligrams per Kilogram
U: Not detected at the reported detection limit for the sample.

J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL)
in / ft bgs inches / feet below ground
in / ft bcs inches / feet below cellar slab

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Value exceeds its Part 375 UUSCOs and Protection of Groundwater Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 Unrestricted, Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) and/ or PGWSCOs.

Table 4 - Total Metals in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-02D (8-10ft bgs)		GZ-02E (12-14ft bgs)		GZ-02F (18-20ft bgs)		GZ-02 (20-23 ft bgs)		GZ-02 (23-26 ft bgs)		GZ-02 (26-30 ft bgs)	
LAB SAMPLE ID				24L0931-10		24L0931-11		24L0931-12		25B0531-04		25B0531-05		25B0531-06	
DATE				12/12/2024 9:30:00 AM		12/12/2024 9:40:00 AM		12/12/2024 9:50:00 AM		2/10/2025 12:25		2/10/2025 12:30		2/10/2025 12:35	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Total Metals By EPA Method 6010 (mg/kg)															
Aluminum	~	~	~	11,200		7,950		7,770		5,320		5,210		1,280	
Antimony	~	~	~	5.68		3.97	U	2.99	U	2.53	U	2.61	U	5.05	U
Arsenic	13	16	16	**14.4**		**51.7**		**49.5**		4.94		4.58		7.58	
Barium	350	400	820	146		**424**		**517**		38.4		43.5		41.1	
Beryllium	7.2	72	47	0.048	U	0.561		0.823		0.302		0.316		0.135	
Cadmium	2.5	4.3	7.5	1.250		0.476	U	0.740		0.304	U	0.313	U	0.607	U
Calcium	~	~	~	23,100		4,320		73,700		1140		1110		4040	
Chromium	~	~	~	19.9		17.9		16.2		11.4		10.9		3.5	
Chromium, Hexavalent	1	110	19	0.569	U	0.952	U	0.719	U	NA		NA		NA	
Cobalt	~	~	~	9.20		9.71		4.94		5.84		5.77		1.29	
Copper	50	270	1,720	**130**		**92.7**		38.7		11.3		10.9		10.0	
Cyanide, total	27	27	40	2.760		0.952	U	2.210		NA		NA		NA	
Iron	~	~	~	22,200		12,100		17,000		18,100		14,600		8970	
Lead	63	400	450	**487**		**424**		**117**		9.21		4.57		22.2	
Magnesium	~	~	~	4,480		559		745		2430		2400		979	
Manganese	1,600	2,000	2,000	223		130		533		69.2		62.4		24.5	
Mercury	0.18	0.81	0.73	**1.38**		**2.33**		**24.1**		0.0364	U	0.0376	U	**0.593**	
Nickel	30	310	130	**51.9**		28		16.2		14.8		10.9		6.17	
Potassium	~	~	~	4,630		943		1,100		971		944		303	
Selenium	3.9	180	4	2.37	U	**5.08**		3.44		2.53	U	2.61	U	5.05	U
Silver	2	180	8.3	0.478	U	0.800	U	0.604	U	0.51	U	0.526	U	1.02	U
Sodium	~	~	~	293		461		1,280		126		123		182	
Thallium	~	~	~	2.37	U	3.97	U	2.99	U	2.03	U	2.09	U	4.05	U
Vanadium	~	~	~	23.7		37.4		39.9		15.9		16.3		4.7	
Zinc	109	10,000	2,480	**275**		**365**		**123**		33.7		33.1		27.1	

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Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Value exceeds its Part 375 UUSCOs and Protection of Groundwater Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 Unrestricted, Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) and/ or PGWSCOs.

Table 4 - Total Metals in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-03A (0-2in bgs)		GZ-03B (0-2ft bgs)		GZ-03C (4-6ft bgs)		GZ-03D (8-10ft bgs)		GZ-03E (12-14ft bgs)		GZ-03F (16-18ft bgs)	
LAB SAMPLE ID				24L0931-13		24L0931-14		24L0931-15		24L0931-16		24L0931-17		24L0931-18	
DATE				12/12/2024 10:30:00 AM		12/12/2024 10:40:00 AM		12/12/2024 10:50:00 AM		12/12/2024 11:00:00 AM		12/12/2024 11:10:00 AM		12/12/2024 11:20:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Total Metals By EPA Method 6010 (mg/kg)															
Aluminum	~	~	~	12,400		7,630		9,290		5,610		6,260		27,200	
Antimony	~	~	~	2.39	U	46.30		2.37	U	14.90		3.29		5.46	U
Arsenic	13	16	16	9.73		**73.1**		10.40		**28.1**		**56.4**		**28.7**	
Barium	350	400	820	74.300		**646**		112		125		130		66.4	
Beryllium	7.2	72	47	0.048	U	0.175		0.16		0.049	U	0.109		0.645	
Cadmium	2.5	4.3	7.5	0.287	U	**4.22**		0.284	U	1.470		0.450		0.655	U
Calcium	~	~	~	1,540		12,000		2,360		3,480		20,700		4,810	
Chromium	~	~	~	20.9		47.7		15.2		12.3		20.8		45.6	
Chromium, Hexavalent	1	110	19	0.574	U	0.576	U	**1.41**		0.581	U	0.601	U	**2.94**	
Cobalt	~	~	~	6.80		8.28		5.66		4.89		6.54		12.4	
Copper	50	270	1,720	**225**		**495**		34.1		**65.1**		**344**		19.9	
Cyanide, total	27	27	40	1.600		10.600		1.140		2.310		1.540		1.310	U
Iron	~	~	~	21,000		44,300		16,300		68,900		22,800		51,400	
Lead	63	400	450	**181**		**2,370**		**227**		**372**		**227**		23.5	
Magnesium	~	~	~	2,140		1,930		2,550		1,540		1,680		9,500	
Manganese	1,600	2,000	2,000	330		401		222		428		261		543	
Mercury	0.18	0.81	0.73	**0.821**		**2.21**		**0.473**		**0.375**		**0.497**		0.112	
Nickel	30	310	130	15.8		**419**		15.3		23.6		**46.3**		**37.1**	
Potassium	~	~	~	708		844		984		441		669		6,060	
Selenium	3.9	180	4	2.43		**9.03**		2.37	U	**6.31**		3.17		5.46	U
Silver	2	180	8.3	0.482	U	0.484	U	0.477	U	0.488	U	0.504	U	1.100	U
Sodium	~	~	~	72.100		524		69.400		98.800		192		495	
Thallium	~	~	~	2.39	U	2.40	U	2.37	U	2.42	U	2.50	U	5.46	U
Vanadium	~	~	~	30.9		29.1		21.4		18.9		19.4		63.8	
Zinc	109	10,000	2,480	**154**		**1,610**		**113**		**797**		**404**		105	

Table Notes:

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in / ft bgs inches / feet below ground surface
in / ft bcs inches / feet below cellar slab

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Value exceeds its Part 375 UUSCOs and Protection of Groundwater Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 Unrestricted, Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) and/ or PGWSCOs.

Table 4 - Total Metals in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-03 (20-23 ft bgs)		GZ-03 (23-26 ft bgs)		GZ-03 (26-30 ft bgs)		GZ-04A (0-2in bgs)		GZ-04B (0-2ft bgs)		GZ-04C (4-6ft bgs)	
LAB SAMPLE ID				25B0531-09		25B0531-10		25B0531-11		24L0931-19		24L0931-20		24L0931-21	
DATE				2/10/2025 12:50		2/10/2025 12:55		2/10/2025 13:00		12/12/2024 12:00:00 PM		12/12/2024 12:10:00 PM		12/12/2024 12:20:00 PM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Total Metals By EPA Method 6010 (mg/kg)															
Aluminum	~	~	~	2310		3010		8800		9,920		8,000		8,000	
Antimony	~	~	~	3.21	U	3.02	U	3.11	U	6.54		65.6		14.9	
Arsenic	13	16	16	**35.8**		**47.8**		8.9		**45.2**		**41.2**		**98.3**	
Barium	350	400	820	56.7		46.1		32.3		136		287		180	
Beryllium	7.2	72	47	0.18		0.141		0.472		0.056	U	0.075		0.049	U
Cadmium	2.5	4.3	7.5	0.643		0.362	U	0.373	U	0.39		1.85		0.366	
Calcium	~	~	~	49100		23400		2830		13,700		21,000		7,960	
Chromium	~	~	~	9.1		31.5		17.7		25.1		29.8		33.5	
Chromium, Hexavalent	1	110	19	NA		NA		NA		0.670	U	0.575	U	0.585	U
Cobalt	~	~	~	3.68		24.20		6.56		6.55		6.33		6.12	
Copper	50	270	1,720	**374**		41.1		10.0		**139**		**530**		**396**	
Cyanide, total	27	27	40	NA		NA		NA		0.703		3.8		3.590	
Iron	~	~	~	15400		92900		20,400		32,600		31,500		32,600	
Lead	63	400	450	**178**		**75.6**		9.2		**217**		**886**		**631**	
Magnesium	~	~	~	1,440		3100		3540		2,730		2,610		2,680	
Manganese	1,600	2,000	2,000	204		566		167		340		401		276	
Mercury	0.18	0.81	0.73	**0.556**		**0.183**		0.0585		**1.47**		**4.47**		**1.8**	
Nickel	30	310	130	14.5		**33.5**		15.4		**328**		**190**		**546**	
Potassium	~	~	~	331		499		1910		1,240		998		2,060	
Selenium	3.9	180	4	3.21	U	3.02	U	3.11	U	**4.65**		**6.62**		**12.8**	
Silver	2	180	8.3	0.648	U	0.608	U	0.627	U	0.563	U	0.483	U	0.491	U
Sodium	~	~	~	145		135		218		179		191		232	
Thallium	~	~	~	2.58	U	2.42	U	2.49	U	2.79	U	2.4	U	2.44	U
Vanadium	~	~	~	10.2		77.9		24.6		27.7		28.5		26.1	
Zinc	109	10,000	2,480	**485**		75.6		51.2		**203**		**797**		**299**	

Table Notes:

--: No guidance value
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U: Not detected at the reported detection limit for the sample.

J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL)
in / ft bgs inches / feet below ground surface
in / ft bcs inches / feet below cellar slab

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Value exceeds its Part 375 UUSCOs and Protection of Groundwater Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 Unrestricted, Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) and/ or PGWSCOs.

Table 4 - Total Metals in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-04D (8-10ft bgs)		GZ-04E (12-14ft bgs)		GZ-04F (18-20ft bgs)		GZ-04 (20-23 ft bgs)		GZ-04 (23-26 ft bgs)		GZ-04 (26-30 ft bgs)	
LAB SAMPLE ID				24L0931-22		24L0931-23		24L0931-24		25B0531-12		25B0531-13		25B0531-14	
DATE				12/12/2024 12:30:00 PM		12/12/2024 12:50:00 PM		12/12/2024 1:00:00 PM		2/10/2025 13:15		2/10/2025 13:25		2/10/2025 13:20	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Total Metals By EPA Method 6010 (mg/kg)															
Aluminum	~	~	~	3,720		7,340		11,600		4,350		500		560	
Antimony	~	~	~	5.36		2.58	U	6.24	U	2.49	U	5.03	U	9.22	U
Arsenic	13	16	16	**18**		**46.6**		3.75	U	9.71		3.22		5.53	U
Barium	350	400	820	103		**712**		222		75.8		19.1		18	
Beryllium	7.2	72	47	0.0510	U	0.309		0.631		0.121		0.101	U	0.186	U
Cadmium	2.5	4.3	7.5	0.436		0.510		0.749	U	0.478		0.604	U	1.11	U
Calcium	~	~	~	8,130		3,490		17,900		8,580		4,410		5260	
Chromium	~	~	~	15.1		15.7		24.7		11.7		1.7		2.1	
Chromium, Hexavalent	1	110	19	0.610	U	0.620	U	1.5	U	NA		NA		NA	
Cobalt	~	~	~	3.11		9.78		1.90		6.52		0.83		1.47	U
Copper	50	270	1,720	**263**		**137**		11.9		**106**		22		7.4	U
Cyanide, total	27	27	40	2.79		5.94		1.5	U	NA		NA		NA	
Iron	~	~	~	40,800		26,300		5,460		31,900		2590		3320	
Lead	63	400	450	**242**		**1,410**		13.1		**239**		15.6		3.83	
Magnesium	~	~	~	940		1,140		4,850		1450		807		1110	
Manganese	1,600	2,000	2,000	312		280		55.5		190		11.7		10.4	
Mercury	0.18	0.81	0.73	**0.541**		**0.806**		**0.27**		**0.552**		**0.913**		0.133	U
Nickel	30	310	130	**207**		**186**		9.9		**324**		7.5		3.67	U
Potassium	~	~	~	644		822		1,130		593		118		156	
Selenium	3.9	180	4	**4.98**		**5.16**		6.24	U	2.49	U	5.03	U	9.22	U
Silver	2	180	8.3	0.512	U	0.521	U	1.26	U	0.502	U	1.01	U	1.86	U
Sodium	~	~	~	180		206		625		304		145		208	
Thallium	~	~	~	2.54	U	2.58	U	6.24	U	2	U	4.03	U	7.39	U
Vanadium	~	~	~	21.7		28.1		13.3		23.9		2.3		3.7	U
Zinc	109	10,000	2,480	**432**		**482**		24.1		**256**		18.1		9.18	U

Table Notes:

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mg/kg: Milligrams per Kilogram
U: Not detected at the reported detection limit for the sample.

J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL)
in / ft bgs inches / feet below ground surface
in / ft bcs inches / feet below cellar slab

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Value exceeds its Part 375 UUSCOs and Protection of Groundwater Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 Unrestricted, Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) and/ or PGWSCOs.

Table 4 - Total Metals in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-05A (0-2in bgs)		GZ-05B (0-2ft bgs)		GZ-05C (4-6ft bgs)		GZ-05D (8-10ft bgs)		GZ-05E (12-14ft bgs)		GZ-05F(18-20ft bgs)	
LAB SAMPLE ID				24L0797-01		24L0797-02		24L0797-03		24L0797-04		24L0797-05		24L0797-06	
DATE				12/11/2024 12:05:00 PM		12/11/2024 12:50:00 PM		12/11/2024 1:00:00 PM		12/11/2024 12:40:00 PM		12/11/2024 12:30:00 PM		12/11/2024 12:20:00 PM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Total Metals By EPA Method 6010 (mg/kg)															
Aluminum	~	~	~	7,900		9,280		9,110		5,330		7,310		2,360	
Antimony	~	~	~	4.29		7.66		2.29	U	14.10		4.02		5.87	U
Arsenic	13	16	16	**16.2**		**26**		**13.5**		**83**		**54.9**		3.52	U
Barium	350	400	820	158		224		106		300		**421**		17.1	
Beryllium	7.2	72	47	0.0500	U	0.0470	U	0.0460	U	0.244		0.737		0.231	
Cadmium	2.5	4.3	7.5	0.800		0.811		0.706		2.160		0.547		0.704	U
Calcium	~	~	~	10,700		6,940		15,600		5,470		5,530		5,930	
Chromium	~	~	~	27.6		41.5		21.6		32.4		28.2		6.2	
Chromium, Hexavalent	1	110	19	0.591	U	0.565	U	0.550	U	0.638	U	0.722	U	1.41	U
Cobalt	~	~	~	5.95		7.93		8.08		8.36		10.70		0.94	U
Copper	50	270	1,720	**113**		**211**		**72.7**		**424**		**89.8**		4.7	U
Cyanide, total	27	27	40	0.647		0.565	U	0.728		4.800		0.722	U	1.41	U
Iron	~	~	~	15,300		26,700		14,200		18,600		14,000		2,190	
Lead	63	400	450	**238**		**442**		**198**		**778**		**802**		4.65	
Magnesium	~	~	~	3,710		2,760		5,100		1,280		469		3,650	
Manganese	1,600	2,000	2,000	294		303		283		257		162		46.1	
Mercury	0.18	0.81	0.73	**1.02**		**0.64**		**0.538**		**3.24**		**4.06**		0.167	
Nickel	30	310	130	**137**		**169**		**61.8**		**359**		**158**		6.4	
Potassium	~	~	~	1,490		1,360		2,950		828		1,050		564	
Selenium	3.9	180	4	2.46	U	**4.82**		2.29	U	**5.32**		**4.90**		5.87	U
Silver	2	180	8.3	0.496	U	0.475	U	0.462	U	0.536	U	0.606	U	1.18	U
Sodium	~	~	~	341		284		218		382		1,520		1,120	
Thallium	~	~	~	2.46	U	2.35	U	2.29	U	2.66	U	3.01	U	5.87	U
Vanadium	~	~	~	24.2		31.0		25.5		20.6		36.1		7.2	
Zinc	109	10,000	2,480	**236**		**212**		**155**		**498**		**424**		5.9	U

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in / ft bgs inches / feet below ground surface
in / ft bcs inches / feet below cellar slab

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Value exceeds its Part 375 UUSCOs and Protection of Groundwater Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 Unrestricted, Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) and/ or PGWSCOs.

Table 4 - Total Metals in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-06A (0-2in bgs)		GZ-06B (0-2ft bgs)		GZ-06C (4-6ft bgs)		GZ-06D (8-10ft bgs)		GZ-06E (12-14ft bgs)		GZ-06F (18-20ft bgs)	
LAB SAMPLE ID				24L0646-01		24L0646-02		24L0646-03		24L0646-04		24L0646-05		24L0646-06	
DATE				12/10/2024 9:20:00 AM		12/10/2024 9:30:00 AM		12/10/2024 9:45:00 AM		12/10/2024 10:10:00 AM		12/10/2024 10:30:00 AM		12/10/2024 10:45:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Total Metals By EPA Method 6010 (mg/kg)															
Aluminum	~	~	~	7,860		13,200		7,820		12,500		8,050		5,840	
Antimony	~	~	~	2.43	U	2.36	U	2.99	U	5.15		3.33	U	3.17	U
Arsenic	13	16	16	3.71		5.02		**187**		**91.7**		**119**		**34.1**	
Barium	350	400	820	76.7		298		206		211		207		226	
Beryllium	7.2	72	47	0.0490	U	0.0480	U	0.519	B	0.317	B	0.645	B	0.502	B
Cadmium	2.5	4.3	7.5	0.751		**6.89**		0.605		1.460		0.399	U	0.381	U
Calcium	~	~	~	8,570		13,300		4,980		21,500		9,960		4,710	
Chromium	~	~	~	24.5		36.2		17.2		24.6		59.5		15.0	
Chromium, Hexavalent	1	110	19	0.584	U	0.567	U	0.717	U	0.597	U	0.798	U	0.761	U
Cobalt	~	~	~	7.19		6.9		7.16		8.08		7.16		6.12	
Copper	50	270	1,720	39.8		42		**1,810**		**783**		**1090**		**95.1**	
Cyanide, total	27	27	40	0.584	U	0.567	U	2.33		1.800		12		6.07	
Iron	~	~	~	12,400		18,800		7,180		16,300		15,600		11,400	
Lead	63	400	450	42		**219**		**1,420**		**554**		**402**		**398**	
Magnesium	~	~	~	3,690		3,190		542		2,690		655		403	
Manganese	1,600	2,000	2,000	281		390		103		280		84.2		127	
Mercury	0.18	0.81	0.73	0.0593		**0.549**		**1.63**		**3.04**		**3.14**		**1.27**	
Nickel	30	310	130	**51.4**		16.7		**919**		**1,280**		**831**		20.8	
Potassium	~	~	~	1,430		1,920		1,130		1,460		870		784	
Selenium	3.9	180	4	2.43	U	2.36	U	2.99	U	2.49	U	**4.09**		3.17	U
Silver	2	180	8.3	0.490	U	0.476	U	0.602	U	0.502	U	1.380		0.639	U
Sodium	~	~	~	368		1,010		632		1,060		698		449	
Thallium	~	~	~	2.43	U	2.36	U	2.99	U	2.49	U	3.33	U	3.17	U
Vanadium	~	~	~	23.6		32.2		31.2		32.4		23.2		28.0	
Zinc	109	10,000	2,480	**162**		**184**		**152**		**233**		**227**		**215**	

Table Notes:

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in / ft bgs inches / feet below ground
in / ft bcs inches / feet below cellar slab

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Value exceeds its Part 375 UUSCOs and Protection of Groundwater Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 Unrestricted, Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) and/ or PGWSCOs.

Table 4 - Total Metals in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-06 (20-23 ft bgs)		GZ-06 (23-26 ft bgs)		GZ-06 (26-30 ft bgs)		GZ-06 (30-32 ft bgs)		GZ-07A (0-2in bgs)		GZ-07B (0-2ft bgs)		GZ-07C (4-6ft bgs)	
LAB SAMPLE ID				25B0531-16		25B0531-17		25B0531-18		25B0531-19		24L0646-07		24L0646-08		24L0646-09	
DATE				2/10/2025 9:25		2/10/2025 9:30		2/10/2025 10:15		2/10/2025 10:20		12/10/2024 11:30:00 AM		12/10/2024 11:40:00 AM		12/10/2024 11:50:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Total Metals By EPA Method 6010 (mg/kg)																	
Aluminum	~	~	~	1770		3970		5010		5560		7,920		7,310		6,060	
Antimony	~	~	~	8.95	U	2.4	U	2.98	U	2.41	U	2.50		11.2		5.580	
Arsenic	13	16	16	5.91		1.44	U	2.47		1.78		9.51		**23.2**		7.78	
Barium	350	400	820	88		27.2		40.7		60.9		129		123		73.7	
Beryllium	7.2	72	47	0.369		0.195		0.306		0.466		0.048	U	0.047	U	0.046	U
Cadmium	2.5	4.3	7.5	1.07	U	0.289	U	0.358	U	0.289	U	0.985		0.791		0.519	
Calcium	~	~	~	6870		880		1220		1590		13,100		18,200		8,040	
Chromium	~	~	~	6.7		9.4		11.7		17.9		20.5		22.3		22.9	
Chromium, Hexavalent	1	110	19	NA		NA		NA		NA		0.567	U	0.557	U	0.549	U
Cobalt	~	~	~	1.97		4.14		5.38		6.17		5.92		7.28		5.86	
Copper	50	270	1,720	10.0		6.9		12.3		12.8		**66.2**		**192**		**80.1**	
Cyanide, total	27	27	40	NA		NA		NA		NA		3.98		0.557	U	1.080	
Iron	~	~	~	9040		7240		7850		23200		12,800		17,300		17,300	
Lead	63	400	450	**95.5**		3.33		4.89		5.92		**169**		**369**		**116**	B
Magnesium	~	~	~	2730		1790		2210		2030		3,800		3,950		1,930	
Manganese	1,600	2,000	2,000	29.9		55.1		56.9		276		276		319		376	
Mercury	0.18	0.81	0.73	**1.07**		0.0346	U	0.0429	U	0.0347	U	**1.28**		**3.76**		**0.408**	
Nickel	30	310	130	8.99		8.32		10.9		10.2		**71.3**		**258**		**61.1**	
Potassium	~	~	~	464		786		947		1230	B	1,520		1,250		993	
Selenium	3.9	180	4	8.95	U	2.4	U	2.98	U	2.41	U	2.36	U	2.32	U	2.29	U
Silver	2	180	8.3	1.8	U	0.485	U	0.601	U	0.486	U	0.476	U	0.468	U	0.461	U
Sodium	~	~	~	428		110		111		165		163		220		112	
Thallium	~	~	~	7.18	U	1.93	U	2.39	U	1.93	U	2.36	U	2.32	U	2.29	U
Vanadium	~	~	~	8.6		11.8		16.8		25.9		20.7		22.9		24.1	
Zinc	109	10,000	2,480	38.2		25.4		34.2		38.3		**273**		**185**		87.6	

Table Notes:

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in / ft bgs inches / feet below ground
in / ft bcs inches / feet below cellar slab

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Value exceeds its Part 375 UUSCOs and Protection of Groundwater Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 Unrestricted, Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) and/ or PGWSCOs.

Table 4 - Total Metals in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-07D (8-10ft bgs)		GZ-07E (12-14ft bgs)		GZ-07F (18-20ft bgs)		GZ-07 (20-23 ft bgs)		GZ-07 (23-26 ft bgs)		GZ-07 (26-30 ft bgs)	
LAB SAMPLE ID				24L0646-10		24L0646-11		24L0646-12		25B0531-20		25B0531-21		25B0531-22	
DATE				12/10/2024 12:00:00 PM		12/10/2024 12:30:00 PM		12/10/2024 12:45:00 PM		2/10/2025 10:30:00 AM		2/10/2025 10:35:00 AM		2/10/2025 11:00:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Total Metals By EPA Method 6010 (mg/kg)															
Aluminum	~	~	~	9,810		5,850		18,900		6930		11900		15600	
Antimony	~	~	~	2.880	U	2.880	U	5.380	U	3.58	U	6.25	U	2.54	U
Arsenic	13	16	16	**17.2**		**23.5**		**61.7**		**35.7**		**27.1**		5.22	
Barium	350	400	820	109		195		115		**636**		109		96.5	
Beryllium	7.2	72	47	0.608	B	0.408	B	0.108	U	0.626		0.795		0.831	
Cadmium	2.5	4.3	7.5	0.346	U	0.358		0.645	U	0.429	U	0.75	U	0.305	U
Calcium	~	~	~	6,480		15,200		10,300		7180		9310		2340	
Chromium	~	~	~	16.3		13.7		36.8		16.7		20.1		24.1	
Chromium, Hexavalent	1	110	19	0.692	U	0.692	U	1.29	U	NA		NA		NA	
Cobalt	~	~	~	8.86		6.86		9.54		7.24		10.80		14.40	
Copper	50	270	1,720	**124**		**109**		**62.2**		**1,580**		**73.7**		36.8	
Cyanide, total	27	27	40	1.71		4.410		1.29	U	NA		NA		NA	
Iron	~	~	~	15,900		11,100		40,000		11800		21700		28200	
Lead	63	400	450	**199**	B	**366**	B	**198**	B	**2,170**		**356**		14.9	
Magnesium	~	~	~	466		938		5,950		516		2040		6970	
Manganese	1,600	2,000	2,000	217		172		280		222		220		185	
Mercury	0.18	0.81	0.73	**1.14**		**0.218**		**0.25**		**1.35**		**11.4**		0.0481	
Nickel	30	310	130	26.9		**43.2**		24.1		**32.9**		**30**		**31**	
Potassium	~	~	~	665		730		2,700		965	B	1780	B	3320	B
Selenium	3.9	180	4	2.88	U	**12.2**		5.38	U	3.58	U	6.25	U	2.54	U
Silver	2	180	8.3	0.581	U	0.581	U	1.08	U	0.721	U	1.26	U	0.512	U
Sodium	~	~	~	331		452		892		569		881		223	
Thallium	~	~	~	2.88	U	2.88	U	5.38	U	2.87	U	5.01	U	2.04	U
Vanadium	~	~	~	41.5		23.4		46.5		29.7		29.7		28.9	
Zinc	109	10,000	2,480	**296**		**511**		**347**		**274**		**248**		75.7	

Table Notes:

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in / ft bgs inches / feet below ground surface
in / ft bcs inches / feet below cellar slab

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Value exceeds its Part 375 UUSCOs and Protection of Groundwater Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 Unrestricted, Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) and/ or PGWSCOs.

Table 4 - Total Metals in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-07 (30-33 ft bgs)		GZ-08A(0-2 ft bcs)		GZ-08B (4-6ft bcs)		GZ-08C(8-10 ft bcs)		GZ-08(10-13 ft bcs)		GZ-08(13-16 ft bcs)	
LAB SAMPLE ID				25B0531-23		24L0797-07		24L0797-08		24L0797-09		25B0638-01		25B0638-02	
DATE				2/10/2025 10:55:00 AM		12/11/2024 9:50:00 AM		12/11/2024 10:00:00 AM		12/11/2024 10:10:00 AM		2/11/2025 11:15		2/11/2025 11:20	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Total Metals By EPA Method 6010 (mg/kg)															
Aluminum	~	~	~	11900		10,100		11,600		8,700		9030		3260	
Antimony	~	~	~	2.83	U	4.520		2.650	U	9.800		38.1		7.44	U
Arsenic	13	16	16	5.31		**20**		6.67		**41.9**		**66.8**		11.6	
Barium	350	400	820	88.3		148		123		154		304		77.4	
Beryllium	7.2	72	47	0.673		0.052	U	0.0530	U	0.0530	U	0.516		0.193	
Cadmium	2.5	4.3	7.5	0.339	U	1.08		0.318	U	0.315	U	1.32		0.893	U
Calcium	~	~	~	2360		33,200		12,200		10,800		16100		12100	
Chromium	~	~	~	24.2		39.0		25.7		24.7		37.8		9.4	
Chromium, Hexavalent	1	110	19	NA		0.62	U	0.636	U	0.629	U	NA		NA	
Cobalt	~	~	~	10.80		7.87		9.91		7.91		10.30		1.96	
Copper	50	270	1,720	27.7		**143**		**70.1**		**240**		**543.0**		38.2	
Cyanide, total	27	27	40	NA		0.963		0.667		1.79		NA		NA	
Iron	~	~	~	16500		27,100		17,300		15,400		21400		6850	
Lead	63	400	450	11		**293**		**126**		**368**		**1260**		36.9	
Magnesium	~	~	~	4890		3,800		5,420		4,050		3200		2140	
Manganese	1,600	2,000	2,000	124		714		370		299		331		42.9	
Mercury	0.18	0.81	0.73	0.0407	U	**0.835**		**0.962**		**1**		**6.41**		**0.832**	
Nickel	30	310	130	21.7		**92.4**		**43.4**		**242**		**1300**		12.1	
Potassium	~	~	~	2230	B	2,270		3,720		2,330		1920		577	
Selenium	3.9	180	4	2.83	U	3.45		2.65	U	3.38		2.95		7.44	U
Silver	2	180	8.3	0.57	U	0.521	U	0.534	U	0.528	U	0.57	U	1.5	U
Sodium	~	~	~	197		238		166		190		466		534	
Thallium	~	~	~	2.27	U	2.58	U	2.65	U	2.62	U	2.27	U	5.96	U
Vanadium	~	~	~	33.8		33.1		27.4		23.4		29.8		11.9	
Zinc	109	10,000	2,480	63.1		**261**		**141**		**170**		**394**		**231**	

Table Notes:

--: No guidance value
mg/kg: Milligrams per Kilogram
U: Not detected at the reported detection limit for the sample.

J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL)
in / ft bgs inches / feet below ground surface
in / ft bcs inches / feet below cellar slab

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Value exceeds its Part 375 UUSCOs and Protection of Groundwater Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 Unrestricted, Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) and/ or PGWSCOs.

Table 4 - Total Metals in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-08(16-20 ft bcs)		GZ-08(20-22ft bcs)		GZ-09A (0-2 ft bcs)		GZ-09B(4-6ft bcs)		GZ-09C (8-10 ft bcs)		GZ-10A (0-2 ft bcs)	
LAB SAMPLE ID				25B0638-03		25B0638-04		24L0797-10		24L0797-11		24L0797-12		24L0797-13	
DATE				2/11/2025 11:25		2/11/2025 11:30		12/11/2024 8:45:00 AM		12/11/2024 9:15:00 AM		12/11/2024 9:30:00 AM		12/11/2024 11:10:00 AM	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Total Metals By EPA Method 6010 (mg/kg)															
Aluminum	~	~	~	7320		10000		11,200		9,930		7,980		9,420	
Antimony	~	~	~	21.9		8.63	U	3.18		14.8		37.500		34.100	
Arsenic	13	16	16	**48**		5.18	U	**18.1**		**51.1**		**65.6**		**145**	
Barium	350	400	820	143		**548**		285		243		297		**430**	
Beryllium	7.2	72	47	0.349		1.25		0.053	U	0.052	U	0.517		0.382	
Cadmium	2.5	4.3	7.5	0.784		1.21		0.875		0.913		1.120		1.400	
Calcium	~	~	~	14800		26100		8,570		8,760		10,100		20,100	
Chromium	~	~	~	26.2		26.9		29.5		31.2		39.8		54.6	
Chromium, Hexavalent	1	110	19	NA		NA		0.633	U	0.617	U	0.646	U	0.724	U
Cobalt	~	~	~	8.58		2.24		8.53		8.23		8.23		9.44	
Copper	50	270	1,720	**370**		42.2		**89.1**		**287**		**526**		**698**	
Cyanide, total	27	27	40	NA		NA		0.633	U	9.710		14.700		4.880	
Iron	~	~	~	17300		8690		22,300		18,600		20,900		21,300	
Lead	63	400	450	**518**		43.1		**339**		**665**		**1,090**		**1,360**	
Magnesium	~	~	~	3620		11200		3,770		3,610		2,480		2,150	
Manganese	1,600	2,000	2,000	258		56.3		425		324		313		364	
Mercury	0.18	0.81	0.73	**1.36**		**0.403**		**0.678**		**1.88**		**3.5**		**5.02**	
Nickel	30	310	130	402		**40.6**		**68.5**		**289**		**599**		**826**	
Potassium	~	~	~	1810		1810		2,560		2,280		1,590		1,490	
Selenium	3.9	180	4	2.72	U	8.63	U	3.01		**4.22**		**4.95**		**7.43**	
Silver	2	180	8.3	0.549	U	1.74	U	0.532	U	0.518	U	0.543	U	0.608	U
Sodium	~	~	~	406		2330		148		239		349		447	
Thallium	~	~	~	2.18	U	6.92	U	2.64	U	2.57	U	2.69	U	3.02	U
Vanadium	~	~	~	24.8		22.6		33.3		31.9		26.6		35.2	
Zinc	109	10,000	2,480	232		23.9		**407**		**264**		**499**		**555**	

Table
Notes:

--: No guidance value
mg/kg: Milligrams per Kilogram
U: Not detected at the reported detection limit for the sample.

J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL)
in / ft bgs inches / feet below ground surface
in / ft bcs inches / feet below cellar slab

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Value exceeds its Part 375 UUSCOs and Protection of Groundwater Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 Unrestricted, Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) and/ or PGWSCOs.

Table 4 - Total Metals in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-10B (4-6ft bcs)		GZ-10C (8-10 ft bcs)		GZ-10(10-13ft bcs)		GZ-10(13-16ft bcs)		GZ-10(16-20ft bcs)	
LAB SAMPLE ID				24L0797-14		24L0797-15		25B0638-05		25B0638-06		25B0638-07	
DATE				12/11/2024 11:20:00 AM		12/11/2024 11:30:00 AM		2/11/2025 9:20		2/11/2025 9:45		2/11/2025 9:50	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Total Metals By EPA Method 6010 (mg/kg)													
Aluminum	~	~	~	11,600		9,490		8280		7580		5410	
Antimony	~	~	~	22.100		6.2		3.38	U	7.71	U	2.79	
Arsenic	13	16	16	**168**		**39.4**		**25**		**122**		**68.2**	
Barium	350	400	820	**672**		**725**		55.1		121		114	
Beryllium	7.2	72	47	0.708		0.854		0.313		0.349		0.501	
Cadmium	2.5	4.3	7.5	0.928		**16.5**		0.406	U	**4.97**		1.57	
Calcium	~	~	~	14,900		27,700		3300		9450		6220	
Chromium	~	~	~	96.2		34.2		18.0		28.0		14.6	
Chromium, Hexavalent	1	110	19	0.846	U	0.883	U	NA		NA		NA	
Cobalt	~	~	~	11.3		9.92		4.77		7.93		8.96	
Copper	50	270	1,720	**394**		**311**		35.0		**113.0**		**160.0**	
Cyanide, total	27	27	40	1.860		1.82		NA		NA		NA	
Iron	~	~	~	29,100		25,200		15900		32900		41700	
Lead	63	400	450	**1,080**		**666**		**486**		**360**		**264**	
Magnesium	~	~	~	2,450		996		2090		2200		1520	
Manganese	1,600	2,000	2,000	665		339		158		194		236	
Mercury	0.18	0.81	0.73	**3.49**		**0.776**		**2.46**		**1.98**		**1.64**	
Nickel	30	310	130	**586**		**105**		13.1		19.7		23.4	
Potassium	~	~	~	1,670		1,300		1230		1880		757	
Selenium	3.9	180	4	**9.87**		**10.5**		3.38	U	7.71	U	2.81	
Silver	2	180	8.3	0.711	U	0.742	U	0.682	U	1.55	U	0.534	U
Sodium	~	~	~	542		744		334		942		191	
Thallium	~	~	~	3.52	U	3.68	U	2.71	U	6.18	U	2.12	U
Vanadium	~	~	~	56.8		44.8		21.5		33.1		19.9	
Zinc	109	10,000	2,480	**506**		**2,560**		**361**		**4,690**		**763**	

Table Notes:

--: No guidance value
mg/kg: Milligrams per Kilogram
U: Not detected at the reported detection limit for the sample.

J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL)
in / ft bgs inches / feet below ground surface
in / ft bcs inches / feet below cellar slab

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Value exceeds its Part 375 UUSCOs and Protection of Groundwater Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 Unrestricted, Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) and/ or PGWSCOs.

Table 4 - Total Metals in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-FD-01		GZ-FD-02		GZ-FD-03		GZ-FD-2025-02-10	
LAB SAMPLE ID				24L0646-13		24L0797-16		24L0931-25		25B0531-08	
DATE				12/10/2024 11:40:00 AM		12/11/2024 3:00:00 PM		12/12/2024 3:00:00 PM		2/10/2025	
				Results	Qual	Results	Qual	Results	Qual	Results	Qual
Total Metals By EPA Method 6010 (mg/kg)											
Aluminum	~	~	~	6,110		8,790		2,680		1,000	
Antimony	~	~	~	2.840	U	15.200		2.86	U	4.79	U
Arsenic	13	16	16	11.4		**87**		**64.6**		6.9	
Barium	350	400	820	171		**389**		**809**		30	
Beryllium	7.2	72	47	0.565	B	0.556		0.066		0.128	
Cadmium	2.5	4.3	7.5	0.341	U	0.697		0.474		0.575	U
Calcium	~	~	~	4,200		13,200		2,780		2,850	
Chromium	~	~	~	12.7		58.2		9.8		3.5	
Chromium, Hexavalent	1	110	19	0.681	U	0.8	U	0.688	U	NA	
Cobalt	~	~	~	6.74		9.83		5.7		1.2	
Copper	50	270	1,720	**63.6**		**340**		**431**		9	
Cyanide, total	27	27	40	1.56		7.340		2.49		NA	
Iron	~	~	~	9,600		17,400		20,600		10,200	
Lead	63	400	450	**379**	**B**	**707**		**211**		22	
Magnesium	~	~	~	595		1,630		611		742	
Manganese	1,600	2,000	2,000	292		298		126		18	
Mercury	0.18	0.81	0.73	**0.811**		**0.576**		**0.325**		0.133	
Nickel	30	310	130	25.8		**379**		**176**		6	
Potassium	~	~	~	820		1,120		399		229	
Selenium	3.9	180	4	2.84	U	**6.09**		**7.59**		4.79	U
Silver	2	180	8.3	0.572	U	0.672	U	0.578	U	0.966	U
Sodium	~	~	~	503		496		108		141	
Thallium	~	~	~	2.84	U	3.33	U	2.86	U	3.84	U
Vanadium	~	~	~	24.1		43.9		18.1		4.4	
Zinc	109	10,000	2,480	**116**		**380**		**570**		30	

Table Notes:

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mg/kg: Milligrams per Kilogram
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J: Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL)
in / ft bgs inches / feet below ground
in / ft bcs inches / feet below cellar slab

Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Value exceeds its Part 375 UUSCOs and Protection of Groundwater Soil Cleanup Objectives (PGWSCOs).

Value exceeds its Part 375 Unrestricted, Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) and/ or PGWSCOs.

Table 5 - Pesticides, Polychlorinated Biphenyls, and Herbicides in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-01B (0-2ft bgs)		GZ-01D (8-10ft bgs)		GZ-02B (0-2ft bgs)		GZ-02D (8-10ft bgs)	
LAB SAMPLE ID				24L0931-02		24L0931-04		24L0931-08		24L0931-10	
DATE				12/12/2024 8:20:00 AM		12/12/2024 8:40:00 AM		12/12/2024 9:10:00 AM		12/12/2024 9:30:00 AM	
SAMPLE DEPTH (ft.)				Soil		Soil		Soil		Soil	
				Result	Q	Result	Q	Result	Q	Result	Q
Organochlorine Pesticides by EPA Method 8081 (mg/kg)											
4,4'-DDD	0.0033	13	14	0.00181	U	0.00183	U	0.00205	U	0.00182	U
4,4'-DDE	0.0033	8.9	17	0.00181	U	0.00183	U	0.00205	U	0.00182	U
4,4'-DDT	0.0033	7.9	136	NT		NT		0.00205	U	0.00182	U
Aldrin	0.005	0.097	0.19	0.00181	U	0.00183	U	0.00205	U	0.00182	U
alpha-BHC	0.02	0.48	0.02	0.00181	U	0.00183	U	0.00205	U	0.00182	U
alpha-Chlordane	0.094	4.2	2.9	0.00181	U	0.00183	U	0.00205	U	0.00182	U
beta-BHC	0.036	0.36	0.09	0.00181	U	0.00183	U	0.00205	U	0.00182	U
Chlordane, total	~	~	~	0.0363	U	0.0367	U	0.0410	U	0.0364	U
delta-BHC	0.04	100	0.25	0.00181	U	0.00183	U	0.00205	U	0.00182	U
Dieldrin	0.005	0.2	0.1	0.00263	D	0.00183	U	0.00205	U	0.00182	U
Endosulfan I	2.4	24	102	0.00181	U	0.00183	U	0.00205	U	0.00182	U
Endosulfan II	2.4	24	102	0.00181	U	0.00183	U	0.00205	U	0.00182	U
Endosulfan sulfate	2.4	24	1,000	0.00181	U	0.00183	U	0.00205	U	0.00182	U
Endrin	0.014	11	0.06	0.00181	U	0.00183	U	0.00205	U	0.00182	U
Endrin aldehyde	~	~	~	0.00181	U	0.00183	U	0.00205	U	0.00182	U
Endrin ketone	~	~	~	0.00181	U	0.00506	D	0.00205	U	0.00182	U
gamma-BHC (Lindane)	0.1	1.3	0.1	0.00181	U	0.00183	U	0.00205	U	0.00182	U
gamma-Chlordane	~	~	~	0.00181	U	0.00183	U	0.00205	U	0.00182	U
Heptachlor	0.042	2.1	0.38	0.00181	U	0.00183	U	0.00205	U	0.00182	U
Heptachlor epoxide	~	~	~	0.00181	U	0.00183	U	0.00205	U	0.00182	U
Methoxychlor	~	~	~	0.00181	U	0.00183	U	0.00205	U	0.00182	U
Toxaphene	~	~	~	0.181	U	0.183	U	0.205	U	0.182	U
Polychlorinated Biphenyls by EPA Method 8082A (mg/kg)											
Aroclor 1016	~	~	~	0.0183	U	0.0185	U	0.0207	U	0.0184	U
Aroclor 1221	~	~	~	0.0183	U	0.0185	U	0.0207	U	0.0184	U
Aroclor 1232	~	~	~	0.0183	U	0.0185	U	0.0207	U	0.0184	U
Aroclor 1242	~	~	~	0.0183	U	0.0185	U	0.0207	U	0.0184	U
Aroclor 1248	~	~	~	0.0183	U	0.0185	U	0.0207	U	0.0184	U
Aroclor 1254	~	~	~	0.0183	U	NT		0.0207	U	0.0184	U
Aroclor 1260	~	~	~	0.0183	U	NT		0.0207	U	0.0184	U
Aroclor 1262	~	~	~	0.0183	U	0.0185	U	0.0207	U	0.0184	U
Aroclor 1268	~	~	~	0.0183	U	0.0185	U	0.0207	U	0.0184	U
Total PCBs	1	1	3.2	0.0183	U	NT		0.0207	U	0.0184	U
Chlorinated Herbicides by EPA Method 8151 (mg/kg)											
2,4,5-T	~	~	~	0.0216	U	0.0219	U	0.0254	U	0.0227	U
2,4,5-TP (Silvex)	58	100	3.8	0.0216	U	0.0219	U	0.0254	U	0.0227	U
2,4-D	~	~	~	0.0216	U	0.0219	U	0.0254	U	0.0227	U

TABLE NOTES:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
D: Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
NT: Indicates the analyte was not a target for this sample.
in / ft bgs: inches / feet below ground surface.
in / ft bcs: inches / feet below cellar slab.
Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Table 5 - Pesticides, Polychlorinated Biphenyls, and Herbicides in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-03B (0-2ft bgs)		GZ-03D (8-10ft bgs)		GZ-04B (0-2ft bgs)		GZ-04D (8-10ft bgs)	
LAB SAMPLE ID				24L0931-14		24L0931-16		24L0931-20		24L0931-22	
DATE				12/12/2024 10:40:00 AM		12/12/2024 11:00:00 AM		12/12/2024 12:10:00 PM		12/12/2024 12:30:00 PM	
SAMPLE DEPTH (ft.)				Soil		Soil		Soil		Soil	
				Result	Q	Result	Q	Result	Q	Result	Q
Organochlorine Pesticides by EPA Method 8081 (mg/kg)											
4,4'-DDD	0.0033	13	14	0.00186	U	0.00187	U	0.00189	U	0.00201	U
4,4'-DDE	0.0033	8.9	17	0.00186	U	0.00187	U	0.00189	U	0.00201	U
4,4'-DDT	0.0033	7.9	136	0.00186	U	0.00187	U	NT		0.00203	D
Aldrin	0.005	0.097	0.19	0.00186	U	0.00187	U	0.00189	U	0.00201	U
alpha-BHC	0.02	0.48	0.02	0.00186	U	0.00187	U	0.00189	U	0.00201	U
alpha-Chlordane	0.094	4.2	2.9	0.00186	U	0.00187	U	0.00189	U	0.00201	U
beta-BHC	0.036	0.36	0.09	0.00186	U	0.00187	U	0.00189	U	0.00201	U
Chlordane, total	~	~	~	0.0372	U	0.0374	U	0.0378	U	0.0401	U
delta-BHC	0.04	100	0.25	0.00186	U	0.00187	U	0.00189	U	0.00201	U
Dieldrin	0.005	0.2	0.1	0.00186	U	0.00187	U	0.00189	U	0.00201	U
Endosulfan I	2.4	24	102	0.00186	U	0.00187	U	0.00189	U	0.00201	U
Endosulfan II	2.4	24	102	0.00186	U	0.00187	U	0.00189	U	0.00201	U
Endosulfan sulfate	2.4	24	1,000	0.00186	U	0.00187	U	0.00189	U	0.00201	U
Endrin	0.014	11	0.06	0.00186	U	0.00187	U	0.00189	U	0.00201	U
Endrin aldehyde	~	~	~	0.00186	U	0.00187	U	0.00189	U	0.00201	U
Endrin ketone	~	~	~	0.00186	U	0.00187	U	0.00189	U	0.00201	U
gamma-BHC (Lindane)	0.1	1.3	0.1	0.00186	U	0.00187	U	0.00189	U	0.00201	U
gamma-Chlordane	~	~	~	0.00186	U	0.00187	U	0.00189	U	0.00201	U
Heptachlor	0.042	2.1	0.38	0.00186	U	0.00187	U	0.00189	U	0.00201	U
Heptachlor epoxide	~	~	~	0.00186	U	0.00187	U	0.00189	U	0.00201	U
Methoxychlor	~	~	~	0.00186	U	0.00187	U	0.00189	U	0.00201	U
Toxaphene	~	~	~	0.186	U	0.187	U	0.189	U	0.201	U
Polychlorinated Biphenyls by EPA Method 8082A (mg/kg)											
Aroclor 1016	~	~	~	0.0188	U	0.0189	U	0.0191	U	0.0202	U
Aroclor 1221	~	~	~	0.0188	U	0.0189	U	0.0191	U	0.0202	U
Aroclor 1232	~	~	~	0.0188	U	0.0189	U	0.0191	U	0.0202	U
Aroclor 1242	~	~	~	0.0188	U	0.0189	U	0.0191	U	0.0202	U
Aroclor 1248	~	~	~	0.0188	U	0.0189	U	0.0191	U	0.0202	U
Aroclor 1254	~	~	~	0.0188	U	0.0189	U	0.0191	U	0.0202	U
Aroclor 1260	~	~	~	0.0188	U	0.0189	U	0.0191	U	0.0202	U
Aroclor 1262	~	~	~	0.0188	U	0.0189	U	0.0191	U	0.0202	U
Aroclor 1268	~	~	~	0.0188	U	0.0189	U	0.0191	U	0.0202	U
Total PCBs	1	1	3.2	0.0188	U	0.0189	U	0.0191	U	0.0202	U
Chlorinated Herbicides by EPA Method 8151 (mg/kg)											
2,4,5-T	~	~	~	0.0225	U	0.0230	U	0.0229	U	0.0242	U
2,4,5-TP (Silvex)	58	100	3.8	0.0225	U	0.0230	U	0.0229	U	0.0242	U
2,4-D	~	~	~	0.0225	U	0.0230	U	0.0229	U	0.0242	U

TABLE NOTES:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
D: Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
NT: Indicates the analyte was not a target for this sample.
in / ft bgs: inches / feet below ground surface.
in / ft bcs: inches / feet below cellar slab.
Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Table 5 - Pesticides, Polychlorinated Biphenyls, and Herbicides in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-05B (0-2ft bgs)		GZ-05D (8-10ft bgs)		GZ-06B (0-2ft bgs)		GZ-06D (8-10ft bgs)	
LAB SAMPLE ID				24L0797-02		24L0797-04		24L0646-02		24L0646-04	
DATE				12/11/2024 12:50:00 PM		12/11/2024 12:40:00 PM		12/10/2024 9:30:00 AM		12/10/2024 10:10:00 AM	
SAMPLE DEPTH (ft.)				Soil		Soil		Soil		Soil	
				Result	Q	Result	Q	Result	Q	Result	Q
Organochlorine Pesticides by EPA Method 8081 (mg/kg)											
4,4'-DDD	0.0033	13	14	0.00186	U	0.00209	U	0.00183	U	0.00193	U
4,4'-DDE	0.0033	8.9	17	0.00186	U	0.00209	U	0.00183	U	0.00193	U
4,4'-DDT	0.0033	7.9	136	0.00186	U	0.00209	U	0.00205	D	0.00193	U
Aldrin	0.005	0.097	0.19	0.00186	U	0.00209	U	0.00183	U	0.00193	U
alpha-BHC	0.02	0.48	0.02	0.00186	U	0.00209	U	0.00183	U	0.00193	U
alpha-Chlordane	0.094	4.2	2.9	0.00186	U	0.00209	U	0.00317	D	0.00213	D
beta-BHC	0.036	0.36	0.09	0.00186	U	0.00209	U	0.00183	U	0.00193	U
Chlordane, total	~	~	~	0.0372	U	0.0417	U	0.0367	U	0.0386	U
delta-BHC	0.04	100	0.25	0.00186	U	0.00209	U	0.00183	U	0.00193	U
Dieldrin	0.005	0.2	0.1	0.00186	U	0.00209	U	**0.00774**	D	0.00203	D
Endosulfan I	2.4	24	102	0.00186	U	0.00209	U	0.00183	U	0.00193	U
Endosulfan II	2.4	24	102	0.00186	U	0.00209	U	0.00183	U	0.00193	U
Endosulfan sulfate	2.4	24	1,000	0.00186	U	0.00209	U	0.00183	U	0.00193	U
Endrin	0.014	11	0.06	0.00186	U	0.00209	U	0.00183	U	0.00193	U
Endrin aldehyde	~	~	~	0.00186	U	0.00209	U	0.00183	U	0.00193	U
Endrin ketone	~	~	~	0.00186	U	0.00209	U	0.00183	U	0.00193	U
gamma-BHC (Lindane)	0.1	1.3	0.1	0.00186	U	0.00209	U	0.00183	U	0.00193	U
gamma-Chlordane	~	~	~	0.00186	U	0.00209	U	0.00389	D	0.00317	D
Heptachlor	0.042	2.1	0.38	0.00186	U	0.00209	U	0.00183	U	0.00193	U
Heptachlor epoxide	~	~	~	0.00186	U	0.00209	U	0.00183	U	0.00193	U
Methoxychlor	~	~	~	0.00186	U	0.00209	U	0.00183	U	0.00193	U
Toxaphene	~	~	~	0.186	U	0.209	U	0.183	U	0.193	U
Polychlorinated Biphenyls by EPA Method 8082A (mg/kg)											
Aroclor 1016	~	~	~	0.0188	U	0.0211	U	0.0185	U	0.0195	U
Aroclor 1221	~	~	~	0.0188	U	0.0211	U	0.0185	U	0.0195	U
Aroclor 1232	~	~	~	0.0188	U	0.0211	U	0.0185	U	0.0195	U
Aroclor 1242	~	~	~	0.0188	U	0.0211	U	0.0185	U	0.0195	U
Aroclor 1248	~	~	~	0.0188	U	0.0211	U	0.0185	U	0.0195	U
Aroclor 1254	~	~	~	0.0188	U	0.0211	U	0.0185	U	0.0195	U
Aroclor 1260	~	~	~	0.0188	U	0.0211	U	0.0185	U	0.0195	U
Aroclor 1262	~	~	~	0.0188	U	0.0211	U	0.0185	U	0.0195	U
Aroclor 1268	~	~	~	0.0188	U	0.0211	U	0.0185	U	0.0195	U
Total PCBs	1	1	3.2	0.0188	U	0.0211	U	0.0185	U	0.0195	U
Chlorinated Herbicides by EPA Method 8151 (mg/kg)											
2,4,5-T	~	~	~	0.0224	U	0.0252	U	0.0225	U	0.0237	U
2,4,5-TP (Silvex)	58	100	3.8	0.0224	U	0.0252	U	0.0225	U	0.0237	U
2,4-D	~	~	~	0.0224	U	0.0252	U	0.0225	U	0.0237	U

TABLE NOTES:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
D: Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
NT: Indicates the analyte was not a target for this sample.
in / ft bgs: inches / feet below ground surface.
in / ft bcs: inches / feet below cellar slab.
Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Table 5 - Pesticides, Polychlorinated Biphenyls, and Herbicides in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-07B (0-2ft bgs)		GZ-07D (8-10ft bgs)		GZ-08A (0-2 ft bcs)		GZ-09A (0-2 ft bcs)	
LAB SAMPLE ID				24L0646-08		24L0646-10		24L0797-07		24L0797-10	
DATE				12/10/2024 11:40:00 AM		12/10/2024 12:00:00 PM		12/11/2024 9:50:00 AM		12/11/2024 8:45:00 AM	
SAMPLE DEPTH (ft.)				Soil		Soil		Soil		Soil	
				Result	Q	Result	Q	Result	Q	Result	Q
Organochlorine Pesticides by EPA Method 8081 (mg/kg)											
4,4'-DDD	0.0033	13	14	0.00181	U	0.00225	U	0.00201	U	0.00208	U
4,4'-DDE	0.0033	8.9	17	0.00181	U	0.00225	U	0.00201	U	0.00208	U
4,4'-DDT	0.0033	7.9	136	0.00181	U	0.00225	U	0.00201	U	0.00208	U
Aldrin	0.005	0.097	0.19	0.00181	U	0.00225	U	0.00201	U	0.00208	U
alpha-BHC	0.02	0.48	0.02	0.00181	U	0.00225	U	0.00201	U	0.00208	U
alpha-Chlordane	0.094	4.2	2.9	0.00409	D	0.00225	U	0.00201	U	0.00208	U
beta-BHC	0.036	0.36	0.09	0.00181	U	0.00225	U	0.00201	U	0.00208	U
Chlordane, total	~	~	~	0.0401	D	0.0451	U	0.0401	U	0.0417	U
delta-BHC	0.04	100	0.25	0.00181	U	0.00225	U	0.00201	U	0.00208	U
Dieldrin	0.005	0.2	0.1	0.00181	U	0.00225	U	0.00201	U	0.00208	U
Endosulfan I	2.4	24	102	0.00181	U	0.00225	U	0.00201	U	0.00208	U
Endosulfan II	2.4	24	102	0.00181	U	0.00225	U	0.00201	U	0.00208	U
Endosulfan sulfate	2.4	24	1,000	0.00181	U	0.00225	U	0.00201	U	0.00208	U
Endrin	0.014	11	0.06	0.00181	U	0.00225	U	0.00201	U	0.00208	U
Endrin aldehyde	~	~	~	0.00181	U	0.00225	U	0.00201	U	0.00208	U
Endrin ketone	~	~	~	0.00181	U	0.00225	U	0.00201	U	0.00208	U
gamma-BHC (Lindane)	0.1	1.3	0.1	0.00181	U	0.00225	U	0.00201	U	0.00208	U
gamma-Chlordane	~	~	~	0.00475	D	0.00225	U	0.00201	U	0.00208	U
Heptachlor	0.042	2.1	0.38	0.00181	U	0.00225	U	0.00201	U	0.00208	U
Heptachlor epoxide	~	~	~	0.00181	U	0.00225	U	0.00201	U	0.00208	U
Methoxychlor	~	~	~	0.00181	U	0.00225	U	0.00201	U	0.00208	U
Toxaphene	~	~	~	0.181	U	0.225	U	0.201	U	0.208	U
Polychlorinated Biphenyls by EPA Method 8082A (mg/kg)											
Aroclor 1016	~	~	~	0.0183	U	0.0227	U	0.0203	U	0.0210	U
Aroclor 1221	~	~	~	0.0183	U	0.0227	U	0.0203	U	0.0210	U
Aroclor 1232	~	~	~	0.0183	U	0.0227	U	0.0203	U	0.0210	U
Aroclor 1242	~	~	~	0.0183	U	0.0227	U	0.0203	U	0.0210	U
Aroclor 1248	~	~	~	0.0183	U	0.0227	U	0.0203	U	0.0210	U
Aroclor 1254	~	~	~	0.0183	U	0.0227	U	0.0203	U	0.0210	U
Aroclor 1260	~	~	~	0.0183	U	0.0227	U	0.0203	U	0.0210	U
Aroclor 1262	~	~	~	0.0183	U	0.0227	U	0.0203	U	0.0210	U
Aroclor 1268	~	~	~	0.0183	U	0.0227	U	0.0203	U	0.0210	U
Total PCBs	1	1	3.2	0.0183	U	0.0227	U	0.0203	U	0.0210	U
Chlorinated Herbicides by EPA Method 8151 (mg/kg)											
2,4,5-T	~	~	~	0.0221	U	0.0275	U	0.0245	U	0.0250	U
2,4,5-TP (Silvex)	58	100	3.8	0.0221	U	0.0275	U	0.0245	U	0.0250	U
2,4-D	~	~	~	0.0221	U	0.0275	U	0.0245	U	0.0250	U

TABLE NOTES:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
D: Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
NT: Indicates the analyte was not a target for this sample.
in / ft bgs: inches / feet below ground surface.
in / ft bcs: inches / feet below cellar slab.
Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Table 5 - Pesticides, Polychlorinated Biphenyls, and Herbicides in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use SCOs	Part 375 Protection of Groundwater SCOs	GZ-10A (0-2 ft bcs)		GZ-FD-01	
LAB SAMPLE ID				24L0797-13		24L0646-13	
DATE				12/11/2024 11:10:00 AM		12/10/2024 11:40:00 AM	
SAMPLE DEPTH (ft.)				Soil		Soil	
				Result	Q	Result	Q
Organochlorine Pesticides by EPA Method 8081 (mg/kg)							
4,4'-DDD	0.0033	13	14	0.00238	U	0.00222	U
4,4'-DDE	0.0033	8.9	17	0.00238	U	0.00222	U
4,4'-DDT	0.0033	7.9	136	0.00238	U	0.00222	U
Aldrin	0.005	0.097	0.19	0.00238	U	0.00222	U
alpha-BHC	0.02	0.48	0.02	0.00238	U	0.00222	U
alpha-Chlordane	0.094	4.2	2.9	0.00238	U	0.00222	U
beta-BHC	0.036	0.36	0.09	0.00238	U	0.00222	U
Chlordane, total	~	~	~	0.0476	U	0.0444	U
delta-BHC	0.04	100	0.25	0.00238	U	0.00222	U
Dieldrin	0.005	0.2	0.1	0.00238	U	0.00222	U
Endosulfan I	2.4	24	102	0.00238	U	0.00222	U
Endosulfan II	2.4	24	102	0.00238	U	0.00222	U
Endosulfan sulfate	2.4	24	1,000	0.00238	U	0.00222	U
Endrin	0.014	11	0.06	0.00238	U	0.00222	U
Endrin aldehyde	~	~	~	0.00238	U	0.00222	U
Endrin ketone	~	~	~	0.00238	U	0.00222	U
gamma-BHC (Lindane)	0.1	1.3	0.1	0.00238	U	0.00222	U
gamma-Chlordane	~	~	~	0.00238	U	0.00222	U
Heptachlor	0.042	2.1	0.38	0.00238	U	0.00222	U
Heptachlor epoxide	~	~	~	0.00238	U	0.00222	U
Methoxychlor	~	~	~	0.00238	U	0.00222	U
Toxaphene	~	~	~	0.238	U	0.222	U
Polychlorinated Biphenyls by EPA Method 8082A (mg/kg)							
Aroclor 1016	~	~	~	0.0241	U	0.0224	U
Aroclor 1221	~	~	~	0.0241	U	0.0224	U
Aroclor 1232	~	~	~	0.0241	U	0.0224	U
Aroclor 1242	~	~	~	0.0241	U	0.0224	U
Aroclor 1248	~	~	~	0.0241	U	0.0224	U
Aroclor 1254	~	~	~	0.0241	U	0.0224	U
Aroclor 1260	~	~	~	0.0241	U	0.0224	U
Aroclor 1262	~	~	~	0.0241	U	0.0224	U
Aroclor 1268	~	~	~	0.0241	U	0.0224	U
Total PCBs	1	1	3.2	0.0241	U	0.0224	U
Chlorinated Herbicides by EPA Method 8151 (mg/kg)							
2,4,5-T	~	~	~	0.0286	U	0.0271	U
2,4,5-TP (Silvex)	58	100	3.8	0.0286	U	0.0271	U
2,4-D	~	~	~	0.0286	U	0.0271	U

TABLE NOTES:

--: No guidance value.
mg/kg: Milligrams per Kilogram.
U: Not detected at the reported detection limit for the sample.
D: Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
NT: Indicates the analyte was not a target for this sample.
in / ft bgs: inches / feet below ground surface.
in / ft bcs: inches / feet below cellar slab.
Value exceeds its Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).

Table 6 - Per- and PolyFloroalkyl Substances in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	NYSDEC PFOA/PFOS guidance values - Unrestricted	NYSDEC PFOA/PFOS guidance values - Restricted Residential	NYSDEC PFOA/PFOS guidance values - Protection of Groundwater	GZ-01B (0-2ft bgs)		GZ-01C (4-6ft bgs)		GZ-01D (8-10ft bgs)		GZ-02B (0-2ft bgs)		GZ-02C (4-6ft bgs)		GZ-02D (8-10ft bgs)	
LAB SAMPLE ID				24L0931-02		24L0931-03		24L0931-04		24L0931-08		24L0931-09		24L0931-10	
DATE				12/12/2024 8:20:00 AM		12/12/2024 8:10:00 AM		12/12/2024 8:40:00 AM		12/12/2024 9:10:00 AM		12/12/2024 9:20:00 AM		12/12/2024 9:30:00 AM	
SAMPLE DEPTH (ft.)				Soil		Soil		Soil		Soil		Soil		Soil	
				Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Per- and Polyfluoroalkyl Substances by EPA Method 1633 (mg/kg)															
11CL-PF3OUdS	~	~	~	0.00034	U	0.00034	U	0.00035	U	0.00040	U	0.00039	U	0.00035	U
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	~	~	~	0.00083	U	0.00083	U	0.00085	U	0.00096	U	0.00094	U	0.00086	U
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	~	~	~	0.00065	U	0.00066	U	0.00067	U	0.00076	U	0.00074	U	0.00067	U
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	~	~	~	0.00082	U	0.00083	U	0.00084	U	0.00095	U	0.00093	U	0.00085	U
3-Perfluoroheptyl propanoic acid (FHpPA)	~	~	~	0.00165	U	0.00165	U	0.00168	U	0.00191	U	0.00186	U	0.00170	U
3-Perfluoropentyl propanoic acid (FPePA)	~	~	~	0.00231	U	0.00231	U	0.00235	U	0.00267	U	0.00260	U	0.00238	U
3-Perfluoropropyl propanoic acid (FPrPA)	~	~	~	0.00070	U	0.00070	U	0.00071	U	0.00081	U	0.00079	U	0.00072	U
9CL-PF3ONS	~	~	~	0.00027	U	0.00027	U	0.00028	U	0.00031	U	0.00031	U	0.00028	U
ADONA	~	~	~	0.00019	U	0.00019	U	0.00020	U	0.00022	U	0.00022	U	0.00020	U
HFPO-DA (Gen-X)	~	~	~	0.00067	U	0.00067	U	0.00068	U	0.00077	U	0.00075	U	0.00069	U
N-EtFOSA	~	~	~	0.00022	U	0.00022	U	0.00022	U	0.00025	U	0.00025	U	0.00022	U
N-EtFOSAA	~	~	~	0.00021	U	0.00021	U	0.00022	U	0.00025	U	0.00024	U	0.00022	U
N-EtFOSE	~	~	~	0.00077	U	0.00077	U	0.00078	U	0.00089	U	0.00087	U	0.00079	U
N-MeFOSA	~	~	~	0.00020	U	0.00020	U	0.00020	U	0.00023	U	0.00022	U	0.00020	U
N-MeFOSAA	~	~	~	0.00016	U	0.00016	U	0.00017	U	0.00019	U	0.00018	U	0.00017	U
N-MeFOSE	~	~	~	0.00067	U	0.00067	U	0.00068	U	0.00078	U	0.00076	U	0.00069	U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	~	~	~	0.00015	U	0.00015	U	0.00016	U	0.00018	U	0.00017	U	0.00016	U
Perfluoro-1-decanesulfonic acid (PFDS)	~	~	~	0.00021	U	0.00021	U	0.00021	U	0.00024	U	0.00024	U	0.00022	U
Perfluoro-1-heptanesulfonic acid (PFHpS)	~	~	~	0.00017	U	0.00017	U	0.00017	U	0.00020	U	0.00019	U	0.00018	U
Perfluoro-1-nonanesulfonic acid (PFNS)	~	~	~	0.00014	U	0.00014	U	0.00014	U	0.00016	U	0.00015	U	0.00014	U
Perfluoro-1-octanesulfonamide (FOSA)	~	~	~	0.00016	U	0.00016	U	0.00016	U	0.00019	U	0.00018	U	0.00017	U
Perfluoro-1-pentanesulfonate (PFPeS)	~	~	~	0.00017	U	0.00017	U	0.00018	U	0.00020	U	0.00020	U	0.00018	U
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	~	0.00021	U	0.00021	U	0.00022	U	0.00025	U	0.00024	U	0.00022	U
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	~	0.00007	U	0.00007	U	0.00007	U	0.00008	U	0.00008	U	0.00007	U
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	~	0.00011	U	0.00011	U	0.00011	U	0.00012	U	0.00012	U	0.00011	U
Perfluorobutanesulfonic acid (PFBS)	~	~	~	0.00012	U	0.00012	U	0.00012	U	0.00014	U	0.00014	U	0.00013	U
Perfluorodecanoic acid (PFDA)	~	~	~	0.00021	U	0.00021	U	0.00021	U	0.00024	U	0.00024	U	0.00022	U
Perfluorododecanesulfonic acid (PFDoS)	~	~	~	0.00019	U	0.00019	U	0.00019	U	0.00022	U	0.00021	U	0.00019	U
Perfluorododecanoic acid (PFDoA)	~	~	~	0.00018	U	0.00018	U	0.00018	U	0.00021	U	0.00020	U	0.00019	U
Perfluoroheptanoic acid (PFHpA)	~	~	~	0.00012	U	0.00012	U	0.00012	U	0.00013	U	0.00013	U	0.00012	U
Perfluorohexanesulfonic acid (PFHxS)	~	~	~	0.00020	U	0.00020	U	0.00020	U	0.00023	U	0.00022	U	0.00020	U
Perfluorohexanoic acid (PFHxA)	~	~	~	0.00006	U	0.00006	U	0.00006	U	0.00007	J	0.00010	J	0.00006	U
Perfluoro-n-butanoic acid (PFBA)	~	~	~	0.00012	U	0.00012	U	0.00012	U	0.00014	U	0.00014	U	0.00012	U
Perfluorononanoic acid (PFNA)	~	~	~	0.00021	U	0.00021	U	0.00021	U	0.00024	U	0.00023	U	0.00021	U
Perfluorooctanesulfonic acid (PFOS)	0.00088	0.044	0.001	0.00033		0.00039		0.00025		0.00074		0.00102		0.00024	
Perfluorooctanoic acid (PFOA)	0.00066	0.033	0.0008	0.00025		0.00022	J	0.00023		0.00022	U	0.00022	J	0.00029	
Perfluoropentanoic acid (PFPeA)	~	~	~	0.00013	J	0.00012	U	0.00012	U	0.00014	U	0.00014	U	0.00012	U
Perfluorotetradecanoic acid (PFTA)	~	~	~	0.00011	U	0.00011	U	0.00012	U	0.00013	U	0.00013	U	0.00012	U
Perfluorotridecanoic acid (PFTrDA)	~	~	~	0.00014	U	0.00014	U	0.00014	U	0.00016	U	0.00016	U	0.00014	U
Perfluoroundecanoic acid (PFUnA)	~	~	~	0.00022	U	0.00022	U	0.00022	U	0.00025	U	0.00025	U	0.00022	U

TABLE NOTES:

--: No Guidance Value.
mg/kg: Milligrams per kilogram.
NA: Not Analyzed
U: Not detected at the reported detection limit for the sample.
J: Estimated value. The analyte concentration is below the reporting limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).

Table 6 - Per- and PolyFloroalkyl Substances in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	NYSDEC PFOA/PFOS guidance values - Unrestricted	NYSDEC PFOA/PFOS guidance values - Restricted Residential	NYSDEC PFOA/PFOS guidance values - Protection of Groundwater	GZ-03B (0-2ft bgs)		GZ-03C (4-6ft bgs)		GZ-03D (8-10ft bgs)		GZ-04B (0-2ft bgs)		GZ-04C (4-6ft bgs)		GZ-04D (8-10ft bgs)	
LAB SAMPLE ID				24L0931-14		24L0931-15		24L0931-16		24L0931-20		24L0931-21		24L0931-22	
DATE				12/12/2024 10:40:00 AM		12/12/2024 10:50:00 AM		12/12/2024 11:00:00 AM		12/12/2024 12:10:00 PM		12/12/2024 12:20:00 PM		12/12/2024 12:30:00 PM	
SAMPLE DEPTH (ft.)				Soil		Soil		Soil		Soil		Soil		Soil	
				Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Per- and Polyfluoroalkyl Substances by EPA Method 1633 (mg/kg)															
11CL-PF3OUdS	~	~	~	0.00035	U	0.00035	U	0.00036	U	0.00036	U	0.00036	U	0.00037	U
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	~	~	~	0.00086	U	0.00084	U	0.00087	U	0.00086	U	0.00088	U	0.00091	U
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	~	~	~	0.00068	U	0.00067	U	0.00069	U	0.00068	U	0.00069	U	0.00071	U
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	~	~	~	0.00085	U	0.00084	U	0.00087	U	0.00086	U	0.00087	U	0.00090	U
3-Perfluoroheptyl propanoic acid (FHpPA)	~	~	~	0.00171	U	0.00168	U	0.00173	U	0.00171	U	0.00174	U	0.00180	U
3-Perfluoropentyl propanoic acid (FPePA)	~	~	~	0.00238	U	0.00235	U	0.00243	U	0.00239	U	0.00243	U	0.00252	U
3-Perfluoropropyl propanoic acid (FPrPA)	~	~	~	0.00072	U	0.00071	U	0.00073	U	0.00072	U	0.00073	U	0.00076	U
9CL-PF3ONS	~	~	~	0.00028	U	0.00028	U	0.00028	U	0.00028	U	0.00029	U	0.00030	U
ADONA	~	~	~	0.00020	U	0.00020	U	0.00020	U	0.00020	U	0.00020	U	0.00021	U
HFPO-DA (Gen-X)	~	~	~	0.00069	U	0.00068	U	0.00070	U	0.00069	U	0.00070	U	0.00073	U
N-EtFOSA	~	~	~	0.00023	U	0.00022	U	0.00023	U	0.00023	U	0.00023	U	0.00024	U
N-EtFOSAA	~	~	~	0.00022	U	0.00022	U	0.00022	U	0.00022	U	0.00023	U	0.00023	U
N-EtFOSE	~	~	~	0.00079	U	0.00078	U	0.00081	U	0.00080	U	0.00081	U	0.00084	U
N-MeFOSA	~	~	~	0.00021	U	0.00020	U	0.00021	U	0.00021	U	0.00021	U	0.00022	U
N-MeFOSAA	~	~	~	0.00017	U	0.00017	U	0.00017	U	0.00017	U	0.00017	U	0.00018	U
N-MeFOSE	~	~	~	0.00070	U	0.00068	U	0.00071	U	0.00070	U	0.00071	U	0.00073	U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	~	~	~	0.00016	U	0.00016	U	0.00016	U	0.00016	U	0.00016	U	0.00017	U
Perfluoro-1-decanesulfonic acid (PFDS)	~	~	~	0.00022	U	0.00021	U	0.00022	U	0.00022	U	0.00022	U	0.00023	U
Perfluoro-1-heptanesulfonic acid (PFHpS)	~	~	~	0.00018	U	0.00017	U	0.00018	U	0.00018	U	0.00018	U	0.00019	U
Perfluoro-1-nonanesulfonic acid (PFNS)	~	~	~	0.00014	U	0.00014	U	0.00014	U	0.00014	U	0.00014	U	0.00015	U
Perfluoro-1-octanesulfonamide (FOSA)	~	~	~	0.00017	U	0.00016	U	0.00017	U	0.00017	U	0.00017	U	0.00018	U
Perfluoro-1-pentanesulfonate (PFPeS)	~	~	~	0.00018	U	0.00018	U	0.00018	U	0.00018	U	0.00018	U	0.00019	U
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	~	0.00022	U	0.00022	U	0.00022	U	0.00022	U	0.00022	U	0.00023	U
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	~	0.00007	U	0.00007	U	0.00007	U	0.00007	U	0.00007	U	0.00007	U
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	~	0.00011	U	0.00011	U	0.00011	U	0.00011	U	0.00011	U	0.00012	U
Perfluorobutanesulfonic acid (PFBS)	~	~	~	0.00013	U	0.00012	U	0.00013	U	0.00013	U	0.00013	U	0.00013	U
Perfluorodecanoic acid (PFDA)	~	~	~	0.00022	U	0.00021	U	0.00022	U	0.00022	U	0.00022	U	0.00023	U
Perfluorododecanesulfonic acid (PFDoS)	~	~	~	0.00019	U	0.00019	U	0.00020	U	0.00019	U	0.00020	U	0.00020	U
Perfluorododecanoic acid (PFDoA)	~	~	~	0.00019	U	0.00018	U	0.00019	U	0.00019	U	0.00019	U	0.00020	U
Perfluoroheptanoic acid (PFHpA)	~	~	~	0.00012	U	0.00012	U	0.00012	U	0.00012	U	0.00012	U	0.00013	U
Perfluorohexanesulfonic acid (PFHxS)	~	~	~	0.00020	U	0.00020	U	0.00021	U	0.00020	U	0.00021	U	0.00022	U
Perfluorohexanoic acid (PFHxA)	~	~	~	0.00006	U	0.00006	U	0.00006	U	0.00006	U	0.00009	J	0.00006	U
Perfluoro-n-butanoic acid (PFBA)	~	~	~	0.00012	U	0.00012	U	0.00013	U	0.00012	U	0.00013	U	0.00013	U
Perfluorononanoic acid (PFNA)	~	~	~	0.00022	U	0.00021	U	0.00022	U	0.00022	U	0.00022	U	0.00023	U
Perfluorooctanesulfonic acid (PFOS)	0.00088	0.044	0.001	0.00019	U	0.00019	U	0.00019	U	0.00019	J	0.00072		0.00055	
Perfluorooctanoic acid (PFOA)	0.00066	0.033	0.0008	0.00052		0.00019	U	0.00029		0.00020	U	0.00020	U	0.00021	U
Perfluoropentanoic acid (PFPeA)	~	~	~	0.00012	U	0.00012	U	0.00013	U	0.00012	U	0.00013	U	0.00013	U
Perfluorotetradecanoic acid (PFTA)	~	~	~	0.00012	U	0.00012	U	0.00012	U	0.00012	U	0.00012	U	0.00012	U
Perfluorotridecanoic acid (PFTrDA)	~	~	~	0.00014	U	0.00014	U	0.00014	U	0.00014	U	0.00015	U	0.00015	U
Perfluoroundecanoic acid (PFUnA)	~	~	~	0.00023	U	0.00022	U	0.00023	U	0.00023	U	0.00023	U	0.00024	U

TABLE NOTES:

--: No Guidance Value.
mg/kg: Milligrams per kilogram.
NA: Not Analyzed
U: Not detected at the reported detection limit for the sample.
J: Estimated value. The analyte concentration is below the reporting limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).

Table 6 - Per- and PolyFloroalkyl Substances in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	NYSDEC PFOA/PFOS guidance values - Unrestricted	NYSDEC PFOA/PFOS guidance values - Restricted Residential	NYSDEC PFOA/PFOS guidance values - Protection of Groundwater	GZ-05B(0-2ft bgs)		GZ-05C (4-6ft bgs)		GZ-05D (8-10ft bgs)		GZ-06B (0-2ft bgs)		GZ-06C (4-6ft bgs)		GZ-06D (8-10ft bgs)	
LAB SAMPLE ID				24L0797-02		24L0797-03		24L0797-04		24L0646-02		24L0646-03		24L0646-04	
DATE				12/11/2024 12:50:00 PM		12/11/2024 1:00:00 PM		12/11/2024 12:40:00 PM		12/10/2024 9:30:00 AM		12/10/2024 9:45:00 AM		12/10/2024 10:10:00 AM	
SAMPLE DEPTH (ft.)				Soil		Soil		Soil		Soil		Soil		Soil	
				Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Per- and Polyfluoroalkyl Substances by EPA Method 1633 (mg/kg)															
11CL-PF3OUdS	~	~	~	0.00035	U	0.00034	U	0.00040	U	0.00035	U	0.00044	U	0.00037	U
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	~	~	~	0.00085	U	0.00083	U	0.00096	U	0.00086	U	0.00107	U	0.00090	U
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	~	~	~	0.00067	U	0.00065	U	0.00076	U	0.00068	U	0.00085	U	0.00071	U
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	~	~	~	0.00084	U	0.00082	U	0.00096	U	0.00085	U	0.00107	U	0.00090	U
3-Perfluoroheptyl propanoic acid (FHpPA)	~	~	~	0.00169	U	0.00164	U	0.00191	U	0.00170	U	0.00213	U	0.00179	U
3-Perfluoropentyl propanoic acid (FPePA)	~	~	~	0.00236	U	0.00230	U	0.00268	U	0.00238	U	0.00298	U	0.00251	U
3-Perfluoropropyl propanoic acid (FPrPA)	~	~	~	0.00071	U	0.00069	U	0.00081	U	0.00072	U	0.00090	U	0.00076	U
9CL-PF3ONS	~	~	~	0.00028	U	0.00027	U	0.00031	U	0.00028	U	0.00035	U	0.00029	U
ADONA	~	~	~	0.00020	U	0.00019	U	0.00022	U	0.00020	U	0.00025	U	0.00021	U
HFPO-DA (Gen-X)	~	~	~	0.00068	U	0.00067	U	0.00078	U	0.00069	U	0.00086	U	0.00073	U
N-EtFOSA	~	~	~	0.00022	U	0.00022	U	0.00025	U	0.00022	U	0.00028	U	0.00024	U
N-EtFOSAA	~	~	~	0.00022	U	0.00021	U	0.00025	U	0.00022	U	0.00028	U	0.00023	U
N-EtFOSE	~	~	~	0.00078	U	0.00076	U	0.00089	U	0.00079	U	0.00099	U	0.00083	U
N-MeFOSA	~	~	~	0.00020	U	0.00020	U	0.00023	U	0.00020	U	0.00026	U	0.00022	U
N-MeFOSAA	~	~	~	0.00017	U	0.00016	U	0.00019	U	0.00017	U	0.00021	U	0.00018	U
N-MeFOSE	~	~	~	0.00069	U	0.00067	U	0.00078	U	0.00069	U	0.00087	U	0.00073	U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	~	~	~	0.00016	U	0.00015	U	0.00018	U	0.00016	U	0.00020	U	0.00017	U
Perfluoro-1-decanesulfonic acid (PFDS)	~	~	~	0.00022	U	0.00021	U	0.00024	U	0.00022	U	0.00027	U	0.00023	U
Perfluoro-1-heptanesulfonic acid (PFHpS)	~	~	~	0.00017	U	0.00017	U	0.00020	U	0.00018	U	0.00022	U	0.00019	U
Perfluoro-1-nonanesulfonic acid (PFNS)	~	~	~	0.00014	U	0.00014	U	0.00016	U	0.00014	U	0.00018	U	0.00015	U
Perfluoro-1-octanesulfonamide (FOSA)	~	~	~	0.00016	U	0.00016	U	0.00019	U	0.00017	U	0.00021	U	0.00017	U
Perfluoro-1-pentanesulfonate (PFPeS)	~	~	~	0.00018	U	0.00017	U	0.00020	U	0.00018	U	0.00022	U	0.00019	U
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	~	0.00022	U	0.00021	U	0.00025	U	0.00022	U	0.00027	U	0.00023	U
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	~	0.00007	U	0.00007	U	0.00008	U	0.00007	U	0.00009	U	0.00007	U
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	~	0.00011	U	0.00011	U	0.00012	U	0.00011	U	0.00014	U	0.00012	U
Perfluorobutanesulfonic acid (PFBS)	~	~	~	0.00013	U	0.00012	U	0.00014	U	0.00013	U	0.00016	U	0.00013	U
Perfluorodecanoic acid (PFDA)	~	~	~	0.00022	U	0.00021	U	0.00024	U	0.00022	U	0.00027	U	0.00023	U
Perfluorododecanesulfonic acid (PFDoS)	~	~	~	0.00019	U	0.00019	U	0.00022	U	0.00019	U	0.00024	U	0.00020	U
Perfluorododecanoic acid (PFDoA)	~	~	~	0.00018	U	0.00018	U	0.00021	U	0.00019	U	0.00023	U	0.00020	U
Perfluoroheptanoic acid (PFHpA)	~	~	~	0.00012	U	0.00012	U	0.00013	U	0.00012	U	0.00015	U	0.00013	U
Perfluorohexanesulfonic acid (PFHxS)	~	~	~	0.00020	U	0.00020	U	0.00023	U	0.00020	U	0.00026	U	0.00021	U
Perfluorohexanoic acid (PFHxA)	~	~	~	0.00006	U	0.00006	U	0.00007	U	0.00006	U	0.00008	U	0.00006	U
Perfluoro-n-butanoic acid (PFBA)	~	~	~	0.00012	U	0.00012	U	0.00014	U	0.00012	U	0.00016	U	0.00013	U
Perfluorononanoic acid (PFNA)	~	~	~	0.00021	U	0.00021	U	0.00024	U	0.00021	U	0.00027	U	0.00023	U
Perfluorooctanesulfonic acid (PFOS)	0.00088	0.044	0.001	0.00033		0.00035		0.00024		0.00056		0.00024	U	0.00020	U
Perfluorooctanoic acid (PFOA)	0.00066	0.033	0.0008	0.00025		0.00024		0.00039		0.00020	U	0.00029		0.00026	
Perfluoropentanoic acid (PFPeA)	~	~	~	0.00012	U	0.00012	U	0.00014	U	0.00012	U	0.00016	U	0.00013	U
Perfluorotetradecanoic acid (PFTA)	~	~	~	0.00012	U	0.00011	U	0.00013	U	0.00012	U	0.00015	U	0.00012	U
Perfluorotridecanoic acid (PFTrDA)	~	~	~	0.00014	U	0.00014	U	0.00016	U	0.00014	U	0.00018	U	0.00015	U
Perfluoroundecanoic acid (PFUnA)	~	~	~	0.00022	U	0.00022	U	0.00025	U	0.00022	U	0.00028	U	0.00024	U

TABLE NOTES:

--: No Guidance Value.
mg/kg: Milligrams per kilogram.
NA: Not Analyzed
U: Not detected at the reported detection limit for the sample.
J: Estimated value. The analyte concentration is below the reporting limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).

Table 6 - Per- and PolyFloroalkyl Substances in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	NYSDEC PFOA/PFOS guidance values - Unrestricted	NYSDEC PFOA/PFOS guidance values - Restricted Residential	NYSDEC PFOA/PFOS guidance values - Protection of Groundwater	GZ-07B (0-2ft bgs)		GZ-07C (4-6ft bgs)		GZ-07D (8-10ft bgs)	
LAB SAMPLE ID				24L0646-08		24L0646-09		24L0646-10	
DATE				12/10/2024 11:40:00 AM		12/10/2024 11:50:00 AM		12/10/2024 12:00:00 PM	
SAMPLE DEPTH (ft.)				Soil		Soil		Soil	
				Result	Q	Result	Q	Result	Q
Per- and Polyfluoroalkyl Substances by EPA Method 1633 (mg/kg)									
11CL-PF3OUdS	~	~	~	0.00034	U	0.00034	U	0.00043	U
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	~	~	~	0.00083	U	0.00082	U	0.00103	U
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	~	~	~	0.00066	U	0.00065	U	0.00082	U
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	~	~	~	0.00083	U	0.00082	U	0.00103	U
3-Perfluoroheptyl propanoic acid (FHpPA)	~	~	~	0.00166	U	0.00164	U	0.00205	U
3-Perfluoropentyl propanoic acid (FPePA)	~	~	~	0.00232	U	0.00229	U	0.00287	U
3-Perfluoropropyl propanoic acid (FPrPA)	~	~	~	0.00070	U	0.00069	U	0.00087	U
9CL-PF3ONS	~	~	~	0.00027	U	0.00027	U	0.00034	U
ADONA	~	~	~	0.00019	U	0.00019	U	0.00024	U
HFPO-DA (Gen-X)	~	~	~	0.00067	U	0.00066	U	0.00083	U
N-EtFOSA	~	~	~	0.00022	U	0.00022	U	0.00027	U
N-EtFOSAA	~	~	~	0.00021	U	0.00021	U	0.00027	U
N-EtFOSE	~	~	~	0.00077	U	0.00076	U	0.00096	U
N-MeFOSA	~	~	~	0.00020	U	0.00020	U	0.00025	U
N-MeFOSAA	~	~	~	0.00016	U	0.00016	U	0.00020	U
N-MeFOSE	~	~	~	0.00068	U	0.00067	U	0.00084	U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	~	~	~	0.00015	U	0.00015	U	0.00019	U
Perfluoro-1-decanesulfonic acid (PFDS)	~	~	~	0.00021	U	0.00021	U	0.00026	U
Perfluoro-1-heptanesulfonic acid (PFHpS)	~	~	~	0.00017	U	0.00017	U	0.00021	U
Perfluoro-1-nonanesulfonic acid (PFNS)	~	~	~	0.00014	U	0.00014	U	0.00017	U
Perfluoro-1-octanesulfonamide (FOSA)	~	~	~	0.00016	U	0.00016	U	0.00020	U
Perfluoro-1-pentanesulfonate (PFPeS)	~	~	~	0.00017	U	0.00017	U	0.00022	U
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	~	0.00021	U	0.00021	U	0.00026	U
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	~	0.00007	U	0.00007	U	0.00008	U
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	~	0.00011	U	0.00011	U	0.00013	U
Perfluorobutanesulfonic acid (PFBS)	~	~	~	0.00012	U	0.00012	U	0.00015	U
Perfluorodecanoic acid (PFDA)	~	~	~	0.00021	U	0.00021	U	0.00026	U
Perfluorododecanesulfonic acid (PFDoS)	~	~	~	0.00019	U	0.00019	U	0.00023	U
Perfluorododecanoic acid (PFDoA)	~	~	~	0.00018	U	0.00018	U	0.00022	U
Perfluoroheptanoic acid (PFHpA)	~	~	~	0.00012	U	0.00012	U	0.00014	U
Perfluorohexanesulfonic acid (PFHxS)	~	~	~	0.00020	U	0.00020	U	0.00025	U
Perfluorohexanoic acid (PFHxA)	~	~	~	0.00006	U	0.00006	U	0.00007	U
Perfluoro-n-butanoic acid (PFBA)	~	~	~	0.00012	U	0.00012	U	0.00015	U
Perfluorononanoic acid (PFNA)	~	~	~	0.00021	U	0.00021	U	0.00026	U
Perfluorooctanesulfonic acid (PFOS)	0.00088	0.044	0.001	0.00029		0.00028		0.00023	U
Perfluorooctanoic acid (PFOA)	0.00066	0.033	0.0008	0.00019	U	0.00019	U	0.00024	U
Perfluoropentanoic acid (PFPeA)	~	~	~	0.00012	U	0.00012	U	0.00015	U
Perfluorotetradecanoic acid (PFTA)	~	~	~	0.00011	U	0.00011	U	0.00014	U
Perfluorotridecanoic acid (PFTrDA)	~	~	~	0.00014	U	0.00014	U	0.00017	U
Perfluoroundecanoic acid (PFUnA)	~	~	~	0.00022	U	0.00022	U	0.00027	U

TABLE NOTES:

--: No Guidance Value.
mg/kg: Milligrams per kilogram.
NA: Not Analyzed
U: Not detected at the reported detection limit for the sample.
J: Estimated value. The analyte concentration is below the reporting limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).

Table 6 - Per- and PolyFloroalkyl Substances in Soil
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	NYSDEC PFOA/PFOS guidance values - Unrestricted	NYSDEC PFOA/PFOS guidance values - Restricted Residential	NYSDEC PFOA/PFOS guidance values - Protection of Groundwater	GZ-08A (0-2 ft bcs)		GZ-09A (0-2 ft bcs)		GZ-10A(0-2 ft bcs)		GZ-FD-01	
LAB SAMPLE ID				24L0797-07		24L0797-10		24L0797-13		24L0646-13	
DATE				12/11/2024 9:50:00 AM		12/11/2024 8:45:00 AM		12/11/2024 11:10:00 AM		12/10/2024 11:40:00 AM	
SAMPLE DEPTH (ft.)				Soil		Soil		Soil		Soil	
				Result	Q	Result	Q	Result	Q	Result	Q
Per- and Polyfluoroalkyl Substances by EPA Method 1633 (mg/kg)											
11CL-PF3OUdS	~	~	~	0.00038	U	0.00039	U	0.00045	U	0.00042	U
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	~	~	~	0.00093	U	0.00096	U	0.00109	U	0.00102	U
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	~	~	~	0.00073	U	0.00075	U	0.00086	U	0.00081	U
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	~	~	~	0.00092	U	0.00095	U	0.00108	U	0.00102	U
3-Perfluoroheptyl propanoic acid (FHpPA)	~	~	~	0.00184	U	0.00190	U	0.00216	U	0.00204	U
3-Perfluoropentyl propanoic acid (FPePA)	~	~	~	0.00258	U	0.00266	U	0.00302	U	0.00285	U
3-Perfluoropropyl propanoic acid (FPrPA)	~	~	~	0.00078	U	0.00080	U	0.00091	U	0.00086	U
9CL-PF3ONS	~	~	~	0.00030	U	0.00031	U	0.00035	U	0.00033	U
ADONA	~	~	~	0.00021	U	0.00022	U	0.00025	U	0.00024	U
HFPO-DA (Gen-X)	~	~	~	0.00075	U	0.00077	U	0.00088	U	0.00083	U
N-EtFOSA	~	~	~	0.00024	U	0.00025	U	0.00029	U	0.00027	U
N-EtFOSAA	~	~	~	0.00024	U	0.00025	U	0.00028	U	0.00026	U
N-EtFOSE	~	~	~	0.00086	U	0.00088	U	0.00100	U	0.00095	U
N-MeFOSA	~	~	~	0.00022	U	0.00023	U	0.00026	U	0.00024	U
N-MeFOSAA	~	~	~	0.00018	U	0.00019	U	0.00021	U	0.00020	U
N-MeFOSE	~	~	~	0.00075	U	0.00077	U	0.00088	U	0.00083	U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	~	~	~	0.00017	U	0.00018	U	0.00020	U	0.00019	U
Perfluoro-1-decanesulfonic acid (PFDS)	~	~	~	0.00024	U	0.00024	U	0.00028	U	0.00026	U
Perfluoro-1-heptanesulfonic acid (PFHpS)	~	~	~	0.00019	U	0.00020	U	0.00022	U	0.00021	U
Perfluoro-1-nonanesulfonic acid (PFNS)	~	~	~	0.00015	U	0.00016	U	0.00018	U	0.00017	U
Perfluoro-1-octanesulfonamide (FOSA)	~	~	~	0.00018	U	0.00019	U	0.00021	U	0.00020	U
Perfluoro-1-pentanesulfonate (PFPeS)	~	~	~	0.00019	U	0.00020	U	0.00023	U	0.00021	U
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	~	~	~	0.00024	U	0.00024	U	0.00028	U	0.00026	U
Perfluoro-4-oxapentanoic acid (PFMPA)	~	~	~	0.00008	U	0.00008	U	0.00009	U	0.00008	U
Perfluoro-5-oxahexanoic acid (PFMBA)	~	~	~	0.00012	U	0.00012	U	0.00014	U	0.00013	U
Perfluorobutanesulfonic acid (PFBS)	~	~	~	0.00014	U	0.00014	U	0.00016	U	0.00015	U
Perfluorodecanoic acid (PFDA)	~	~	~	0.00024	U	0.00024	U	0.00028	U	0.00026	U
Perfluorododecanesulfonic acid (PFDoS)	~	~	~	0.00021	U	0.00021	U	0.00024	U	0.00023	U
Perfluorododecanoic acid (PFDoA)	~	~	~	0.00028		0.00021	J	0.00024	U	0.00022	U
Perfluoroheptanoic acid (PFHpA)	~	~	~	0.00013	U	0.00013	U	0.00015	U	0.00014	U
Perfluorohexanesulfonic acid (PFHxS)	~	~	~	0.00022	U	0.00023	U	0.00026	U	0.00024	U
Perfluorohexanoic acid (PFHxA)	~	~	~	0.00013	J	0.00007	U	0.00016	J	0.00007	U
Perfluoro-n-butanoic acid (PFBA)	~	~	~	0.00013	U	0.00014	U	0.00016	U	0.00015	U
Perfluorononanoic acid (PFNA)	~	~	~	0.00023	U	0.00024	U	0.00027	U	0.00026	U
Perfluorooctanesulfonic acid (PFOS)	0.00088	0.044	0.001	0.00093		0.00021	U	0.00067		0.00023	U
Perfluorooctanoic acid (PFOA)	0.00066	0.033	0.0008	0.00021	U	0.00022	U	0.00050		0.00023	U
Perfluoropentanoic acid (PFPeA)	~	~	~	0.00013	U	0.00014	U	0.00016	U	0.00015	U
Perfluorotetradecanoic acid (PFTA)	~	~	~	0.00024	J	0.00013	U	0.00015	U	0.00014	U
Perfluorotridecanoic acid (PFTrDA)	~	~	~	0.00016	J	0.00016	U	0.00018	U	0.00017	U
Perfluoroundecanoic acid (PFUnA)	~	~	~	0.00024	U	0.00025	U	0.00029	U	0.00027	U

TABLE NOTES:

--: No Guidance Value.
mg/kg: Milligrams per kilogram.
NA: Not Analyzed
U: Not detected at the reported detection limit for the sample.
J: Estimated value. The analyte concentration is below the reporting limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).

Table 7 - Volatile Organic Compounds in Groundwater
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	NYSDEC TOGS 1.1.1 Standards and Guidance Values	GMW-01		GMW-02		GMW-03		GMW-04		GMW-05		GMW-06		GMW-FD-01*		GMW-FB-01		GMW-TB-01	
LAB SAMPLE ID		25A0148-01		25A0148-02		25A0148-03		25A0148-04		25A0148-05		25A0148-06		25A0148-07		25A0148-08		25A0148-09	
DATE		1/3/2025 10:12:00 AM		1/3/2025 12:15:00 PM		1/3/2025 12:53:00 PM		1/3/2025 1:30:00 PM		1/3/2025 10:45:00 AM		1/3/2025 12:45:00 PM		1/3/2025 12:45:00 PM		1/3/2025 2:00:00 PM		1/3/2025 12:00:00 AM	
SAMPLE DEPTH (ft.)		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water	
		Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
VOCs, by EPA 8260 (ug/L)																			
1,1,1,2-Tetrachloroethane	5	0.216	U	0.216	U	0.216	U	0.216	U	0.216	U	0.216	U	0.216	U	0.216	U	0.216	U
1,1,1-Trichloroethane	5	0.266	U	0.266	U	0.266	U	0.266	U	0.266	U	0.266	U	0.266	U	0.266	U	0.266	U
1,1,2,2-Tetrachloroethane	5	0.256	U	0.256	U	0.256	U	0.256	U	0.256	U	0.256	U	0.256	U	0.256	U	0.256	U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5	0.286	U	0.286	U	0.286	U	0.286	U	0.286	U	0.286	U	0.286	U	0.286	U	0.286	U
1,1,2-Trichloroethane	1	0.249	U	0.249	U	0.249	U	0.249	U	0.249	U	0.249	U	0.249	U	0.249	U	0.249	U
1,1-Dichloroethane	5	0.272	U	0.272	U	0.272	U	0.272	U	0.272	U	0.272	U	0.272	U	0.272	U	0.272	U
1,1-Dichloroethylene	5	0.327	U	0.327	U	0.327	U	0.327	U	0.327	U	0.327	U	0.327	U	0.327	U	0.327	U
1,1-Dichloropropylene	5	0.314	U	0.314	U	0.314	U	0.314	U	0.314	U	0.314	U	0.314	U	0.314	U	0.314	U
1,2,3-Trichlorobenzene	5	0.222	U	0.222	U	0.222	U	0.222	U	0.222	U	0.222	U	0.222	U	0.222	U	0.290	J
1,2,3-Trichloropropane	0.04	0.273	U	0.273	U	0.273	U	0.273	U	0.273	U	0.273	U	0.273	U	0.273	U	0.273	U
1,2,4,5-Tetramethylbenzene	~	0.430	J	0.800		0.420	J	0.290	J	0.920		1.180		0.680		0.255	U	0.255	U
1,2,4-Trichlorobenzene	5	0.138	U	0.138	U	0.138	U	0.138	U	0.138	U	0.138	U	0.138	U	0.138	U	0.138	U
1,2,4-Trimethylbenzene	5	0.310	U	0.310	U	0.310	U	0.310	U	0.310	U	0.310	U	0.310	U	0.310	U	0.310	U
1,2-Dibromo-3-chloropropane	0.04	0.432	U	0.432	U	0.432	U	0.432	U	0.432	U	0.432	U	0.432	U	0.432	U	0.432	U
1,2-Dibromoethane	0.0006	0.215	U	0.215	U	0.215	U	0.215	U	0.215	U	0.215	U	0.215	U	0.215	U	0.215	U
1,2-Dichlorobenzene	3	0.270	U	0.270	U	0.270	U	0.270	U	0.270	U	0.270	U	0.270	U	0.270	U	0.270	U
1,2-Dichloroethane	0.6	0.377	U	0.377	U	0.377	U	0.377	U	0.377	U	0.377	U	0.377	U	0.377	U	0.377	U
1,2-Dichloropropane	1	0.327	U	0.327	U	0.327	U	0.327	U	0.327	U	0.327	U	0.327	U	0.327	U	0.327	U
1,3,5-Trimethylbenzene	5	0.347	U	0.347	U	0.347	U	0.347	U	0.347	U	0.347	U	0.347	U	0.347	U	0.347	U
1,3-Dichlorobenzene	3	0.283	U	0.283	U	0.283	U	0.283	U	0.283	U	0.283	U	0.283	U	0.283	U	0.283	U
1,3-Dichloropropane	5	0.260	U	0.260	U	0.260	U	0.260	U	0.260	U	0.260	U	0.260	U	0.260	U	0.260	U
1,4-Dichlorobenzene	3	0.311	U	0.311	U	0.311	U	0.311	U	0.311	U	0.311	U	0.311	U	0.311	U	0.311	U
1,4-Dioxane	0.35	35.300	U	35.300	U	35.300	U	35.300	U	35.300	U	35.300	U	35.300	U	35.300	U	35.300	U
2,2-Dichloropropane	5	0.466	U	0.466	U	0.466	U	0.466	U	0.466	U	0.466	U	0.466	U	0.466	U	0.466	U
2-Butanone	50	0.730		0.421	U	0.421	U	0.421	U	0.421	U	0.421	U	0.421	U	0.421	U	0.421	U
2-Chlorotoluene	5	0.376	U	0.376	U	0.376	U	0.376	U	0.376	U	0.376	U	0.376	U	0.376	U	0.376	U
2-Hexanone	50	0.320	U	0.320	U	0.320	U	0.320	U	0.320	U	0.320	U	0.320	U	0.320	U	0.320	U
4-Chlorotoluene	5	0.311	U	0.311	U	0.311	U	0.311	U	0.311	U	0.311	U	0.311	U	0.311	U	0.311	U
4-Methyl-2-pentanone	~	0.365	U	0.365	U	0.365	U	0.365	U	0.365	U	0.365	U	0.365	U	0.365	U	0.365	U
Acetone	50	46.7		1.340	U	1.340	U	1.340	U	1.340	U	1.340	U	23.3		1.820	J	1.340	U
Acrolein	~	0.447	U	0.447	U	0.550		0.447	U	0.447	U	0.447	U	0.447	U	0.447	U	0.447	U
Acrylonitrile	~	0.422	U	0.422	U	0.422	U	0.422	U	0.422	U	0.422	U	0.422	U	0.422	U	1.500	
Benzene	1	0.279	U	0.279	U	0.279	U	0.279	U	0.279	U	0.279	U	0.279	U	0.279	U	0.279	U
Bromobenzene	5	0.367	U	0.367	U	0.367	U	0.367	U	0.367	U	0.367	U	0.367	U	0.367	U	0.367	U
Bromochloromethane	5	0.354	U	0.354	U	0.354	U	0.354	U	0.354	U	0.354	U	0.354	U	0.354	U	0.354	U
Bromodichloromethane	50	0.245	U	0.245	U	0.245	U	0.245	U	0.245	U	0.245	U	0.245	U	1.510		0.245	U
Bromoform	50	0.163	U	0.163	U	0.163	U	0.163	U	0.163	U	0.163	U	0.163	U	0.163	U	0.163	U
Bromomethane	5	0.119	U	0.119	U	0.119	U	0.119	U	0.119	U	0.119	U	0.119	U	0.119	U	0.119	U
Carbon disulfide	~	0.362	U	0.362	U	0.362	U	0.362	U	0.362	U	0.362	U	0.362	U	0.362	U	0.362	U
Carbon tetrachloride	5	0.204	U	0.204	U	0.204	U	0.204	U	0.204	U	0.204	U	0.204	U	0.204	U	0.204	U
Chlorobenzene	5	0.284	U	0.284	U	0.284	U	0.284	U	0.284	U	0.284	U	0.284	U	0.284	U	0.284	U
Chloroethane	5	0.448	U	0.448	U	0.448	U	0.448	U	0.448	U	0.448	U	0.448	U	0.448	U	0.448	U
Chloroform	7	0.243	U	0.243	U	0.243	U	0.243	U	0.243	U	0.243	U	0.243	U	**16.8**		0.243	U
Chloromethane	5	0.372	U	0.372	U	0.372	U	0.372	U	0.372	U	0.372	U	0.372	U	0.372	U	0.372	U
cis-1,2-Dichloroethylene	5	0.294	U	0.294	U	0.294	U	0.294	U	0.294	U	0.294	U	0.294	U	0.294	U	0.294	U
cis-1,3-Dichloropropylene	0.4	0.262	U	0.262	U	0.262	U	0.262	U	0.262	U	0.262	U	0.262	U	0.262	U	0.262	U
Cyclohexane	~	0.491	U	0.491	U	0.491	U	0.491	U	0.491	U	0.491	U	0.491	U	0.491	U	0.491	U
Dibromochloromethane	50	0.146	U	0.146	U	0.146	U	0.146	U	0.146	U	0.146	U	0.146	U	0.146	U	0.146	U
Dibromomethane	~	0.203	U	0.203	U	0.203	U	0.203	U	0.203	U	0.203	U	0.203	U	0.203	U	0.203	U
Dichlorodifluoromethane	5	0.451	U	0.451	U	0.451	U	0.451	U	0.451	U	0.451	U	0.451	U	0.451	U	0.451	U
Diisopropyl ether (DIPE)	~	0.466	U	0.466	U	0.466	U	0.466	U	0.466	U	0.466	U	0.466	U	0.466	U	0.466	U
Ethyl Benzene	5	0.290	U	0.290	U	0.290	U	0.290	U	0.290	U	0.290	U	0.290	U	0.290	U	0.290	U
Ethyl tert-butyl ether (ETBE)	~	0.479	U	0.479	U	0.479	U	0.479	U	0.479	U	0.479	U	0.479	U	0.479	U	0.479	U
Hexachlorobutadiene	0.5	0.241	U	0.241	U	0.241	U	0.241	U	0.241	U	0.241	U	0.241	U	0.241	U	0.280	JB
Iodomethane	~	0.477	U	0.477	U	0.477	U	0.477	U	0.477	U	0.477	U	0.477	U	0.477	U	0.477	U
Isopropylbenzene	5	0.405	U	0.405	U	0.405	U	0.405	U	0.480	J	0.750		0.405	U	0.405	U	0.405	U
Methyl acetate	~	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U
Methyl Methacrylate	~	0.415	U	0.415	U	0.415	U	0.415	U	0.415	U	0.415	U	0.415	U	0.415	U	0.415	U
Methyl tert-butyl ether (MTBE)	10	0.300	J	0.480	J	0.550		0.244	U	0.420	J	0.280	J	0.280	J	0.244	U	0.244	U
Methylcyclohexane	~	0.477	U	0.477	U	0.477	U	0.477	U	0.477	U	0.477	U	0.477	U	0.477	U	0.477	U
Methylene chloride	5	0.397	U	0.397	U	0.397	U	0.397	U	0.397	U	0.397	U	0.397	U	0.397	U	0.397	U
Naphthalene	10	0.212	U	0.870	J	0.212	U	0.212	U	0.212	U	0.212	U	0.212	U	0.212	U	0.260	J
n-Butylbenzene	5	0.399	U	0.399	U	0.399	U	0.399	U	0.399	U	0.399	U	0.399	U	0.399	U	0.399	U
n-Propylbenzene	5	0.384	U	0.384	U	0.384	U	0.384	U	0.384	U	0.384	U	0.384	U	0.384	U	0.384	U
o-Xylene	5	0.261	U	0.261	U	0.261	U	0.261	U	0.261	U	0.261	U	0.261	U	0.261	U	0.261	U
p- & m- Xylenes	~	0.578	U	0.578	U	0.578	U	0.578	U	0.578	U	0.578	U	0.578	U	0.578	U	0.578	U
p-Diethylbenzene	~	0.341	U	0.341	U	0.341	U	0.341	U	0.460	J	0.341	U	0.341	U	0.341	U	0.341	U
p-Ethyltoluene	~	0.200	U	0.200	U	0.200	U	0.200	U	0.200	U	0.200	U	0.200	U	0.200	U	0.200	U
p-Isopropyltoluene	5	0.377	U	0.377	U	0.377	U	0.377	U	0.377	U	0.377	U	0.377	U	0.377	U	0.377	U
sec-Butylbenzene	5	0.640		1.200		0.444	U	0.444	U	2.910		0.444	U	0.444	U	0.444	U	0.444	U
Styrene	5	0.255	U	0.255	U	0.255	U	0.255	U	0.255	U	0.255	U	0.255	U	0.255	U	0.255	U
tert-Amyl alcohol (TAA)	~	4.160	U	4.160	U	4.160	U	4.160	U	4.160	U	4.160	U	4.160	U	4.160	U	4.160	U
tert-Amyl methyl ether (TAME)	~	0.511	U	0.511	U	0.511	U	0.511	U	0.511	U	0.511	U	0.511	U	0.511	U	0.511	U
tert-Butyl alcohol (TBA)	~	2.680		1.990		1.720		1.280		2.980		3.120		2.280		0.608	U	0.608	U
tert-Butylbenzene	5	2.910		2.570		1.480		**7.25**		1.530		2.580		3.370		0.367	U	0.367	U
Tetrachloroethylene	5	0.239	U	0.239	U	0.239	U	0.239	U	0.239	U	0.239	U	0.239	U	0.239	U	0.239	U
Tetrahydrofuran	~	0.485	U	0.485	U	0.485	U	0.485	U	0.485	U	0.485	U	0.485	U	0.485	U	0.485	U
Toluene	5	0.346	U	0.346	U	0.346	U	0.346	U	0.346	U	0.346	U	0.346	U	0.346	U	0.346	U
trans-1,2-Dichloroethylene	5	0.279	U	0.279	U	0.279	U	0.279	U	0.279	U	0.279	U	0.279	U	0.279	U	0.279	U
trans-1,3-Dichloropropylene	0.4	0.229	U	0.229	U	0.229	U	0.229	U	0.229	U	0.229	U	0.229	U	0.229	U	0.229	U
trans-1,4-dichloro-2-butene	~	0.283	U	0.283	U	0.283	U	0.283	U	0.283	U	0.283	U	0.283	U	0.283	U	0.283	U
Trichloroethylene	5	0.249	U	0.249	U	0.249	U	0.249	U	0.249	U	0.249	U	0.249	U	0.249	U	0.249	U
Trichlorofluoromethane	5	0.337	U	0.337	U	0.337	U	0.337	U	0.337	U	0.337	U	0.337	U	0.337	U	0.337	U
Vinyl acetate	~	0.477	U	0.477	U	0.477	U	0.477	U	0.477	U	0.477	U	0.477	U	0.477	U	0.477	U
Vinyl Chloride	2	0.469	U	0.469	U	0.469	U	0.469	U	0.469	U	0.469	U	0.469	U	0.469	U	0.469	U
Xylenes, Total	5	0.839	U	0.839	U	0.839	U	0.839	U	0.839	U	0.839	U	0.839	U	0.839	U	0.839	U

***GMW-FD-01 is a duplicate sample of GMW-01**

TABLE NOTES:

--: No Guidance Value.

ug/L: Microgram per Liter.

U: Not detected at the reported detection limit for the sample.

J: Estimated value. The analyte concentration is below the reporting limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).

B: Analyte found in the analysis batch blank.

Value exceeds NYSDEC TOGS Standards and Guidance Value

Table 8 - Semi-Volatile Organic Compounds in Groundwater
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	NYSDEC TOGS Standards and Guidance Values	GMW-01		GMW-02		GMW-03		GMW-04		GMW-05		GMW-06		GMW-FD-01*		GMW-FB-01	
LAB SAMPLE ID		25A0148-01		25A0148-02		25A0148-03		25A0148-04		25A0148-05		25A0148-06		25A0148-07		25A0148-08	
DATE		1/3/2025 10:12:00 AM		1/3/2025 12:15:00 PM		1/3/2025 12:53:00 PM		1/3/2025 1:30:00 PM		1/3/2025 10:45:00 AM		1/3/2025 12:45:00 PM		1/3/2025 12:45:00 PM		1/3/2025 2:00:00 PM	
SAMPLE DEPTH (ft.)		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water	
		Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
SVOCs, by EPA 8270 LOW MASTER (ug/L)																	
1,1-Biphenyl	~	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
1,2,4,5-Tetrachlorobenzene	~	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
1,4-Dioxane	0.35	35.300	U	35.300	U	35.300	U	35.300	U	35.300	U	35.300	U	35.300	U	35.300	U
2,3,4,6-Tetrachlorophenol	~	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
2,4,5-Trichlorophenol	1	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
2,4,6-Trichlorophenol	1	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
2,4-Dichlorophenol	5	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
2,4-Dimethylphenol	50	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
2,4-Dinitrophenol	10	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
2,4-Dinitrotoluene	5	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
2,6-Dinitrotoluene	5	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
2-Chloronaphthalene	10	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
2-Chlorophenol	1	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
2-Methylnaphthalene	~	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
2-Methylphenol	1	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
2-Nitroaniline	5	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
2-Nitrophenol	1	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
3- & 4-Methylphenols	1	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
3,3-Dichlorobenzidine	5	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
3-Nitroaniline	5	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
4,6-Dinitro-2-methylphenol	~	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
4-Bromophenyl phenyl ether	~	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
4-Chloro-3-methylphenol	1	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
4-Chloroaniline	5	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
4-Chlorophenyl phenyl ether	~	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
4-Nitroaniline	5	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
4-Nitrophenol	1	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U
Acetophenone	~	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
Benzaldehyde	~	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
Benzyl butyl phthalate	50	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
Bis(2-chloroethoxy)methane	5	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
Bis(2-chloroethyl)ether	1	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Bis(2-chloroisopropyl)ether	5	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
Caprolactam	~	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
Carbazole	~	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
Dibenzofuran	~	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
Diethyl phthalate	50	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
Dimethyl phthalate	50	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
Di-n-butyl phthalate	50	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
Di-n-octyl phthalate	50	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
Hexachlorocyclopentadiene	5	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U
Isophorone	50	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
N-nitroso-di-n-propylamine	~	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
N-Nitrosodiphenylamine	50	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
Phenol	1	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
Propargite	~	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
Pyridine	50	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U	2.50	U
SVOCs, by EPA 8270 SIM MASTER (ug/L)																	
Acenaphthene	20	0.20		2.73		0.13		0.12		0.05	U	0.05	U	0.25		0.05	U
Acenaphthylene	~	0.05		0.05		0.05	U	0.05	U	0.05	U	0.05	U	0.06		0.05	U
Anthracene	50	0.05	U	0.05	U	0.05		0.05	U	0.05	U	0.05	U	0.13		0.05	U
Atrazine	~	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Benzo(a)anthracene	0.002	**0.10**		**0.09**		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Benzo(a)pyrene	0.002	0.05	U	**0.07**		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Benzo(b)fluoranthene	0.002	0.05	U	**0.07**		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Benzo(g,h,i)perylene	~	0.05	U	0.06		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Benzo(k)fluoranthene	0.002	0.05	U	**0.06**		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Bis(2-ethylhexyl)phthalate	5	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chrysene	0.002	**0.09**		**0.09**		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Dibenzo(a,h)anthracene	~	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Fluoranthene	50	0.29		0.58		0.09		0.05	U	0.05	U	0.05	U	0.20		0.05	U
Fluorene	50	0.07		1.29		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Hexachlorobenzene	0.04	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.03		0.02	U
Hexachlorobutadiene	0.5	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Hexachloroethane	5	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Indeno(1,2,3-cd)pyrene	0.002	0.05	U	0.05		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Naphthalene	10	0.08		0.42		0.09		0.08		0.07		0.05	U	0.10		0.05	U
Nitrobenzene	0.4	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
N-Nitrosodimethylamine	~	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Pentachlorophenol	1	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Phenanthrene	50	0.16		2.28		0.10		0.05	U	0.05	U	0.05	U	0.14		0.05	U
Pyrene	50	0.19		0.31		0.05		0.05	U	0.05	U	0.05	U	0.12		0.05	U

***GMW-FD-01 is a duplicate sample of GMW-01**

TABLE NOTES:

--: No Guidance Value.
ug/L: Microgram per Liter.
MW: Monitoring Well
FD: Field Duplicate
FB: Field Blank
NA: Not Analyzed
U: Not detected at the reported detection limit for the sample.
J: Estimated value. The analyte concentration is below the reporting limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).
P The sample specific % recovery between the results for the two columns exceeds the method-specified criteria.

Value exceeds NYSDEC TOGS Standards and Guidance Values

Table 9A - Total Metals in Groundwater
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	NYSDEC TOGS Standards and Guidance Values	GMW-01		GMW-02		GMW-03		GMW-04		GMW-05		GMW-06		GMW-07		GMW-08		GMW-09		GMW-10		GMW-FD-01*		GMW-FB-01		GMW-DUP_2025-08-28		GMW-FB-01	
LAB SAMPLE ID		25A0148-01		25A0148-02		25A0148-03		25A0148-04		25A0148-05		25A0148-06		L2554384-01		L2554384-03		L2554384-05		L2554384-07		25A0148-07		25A0148-08		L2554384-09		25A0148-08	
DATE		1/3/2025 10:12		1/3/2025 12:15PM		1/3/2025 12:53PM		1/3/2025 13:30		1/3/2025 10:45		1/3/2025 12:45PM		8/28/2025		8/28/2025		8/28/2025		8/28/2025		1/3/2025 12:45		1/3/2025 2:00PM		8/28/2025		1/3/2025 2:00PM	
SAMPLE DEPTH (ft.)		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water	
		Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Metals, Target Analyte, ICP (ug/L)																													
Aluminum	~	108		95.800		186		55.600	U	109		76.600		88.2		583		552		597		102		55.6	U	125		10.0	U
Barium	1,000	143		295		178		164		288		308		219.7		348.6		324.2		310.7		143		27.8	U	228.2		0.5	U
Calcium	~	118,000		118,000		120,000		74,700		160,000		204,000		172000		111000		105000		158000		118,000		225		185000		100	U
Chromium	50	5.56	U	5.56	U	5.56	U	5.56	U	5.56	U	5.56	U	0.62	J	2.70		1.76		1.93		5.56	U	5.56	U	0.77	J	1.00	U
Cobalt	~	4.44		4.44	U	4.44	U	4.44	U	4.44	U	4.44	U	2.61		1.47		2.27		2.89		5.22		4.44	U	2.86		0.50	U
Copper	200	22.2	U	22.2	U	22.2	U	22.2	U	22.2	U	22.2	U	0.9	J	10.2		3.4		14.4		22.2	U	22.2	U	1.54		1.0	U
Iron	300	**9,620**		**11,600**		**12,000**		**6,930**		**4,600**		**2,320**		**3530**		**16900**		**7140**		**6300**		**9,650**		278	U	**3610**		50	U
Lead	25	23.4		**27.7**		16.2		6.78		7.44		5.56	U	11.5		**182.6**		**26.54**		**109.5**		17.1		5.56	U	15.21		1.00	U
Magnesium	35,000	23,500		11,700		11,000		5,370		27,000		22,000		27900		12900		**54000**		27600		23,400		55.6	U	28800		70.0	U
Manganese	300	**864**		**496**		**690**		**565**		**576**		**776**		**551.2**		**442.6**		**775.3**		**806.4**		**818**		5.56	U	**576.5**		2.00	U
Nickel	100	11.1	U	11.100	U	11.100	U	11.100	U	11.100	U	11.900		1.98	J	7.45		3.51		14.13		11.100	U	11.1	U	2.7		2.0	U
Potassium	~	23,200		12,400		9,590		5,700		17,200		16,100		14900		9480		14200		14200		22,700		55.6	U	15900		100.0	U
Silver	50	5.56	U	5.56	U	5.56	U	5.56	U	5.56	U	5.56	U	0.40	U	0.40	U	0.40	U	0.40	U	5.56	U	5.56	U	0.4	U	0.40	U
Sodium	20,000	**134,000**		**22,500**		13,900		11,500		**200,000**		**131,000**		**171000**		**21600**		**158000**		**145000**		**134,000**		723		**173000**		137	J
Vanadium	~	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	5.0	U	2.9	J	2.3	J	3.4	J	11.1	U	11.1	U	5	U	5.0	U
Zinc	2,000	27.8	U	27.8	U	27.8	U	27.8	U	27.8	U	27.8	U	6.3	J	94.0		17.3		50.2		27.8	U	27.8	U	9.28	J	10.0	U
Metals, Target Analyte, ICPMS (ug/L)																													
Antimony	3	**5.87**		2.46		1.12		1.11	U	2.22	U	1.11	U	4.00	U	1.19	J	0.61	J	1.79	J	**6.80**		2.22	U	0.48	J	4.00	U
Arsenic	25	**763**		**195**		**74.1**		**186**		**40.2**		**71.2**		**140.1**		**61.02**		**147.3**		**30.35**		**752**		2.220	U	**130.1**		0.500	U
Beryllium	3	0.333	U	0.333	U	0.333	U	0.333	U	0.667	U	0.333	U	0.5	U	0.5	U	0.5	U	0.5	U	0.333	U	0.667	U	0.5	U	0.500	U
Cadmium	5	0.556	U	0.556	U	0.556	U	0.556	U	1.110	U	0.556	U	0.2	U	0.17	J	0.2	U	0.08	J	0.556	U	1.110	U	0.2	U	0.200	U
Selenium	10	1.11	U	1.14		1.86		1.11	U	2.22	U	1.11	U	5.00	U	5.00	U	5.00	U	5.00	U	1.82		2.22	U	5	U	5.00	U
Thallium	~	1.11	U	1.11	U	1.11	U	1.11	U	2.22	U	1.11	U	1.00	U	1.00	U	1.00	U	1.00	U	1.11	U	2.22	U	1	U	1.00	U
Mercury by 7470/7471 (ug/L)																													
Mercury	0.7	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.10	J	4.86		0.23		0.64		0.20	U	0.20	U	0.22		0.20	U
Chromium, Hexavalent																													
Chromium, Hexavalent	50	10	U	10	U	10	U	10	U	10	U	10	U	NA		NA		NA		NA		10	U	10	U	NA		NA	

***GMW-FD-01 is a duplicate sample of GMW-01**

TABLE NOTES:

--: No Guidance Value.

ug/L: Micrograms per Liter.

FD: Field duplicate sample

FB: Field Blank Sample

U: Not detected at the reported detection limit for the sample.

J: Estimated value. The analyte concentration is below the reporting limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).

NA Not Analyzed

Value exceeds NYSDEC Technical Operational Guidance Series 1.1.1 Ambient Water Quality Standards and Guidance Values.

Table 9B - Dissolved Metals in Groundwater
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	NYSDEC TOGS 1.1.1 AWQS GV	GMW-07		GMW-08		GMW-09		GMW-10		GMW-DUP_2025-08-28		FB_2025-08-28	
SAMPLING DATE		8/28/2025		8/28/2025		8/28/2025		8/28/2025		8/28/2025		8/28/2025	
LAB SAMPLE ID		L2554384-01		L2554384-03		L2554384-05		L2554384-07		L2554384-09		L2554384-11	
SAMPLE TYPE		WATER		WATER		WATER		WATER		WATER		WATER	
		Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Dissolved Metals (ug/l)													
Aluminum, Dissolved	--	10	U	10	U	10	U	10	U	10	U	10	U
Antimony, Dissolved	3	4	U	0.46	J	4	U	0.49	J	4	U	4	U
Arsenic, Dissolved	25	**94.19**		12.04		13.84		10.29		**88.88**		0.5	U
Barium, Dissolved	1000	159		183		267.3		203.7		173.8		0.42	J
Beryllium, Dissolved	3	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cadmium, Dissolved	5	0.2	U	0.2	U	0.2	U	0.41		0.2	U	0.2	U
Calcium, Dissolved	--	158000		107000		99500		147000		178000		248	
Chromium, Dissolved	50	0.23	J	1	U	0.29	J	0.27	J	1	U	1	U
Cobalt, Dissolved	--	2.51		1.04		1.68		2.29		2.58		0.5	U
Copper, Dissolved	200	1	U	1	U	2.61		1	U	1	U	1	U
Cyanide, Dissolved	200	65		7		43		11		92		5	U
Iron, Dissolved	300	49.8	J	**1520**		**631**		48.3	J	57.2		36.6	J
Lead, Dissolved	25	0.43	J	1	U	1.24		1	U	1	U	1.36	
Magnesium, Dissolved	35000	27000		12700		**51400**		26600		27600		78.8	
Manganese, Dissolved	300	**503.4**		**413.4**		**712**		**706.4**		**533.7**		1.11	
Mercury, Dissolved	0.7	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Nickel, Dissolved	100	0.85	J	0.62	J	2.78		1.91	J	0.94	J	2	U
Potassium, Dissolved	--	14500		9830		13700		14200		15600		100	U
Selenium, Dissolved	10	5	U	5	U	5	U	5	U	5	U	5	U
Silver, Dissolved	50	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Sodium, Dissolved	20000	**169000**		**22300**		**151000**		**145000**		**167000**		387	J
Thallium, Dissolved	0.5	1	U	1	U	1	U	1	U	1	U	1	U
Vanadium, Dissolved	--	5	U	5	U	5	U	5	U	5	U	5	U
Zinc, Dissolved	2000	10	U	10	U	10	U	10	U	10	U	10	U

TABLE NOTES:

NYSDEC TOGS 1.1.1 AWQS GV	New York State Department of Conservation Technical Operational Guidance Series 1.1.1 Ambient Water Quality Standard and Guidance Values
11	The recording limit exceeds the NYSDEC TOGS 1.1.1 AWQS GV
J	Estimate Value. The analyte concentration is below the quantitative limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL)
U	Not detected at the reported detection limit for the sample
--	No Guidance Value
ug/L	Results are reported in microgram per liter

Table 10 - Pesticides, Herbicides, and Polychlorinated Biphenyls (PCBs) in Groundwater
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	NYSDEC TOGS Standards and Guidance Values	GMW-01		GMW-02		GMW-03		GMW-04		GMW-05		GMW-06		GMW-FD-01*		GMW-FB-01	
LAB SAMPLE ID		25A0148-01		25A0148-02		25A0148-03		25A0148-04		25A0148-05		25A0148-06		25A0148-07		25A0148-08	
DATE		1/3/2025 10:12:00 AM		1/3/2025 12:15:00 PM		1/3/2025 12:53:00 PM		1/3/2025 1:30:00 PM		1/3/2025 10:45:00 AM		1/3/2025 12:45:00 PM		1/3/2025 12:45:00 PM		1/3/2025 2:00:00 PM	
SAMPLE DEPTH (ft.)		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water	
		Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Pesticides, by EPA 8081 MASTER (ug/L)																	
4,4'-DDD	0.3	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
4,4'-DDE	0.2	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
4,4'-DDT	0.2	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
Aldrin	~	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
alpha-BHC	0.01	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
alpha-Chlordane	~	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
beta-BHC	0.04	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
Chlordane, total	0.05	0.200	U	0.200	U	0.200	U	0.200	U	0.200	U	0.200	U	0.200	U	0.200	U
delta-BHC	0.04	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
Dieldrin	0.004	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U
Endosulfan I	~	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
Endosulfan II	~	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
Endosulfan sulfate	~	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
Endrin	~	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
Endrin aldehyde	5	0.010	U	0.010	U	0.010	U	0.010	U	0.010	U	0.010	U	0.010	U	0.010	U
Endrin ketone	5	0.010	U	0.010	U	0.010	U	0.010	U	0.010	U	0.010	U	0.010	U	0.010	U
gamma-BHC (Lindane)	0.05	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
gamma-Chlordane	~	0.010	U	0.010	U	0.010	U	0.010	U	0.010	U	0.010	U	0.010	U	0.010	U
Heptachlor	0.04	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
Heptachlor epoxide	0.03	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
Methoxychlor	35	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
Toxaphene	0.06	0.100	U	0.100	U	0.100	U	0.100	U	0.100	U	0.100	U	0.100	U	0.100	U
Herbicides, by EPA 8151 MASTER (ug/L)																	
2,4,5-T	35	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2,4,5-TP (Silvex)	0.26	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2,4-D	50	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Polychlorinated Biphenyls, by EPA 8082 MASTER (ug/L)																	
Aroclor 1016	~	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U
Aroclor 1221	~	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U
Aroclor 1232	~	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U
Aroclor 1242	~	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U
Aroclor 1248	~	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U
Aroclor 1254	~	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U
Aroclor 1260	~	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U
Aroclor 1262	~	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U
Aroclor 1268	~	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U
Total PCBs	0.09	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U

***GMW-FD-01 is a duplicate sample of GMW-01**

TABLE NOTES:

--: No Guidance Value.

ug/L: micrograms per liter

NA: Not Analyzed

U: Not detected at the reported detection limit for the sample.

J: Estimated value. The analyte concentration is below the reporting limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).

P The sample specific % recovery between the results for the two columns exceeds the method-specified criteria.

Table 11 - Per- and Polyfluoroalkyl Substances (PFAS) in Groundwater
55 Eckford Street, Brooklyn, NY

BCP Site No. C224168

LOCATION	NYDEC Part 375 PFAS Remedial Program Water April 2023	GMW-01		GMW-02		GMW-03		GMW-04		GMW-05		GMW-06		GMW-FD-01*		GMW-FB-01	
LAB SAMPLE ID		25A0148-01		25A0148-02		25A0148-03		25A0148-04		25A0148-05		25A0148-06		25A0148-07		25A0148-08	
DATE		1/3/2025 10:12:00 AM		1/3/2025 12:15:00 PM		1/3/2025 12:53:00 PM		1/3/2025 1:30:00 PM		1/3/2025 10:45:00 AM		1/3/2025 12:45:00 PM		1/3/2025 12:45:00 PM		1/3/2025 2:00:00 PM	
SAMPLE DEPTH (ft.)		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water		Ground Water	
		Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
PFAS, EPA 1633 Target List (ug/L)																	
11CL-PF3OUdS	0.1	0.00128	U	0.00127	U	0.00127	U	0.00155	U	0.00148	U	0.00119	U	0.00129	U	0.00144	U
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	0.1	0.00190	U	0.00189	U	0.00189	U	0.00230	U	0.00219	U	0.00176	U	0.00192	U	0.00214	U
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	0.1	0.00166	U	0.00165	U	0.00165	U	0.00201	U	0.00192	U	0.00154	U	0.00168	U	0.00187	U
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	0.1	0.00697	U	0.00693	U	0.00692	U	0.00841	U	0.00803	U	0.00645	U	0.00703	U	0.00782	U
3-Perfluoroheptyl propanoic acid (FHpPA)	--	0.00880	U	0.00875	U	0.00874	U	0.0106	U	0.0101	U	0.00815	U	0.00888	U	0.00987	U
3-Perfluoropentyl propanoic acid (FPePA)	--	0.00681	U	0.00677	U	0.00677	U	0.00822	U	0.00785	U	0.00631	U	0.00687	U	0.00764	U
3-Perfluoropropyl propanoic acid (FPrPA)	--	0.00189	U	0.00188	U	0.00187	U	0.00228	U	0.00217	U	0.00175	U	0.00190	U	0.00212	U
9CL-PF3ONS	0.1	0.00065	U	0.00065	U	0.00065	U	0.00079	U	0.00075	U	0.00060	U	0.00066	U	0.00073	U
ADONA	0.1	0.00049	U	0.00049	U	0.00049	U	0.00059	U	0.00057	U	0.00046	U	0.00050	U	0.00055	U
HFPO-DA (Gen-X)	0.1	0.00300	U	0.00298	U	0.00298	U	0.00362	U	0.00346	U	0.00278	U	0.00303	U	0.00337	U
N-EtFOSA	--	0.00167	U	0.00166	U	0.00166	U	0.00202	U	0.00193	U	0.00155	U	0.00169	U	0.00188	U
N-EtFOSAA	--	0.00096	U	0.00095	U	0.00095	U	0.00115	U	0.00110	U	0.00089	U	0.00097	U	0.00107	U
N-EtFOSE	0.1	0.00371	U	0.00369	U	0.00368	U	0.00447	U	0.00427	U	0.00343	U	0.00374	U	0.00416	U
N-MeFOSA	--	0.00147	U	0.00146	U	0.00146	U	0.00177	U	0.00169	U	0.00136	U	0.00148	U	0.00165	U
N-MeFOSAA	--	0.00073	U	0.00073	U	0.00109	J	0.00089	U	0.00085	U	0.00068	U	0.00074	U	0.00082	U
N-MeFOSE	0.1	0.00371	U	0.00369	U	0.00368	U	0.00447	U	0.00427	U	0.00343	U	0.00374	U	0.00416	U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	0.00047	U	0.00046	U	0.00046	U	0.00056	U	0.00054	U	0.00043	U	0.00047	U	0.00052	U
Perfluoro-1-decanesulfonic acid (PFDS)	--	0.00123	U	0.00122	U	0.00122	U	0.00148	U	0.00141	U	0.00114	U	0.00124	U	0.00138	U
Perfluoro-1-heptanesulfonic acid (PFHpS)	--	0.00085	U	0.00084	U	0.00084	U	0.00102	U	0.00097	U	0.00078	U	0.00085	U	0.00095	U
Perfluoro-1-nonanesulfonic acid (PFNS)	--	0.00080	U	0.00079	U	0.00079	U	0.00096	U	0.00092	U	0.00074	U	0.00081	U	0.00090	U
Perfluoro-1-octanesulfonamide (FOSA)	0.1	0.00082	U	0.00081	U	0.00081	U	0.00099	U	0.00094	U	0.00076	U	0.00083	U	0.00092	U
Perfluoro-1-pentanesulfonate (PFPeS)	0.1	0.00071	U	0.00070	U	0.00070	U	0.00085	U	0.00081	U	0.00065	U	0.00071	U	0.00079	U
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	0.1	0.00199	U	0.00198	U	0.00198	U	0.00240	U	0.00229	U	0.00184	U	0.00201	U	0.00223	U
Perfluoro-4-oxapentanoic acid (PFMPA)	0.1	0.00023	U	0.00023	U	0.00023	U	0.00028	U	0.00027	U	0.00022	U	0.00023	U	0.00026	U
Perfluoro-5-oxahexanoic acid (PFMBA)	--	0.00034	U	0.00034	U	0.00034	U	0.00042	U	0.00040	U	0.00032	U	0.00035	U	0.00039	U
Perfluorobutanesulfonic acid (PFBS)	0.1	0.00423		0.00445		0.00424		0.00150	J	0.00757		0.00627		0.00440		0.00049	U
Perfluorodecanoic acid (PFDA)	0.1	0.00070	U	0.00069	U	0.00159	J	0.00223	J	0.00080	U	0.00065	U	0.00070	U	0.00078	U
Perfluorododecanesulfonic acid (PFDoS)	0.1	0.00086	U	0.00086	U	0.00086	U	0.00104	U	0.00100	U	0.00080	U	0.00087	U	0.00097	U
Perfluorododecanoic acid (PFDoA)	0.1	0.00082	U	0.00081	U	0.00081	U	0.00099	U	0.00094	U	0.00076	U	0.00083	U	0.00092	U
Perfluoroheptanoic acid (PFHpA)	0.1	0.0102		0.0128		0.0178		0.00904		0.0138		0.0118		0.00995		0.00074	U
Perfluorohexanesulfonic acid (PFHxS)	--	0.00237		0.00113	J	0.00063	U	0.00081	J	0.00580		0.00389		0.00257		0.00071	U
Perfluorohexanoic acid (PFHxA)	0.1	0.0127		0.0148		0.0197		0.0116		0.0166		0.0173		0.0151		0.00037	U
Perfluoro-n-butanoic acid (PFBA)		0.00031	U	0.00992		0.00907		0.00037	U	0.0161		0.0155		0.00031	U	0.00034	U
Perfluorononanoic acid (PFNA)	0.01	0.00104	J	0.00164	J	0.00272		0.00262		0.00090	J	0.00054	J	0.00169	J	0.00054	U
Perfluorooctanesulfonic acid (PFOS)	0.0027	**0.00885**		0.00238		**0.00796**		**0.00618**		0.00088	U	0.00071	U	**0.00876**		0.00086	U
Perfluorooctanoic acid (PFOA)	0.0067	**0.0359**		**0.0229**		**0.0156**		**0.0287**		**0.0488**		**0.0429**		**0.0352**		0.00044	U
Perfluoropentanoic acid (PFPeA)	0.1	0.0119		0.0150		0.0191		0.0156		0.0154		0.0136		0.0110		0.00024	U
Perfluorotetradecanoic acid (PFTA)		0.00064	U	0.00064	U	0.00064	U	0.00077	U	0.00074	U	0.00059	U	0.00065	U	0.00072	U
Perfluorotridecanoic acid (PFTrDA)	0.1	0.00069	U	0.00068	U	0.00068	U	0.00083	U	0.00079	U	0.00064	U	0.00069	U	0.00077	U
Perfluoroundecanoic acid (PFUnA)	0.1	0.00105	U	0.00104	U	0.00104	U	0.00127	U	0.00121	U	0.00097	U	0.00106	U	0.00118	U

***GMW-FD-01 is a duplicate sample of GMW-01**

TABLE NOTES:

--: No Guidance Value.
ug/L: micrograms per liter
NA: Not Analyzed
U: Not detected at the reported detection limit for the sample.
J: Estimated value. The analyte concentration is below the reporting limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).
P The sample specific % recovery between the results for the two columns exceeds the method-specified criteria.
Exceeds 2023 FinalAmbient Water Quality Guidance Values(AWQS)

Table 12 - Soil Vapor and Outdoor Air Results
55 Eckfor Street, Brooklyn, NY

BCP Site No. C224168

Sample ID	GSV-01		GSV-02		GSV-03		GSV-04		GSV-05		GSV-06	
York ID	24L1073-01		24L1073-02		24L1073-03		24L1073-04		24L1073-05		24L1073-06	
Sampling Date	12/13/2024 8:50:00 AM		12/13/2024 8:52:00 AM		12/13/2024 8:08:00 AM		12/13/2024 8:53:00 AM		12/13/2024 8:54:00 AM		12/13/2024 8:55:00 AM	
Client Matrix	Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor	
Compound	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Volatile Organics, EPA TO15 (ug/m3)												
1,1,1,2-Tetrachloroethane	9.8	U	0.95	U	1.1	U	0.920	U	10	U	0.95	U
1,1,1-Trichloroethane	7.8	U	0.76	U	0.84	U	0.730	U	8.3	U	2.8	D
1,1,2,2-Tetrachloroethane	9.8	U	0.95	U	1.1	U	0.920	U	10	U	0.95	U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	11	U	1.10	U	1.2	U	1	U	12	U	1.1	U
1,1,2-Trichloroethane	7.8	U	0.76	U	0.84	U	0.730	U	8.3	U	0.76	U
1,1-Dichloroethane	5.8	U	0.56	U	0.62	U	0.540	U	6.1	U	0.62	D
1,1-Dichloroethylene	1.4	U	0.22	D	0.15	U	0.130	U	1.5	U	0.22	D
1,2,4-Trichlorobenzene	11	U	1	U	1.1	U	1	U	11	U	1	U
1,2,4-Trimethylbenzene	7	U	0.68	U	1.7	D	0.660	U	7.5	U	1.6	D
1,2-Dibromoethane	11	U	1.10	U	1.2	U	1	U	12	U	1.1	U
1,2-Dichlorobenzene	8.6	U	0.83	U	0.93	U	0.810	U	9.1	U	0.84	U
1,2-Dichloroethane	5.8	U	0.56	U	0.62	U	0.540	U	6.1	U	0.56	U
1,2-Dichloropropane	6.6	U	0.64	U	0.71	U	0.620	U	7	U	0.64	U
1,2-Dichlorotetrafluoroethane	10	U	0.97	U	1.1	U	0.940	U	10,000	D	0.97	U
1,3,5-Trimethylbenzene	7	U	0.68	U	0.76	U	0.660	U	7.5	U	0.68	U
1,3-Butadiene	9.5	U	1.90	D	1	U	0.890	U	10	U	0.92	U
1,3-Dichlorobenzene	8.6	U	0.83	U	0.93	U	0.810	U	9.1	U	0.84	U
1,3-Dichloropropane	6.6	U	0.64	U	0.71	U	0.620	U	7	U	0.64	U
1,4-Dichlorobenzene	8.6	U	0.83	U	0.93	U	0.810	U	9.1	U	0.84	U
1,4-Dioxane	10	U	1	U	1.1	U	0.970	U	11	U	1	U
2,2,4-Trimethylpentane	3.3	U	0.32	U	0.36	U	13	D	3.5	U	0.32	U
2-Butanone	280	D	86	D	1.6	D	110	D	320	D	110	D
2-Hexanone	12	U	12	D	1.3	U	27	D	48	D	1.1	U
3-Chloropropene	22	U	2.20	U	2.4	U	2.100	U	24	U	2.2	U
4-Methyl-2-pentanone	870	D	0.57	U	1.5	D	0.550	U	6.2	U	0.57	U
Acetone	120	D	39	D	27	D	30	D	150	D	51	D
Acrylonitrile	40	J	9.60	D	4.3	U	3.800	J	43	U	3.9	U
Benzene	35	D	7.20	D	2.8	D	0.730	D	9.2	D	1.8	D
Benzyl chloride	7.4	U	0.72	U	0.8	U	0.700	U	7.8	U	0.72	U
Bromodichloromethane	9.5	U	0.93	U	1	U	0.900	U	10	U	0.93	U
Bromoform	15	U	1.40	U	1.6	U	1.400	U	16	U	1.4	U
Bromomethane	5.5	U	0.54	U	0.6	U	0.520	U	5.9	U	0.54	U
Carbon disulfide	19	D	12	D	0.48	U	0.710	D	28	D	3	D
Carbon tetrachloride	2.2	U	0.22	U	0.24	U	0.340	D	2.4	U	0.44	D
Chlorobenzene	6.6	U	0.64	U	0.71	U	0.620	U	7	U	1.3	D
Chloroethane	3.8	U	0.37	U	0.41	U	0.350	U	4	U	0.37	U
Chloroform	7	U	1.40	D	1.1	D	0.660	U	7.4	U	7.600	D
Chloromethane	7.1	D	0.60	D	9.7	D	1.500	D	3.1	U	0.29	U
cis-1,2-Dichloroethylene	14	D	6	D	0.15	U	0.130	U	86	D	14	D
cis-1,3-Dichloropropylene	6.5	U	0.63	U	0.7	U	0.610	U	6.9	U	0.63	U
Cyclohexane	4.9	D	0.76	D	0.53	U	0.460	U	5.2	U	1.5	D
Dibromochloromethane	12	U	1.20	U	1.30	U	1.100	U	13	U	1.2	U
Dichlorodifluoromethane	7	U	2.50	D	3.2	D	2.600	D	7.5	U	2.1	D
Ethyl acetate	10	U	1	U	1.1	U	0.970	U	11	U	1	U
Ethyl Benzene	6.2	U	0.60	U	2.7	D	0.580	U	6.6	U	1.1	D
Hexachlorobutadiene	15	U	1.50	U	1.6	U	1.400	U	16	U	1.5	U
Isopropanol	21	U	2	J	2.3	J	2	J	22	U	5.5	D
Methyl Methacrylate	5.8	U	0.57	U	0.63	U	0.550	U	6.2	U	0.57	U
Methyl tert-butyl ether (MTBE)	5.1	U	0.50	U	0.56	U	0.480	U	5.5	U	0.5	U
Methylene chloride	30	U	2.90	J	3.2	J	2.800	J	32	U	2.9	U
Naphthalene	15	U	1.50	U	1.6	U	1.400	U	16	U	1.5	U
n-Heptane	1,300	D	2.40	D	0.63	U	0.940	D	6.2	U	29	D
n-Hexane	970	D	8.40	D	0.54	U	0.990	D	5.3	U	87	D
o-Xylene	6.2	U	1.70	D	3.50	D	1.200	D	6.6	U	1.8	D
p- & m- Xylenes	12	U	1.70	D	12	D	2.100	D	13	U	5.2	D
p-Ethyltoluene	7	U	0.68	U	1.6	D	0.660	U	7.5	U	2	D
Propylene	2.5	U	57	D	0.93	D	2.400	D	40	D	210	D
Styrene	6.1	U	0.59	U	3.1	D	0.570	U	6.5	U	0.59	U
Tetrachloroethylene	120	D	8.40	D	13	D	1.200	D	53	D	17	D
Tetrahydrofuran	8.4	U	0.82	U	0.91	U	0.790	U	8.9	U	0.82	U
Toluene	11	D	1.50	D	8.6	D	1.200	D	5.7	U	3.4	D
trans-1,2-Dichloroethylene	5.6	U	0.60	D	0.61	U	0.530	U	9	D	1.600	D
trans-1,3-Dichloropropylene	6.5	U	0.63	U	0.7	U	0.610	U	6.9	U	0.63	U
Trichloroethylene	570	D	130	D	8.20	D	8.20	D	680	D	600	D
Trichlorofluoromethane (Freon 11)	8	U	1.40	D	1.6	D	1.300	D	8.5	U	1.6	D
Vinyl acetate	5	U	0.49	U	0.54	U	0.470	U	5.3	U	0.49	U
Vinyl bromide	6.2	U	0.61	U	0.67	U	0.590	U	6.6	U	0.61	U
Vinyl Chloride	1.8	U	0.81	D	0.2	U	0.170	U	17	D	0.89	D
Total CVOCs	704		148		24		13		836		635	
Petroleum Hydrocarbons	2,320.9		23.7		31.3		20.2		9.2		132.4	

TABLE NOTES:

GSV: Soil vapor sample
GOA: Outdoor air sample
--: No Guidance Value.
ug/m^3: micrograms per cubic meter
NA: Not Analyzed
U: Not detected at the reported detection limit for the sample.
J: Estimated value. The analyte concentration is below the reporting limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).
D: Sample under dilution

P The sample specific % recovery between the results for the two columns exceeds the method-specified criteria.

Total CVOCs : Chlorinated volatile organic compounds (VOCs) listed on the New York State Department of Health (NYSDOH) Soil Vapor Intrusion (SVI) Guidance Matrices A to C

Petrol Hydrocarbons : Total Petroleum Hydrocarbons listed on the NYSDOH SVI Matrices D to E

GSV-FD Duplicate sample of GSV-06

Table 12 - Soil Vapor and Outdoor Air Results
55 Eckfor Street, Brooklyn, NY

BCP Site No. C224168

Sample ID	GSV-07		GSV-08		GSV-09		GSV-10		GSV-11		GSV-12	
York ID	24L1073-07		24L1073-08		L2554375-01		L2554375-02		L2554375-03		L2554375-04	
Sampling Date	12/13/2024 8:09:00 AM		12/13/2024 8:10:00 AM		8/28/2025		8/28/2025		8/28/2025		8/28/2025	
Client Matrix	Soil Vapor		Soil Vapor		SOIL_VAPOR		SOIL_VAPOR		SOIL_VAPOR		SOIL_VAPOR	
Compound	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Volatile Organics, EPA TO15 (ug/m3)												
1,1,1,2-Tetrachloroethane	1	U	9.3	U	8.4	U	4.5		10.4		11.3	
1,1,1-Trichloroethane	0.82	U	7.4	U	10.6	U	0.687	U	2.68	U	4.15	U
1,1,2,2-Tetrachloroethane	1	U	9.3	U	29.6	U	1.92	U	7.47	U	11.6	U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1.1	U	10	U	8.4	U	0.546	U	2.13	U	3.3	U
1,1,2-Trichloroethane	0.82	U	7.4	U	6.23	U	0.708		1.58	U	2.93	
1,1-Dichloroethane	0.6	U	5.5	U	6.11	U	0.396	U	1.55	U	7.53	
1,1-Dichloroethylene	0.150	U	1.3	U	28.7	U	1.86	U	7.23	U	11.2	U
1,2,4-Trichlorobenzene	1.1	U	10	U	11.8	U	0.769	U	3	U	4.64	U
1,2,4-Trimethylbenzene	1.2	D	6.7	U	113		129		47.6		2.97	U
1,2-Dibromoethane	1.1	U	10	U	9.26	U	0.601	U	2.34	U	3.63	U
1,2-Dichlorobenzene	0.9	U	8.2	U	6.23	U	0.405	U	1.58	U	2.44	U
1,2-Dichloroethane	0.6	U	5.5	U	7.12	U	0.462	U	1.8	U	2.79	U
1,2-Dichloropropane	0.690	U	6.3	U	27	U	1.75	U	6.81	U	10.6	U
1,2-Dichlorotetrafluoroethane	1	U	9.5	U	63.9		69.8		25.7		2.97	U
1,3,5-Trimethylbenzene	0.73	U	6.7	U	3.41	U	0.221	U	0.863	U	1.34	U
1,3-Butadiene	0.990	U	9	U	9.26	U	0.601	U	2.34	U	3.63	U
1,3-Dichlorobenzene	0.9	U	8.2	U	NA		NA		NA		NA	
1,3-Dichloropropane	0.690	U	6.3	U	9.26	U	0.601	U	2.34	U	3.63	U
1,4-Dichlorobenzene	0.9	U	8.2	U	27.8	U	1.8	U	7.03	U	10.9	U
1,4-Dioxane	1.1	U	9.8	U	1880		29.1		18.2	U	1050	
2,2,4-Trimethylpentane	0.35	U	3.2	U	114	U	13.8		28.7	U	44.5	U
2-Butanone	2	D	4	U	63.1	U	4.1	U	16	U	24.8	U
2-Hexanone	1.2	U	11	U	48.2	U	3.13	U	12.2	U	18.9	U
3-Chloropropene	2.3	U	21	U	NA		NA		NA		NA	
4-Methyl-2-pentanone	0.61	U	5.6	U	158	U	10.2	U	39.9	U	61.9	U
Acetone	20	D	44	D	986		78.2		196		177	
Acrylonitrile	4.2	U	38	U	NA		NA		NA		NA	
Benzene	2	D	4.3	U	24.7	U	2.35		6.23	U	16.7	
Benzyl chloride	0.770	U	7	U	40	U	2.59	U	10.1	U	15.6	U
Bromodichloromethane	1	U	9.1	U	10.3	U	0.67	U	2.61	U	4.05	U
Bromoform	1.5	U	14	U	15.9	U	1.03	U	4.03	U	6.25	U
Bromomethane	0.58	U	5.3	U	5.98	U	0.388	U	1.51	U	2.35	U
Carbon disulfide	3.9	D	4.2	U	48	U	13.8		12.5		35.5	
Carbon tetrachloride	0.38	D	2.1	U	9.69	U	0.629	U	2.45	U	3.8	U
Chlorobenzene	0.69	U	6.2	U	35.6	U	2.3	U	8.98	U	13.9	U
Chloroethane	0.39	U	3.6	U	20.4	U	1.32	U	5.15	U	7.97	U
Chloroform	1.500	D	6.6	U	16.2		9.13		16		13.6	
Chloromethane	5.1	D	2.8	U	31.8	U	2.07	U	8.05	U	12.5	U
cis-1,2-Dichloroethylene	0.89	D	1.3	U	17.8		16		34.7		151	
cis-1,3-Dichloropropylene	0.68	U	6.2	U	6.99	U	0.454	U	1.77	U	2.74	U
Cyclohexane	0.510	U	4.7	U	104		3.44	U	13.4	U	43.4	
Dibromochloromethane	1.3	U	12	U	13.1	U	0.852	U	3.32	U	5.15	U
Dichlorodifluoromethane	2.7	D	6.7	U	76.1	U	4.94	U	19.3	U	29.9	U
Ethyl acetate	1.1	U	9.8	U	139	U	9.01	U	35.1	U	54.4	U
Ethyl Benzene	1.8	D	7.1	D	6.69	U	1.48		1.69	U	28.5	
Hexachlorobutadiene	1.6	U	14	U	41.2	U	2.67	U	10.4	U	16.1	U
Isopropanol	2.2	U	20	U	7250		12.3	U	47.9	U	74.2	U
Methyl Methacrylate	0.610	U	5.6	U	NA		NA		NA		NA	
Methyl tert-butyl ether (MTBE)	0.54	U	4.9	U	55.5	U	3.61	U	14.1	U	21.8	U
Methylene chloride	3.1	U	28	U	134	U	8.69	U	33.8	U	52.5	U
Naphthalene	1.6	U	14	U	20.2	U	2.86		5.11	U	7.92	U
n-Heptane	0.61	U	5.6	U	191		4.1	U	16	U	75.4	
n-Hexane	0.53	U	4.8	U	1120		4.62		13.7	U	197	
o-Xylene	2.3	D	22	D	6.69	U	5.73		3.38		2.62	U
p- & m- Xylenes	9.8	D	42	D	24.5		3.95		3.38	U	5.26	U
p-Ethyltoluene	1.200	D	6.7	U	NA		NA		NA		NA	
Propylene	0.26	U	2.3	U	NA		NA		NA		NA	
Styrene	2.2	D	8.1	D	6.56	U	0.426	U	1.66	U	2.57	U
Tetrachloroethylene	8.2	D	17	D	464		336		477		180	
Tetrahydrofuran	0.88	U	8	U	114	U	7.37	U	28.7	U	44.5	U
Toluene	5.4	D	19	D	49.4		5.5		7.35	U	12.3	
trans-1,2-Dichloroethylene	0.59	U	5.4	U	6.11	U	1.59		5.15		8.01	
trans-1,3-Dichloropropylene	0.68	U	6.2	U	6.99	U	0.454	U	1.77	U	2.74	U
Trichloroethylene	29	D	12	D	1730		1240		3910		3340	
Trichlorofluoromethane (Freon 11)	1.2	D	7.6	U	21.7	U	2.7		5.47	U	8.49	U
Vinyl acetate	0.53	U	4.8	U	NA		NA		NA		NA	
Vinyl bromide	0.65	U	5.9	U	67.3	U	4.37	U	17.1	U	26.4	U
Vinyl Chloride	0.190	U	1.7	U	6.11		0.256	U	0.997	U	25.3	
Total CVOCs	38		29		2217.91		1592.00		4421.7		3696.3	
Petroleum Hydrocarbons	22.5		90.1		1601.9		155.49		50.98		373.3	

TABLE NOTES:

GSV: Soil vapor sample
GOA: Outdoor air sample
--: No Guidance Value.
ug/m^3: micrograms per cubic meter
NA: Not Analyzed
U: Not detected at the reported detection limit for the sample.
J: Estimated value. The analyte concentration is below the reporting limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).
D: Sample under dilution

P The sample specific % recovery between the results for the two columns exceeds the method-specified criteria.

Total CVOCs : Chlorinated volatile organic compounds (VOCs) listed on the New York State Department of Health (NYSDOH) Soil Vapor Intrusion (SVI) Guidance Matrices A to C

Petrol Hydrocarbons : Total Petroleum Hydrocarbons listed on the NYSDOH SVI Matrices D to E

Table 12 - Soil Vapor and Outdoor Air Results
55 Eckfor Street, Brooklyn, NY

BCP Site No. C224168

Sample ID	GOA-01		GOA-02		GSV-FD		GSV-FD_2025-08-28	
York ID	24L1073-09		24L1073-10		24L1073-11		L2554375-05	
Sampling Date	12/13/2024 8:11:00 AM		12/13/2024 8:51:00 AM		12/13/2024 12:00:00 AM		8/28/2025	
Client Matrix	Outdoor Ambient Air		Outdoor Ambient Air		Soil Vapor		SOIL_VAPOR	
Compound	Result	Q	Result	Q	Result	Q	Result	Q
Volatile Organics, EPA TO15 (ug/m3)								
1,1,1,2-Tetrachloroethane	0.560	U	0.5	U	2.2	U	9.88	
1,1,1-Trichloroethane	0.440	U	0.39	U	3.4	D	2.7	U
1,1,2,2-Tetrachloroethane	0.560	U	0.5	U	2.2	U	7.54	U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.690	D	0.66	D	2.5	U	2.14	U
1,1,2-Trichloroethane	0.440	U	0.39	U	1.8	U	1.59	U
1,1-Dichloroethane	0.330	U	0.29	U	1.3	U	1.56	U
1,1-Dichloroethylene	0.0810	U	0.07	U	0.32	U	7.3	U
1,2,4-Trichlorobenzene	0.600	U	0.54	U	2.4	U	3.02	U
1,2,4-Trimethylbenzene	0.400	U	0.39	D	1.6	U	33.2	
1,2-Dibromoethane	0.620	U	0.55	U	2.5	U	2.36	U
1,2-Dichlorobenzene	0.490	U	0.43	U	2	U	1.59	U
1,2-Dichloroethane	0.330	U	0.29	U	1.3	U	1.82	U
1,2-Dichloropropane	0.380	U	0.33	U	1.5	U	6.88	U
1,2-Dichlorotetrafluoroethane	0.630	D	0.5	D	2.3	U	20.3	
1,3,5-Trimethylbenzene	0.400	U	0.35	U	1.6	U	0.869	U
1,3-Butadiene	0.540	U	0.48	U	2.2	U	2.36	U
1,3-Dichlorobenzene	0.490	U	0.43	U	2	U	NA	
1,3-Dichloropropane	0.380	U	0.33	U	1.5	U	2.36	U
1,4-Dichlorobenzene	0.490	U	0.43	U	2	U	7.1	U
1,4-Dioxane	0.590	U	0.52	U	2.3	U	18.4	U
2,2,4-Trimethylpentane	0.190	J	0.17	J	0.76	U	29	U
2-Butanone	0.240	D	0.68	D	150	D	16.1	U
2-Hexanone	0.670	U	0.59	U	11	D	12.3	U
3-Chloropropene	1.300	U	1.1	U	5.1	U	NA	
4-Methyl-2-pentanone	0.330	U	0.3	U	2.3	D	40.3	U
Acetone	3.200	D	10	D	51	D	176	
Acrylonitrile	2.300	U	2	J	40	D	NA	
Benzene	0.310	D	0.69	D	2.2	D	6.29	U
Benzyl chloride	0.420	U	0.37	U	1.7	U	10.2	U
Bromodichloromethane	0.540	U	0.48	U	2.2	U	2.63	U
Bromoform	0.840	U	0.75	U	3.4	U	4.06	U
Bromomethane	0.320	U	0.28	U	1.3	U	1.53	U
Carbon disulfide	0.250	U	0.22	U	4.1	D	12.2	U
Carbon tetrachloride	0.510	D	0.5	D	0.51	U	2.47	U
Chlorobenzene	0.370	U	0.47	D	1.5	U	9.07	U
Chloroethane	0.210	U	0.19	U	0.86	U	5.2	U
Chloroform	0.400	U	0.35	U	8.2	D	15.2	
Chloromethane	2.900	D	5.8	D	0.67	U	8.12	U
cis-1,2-Dichloroethylene	0.0810	U	0.07	U	18	D	32.2	
cis-1,3-Dichloropropylene	0.370	U	0.33	U	1.5	U	1.78	U
Cyclohexane	0.280	U	0.25	U	1.1	U	13.5	U
Dibromochloromethane	0.690	U	0.62	U	2.8	U	3.35	U
Dichlorodifluoromethane	2.500	D	2.5	D	2.7	D	19.4	U
Ethyl acetate	0.700	D	0.52	U	2.3	U	35.5	U
Ethyl Benzene	0.350	U	0.31	U	1.4	U	1.71	U
Hexachlorobutadiene	0.870	U	0.77	U	3.5	U	10.5	U
Isopropanol	1.200	J	1.1	J	4.8	U	48.4	U
Methyl Methacrylate	0.330	U	0.3	U	1.3	U	NA	
Methyl tert-butyl ether (MTBE)	0.290	U	0.26	U	1.2	U	14.2	U
Methylene chloride	1.700	J	1.5	J	6.8	J	34.2	U
Naphthalene	0.850	U	0.76	U	3.4	U	5.16	U
n-Heptane	0.330	U	0.3	U	29	D	16.1	U
n-Hexane	0.290	U	0.25	U	110	D	13.9	U
o-Xylene	0.350	U	0.72	D	1.4	U	4.1	
p- & m- Xylenes	0.710	U	1.3	D	2.8	U	3.5	
p-Ethyltoluene	0.400	U	0.39	D	1.6	U	NA	
Propylene	0.140	U	0.12	U	220	D	NA	
Styrene	0.350	U	0.31	U	1.4	U	1.67	U
Tetrachloroethylene	0.550	U	0.49	U	18	D	426	
Tetrahydrofuran	0.480	U	0.43	U	1.9	U	29	U
Toluene	0.310	U	0.76	D	2.7	D	7.42	U
trans-1,2-Dichloroethylene	0.320	U	0.29	U	2.1	D	4.92	
trans-1,3-Dichloropropylene	0.370	U	0.33	U	1.5	U	1.78	U
Trichloroethylene	0.130	D	0.12	D	660	D	3710	
Trichlorofluoromethane (Freon 11)	1.400	D	1.3	D	2	D	5.53	U
Vinyl acetate	0.290	U	0.25	U	1.1	U	NA	
Vinyl bromide	0.360	U	0.32	U	1.4	U	17.2	U
Vinyl Chloride	0.170	D	0.0920	U	0.660	D	1	U
Total CVOCs	3		2		707		4183.4	
Petroleum Hydrocarbons	0.5		4.0		143.9		40.8	

TABLE NOTES:

GSV: Soil vapor sample
GOA: Outdoor air sample
--: No Guidance Value.
ug/m^3: micrograms per cubic meter
NA: Not Analyzed
U: Not detected at the reported detection limit for the sample.
J: Estimated value. The analyte concentration is below the reporting limit (RL), but above the method detection limit (MDL) or estimated detection limit (EDL).
D: Sample under dilution

P The sample specific % recovery between the results for the two columns exceeds the method-specified criteria.

Total CVOCs : Chlorinated volatile organic compounds (VOCs) listed on the New York State Department of Health (NYSDOH) Soil Vapor Intrusion (SVI) Guidance Matrices A to C

Petrol Hydrocarbons : Total Petroleum Hydrocarbons listed on the NYSDOH SVI Matrices D to E

GSV-FD Duplicate sample of GSV-06 GSV-FD_2025-08-28 = Duplicate sample of GSV-06

Table 13
Track 2 Restricted Residential Soil Cleanup Objectives

55 Eckford Street, Brooklyn, NY

Analyte	NYCRR Part 375 Restricted Residential Use Criteria
Chlorinated Herbicides by GC (mg/kg)	
2,4,5-T	~
2,4,5-TP (Silvex)	100
2,4-D	~
General Chemistry	
Cyanide, Total (mg/kg)	27
Solids, Total (%)	~
Organochlorine Pesticides by GC (mg/kg)	
4,4'-DDD	13
4,4'-DDE	8.9
4,4'-DDT	7.9
Aldrin	0.097
Alpha-BHC	0.48
Beta-BHC	0.36
Chlordane	~
cis-Chlordane	4.2
Delta-BHC	100
Dieldrin	0.2
Endosulfan I	24
Endosulfan II	24
Endosulfan sulfate	24
Endrin	11
Endrin aldehyde	~
Endrin ketone	~
Heptachlor	2.1
Heptachlor epoxide	~
Lindane	1.3
Methoxychlor	~
Toxaphene	~
trans-Chlordane	~
Perfluorinated Alkyl Acids by EPA 1633 (mg/kg)	
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	~
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	~
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	~
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	~
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	~
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	~
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	~
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	~
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	~
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	~
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	~
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	~
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	~
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	~
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	~
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	~
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	~
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	~
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	~
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	~
Perfluorobutanesulfonic Acid (PFBS)	~
Perfluorobutanoic Acid (PFBA)	~
Perfluorodecanesulfonic Acid (PFDS)	~
Perfluorodecanoic Acid (PFDA)	~
Perfluorododecanesulfonic Acid (PFDoS)	~
Perfluorododecanoic Acid (PFDoA)	~
Perfluoroheptanesulfonic Acid (PFHpS)	~
Perfluoroheptanoic Acid (PFHpA)	~
Perfluorohexanesulfonic Acid (PFHxS)	~
Perfluorohexanoic Acid (PFHxA)	~
Perfluorononanesulfonic Acid (PFNS)	~
Perfluorononanoic Acid (PFNA)	~
Perfluorooctanesulfonamide (PFOSA)	~
Perfluorooctanesulfonic Acid (PFOS)	0.044
Perfluorooctanoic Acid (PFOA)	0.033
Perfluoropentanesulfonic Acid (PFPeS)	~
Perfluoropentanoic Acid (PFPeA)	~
Perfluorotetradecanoic Acid (PFTeDA)	~
Perfluorotridecanoic Acid (PFTrDA)	~
Perfluoroundecanoic Acid (PFUnA)	~
Polychlorinated Biphenyls by GC (mg/kg)	
Aroclor 1016	1
Aroclor 1221	1
Aroclor 1232	1
Aroclor 1242	1
Aroclor 1248	1
Aroclor 1254	1
Aroclor 1260	1
Aroclor 1262	1
Aroclor 1268	1
PCBs, Total	1

Table 13
Track 2 Restricted Residential Soil Cleanup Objectives

55 Eckford Street, Brooklyn, NY

Analyte	NYCRR Part 375 Restricted Residential Use Criteria
Semivolatile Organics by GC/MS (mg/kg)	
1,2,4,5-Tetrachlorobenzene	~
1,2,4-Trichlorobenzene	~
1,2-Dichlorobenzene	100
1,3-Dichlorobenzene	49
1,4-Dichlorobenzene	13
1,4-Dioxane	13
2,4,5-Trichlorophenol	~
2,4,6-Trichlorophenol	~
2,4-Dichlorophenol	~
2,4-Dimethylphenol	~
2,4-Dinitrophenol	~
2,4-Dinitrotoluene	~
2,6-Dinitrotoluene	~
2-Chloronaphthalene	~
2-Chlorophenol	~
2-Methylnaphthalene	~
2-Methylphenol	100
2-Nitroaniline	~
2-Nitrophenol	~
3,3'-Dichlorobenzidine	~
3-Methylphenol/4-Methylphenol	100
3-Nitroaniline	~
4,6-Dinitro-o-cresol	~
4-Bromophenyl phenyl ether	~
4-Chloroaniline	~
4-Chlorophenyl phenyl ether	~
4-Nitroaniline	~
4-Nitrophenol	~
Acenaphthene	100
Acenaphthylene	100
Acetophenone	~
Anthracene	100
Benzo(a)anthracene	1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	1
Benzo(ghi)perylene	100
Benzo(k)fluoranthene	3.9
Benzoic Acid	~
Benzyl Alcohol	~
Biphenyl	~
Bis(2-chloroethoxy)methane	~
Bis(2-chloroethyl)ether	~
Bis(2-chloroisopropyl)ether	~
Bis(2-ethylhexyl)phthalate	~
Butyl benzyl phthalate	~
Carbazole	~
Chrysene	3.9
Di-n-butylphthalate	~
Di-n-octylphthalate	~
Dibenzo(a,h)anthracene	0.33
Dibenzofuran	59
Diethyl phthalate	~
Dimethyl phthalate	~
Fluoranthene	100
Fluorene	100
Hexachlorobenzene	1.2
Hexachlorobutadiene	~
Hexachlorocyclopentadiene	~
Hexachloroethane	~
Indeno(1,2,3-cd)pyrene	0.5
Isophorone	~
n-Nitrosodi-n-propylamine	~
Naphthalene	100
NDPA/DPA	~
Nitrobenzene	~
p-Chloro-m-cresol	~
Pentachlorophenol	6.7
Phenanthrene	100
Phenol	100
Pyrene	100
Total Metals (mg/kg)	
Aluminum, Total	~
Antimony, Total	~
Arsenic, Total	16
Barium, Total	400
Beryllium, Total	72
Cadmium, Total	4.3
Calcium, Total	~
Chromium, Total **	110
Cobalt, Total	~
Copper, Total	270
Iron, Total	~
Lead, Total	400
Magnesium, Total	~
Manganese, Total	2000
Mercury, Total	0.81
Nickel, Total	310
Potassium, Total	~
Selenium, Total	180
Silver, Total	180
Sodium, Total	~
Thallium, Total	~
Vanadium, Total	~
Zinc, Total	10000

Table 13
Track 2 Restricted Residential Soil Cleanup Objectives

55 Eckford Street, Brooklyn, NY

Analyte	NYCRR Part 375 Restricted Residential Use Criteria
Volatile Organics by EPA 5035 (mg/kg)	
1,1,1,2-Tetrachloroethane	~
1,1,1-Trichloroethane	100
1,1,2,2-Tetrachloroethane	~
1,1,2-Trichloroethane	~
1,1-Dichloroethane	26
1,1-Dichloroethene	100
1,1-Dichloropropene	~
1,2,3-Trichlorobenzene	~
1,2,3-Trichloropropane	~
1,2,4,5-Tetramethylbenzene	~
1,2,4-Trichlorobenzene	~
1,2,4-Trimethylbenzene	52
1,2-Dibromo-3-chloropropane	~
1,2-Dibromoethane	~
1,2-Dichlorobenzene	100
1,2-Dichloroethane	3.1
1,2-Dichloroethene, Total	~
1,2-Dichloropropane	~
1,3,5-Trimethylbenzene	52
1,3-Dichlorobenzene	49
1,3-Dichloropropane	~
1,3-Dichloropropene, Total	~
1,4-Dichlorobenzene	13
1,4-Dioxane	13
2,2-Dichloropropane	~
2-Butanone	100
2-Hexanone	~
4-Methyl-2-pentanone	~
Acetone	100
Acrylonitrile	~
Benzene	4.8
Bromobenzene	~
Bromochloromethane	~
Bromodichloromethane	~
Bromoform	~
Bromomethane	~
Carbon disulfide	~
Carbon tetrachloride	2.4
Chlorobenzene	100
Chloroethane	~
Chloroform	49
Chloromethane	~
cis-1,2-Dichloroethene	100
cis-1,3-Dichloropropene	~
Dibromochloromethane	~
Dibromomethane	~
Dichlorodifluoromethane	~
Ethyl ether	~
Ethylbenzene	41
Hexachlorobutadiene	~
Isopropylbenzene	~
Methyl tert butyl ether	100
Methylene chloride	100
n-Butylbenzene	100
n-Propylbenzene	100
Naphthalene	100
o-Chlorotoluene	~
o-Xylene	~
p-Chlorotoluene	~
p-Diethylbenzene	~
p-Ethyltoluene	~
p-Isopropyltoluene	~
p/m-Xylene	~
sec-Butylbenzene	100
Styrene	~
tert-Butylbenzene	100
Tetrachloroethene	19
Toluene	100
trans-1,2-Dichloroethene	100
trans-1,3-Dichloropropene	~
trans-1,4-Dichloro-2-butene	~
Trichloroethene	21
Trichlorofluoromethane	~
Vinyl acetate	~
Vinyl chloride	0.9
Xylenes, Total	100

Table Notes:

mg/kg: milligrams per kilogram
Used hexavalent chromium guidance value
**: for comparison
~ : No standard/guidance value

NYCRR Part 375 Restricted Residential Use Criteria:	New York NYCRR Part 375 Restricted-Residential Criteria, New York Restricted Use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.

Table 14 - Reuse or Import Soil Cleanup Objective
55 Eckford Street, Brooklyn, NY

Analyte	Lower of Protection of Groundwater and Restricted-Residential Soil Cleanup Objectives for Import
Metals	
Arsenic	13 ppm
Barium	400 ppm
Cadmium	4.3 ppm
Copper	270 ppm
Lead	400 ppm
Manganese	2000 ppm
Mercury	0.73 ppm
Nickel	130 ppm
Selenium	4 ppm
Silver	8.3 ppm
Zinc	2,480 ppm
Volatile Organic Compounds (VOCs)	
Benzene	0.68 ppm
Carbon Tetrachloride	0.76 ppm
Methylene Chloride	0.05 ppm
Tetrachloroethylene	1.3 ppm
Semi-Volatile Organic Compounds (SVOCs)	
Benzo(a)anthracene	1 ppm
Benzo(a)pyrene	1 ppm
Benzo(b)fluoranthene	1 ppm
Benzo(k)fluoranthene	1.7 ppm
Chrysene	1 ppm
Dibenzo(a,h)anthracene	0.33 ppm
Indeno(1,2,3-cd)pyrene	0.5 ppm
Napthalene	12 ppm
Per- and Polyfluoroalkyl Substances (PFAS)	
Perfluorooctanoic acid	0.8 ppb
Perfluorooctane sulfonate	1.0 ppb

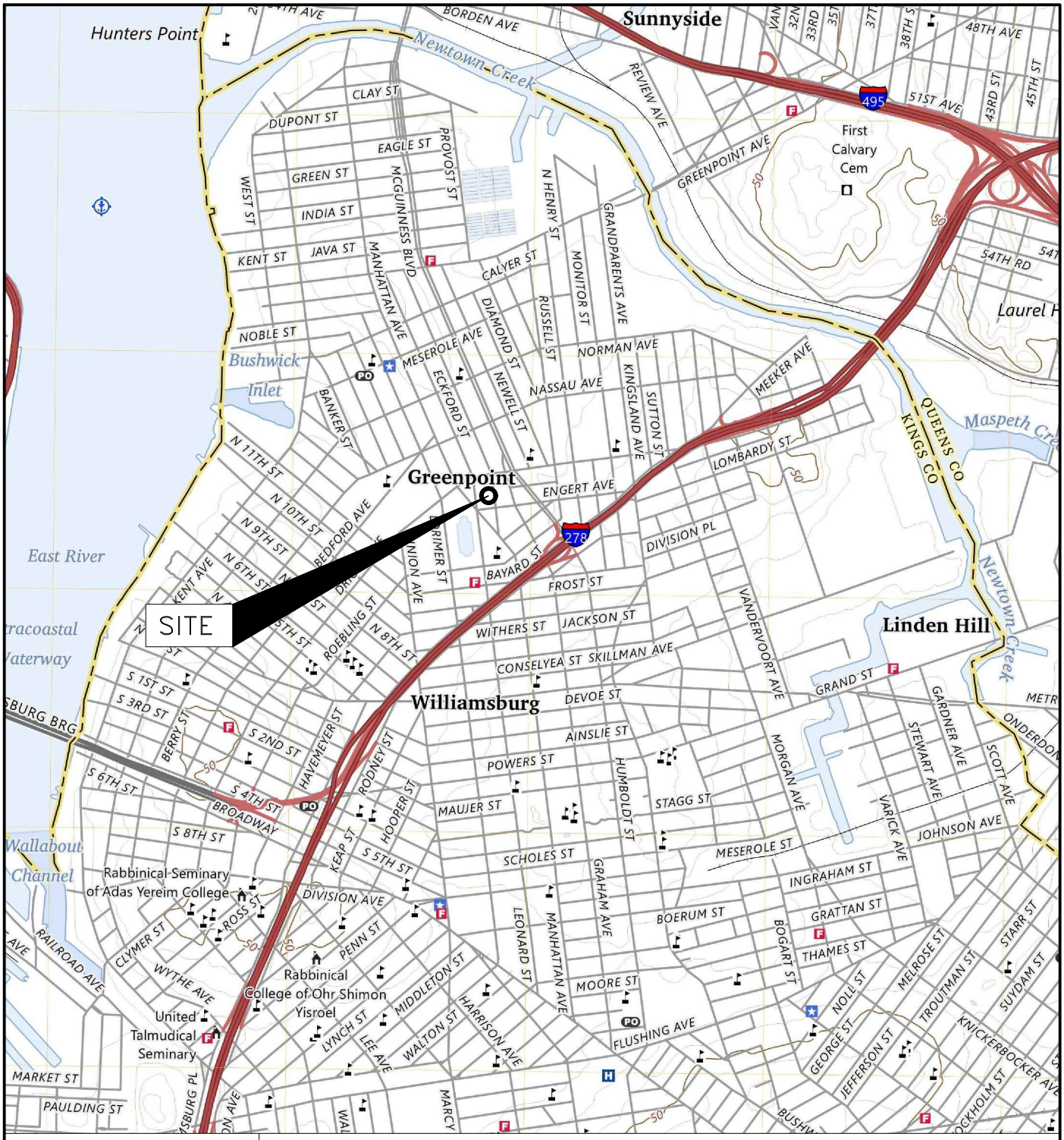
Notes:

- Soil cleanup objectives for Metals, VOCs, and SVOCs are from 6 NYCRR Table 375-6.8(a) for protection of groundwater or restricted-residential use.

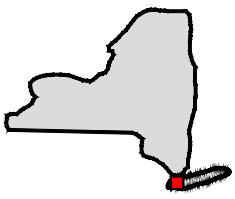
- Soil cleanup objectives for PFAS are from NYSDEC Sampling, Analysis, and Assessment of Per- And Polyfluoroalkyl Substances (PFAS) for protection of groundwater or restricted-residential use.

SCO = Soil Cleanup Objective
ppm = parts per million
ppb = parts per billion

FIGURES



NEW YORK



QUADRANGLE LOCATION

SOURCE:

USGS TOPOGRAPHIC MAPS: BROOKLYN, NY (2023). CONTOUR INTERVAL 10FT., NAVD-1988, ORIGINAL SCALE 1:24,000 (1IN.=2,000FT.).

N W E S

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55 ECKFORD STREET
BROOKLYN, NEW YORK 11222

PREPARED BY:
GZA GeoEnvironmental of NY
Engineers and Scientists
www.gza.com

PREPARED FOR:
55 ECKFORD ST LLC

SITE LOCATION MAP

PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 1
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1"=2000'	
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO. 1 OF 1

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GZA-J:\Active 163200 to 163299\163263.00 - 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 1 8.5x11] January 28, 2026 - 12:11pm Selia.Gupta



GENERAL NOTES

1. AERIAL IMAGERY DEVELOPED FROM © 2026 MICROSOFT CORPORATION © 2026 MAXAR © CNES (2026) DISTRIBUTION AIRBUS DS.
2. PREVIOUS 6-STORY STRUCTURE SHOWN ONSITE HAS BEEN DEMOLISHED IN JUNE 2025.

LEGEND

APPROXIMATE SITE BOUNDARY

N
W E
S

0 15 30 60
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

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55 ECKFORD STREET
BROOKLYN, NY 11222

SITE PLAN

PREPARED BY:
GZA GeoEnvironmental of NY
Engineers and Scientists
www.gza.com

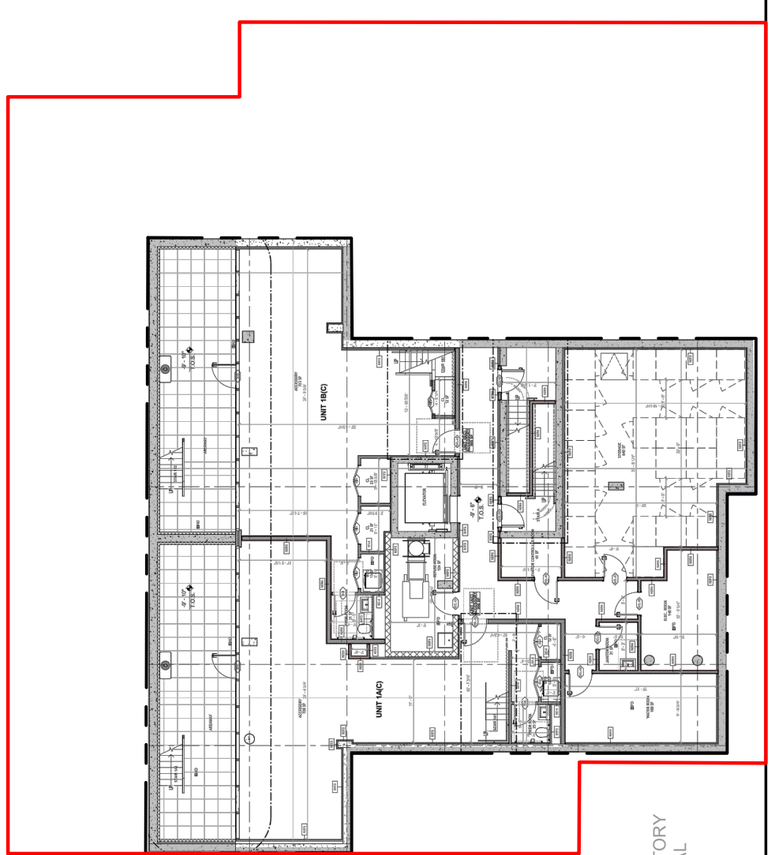
PREPARED FOR:
55 ECKFORD ST LLC

PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 2
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 30'	
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO. -

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GZA-J:\Active 163200 to 163299\163263.00 - 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 2 - 17x11] January 28, 2026 - 12:23pm Selia.Gupta

ADJACENT 5-STORY RESIDENTIAL
(FORMER CARTER SPRAY FINISHING, CORP)

ADJACENT 1-STORY
STORAGE WAREHOUSE



ADJACENT
PARKING LOT

ADJACENT 5-STORY
RESIDENTIAL

ADJACENT 3-STORY
RESIDENTIAL

SIDEWALK

ECKFORD STREET

ADJACENT 2-STORY
RESIDENTIAL

0 10 20 40
SCALE IN FEET

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GENERAL NOTES

1. FLOOR PLAN DEVELOPED FROM DRAWING TITLED "CONSTRUCTION PLAN CELLAR", PREPARED BY "INOA ARCHITECTURE", ORIGINAL SCALE $\frac{3}{16}$"=1'-0", DATED FEBRUARY 21, 2025.

LEGEND

APPROXIMATE SITE BOUNDARY

PROPOSED BUILDING FOOTPRINT

NO.	ISSUE/DESCRIPTION	BY	DATE

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BROOKLYN, NY 11222

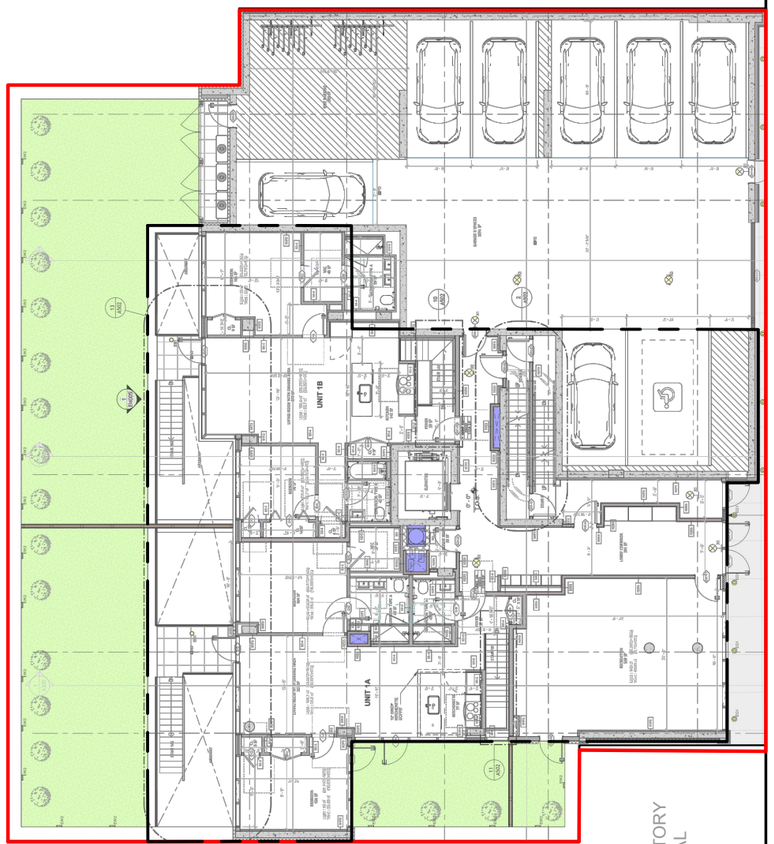
PROPOSED CELLAR PLAN

PREPARED BY: GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com		PREPARED FOR: 55 ECKFORD ST LLC	
PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 3A
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 20'	
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO. -

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GZA-J:\Active 163200 to 163299\163263.00 - 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 3A - 17x11] January 28, 2026 - 12:56pm Selia.Gupta

ADJACENT 5-STORY RESIDENTIAL
(FORMER CARTER SPRAY FINISHING, CORP)

ADJACENT 1-STORY
STORAGE WAREHOUSE



ADJACENT
PARKING LOT

ADJACENT 5-STORY
RESIDENTIAL

ADJACENT 3-STORY
RESIDENTIAL

SIDEWALK

ECKFORD STREET

ADJACENT 2-STORY
RESIDENTIAL

0 10 20 40
SCALE IN FEET

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GENERAL NOTES

1. FLOOR PLAN DEVELOPED FROM DRAWING TITLED "CONSTRUCTION PLAN LEVEL 1", PREPARED BY "INOA ARCHITECTURE", ORIGINAL SCALE $\frac{3}{16}$"=1'-0", DATED FEBRUARY 21, 2025.

LEGEND

APPROXIMATE SITE BOUNDARY

PROPOSED BUILDING FOOTPRINT

NO.	ISSUE/DESCRIPTION	BY	DATE

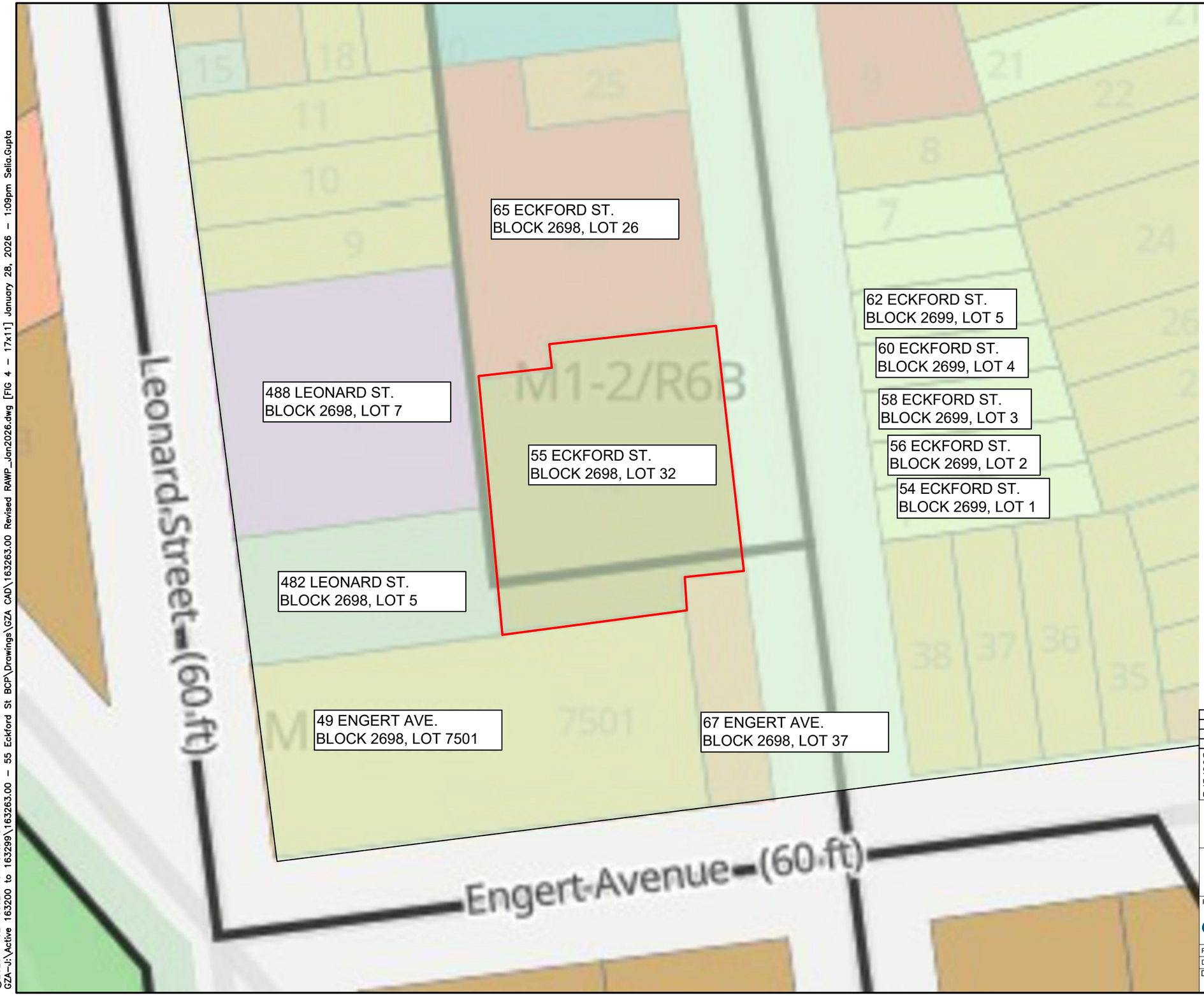
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PROPOSED FIRST FLOOR PLAN

PREPARED BY: GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com		PREPARED FOR: 55 ECKFORD ST LLC	
PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 3B
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 20'	
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO. -

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GZA-J:\Active 163200 to 163299\163263.00 - 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 3B - 17x11] January 28, 2026 - 12:57pm Selia.Gupta



GENERAL NOTES

1. THE BLOCK AND LOT NUMBERS ARE DEVELOPED FROM THE NEW YORK CITY DEPARTMENT OF PLANNING ZONING & LAND USE MAP (ZOLA), ACCESSED ON JANUARY 28, 2026.
2. ZONES, PLANS, AND DEMOGRAPHICS – EPA DISADVANTAGED COMMUNITIES TAKEN FROM THE NEW YORK CITY OFFICE OF ENVIRONMENTAL REMEDIATION SEARCHABLE PROPERTY ENVIRONMENTAL E–DATABASE (SPEED) 2.0, ACCESSED ON MARCH 14, 2025.

LEGEND

APPROXIMATE SITE BOUNDARY

LIMITS OF EPA DISADVANTAGED COMMUNITIES

ZOLA LEGEND

- One & Two Family Buildings
- Multi-Family Walk-Up Buildings
- Multi-Family Elevator Buildings
- Mixed Residential & Commercial Buildings
- Commercial & Office Buildings
- Industrial & Manufacturing
- Transportation & Utility
- Public Facilities & Institutions
- Open Space & Outdoor Recreation
- Parking Facilities
- Vacant Land
- Other

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NO.	ISSUE/DESCRIPTION	BY	DATE

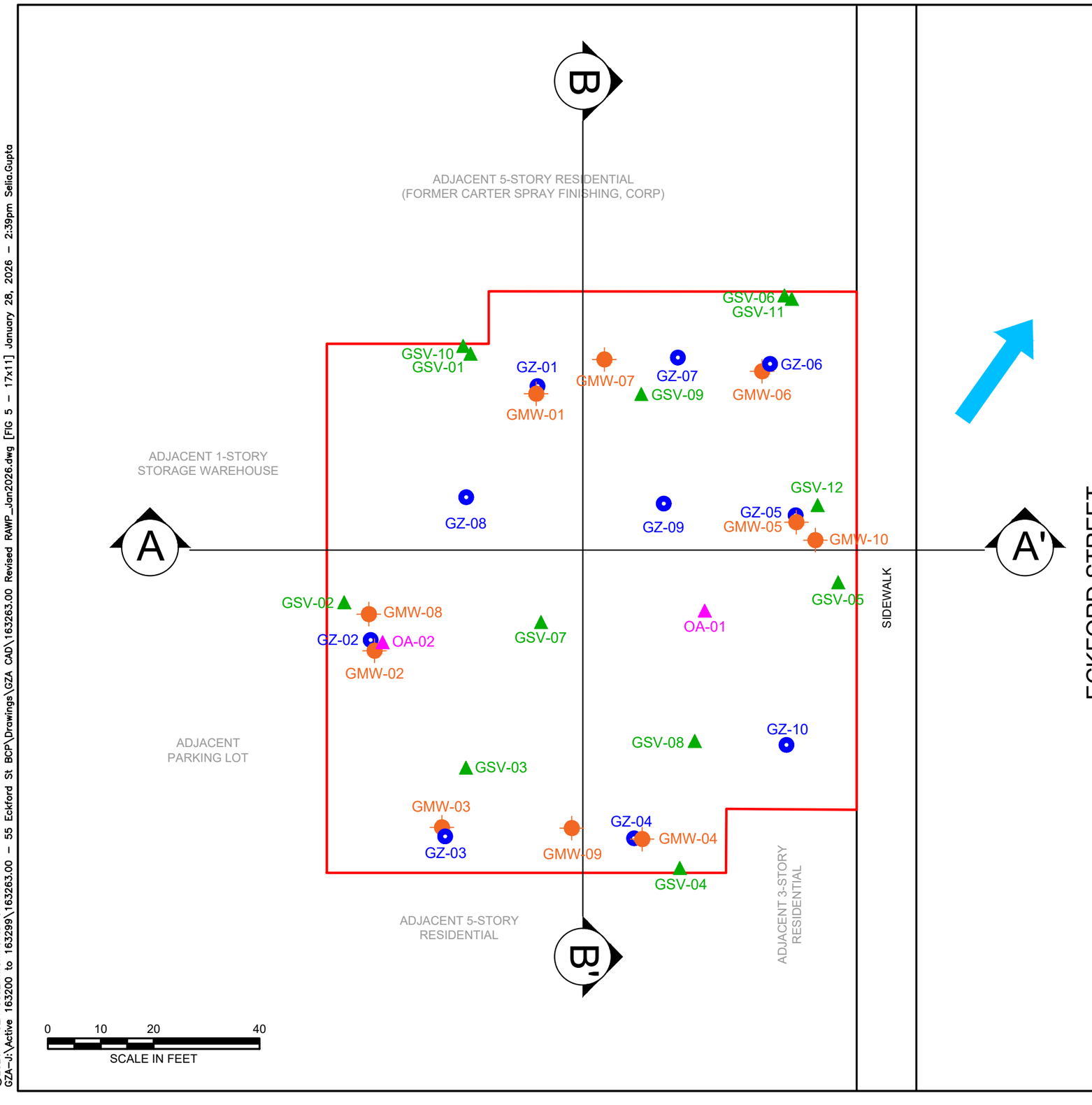
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BROOKLYN, NY 11222

SURROUNDING VICINITY MAP

PREPARED BY: GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com		PREPARED FOR: 55 ECKFORD ST LLC	
PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 4
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 40'	
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO. -

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G:\Active 163200 to 163299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 4 – 17x11] January 28, 2026 – 1:09pm Selia.Gupta



GENERAL NOTES

1. BASE MAP DEVELOPED FROM DRAWING TITLED "ADDITIONAL EXCAVATION AREA DIAGRAM, SKC–1", DATED AUGUST 30, 2024.
2. SEE FIGURES 9A AND 9B FOR SUBSURFACE PROFILES.
3. REFER TO THE BORING LOGS FOR ADDITIONAL INFORMATION.
4. LOCATIONS OF THE MONITORING WELLS ARE BASED ON THE MONITORING WELL SURVEY CONDUCTED BY FEHRINGER SURVEYING, P.C. ON JANUARY 10, 2025.

LEGEND

- APPROXIMATE SITE BOUNDARY
- GZ-01 — APPROXIMATE SOIL BORING LOCATION
- GMW-01 — APPROXIMATE MONITORING WELL LOCATION
- GSV-01 — APPROXIMATE SOIL VAPOR SAMPLING LOCATION
- OA-01 — APPROXIMATE AMBIENT AIR SAMPLING LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION JANUARY 3, 20925

NO.	ISSUE/DESCRIPTION	BY	DATE

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BROOKLYN, NY 11222

SAMPLE LOCATIONS AND SUBSURFACE PROFILE LAYOUT

PREPARED BY:		PREPARED FOR:	
GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com		55 ECKFORD ST LLC	
PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 5
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 20'	
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO. -

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GZA–J:\Active 163200 to 163299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 5 – 17x11] January 28, 2026 – 2:39pm Selia.Gupta

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GZA–J:\Active 165200 to 165299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 6A – 17x11] January 28, 2026 – 3:15pm Selia.Gupta

	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential SCOs	Part 375 Protection of Groundwater SCOs
Analyte	Volatile Organic Compounds (mg/kg)		
Acetone	0.05	100	0.05
Methylene chloride	0.05	100	0.05
Analyte	Organochlorine Pesticides (mg/kg)		
Dieldrin	0.005	0.039	0.1

GENERAL NOTES

1. BASE MAP DEVELOPED FROM DRAWING TITLED "ADDITIONAL EXCAVATION AREA DIAGRAM, SKC–1", DATED AUGUST 30, 2024.
2. ONLY EXCEEDANCES OF THE APPLICABLE NYSDEC PART 375 SOIL CLEANUP OBJECTIVES ARE SHOWN. FOR FULL ANALYTICAL RESULTS, SEE TABLES LOCATED IN REPORT. FOR ADDITIONAL INFORMATION INCLUDING QUALIFIER DESCRIPTIONS, SEE LABORATORY REPORT.
3. DEPTHS ARE SHOWN NEXT TO BORING NAME.
   ' BGS – FEET BELOW GROUND SURFACE
   ' BCS – FEET BELOW (PREV.) CELLAR SURFACE

LEGEND

APPROXIMATE SITE BOUNDARY

GZ-01 APPROXIMATE SOIL BORING LOCATION

ADJACENT 5-STORY RESIDENTIAL
(FORMER CARTER SPRAY FINISHING, CORP)

GZ-07F (18-20' bgs) - 12/10/24
Volatile Organic Compounds
Acetone 0.25
Methylene chloride 0.069 B
End of VOC Exploration

GZ-01 (0-2', 4'-6', 8'-10', 12'-14', 18'-20' bgs) - 12/12/24
No Exceedances

GZ-01

GZ-07

GZ-06

GZ-06A (0-2" bgs) - 12/10/24
Volatile Organic Compounds
Acetone 0.51
GZ-06B (0-2' bgs) - 12/10/24
Organochlorine Pesticides
Dieldrin 0.00774 D
GZ-06 (4'-6', 8'-10', 12'-14', 18'-20' bgs) - 12/10/24
No Exceedances

GZ-08 (0-2', 4'-6', 8'-10' bgs) - 12/11/24
No Exceedances

ADJACENT 1-STORY
STORAGE WAREHOUSE

GZ-08

GZ-09

GZ-09 (0-2', 4'-6', 8'-10' bgs) - 12/11/24
No Exceedances

GZ-05

GZ-05F (18-20' bgs) - 12/12/24
Volatile Organic Compounds
Acetone 0.15
End of VOC Exploration

GZ-02F (18-20' bgs) - 12/12/24
Volatile Organic Compounds
Acetone 0.11
End of VOC Exploration

GZ-02

SIDEWALK

ECKFORD STREET

ADJACENT 2-STORY
RESIDENTIAL

ADJACENT
PARKING LOT

GZ-10

GZ-04

GZ-03

ADJACENT 5-STORY
RESIDENTIAL

ADJACENT 3-STORY
RESIDENTIAL

GZ-04F (18-20' bgs) - 12/12/24
Volatile Organic Compounds
Acetone 0.061 J
End of VOC Exploration

GZ-10B (4-6' bcs) - 12/11/24
Volatile Organic Compounds
Methylene chloride 0.066 J
GZ-10C (8-10' bcs) - 12/11/24
Volatile Organic Compounds
Acetone 0.054
End of VOC Exploration

GZ-03D (8-10' bgs) - 12/12/24
Volatile Organic Compounds
Acetone 0.18
GZ-03 (12'-14' bgs) - 12/12/24
No Exceedances

	Value exceeds its Part 375 UUSCOs.
	Value exceeds its Part 375 PGWSCOs.
	Value exceeds its Part 375 RRUSCOs

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NO.	ISSUE/DESCRIPTION	BY	DATE

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BROOKLYN, NY 11222

SOIL SAMPLING RESULTS
VOCS AND PESTICIDES

PREPARED BY:
GZA GeoEnvironmental of NY
Engineers and Scientists
www.gza.com

PREPARED FOR:
55 ECKFORD ST LLC

PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 6A
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 20'	
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO. -

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GZA–U:\Active 163200 to 163299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 6B – 17x11] January 28, 2026 – 4:48pm Selia.Gupta

GZ-01A (0-2" bgs)	
No Exceedances	
GZ-01B (0-2' bgs) - 12/12/24	
Benzo(a)anthracene	1.07 D
Benzo(a)pyrene	1.01 D
Benzo(k)fluoranthene	0.833 D
Chrysene	1.06 D
Indeno(1,2,3-cd)pyrene	0.605 D
GZ-01C (4-6' bgs) - 12/12/24	
Benzo(a)anthracene	1.33 D
Benzo(a)pyrene	1.38 D
Benzo(b)fluoranthene	1.18 D
Benzo(k)fluoranthene	1.21 D
Chrysene	1.27 D
Indeno(1,2,3-cd)pyrene	0.776 D
GZ-01D (8-10ft bgs) , GZ-01E (12-	
No Exceedances	

GZ-07B (0-2' bgs)- 12/10/24	
Benzo(k)fluoranthene	0.855 D
GZ-07A (0-2" bgs), GZ-07C (4-6'bgs), GZ-07D (8-10' bgs), GZ-07E (12-14' bgs), GZ-07F(18-20' bgs)	
No Exceedances	

GZ-06A (0-2" bgs), GZ-06B (0-2' bgs), GZ-06C (4-6'bgs), GZ-06D (8-10' bgs), GZ-06E (12-14' bgs), GZ-06F(18-20' bgs)
No Exceedances

GZ-08A (0-2' bcs), GZ-08B (4-6'bcs), GZ-08C (8-10' bcs)
No Exceedances

GZ-09B (0-6' bcs)	
Benzo(a)anthracene	1.11D
Benzo(a)pyrene	1.09D
Benzo(k)fluoranthene	0.84D
Chrysene	1.05D
Indeno(1,2,3-cd)pyrene	0.667D
GZ-09A (0-2' bcs), GZ-09C (8-10' bcs)	
No Exceedances	

GZ-02A (0-2" bgs) - 12/12/24	
Benzo(a)anthracene	2.58 D
Benzo(a)pyrene	1.68 D
Benzo(b)fluoranthene	2.6 D
Benzo(k)fluoranthene	2.33 D
Chrysene	2.67 D
Dibenzo(a,h)anthracene	0.539 D
Indeno(1,2,3-cd)pyrene	1.58 D
GZ-02B (0-2ft bgs), GZ-02C (4-6ft bgs), GZ-02D (8-10ft bgs)	
No Exceedances	
GZ-02E (12-14' bgs) - 12/12/24	
Benzo(a)anthracene	2.78 D
Benzo(a)pyrene	2.69 D
Benzo(b)fluoranthene	2.4 D
Benzo(k)fluoranthene	1.97 D
Chrysene	2.64 D
Indeno(1,2,3-cd)pyrene	1.58 D
GZ-02F (18-20' bgs) - 12/12/24	
Acenaphthene	128 D
Anthracene	120 D
Benzo(a)anthracene	142 D
Benzo(a)pyrene	138 D
Benzo(b)fluoranthene	105 D
Benzo(g,h,i)perylene	153 D
Benzo(k)fluoranthene	81.9 D
Chrysene	97.9 D
Dibenzo(a,h)anthracene	36.3 D
Dibenzofuran	95.2 D
Fluoranthene	298 D
Fluorene	149 D
Indeno(1,2,3-cd)pyrene	175 D
Naphthalene	86.3 D
Phenanthrene	337 D
Pyrene	243 D
GZ-02 (20-23 ft bgs), GZ-02 (26-30 ft bgs)	
No Exceedances	

GZ-05A (0-2" bgs), GZ-05B (0-2' bgs), GZ-05C (4-6'bgs), GZ-05D (8-10' bgs), GZ-05E (12-14' bgs), GZ-05F(18-20' bgs)
No Exceedances

GZ-10A (0-2' bcs), GZ-10B (4-6'bcs), GZ-10C (8-10' bcs)
No Exceedances

GZ-03A (0-2" bgs)	
No Exceedances	
GZ-03B (0-2' bgs) - 12/12/24	
Benzo(a)anthracene	58.3 D
Benzo(a)pyrene	51 D
Benzo(b)fluoranthene	66.1 D
Benzo(k)fluoranthene	28.4 D
Chrysene	55.7 D
Dibenzo(a,h)anthracene	9.19 D
Fluoranthene	128 D
Indeno(1,2,3-cd)pyrene	43.3 D
Pyrene	104 D
GZ-03C (4-6ft bgs) , GZ-03D (8-10ft bgs), GZ-03E (12-14ft	
No Exceedances	

GZ-04A (0-2" bgs)	
No Exceedances	
GZ-04B (0-2' bgs) - 12/12/24	
Benzo(a)anthracene	2.52 D
Benzo(a)pyrene	2.49 D
Benzo(b)fluoranthene	2.48 D
Benzo(k)fluoranthene	2.01 D
Chrysene	2.59 D
Dibenzo(a,h)anthracene	0.476 D
Indeno(1,2,3-cd)pyrene	1.37 D
GZ-04C (4-6' bgs) - 12/12/24	
Benzo(a)anthracene	2.14 D
Benzo(a)pyrene	2.03 D
Benzo(b)fluoranthene	1.84 D
Benzo(k)fluoranthene	1.9 D
Chrysene	2.21 D
Dibenzo(a,h)anthracene	0.373 D
Indeno(1,2,3-cd)pyrene	1.09 D
GZ-04D (8-10' bgs) - 12/12/24	
Benzo(a)anthracene	5.5 D
Benzo(a)pyrene	3.76 D
Benzo(b)fluoranthene	5.72 D
Benzo(k)fluoranthene	2.54 D
Chrysene	4.89 D
Dibenzo(a,h)anthracene	1.15 D
Indeno(1,2,3-cd)pyrene	4.87 D
GZ-04E (12-14' bgs)	
No Exceedances	
GZ-04F (18-20' bgs) - 12/12/24	
Benzo(a)anthracene	1.33 D
Benzo(k)fluoranthene	0.805 D
Chrysene	1.14 D
GZ-04 (20-23'bgs) - 2/10/2025	
Benzo(a)anthracene	2.75 D
Benzo(a)pyrene	2.69 D
Benzo(b)fluoranthene	2.8 D
Benzo(k)fluoranthene	0.86 D
Chrysene	2.59 D
Dibenzo(a,h)anthracene	0.406D
Indeno(1,2,3-cd)pyrene	1.74
GZ-04 (23-26' bgs) - 2/10/2025	
Benzo(a)anthracene	2.5D
Benzo(a)pyrene	3.63D
Benzo(b)fluoranthene	4.22D
Benzo(k)fluoranthene	1.2D
Chrysene	2.67D
Dibenzo(a,h)anthracene	0.427D
Indeno(1,2,3-cd)pyrene	1.93D
GZ-04 (26-30' bgs)	
No Exceedances	

	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential SCOs	Part 375 Protection of Groundwater SCOs
Analyte	Semi-Volatile Organic Compounds (SVOCs) [mg/kg]		
Acenaphthene	20	100	98
Anthracene	100	100	1,000
Benzo(a)anthracene	1	1	1
Benzo(a)pyrene	1	1	22
Benzo(b)fluoranthene	1	1	1.7
Benzo(g,h,i)perylene	100	100	1,000
Benzo(k)fluoranthene	0.8	3.9	1.7
Chrysene	1	3.9	1
Dibenzo(a,h)anthracene	0.33	0.33	1,000
Dibenzofuran	7	59	210
Fluoranthene	100	100	1,000
Fluorene	30	100	386
Indeno(1,2,3-cd)pyrene	0.5	0.5	8.2
Naphthalene	12	100	12
Phenanthrene	100	100	1,000
Pyrene	100	100	1,000

	Value exceeds its Part 375 UUSCOs.
	Value exceeds its Part 375 UUSCOs and PGWSCOs.
	Value exceeds its Part 375 UUSCOs and RRUSCOs or PGWSCOs

GZ-01 GZ-02 GZ-03 GZ-04 GZ-05 GZ-06 GZ-07 GZ-08 GZ-09 GZ-10

ADJACENT 5-STORY RESIDENTIAL

ADJACENT 5-STORY RESIDENTIAL STRUCTURE

SIDEWALK

ECKFORD STREET

GENERAL NOTES

1. BASE MAP DEVELOPED FROM DRAWING TITLED "ADDITIONAL EXCAVATION AREA DIAGRAM, SKC–1", DATED AUGUST 30, 2024.
2. ONLY EXCEEDANCES OF THE APPLICABLE NYSDEC PART 375 SOIL CLEANUP OBJECTIVES ARE SHOWN. FOR FULL ANALYTICAL RESULTS, SEE TABLES LOCATED IN REPORT. FOR ADDITIONAL INFORMATION INCLUDING QUALIFIER DESCRIPTIONS, SEE LABORATORY REPORT.
3. DEPTHS ARE SHOWN NEXT TO BORING NAME.
   ' BGS – FEET BELOW GROUND SURFACE
   ' BCS – FEET BELOW (PREV.) CELLAR SURFACE

LEGEND

APPROXIMATE SITE BOUNDARY

GZ-01 APPROXIMATE SOIL BORING LOCATION

N W E S

0 10 20 40

SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

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55 ECKFORD STREET
BROOKLYN, NY 11222

SOIL SAMPLING RESULTS SVOCS

PREPARED BY:
GZA GeoEnvironmental of NY
Engineers and Scientists
www.gza.com

PREPARED FOR:
55 ECKFORD ST LLC

PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 20'	6B
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO. -

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GZA–J:\Active 163200 to 163299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 6C – 17x11] January 28, 2026 – 4:13pm Selia.Gupta

	Part 375 Unrestricted Use SCOs	Part 375 Restricted Residential Use	Part 375 Protection of Groundwater SCOs
Analyte	Total Metals (mg/kg)		
Arsenic	13	16	16
Barium	350	400	820
Cadmium	2.5	4.300	7.5
Chromium, Hexavalent	1	110	19
Copper	50	270	1,720
Lead	63	400	450
Mercury	0.18	0.81	0.73
Nickel	30	310	130
Selenium	3.9	180	4
Zinc	109	10,000	2,480

GENERAL NOTES

1. BASE MAP DEVELOPED FROM DRAWING TITLED "ADDITIONAL EXCAVATION AREA DIAGRAM, SKC–1", DATED AUGUST 30, 2024.
2. ONLY EXCEEDANCES OF THE APPLICABLE NYSDEC PART 375 SOIL CLEANUP OBJECTIVES ARE SHOWN. FOR FULL ANALYTICAL RESULTS, SEE TABLES LOCATED IN REPORT. FOR ADDITIONAL INFORMATION INCLUDING QUALIFIER DESCRIPTIONS, SEE LABORATORY REPORT.
3. DEPTHS ARE SHOWN NEXT TO BORING NAME.
   ' BGS – FEET BELOW GROUND SURFACE
   ' BCS – FEET BELOW (PREV.) CELLAR SURFACE

LEGEND

APPROXIMATE SITE BOUNDARY

APPROXIMATE SOIL BORING LOCATION

GZ-01

GZ-08A (0-2' bcs) - 12/11/24	
Arsenic	20
Copper	143
Lead	293
Mercury	0.835
Nickel	92.4
Zinc	261
GZ-08B (4-6' bcs) - 12/11/24	
Copper	70.1
Lead	126
Mercury	0.962
Nickel	43.4
Zinc	141
GZ-08C (8-10' bcs) - 12/11/24	
Arsenic	41.9
Copper	240
Lead	368
Mercury	1
Nickel	242
Zinc	170

GZ-08 (13-16' bcs) - 2/11/25	
Mercury	0.832
Zinc	231
GZ-08 (16-20' bcs) - 2/11/25	
Arsenic	48.0
Copper	370
Lead	518
Mercury	1.36
GZ-08 (20-22' bcs) - 2/11/25	
Barium	548.0
Mercury	0.403
Nickel	40.6

GZ-01A (0-2" bgs) - 12/12/24	
Cadmium	3.32
Lead	182
Mercury	0.186
Zinc	170
GZ-01B (0-2' bgs) - 12/12/24	
Lead	161
Mercury	0.292
Zinc	172
GZ-01C (4-6' bgs) - 12/12/24	
Lead	68
Mercury	0.368
Nickel	61.8
GZ-01D (8-10' bgs) -12/12/24	
Arsenic	240
Mercury	0.61

GZ-01E (12-14' bgs) - 12/12/24	
Arsenic	43.6
Mercury	0.424
Selenium	10.3
GZ-01F (18-20' bgs) - 12/12/24	
Arsenic	13.8
Lead	64.4
Mercury	0.395
GZ-01 (20-23' bgs) - 2/10/25	
Arsenic	76.7
Mercury	0.387
GZ-01 (23-26' bgs) - 2/10/25	
Arsenic	82.3
Copper	65.2
Lead	486.0
Mercury	2.79
GZ-01 (26-30' bgs) - 2/10/25	
Mercury	0.472

GZ-07A (0-2" bgs) - 12/10/24	
Copper	66.2
Lead	169
Mercury	1.28
Nickel	71.3
Zinc	273
GZ-07B (0-2' bgs) - 12/10/24	
Arsenic	23.2
Copper	192
Lead	369
Mercury	3.76
Nickel	258
Zinc	185
GZ-07C (4-6' bgs) - 12/10/24	
Copper	80.1
Lead	116 B
Mercury	0.408
Nickel	61.1
GZ-07D (8-10' bgs) - 12/10/24	
Arsenic	17.2
Copper	124
Lead	199 B
Mercury	1.14
Zinc	296
GZ-07E (12-14' bgs) - 12/10/24	
Arsenic	23.5
Copper	109
Lead	366 B
Mercury	0.218
Nickel	43.2
Selenium	12.2
Zinc	511

GZ-07F (18-20' bgs) - 12/10/24	
Arsenic	61.7
Copper	62.2
Lead	198 B
Mercury	0.25
Zinc	347
GZ-07 (20-23' bgs) - 2/10/25	
Arsenic	35.7
Barium	636.0
Copper	1,580
Lead	2,170
Mercury	1.35
Nickel	32.9
Zinc	274
GZ-07 (23-26' bgs) - 2/10/25	
Arsenic	27.1
Copper	73.7
Lead	356
Mercury	11.4
Nickel	30
Zinc	248
GZ-07 (26-30' bgs) - 2/10/25	
Nickel	31
GZ-07 (30-33' bgs) - 2/10/25	
No Exceedances	

GZ-06A (0-2" bgs)- 12/10/24	
Nickel	51.4
Zinc	162
GZ-06B (0-2' bgs)- 12/10/24	
Cadmium	6.89
Lead	219
Mercury	0.549
Zinc	184
GZ-06C (4-6' bgs) - 12/10/24	
Arsenic	187
Copper	1,810
Lead	1,420
Mercury	1.63
Nickel	919
Zinc	152
GZ-06D (8-10' bgs) - 12/10/24	
Arsenic	91.7
Copper	783
Lead	554
Mercury	3.04
Nickel	1,280
Zinc	233

GZ-06E (12-14' bgs)- 12/10/24	
Arsenic	119
Copper	1,090
Lead	402
Mercury	3.14
Nickel	831
Selenium	4.09
Zinc	227
GZ-06F (18-20' bgs) - 12/10/24	
Arsenic	34.1
Copper	95.1
Lead	398
Mercury	1.27
Zinc	215
GZ-06 (20-23' bgs) - 2/10/25	
Lead	96
Mercury	1.07
GZ-06 (23-26' bgs) - 2/10/25	
No Exceedances	
GZ-06 (26-30' bgs) - 2/10/25	
No Exceedances	
GZ-06 (30-32' bgs) - 2/10/25	
No Exceedances	

GZ-05A (0-2" bgs) - 12/11/24	
Arsenic	16.2
Copper	113
Lead	238
Mercury	1.02
Nickel	137
Zinc	236
GZ-05B (0-2' bgs)- 12/11/24	
Arsenic	26
Copper	211
Lead	442
Mercury	0.64
Nickel	169
Selenium	4.82
Zinc	212
GZ-05C (4-6' bgs) - 12/11/24	
Arsenic	13.5
Copper	72.7
Lead	198
Mercury	0.538
Nickel	61.8
Zinc	155

GZ-05D (8-10' bgs) - 12/11/24	
Arsenic	83
Copper	424
Lead	778
Mercury	3.24
Nickel	359
Selenium	5.32
Zinc	498
GZ-05E (12-14' bgs) - 12/11/24	
Arsenic	54.9
Barium	421
Copper	89.8
Lead	802
Mercury	4.06
Nickel	158
Selenium	4.9
Zinc	424
GZ-05F (18-20' bgs) - 12/11/24	
No Exceedances	

GZ-02A (0-2" bgs) - 12/12/24	
Copper	77.1
Lead	180
Mercury	0.604
Nickel	36.1
Zinc	179
GZ-02B (0-2' bgs) - 12/12/24	
Arsenic	39
Copper	85.9
Lead	2,050
Mercury	7.52
Nickel	52.7
Selenium	5.35
Zinc	194
GZ-02C (4-6' bgs) - 12/12/24	
Arsenic	138
Copper	368
Lead	1,690
Mercury	3.4
Nickel	804
Selenium	4.45
Zinc	327

GZ-02D (8-10' bgs) - 12/12/24	
Arsenic	14.4
Copper	130
Lead	487
Mercury	1.38
Nickel	51.9
Zinc	275
GZ-02E (12-14' bgs) - 12/12/24	
Arsenic	51.7
Barium	424
Copper	92.7
Lead	424
Mercury	2.33
Selenium	5.08
Zinc	365
GZ-02F (18-20' bgs) - 12/12/24	
Arsenic	49.5
Barium	517
Lead	117
Mercury	24.1
Zinc	123
GZ-02 (20-23' bgs) - 2/10/25	
No Exceedances	
GZ-02 (23-26' bgs) - 2/10/25	
No Exceedances	
GZ-02 (26-30' bgs) - 2/10/25	
Mercury	0.593

GZ-03A (0-2" bgs) - 12/12/24	
Copper	225
Lead	181
Mercury	0.821
Zinc	154
GZ-03B (0-2' bgs) - 12/12/24	
Arsenic	73.1
Barium	646
Cadmium	4.22
Copper	495
Lead	2,370
Mercury	2.21
Nickel	419
Selenium	9.03
Zinc	1,610
GZ-03C (4-6' bgs) - 12/12/24	
Chromium, Hex	1.41
Lead	227
Mercury	0.473
Zinc	113
GZ-03D (8-10' bgs) - 12/12/24	
Arsenic	28.1
Copper	65.1
Lead	372
Mercury	0.375
Selenium	6.31
Zinc	797

GZ-03E (12-14' bgs) - 12/12/24	
Arsenic	56.4
Copper	344
Lead	227
Mercury	0.497
Nickel	46.3
Zinc	404
GZ-03F (16-18' bgs) - 12/12/24	
Arsenic	28.7
Chromium, Hex.	2.94
Nickel	37.1
GZ-03 (20-23' bgs) - 2/10/25	
Arsenic	35.8
Copper	374
Lead	178
Mercury	0.556
Zinc	485
GZ-03 (23-26' bgs) - 2/10/25	
Arsenic	47.8
Lead	75.6
Mercury	0.183
GZ-03 (26-30' bgs) - 2/10/25	
No Exceedances	

GZ-04A (0-2" bgs) - 12/12/24	
Arsenic	45.2
Copper	139
Lead	217
Mercury	1.47
Nickel	328
Selenium	4.65
Zinc	203
GZ-04B (0-2' bgs) - 12/12/24	
Arsenic	41.2
Copper	530
Lead	886
Mercury	4.47
Nickel	190
Selenium	6.62
Zinc	797
GZ-04C (4-6' bgs) - 12/12/24	
Arsenic	98.3
Copper	396
Lead	631
Mercury	1.8
Nickel	546
Selenium	12.8
Zinc	299

GZ-04D (8-10' bgs) - 12/12/24	
Arsenic	18
Copper	263
Lead	242
Mercury	0.541
Nickel	207
Selenium	4.98
Zinc	432
GZ-04E (12-14' bgs) - 12/12/24	
Arsenic	46.6
Barium	712
Copper	137
Lead	1,410
Mercury	0.806
Nickel	186
Selenium	5.16
Zinc	482
GZ-04F (18-20' bgs) - 12/12/24	
Mercury	0.27
GZ-04 (20-23' bgs) - 2/10/25	
Copper	106
Lead	239
Mercury	0.552
Nickel	324
Zinc	256
GZ-04 (23-26' bgs) - 2/10/25	
Mercury	0.913
GZ-04 (26-30' bgs) - 2/10/25	
No Exceedances	

GZ-10A (0-2' bcs) - 12/11/24	
Arsenic	145
Barium	430
Copper	698
Lead	1,360
Mercury	5.02
Nickel	826
Selenium	7.43
Zinc	555
GZ-10B (4-6' bcs) - 12/11/24	
Arsenic	168
Barium	672
Copper	394
Lead	1,080
Mercury	3.49
Nickel	586
Selenium	9.87
Zinc	506
GZ-10C (8-10' bcs) - 12/11/24	
Arsenic	39.4
Barium	725
Cadmium	16.5
Copper	311
Lead	666
Mercury	0.776
Nickel	105
Selenium	10.5
Zinc	2,560

GZ-10 (10-13' bcs) - 2/11/25	
Arsenic	25
Lead	486
Mercury	2.46
Zinc	361
GZ-10 (13-16' bcs) - 2/11/25	
Arsenic	122
Cadmium	4.97
Copper	113
Lead	360
Mercury	1.98
Zinc	4,690
GZ-10 (16-20' bcs) - 2/11/25	
Arsenic	68.2
Copper	160
Lead	264
Mercury	1.64
Zinc	763

GZ-09A (0-2' bcs) - 12/11/24	
Arsenic	18.1
Copper	89.1
Lead	339
Mercury	0.678
Nickel	68.5
Zinc	407
GZ-09B (4-6' bcs) - 12/11/24	
Arsenic	51.1
Copper	287
Lead	665
Mercury	1.88
Nickel	289
Selenium	4.22
Zinc	264
GZ-09C (8-10' bcs) - 12/11/24	
Arsenic	65.6
Copper	526
Lead	1,090
Mercury	3.5
Nickel	599
Selenium	4.95
Zinc	499

	Value exceeds its Part 375 UUSCOs.
	Value exceeds its Part 375 UUSCOs and PGWSCOs.
	Value exceeds its Part 375 UUSCOs and RRUSCOs or PGWSCOs

GZ-01 GZ-02 GZ-03 GZ-04 GZ-05 GZ-06 GZ-07 GZ-08 GZ-09 GZ-10

ADJACENT (FORMER CAR

ADJACENT 1-STORY STORAGE WAREHOUSE

ADJACENT PARKING LOT

ADJACENT 5-STORY RESIDENTIAL

SIDEWALK

ECKFORD ST

ADJACENT 2-STORY RESIDENTIAL

N W E S

0 15 30 60

SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

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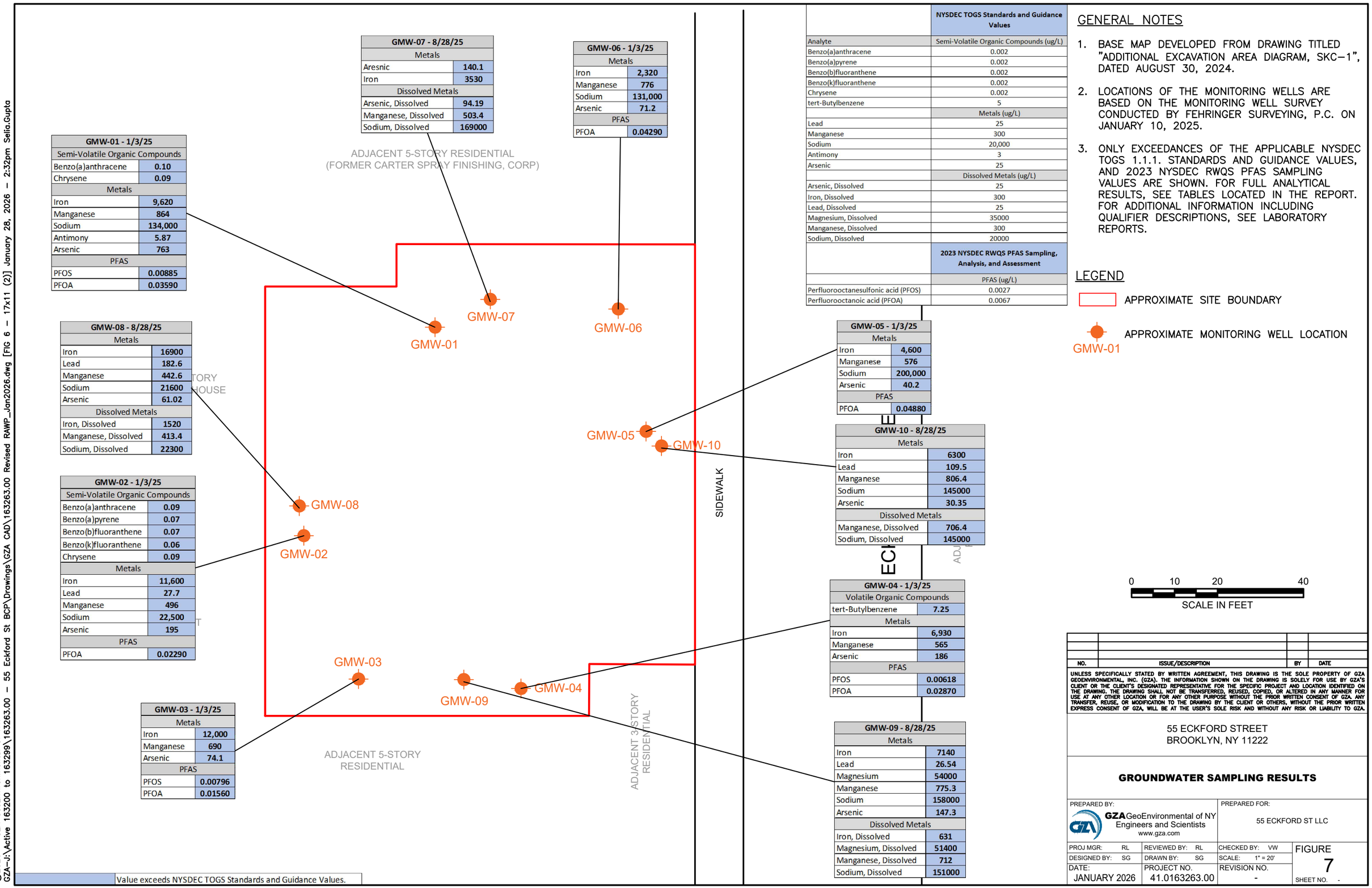
SOIL SAMPLING RESULTS METALS

PREPARED BY:
GZA GeoEnvironmental of NY
Engineers and Scientists
www.gza.com

PREPARED FOR:
55 ECKFORD ST LLC

PROJ MGR:	RL	REVIEWED BY:	RL	CHECKED BY:	VW
DESIGNED BY:	SG	DRAWN BY:	SG	SCALE:	1" = 30'
DATE:	JANUARY 2026	PROJECT NO.	41.0163263.00	REVISION NO.	-

FIGURE 6C
SHEET NO. -



	NYSDEC TOGS Standards and Guidance Values
Analyte	Semi-Volatile Organic Compounds (ug/L)
Benzo(a)anthracene	0.002
Benzo(a)pyrene	0.002
Benzo(b)fluoranthene	0.002
Benzo(k)fluoranthene	0.002
Chrysene	0.002
tert-Butylbenzene	5
	Metals (ug/L)
Lead	25
Manganese	300
Sodium	20,000
Antimony	3
Arsenic	25
	Dissolved Metals (ug/L)
Arsenic, Dissolved	25
Iron, Dissolved	300
Lead, Dissolved	25
Magnesium, Dissolved	35000
Manganese, Dissolved	300
Sodium, Dissolved	20000
	2023 NYSDEC RWQS PFAS Sampling, Analysis, and Assessment
	PFAS (ug/L)
Perfluorooctanesulfonic acid (PFOS)	0.0027
Perfluorooctanoic acid (PFOA)	0.0067

GENERAL NOTES

1. BASE MAP DEVELOPED FROM DRAWING TITLED "ADDITIONAL EXCAVATION AREA DIAGRAM, SKC–1", DATED AUGUST 30, 2024.
2. LOCATIONS OF THE MONITORING WELLS ARE BASED ON THE MONITORING WELL SURVEY CONDUCTED BY FEHRINGER SURVEYING, P.C. ON JANUARY 10, 2025.
3. ONLY EXCEEDANCES OF THE APPLICABLE NYSDEC TOGS 1.1.1. STANDARDS AND GUIDANCE VALUES, AND 2023 NYSDEC RWQS PFAS SAMPLING VALUES ARE SHOWN. FOR FULL ANALYTICAL RESULTS, SEE TABLES LOCATED IN THE REPORT. FOR ADDITIONAL INFORMATION INCLUDING QUALIFIER DESCRIPTIONS, SEE LABORATORY REPORTS.

LEGEND

APPROXIMATE SITE BOUNDARY

GMW-01 APPROXIMATE MONITORING WELL LOCATION

0 10 20 40

SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

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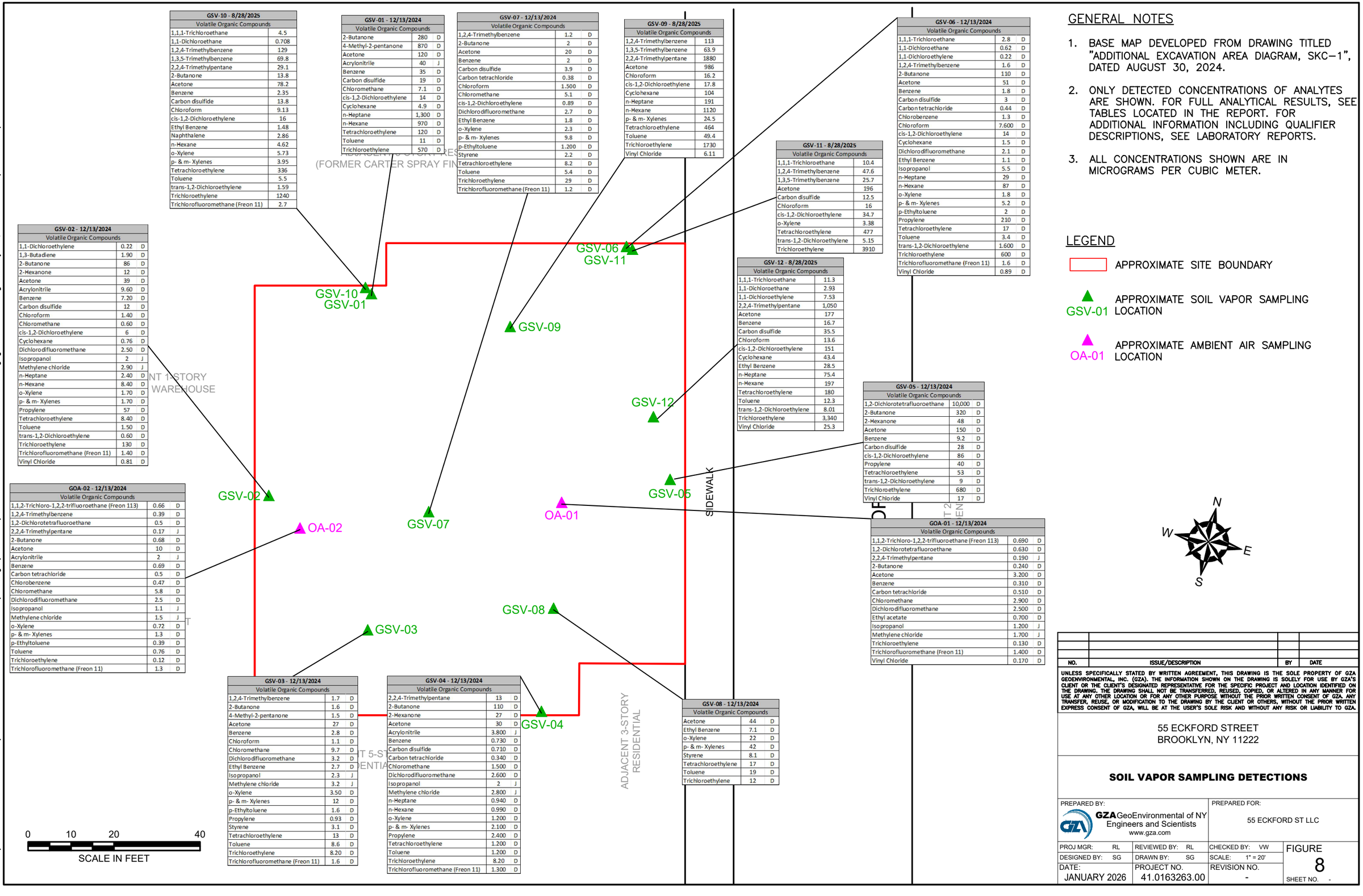
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BROOKLYN, NY 11222

GROUNDWATER SAMPLING RESULTS

PREPARED BY: GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com	PREPARED FOR: 55 ECKFORD ST LLC

PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 7
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 20'	
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO. -

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GZA–J:\Active 163200 to 163299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 6 – 17x11 (2)] January 28, 2026 – 2:32pm Selia.Gupta



GENERAL NOTES

1. BASE MAP DEVELOPED FROM DRAWING TITLED "ADDITIONAL EXCAVATION AREA DIAGRAM, SKC–1", DATED AUGUST 30, 2024.
2. ONLY DETECTED CONCENTRATIONS OF ANALYTES ARE SHOWN. FOR FULL ANALYTICAL RESULTS, SEE TABLES LOCATED IN THE REPORT. FOR ADDITIONAL INFORMATION INCLUDING QUALIFIER DESCRIPTIONS, SEE LABORATORY REPORTS.
3. ALL CONCENTRATIONS SHOWN ARE IN MICROGRAMS PER CUBIC METER.

LEGEND

APPROXIMATE SITE BOUNDARY

GSV-01 APPROXIMATE SOIL VAPOR SAMPLING LOCATION

OA-01 APPROXIMATE AMBIENT AIR SAMPLING LOCATION

NO.	ISSUE/DESCRIPTION	BY	DATE

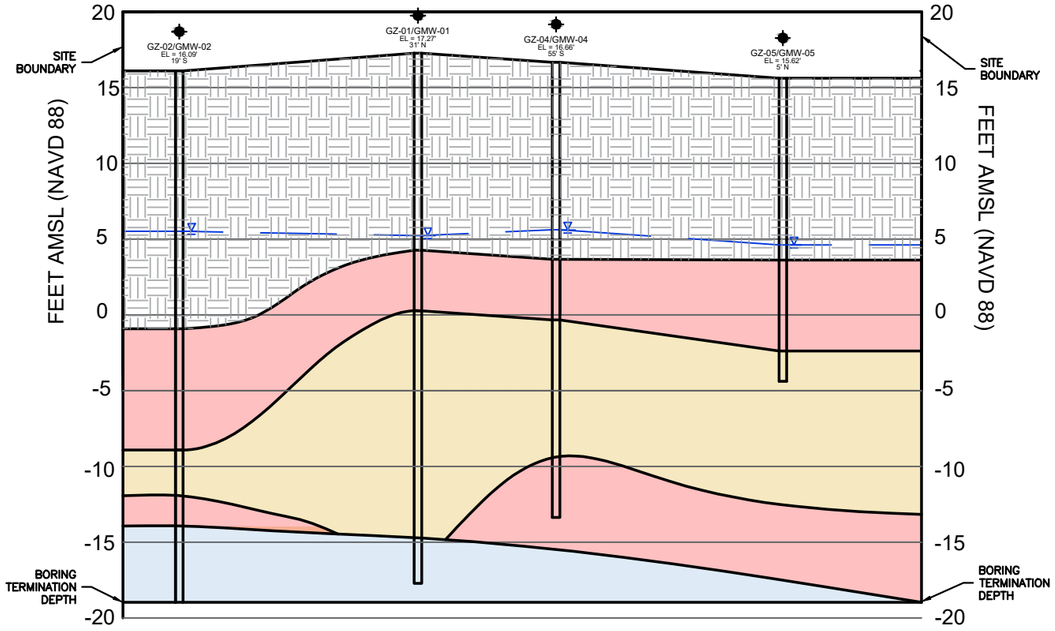
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BROOKLYN, NY 11222

SOIL VAPOR SAMPLING DETECTIONS

PREPARED BY: GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com		PREPARED FOR: 55 ECKFORD ST LLC	
PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 8
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 20'	
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO. -

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SUBSURFACE PROFILE A-A'

GENERAL NOTES

1. SEE FIGURE 5 FOR PROFILE LAYOUT.
2. VERTICAL DATUM REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. THE STRATIFICATION LINES BETWEEN BORINGS ARE INTERPOLATED BETWEEN WIDELY SPACED EXPLORATION LOCATIONS AND THUS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES. ACTUAL TRANSITIONS MAY VARY FROM THOSE SHOWN.
4. REFER TO THE BORING LOGS FOR ADDITIONAL INFORMATION.
5. GROUND SURFACE ELEVATIONS ARE BASED ON THE MONITORING WELL SURVEY CONDUCTED BY FEHRINGER SURVEYING, P.C. ON JANUARY 10, 2025.

LEGEND

- INFERRED ELEVATION OF GROUNDWATER
- FILL
- CLAYEY SILT
- PEAT
- SAND

VERTICAL SCALE IN FEET
0 10 20 40
0 5 10 20
HORIZONTAL SCALE IN FEET

GZ-00/GMW-00
EST. EL = 0'
0' N
— INDICATES BOREHOLE DESIGNATION
— INDICATES ESTIMATED SURFACE ELEVATION BORING
— INDICATES DISTANCE AND OFFSET FROM PROFILE LINE

— INFERRED WATER TABLE BASED ON GROUNDWATER GAUGING PERFORMED IN JANUARY 2025

NO.	ISSUE/DESCRIPTION	BY	DATE

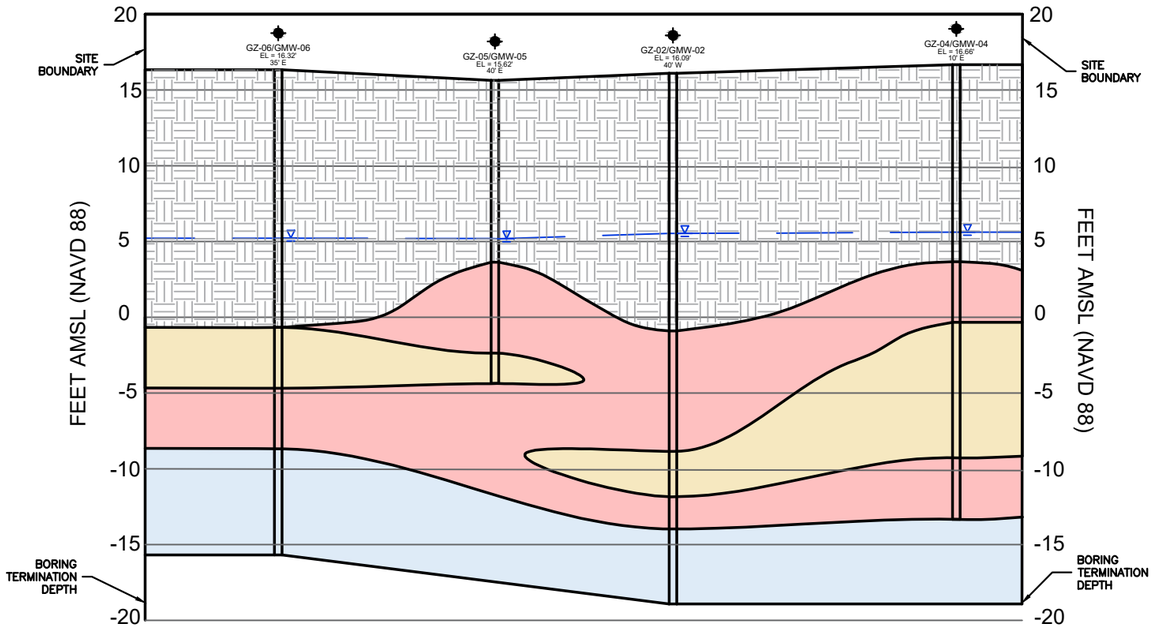
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BROOKLYN, NY 11222

SUBSURFACE PROFILE A-A'

PREPARED BY: GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com		PREPARED FOR: 55 ECKFORD ST LLC	
PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 9A
DESIGNED BY: SG	DRAWN BY: SG	SCALE: AS NOTED	
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO.

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GZA-J:\Active 163200 to 163299\163263.00 - 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 9A - 17x11] January 28, 2026 - 3:03pm Sella.Gupta



SUBSURFACE PROFILE B-B'

GENERAL NOTES

1. SEE FIGURE 5 FOR PROFILE LAYOUT.
2. VERTICAL DATUM REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. THE STRATIFICATION LINES BETWEEN BORINGS ARE INTERPOLATED BETWEEN WIDELY SPACED EXPLORATION LOCATIONS AND THUS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES. ACTUAL TRANSITIONS MAY VARY FROM THOSE SHOWN.
4. REFER TO THE BORING LOGS FOR ADDITIONAL INFORMATION.
5. GROUND SURFACE ELEVATIONS ARE BASED ON THE MONITORING WELL SURVEY CONDUCTED BY FEHRINGER SURVEYING, P.C. ON JANUARY 10, 2025.

LEGEND

- INFERRED ELEVATION OF GROUNDWATER
- FILL
- CLAYEY SILT
- PEAT
- SAND

GZ-00/GMW-00
EST. EL = 0'
0' N

- INDICATES BOREHOLE DESIGNATION
- INDICATES ESTIMATED SURFACE ELEVATION BORING
- INDICATES DISTANCE AND OFFSET FROM PROFILE LINE
- INFERRED WATER TABLE BASED ON GROUNDWATER GAUGING PERFORMED IN JANUARY 2025

VERTICAL SCALE IN FEET
0 10 20 40
0 5 10 20
HORIZONTAL SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

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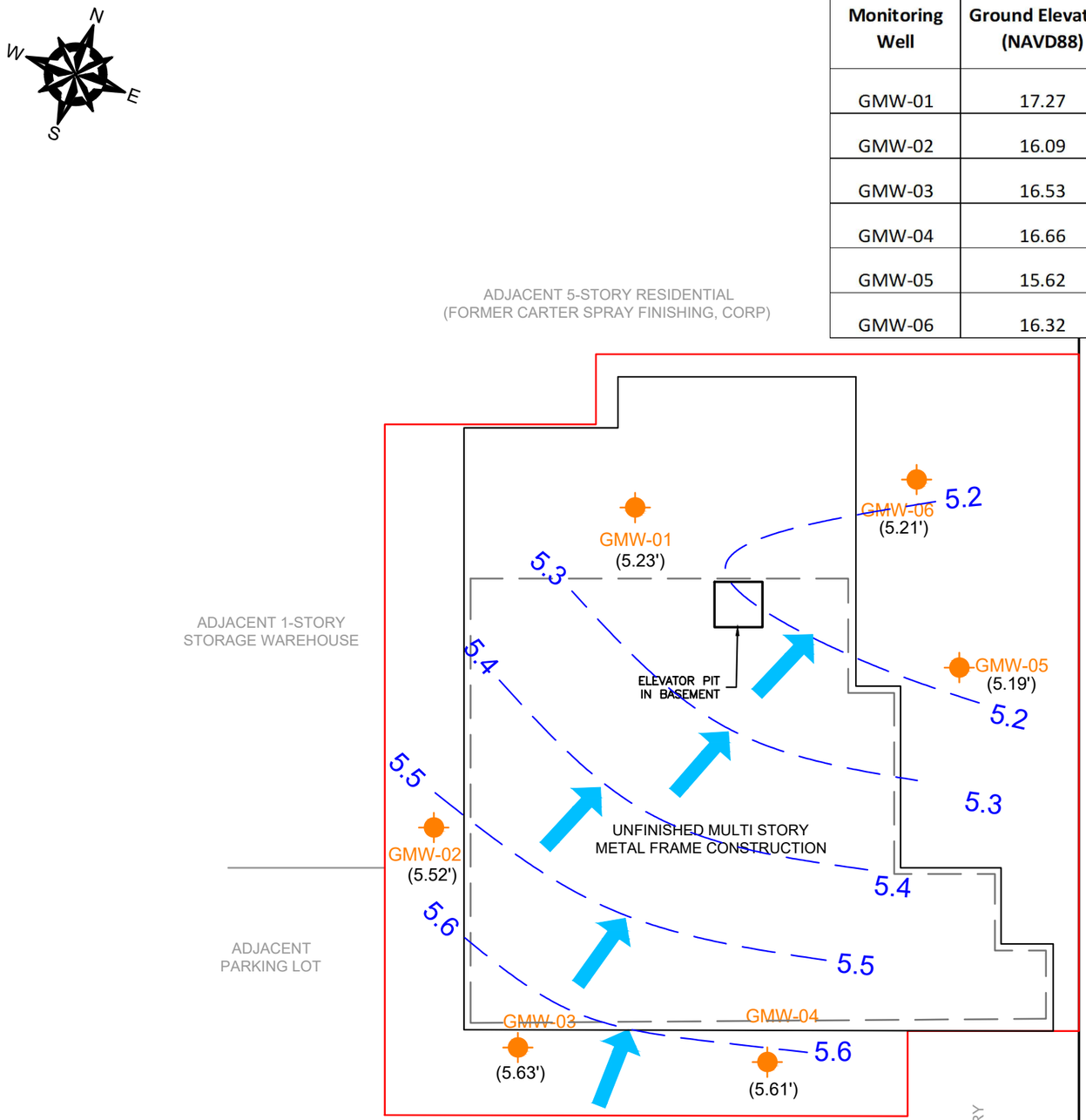
55 ECKFORD STREET
BROOKLYN, NY 11222

SUBSURFACE PROFILE B-B'

PREPARED BY: GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com		PREPARED FOR: 55 ECKFORD ST LLC	
PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 9B
DESIGNED BY: SG	DRAWN BY: SG	SCALE: AS NOTED	
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO.

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GZA-J:\Active 163200 to 163299\163263.00 - 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 9B - 17x11] January 28, 2026 - 3:03pm Salia.Gupta

Monitoring Well	Ground Elevation (NAVD88)	PVC Survey Elevation (NAVD88)	Depth to Water (ft below PVC)	Groundwater Elevation (NAVD88)
GMW-01	17.27	19.2	13.97	5.23
GMW-02	16.09	17.42	11.9	5.52
GMW-03	16.53	18.08	12.45	5.63
GMW-04	16.66	18.03	12.42	5.61
GMW-05	15.62	17.48	12.29	5.19
GMW-06	16.32	18.53	13.32	5.21



GENERAL NOTES

1. BASE MAP DEVELOPED FROM DRAWING TITLED "ADDITIONAL EXCAVATION AREA DIAGRAM, SKC–1", DATED AUGUST 30, 2024.
2. DRAWING DISPLAYS EXISTING BUILDING FOOTPRINT PROFILE AND PROPOSED CELLAR LAYOUT.
3. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
4. LOCATIONS OF THE MONITORING WELLS ARE BASED ON THE MONITORING WELL SURVEY CONDUCTED BY FEHRINGER SURVEYING, P.C. ON JANUARY 10, 2025.
5. GROUNDWATER ELEVATIONS WERE MEASURED BY GZA PERSONNEL ON JANUARY 3, 2025.
6. GROUNDWATER ELEVATIONS MAY BE INFLUENCED BY TIDAL INFLUENCES OR ACTIVE DEWATERING FROM NEARBY CONSTRUCTION SITES.
7. PVC – TOP OF PVC CASING.

LEGEND

- APPROXIMATE SITE BOUNDARY
- BUILDING OUTLINE
- PARTIAL CELLAR
- GMW-01 APPROXIMATE MONITORING WELL LOCATION
- (5.23') GROUNDWATER ELEVATION USED TO DEVELOP GROUNDWATER CONTOUR (NAVD88)
- INFERRED GROUNDWATER FLOW DIRECTION
- 5.2 ----- INFERRED GROUNDWATER CONTOUR OF EQUAL ELEVATION

NO.	ISSUE/DESCRIPTION	BY	DATE

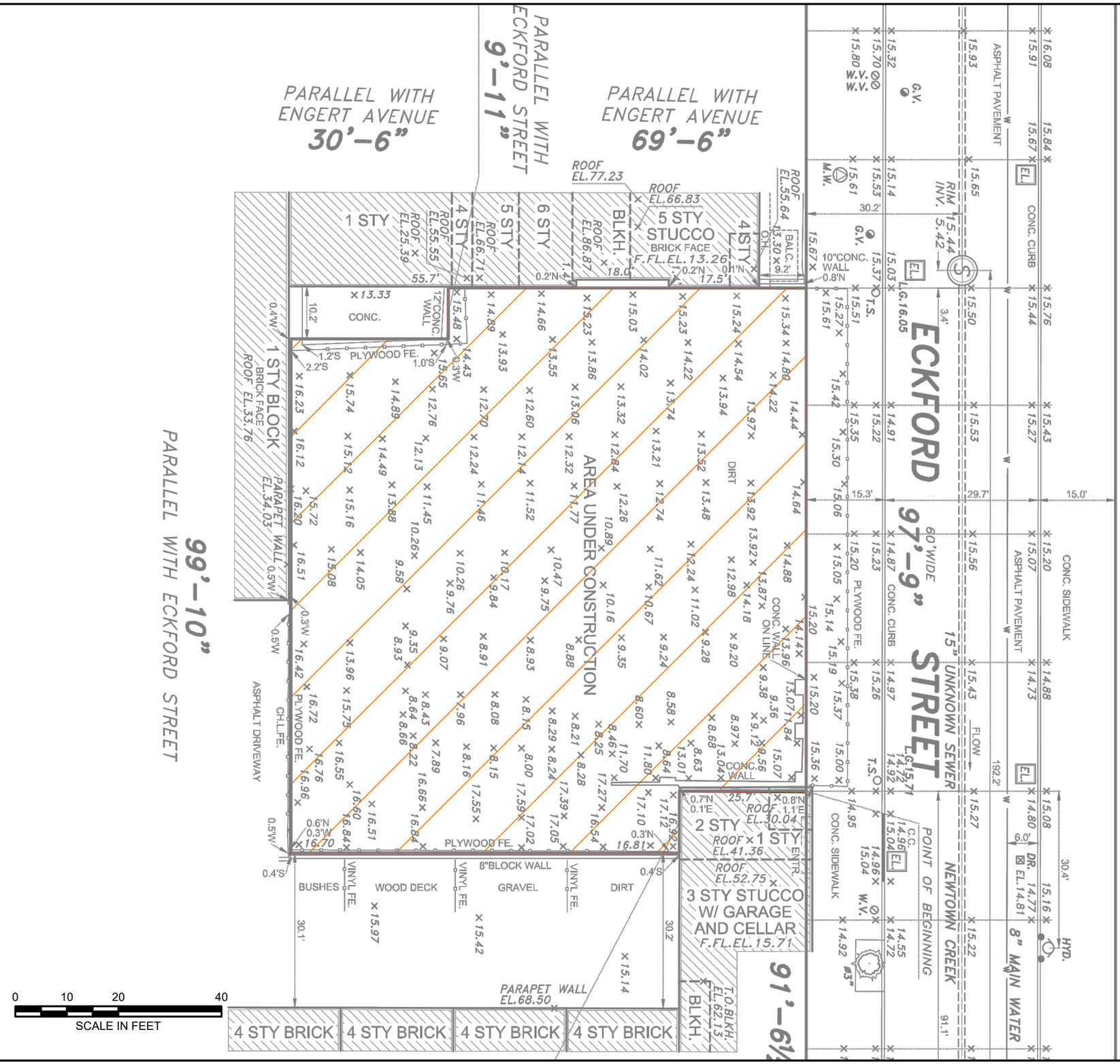
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GROUNDWATER CONTOUR MAP
(JANUARY 3, 2025)

PREPARED BY: GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com		PREPARED FOR: 55 ECKFORD ST LLC	
PROJ MGR: RM	REVIEWED BY: RM	CHECKED BY: VW	FIGURE
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 20'	10
DATE: APRIL 2025	PROJECT NO. 41.0163263.20	REVISION NO. -	SHEET NO.

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GZA–J:\Active 163200 to 163299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\55 Eckford RAWP.dwg [F6 – GW contour] April 23, 2025 – 2:04pm Selia.Gupta



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GENERAL NOTES

1. BASEMAP DEVELOPED FROM SURVEY TITLED "ARCHITECTURAL SURVEY", PREPARED BY "PERFECT POINT LAND SURVEYING", DATED JANUARY 14, 2026, ORIGINAL SCALE 1:20.
2. ALL ELEVATIONS REFERENCED ARE IN NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).

LEGEND

- APPROXIMATE SITE BOUNDARY
- PROPOSED EXCAVATION AREA TO 30' BELOW GROUND SURFACE

NO.	ISSUE/DESCRIPTION	BY	DATE

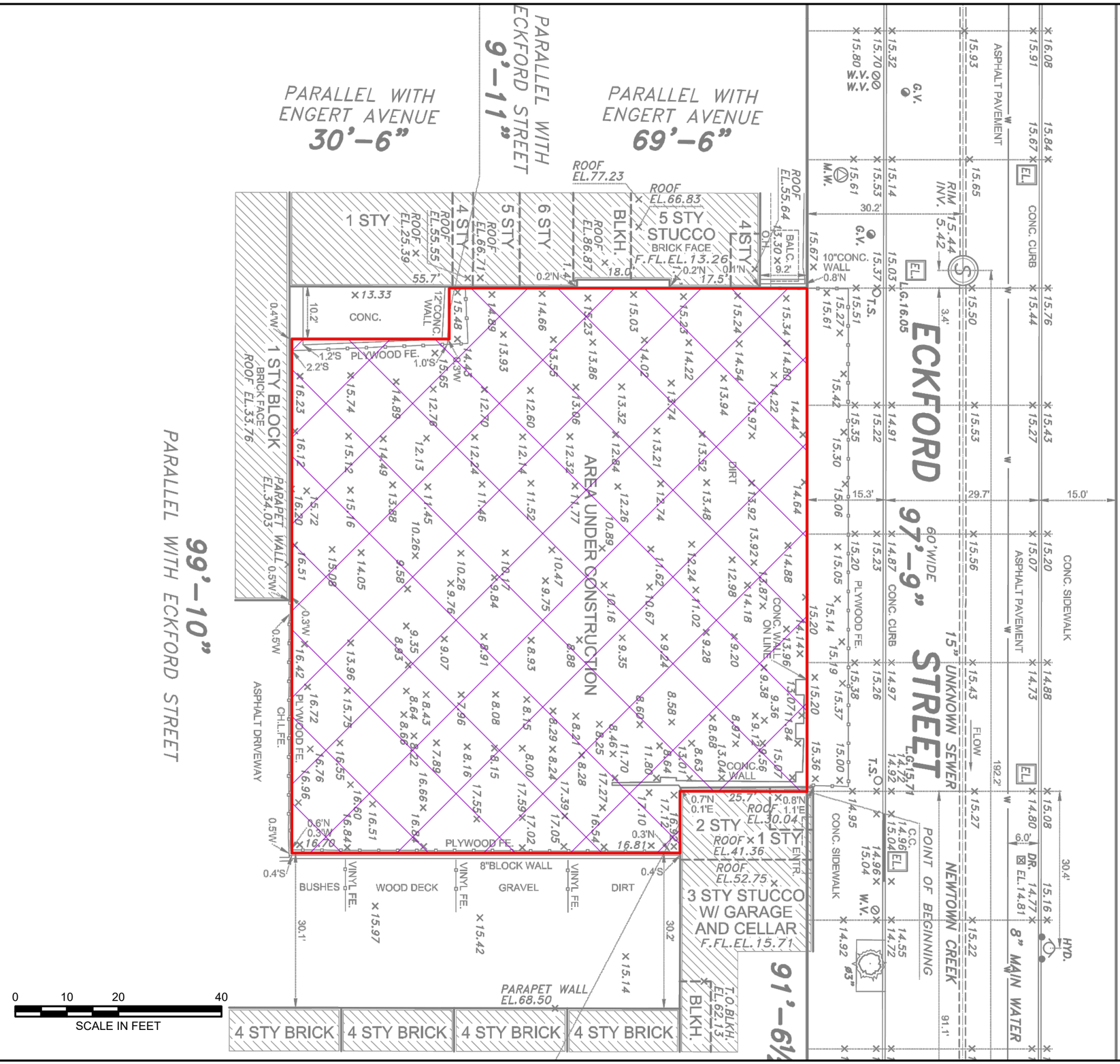
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EXCAVATION FOOTPRINT FOR TRACK 1 REMEDY

PREPARED BY: GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com		PREPARED FOR: 55 ECKFORD ST LLC	
PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 11A
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 20'	
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO.

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GZA–J:\Active 163200 to 163299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 11A – 17x11] January 30, 2026 – 2:43pm Selia.Gupta



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GZA–J:\Active 163200 to 163299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 11B – 17x11] January 27, 2026 – 1:04pm Selia.Gupta

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GENERAL NOTES

1. BASEMAP DEVELOPED FROM SURVEY TITLED "ARCHITECTURAL SURVEY", PREPARED BY "PERFECT POINT LAND SURVEYING", DATED JANUARY 14, 2026, ORIGINAL SCALE 1:20.
2. ALL ELEVATIONS REFERENCED ARE IN NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).

LEGEND

- APPROXIMATE SITE BOUNDARY
- PROPOSED EXCAVATION AREA TO 15' BELOW GROUND SURFACE (ELEV. +0.0' NAVD88)

NO.	ISSUE/DESCRIPTION	BY	DATE

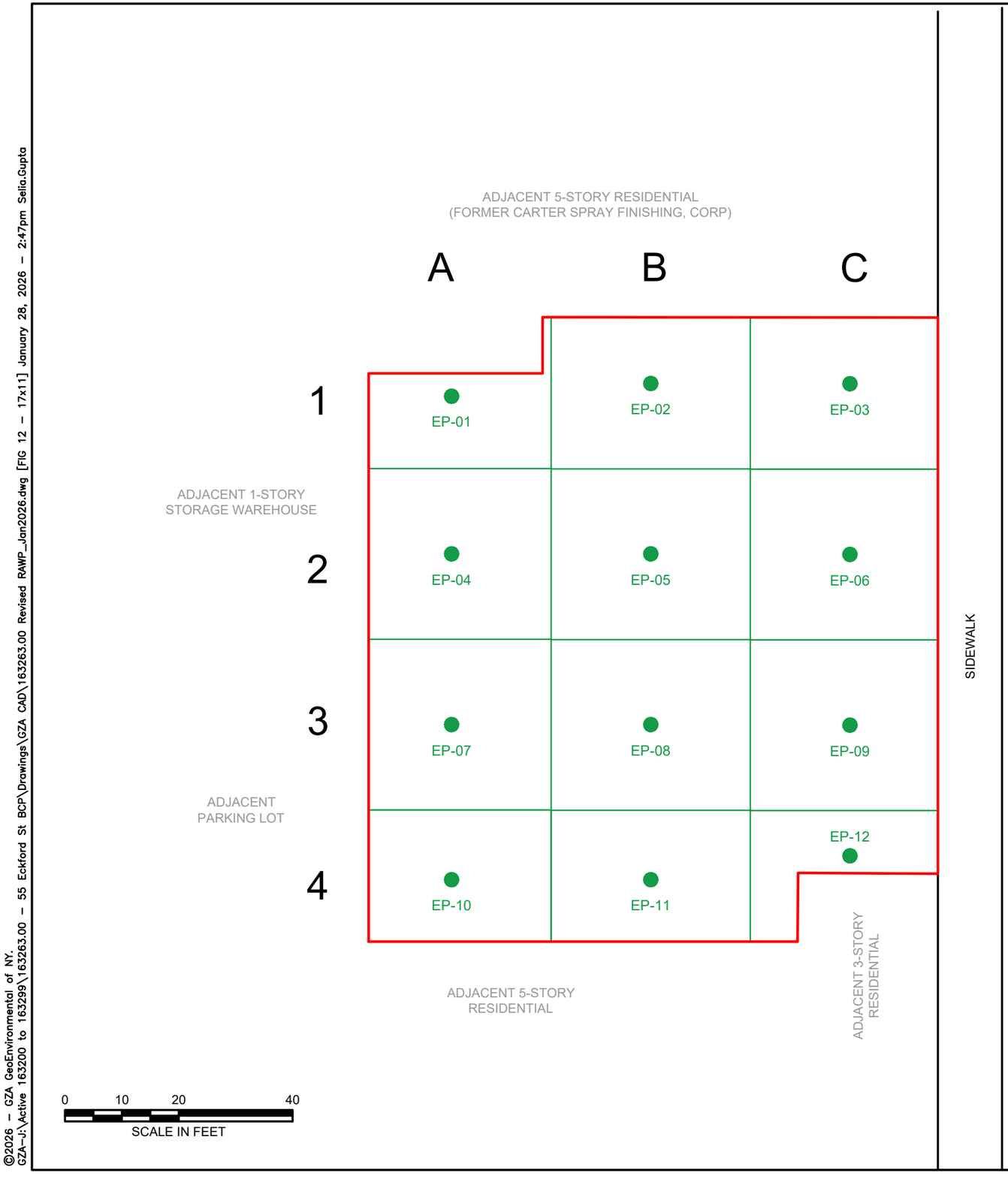
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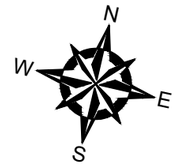
55 ECKFORD STREET
BROOKLYN, NY 11222

EXCAVATION FOOTPRINT FOR ALTERNATIVE 2

PREPARED BY: GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com	PREPARED FOR: 55 ECKFORD ST LLC

PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 11B
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 20'	
DATE: JANUARY 2025	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO.





GENERAL NOTES

1. BASEMAP DEVELOPED FROM DRAWING TITLED "ADDITIONAL EXCAVATION AREA DIAGRAM, SKC–1", DATED AUGUST 30, 2024.

LEGEND

- APPROXIMATE SITE BOUNDARY
- APPROXIMATE 900 SQUARE–FOOT EXCAVATION AREA BOUNDARY
- APPROXIMATE ENDPOINT SAMPLE LOCATION
  EP-01

NO.	ISSUE/DESCRIPTION	BY	DATE

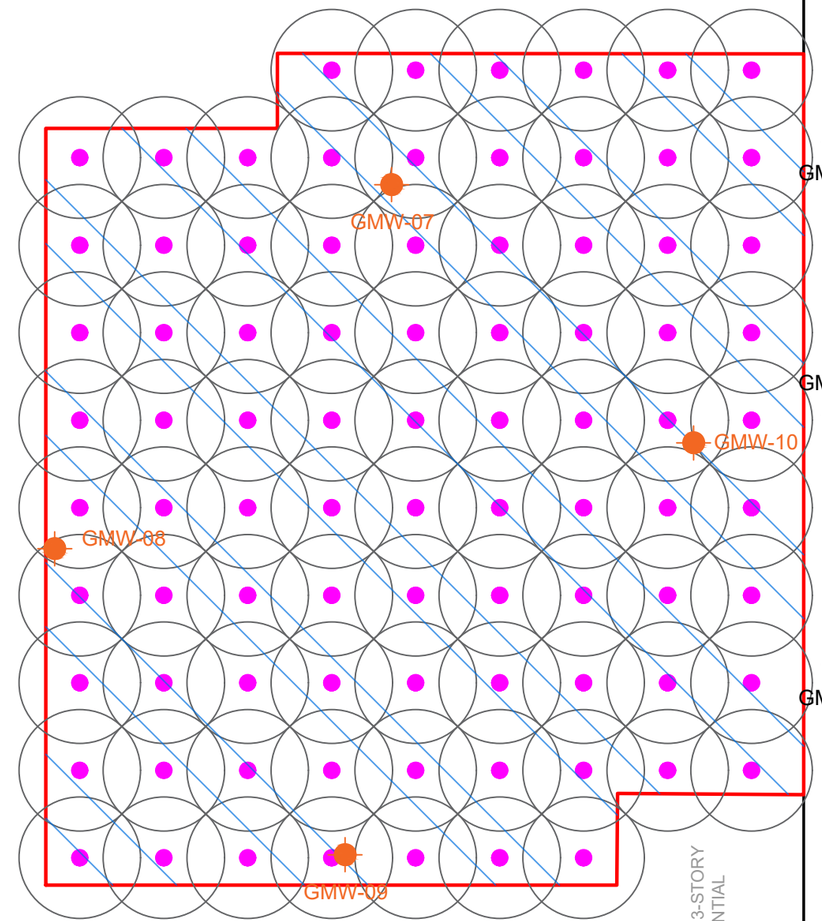
UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

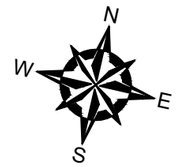
55 ECKFORD STREET
BROOKLYN, NY 11222

ENDPOINT SAMPLE LOCATION MAP

PREPARED BY:			PREPARED FOR:
GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com			55 ECKFORD ST LLC
PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 20'	12
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO.

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GZA–J:\Active 163200 to 163299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 12 – 17x11] January 28, 2026 – 2:47pm Sella.Gupta





GENERAL NOTES

1. BASEMAP DEVELOPED FROM SURVEY TITLED "ARCHITECTURAL SURVEY", PREPARED BY "PERFECT POINT LAND SURVEYING", DATED JANUARY 14, 2026, ORIGINAL SCALE 1:20.

LEGEND

- APPROXIMATE SITE BOUNDARY
- PROPOSED CHEMICAL INJECTION AREA FROM 15' TO 30' BELOW GROUND SURFACE
- PROPOSED INJECTION LOCATION WITH 8' RADIUS OF INFLUENCE
- APPROXIMATE LOCATION OF EXISTING GROUNDWATER MONITORING WELLS (GMW-08)
- PROPOSED LOCATION OF ADDITIONAL GROUNDWATER MONITORING WELLS (GMW-11)

NO.	ISSUE/DESCRIPTION	BY	DATE

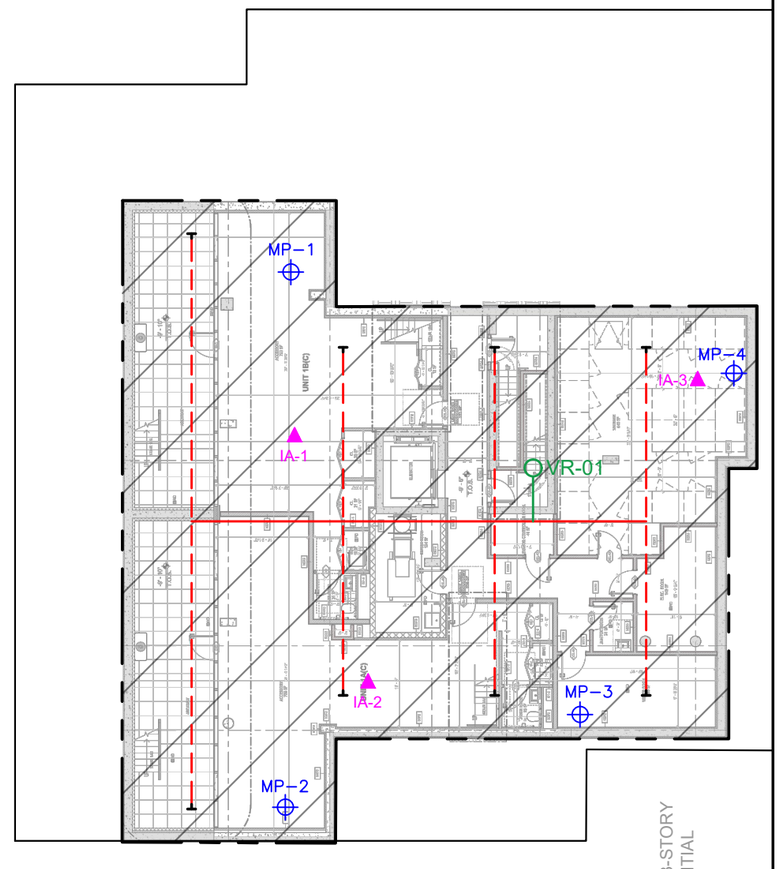
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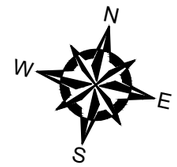
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BROOKLYN, NY 11222

CHEMICAL INJECTION AREA FOR TRACK 2 REMEDY

PREPARED BY: GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com		PREPARED FOR: 55 ECKFORD ST LLC	
PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 13
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 20'	SHEET NO.
DATE: JANUARY 2025	PROJECT NO. 41.0163263.00	REVISION NO. -	

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GZA–J:\Active 163200 to 163299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 13 – 17x11] January 27, 2026 – 3:17pm Sella.Gupta





ECKFORD STREET

ADJACENT 2-STORY
RESIDENTIAL

GENERAL NOTES

1. FLOORPLAN DEVELOPED FROM DRAWING TITLED "CONSTRUCTION PLAN LEVEL 1", PREPARED BY "INOA ARCHITECTURE", ORIGINAL SCALE $\frac{3}{16}$"=1'–0", DATED FEBRUARY 21, 2025.

LEGEND

- APPROXIMATE SITE BOUNDARY
- PROPOSED BUILDING FOOTPRINT
- 4–INCH DIAMETER SOLID SCHEDULE 80 PVC SSDS PIPE BENEATH BUILDING SLAB
- 4–INCH DIAMETER SLOTTED SCHEDULE 80 PVC SSDS PIPE BENEATH BUILDING SLAB
- VR-01 — 6–INCH DIAMETER VERTICAL GALVANIZED STEEL RISER PIPE EXTENDS THROUGH CELLAR SLAB
- PVC CAP
- MP–1 — PROPOSED MONITORING POINT LOCATION
- HORIZONTAL EXTENT OF ACTIVE SSDS, WATERPROOFING BARRIER AND/OR VAPOR BARRIER CONSISTING OF 20–MIL DRAGO WRAP, AND 12" GAS PERMEABLE AGGREGATE LAYER
- IA-1 — PROPOSED INDOOR AIR SAMPLE LOCATIONS

0 10 20 40
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

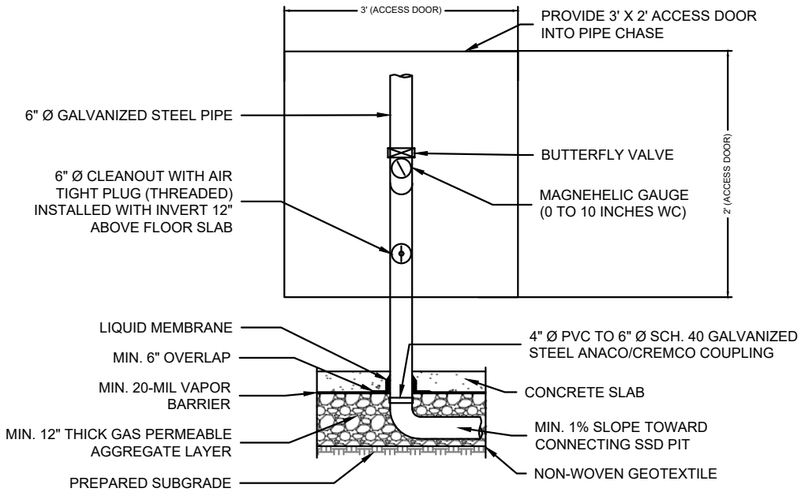
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BROOKLYN, NY 11222

SUB-SLAB DEPRESSURIZATION SYSTEM (SSDS) LAYOUT

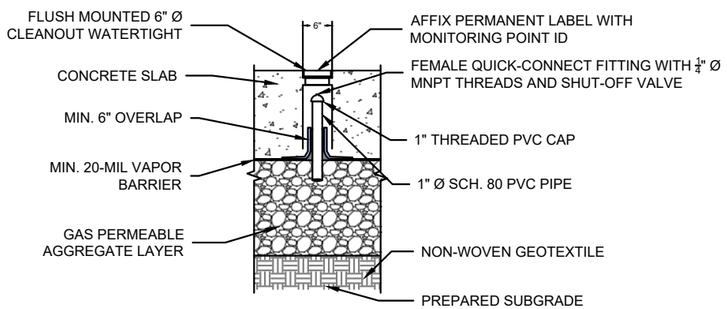
PREPARED BY: GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com		PREPARED FOR: 55 ECKFORD ST LLC	
PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 14A
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 20'	
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO.

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GZA–J:\Active 163200 to 163299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 14A – 17x11] February 03, 2026 – 12:50pm Selia.Gupta



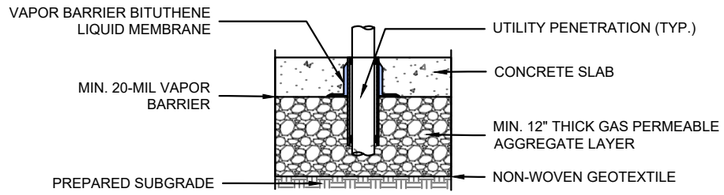
1 TYPICAL SSDS RISER DETAIL AT FLOOR SLAB
N.T.S.

NOTES:
1. CONTRACTOR TO SUPPLY SHOP DRAWINGS OF PROPOSED CONSTRUCTION DETAILS FOR APPROVAL. ALL PENETRATIONS SHALL BE CLEANED PER SPECIFICATIONS BEFORE SEALING VAPOR BARRIER.
2. NOT ALL FITTINGS SHOWN. CONTRACTOR SHALL SUBMIT TO SCALED SKETCH SHOWING PROPOSED PIPE JOINT LOCATIONS. ENGINEER'S APPROVAL OD PIPE JOINT LOCATIONS SHALL BE REQUIRED PRIOR TO CONSTRUCTION.
3. FURNISH ESCUTCHEONS AS SPECIFIED.
4. PROVIDE ACCESS PANELS FOR PRESSURE GAUGES AT LOCATIONS TO BE COORDINATED DURING CONSTRUCTION.



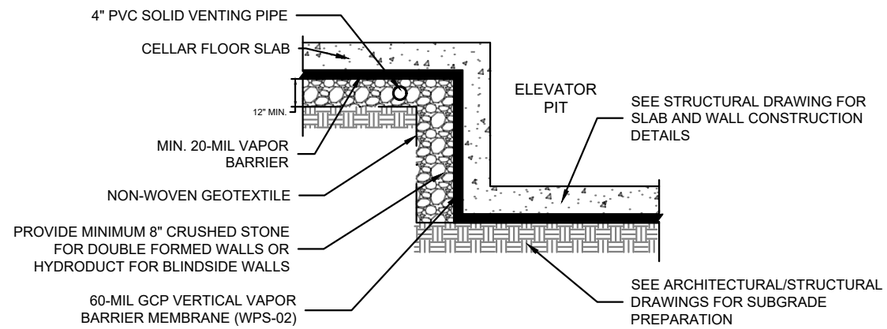
2 SUB-SLAB MONITORING POINT DETAIL
N.T.S.

NOTES:
1. ANY DEVIATION FROM THIS INSTALLATION MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

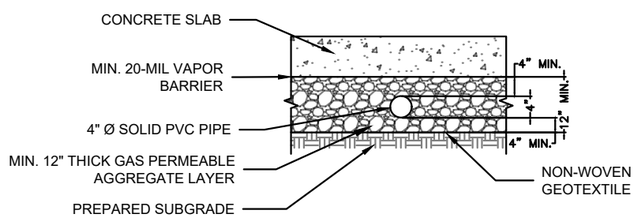


3 TYPICAL VAPOR BARRIER DETAIL AT PENETRATION
N.T.S.

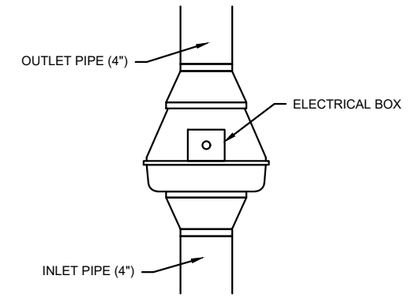
NOTES:
1. CONTRACTOR TO SUPPLY SHOP DRAWINGS OF PROPOSED CONSTRUCTION DETAILS FOR APPROVAL. ALL PENETRATIONS SHALL BE CLEANED PER SPECIFICATIONS BEFORE SEALING VAPOR BARRIER.



4 TYPICAL ELEVATOR PIT SECTION VIEW
N.T.S.



5 TYPICAL SUB-SLAB PIPING DETAIL
N.T.S.



6 FAN DETAIL (TYPICAL)
N.T.S.

NOTES:
1. TOP OF STACK TO BE AT LEAST 10' FROM ANY WINDOWS, DOORS, OR OTHER BUILDING OPENINGS, OR FROM ANY WINDOWS OR OTHER OPENINGS IN ADJACENT BUILDINGS, INCLUDING AIR INTAKES, LOUVERS, VENTS, ETC.
2. FAN TO BE FANTECH RN4 OR ENGINEER APPROVED EQUAL.
3. FAN AND ON/OFF SWITCH TO BE HARD-WIRED TOGETHER TO 115 VOLT CIRCUIT. ON/OFF SWITCH TO BE MOUNTED ON WALL NEXT TO FAN ON ROOF. COORDINATE WITH ELECTRICAL CONTRACTOR.
4. FAN CONTROLS TO INCLUDE AUDIBLE ALARM, SAMPLE TAP, ON/OFF SWITCH, MAGNEHELIC GAUGE, AND PRESSURE/FLOW ALARM.

NO.	ISSUE/DESCRIPTION	BY	DATE

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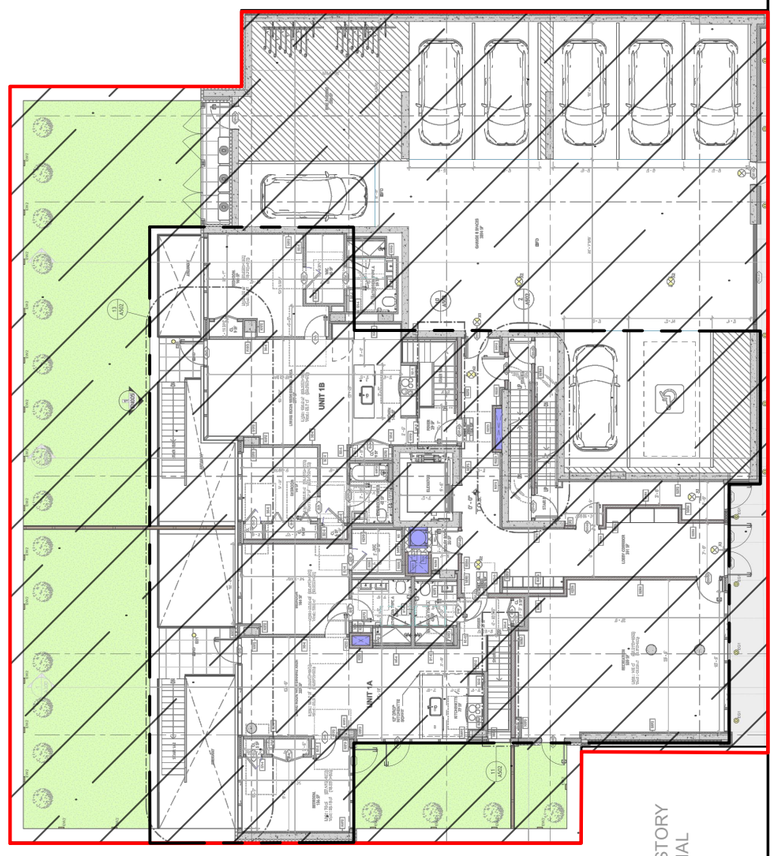
55 ECKFORD STREET
BROOKLYN, NY 11222

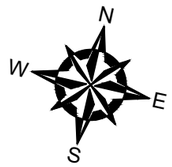
SUB-SLAB DEPRESSURIZATION SYSTEM (SSDS) DETAILS

PREPARED BY:		PREPARED FOR:	
GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com		55 ECKFORD ST LLC	
PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE
DESIGNED BY: SG	DRAWN BY: SG	SCALE: N.T.S.	14B
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO.

©2026 – GZA GeoEnvironmental of NY.
GZA–J:\Active 163200 to 163299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 14B – 17x11] February 03, 2026 – 1:48pm Selia.Gupta

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GZA–J:\Active 163200 to 163299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 15 – 17x11] February 03, 2026 – 1:46pm Selia.Gupta



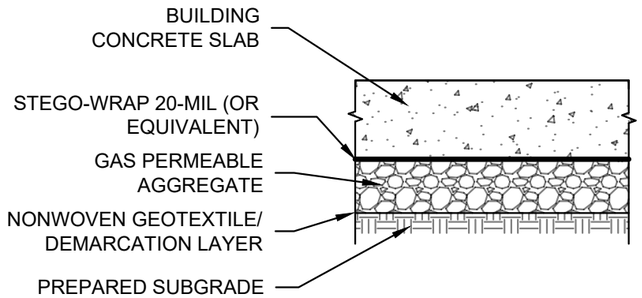


GENERAL NOTES

1. FLOORPLAN DEVELOPED FROM DRAWING TITLED "CONSTRUCTION PLAN LEVEL 1", PREPARED BY "INOA ARCHITECTURE", ORIGINAL SCALE $\frac{3}{16}$"=1'–0", DATED FEBRUARY 21, 2025.

LEGEND

- APPROXIMATE SITE BOUNDARY
- PROPOSED BUILDING FOOTPRINT
- EXTENT OF COVER SYSTEM – DETAIL 1



1 COMPOSITE COVER FOR BUILDING FOOTPRINT AND HARDSCAPED AREAS
N.T.S.

NO.	ISSUE/DESCRIPTION	BY	DATE

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55 ECKFORD STREET
BROOKLYN, NY 11222

SITE COVER SYSTEM

PREPARED BY: GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com		PREPARED FOR: 55 ECKFORD ST LLC	
PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 15
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 20'	
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO.

NYSDEC Case Manager: Jolene Lozewski
NYSDOH Case Manager: Ben Caligiuri

BCP Volunteer:
55 Eckford St LLC

Principal/Qualified Environmental Professional: Victoria Whelan, P.G.

Health & Safety Director:
Christopher Mayne

Remedial Engineer:
Karen Tyll, P.E.

Project Manager:
Ronald A. Lombino II

Health & Safety Manager:
Jackson Bogach, P.E.

Architect of Record:
Murat Mutlu, RA

General Contractor:
TBD

Transportation & Disposal Contractor:
TBD

Fire Team Lead:
TBD

Site Health and Safety Officer:
TBD

NO.	ISSUE/DESCRIPTION	BY	DATE

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BROOKLYN, NY 11222

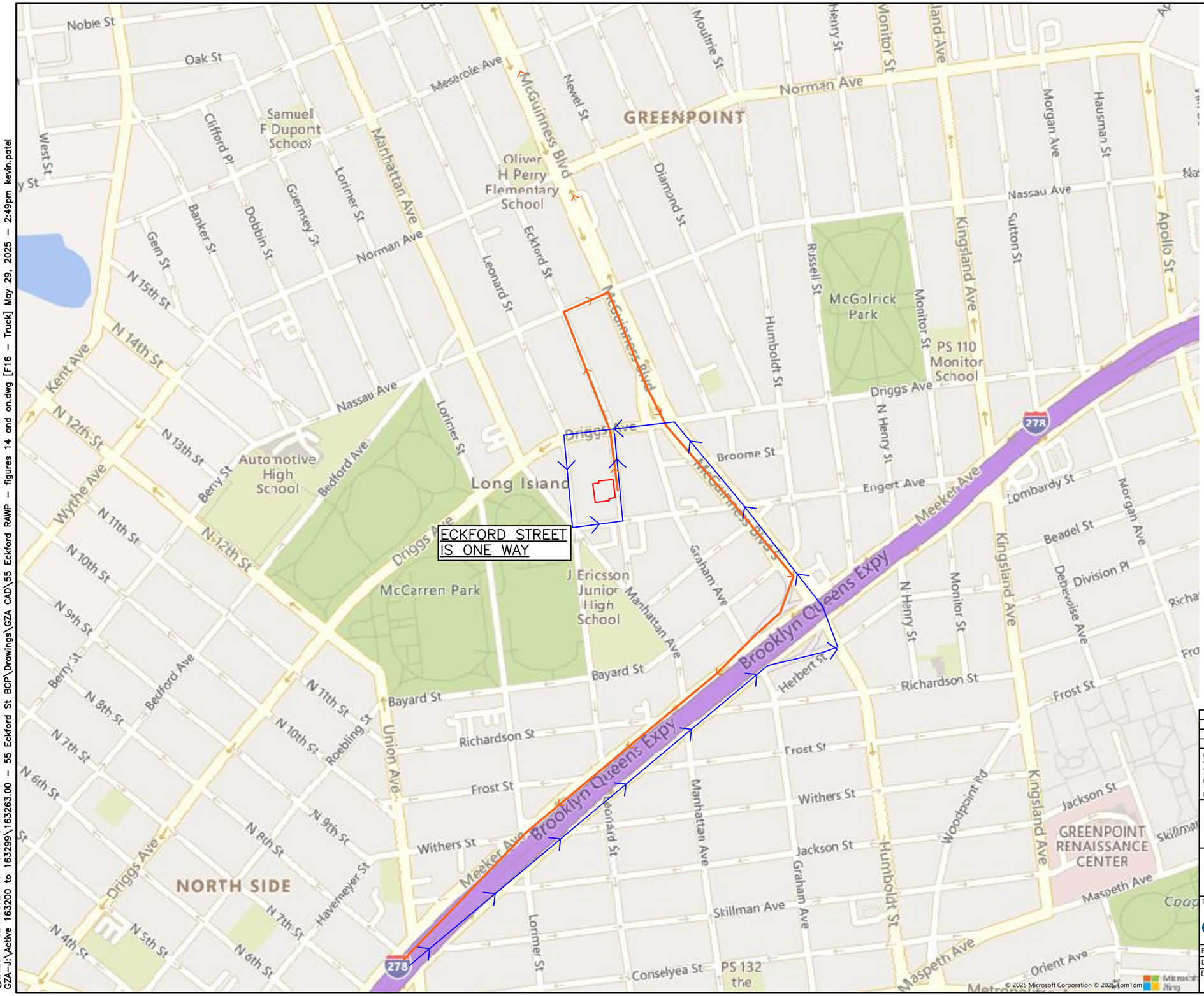
ORGANIZATIONAL CHART

PREPARED BY:
GZA GeoEnvironmental of NY
Engineers and Scientists
www.gza.com

PREPARED FOR:
55 ECKFORD ST LLC

PROJ MGR: RL	REVIEWED BY: RL	CHECKED BY: VW	FIGURE 16
DESIGNED BY: SG	DRAWN BY: SG	SCALE: -	
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO.

©2026 – GZA GeoEnvironmental of NY.
GZA–J:\Active 163200 to 163299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\163263.00 Revised RAWP_Jan2026.dwg [FIG 16 – 17x11] January 28, 2026 – 2:51pm Sella.Gupta



GENERAL NOTES

1. BASE MAP DEVELOPED FROM ROAD IMAGERY ACCESSED ON AUTOCAD – © 2025 MICROSOFT CORPORATION © 2025 TOMTOM.
2. TRUCK ROUTE BASED OFF OF THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION 2022 TRUCK ROUTE MAP.
3. THE PURPOSE OF THIS DRAWING IS TO LOCATE, DESCRIBE, AND REPRESENT THE POSITIONS OF TRUCK ROUTES IN RELATION TO THE SUBJECT SITE. THIS DRAWING IS NOT CONSIDERED A LAND SURVEY. THE LOCATIONS SHOWN SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

LEGEND

- APPROXIMATE SITE BOUNDARY
- OUTBOUND TRUCK ROUTE
- INBOUND TRUCK ROUTE

N
W E
S

0 250 500 1000
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

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BROOKLYN, NY, 11222

TRUCK ROUTE MAP

PREPARED BY:
GZA GeoEnvironmental of NY
Engineers and Scientists
www.gza.com

PREPARED FOR:
55 ECKFORD ST LLC

PROJ MGR: RM	REVIEWED BY: RM	CHECKED BY: VW	FIGURE 17
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1" = 500'	
DATE: JANUARY 2026	PROJECT NO. 41.0163263.00	REVISION NO. -	SHEET NO.

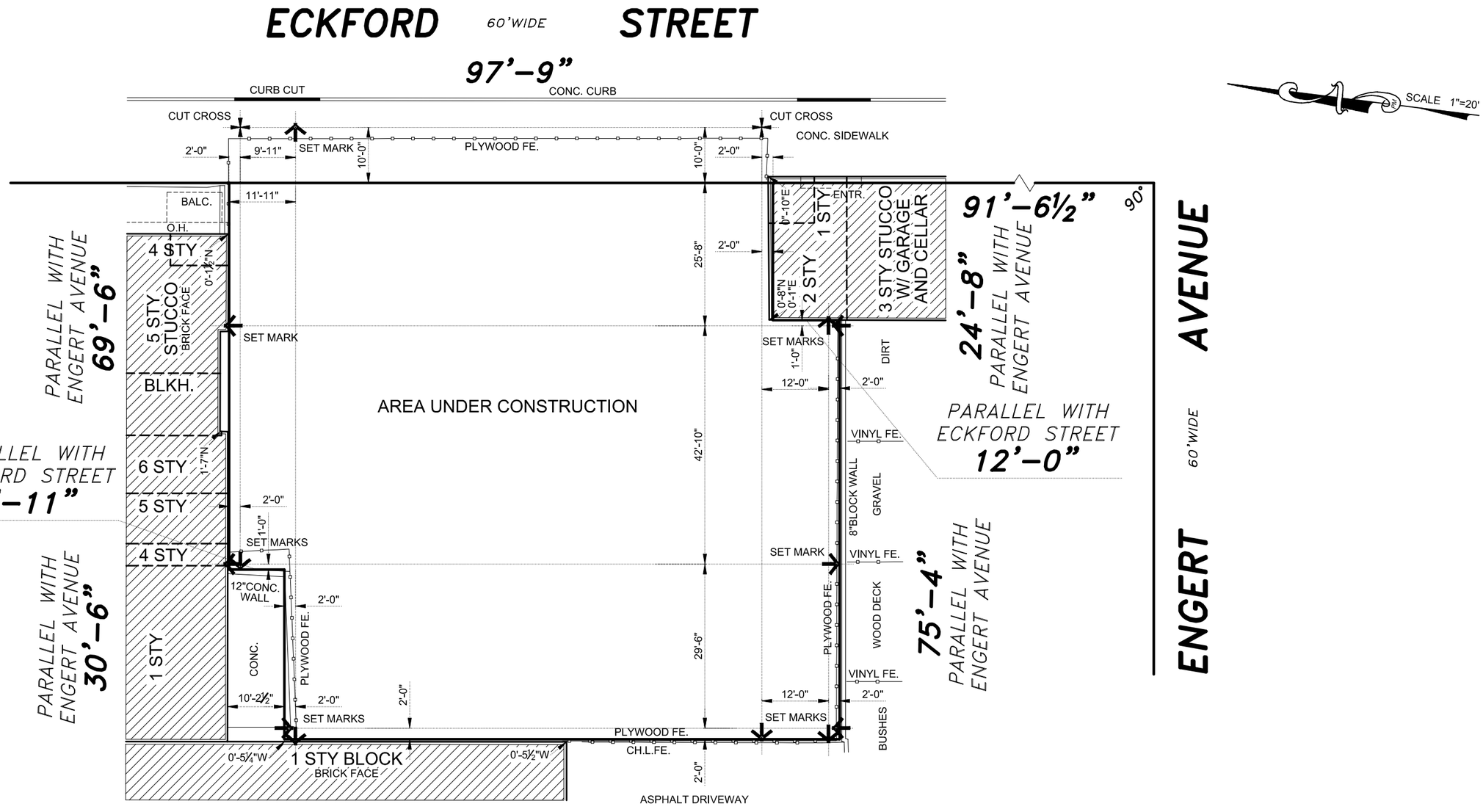
©2025 – GZA GeoEnvironmental of NY.
GZA–J:\Active 163200 to 163299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\55 Eckford RAWP – figures 14 and on.dwg [F16 – Truck] May 29, 2025 – 2:49pm kevin.patel

APPENDIX A METES AND BOUNDS

JOB NO.: B 2698-32-SO

DATE: JANUARY 14, 2026

STAKE OUT SURVEY



STAKE OUT NOTE

ALL SET POINTS MUST BE VERIFIED WITH ARCHITECT'S PLANS BY BUILDER PRIOR TO CONSTRUCTION. ALL DISTANCES BETWEEN SET POINTS MUST BE VERIFIED AND COMPARED WITH DIMENSIONS SHOWN ON THIS STAKE OUT PLAN.

NOT RESPONSIBLE FOR ANY ERRORS IF NOT BROUGHT TO ATTENTION OF SURVEYOR PRIOR TO START OF CONSTRUCTION.

ALL ELEVATIONS SHOWN REFER TO THE NAVD 1988 DATUM. TO OBTAIN:
- NGVD 1929 DATUM - ADD 1.098 FEET
- BROOKLYN BOROUGH DATUM - SUBTRACT 1.447 FEET

STAKE OUT LEGEND

- CITY MONUMENT
- CUT CROSS
- SET NAIL
- SET STAKE
- SET MARK (PAINTED)
- SET BENCHMARK

55 ECKFORD STREET, BROOKLYN, KINGS CO., NY,

SEC. ..... BLOCK 2698 LOT 32

GUARANTEED TO: .....

.....

.....

.....

.....

.....

TITLE NO. .....

PERFECT POINT
LAND SURVEYING
brooklyn - queens - manhattan - bronx
staten island - nassau
phone: (718) 474-7700
fax: (718) 872-9699
info@ppsurveying.com
www.ppsurveying.com

***DATE*: JANUARY 14, 2026**

N.Y.S. L.L.S. 050569

UNAUTHORIZED ALTERATION OR ADDITION TO THIS SURVEY IS A VIOLATION OF SECTION 7209 OF **THE NEW YORK STATE EDUCATION LAW.** COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYOR'S INKED SEAL OR EMBOSSED SEAL SHALL NOT BE CONSIDERED TO BE A VALID COPY. GUARANTEES OR CERTIFICATIONS INDICATED HEREON SHALL RUN ONLY TO THE PERSON FOR WHOM THE SURVEY IS PREPARED AND ON HIS BEHALF TO THE TITLE COMPANY, GOVERNMENTAL AGENCY AND LENDING INSTITUTION LISTED HEREON, AND TO THE ASSIGNEES OF THE LENDING INSTITUTION. GUARANTEES OR CERTIFICATIONS ARE NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.

JOB NO. B 2698-32-TO

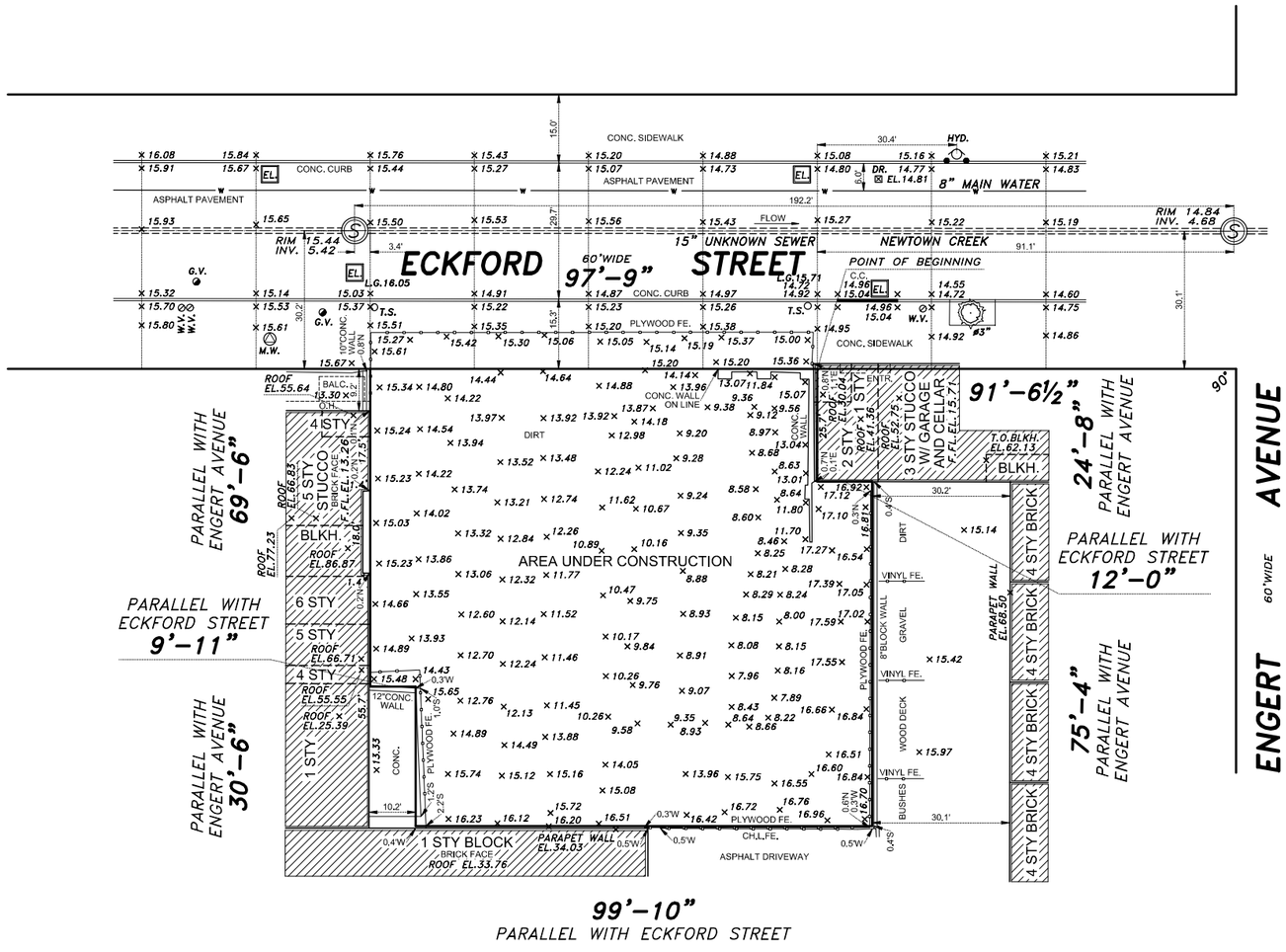
SURVEYED ON: AUGUST 15, 2024

REVISED ON: JANUARY 14, 2026

FLOOD NOTE

BY GRAPHIC PLOTTING ONLY, SUBJECT PROPERTY IS LOCATED IN
ZONE X (0.2% ANNUAL CHANCE STORM EVENT)
AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR COMMUNITY PANEL NUMBER
360 497 0202 F WHICH BEARS AN EFFECTIVE DATE OF SEPTEMBER 5, 2007.
ZONE X (0.2% ANNUAL CHANCE STORM EVENT)
AS SHOWN ON THE PRELIMINARY FEMA MAP PANEL NUMBER
360 497 0202 G WHICH BEARS AN REVISED DATE OF JANUARY 30, 2015.

SCALE 1"=20'



LOT AREA = 10376.54 sq.ft. = 0.2382 acre

GRAPHIC SCALE

ALL WRITTEN MEASUREMENTS AND OFFSETS NOTED ON THIS SURVEY SUPERSEDE MEASUREMENTS SCALED OF THIS PLOT.

SCALE 1:20

0 10 20 30 40 50 100

SYMBOLS AND ABBREVIATIONS

FENCE	CH./F.E. / WOOD FE.
UTILITY POLE	U.P.
PARKING METER	P.M.
OIL FILL	O.F.
MONITORING WELL	M.W.
TRAFFIC LIGHT	T.L.
LIGHT	
STREET LIGHT	L.P.
FIRE HYDRANT	HYD.
SIAMESE CONNECTION	S.FPE.
SHUT OFF VALVE	G.V. / W.V.
HANDICAPPED PARKING	
EXISTING TREE	#12"
DRAINS	DR.
ROOF OVER	R/O.
EXISTING ELEVATIONS	×45.16 TOP OF CURB / ×42.97 BOTTOM OF CURB / ×45.78
CITY ESTABLISHED GRADES	L.G.7.52
CURB AND CURB CUT	C.C.
OVERHEAD SERVICE	OHS./R.
CABLE TV MANHOLE	CTV
MANHOLES	M / F / T / W / S — RIM EL. INV.EL.
CATCH BASIN	C.B.
FIRE ESCAPE	F.E.
PLATFORM	PL. or PLTF.
BASEMENT ENTRANCE	B.E.
CELLAR ENTRANCE	C.E.
AIR WAY	A.W.
BAY WINDOW	B.W.
CONCRETE	CONC.
OVERHANG	O.H
AIR CONDITION	AC
METAL	MET.
NORTH OF PROPERTY LINE	N
SOUTH OF PROPERTY LINE	S
EAST OF PROPERTY LINE	E
WEST OF PROPERTY LINE	W

GENERAL NOTES

SUBSURFACE UTILITIES ARE NOT GUARANTEED BY SURVEYOR. HIGH CAUTION RECOMMENDED AND VERIFICATION WITH PROPER CITY AGENCIES, IS MANDATORY BEFORE COMMENCING ALL NEW WORK.

ALL SUBSURFACE AND OVERHEAD UTILITIES (AS TO SIZE, TYPE AND DEPTH) SHOWN ON THIS SURVEY ARE TAKEN FROM RECORDS OF GOVERNMENTAL AGENCIES AND UTILITY COMPANIES, UNLESS OTHERWISE NOTED AND SHOWN.

COVER OR DEPTH OF UTILITIES WHICH DERIVED FROM FIELD MEASUREMENTS SHOWN ON THIS SURVEY SHOULD BE VERIFIED WITH PROPER AGENCY PRIOR TO CONSTRUCTION OF PROJECT. INVERT ELEVATIONS ARE DERIVED FROM CITY AGENCY RECORDS WHEN NOT AVAILABLE BY FIELD SURVEY AND NOTED AS "PER RECORD" ON THE SURVEY.

ALL SUBSURFACE UTILITY AS TO LOCATION AND DEPTH, SHOULD BE RECHECKED AND LEGAL GRADES SHOULD BE VERIFIED WITH THE TOPOGRAPHICAL BUREAU, PREFERABLY IN WRITING BEFORE COMMENCING CONSTRUCTION.

THIS IS TO CERTIFY THAT THERE ARE NO STREAMS OR NATURAL WATER COURSES ON THE SURVEYED PROPERTY EXCEPT AS SHOWN AND/OR DESCRIBED ON THIS SURVEY.

ALL OPERATIONS OF UNDERGROUND FACILITIES AND ALL EXCAVATORS ARE OBLIGATED TO COMPLY WITH ARTICLE 36 OF THE GENERAL BUSINESS LAW AND WITH PROVISIONS OF INDUSTRIAL CODE PART (RULE NO.35) BEFORE ANY EXCAVATION OR DEMOLITION IS COMMENCED. EVERY EXCAVATOR IS REQUIRED BY THESE LAWS TO GIVE ADVANCE NOTICE TO EVERY OPERATOR OF UNDERGROUND FACILITIES OF HIS INTENT TO PERFORM EXCAVATION OR DEMOLITION WORK IN THE SPECIFIED AREA

ALL ELEVATIONS SHOWN REFER TO THE NAVD 1988 DATUM. TO OBTAIN:
- NGVD 1929 DATUM - ADD 1.098 FEET
- BROOKLYN BOROUGH DATUM - SUBTRACT 1.447 FEET

EASEMENTS IF ANY ARE NOT SHOWN ON THIS SURVEY. NO INFORMATION PROVIDED TO SURVEYOR AT THIS TIME.

UNDERGROUND UTILITIES NOTES

UNDERGROUND, OVERHEAD AND GROUND LEVEL UTILITIES ARE NOT GUARANTEED AS TO ACCURACY, EXACT LOCATION, TYPE OR USE, ACTIVE OR INACTIVE. VERIFICATION IS MANDATORY WITH MUNICIPAL AGENCIES, PUBLIC AND PRIVATE UTILITY COMPANIES PRIOR TO TAKING TITLE AND OR DESIGN WORK. BOUNDARIES ARE NOT GUARANTEED UNLESS SO NOTED.

ALL OPERATIONS OF UNDERGROUND FACILITIES AND ALL EXCAVATORS ARE OBLIGATED TO COMPLY WITH ARTICLE 36 OF THE GENERAL BUSINESS LAW AND WITH PROVISIONS OF INDUSTRIAL CODE PART (RULE NO. 35) BEFORE ANY EXCAVATION OR DEMOLITION IS COMMENCED. EVERY EXCAVATOR IS REQUIRED BY THESE LAWS TO GIVE ADVANCE NOTICE TO EVERY OPERATOR OF UNDERGROUND FACILITIES OF HIS INTENT TO PERFORM EXCAVATION OR DEMOLITION WORK IN THE SPECIFIED AREA

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GUARANTEED TO:	
COUNTY: KINGS	CITY: BROOKLYN
SECTION:	BLOCK: 2698 LOT(S): 32
PROPERTY ADDRESS: 55 ECKFORD STREET	

ARCHITECTURAL SURVEY

PREPARED BY
PERFECT POINT
LAND SURVEYING
brooklyn - queens - manhattan - bronx
staten island - nassau
phone: (718) 474-7700
fax: (718) 872-9699
info@ppsurveying.com
www.ppsurveying.com

***DATE*:** JANUARY 14, 2026

N.Y.S. L.L.S. 050569

Fidelity National Title Insurance Company
by its Authorized Agent

INSIGNIA
NATIONAL TITLE AGENCY, LLC

Title Number: **ITC-21829-K-23FN**

SCHEDULE A – DESCRIPTION

ALL that certain plot piece or parcel of land, with the buildings and improvements thereon erected, situate, lying and being in the Borough of Brooklyn, County of Kings, City and State of New York, bounded and described as follows:

BEGINNING at a point on the Westerly side of Eckford Street, distant 91 feet 6-1/2 inches northerly from the comer formed by the intersection of the westerly side of Eckford Street with the northerly side of Engert Avenue;

RUNNING THENCE westerly parallel with Engert Avenue and through a party wall 24 feet 8 inches;

THENCE southerly parallel with Eckford Street 12 feet;

THENCE westerly parallel with Engert Avenue 75 feet 4 inches;

THENCE northerly parallel with Eckford Street 99 feet 10 inches;

THENCE easterly parallel with Engert Avenue and through a party wall 30 feet 6 inches;

THENCE northerly parallel with Eckford Street and through a party wall 9 feet 11 inches;

THENCE easterly parallel with Engert Avenue and through a party wall 69 feet 6 inches to the westerly side of Eckford Street; and

THENCE southerly along the westerly side of Eckford Street 97 feet 9 inches to the point or place of BEGINNING.

INSURE

FOR INFORMATION ONLY:

PREMISES are designated as Block 2698 Lot 32 on the tax map for the Borough of Brooklyn

FOR CONVEYANCING ONLY: TOGETHER with all the right, title and interest of the party of the first part, in and to the land lying in the street in front of and adjoining said premises.

LEGEND
(FOR TITLE PURPOSES)
JOB # K-2698-32-13

GAS VALVE · PARKING METER · TRAFFIC SIGN · HYDRANT HYD. · TREE PIT · LIGHT POST · CATCH BASIN

UTILITY POLE · PHONE TEL. · WATER VALVE · D.W.S. WATER · TEL. MANHOLE · SEWER MANHOLE · ELECTRIC MANHOLE

ENGERT AVENUE

(60' WIDE)

PARALLEL WITH ECKFORD STREET

ONE STORY CONC. BLOCK

V A N C A N T

IRREG. CONST. FENCE

1'-6"± W.

CL

0'-6" N.

99'-10"

0'-6"±So.

YARD

CONC.

Existing Cellar

CONST. DEBRIS

CONC. YARD UNER CONST.

Existing Structure

CONST. DEBRIS

LOT # 32
AREAE = 10,376.40 SQ. FT.

REMAINS OF PARTY WALL

PRT. PARTY 30'-6"

ONE STORY BRICK

PARALLEL WITH ECKFORD STREET

0'-6"±So.

9'-11" RT.

0'-4"±So.

CONST. FENCE ON 8" CONC. BLOCK RET. WALL

75'-4"

25'-4"

BALCONY

AREA UNDER CONSTRUCTION

CONCRETE PAD

19'-8"

19'-8"

CONCRETE PAD

30'-4"

30'-4"

13'-0"

6-STORY METAL & CONCRETE
No. 55

66'-0"

22'-6"

22'-6"

24'-8"

69'-6"

REMAINS OF IRREG. BRICK WALL
-ROOF CAP-0'-5"-
-PIPE-0'-8"-

IRREG. ONE STORY BRICK

PARALLEL WITH ENGERT AVENUE

PARALLEL WITH ECKFORD STREET

0'-6" S.

12'-0"

10'-9"±

0'-4"±So.

0'-4"±So.

-NO WINDOWS-
-ROOF CAP-0'-1½"-
PARTY 24'-8" WALL

2-STORY BRICK

24'-6"±

CONCRETE PAD

12'-0"

12'-8"

12'-0"

CONST. DEBRIS

24'-6"±

CONST. DEBRIS

-WINDOWS-
-ROOF CAP-0'-1½"-

IRREG. 2-STORY BRICK

REC. ENT.

(AWNING OVER)

91'-6½"

97'-9"

15'±

GATE

IRREG. CONST. FENCE 7.0' ON ST.

ROLLING GATE

SCHAFOLD

CONCRETE SIDEWALK

SCHAFOLD

15'±

IRREG. BLUESTONE CURB

ECKFORD STREET

(60' WIDE)
(30'± WIDE ASPHALT ROADWAY)
<-- TWO WAY TRAFFIC -->

Certify Only To:

* Eckford-Greenpoint LLC
* Confidential Lending LLC, ISAOA
* Reliable Abstract Co., LLC
* Old Republic National Title Insurance Company

UPDATE SURVEY
OCTOBER 13, 2013

SURVEY
JAN. 8, 2013

TITLE SURVEY

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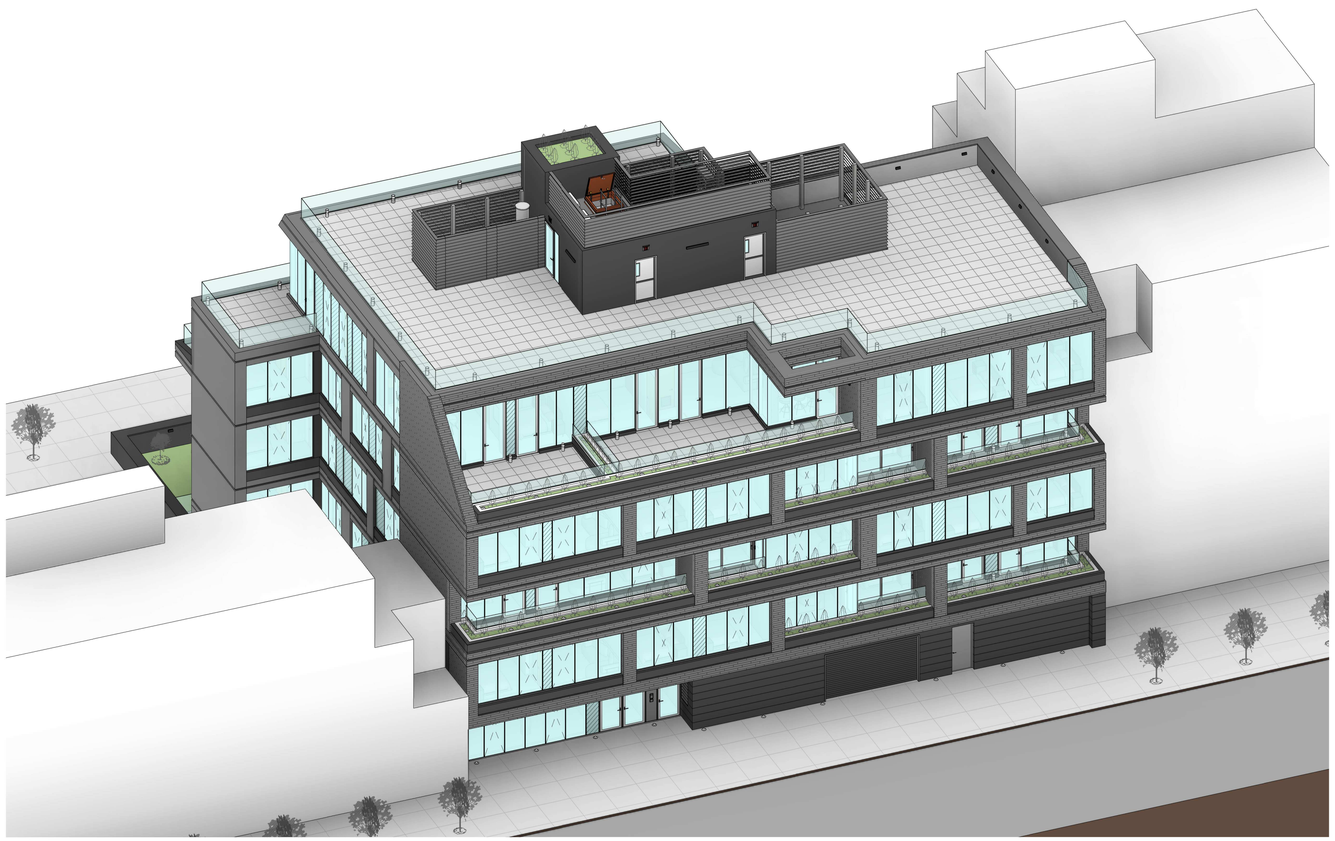
BLOCK 2698
LOT 32
SECTION 8
COUNTY KINGS
DWG BY AAA
CHKD BY

STATE OF NEW YORK · LICENSED LAND SURVEYOR

AAA GROUP
LAND SURVEYORS SERVICES
100-A BROADWAY
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SCALE 1"=16'
0' 5' 10' GRAPHIC SCALE 25'

APPENDIX B DEVELOPMENT PLANS



NB FILING SET ISSUED

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DRAWING NUMBER	DRAWING TITLE	1ST DD SET 10/23/2024	1ST CD SET 12/04/2024	2ND CD SET 01/16/2025	3RD CD SET 02/21/2025
ARCHITECTURE					
A000.00	COVER PAGE+INDEX	X	X	X	X
Z001.00	GENERAL ZONING ANALYSIS	X	X	X	X
Z002.00	ZONING DIAGRAM	X	X	X	X
Z003.00	ZONING DIAGRAM	X	X	X	X
Z004.00	SITE SURVEY	X	X	X	X
Z005.00	ZONING FLOOR DEDUCTION PLAN	X	X	X	X
A001.00	CODE ANALYSIS	X	X	X	X
A002.00	CODE ANALYSIS	X	X	X	X
A003.00	GENERAL NOTES				
A004.00	GRAPHIC SYMBOLS AND ABBREVIATIONS				
A007.00	ADA NOTES				
A008.00	ADA NOTES				
A010.00	LIFE SAFETY PLAN CELLAR, LV1	X	X	X	X
A011.00	LIFE SAFETY PLAN LV2, LV3	X	X	X	X
A012.00	LIFE SAFETY PLAN LV4, LV5	X	X	X	X
A013.00	LIFE SAFETY PLAN LVROOF	X	X	X	X
A020.00	INTERIOR WALL TYPES			X	X
A021.00	EXTERIOR WALL TYPES			X	X
A022.00	EXTERIOR WALL TYPES			X	X
A023.00	FLOOR, ROOF AND CEILING ASSEMBLIES			X	X
A030.00	FENESTRATION SCHEDULE - CELLAR		X	X	X
A031.00	FENESTRATION SCHEDULE - LV1		X	X	X
A032.00	FENESTRATION SCHEDULE - LV2		X	X	X
A033.00	FENESTRATION SCHEDULE - LV3		X	X	X
A034.00	FENESTRATION SCHEDULE - LV4		X	X	X
A035.00	FENESTRATION SCHEDULE - LV5		X	X	X
A040.00	DOOR TYPES		X	X	X
A041.00	UNIT DOOR SCHEDULE		X	X	X
A042.00	COMMON AREA DOOR SCHEDULE		X	X	X
A050.00	3D VIEWS	X	X	X	X
A051.00	3D VIEWS	X	X	X	X
A100.00	CELLAR FLOOR CONSTRUCTION PLAN	X	X	X	X
A101.00	1ST FLOOR CONSTRUCTION PLAN	X	X	X	X
A102.00	2ND FLOOR CONSTRUCTION PLAN	X	X	X	X
A103.00	3RD FLOOR CONSTRUCTION PLAN	X	X	X	X
A104.00	4th FLOOR CONSTRUCTION PLAN	X	X	X	X
A105.00	5th FLOOR CONSTRUCTION PLAN	X	X	X	X
A106.00	ROOF CONSTRUCTION PLAN	X	X	X	X
A107.00	BULKHEAD CONSTRUCTION PLAN	X	X	X	X
A130.00	CELLAR FLOOR RCP	X	X	X	X
A131.00	1ST FLOOR RCP	X	X	X	X
A132.00	2ND FLOOR RCP	X	X	X	X
A133.00	3RD FLOOR RCP	X	X	X	X
A134.00	4TH FLOOR RCP	X	X	X	X
A135.00	5TH FLOOR RCP	X	X	X	X
A136.00	ROOF RCP	X	X	X	X
A140.00	CELLAR FLOOR FURNITURE LAYOUT PLAN	X	X	X	X
A141.00	1ST FLOOR FURNITURE LAYOUT PLAN	X	X	X	X
A142.00	2ND FLOOR FURNITURE LAYOUT PLAN	X	X	X	X
A143.00	3RD FLOOR FURNITURE LAYOUT PLAN	X	X	X	X
A144.00	4th FLOOR FURNITURE LAYOUT PLAN	X	X	X	X
A145.00	5th FLOOR FURNITURE LAYOUT PLAN	X	X	X	X
A160.00	CELLAR FENESTRATION PLAN				
A161.00	1ST FLOOR FENESTRATION PLAN				
A162.00	2ND FLOOR FENESTRATION PLAN				
A163.00	3rd FLOOR FENESTRATION PLAN				
A164.00	4th FLOOR FENESTRATION PLAN				
A165.00	ROOF FENESTRATION PLAN				
A180.00	CELLAR FLOOR SLAB EDGE PLAN				
A181.00	1ST FLOOR SLAB EDGE PLAN				
A182.00	2ND FLOOR SLAB EDGE PLAN				
A183.00	3rd FLOOR SLAB EDGE PLAN				
A184.00	4th FLOOR SLAB EDGE PLAN				
A185.00	ROOF DECK SLAB EDGE PLAN				
A186.00	BULKHEAD SLAB EDGE PLAN				
A200.00	ELEVATION NORTH	X	X	X	X
A201.00	ELEVATION EAST	X	X	X	X
A202.00	ELEVATION SOUTH	X	X	X	X
A203.00	ELEVATION WEST	X	X	X	X
A204.00	ELEVATION	X	X	X	X
A300.00	BUILDING SECTION	X	X	X	X
A301.00	BUILDING SECTION	X	X	X	X
A302.00	BUILDING SECTION	X	X	X	X
A303.00	BUILDING SECTION	X	X	X	X
A304.00	BUILDING SECTION	X	X	X	X
A305.00	BUILDING SECTION				
A306.00	BUILDING SECTION				
A307.00	BUILDING SECTION				
A308.00	BUILDING SECTION				
A400.00	WALL SECTIONS				
A401.00	WALL SECTIONS				
A402.00	WALL SECTIONS				
A403.00	WALL SECTIONS				
A500.00	STAIR A SECTION	X	X	X	X
A501.00	STAIR B SECTION	X	X	X	X
A502.00	STAIR PLANS	X	X	X	X
A503.00	STAIR SECTIONS	X	X	X	X
A504.00	TYPICAL VERTICAL CIRCULATION DETAILS	X	X	X	X
A530.00	TRASH ROOM AND COMPACTOR				
A600.00	BATHROOM DRAWINGS				
A601.00	BATHROOM DRAWINGS				
A602.00	BATHROOM DRAWINGS				
A603.00	BATHROOM DRAWINGS				
A604.00	BATHROOM DRAWINGS				
A610.00	KITCHEN DRAWINGS				
A611.00	KITCHEN DRAWINGS				
A612.00	KITCHEN DRAWINGS				
A700.00	TYPICAL INTERIOR DETAILS CEILLING		X	X	X
A701.00	TYPICAL INTERIOR DETAILS FIRE STOPPING		X	X	X
A702.00	TYPICAL INTERIOR DETAILS FIRE STOPPING		X	X	X
A703.00	TYPICAL INTERIOR DETAILS		X	X	X
A704.00	TYPICAL INTERIOR DETAILS DOORS		X	X	X
A705.00	TYPICAL INTERIOR DETAILS MILLWORK AND WALL BASE		X	X	X
A706.00	TYPICAL INTERIOR DETAILS RESIDENTIAL MILLWORK		X	X	X
A707.00	TYPICAL INTERIOR DETAILS RESIDENTIAL MILLWORK		X	X	X
A708.00	TYPICAL INTERIOR DETAILS RESIDENTIAL MILLWORK		X	X	X
A709.00	TYPICAL INTERIOR DETAILS RESIDENTIAL MILLWORK		X	X	X
A750.00	INTERIOR SIGN DETAILS				
A751.00	INTERIOR SIGN DETAILS				
A800.00	TYPICAL EXTERIOR DETAILS		X	X	X
A801.00	TYPICAL EXTERIOR DETAILS		X	X	X
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A804.00	TYPICAL EXTERIOR DETAILS		X	X	X
A810.00	EXTERIOR DETAILS			X	X
A811.00	EXTERIOR DETAILS			X	X
A812.00	EXTERIOR DETAILS				
A813.00	EXTERIOR DETAILS				
A814.00	EXTERIOR DETAILS				
A815.00	EXTERIOR DETAILS				
EN001.00	ENERGY COMPLIANCE NOTES			X	X
EN002.00	ENERGY COMPLIANCE NOTES			X	X
EN003.00	ENERGY COMPLIANCE NOTES			X	X
EN004.00	ENERGY-THERMAL BOUNDRY DIAGRAM			X	X
EN005.00	ENERGY- NORTH ELEVATIONS			X	X
EN006.00	ENERGY- SOUTH ELEVATIONS			X	X
EN007.00	ENERGY- EAST ELEVATIONS			X	X
EN008.00	ENERGY- WEST ELEVATIONS			X	X
EN009.00	ENERGY - ROOF PLAN DIAGRAM			X	X
EN010.00	ENERGY - MASS FLOOR PLAN DIAGRAM			X	X
EN011.00	ENERGY- COMCHECK ENVELOPE			X	X
EN012.00	ENERGY- COMCHECK ENVELOPE			X	X
EN030.00	ENERGY- ENERGY MODELING EN1				X
EN031.00	ENERGY- ENERGY MODELING EN1				X
EN032.00	ENERGY- ENERGY MODELING EN1				X
pages		61		92	95

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BK55E

OWNER NAME:

PROJECT ADDRESS:

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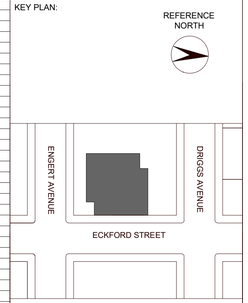
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Cover Page

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE:

DRAWING NO: **A000**

55 ECKFORD STREET ZONING ANALYSIS

2025-01-10

IN-OA

ADDRESS:			
55 ECKFORD STREET, BROOKLYN, NY 11222			
BOROUGH: **BROOKLYN**	DOB BIN#: **3067536**	BLOCK & LOT: **PROJECT: 32 / 2698**	SPECIAL DISTRICT: **MX-8 (ZR 123-00) SPECIAL MIXED USE DISTRICT GREENPOINT-WILLIAMSBURG, BROOKLYN**	ZONING MAP: **13(a)**
LOT AREA: **10,376 SF ,TOTAL** 8,621 SF IN M1-2/R6B 1,755 SF IN M1-2/R6A	LOT: **INTERIOR** INCLUSIONARY HOUSING DESIGNATED AREA: (APPENDIX F) **SITE IS IN IHDA (BROOKLYN CB1; MAP 2; AREA 1: GENERAL)**	STREET:NARROW/WIDE **ECKFORD STREET (60'): NARROW STREET**	LOT SIZE: **(97,75'X100.00')**
ZONING DISTRICT: **M1-2/R6B M1-2/R6A**	USE GROUP: **USE GROUP II**	BUILDING CODE: **2022**	OCCUPANCY GROUP: **R-2**	CONSTRUCTION CLASS: **1B**
FIRE DISTRICT: **YES**	COMMUNITY BOARD: **BROOKLYN 1**	TRANSIT ZONE **INNER TRANSIT ZONE**	ENVIROMENT DESIGNATIONS: **N/A**	FLOOD ZONE: **NO**

ZONING REGULATION	ITEM	PERMITTED / REQUIRED	PROPOSED	REMARKS
12-10	DEFINITION: "FLOOR AREA" SHALL NOT INCLUDED	(1) CELLAR; EXCEPT USED FOR DWELLING (2) ELEVATOR & STAIR BULKHEAD; WATER TANKS, OR COOLING TOWERS. (3) UNCOVERD STEPS (8) AREA FOR MECHANICAL EQUIPMENT (9) BALCONY & TERRACE: SEE ZR FOR DETAIL (15)IN A FULLY ELECTRIFIED BUILDING OR AN ULTRA LOW ENERGY BUILDING: 5% OF THE FLOOR AREA COULD BE EXCLUDED MAX. ALLOWED ENERGY DEDUCTION AREA=35,164 SF * 5%=1,758 SF (SEE ZFA CHART) PROPOSED TOTAL ZONING AREA 21,900.8 SF	SEE PROPOSED ZONING FLOOR TABLE ON DWG. Z005.00 **PROPOSED BUILDING AS AN ULTRA LOW ENERGY BUILDING** DEDUCTE 5% OF ZFA FROM TOTAL BUILDING ZFA. ENERGY DEDUCTION AREA SEE FA TABLE ON DWG. Z005.00	OK OK OK
ZR 123-20 22-121	USE REGULATION	IN MX-8: ALL USES PERMITTED IN RESIDENTIAL DISTRICT SHALL BE PERMITTED USE GROUP (II) : MULTI-FAMILY RESIDENTIAL BUILDING	PROPOSED MULTI-FAMILY RESIDENTIAL, TOTAL OF 21 UNITS	OK
12-10 DEFINITION		ACCESSORY USE OF USE GROUP (II)	PARKIN(CARS & BIKES), AMENITY, MECHANICAL AND UTILITY	OK
ZR 23-23 23-231 & 23-63 23-232 (a)&(b) 50% DEDUCTION FOR EACH 23-233 23-234	SPECIAL FLOOR AREA PROVISIONS FOR MULTI-FAMILY BUILDINGE FLOOR AREA FOR AMENITY FLOOR AREA FOR CORRIDOR FLOOR AREA FOR REFUSE STORAGE FLOOR AREA FOR ELEVATED G. FL	FOR MULTI-FAMILY BUILDINGE:THE FLOOR AREA BELOW MAY BE EXEMPTED FROM ZONING AREA PURSUANT TO ZR 12-10 UP TO 5 % DEDUCTION FOR AMENITY; SEE CODE FOR DETAILS (a)CORRIDOR TERMINATION: (1) DIRECT ACCESS TO OUTDOOR BALCONY OR TERRACE OR (2) WINDOWS W/ A GLAZED AREA >OR= 20 SF; OR (3) TERMINATES WITH A DWELLING UNITS HAS AT LEAST 3 BEDROOMS (b) LENGTH OF CORRIDOR: ELEVATOR CORE & FURTHEST DWELLING UNIT DOOR <100' 3 SF PER DWELLING UNIT 100 SF FOR EACH 1' RAISED UP TO MAX. 500 SF	ALL MULTI-FAMILY FLOOR AREA DEDUCTION SEE FA TABLE ON DWG. Z005.00	OK
ZR 123-61,123-622 23-22 & TABLE	FLOOR AREA RATIO FOR RESIDENTIAL BUILDING (WITHOUT I.H.)	THE BULK REGULATIONS OF 23-00 SHELL COMPLY R6B: MAX. RESIDENTIAL FAR (W/O INCLUSIONARY HOUSING)=2.00 R6A: MAX. RESIDENTIAL FAR (W/O INCLUSIONARY HOUSING)=3.00 **(8,621 SF X 2.00 + 1,755 SF X 3)=(17,242 SF + 5,265 SF)=22,507 SF** MAX. ZONING FLOOR AREA ALLOWED: 22,507 SF	PROPOSED RESIDENTIAL FAR SEE PROPOSED ZONING FLOOR TABLE ON DWG. Z005.00 **PROPOSED TOTAL RESIDENTIAL < 22,507 SF** PROPOSED ZONING FLOOR AREA SEEE FA TABLE ON DWG. Z005.00	OK
ZR 123-632, 23-362(a) 23-363(b)	LOT COVERAGE	IN R6A & R6B, AN INTERIOR LOT: MAX. LOT COVERAGE =80%; AN INTERIOR LOT WITHIN 100' OF CORNER, MAX. LOT COVERAGE =100%	PROPOSED RESIDENTIAL LOT COVERAGE PER ZR SEE PROPOSED ZONING DIAGRAMS (SIE PLAN) ON DWG. Z002.00	OK
ZR 23-52	MAX. NUMBER OF DWELING UNITS	MAX. NUMBER OF DWELLING UNITS R6A : MAX. PERMITTED RESIDENTIAL FLOOR AREA FOR 680 SF/PER D.U. 22,507 SF / 680 SF=33 UNITS ALLOWED	PROPOSED NUMBER OF DWELLING: 21<33	OK
ZR 23-62	BALCONY	(a)WITHIN ANY YARD, COURT,REQUIRED OPEN AREA: (1) DEPTH- > 1/3 DEPTH OR 7' WHICHEVER IS LESS; (2) AREA-<10% OF THE OPEN AREA; (3) AGGREGATE WIDTH-<50% OF THE PLANE SURFACE OF THAT LEVEL (b)WITHIN ANY AREA: (1)UNENCLOSED, EXCEPT BLDG. WALL, PARAPETS, RAILING: (i) PARAPET=4'; (ii) RAILING=4'-6" & MIN. 50% OPENING EXCEEDS 4'IN HEIGHT; (iii) SAFE GUARDS <10' IN HEIGHT; MIN. 90% TRANSPARENT EXCEEDS 4'IN HEIGHT; BALCONY CAN RECESSED UP TO 6' INTO A BLDG W/ MIN. 33% PERIMETER IS OPEN (2) BE LOCATED >OR= 13' ABOVE CURB LEVEL	PROPOSED ALL BALCONY ARE COMPLIED	OK
ZR 23-63	REQUIRED RECREATION SPACE IN MULTI-FAMILY BUILDING	MIN. 3% OF RESIDENTIAL FLOOR AREA; INDOOR F.A. COULD BE DEDUCTED PER 23-231 (a) SHOULD BE ACCESSIBLE TO THE RESIDENTS OF THE BLDG. (b)MIN. DIM. 15' (d) INDOOR REC. SHOULD HAVE WINDOWS OR SKYLIGHTS >OR= 9% OF ROOM AREA	PROPOSED ALL RECREATION ROOMS ARE COMPLIED	OK
23-311	PERMITTED OBSTRUCTION **IN ALL YARDS, COURTS AND OPEN AREAS AND REAR YARD & REAR YARD EQUIVALENT**	(a) ACCESSORY MECHANICAL EQUIPMENT, <18" FROM EXTERIOR WALL (c) AWNINGS AND OTHER SUN CONTROL DEVICES :(i) <2'-6"; AND (II) IN AGGREGATE COVER AREA (d) BICYCLES OR CAR PARKING (e) CANOPIES (f) CHIMNEYS, PROJECTING <3', AND AREA <2% THE AREA IN WHICH THEY PROJECT INTO (g) EAVES, GUTTERS, DOWNSPOUTS, PROJECTING <16", OR< 20 % WIDTH OF SUCH YARD , WHICHEVER IS THE LESSER (j) QUALIFYING EXTERIOR WALL THICKNESS; (k) ADA RAMPS OR LIFTS (m) TERRACES OR PORCHES, OPEN; (n) WINDOW SILLS PROJECTING <4"	PROPOSED PER REGULATIONS (SEE DTL-1 TO 4 @ DWG-Z005.00 AND DTL 4 ON Z004.00) PARTIAL GARAGE BUILDING IN THE REAR YARD AREA	OK
ZR 23-312	ADDITIONAL PERMITTED OBSTRUCTION **IN ALL YARDS, COURTS AND OPEN AREAS AND REAR YARD & REAR YARD EQUIVALENT**	(a) BALCONY PER 23-62; NOT IN THE SIDE YARDS & REAR LOT LINE (b) FENCES, NOT IEXCEEDING 4' IN HEIGHT (g) ENERGY INFRASTRUCTURE EQUITMENT & MECHANICAL EQUIPMENT: SEE CODE (h) STEPS: ACCESSES ONLY LOWEST STORY OF CELLAR FRONTING ON A STREET (j) WALLS, NOT EXCEEDING 8', NOT ROOFED		
ZR 23-341	PERMITTED OBSTRUCTION **IN ANY REAR YARD AND & REAR YARD EQUIVALENT**	(a) ALL IN ZR 23-311 & 23-312 AND (4) RECREATIONAL OR DRYING YARD EQUIPMENT; (5) SHED, TOOL ROOMS OR STORAGE W/ A HEIGHT <10' (a) ALL IN ZR 23-311 & 23-312 AND (1) BALCONY PER 23-62		
ZR 123-631(a)(1) ZR 23-342 (a)(1) ZR 23-342 (b) ZR 23-343 (b)	FRONT, SIDE YARD, REGULATIONS REAR YARD REGULATIONS FOR SHALLOW LOT (PARTIAL) WITHIN 100' OF CORNERS (PARTIAL)	NO FRONT YARDS, NO SIDE YARDS REQUIRED (>5',IF SIDE YARD PROVIDED) REAR YARD: BELOW A HEIGHT OF 75'; >OR=20' REQUIRED; ABOVE 75';>OR=30' REQUIRED (95'-69.5')X0.5'=12.75'>10': REAR YARD REDUCED TO 10' ON LOT DEPTH=69.9' PORTION NO REAR YARD REQUIRED	SEE PROPOSED ZONING DIAGRAMS ON DWG. Z002 & Z003 PROPOSED >20' REAR YARD PER CODE(PARTIAL) PROPOSED >10' REAR YARD PER CODE (69.5' PORTION)	OK
ZR 23-41 & 23-411	PERMITED OBSTRUCTION **ABOVE MAX. BLDG. HEIGHT**	GENERAL PERMITTED OBSTRUCTIONS (a) AWNINGS: SEE CODE FOR DETAILS (b) BUILDING COLUMNS; <20% STREET WALL; <12" (c) CHIMNEY OR FLUES <10% WIDTH OF STREET WALLS AT ANY LEVEL (d) DECK <3'6" IN HEIGHT (f) PARAPET W.<4'; RAILING <4'6" (50% OPEN), SAVETY GUARD<10' (90% TRANSPARENT) (g) QUALIFING EXTERIOR WALL THICKNESS (i) SKYLIGHTS, CLERESTORIES OR DAYLIGHTING DEVICES ,4' IN HEIGHT (j) SOLAR ENERGY SYSTEM OR ENERGY INFRASTRUCTURE EQUIPMENT (k) VEGETATED ROOF <3'-6" IN HEIGHT EXCLUDING VEGETATION (l) WRIES, CHECK DAMS FOR STOMWATER MANAGEMENT <3'-6" IN HEIGHT (m) WINDOW WASHING EQUIPMENT (n)WIRE CHAIN LINK OR OTHER TRANSPARENT FENCES.	PROPOSED PER REGULATIONS (SEE ZONING DIAGRAMS @ DWG-Z002.00 AND Z003.00)	OK
ZR 23-412	ADDITIONAL PERMITTED OBSTRUCTION	(a) BALCONY PER 23-62 (c) ELEVATOR OR STAIR BULKHEAD; VESTIBULES <60 SF, WATER TANK, MECHINICAL EQUIPMECT (INCLUDING ENCLOSURE): (1) NOT LOCATED WITHIN 10' FROM STREET WALL EXCEPT BULKHEAD; BULK HEAD SHOULD BE <30% OF STREET WALL , OR (2) AGGREGATE AREA SHOULD <50% LOT COVERAGE; THE HEIGHT SHALL NOT EXCEED 15' OR (3) AGGREGATE AREA <30% LOT COVERAGE; THE HEIGHT SHALL NOT EXCEED 35' (5) ALL EQUIPMENT SHOULD BE APPLICABLE PROVISION OF 26-60	PROPOSED PER REGULATIONS (SEE ZONING DIAGRAMS @ DWG-Z002.00 AND Z003.00)	
ZR 23-413 (b)(1)	PERMITTED OBSTRUCTIONS IN CERTAIN DISTRICTS(DORMERS) **(APPLY WITHIN A REQUIRED FRONT SETBACK ABOVE BASE HEIGHT)**	R6B & R6B ; DORMERS SHALL BE ALLOWED (i) DORMERS:<60% OF BLDG. W/ EACH FEET ABOVE MAX. BASE HEIGHT (ii) DORMERS AGGREGATE AREA <40% OF STREET WALL @ THE HIGHTEST BASE HEIGHT (4) WINDOW WASHING EQUIPMENT SHALL NOT BE ALLOWED	PROPOSED DORMERS ON 5TH FLOOR PER CODE (SEE ZONING DIAGRAMS @ DWG-Z002.00 AND Z003.00)	OK
ZR 123-652(a) AND 23-432 & TABLE ZR 123-652(a) & 23-433	HIGH & SETBACK REGULATION (WITHOUT IH)	RESIDENTIAL (OR BLDG. CONTAINING RESIDENTIAL) MIN. BASE HEIGHT=30' (R6B) MAX. BASE HEIGHT=45' (R6B) MAX. BUILDING HEIGHT=55' (R6B) SETBACK REQUIREMENT FOR NARROW ST.=15'	PROPOSED BUILDING ON SITE: BASE HEIGHT=45' (4 STORY) MAX. BUILDING HEIGHT=55' ; 5 STORIES PROPOSED 15' SETBACK ABOVE BASE HEIGHT (SEE ZONING DIAGRAMS @ DWG-Z002.00 AND Z003.00)	OK
ZR 123-651	STREET WALL LOCATION STREET WALL LOCATION ARTICULATION	(a) PERCENTAGE-BASED RULES: MIN. 70% OF AGGREGATE WITH OF STREET ALL SHOULD BE WITHIN 8' OF STREET LINE UP TO MIN. BASE HEIGHT. 30% MAY BE RECESSED BRYOND 8' IF DEEPER THAN 15' ARE LOCATED WITHIN AN OUTER COURT. (c) ARTICULATION ALLOWANCES: 12" PROJECT OR RECESS FOR 100% STREET WALL; UP TO 50 % SUCH RECESS OR PROJECTION COULD BE < OR = 3'; NO PROJECTION SHALL EXTEND BEYOND STREET LINE EXCEPT PERMITTED NYC ADMINISTRATIVE CODE.	PROPOSED PER REGULATIONS (SEE ZONING DIAGRAMS @ DWG-Z002.00 AND Z003.00)	OK OK
123-23 & 32-301 32-322 (a)(2): 32-322 (b)(1)(ii): 32-322 (b)(2)	GROUND FLOOR STREETSCAPE ALTERNATE GROUND FLOOR LEVEL ALTERNATIVE PROVISIONS	TIER B STREET FRONTAGE: THE GROUND FLOOR LEVEL STREET FRONTAGE OF A LOT IN THE SPECIAL PROPOSED SITE FIT INTO THE QUALIFYING CRITERIA: 32-322(a)(2): A RESIDENCE DISTRICT (R6B & R6A), **PARKING WRAP:** AND LOCATION ALONG NARROW STREET FRONTAGE PER 32-312: SEE CODE **BLANK WALLS:** >70% OF SUCH BLANK WALL SHALL BE MITIGATED WITH WALL TREATMENT, IN THE FORM OF SIGNS 9PER 32-60, MURALS, ARTWORK, OR LIVING PLANT MATERIAL.	PROPOSED GROUND FLOOR STREETSCAPE PER REGULATION (TIER B STREET FRONTAGE)	OK
ZR 123-72 & 25-211 ZR 25-11 25-16	OFF-STREET PARKING (RESIDENTIAL)	NOT REQUIRED FOR INNER TRANSIT ZONE ACCESSORY OFF STREET PARKING MAY BE PROVIDED FOR RESIDENCES MAX. SPACES ALLOWED FOR OTHER RESIDENCES: 2 PER UNIT	PROPOSED 8 PARKING SPACES (8<42,OK)	OK
25-811	BICYCLE PARKING REGULATIONS	RESIDENTIAL 1 PER 2 DWELLING UNITS	PROPOSED 11 BICYCLE PARKING SPACE RESIDENTIAL: 21 UNITS X 50 %=11 BIKE SPACES	OK
26-41	TREE PLANTING REGULATIONS	1 PRE 25 FT OF STREET FRONTAGE OF ZONING LOT	REQUIRED 4 TREES 100'/25'=4 TREES REQUIRED 4 PAY TO TREE FUND	OK
25-631(d) (32-323)	LOCATION & WIDTH OF CURB-CUT ACCESSING RESIDENTIAL PARKING M-1/R6B	ONE CUB-CUT AND MIN. WIDTH OF CURB-CUR 12' W/ SPLAYS PERMITTED	PROPOSED (1) 12' CURB-CUTS 35' ON ECKFORD STREET FROM THE PROPERTY LINE ON THE NORTH SIDE	OK

ZONING ANALYSIS 1

PROJECT NARRATIVE:

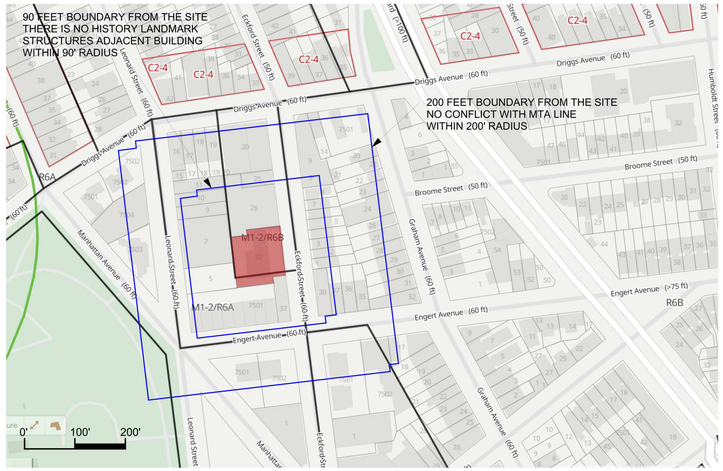
PROPOSED A 55' HEIGHT MULTI-FAMILY RESIDENTIAL BUILDING; 5TH FLOOR ABOVE GROUND (WITH 1 LEVEL OF CELLAR UNDERGROUND) TOTAL OF 21 RESIDENTIAL UNITS, AN 8 CARS GARAGE ON GRADE, THE CELLAR WILL PROVIDE AN 11 BIKES PARKING ROOM AND SPACE FOR UTILITY USE.

OTHER APPLICATIONS FILE SEPARATELY AS PER AC 28-104.7.11:

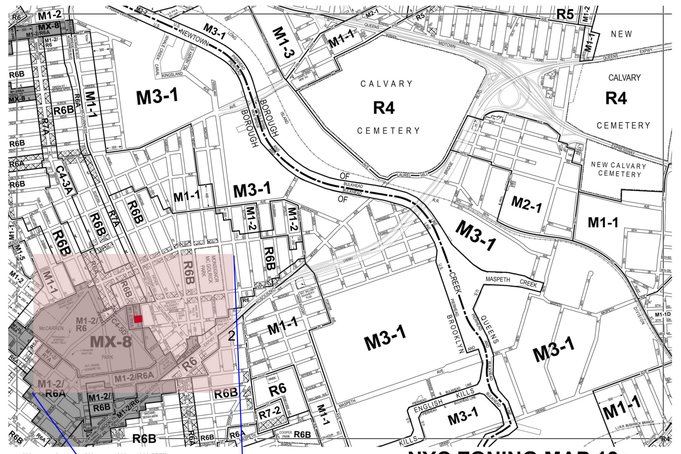
STRUCTURE:
PLUMBING:
SPRINKLER:
MECHANICAL:
BPP:
FOUNDATION:

ZONING SITE PLAN SEE DWG. Z002.00
BASE PLANE ECALCULATION ON SITE PLAN @ DWG. Z002.00

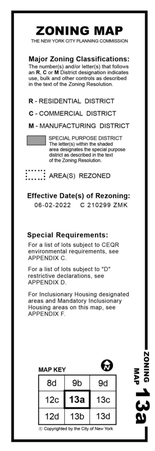
PROJECT NARRATIVE AND ALL RELATED APPLICATION 2

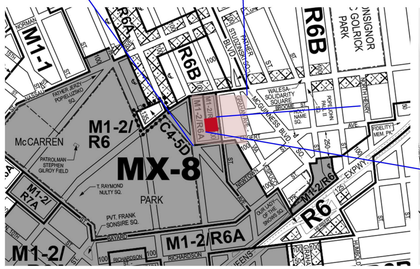


PROJECT LOCATION PLAN, MTA & LANDMARK DIAGRAM 3

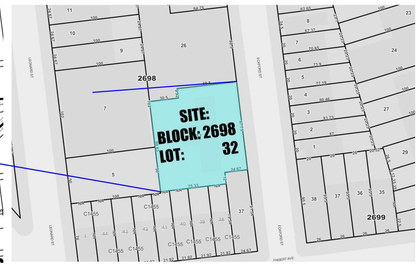


NYC ZONING MAP 13a





ZONING MAP 13a ZOOMED



NYC DOF TAX MAP

PROJECT ZONING MAP 17a & TAX MAP 4

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

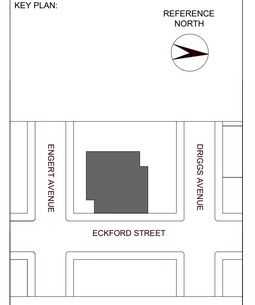
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New York, NY 10018
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T: (718) 752-1500

MEP ENGINEER
REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

GENERAL ZONING ANALYSIS

SEAL & SIGNATURE:

REGISTERED ARCHITECT MURAT MUTLU 036742 STATE OF NEW YORK

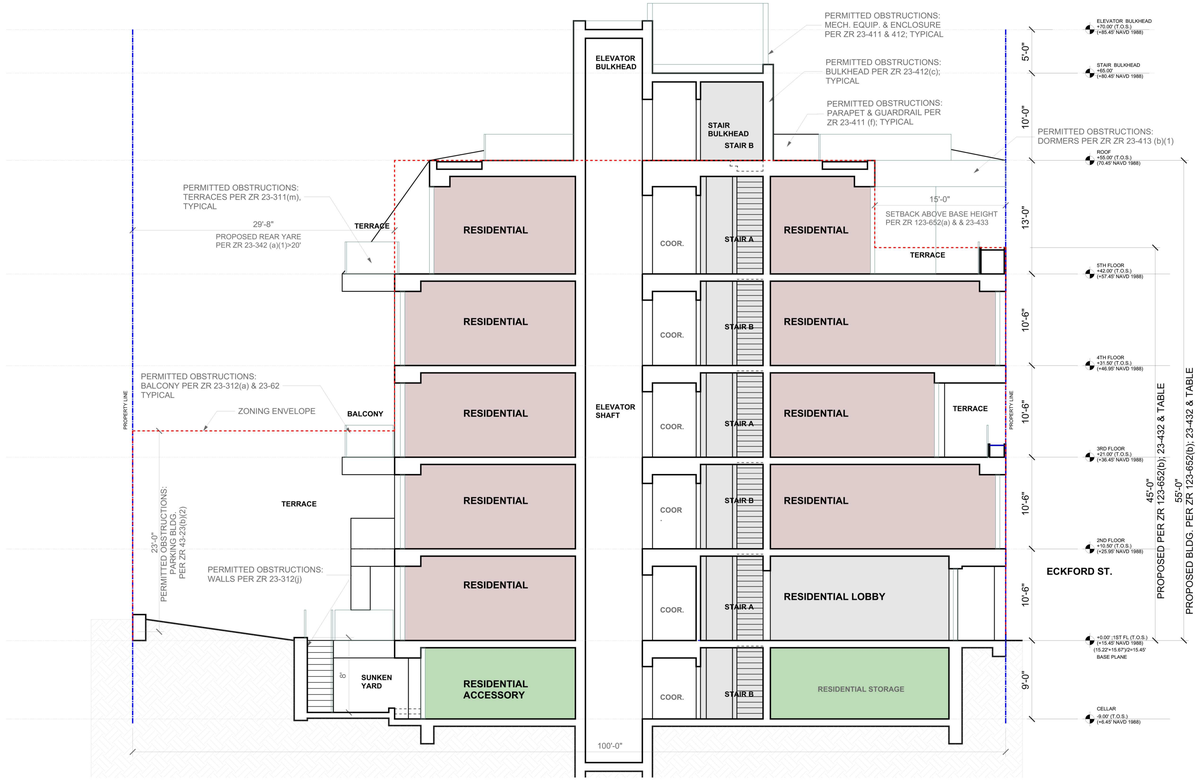
DATE: 02/21/2025

SCALE:

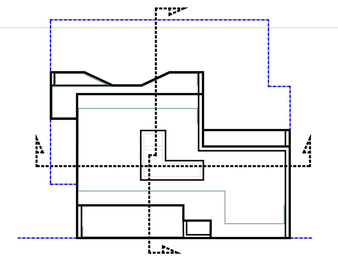
DRAWING NO: **Z001**

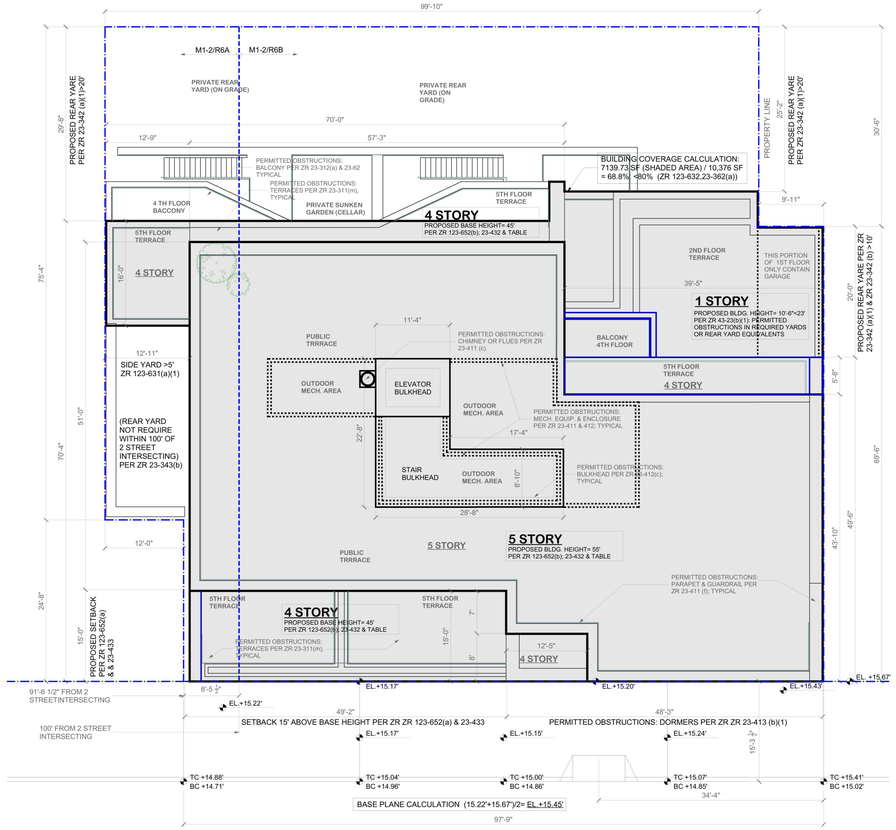


ZONING SECTION (CROSS) SCALE: 1/8"=1'-0" 1



ZONING SECTION (LONGITUDINAL) SCALE: 1/8"=1'-0" 2





ZONING SITE PLAN SCALE: 3/32"=1'-0" 3

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

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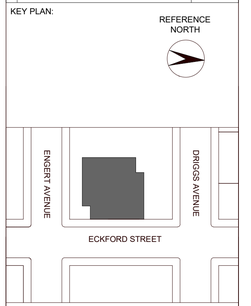
MEP ENGINEER

REAL ENGINEERING

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Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

ZONING COMPLIANCE SITE PLAN & SECTIONS

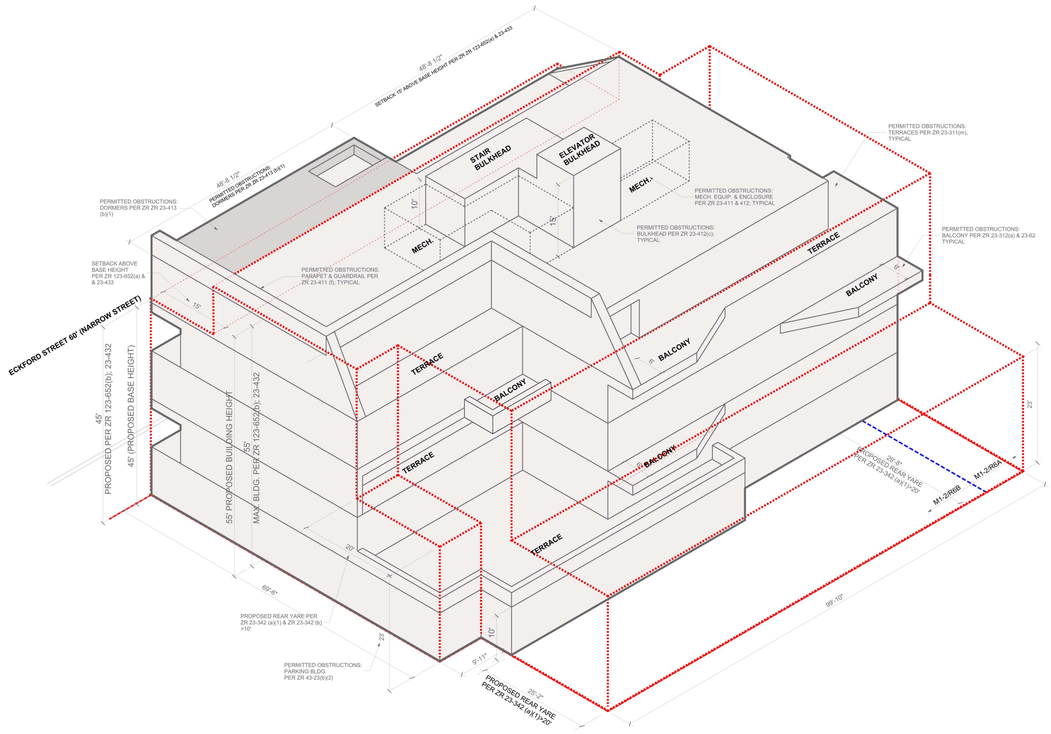
SEAL & SIGNATURE:

REGISTERED ARCHITECT MURAT MUTLU 036742 STATE OF NEW YORK

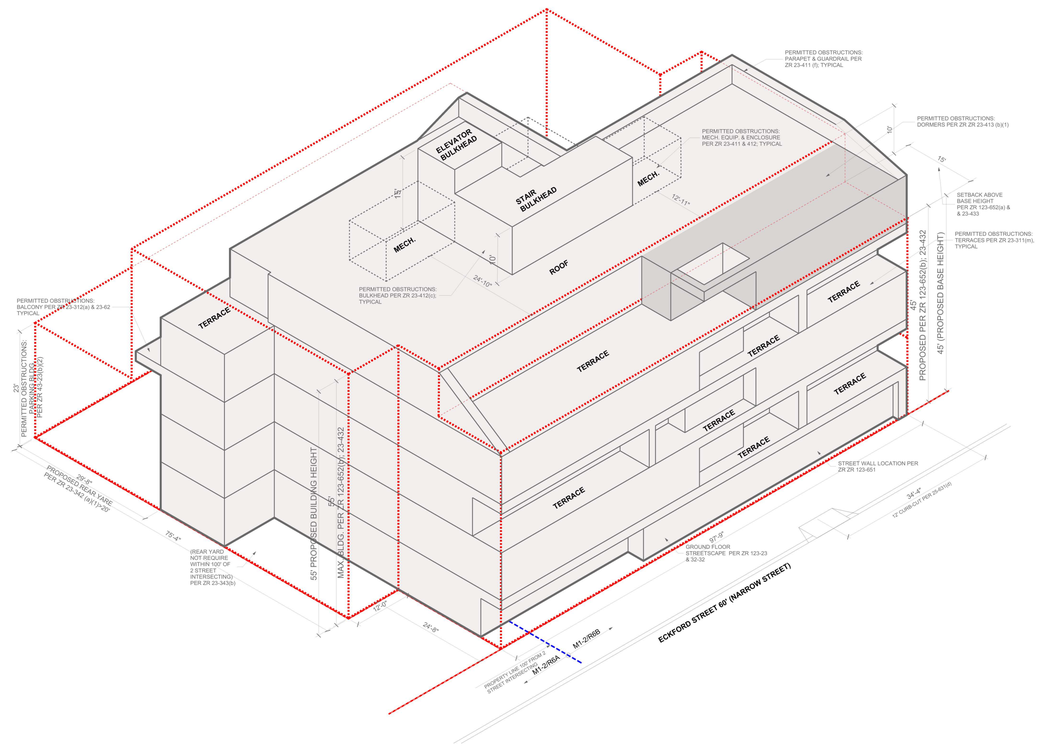
DATE: 02/21/2025

SCALE:

DRAWING NO: **Z002**



ZONING ISOMETRIC (SOUTH-EAST) SCALE: 1/8"=1'-0" 1



ZONING ISOMETRIC (NORTH-WEST) SCALE: 1/8"=1'-0" 2

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

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STRUCTRAL ENGINEER

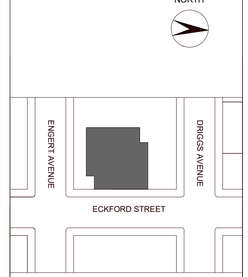
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MEP ENGINEER

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T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

ZONING COMPLIANCE ISOMETRICS

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE:

DRAWING NO: **Z003**

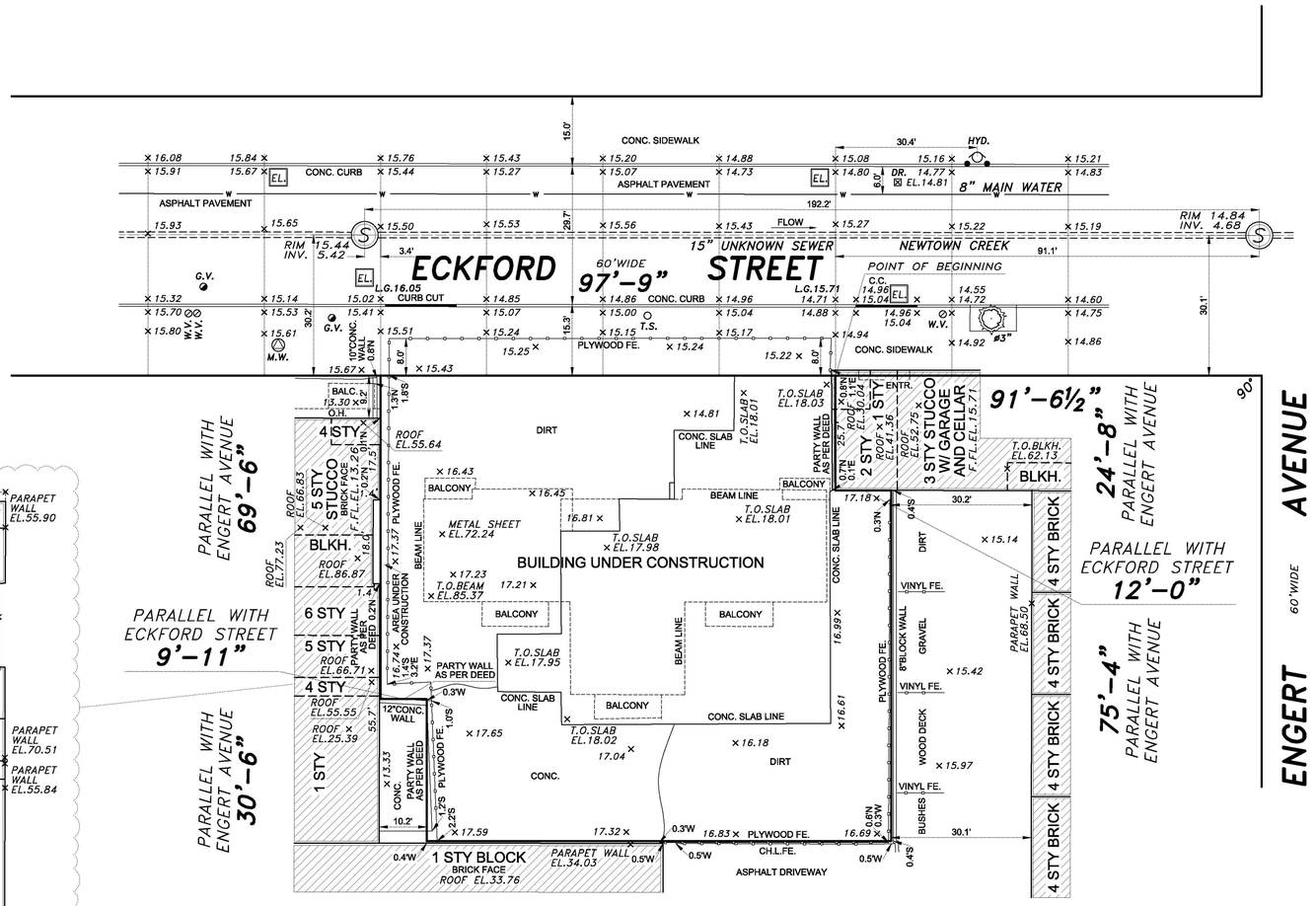
JOB NO. B 2698-32-TO

SURVEYED ON: AUGUST 15, 2024

FLOOD NOTE

BY GRAPHIC PLOTTING ONLY, SUBJECT PROPERTY IS LOCATED IN
ZONE X (0.2% ANNUAL CHANCE STORM EVENT)
AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR COMMUNITY PANEL NUMBER
360 497 0202 F WHICH BEARS AN EFFECTIVE DATE OF SEPTEMBER 5, 2007.
ZONE X (0.2% ANNUAL CHANCE STORM EVENT)
AS SHOWN ON THE PRELIMINARY FEMA MAP PANEL NUMBER
360 497 0202 G WHICH BEARS AN REVISED DATE OF JANUARY 30, 2015.

SCALE 1"=20'



NEIGHBOR BUILDING DETAIL
SCALE: 1"=20'

LOT AREA = 10376.54 sq.ft. = 0.2382 acre

GRAPHIC SCALE

ALL WRITTEN MEASUREMENTS AND OFFSETS NOTED ON THIS SURVEY SUPERSEDE MEASUREMENTS SCALED OF THIS PLOT.

SCALE 1:20

0 10 20 30 40 50 100

SYMBOLS AND ABBREVIATIONS

FENCE	CH.L.FE. / WOOD FE.
UTILITY POLE	U.P.
PARKING METER	P.M.
OIL FILL	O.F.
MONITORING WELL	M.W.
TRAFFIC LIGHT	T.L.
LIGHT	
STREET LIGHT	L.P.
FIRE HYDRANT	HYD.
SIAMESE CONNECTION	SPR.
SHUT OFF VALVE	G.V. / W.V.
HANDICAPPED PARKING	
EXISTING TREE	#12"
DRAINS	D.R.
ROOF OVER	R.O.
EXISTING ELEVATIONS	×43.15 TOP OF CURB / ×42.93 BOTTOM OF CURB
CITY ESTABLISHED GRADES	×43.78 / L.G.7.52
CURB AND CURB CUT	C.C. / CH.S.W.
OVERHEAD SERVICE	
CABLE TV MANHOLE	CTV
MANHOLES	MH, E, T, W, S — RIM EL. / INV.EL.
CATCH BASIN	C.B.
FIRE ESCAPE	F.E.
PLATFORM	PL. or PLTF.
BASEMENT ENTRANCE	B.E.
CELLAR ENTRANCE	C.E.
AIR WAY	A.W.
BAY WINDOW	B.W.
CONCRETE	CONC.
OVERHANG	O.H
AIR CONDITION	AC
METAL	MET.
NORTH OF PROPERTY LINE	N
SOUTH OF PROPERTY LINE	S
EAST OF PROPERTY LINE	E
WEST OF PROPERTY LINE	W

GENERAL NOTES

SUBSURFACE UTILITIES ARE NOT GUARANTEED BY SURVEYOR. HIGH CAUTION RECOMMENDED AND VERIFICATION WITH PROPER CITY AGENCIES, IS MANDATORY BEFORE COMMENCING ALL NEW WORK.

ALL SUBSURFACE AND OVERHEAD UTILITIES (AS TO SIZE , TYPE AND DEPTH) SHOWN ON THIS SURVEY ARE TAKEN FROM RECORDS OF GOVERNMENTAL AGENCIES AND UTILITY COMPANIES, UNLESS OTHERWISE NOTED AND SHOWN.

COVER OR DEPTH OF UTILITIES WHICH DERIVED FROM FIELD MEASUREMENTS SHOWN ON THIS SURVEY SHOULD BE VERIFIED WITH PROPER AGENCY PRIOR TO CONSTRUCTION OF PROJECT. INVERT ELEVATIONS ARE DERIVED FROM CITY AGENCY RECORDS WHEN NOT AVAILABLE BY FIELD SURVEY AND NOTED AS "PER RECORD" ON THE SURVEY.

ALL SUBSURFACE UTILITY AS TO LOCATION AND DEPTH, SHOULD BE RECHECKED AND LEGAL GRADES SHOULD BE VERIFIED WITH THE TOPOGRAPHICAL BUREAU, PREFERABLY IN WRITING BEFORE COMMENCING CONSTRUCTION.

THIS IS TO CERTIFY THAT THERE ARE NO STREAMS OR NATURAL WATER COURSES ON THE SURVEYED PROPERTY EXCEPT AS SHOWN AND/OR DESCRIBED ON THIS SURVEY.

ALL OPERATIONS OF UNDERGROUND FACILITIES AND ALL EXCAVATORS ARE OBLIGATED TO COMPLY WITH ARTICLE 36 OF THE GENERAL BUSINESS LAW AND WITH PROVISIONS OF INDUSTRIAL CODE PART (RULE NO.36) BEFORE ANY EXCAVATION OR DEMOLITION IS COMMENCED. EVERY EXCAVATOR IS REQUIRED BY THESE LAWS TO GIVE ADVANCE NOTICE TO EVERY OPERATOR OF UNDERGROUND FACILITIES OF HIS INTENT TO PERFORM EXCAVATION OR DEMOLITION WORK IN THE SPECIFIED AREA

ALL ELEVATIONS SHOWN REFER TO THE NAVD 1988 DATUM. TO OBTAIN:
- NGVD 1929 DATUM - ADD 1.088 FEET
- BROOKLYN BOROUGH DATUM - SUBTRACT 1.447 FEET

EASEMENTS IF ANY ARE NOT SHOWN ON THIS SURVEY. NO INFORMATION PROVIDED TO SURVEYOR AT THIS TIME.

UNDERGROUND UTILITIES NOTES

UNDERGROUND, OVERHEAD AND GROUND LEVEL UTILITIES ARE NOT GUARANTEED AS TO ACCURACY, EXACT LOCATION, TYPE OR USE, ACTIVE OR INACTIVE. VERIFICATION IS MANDATORY WITH MUNICIPAL AGENCIES, PUBLIC AND PRIVATE UTILITY COMPANIES PRIOR TO TAKING TITLE AND OR DESIGN WORK. BOUNDARIES ARE NOT GUARANTEED UNLESS SO NOTED.

ALL OPERATIONS OF UNDERGROUND FACILITIES AND ALL EXCAVATORS ARE OBLIGATED TO COMPLY WITH ARTICLE 36 OF THE GENERAL BUSINESS LAW AND WITH PROVISIONS OF INDUSTRIAL CODE PART (RULE NO. 35) BEFORE ANY EXCAVATION OR DEMOLITION IS COMMENCED. EVERY EXCAVATOR IS REQUIRED BY THESE LAWS TO GIVE ADVANCE NOTICE TO EVERY OPERATOR OF UNDERGROUND FACILITIES OF HIS INTENT TO PERFORM EXCAVATION OR DEMOLITION WORK IN THE SPECIFIED AREA

UNAUTHORIZED ALTERATION OR ADDITION TO THIS SURVEY IS A VIOLATION OF SECTION 7209 OF THE **NEW YORK STATE EDUCATION LAW.** COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYOR'S INKED SEAL OR EMBOSSED SEAL SHALL NOT BE CONSIDERED TO BE A VALID COPY. GUARANTEES OR CERTIFICATIONS INDICATED HEREON SHALL RUN ONLY TO THE PERSON FOR WHOM THE SURVEY IS PREPARED AND ON HIS BEHALF TO THE TITLE COMPANY, GOVERNMENTAL AGENCY AND LENDING INSTITUTION LISTED HEREON, AND TO THE ASSIGNEES OF THE LENDING INSTITUTION. GUARANTEES OR CERTIFICATIONS ARE NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.

GUARANTEED TO:

COUNTY: KINGS CITY: BROOKLYN

SECTION: BLOCK: 2698 LOT(S): 32

PROPERTY ADDRESS: 55 ECKFORD STREET

ARCHITECTURAL SURVEY

PREPARED BY
PERFECT POINT
LAND SURVEYING
brooklyn - queens - manhattan - bronx
staten island - nassau
phone: (718) 474-7700
fax: (718) 872-9699
info@ppsurveying.com
www.ppsurveying.com

STATE OF NEW YORK ARKADIUSZ JUSIEGA LICENSED LAND SURVEYOR 050569

DATE: AUGUST 15, 2024

N.Y.S. L.L.S. 050569

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE
330 West 38th Street #1704
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MEP ENGINEER

REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Site Survey

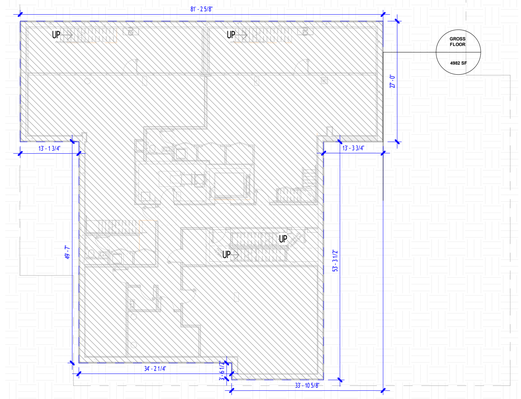
SEAL & SIGNATURE:

REGISTERED ARCHITECT MURAT MUTLU 036742 STATE OF NEW YORK

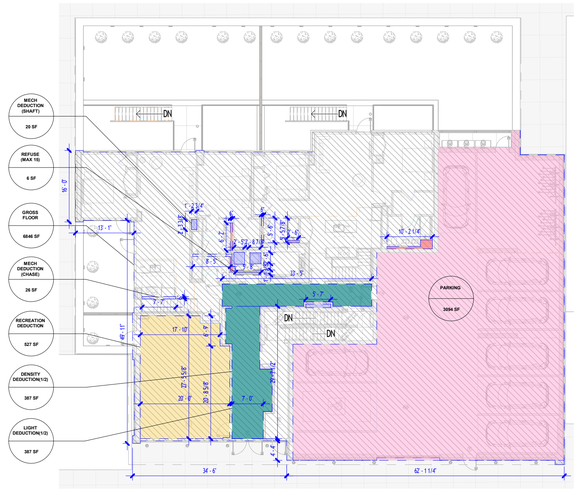
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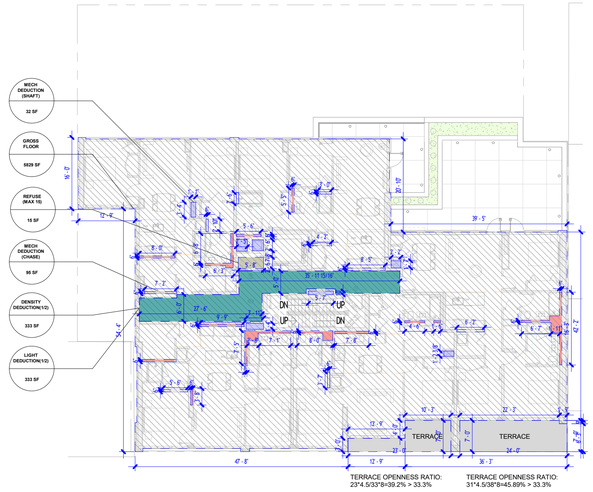
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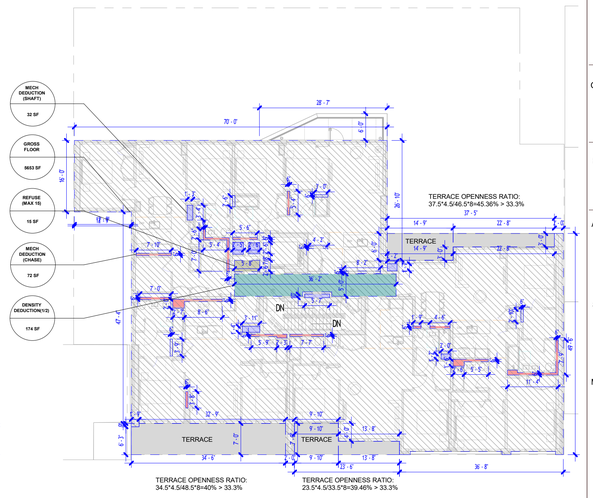
1 CELLAR ZONING DEDUCTION
1/16" = 1'-0"



2 LEVEL 1 ZONING DEDUCTION
1/16" = 1'-0"



3 LEVEL 2 ZONING DEDUCTION
1/16" = 1'-0"



4 LEVEL 3 ZONING DEDUCTION
1/16" = 1'-0"

5 LEVEL 4 ZONING DEDUCTION
1/16" = 1'-0"

6 LEVEL 5 ZONING DEDUCTION
1/16" = 1'-0"

7 ROOF ZONING DEDUCTION
1/16" = 1'-0"

DAYLIGHT AREA: 188 SF

CORRIDOR AREA:338 SF
DAY LIT AREA RATIO = 188/338 = 55.6% > 50% (COMPLIES)

8 LEVEL 2 & 4 HALLWAY DAYLIGHT CALCULATION
1/16" = 1'-0"

DAYLIGHT AREA: 264 SF

CORRIDOR AREA: 387 SF
DAY LIT AREA RATIO = 264/387 = 68.2% > 50% (COMPLIES)

9 LEVEL 1 HALLWAY DAYLIGHT CALCULATION
1/16" = 1'-0"

LEGEND

- MECH DEDUCTION CHASE WALL AREA 100% DEDUCTION
- MECH DEDUCTION SHAFT AREA 100% DEDUCTION
- DENSITY DEDUCTION CORRIDOR AREA 50% DEDUCTED
- GROSS FLOOR AREA TOTAL NO DEDUCTION
- RECREATION DEDUCTION 100% DEDUCTION
- LIGHT DEDUCTION 50% DEDUCTED
- ENERGY DEDUCTION CELLAR/BULKHEAD 100% DEDUCTED
- QH REFUSE DEDUCTION REFUSE ROOM 100% DEDUCTED 12SQF MAX
- XXXX DEDUCTION — DEDUCTION TYPE
- XXXX SQF — TOTAL AREA OF THE DEDUCTION TPYE ON FLOOR PLAN
- DEDUCTION AREA TAG

ZONING AREA DEDUCTION BY FLOOR LEVEL

TAG TYPE NAME	FILLED REGION AREA	ZONING CALCULATION NUMBER	DEDUCTION AREA
CELLAR			
_GROSS FLOOR	4,979 SF	100%	4,979 SF
BULKHEAD/CELLAR	4,979 SF	-100%	-4,979 SF
			0 SF
LEVEL 1			
_GROSS FLOOR	6846 SF	100%	6,846 SF
MECH CHASE	29 SF	-100%	-29 SF
MECH SHAFT	21 SF	-100%	-21 SF
QH DAY LIGHT	387 SF	-50%	-193.5 SF
QH DENSITY	387 SF	-50%	-193.5 SF
RECREATION	534 SF	-100%	-534 SF
PARKING	3095 SF	-100%	-3,095 SF
REFUSE CL	6 SF	-100%	-6 SF
			2,774 SF
LEVEL 2			
_GROSS FLOOR	5,829 SF	100%	5,829 SF
MECH CHASE	95 SF	-100%	-95 SF
MECH SHAFT	32 SF	-100%	-32 SF
QH DENSITY	333 SF	-50%	-166.5 SF
QH DAY LIGHT	333 SF	-50%	-166.5 SF
REFUSE CL	15 SF	-100%	-15 SF
			5,354 SF
LEVEL 3			
_GROSS FLOOR	5,653 SF	100%	5,653 SF
MECH CHASE	72 SF	-100%	-72 SF
MECH SHAFT	32 SF	-100%	-32 SF
QH DENSITY	174 SF	-50%	-87 SF
REFUSE CL	15 SF	-100%	-15 SF
			5,447 SF
LEVEL 4			
_GROSS FLOOR	5,840 SF	100%	5,840 SF
MECH CHASE	95 SF	-100%	-95 SF
MECH SHAFT	32 SF	-100%	-32 SF
QH DENSITY	333 SF	-50%	-166.5 SF
QH DAY LIGHT	333 SF	-50%	-166.5 SF
REFUSE CL	15 SF	-100%	-15 SF
			5,365 SF
LEVEL 5			
_GROSS FLOOR	4,663 SF	100%	4,663 SF
MECH CHASE	50 SF	-100%	-50 SF
MECH SHAFT	29 SF	-100%	-29 SF
QH DENSITY	174 SF	-50%	-87 SF
REFUSE CL	12 SF	-100%	-12 SF
			4,485 SF
LV BULKHEAD			
_GROSS FLOOR	384 SF	100%	384 SF
BULKHEAD/CELLAR	287 SF	-100%	-287 SF
			97 SF
OVER ALL BUILDING			
ULTRA LOW ENERGY BUILDING	1,115.5 SF	-100%	-1,115.50 SF
			-1,115.50 SF
			22,407 SF

ZONING DEDUCTION CONCLUSION BY DEDUCTION CATEGORY

TAG TYPE NAME	ZONING CALCULATION NUMBER	DEDUCTION AREA
BULKHEAD/CELLAR	-100%	-5,266.0 SF
PARKING	-100%	-3,095.0 SF
MECH. CHASE	-100%	-341 SF
MECH. SHAFT	-100%	-146 SF
QH DAY LIGHT	-50%	-526.5 SF
QH DENSITY	-50%	-700.5 SF
RECREATION	-100%	-534 SF
REFUSE CL	-100%	-63 SF
ULTRA LOW ENERGY BUILDING	-100%	-1115.5 SF
		-11,787.5 SF

ZONING GROSS AREA SCHEDULE

LEVEL TEXT	TAG TYPE NAME	FILLED REGION AREA	ZONING CALCULATION NUMBER	DEDUCTION AREA
CELLAR	_GROSS FLOOR	4,979 SF	100%	4,979 SF
LEVEL 1	_GROSS FLOOR	6,846 SF	100%	6,846 SF
LEVEL 2	_GROSS FLOOR	5,829 SF	100%	5,829 SF
LEVEL 3	_GROSS FLOOR	5,653 SF	100%	5,653 SF
LEVEL 4	_GROSS FLOOR	5,840 SF	100%	5,840 SF
LEVEL 5	_GROSS FLOOR	4,663 SF	100%	4,663 SF
LV BULKHEAD	_GROSS FLOOR	384 SF	100%	384 SF
				34,194 SF

Level	Floor Height (Ft)	Floor Width (Ft)	Floor Depth (Ft)	Gross FA	Corridor Area	Shaft	Ultra Low Energy Building	Density Deduction	Mech/Chase Deduction	DayLight Deduction	Bulkhead	Rec. Rm.	Trash Rm	Parking	Total Zoning Deductions	Zoning FA	Non-Leasable Area	CF	Residential Net Leasable Area	Outdoor Space	Dwelling Units
Cellar		67.75	Varies	4,979.0											4979.0		2994.0		1985.0	761.3	
Level 1	10.5	109	Varies	6,846.0	387.0	21		193.5	29	193.5	0	534	6	3095	4072.0	2774.0	4564.0	0.0	2282.0	2,365.0	2
Level 2	10.5	109	Varies	5,829.0	333.0	32		166.5	95	166.5	0	0	15		475.0	5354.0	633.0		5196.0	1,289.0	5
Level 3	10.5	109	Varies	5,653.0	174.0	32		87	72		0	0	15		206.0	5447.0	513.0		5140.0	741.0	5
Level 4	10.5	109	Varies	5,840.0	333.0	32		166.5	95	166.5	0	0	15		475.0	5365.0	634.0		5206.0	425.0	5
Level 5	13	96.33	Varies	4,663.0	174.0	29		87	50		0	0	12		178.0	4485.0	423.0		4240.0	1,703.0	4
BULKHEAD				384.0							287.0				287.0	97.0				2,532.0	
							1115.5								1115.5						
Total	**55.00**			**34,194**		**146**	**0.00**	**700.5**	**341**	**526.5**	**287**	**534**	**63**		**11787.5**	**22406.5**	**6,767**	**0.0**	**22064.0**	**9816.3**	**21**
															Remaining ZFA	**100.5**					

PROJECT NAME:

BK55E

OWNER NAME:

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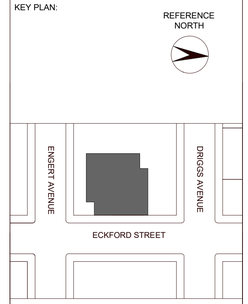
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Zoning Deduction Diagrams

SEAL & SIGNATURE:

DATE: 02/21/2025

SCALE: As indicated

DRAWING NO: **Z005**

55 ECKFORD STREET BROOKLYN, BUILDING CODE ANALYSIS

20250224 INOA

CODES:	CODE SECTION/TABLE				NOTE
		2022 NYC CONSTRUCTION CODE			
		2011 NYC ELECTRICAL CODE			
		2020 NYC ENERGY CONSERVATION CODE			
		2009 NYC ACCESSIBILITY CODE			
ESTABLISHMENT OF FIRE DISTRICT					
	APPENDIX D FIRE DISTRICT	INSIDE OF FIRE DISTRICT			
BUILDING CLASSFICATION:					
	503.1 & TABLE 503	ONE BUILDING (FULLY SPRINKLER) RESIDENTIAL USE	IB		
OCCUPANCY CLASSFICATION:					
	310.1.2	R-2 (PARTIAL CELLAR & 1ST FL; 2ND TO 7TH FL)	RESIDENTIAL (CONDO UNITS)		
	309.1	S-2 (LOW HAZARD; PARTIAL 1ST FLOOR)	PARKING GARAGE		
HIGH RISE BUILDING:					
	202:DEFINITION:	**HIGHRISE BUILDING**	**PROPOSED**		
		A BUILDING WITH AN OCCUPIED FLOOR LOCATED MORE THAN 75' ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS.	PROPOSED BUILDING IS 55' HIGH, NOT A HIGHRISE		
GENERAL BUILDING HEIGHTS AND AREAS; SEPARATION OF OCCUPANCIES					
	420.2; 707 708.3	**SEPARATION WALLS**			
		(R-2 BETWEEN DWELLING UNITS & OTHER OCCUPANCIES)1 HOUR			PROVIDED
	420.2; 707 708.3	**HORIZONTAL SEPARATION**			
	711.2.4.1 & 508.4	BETWEEN (R-2 & S): 1 HOUR W/ SPRINKLER SYSTEM)			PROVIDED
	711.2.4.3 &420.C	IN R-2; BETWEEN DWELLING AND SLEEPING UNITS: 1 HOUR			PROVIDED
	TABLE 504.3A	**CONSTRUCTION TYPE:**	1B		
		PROPOSED BUILDING HEIGHT (ELEVATION)			
		TOP OF BUILDING BASE PLANE	+70.45' (NAVD88 DATUM) AVERAGE +15.45' (NAVD88 DATUM)		COMPLIED
	TABLE 504.3a	**BUILDING HEIGHT**	55'		COMPLIED
		ALLOWABLE BUILDING HEIGHT	420' (FOR S-2 &R-2)		
	TABLE 504.4a,b	**PROPOSED NO OF STORIES:**	5 STORIES		COMPLIED
		ALLOWABLE NO OF STORIES:	UNLIMITED (FOR S-2 &R-2)		
	TABLE 506.2a	**PROPOSED AREA PER FLOOR:**	6,846 S.F. MAX. ON 1ST FLOOR		COMPLIED
		ALLOWABLE AREA PER FLOOR:	UNLIMITED (FOR S-2 &R-2)		
	508.4.4 TABLE 508.4	**SEPARATION OF OCCUPANCYS**	S-2 & R-2= 1 HOUR	(W/SPRINKLER)	PROVIDED
	509	**SEPARATION INCIDENTAL USES:**			PROVIDED
	TABLE 509c	FURANCE ROOMS(>350,000 BTUS/HR)	2 HOUR OR 1 HOUR W/ SPRINKLER		
		BOILER ROOMS(>350,000 BTUS/HR)	1 HOUR OR PROVIDE SPRINKLER		
	508.1	MECH/ELEC EQUIP RM (EXCEPTION 4)	1 HOURS ON A-2 & R-2		
		FIRE PUMP ROOM IN HIGH RISE BLDG.	2 HOUR		
		ROOMS USING THE ELECTRICAL INSTALLATION	SEE NYC NEC		
		STANDARDS FOR INFORMATION TECH ROOM			
	TABLE 601	**(TYPE 1B) FIRE RESISTANCE RATING REQUIRED FOR STRUCTURAL ELEMENTS:**			PROVIDED
	(ALSO SEE 403.2.1)	STRUCTURAL FRAME (EXCEPT ELEMENTS SUPPORTING ROOF ONLY)	**2** HOURS		
		STRUCTURAL FRAME SUPPORTING ROOF ONLY	1 HOUR		
		EXTERIOR BEARING WALL	2 HOURS		
		INTERIOR BEARING WALL (EXCEPT ELEMENTS SUPPORTING ROOF ONLY)	2 HOURS		
		INTERIOR NON-BEARING WALLS & PARTITIONS	0 HRS		
		INTERIOR BEARING WALL SUPPORTING ROOF ONLY	1 HOUR		
		FLOOR CONSTRUCTION	2 HOURS		
		ROOF CONSTRUCTION	1 HOUR		
	TABLE 602	**EXTERIOR ALL FIRE SEPARATION DISTANCE:**			PROVIDED
		DISTANC < OR = 5'	M=2 HR & R-2= 1 HR		
		DISTANCE > OR = 5' TO < OR =10'	M & R-2= 1 HR		
		DISTANCE > OR = 10' TO < OR = 30'	M & R-2= 1 HR		
		DISTANCE > OR = 30'	M & R-2= 0 HR		
FIRE AND SMOKE PROTECTION					
	705.8.5 EXCEPTION 2	**VERTICAL SEPARATION OF OPENINGS**			
		NOT REQUIRED PER EXCEPTION 2: BLDG IS FULLY SPRINKLERED PER 903.3.1.1.			PROVIDED
	TABLE 705.8	**MAX AREA OF EXTERIOR WALL OPENING BASED ON FIRE SEPARATION DISTANCE**			
			UNPROTECTED; SPRINKLERED (UP,S)	PROTECTED (P)	
		0 TO 3'	NOT PERMITTED	NOT PERMITTED	
		>3' TO <5'	15%	15%	
		>5' TO <10'	25%	25%	
		>10' TO <15'	45%	45%	
		>15' TO <20'	75%	75%	
		>20' TO <25'	NO LIMIT	NO LIMIT	
		>25' TO <30'	NO LIMIT	NO LIMIT	
		>30'	NOT LIMIT	NOT LIMIT	
	713	**SHAFT ENCLOSURES**			
	713.2	**CONSTRUCTION:** SHALL BE CONSTRUCTED AS FIRE BARRIERS PER 707 OR HORIZONTAL ASSEMBLIES PER 711, OR BOTH.			PROVIDED
	713.3	**MATERIALS:** EXCEPTION: NONCOMBUSTIBLE MATERIALS SHALL BE USED FOR SHAFT ENCLOSURES IN GROUP R-2 BUILDINGS			PROVIDED
	713.4	**FIRE-RESISTANCE RATING:** 3 STORIES OR MORE	2 HOURS		PROVIDED
		LESS THAN 3 STORIES	1 HOUR		
	716; TABLE 716.5	**OPENING PROTECTIVES**			PROVIDED
		WALL RATING	FIRE DOOR / SHUTTER RATING		
		FIRE WALL: 3HR	3 HRS		
		FIRE WALL: 2HR & 1-1/2HR	1-1/2 HRS		
		FIRE BARRIERS: SHAFT/EXIT ENCLOSURE/EXIT PASSAGEWAY WALLS - 1 HOUR	1 HR		
		FIRE BARRIERS: OTHER FIRE BARRIERS (PUBLIC CORRIDOR) - 1 HOUR	3/4 HR		
		FIRE PARTITION CORRIDOR WALLS & OTHER PARTITION - 1 HOUR	3/4 HR		
		EXTERIOR WALL - 3 HOUR & 2HOUR	1-1/2 HR		
		EXTERIOR WALL - 1 HOUR	3/4 HR		
		SMOKE BARRIERS - 1 HOUR	1/3 HR		
	716.5.1 TO 715.5.10	**FIRE DOOR AND SHUTTER ASSEMBLIES**	ALL ASSEMBLIES, INSTALLATION, MATERIAL, GLAZING AND ALL HARDWARES' TEST REQUIRMENTS, SEE CODE.		PROVIDED
	716.5; TABLE 716.5	**OPENING FIRE PROTECTION ASSEMBLIES, RATINGS AND MARKINGS**	SEE CODE.		PROVIDED
INTERIOR FINISHES					
	803.1.1.	**WALLS & CEILING FINISH MATERIAL SMOKE DEVELOP IDEX**			COMPLIED
		MATERIAL SHALL BE TESTED PER ASTM E84 OR UL723			
	803.11 TABLE 803.11	**INTERIOR WALL & CEILING FINISH REQUIREMENTS BY OCCUPANCYP** (SPRINKLERED): SMOKE DEVELOPED INDEX			COMPLIED
		EXITS ENCLOSURE & EXIT PASSAGEWAY	CORRIDORS	ROOMS & ENCLOSED SPACES	
		S-2 = B	C	C	
		R-2 = B	B	C	
	804.4.1	**INTERIOR FLOOR FINISH**			
		S-2 & R-2	MIN RADIAN FLUX	CLASS II	COMPLIED
	806.7	**INTERIOR TRIM**			
		CLASS C MIN, SHALL NOT EXCEED 10% MAX OF AGGREGATE WALL OR CEILING AREA			COMPLIED
	806.8	**INTERIOR FLOOR-WALL BASE**			
		THAT IS 6 INCHES OR LESS SHALL BE NOT LESS THAN CLASS II. WHERE A CLASS I FLOOR FINISH IS REQUIRED, THE FLOOR-WALL BASE SHALL BE CLASS I; EXCEPTION: IF COMPLY WITH 806.7			COMPLIED

MEANS OF EGRESS

1003.2	**CEILING HEIGHT (EGRESS)**	MIN. 7'-6"	PROVIDE
1003.3.1	HEADROOM PROTRUDING OBJECTS	MIN, 7'; 50% OF CEILING EGRESS AREA	
1003.3.1 EXCEPTION	DOOR STOP & CLOSERS	SHALL NOT REDUCE HEADROOM TO LESS THAN 78"	
1003.3.2	POST-MOUNTED OBJECT	NOT MORE THAN 4" btw 27" & 80" A.F.F.	
1003.3.1 EXCEPTION	SLOPING PORTIONS OF THE HANDRAIL		
1003.3.3	HORIZONTAL PROJECTIONS	NOT MORE THAN 4" btw 27" & 80" A.F.F.	
1003.3.3 EXCEPTION	HANDRAIL PROJECTION	4.5" FROM THE WALL	
1003.3.5	(FLOOR) ELEVATION CHANGE	CHANGES <12" SLOPED SURFACESS SHOULD BE USED, THE SLOPE > 1/20 RAMPS TO COMPLY W/ 1012	
1004, TABLE 1004.1.3	**OCCUPANT LOAD**	SEE DRAWINGS (PLANS)	COMPLIED
	S-2 PARKING GARAGE	200/ PER GROSS	
	R-2: RESIDENTIAL:	200 SF/P GROSS IN THE UNIT	
	R-2: RESIDENTIAL AMENITY (UNCONCENTRATED):	50 SF/P GROSS	
	R-2: RESIDENTIAL ROOF TOP & TERRACE::	200 SF/P GROSS	
1005.3.1	**EGRESS WIDTH CALCULATION**	SEE EGRESS DRAWINGS	PROVIDED
	STAIR (ONLY THE OCCUPANT LOAD OF EACH STORY)	0.3" PER OCCUPANT	
1005.3.2	OTHER EGRESS COMPONENT	0.2" PER OCCUPANT	
1005.7	**ENCROACHMENT**		COMPLIED
1005.7.1	DOOR (ENCROACHMENT)	FULLY OPENED, SHALL NOT REDUCE WIDTH > 7"; DOORS IN ANY POSITION SHALL NOT REDUCE WIDTH BY MORE THAN 1/2	
EXCEPTION 1	1. SURFACE-MOUNTED LATCH RELEASE HARDWARE SHALL BE EXEMPT; IF MOUNTED TO THE SIDE OF THE DOOR FACING AWAY FROM THE ADJACENT WALL IN THE OPEN POSITION. IF MOUNTED NOT LESS THAN 34" NOR MORE THAN 48" ABOVE THE FINISHED FLOOR.		
EXCEPTION 2	SHALL NOT APPLY TO DOORS WITHIN DWELLING UNITS R-2 OCCUPANCIES		
1005.7.2	OTHER PROJECTIONS		
	HANDRAIL & OTHER PROJECTIONS	< 1-1/2 INCHES ON EACH SIDE	
1006.2.1, & TABLE 1006.2.1	**NUMBER OF EXITS AND EXIT ACCESS DOORWAYS**	2 REQUIRED STAIR & EXIT FOR EACH USE PROVIDED	PROVIDE
	SPACE WITH 1 EGRESS: MAX. OCCUPANT LOAD (OF THE SPACE)	S-2<29; R-2<20 & <49 FOR R-2 ACCESSORY (OCCUPANCY LOAD)	COMPLIED
	MAX. COMMON PATH OF EGRESS TRAVEL DISTANCE	R-2 <125' ; S-2 <100'20 (WITH SPRINKLER)	
1006.3.1 & TABLE 1006.3.1	**NUMBER OF EXITS**		PROVIDED
	ALL USE GROUPS	MAX 500 - 2 EXITS	
		501-1,000 - 3 EXITS	
		MORE THAN 1,000 - 4 EXITS	
1007.1.1	**EXIT AND EXIT ACCESS DOORWAY CONFIGURATION:** TWO EXITS SHALL BE PLACED A DISTANCE APART >OR= 1/2 OVERALL DIAGONAL DIMENSION BUILDING OR AREA.		COMPLIED
EXCEPTION 2	2. FOR SPRINKLERED BUILDINGS: TWO EXITS SHALL BE PLACED A DISTANCE APART >OR= 1/3 OVERALL DIAGONAL DIMENSION BUILDING OR AREA.	BUILDING IS FULLY SPRINKLERED	
EXCEPTION 3	3. FOR R-2, THE WITH 2-HOUR FIRE RESISTANCE RATING & CONSTRUCTED OF MASONRY OR EQUIVALENT: 3.1 THE TWO EXIT DOORS SHALL BE PLACED A DISTANCE APART >OR=15' 3.2 SUCH STAIRS SHALL BE PERMITTED TO SHARE COMMON WALLS, FLOORS, CEILINGS OR SCISSOR STAIRS ASSEMBLIES	PROPOSED SCISSOR STAIRS AS TWO MEANS OF EGRESS AND LOCATED MORE THAN 15' APART	
1008.2.1	MEANS OF EGRESS ILLUMINATION	>/= 1 FOOT-CANDLE (11 LUX)	PROVIDE
1009.1	**ACCESSIBLE MEANS OF EGRESS REQUIRED:** SHALL BE PROVIDED WITH NOT LESS THAN 1 ACCESSIBLE MEANS OF EGRESS. SPACE WHERE MORE THAN ONE MEANS OF EGRESS REQUIRED PER 1006.2 OR 1006.3 SHALL BE SERVED BY NOT LESS THAN 2 ACCESSIBLE MEANS OF EGRESS.	DESIGN PER CODE	PROVIDE
1009.3	**STAIRWAYS (ACCESSIBLE MEANS OF EGRESS REQUIRED):** 48" OR MORE EXCEPTIONS 2: NOT REQUIRED WITH AN AUTOMATIC SPRINKLER SYSTEM	44" WIDE EXIT STAIRS PROVIDED	COMPLIED
1010.1.1.1	**DOOR WIDTH (PART OF EGRESS)**	DOOR WIDTH >OR= 32"; A SWINGING DOOR LEAF < OR =48" EXCEPTIONS : 1. DOORS ARE NOT PART OF THE MEANS OF EGRESS IN R-2 3. TO STORAGE / CLOSETS <10 SF	PROVIDED
1010.1.1.2	PROJECTIONS INTO CLEAR WIDTH	NOT EXCEED 4"; 34"-80" AFF; EXCEPTION: DOOR CLOSURE MIN. 78" AFF	PROVIDED
1010.1.1.3	**DOOR HEIGHT**	NOT LESS THAN 80"	PROVIDED
1010.1.1.3 EXCEPTION	1. (R-2 ENTRY, INSIDE UNIT)	NOT LESS 78"	PROVIDED
	2. IN DWELLING BUT OTHER TAN EXIT DOORS	NOT LESS 76"	PROVIDED
1010.1.2.1.	**MOUNTING:** SHALL BE OF THE PIVOTED OR SIDE-HINGED SWINGING TYPE: EXCEPTION 3. DOORS WITHIN OR SERVING A SINGLE DWELLING UNIT IN R-2		PROVIDED
1010.1.2.2.	**DIRECTION OF DOOR SWING:**IN THE DIRECTION OF EGRESS TRAVEL WHERE: 2.ROOMS OR SPACES WITH AN OCCUPANT LOAD OF 75 OR MORE PERSONS. 3.ROOMS OR SPACES REQUIRING MORE THAN ONE EXIT DOOR.	EGRESS TRAVEL DIRECTION	PROVIDED
1010.1.2.2.EXCP.	EXCEPTION: FOR EXTERIOR STREET FLOOR EXIT DOORS FROM LOBBIES IN R-2	NOT NEED TO FOLLOW	
1010.1.5.	**FLOOR ELEVATION:**THERE SHALL BE A FLOOR OR LANDING ON EACH SIDE OF A DOOR. THEY SHALL BE AT THE SAME ELEVATION. EXTERIOR LANDINGS COULD HAVE A SLOPE <0.25/12 (2%)		PROVIDED
	EXCEPTION: 4. VARIATIONS IN ELEVATION DUE TO DIFFERENCES IN FINISH MATERIALS, SHOULD BE < 1/2 INCH. 6. DOORS SERVING EQUIPMENT SPACES WITH OCCUPANT LOAD <OR = 5; VARIATIONS IN ELEVATION SHOUD BE <7"		PROVIDED
1010.1.6.	**LANDINGS AT DOORS:** LANDINGS WIDTH SHOULD = THE STAIRWAY OR THE DOOR WHICHEVER IS GREATER. DOORS IN THE FULLY OPEN POSITION SHALL NOT REDUCE A REQUIRED DIMENSION BY MORE THAN 7" , WHEN OCCUPANT LOAD >OR=50, DOORS IN ANY POSITION SHALL NOT REDUCE THE LANDING TO LESS THAN 75 %; LANDING SHOULD HAVE A LENGTH =OR> 44"		PROVIDED
	EXCEPTIONS: 1. LANDING LENGTH IN INDIVIDUAL UNITS OF GROUP R-2 SHOULD =OR>36". 2. IN GROUP R-2 WHERE 36" WIDE STAIRWAYS ARE PERMITTED PURSUANT PER 1011.2, EXCEPTION 1.2, LANDING LENGTH SHOULD BE =OR>36" OR THE WIDTH OF THE STAIRWAY, WHICHEVER IS GREATER. DOORS OPENING ONTO SUCH STAIRWAY LANDINGS SHALL NOT REDUCE THE LANDING WIDTH.		PROVIDED
1010.1.9.2.	**HARDWARE HEIGHT**	34"-38" AFF	PROVIDED
1010.4	**R-2: SECURITY REQUIREMENTS FOR DOORS AND WINDOWS**		
1010.4.1	**BLDG ENTRANCE DOORS & EXTERIOR EXIT DOORS**	SHALL HAVE HEAVY DUTY LOCK SETS WITH AUXILIARY LATCH . A LIGHT OR LIGHTS SHALL BE PROVIDED OUTSIDE OF THE FRONT ENTRANCEWAY , > 5-FOOTCANDLES (53.82 LUX) . (SEE CODE FOR DETAIL)	PROVIDED
1010.4.2	**DOORS TO DWELLING UNITS**	HEAVY DUTY LATCH SET, DEAD BOLT, CHAIN GUARD & A VIEWING DEVICE (SEE CODE FOR DETAIL)	PROVIDED
1010.4.3	**WONDOWS**	SASH LOCKS & GRILLES LOCKS (FROM INSIDE) (SEE CODE FOR DETAIL)	PROVIDED
1010.4.4	**INTERCOMMUNICATION SYSTEM**	> 8 UNITS; DESIGN PER CODE (SEE CODE FOR DETAIL)	PROVIDED
1011	**STAIRWAYS**		
1011.2	**STAIR WIDTH**	NOT LESS THAN 44"	PROVIDED
1011.2 EXCEPTIONS	1. NOT LESS THAN 36" IN: 1.1 OCCUPANT <50 OR LESS CUMULATIVE FOR ALL STORIES; OR 1.2 SOLELY FOR R-2 OCCUPANCIES, BLDG.HEIGHT <125' & OCCUPANTS<30 PER FLOOR.	NOT LESS THAN 36"	PROVIDED
1011.3	**STAIR HEADROOM**	NOT LESS THAN 84"	PROVIDED
1011.3 EXCP. 1.1		(R-2) NOT LESS THAN 80"	PROVIDED
1011.5.2	**STAIR RISER / TREAD DEPTH**	4"-7"/11"	PROVIDED
1011.5 EXCP. 3.2 (R-2)		(R-2) <7.75"/9.5"-11"	PROVIDED
1011.5 EXCP. 3.1 (R-2)		2 X RISER+TREAD<25.5"	
1011.5 EXCP. 3.3 (R-2)	TOLERANCES	THE GREATEST RISER HEIGHT, TREAD DEPTH, AND NOSING PROJECTION, WITHIN ANY FLIGHT<3/8"	
1011.5.3	**WINDER TREADS:** ARE NOT PERMITTED EXCEPT WITHIN A DWELLING UNIT.	4"-7"/11"	PROVIDED
1011.5.4	**DIMENSIONAL UNIFORMITY:** STAIR TREADS AND RISERS SHALL BE OF UNIFORM SIZE AND SHAPE. THE TOLERANCE SHALL <3/8"; FOR THE WINDER TREAD IN HE WALKLINE; THE TOLERANCE SHALL <3/8	THE TOLERANCE SHALL<3/8"	PROVIDED
1011.5.5	**NOSING AND RISER PROFIL:**NOSINGS CURVATURE OR BEVEL SHALL BE > 1/16" & < 9/16". RISERS SHALL BE SOLID AND VERTICAL OR SLOPED <30 DEGREES FROM THE VERTICAL.	SHALL BE > 1/16" & < 9/16".	PROVIDED

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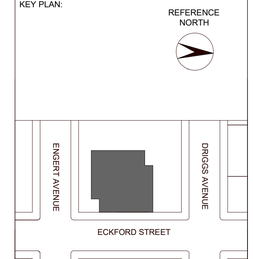
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PROJECT CODE COMPLIANCE

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE:

DRAWING NO: **A001**

1011.5.5.1	**NOSING PROJECTION SIZE:** SHALL BE < 1&1/4 INCHES	SHALL BE < 1&1/4 INCHES		PROVIDED
1011.5.5.2	**NOSING PROJECTION UNIFORMITY:** NOSING PROJECTIONS OF THE LEADING EDGES SHALL BE OF UNIFORM SIZE			PROVIDED
1011.5.5.3	**SOLID RISERS:** RISERS SHALL BE SOLID. PERFORATED RISERS WITH OPENINGS < 1/4" SHALL BE CONSIDERED SOLID RISERS. EXCEPTIONS: NOT REQUIRED FOR STAIRWAYS THAT ARE NOT SERVING AS EXITS			PROVIDED
1011.6	**STAIR LANDINGS:** SHALL BE AT THE TOP & BOTTOM OF STAIRWAY. THE WIDTH SHOULD BE >OR= WIDTH OF STAIRWAYS.STAIRWAY HAS A STRAIGHT RUN STAIR SHALL NOT EXCEED 48". DOORS OPENING ONTO A LANDING SHALL < 1/2 LENDING WIDTH. WHEN FULLY OPEN, SHALL NOT PROJECT MORE THAN 7" INTO A LANDING.	=STAIR WIDTH ; <48"		PROVIDED
1011.8	**VERTICAL RISE:**A FLIGHT OF STAIRS SHALL < 12' BETWEEN WEEN FLOOR OR LANDINGS.			PROVIDED
1011.11	**HANDRAILS:** STAIRWAYS SHALL HAVE HANDRAILS ON EACH SIDE EXCEPTIONS:1 WITHIN DWELLING UNITS PERMITTED TO HAVE A HANDRAIL ON ONE SIDE ONLY. 4. ONE HANDRAIL SHALL BE ALLOWED IN ENCLOSED INTERIOR EXIT STAIRWAYS <44" WIDE THAT DO NOT SERVE AS AN ACCESSIBLE MEANS OF EGRESS.			PROVIDED
1014.2	HANDRAIL HEIGHT	34"-38" AFF; 30"-34" AFF FOR ALTERNATING TREAD DEVICES AND SHIPS LADDERS		PROVIDED
1014.7	HANDRAIL CLEARANCE	1.5" FROM WALL		
1015.3	GUARD HEIGHT	42" AFF		PROVIDED
1015.1 EXCP.1	(R-2 INSIDE UNIT)	34" AFF		PROVIDED
1017.1 & 1017.2	**TRAVEL DISTANCE**			PROVIDED
TABLE 1017.2	(EXTERIOR INCREASE)	S-2; < 250' (W/ SPRINKLER) R-2 ; <300' (W/ SPRINKLER) R-2 <200'(W/SPRINKLER)		
1020.1.1	**(INTERIOR) CORRIDOR FIRE-RESISTANCE RATING**	S-2 ; 0 HOUR		PROVIDED
TABLE 1020.1.1		R-2 ; 0 HOUR		
	EXCEPTIONS: 2.NOT REQUIRED FOR CORRIDORS WITHIN A DWELLING UNIT IN-R-2; 5.CORRIDORS ADJACENT TO THE EXTERIOR WALLS OF BUILDINGS SHALL BE PERMITTED TO HAVE UNPROTECTED OPENINGS ON UNRATED EXTERIOR WALLS PER 602 AND UNPROTECTED OPENINGS PER 705.8.			
1020.1.2 & TABLE 1020.1.2	**(PUBLIC) CORRIDOR FIRE-RESISTANCE RATING**	S-2=1 HOUR; R-2 (NONCOMBUSTIBLE)=1 HOUR		PROVIDED
1020.2 & TABLE 1020.2	**CORRIDOR WIDTH**	44"MIN (OTHER THAN BELOW)		PROVIDED
		24"MIN(ACCESS TO MEP)		PROVIDED
		36"MIN(<50)		PROVIDED
		30"MIN WITHIN DWELLING UNIT		PROVIDED
1020.4	**DEAD END**	20'		PROVIDED
EXCEPTION 2		S-2 W/ AUTOMATIC SPRINKLER SYSTEM PER 903.3.1.1	50 FT	
EXCEPTION 4		R-2	40 FT	
		R-2 (W/ 2HR CORR. & 1-1/2HR DOOR)	80 FT	PROVIDED
1022 & 1022.1	**EXITS:** COMPLY W/ 1022 TO 1027 AND PER 1003 THROUGH 1015.			PROVIDED
1022.2.1	EXTERIOR EXIT DOORS (DETAILED REQUIRMENT)	SHOULD COMPLY WITH 1010.1		
1022.2.2	EXTERIOR EXIT DOORS (ARRANGEMENT)	SHOULD LEAD DIRECTLY TO EXIT DISCHARGE OR PUBLIC WAY		
1023	**INTERIOR EXIT STAIRWAYS AND RAMPS** (PER SECTION 1024)			PROVIDED
1023.2	**CONSTRUCTION:** ENCLOSURES AS FIRE BARRIERS PER 707 OR HORIZONTAL ASSEMBLIES PER 711, OR BOTH. FIRE-RESISTANCE RATING: >OR= 2 HOURS (4 STORIES OR MORE); 1 HOUR (FOR LESS THAN 4 STORIES) AND NOT LESS THAN THE FLOOR ASSEMBLY PENETRATED, (UPTO 2 HOURS). FOR R-2 OCCUPANCIES, FIRE-RESISTANCE RATING >OR= OF 2 HOURS, CONSTRUCTED OF MASONRY OR MASONRY EQUIVALENT. WALL ASSEMBLIES CONSTITUTING MASONRY.			
1023.3	**TERMINATION:** EXIT PASSAGEWAYS SHALL TERMINATE AT AN EXIT DISCHARGE OR A PUBLIC WAY			
1023.4	**OPENING & PENETRATION:** SEE BC 716			
1023.5	**PENETRATIONS:** AREA<16 SF & BE POTECTED PER BC 714			
1023.8	**STAIRWAY IDENTIFICATION AND FLOOR LEVEL SIGN**			PROVIDED
1023.8.1-1023.8.5	SEE CODE SECTION			
1024	**EXIT PASSAGEWAY**			PROVIDED
1024.2	WIDTH	44" (OR 36" <50 OCCUPANT)		
1024.3	FIRE RESISTANT RATING	1 HOUR (OR = CONNECTING EXIT ENCLOSURE)		
1024.4	**TERMINATION:** EXIT PASSAGEWAYS SHALL TERMINATE AT AN EXIT DISCHARGE OR A PUBLIC WAY			
1024.5	**OPENING & PENETRATION:** SEE BC 716			
1023.6	**PENETRATIONS:** AREA<16 SF & BE POTECTED PER BC 714			
1025	**LUMUNIOUS EGRESS PATH MARKINGS**	N/A		COMPLIED
EXCEPT 3	R-2 NOT REQUIRED PER BC 403.5.5 (SEE ABOVE)			
1031	**SIGNAGE**			COMPLIED
	SEE CODE			

ACCESSIBILITY				
1103.1	**SCOPING REQUIREMENTS:** REQUIRED			COMPLIED
1103.2	**GENERAL EXCEPTIONS:** SEE CODE			
1104.1	**SITE ARRIVAL POINTS:** AT LEAST ONE ACCESSIBLE ROUTE SHALL BE PROVIDED			
1104.2	**WITHIN A SITE:** AT LEAST ONE ACCESSIBLE ROUTE SHALL BE PROVIDED			
1104.3	**CONNECTED SPACES:** AT LEAST ONE ACCESSIBLE ROUTE SHALL BE PROVIDED			
1104.5	**LOCATION:** ACCESSIBLE ROUTES SHALL COINCIDE WITH OR BE LOCATED IN THE SAME AREA AS A GENERAL CIRCULATION PATH.			
1105	**ACCESSIBLE ENTRANCES**			PROVIDED
1105.1	**PUBLIC ENTRANCES:** PER SECTION 1105.1.1 TO 1105.1.8, ALL PUBLIC ENTRANCES SHALL BE ACCESSIBLE.			
1105.1.6	**TENANT SPACES:** ALL ENTRANCES ARE REQUIRED TO BE ACCESSIBLE ENTRANCE			
1105.1.7	**DWELLING UNITS:** TO ACCESSIBLE UNITS & TYPE B+NYC UNITS, PER 404 OF ICC A117.1. TO TYPE B UNITS PER 1003.5 OF ICC A117.1.			
1105.1.7 EXCEPTION	1. TO DWELLING UNITS ARE NOT REQUIRED TO BE ACCESSIBLE UNITS, TYPE B+NYC UNITS, OR TYPE B UNITS. 2. TO MULTISTORY DWELLING UNITS IN R-2 PER 1107.2.5 THAT ARE NOT THE PRIMARY ENTRY			
1107	**DWELLING UNITS AND SLEEPING UNITS**			PROVIDED
1107.2	**DESIGN:** ALL UNITS REQUIRED TO BE ACCESSIBLE UNITS, TYPE B+NYC UNITS, OR TYPE B UNITS SHOULD BE PER CHAPTER 10 OF ICC A117.1. *FOR TYPE B+NYC PER 1004 (TYPE B UNITS) OF ICC A117.1, INCLUDING MODIFICATIONS OF 1107.2.1 THROUGH 1107.2.8 *UNITS REQUIRED TO BE TYPE B+NYC UNITS OR TYPE B UNITS ARE PERMITTED TO BE AS A CCESSIBLE UNITS.			
1107.2.1	**TYPE B+NYC UNIT DOORS AND DOORWAYS:** SEE CODE AND A008.00			
1107.2.2	**TYPE B+NYC UNIT TOILET AND BATHING ROOMS** SEE CODE AND A008.00			
1107.2.3	**TYPE B+NYC UNIT KITCHEN AND KITCHENETTE** SEE CODE AND A008.00			
1107.2.4	**TYPE B+NYC UNIT OPERABLE WINDOWS** (PER 1003.13 OF ICCA117.1) EXCEPTIONS: 1. THE USE OF ADAPTIVE DEVICES. 2. KITCHENETTES <80 SF EQUIPPED W/ AN ACCESSIBLE MECHANICAL VENTILATION NYCMC, AND BATHROOMS EQUIPPED W/ AN ACCESSIBLE MECHANICAL VENTILATION NYCMC			
1107.2.8	**TYPE B+NYC UNIT LAUNDRY EQUIPMENT** SEE CODE AND A008.00			
1107.3	**ACCESSIBLE SPACES:** ROOMS AND SPACES AVAILABLE TO THE GENERAL PUBLIC OR AVAILABLE FOR USE BY RESIDENTS AND SERVING ACCESSIBLE UNITS, TYPE B+NYC UNITS OR TYPE B UNITS SHALL BE ACCESSIBLE. INCLUDE TOILET AND BATHING ROOMS, KITCHEN, LIVING AND DINING AREAS AND ANY EXTERIOR SPACES, INCLUDING PATIOS, TERRACES AND BALCONIES.			
1107.3.1	**MAILBOXES:** 100 PERCENT OF SHALL COMPLY WITH ICC A117.1, AND THE OPERABLE PARTS SHALL BE NO HIGHER THAN 48 INCHES A.F.F.			
1107.4	**ACCESSIBLE ROUTE:** NOT FEWER THAN ONE ACCESSIBLE ROUTE SHALL CONNECT ENTRANCES WITH THE PRIMARY ENTRANCE OF EACH ACCESSIBLE UNITS, TYPE B+NYC UNITS OR TYPE B UNITS AND WITH THOSE EXTERIOR AND INTERIOR SPACES AND FACILITIES THAT SERVE THE UNITS.			
1107.6.2.1	**EVERY DWELLING UNIT AND SLEEPING UNIT SHALL BE A TYPE B+NYC UNIT.**			
1107.4	**ACCESSIBLE ROUTE:** NOT FEWER THAN ONE ACCESSIBLE ROUTE SHALL CONNECT ENTRANCES WITH THE PRIMARY ENTRANCE OF EACH ACCESSIBLE UNITS, TYPE B+NYC UNITS OR TYPE B UNITS AND WITH THOSE EXTERIOR AND INTERIOR SPACES AND FACILITIES THAT SERVE THE UNITS.			

1109	**OTHER FEATURES AND FACILITIES (SEE ALSO A.800.00)**			PROVIDED
1109.1	**GENERAL:** ACCESSIBLE BUILDING FEATURES AND FACILITIES SHALL BE PROVIDED IN ACCORDANCE WITH SECTIONS 1109.2 THROUGH 1109.15. EXCEPTION: ACCESSIBLE UNITS AND TYPE A UNITS SHALL COMPLY WITH CHAPTER 10 OF ICC A117.1.			
1109.2	**TOILET AND BATHING FACILITIES:** EACH TOILET ROOM AND BATHING ROOM SHALL BE ACCESSIBLE. WHERE A FLOOR LEVEL IS NOT REQUIRED TO BE CONNECTED BY AN ACCESSIBLE ROUTE, THE ONLY TOILET ROOMS OR BATHING ROOMS PROVIDED WITHIN THE FACILITY SHALL NOT BE LOCATED ON THE INACCESSIBLE FLOOR. EXCEPT AS PROVIDED FOR IN SECTIONS 1109.2.2 AND 1109.2.3, AT LEAST ONE OF EACH TYPE OF FIXTURE, ELEMENT, CONTROL OR DISPENSER IN EACH ACCESSIBLE TOILET ROOM AND BATHING ROOM SHALL BE ACCESSIBLE.			
1110	**RECREATIONAL FACILITIES**			PROVIDED
1110.2.2	**FACILITIES SERVING TYPE A, TYPE B+NYC AND TYPE B UNITS IN A SINGLE BUILDING:** 25 PERCENT, BUT NOT LESS THAN ONE, OF EACH TYPE OF RECREATIONAL FACILITY SHALL BE ACCESSIBLE.			
1111	**SIGNAG**			PROVIDED
1111.1	**SIGNS:** REQUIRED ACCESSIBLE ELEMENTS SHALL BE IDENTIFIED BY THE DYNAMIC ACCESSIBILITY SYMBOL, IN ACCORDANCE WITH FIGURE 1111.1, AT THE FOLLOWING LOCATIONS.	SEE CODE		
	5. ACCESSIBLE ENTRANCES WHERE NOT ALL ENTRANCES ARE ACCESSIBLE. 7. FAMILY OR ASSISTED-USE TOILET AND BATHING ROOMS. 10. EXTERIOR AREAS FOR ASSISTED RESCUE PER SECTION 1009.9. 11. IN RECREATIONAL FACILITIES, LOCKERS THAT ARE REQUIRED TO BE ACCESSIBLE IN ACCORDANCE WITH SECTION 1109.9. 15. REFUSE DISPOSAL AND REFUSE STORAGE ROOMS.			
1111.2	**DIRECTIONAL SIGNAG:** INDICATING THE ROUTE TO THE NEAREST LIKE ACCESSIBLE ELEMENT SHALL BE PROVIDED AT FOLLOWING LOCATIONS, 1. INACCESSIBLE BUILDING ENTRANCES. 3. ELEVATORS NOT SERVING AN ACCESSIBLE ROUTE. 5.AT EXITS AND EXIT STAIRWAYS SERVING AN ACCESSIBLE SPACE, THESE SIGNS SHALL INCLUDE THE DYNAMIC ACCESSIBILITY SYMBOL. PER SECTION 703.2, OR SECTIONS 703.3 AND 703.4 OF ICC A117.1.	SEE CODE		COMPLIED
1111.3	**OTHER SIGNS:** SIGNAGE INDICATING SPECIAL ACCESSIBILITY PROVISIONS SHALL BE PROVIDED AS SHOWN IN THE BUILDING CODE.			COMPLIED
	6.IN INTERIOR EXIT STAIRWAYS AND RAMPS, FLOOR LEVEL SIGNAGE SHALL BE PROVIDED IPER SECTION 1023.9.	SEE CODE		

INTERIOR ENVIROMENT				
1203.5.1	**VENTILATION AREA REQUIRED** (PER 1203.5.1.1 TO 1203.5.1.4)			PROVIDED
1203.5.1.1.1	OCCUPIABLE SPACES MIN. OPENING (WHERE MECHANICAL VENTILATION ARE NOT REQUIRED)	MIN. OPENABLE AREA TO OUTDOOR 4% OF OCCUPIABLE FL AREA VENTILATED		
1203.5.1.2.1	HABITABLE SPACES MIN. OPENING	MIN. OPENABLE AREA TO OUTDOOR 5% OF HABITABLE FL AREA VENTILATED; & MIN. 12 SF OF GLAZED; 6 SF OPENABLE AREA		
1203.5.1.2.4	MAX. DEPTH OF ROOM	NO ROOM SHALL BE >30' FROM A WINDOW OPENING OR YARD/COURT		
1203.5.1.2.4 EXCEPTION	EXCEPTION: A DWELLING UNITS MORE THAN 3 HABITABLE ROOMS IN R-2 W/ TYPE I OR II CONSTRUCTION, ROOMS MAY BE > 30' IF 1203.5.1.2 ARE MET & WINDOWS ARE PER 1205.			COMPLIED
1205.2.1	**NATURAL LIGHT FOR EVERY HABITABLE RM**			PROVIDED
	MIN. GLAZED OPENING AREA	10% OF THE FLOOR AREA; AT LEAST 12 SF		
1205.2.4	MAX. DEPTH OF ROOM	NO ROOM SHALL BE >30' FROM A WINDOW OPENING OR YARD/COURT		
12053.2.4 EXCEPTION	EXCEPTION: A DWELLING UNITS MORE THAN 3 HABITABLE ROOMS IN R-2 W/ TYPE I OR II CONSTRUCTION, ROOMS MAY BE > 30' IF 1203.5.1.2 ARE MET & WINDOWS ARE PER 1205.2			COMPLIED
1205.3	**ARTIFICIAL LIGHT**			PROVIDED
1205.3.1	NOT EXCEED MAX. CONSUMPTION BY NYCECC			
1205.3.2	ROOM & SPACES	10 FOOT-CANDLES (107 LUX)		
1205.3.3; 1006.2	STAIRWAY	>/= 1 FOOT-CANDLE (11 LUX)		
1205.3.4; 1006.2	MEANS OF EGRESS	PER 1008; EXTERIOR PER HMC 27-2040		
1205.3.5; 1006.2	PLACE OF ASSEMBLY	PER CHAPTER 10		
1206.4	**LIGHTING IN COURTS AND YARDS**			PROVIDED
	GROUP R-2	>/= 1 FOOT-CANDLE (11 LUX)		
1207	**SOUND TRANSMISSION (SEE CODE)**			COMPLIED

	INTERIOR SPACE DIMENTIONS		
1208.1	**ROOM WIDTH**	MIN. 8'; KITCHENETTES PASSAGEWAY NOT LESS THAN 3'	PROVIDE
1208.1 EXCPTIONS	EXCEPTIONS: 1.A ROOM W/ OPENING>60 SF INTOA ROOM W/ NATURAL LIGHT AND AIR MIN. 7' IN ANY PLAN DIMENSION. 2. A HABITABLE DINING SPACE W/ NATURAL LIGHT AND AIR MAY BE <8' IN ANY PLAN DIMENSION. 3. 1/2 BEDROOMS IN A DWELLING UNIT W/ 3 OR MORE BEDROOMS MIN. 7' IN ANY PLAN DIMENSION.		
1208.2	**CEILING HEIGHT (MIN.)**	HABITABLE ROOM & SPACES: 8' EGRESS CORRIDOR: 7'6" KITCHEN, BATH: 7' & MECH. RM: 7'	PROVIDE
1208.2 EXCP.3	BSMT IN MULTIPLE DWELLINGS	4 BEAMS 6" LOWER, LESS THAN 12" WIDE	N/A
1208.2 .1	FURRED CEILING	MIN. 2/3 W/REQ'D HEIGHT; 1/3 MIN. 7' HEIGHT	
	ROOM AREA		PROVIDE
1208.3.1	HABITABLE ROOM & SPACES	MIN. 80 SF	
1208.3.1 EXCP.1	W/ LIGHT & AIR	MIN. 70 SF; W/OPENING >60SF	
1208.3.2	DWELLING UNITS	AT LEAST 1 HABITABLE ROOM NOT LESS THAN 150 SF	

MIN. REQUIRED PLUMBING FIXTURES				PROVIDED
(PLUMBING CODE) TABLE 403.1	WATER CLOSET	S-2: 1PER 100 PER SEX FIXTURE REQUIRED; : 1 PER DWELLING	R-2	
	LAVATORIES	S-2: 1PER 100 PER SEX FIXTURE REQUIRED; R-2 : 1 PER DWELLING		
	DRINKING FOUNTAIN	S-2: 1PER 1,000; 1 FIXTURE REQUIRED;		
	SERVICE SINK	S-2: 1PER ESTABLISHMENT FIXTURE REQUIRED; R-2 : 1 K. SINK PER DWELLING		
	SHOWER	R-2 : 1 PER DWELLING		
403.3	EMPLOYEE & PUBLIC TOILT FACILITY	FOR ALL CUSTOMERS, PATRONS AND VISITORS. EMPLOYEE AND PUBLIC TOILET FACILITIES MAY BE SEPARATE OR COMBINED. # SHALL PER 403 FOR ALL USERS.		

REQUIRED TR-1 INSPECTIONS			
BC 1704.4	CONCRETE - CAST-IN-PLACE		X
BC 1704.5	MASONRY		X
BC 1704.7.1	SUBGRADE INSPECTION		X
BC 1704.7.4	SUBSURFACE INVESTIGATION(BORINGS/TEST PITS)	TR4	X
BC 1704.13	EXTERIOR INSULATION FINISH SYSTEMS (EIFS)		X
BC 1704.15	SMOKE CONTROL SYSTEMS		X
BC 1704.16	MECHANICAL SYSTEMS		X
BC 1704.20.2	EXCAVATIONS-SHEETING, SHORING, AND BRACING		X
BC 1704.21	PRIVATE ON-SITE WATER DISPOSAL SYSTEMS AND DETENTION FACILITIES INSTALLATION		X
BC 1704..23	SPRINKLER SYSTEMS		X
BC 1704..24	STANDPIPE SYSTEMS		X
BC 1704..25	HEATING SYSTEMS		X
BC 1704.27	FIRE-RESISTANT PENETRATIONS AND JOINTS		X
BC 1704.04.30, BC 1024.8	LUMINOUS EGRESS PATH MARKINGS	TR7	X
BC 1704.04.31	EMERGENCY AND STANDBY POWER SYSTEMS(GENERATORS)		X
BC 1905.3, BC 1913.5	CONCRETE DESIGN MIX	TR3	X
BC 1905.6, BC 1913.10	CONCRETE SAMPLING AND TESTING	TR2	X
REQUIRED PROGRESS INSPECTIONS:			
BC 110.3.1	FOOTING AND FOUNDATION	TR2	X
BC 110.3.4	FIRE RESISTANCE RATED CONSTRUCTION		X
BC 110.3.5	ENERGY CODE COMPLIANCE	TR8	X

TR-8 (1RCNY 5000-01)			
IIA1	PROTECTION OF EXPOSED FOUNDATION INSULATION	SPA	X
IIA2	INSULATION PLACEMENT AND R-VALUE	SPA	X
IIA3	FENESTRATION THERMAL VALUES & RATING	SPA	X
IIA4	FENESTRATION RATINGS FOR AIR LEAKAGE	SPA	X
IIA5	FENESTRATION AREAS	SPA	X
IIA6	AIR SEALING AND INSULATION - VISUAL	SPA	X
IIA7	AIR SEALING AND INSULATION - TESTING	SPA	X
IIB2	SHUT OFF DAMPER	SPM	X
IIB3	HVAC AND SERVICE WATER HEATING SYSTEM EQUIPMENT	SPM	X
IIB4	HVAC AND SERVICE WATER HEATING SYSTEM CONTROLS	SPM	X
IIB5	HVAC AND SERVICE WATER PIPING DESIGN AND INSULATION	SPM	X
IIC1	METERING: ELECTRICAL ENERGY CONSUMPTION	SPM	X
IIC2	LIGHTING IN DWELING UNITS	SPM	X
IIC3	INTERIOR LIGHTING POWER	SPM	X
IIC4	EXTERIOR LIGHTING POWER	SPM	X
IIC5	LIGHTING CONTROLS	SPM	X
IID1	MAINTENANCE INFORMATION	SPM	X

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

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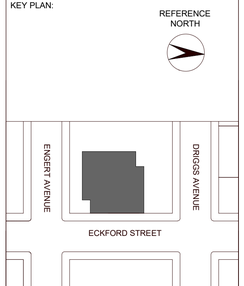
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

PROJECT CODE COMPLIANCE

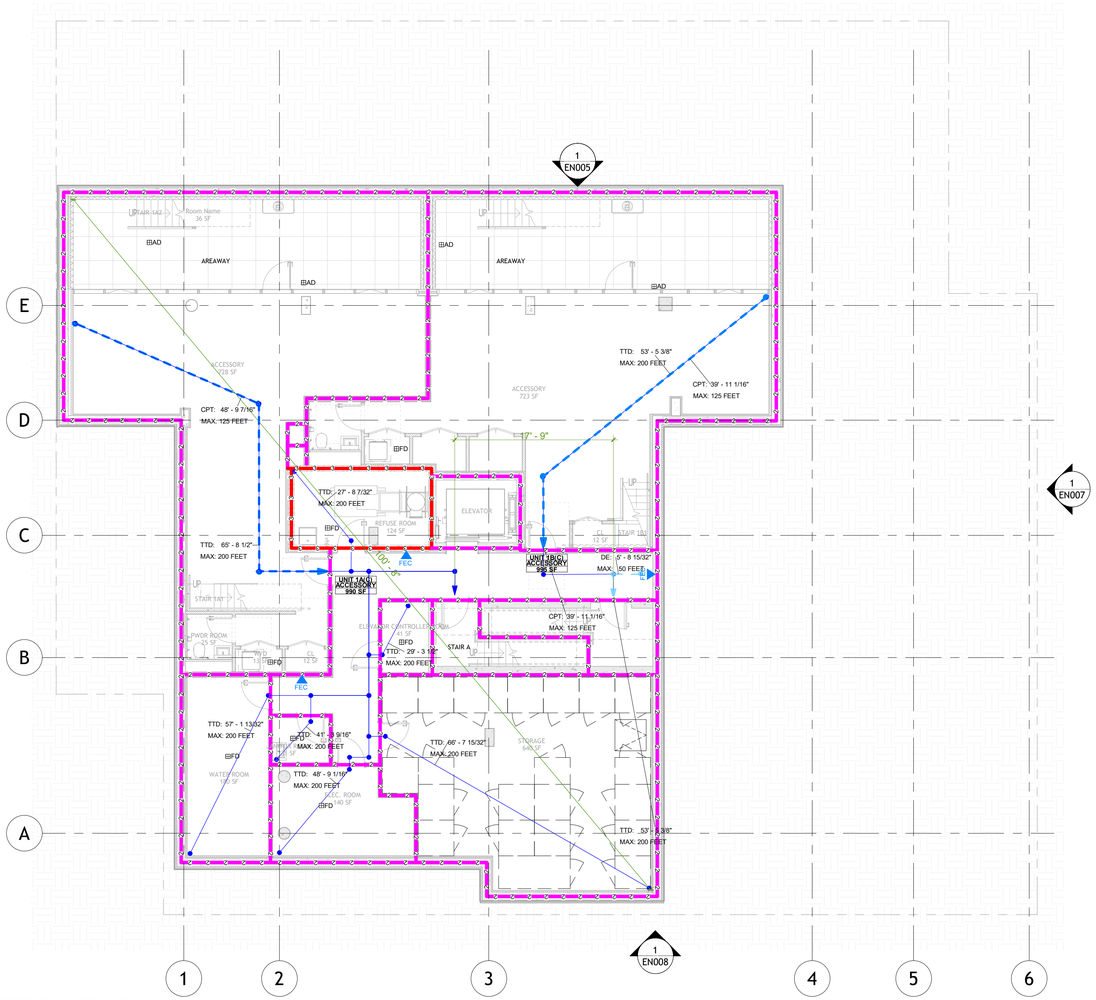
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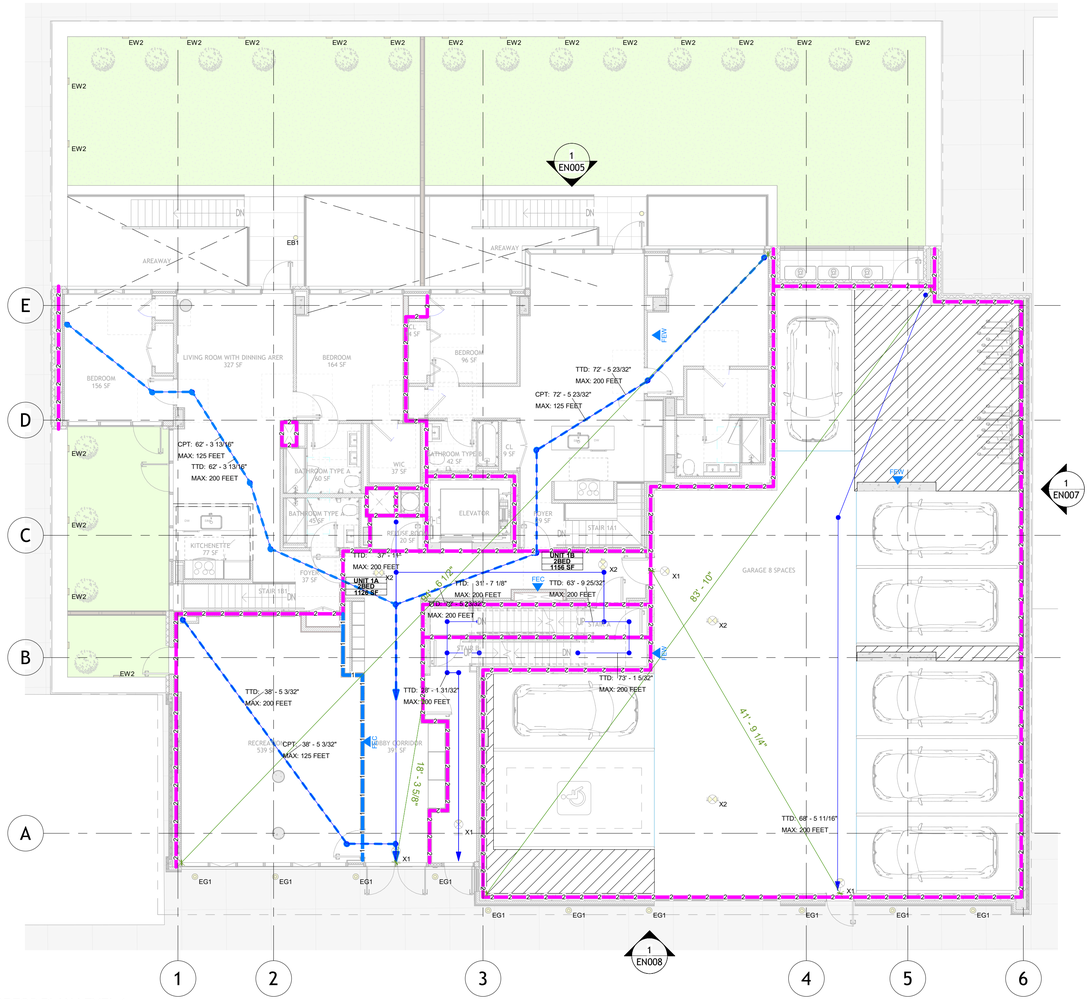
DATE: 02/21/2025

SCALE:

DRAWING NO: **A002**



1 EGRESS PLAN CELLAR
1/8" = 1'-0"



2 EGRESS PLAN LEVEL 1
1/8" = 1'-0"

CELLAR

LIFE SAFETY PLAN OCCUPANCY LOAD (PER NYC BC 2022, CHAPTER 10)

OCCUPIED SPACE	OCCUPANCY CLASSIFICATION	FUNCTION OF SPACE PER IBC 1004.5	AREA	OCCUPANT RATE	OCCUPANTS
ACCESSORY	R-2	ACCESSORY AREAS	1985 SF	300	7
STORAGE	R-2	STORAGE AREAS	637 SF	300	3
UTILITY ROOM	R-2	MECHANICAL EQUIPMENT ROOM	156 SF	300	1
ELEC. ROOM	R-2	MECHANICAL EQUIPMENT ROOM	140 SF	300	1
WATER ROOM	R-2	MECHANICAL EQUIPMENT ROOM	179 SF	300	1
JANITOR	R-2	RESIDENTIAL	37 SF	200	1
TOTAL					14

1ST FLOOR

LIFE SAFETY PLAN RESIDENTIAL OCCUPANCY LOAD (PER NYC BC 2022, CHAPTER 10)

OCCUPIED SPACE	OCCUPANCY CLASSIFICATION	FUNCTION OF SPACE PER IBC 1004.5	AREA	OCCUPANT RATE	OCCUPANTS
RECREATION	R-2	RECREATION	542 SF	15	37
1ST FLOOR APARTMENTS AREA	R-2	RESIDENTAL	2282 SF	200	12
TOTAL					49
PARKING AREA (8 SPACES)	S-2	PARKING GARAGE	3095 SF	200	16
BIKE PARKING (15-SPOTS)	S-2	PARKING GARAGE	388 SF	200	2
TOTAL					18

EGRESS CAPACITY CALCULATION(PER NYC BC 0222, CHAPTER 10)

OCCUPANCY	OCCUPANCY TYPE	EGRESS WIDTH	INCHES PER OCCUPANT	# OF PERSONS
CELLAR				
STAIR-A	STAIR	3'-0"	0.3"	120
STAIR-A	DOOR	3'-0"	0.2"	180
STAIR-B	STAIR	3'-0"	0.3"	120
STAIR-B	DOOR	3'-0"	0.2"	180
TOTAL EXIT CAPACITY FOR EGRESS THROUGH CORRIDOR				240
EXIT CAPACITY				11<120 OK
1ST FLOOR				
STAIR-A	STAIR	3'-0"	0.3"	120
STAIR-A	DOOR	3'-0"	0.2"	180
STAIR-B	STAIR	3'-0"	0.3"	120
STAIR-B	DOOR	3'-0"	0.2"	180
TOTAL EXIT CAPACITY FOR EGRESS				240
EXIT CAPACITY				46<120 OK
PARKING DOOR	DOOR	3'-0"	0.2"	180
TOTAL EXIT CAPACITY FOR EGRESS				180
EXIT CAPACITY				21<180 OK

LEDGEND OF EGRESS PLAN

FIRE RATING

- 1HOUR RATED WALL
- 2HOUR RATED WALL
- 3HOUR RATED WALL

ACTUAL TRAVEL DISTANCE AND DIRECTION OF TRAVEL

- TTD: 88'-8" MAX:200 FEET — TTD=TOTAL TRAVEL DISTANCE; MAX=MAXIMUM ALLOWABLE DISTANCE
- CPT: 88'-8" MAX:125 FEET — CPT=COMMON PATH OF TRAVEL DISTANCE; MAX=MAXIMUM ALLOWABLE DISTANCE
- DE: 88'-8" MAX: 50 FEET — DE=DEAD END CORRIDOR DISTANCE; MAX=MAXIMUM ALLOWABLE DISTANCE

FIRE PROTECTION EQUIPMENT AND EXIT SIGNS

- FEC — FIRE EXTINGUISHER AND CABINET
- FEW — FIRE EXTINGUISHER AND WALL MOUNTING BRACKET
- EXIT SIGN(SINGLE SIDED, DOUBLE SIDED, W/DIRECTIONAL ARROW, WALL MOUNTED)

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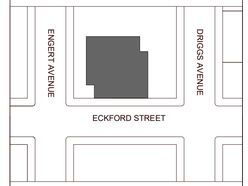
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#	Description	Date

KEY PLAN:

REFERENCE NORTH



APPROVAL:

DWG TITLE:

LIFE SAFETY PLANS

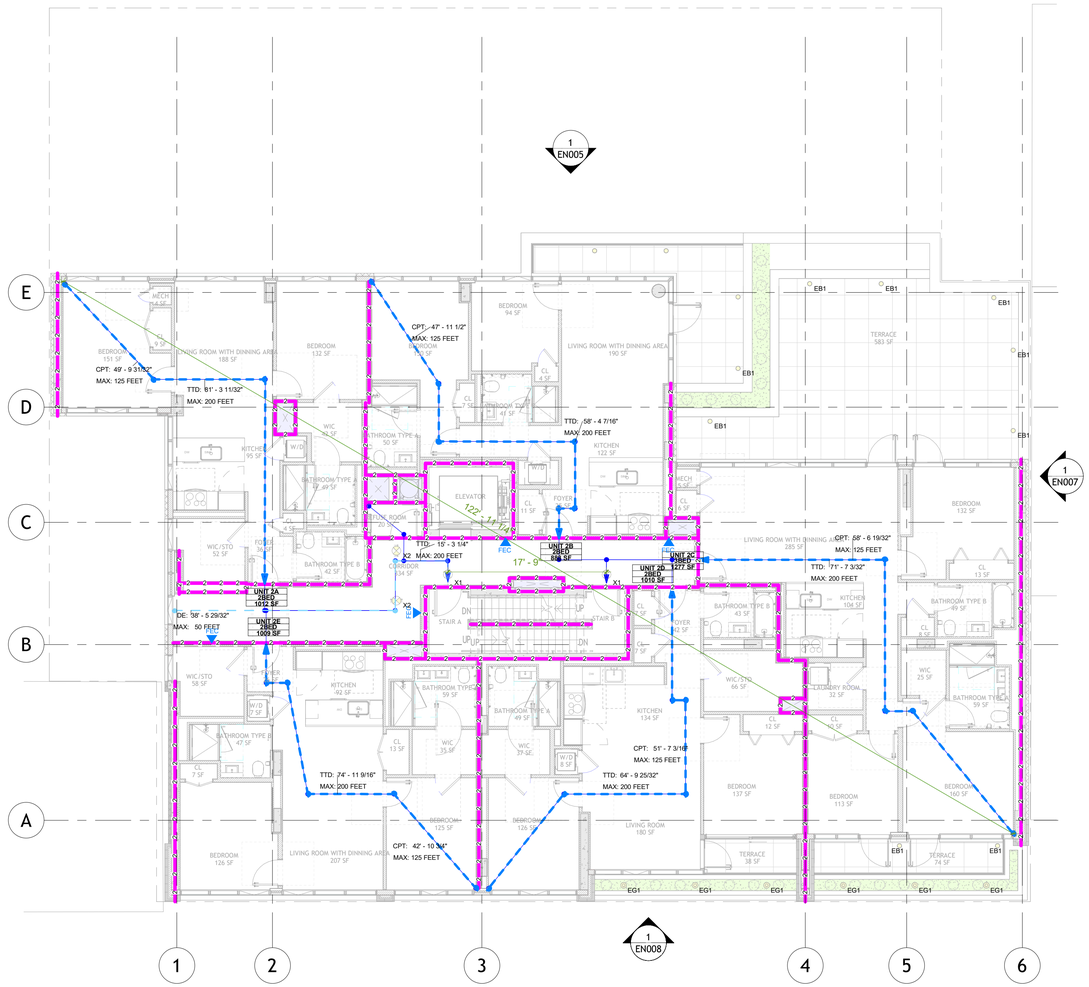
SEAL & SIGNATURE:

REGISTERED ARCHITECT MURAT MUTLU 036742 STATE OF NEW YORK

DATE: 02/21/2025

SCALE: As indicated

DRAWING NO: **A010**



1 EGRESS PLAN LEVEL 2
1/8" = 1'-0"



2 EGRESS PLAN LEVEL 3
1/8" = 1'-0"

2ND FLOOR

LIFE SAFETY PLAN RESIDENTIAL OCCUPANCY LOAD (PER NYC BC 2022, CHAPTER 10)					
OCCUPIED SPACE	OCCUPANCY CLASSIFICATION	FUNCTION OF SPACE PER IBC 1004.5	AREA	OCCUPANT RATE	OCCUPANTS
2ND FLOOR APARTMENTS AREA	R-2	RESIDENTAL	5196 SF	200	26
TOTAL					26

3RD FLOOR

LIFE SAFETY PLAN RESIDENTIAL OCCUPANCY LOAD (PER NYC BC 2022, CHAPTER 10)					
OCCUPIED SPACE	OCCUPANCY CLASSIFICATION	FUNCTION OF SPACE PER IBC 1004.5	AREA	OCCUPANT RATE	OCCUPANTS
3RD FLOOR APARTMENTS AREA	R-2	RESIDENTAL	5140 SF	200	26
TOTAL					26

2ND FLOOR

STAIR-A	STAIR	3'-0"	0.3"	120
STAIR-A	DOOR	3'-0"	0.2"	180
STAIR-B	STAIR	3'-0"	0.3"	120
STAIR-B	DOOR	3'-0"	0.2"	180

TOTAL EXIT CAPACITY FOR EGRESS	240
EXIT CAPACITY	26<240 OK

3RD FLOOR

STAIR-A	STAIR	3'-0"	0.3"	120
STAIR-A	DOOR	3'-0"	0.2"	180
STAIR-B	STAIR	3'-0"	0.3"	120
STAIR-B	DOOR	3'-0"	0.2"	180

TOTAL EXIT CAPACITY FOR EGRESS	240
EXIT CAPACITY	26<240 OK

LEDGEND OF EGRESS PLAN

FIRE RATING

1HOUR RATED WALL
2HOUR RATED WALL
3HOUR RATED WALL

ACTUAL TRAVEL DISTANCE AND DIRECTION OF TRAVEL

TTD: 88'-8" MAX:200 FEET — TTD=TOTAL TRAVEL DISTANCE, MAX=MAXIMUM ALLOWABLE DISTANCE
CPT: 88'-8" MAX:125 FEET — CPT=COMMON PATH OF TRAVEL DISTANCE, MAX=MAXIMUM ALLOWABLE DISTANCE
DE: 88'-8" MAX: 50 FEET — DE=DEAD END CORRIDOR DISTANCE, MAX=MAXIMUM ALLOWABLE DISTANCE

FIRE PROTECTION EQUIPMENT AND EXIT SIGNS

FEC — FIRE EXTINGUISHER AND CABINET
FEW — FIRE EXTINGUISHER AND WALL MOUNTING BRACKET

EXIT SIGN(SINGLE SIDED, DOUBLE SIDED, W/DIRECTIONAL ARROW, WALL MOUNTED)

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

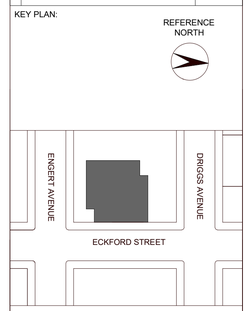
SHARON ENGINEERING P.C
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MEP ENGINEER

REAL ENGINEERING
205 US Route 46 West, Suite #1
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T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

LIFE SAFETY PLANS

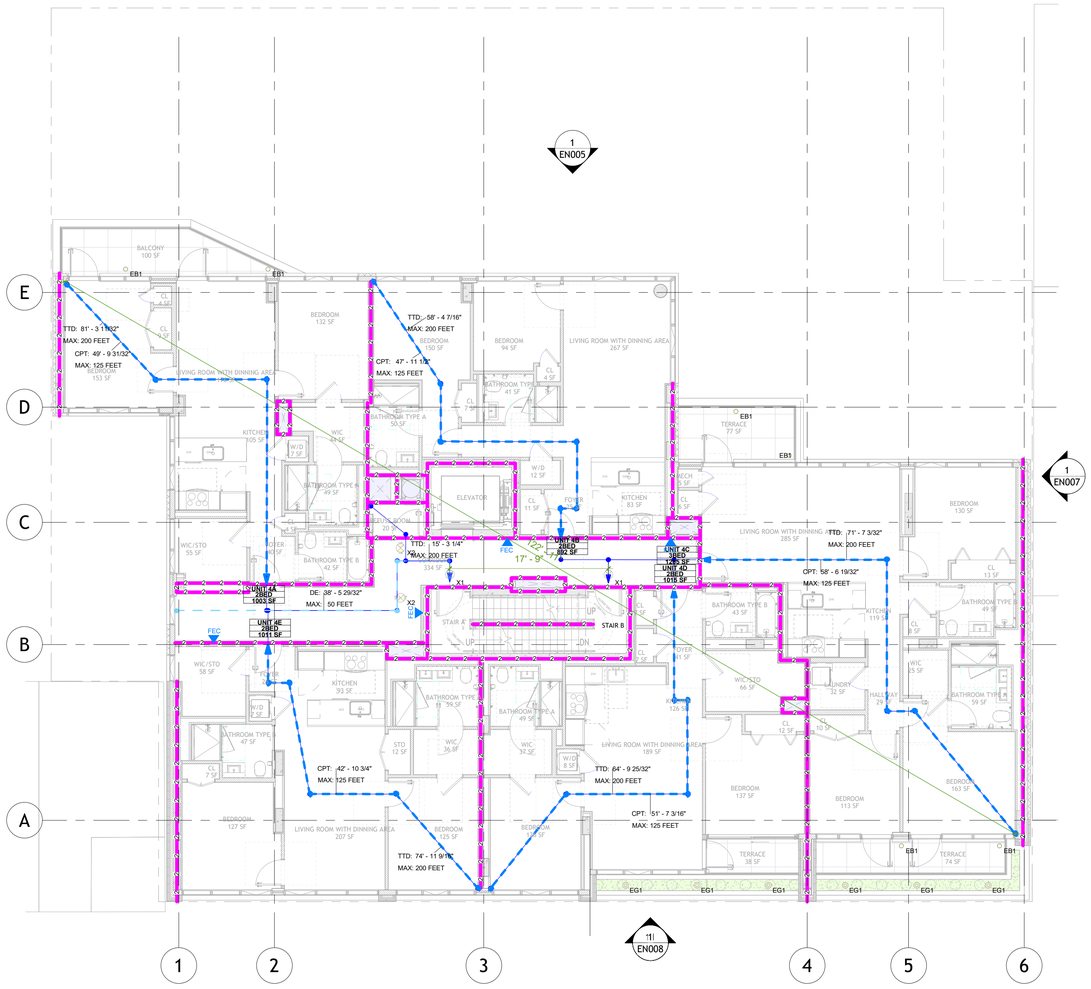
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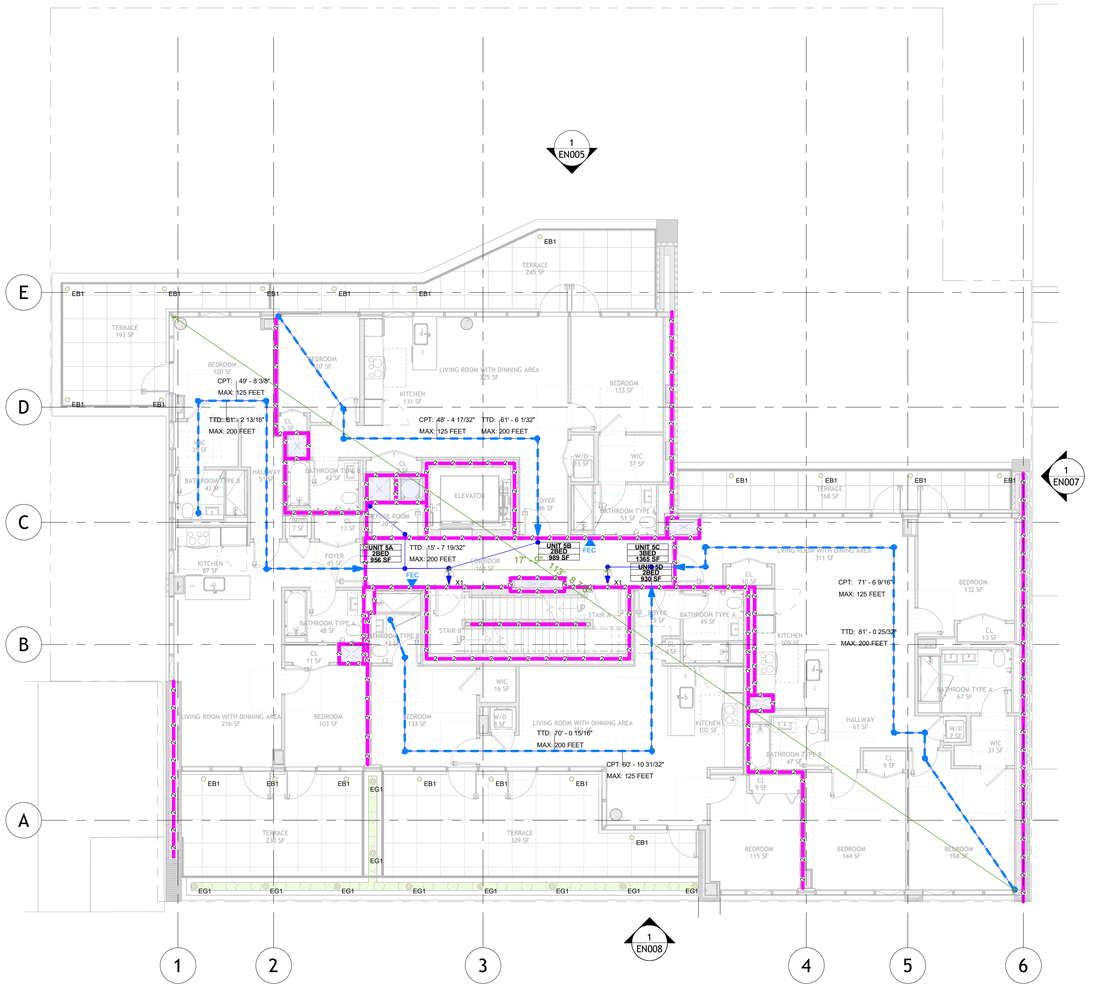
DATE: 02/21/2025

SCALE: As indicated

DRAWING NO: **A011**



1 EGRESS PLAN LEVEL 4
1/8" = 1'-0"



2 EGRESS PLAN LEVEL 5
1/8" = 1'-0"

4TH FLOOR

LIFE SAFETY PLAN RESIDENTIAL OCCUPANCY LOAD (PER NYC BC 2022, CHAPTER 10)					
OCCUPIED SPACE	OCCUPANCY CLASSIFICATION	FUNCTION OF SPACE PER IBC 1004.5	AREA	OCCUPANT RATE	OCCUPANTS
4TH FLOOR APARTMENTS AREA	R-2	RESIDENTAL	5206 SF	200	27
TOTAL					27

5TH FLOOR

LIFE SAFETY PLAN RESIDENTIAL OCCUPANCY LOAD (PER NYC BC 2022, CHAPTER 10)					
OCCUPIED SPACE	OCCUPANCY CLASSIFICATION	FUNCTION OF SPACE PER IBC 1004.5	AREA	OCCUPANT RATE	OCCUPANTS
5TH FLOOR APARTMENTS AREA	R-2	RESIDENTAL	4240 SF	200	22
TOTAL					22

4TH FLOOR

STAIR-A	STAIR	3'-0"	0.3"	120
STAIR-A	DOOR	3'-0"	0.2"	180
STAIR-B	STAIR	3'-0"	0.3"	120
STAIR-B	DOOR	3'-0"	0.2"	180

TOTAL EXIT CAPACITY FOR EGRESS	240
EXIT CAPACITY	27<240 OK

5TH FLOOR

STAIR-A	STAIR	3'-0"	0.3"	120
STAIR-A	DOOR	3'-0"	0.2"	180
STAIR-B	STAIR	3'-0"	0.3"	120
STAIR-B	DOOR	3'-0"	0.2"	180

TOTAL EXIT CAPACITY FOR EGRESS	240
EXIT CAPACITY	22<240 OK

LEDGEND OF EGRESS PLAN

FIRE RATING

1HOUR RATED WALL

2HOUR RATED WALL

3HOUR RATED WALL

ACTUAL TRAVEL DISTANCE AND DIRECTION OF TRAVEL

TTD: 88'-8" MAX:200 FEET — TTD=TOTAL TRAVEL DISTANCE; MAX=MAXIMUM ALLOWABLE DISTANCE

CPT: 88'-8" MAX:125 FEET — CPT=COMMON PATH OF TRAVEL DISTANCE; MAX=MAXIMUM ALLOWABLE DISTANCE

DE: 88'-8" MAX: 50 FEET — DE=DEAD END CORRIDOR DISTANCE; MAX=MAXIMUM ALLOWABLE DISTANCE

FIRE PROTECTION EQUIPMENT AND EXIT SIGNS

FEC — FIRE EXTINGUISHER AND CABINET

FEW — FIRE EXTINGUISHER AND WALL MOUNTING BRACKET

EXIT SIGN(SINGLE SIDED, DOUBLE SIDED, W/DIRECTIONAL ARROW, WALL MOUNTED)

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OWNER NAME:

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#	Description	Date

KEY PLAN:

REFERENCE NORTH



APPROVAL:

DWG TITLE:

LIFE SAFETY PLANS

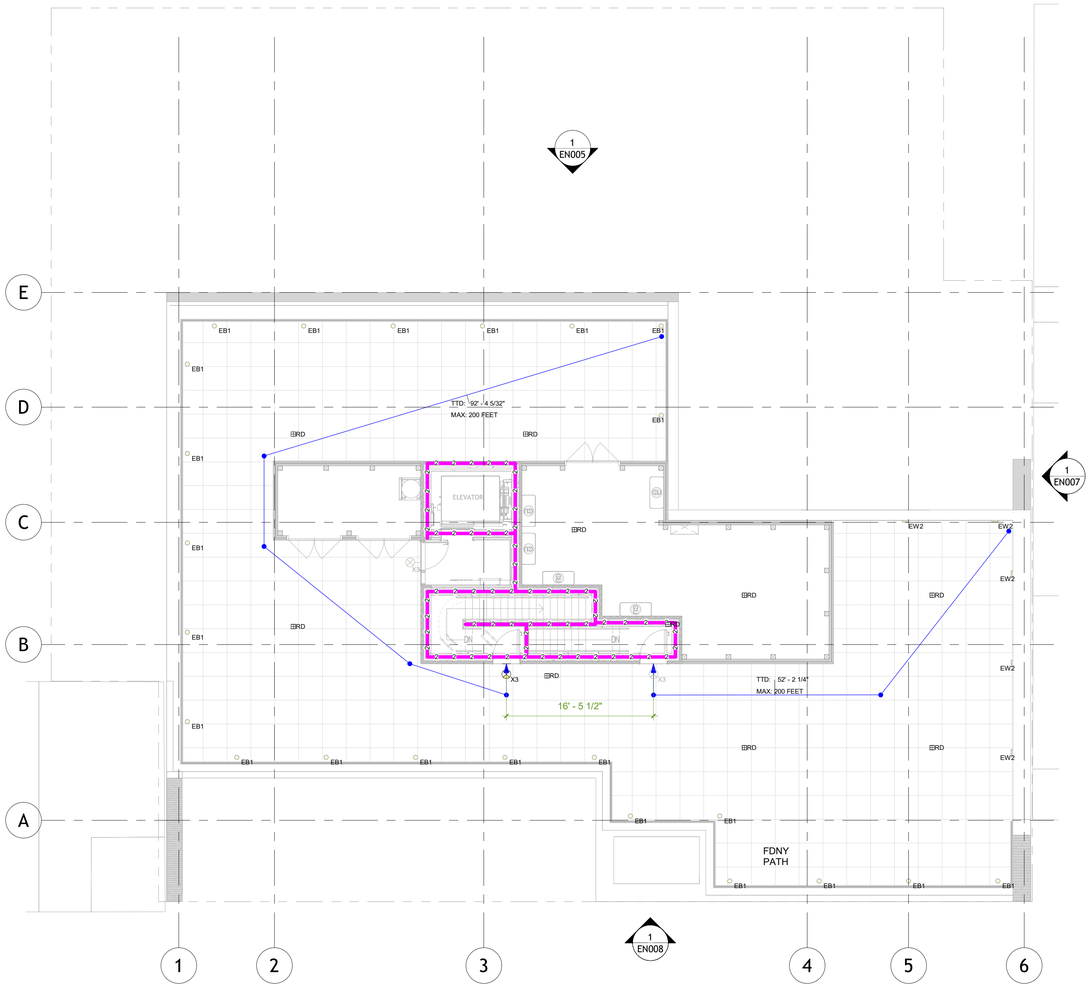
SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: As indicated

DRAWING NO: **A012**



1 EGRESS PLAN ROOF
1/8" = 1'-0"

ROOF FLOOR

LIFE SAFETY PLAN RESIDENTIAL OCCUPANCY LOAD (PER NYC BC 2022, CHAPTER 10)					
OCCUPIED SPACE	OCCUPANCY CLASSIFICATION	FUNCTION OF SPACE PER IBC 1004.5	AREA	OCCUPANT RATE	OCCUPANTS
ROOFTOP RECREATION AREA	R2	ROOFTOP ACCESORY TERRACE TO R-2	3331 SF	200 SF	17
TOTAL					17

ROOF FLOOR

STAIR-A	STAIR	3'-0"	0.3"	120
STAIR-A	DOOR	3'-0"	0.2"	180
STAIR-B	STAIR	3'-0"	0.3"	120
STAIR-B	DOOR	3'-0"	0.2"	180

TOTAL EXIT CAPACITY FOR EGRESS	240

LEDGEND OF EGRESS PLAN

FIRE RATING

1HOUR RATED WALL

2HOUR RATED WALL

3HOUR RATED WALL

ACTUAL TRAVEL DISTANCE AND DIRECTION OF TRAVEL

TTD: 88'-8" / MAX:200 FEET — TTD=TOTAL TRAVEL DISTANCE, MAX=MAXIMUM ALLOWABLE DISTANCE

CPT: 88'-8" / MAX:125 FEET — CPT=COMMON PATH OF TRAVEL DISTANCE, MAX=MAXIMUM ALLOWABLE DISTANCE

DE: 88'-8" / MAX: 50 FEET — DE=DEAD END CORRIDOR DISTANCE, MAX=MAXIMUM ALLOWABLE DISTANCE

FIRE PROTECTION EQUIPMENT AND EXIT SIGNS

FEC — FIRE EXTINGUISHER AND CABINET

FEW — FIRE EXTINGUISHER AND WALL MOUNTING BRACKET

EXIT SIGN(SINGLE SIDED, DOUBLE SIDED, W/DIRECTIONAL ARROW, WALL MOUNTED)

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STRUCTRAL ENGINEER

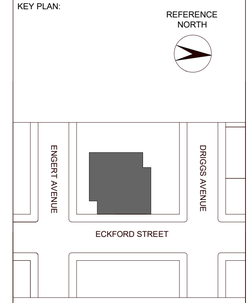
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MEP ENGINEER

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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

LIFE SAFETY PLANS

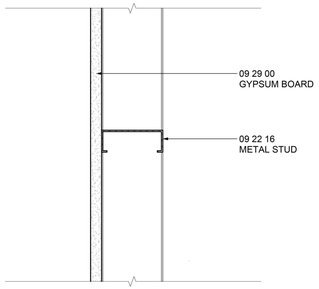
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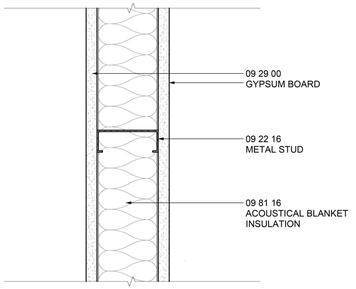
DATE: 02/21/2025

SCALE: As indicated

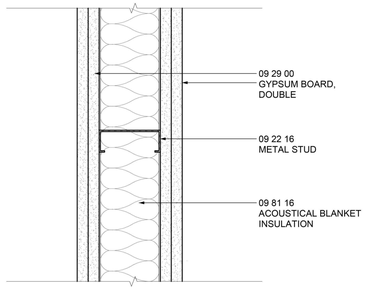
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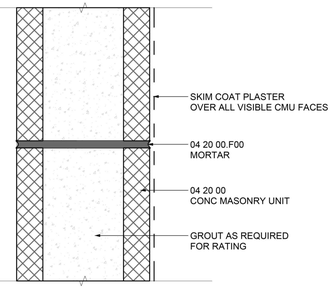
TYPE N1F-
SINGLE FACE METAL PARTITION



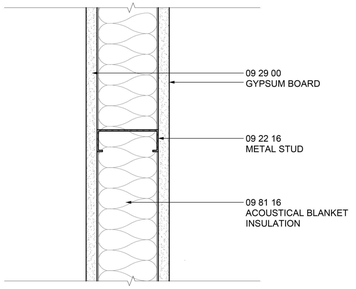
TYPE N1R-
1HR RATED
DOUBLE FACE METAL PARTITION, UL #U419
BSA # 301-60-SM
STC: 50



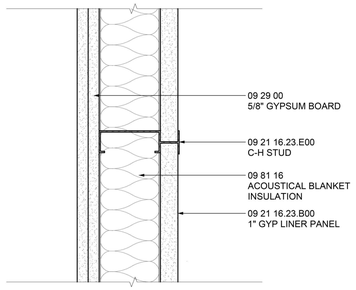
TYPE N2R-
2HR RATED
DOUBLE FACE DOUBLE BOARD ,
METAL PARTITION, UL #U419
STC: 52 MIN



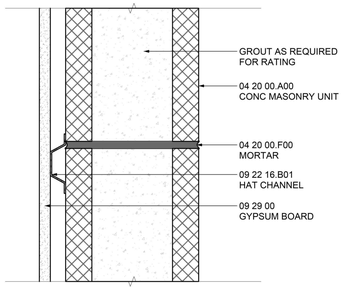
TYPE M
CMU WALL, 2HR RATED, UL #U907
BSA # 172-50-SM
STC: 57



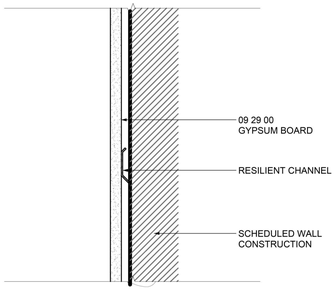
TYPE N1-
DOUBLE FACE METAL PARTITION, UL #U419
(NOT RATED) BSA # 301-60-SM



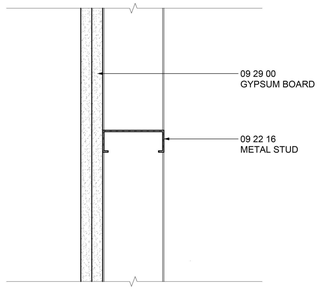
TYPE N2S
2HR RATED SHAFT WALL, UL #U415
SYSTEM B BSA# 542-68-SM
STC: 50



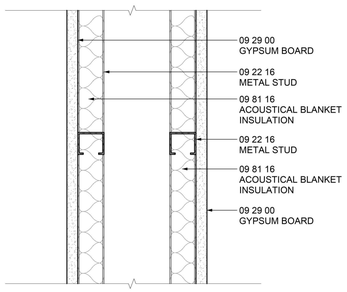
TYPE MF
CMU WALL WITH FURRING,
2HR RATED
UL #U907
BSA # 172-50-SM
STC: 62



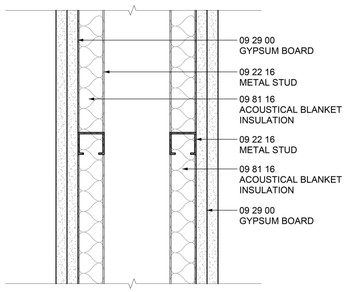
TYPE -C SUFFIX
RESILLIENT CHANNEL



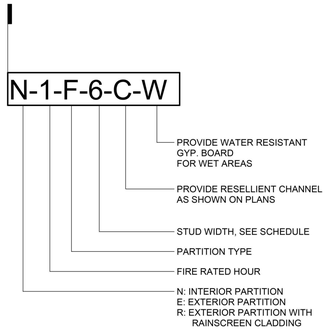
TYPE N2F-
SINGLE FACE METAL PARTITION



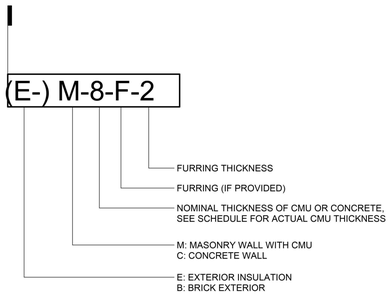
TYPE N1H-
CHASE WALL, 1 HR RATED
UL #U420



TYPE N2H-
CHASE WALL, 2 HR RATED
UL #U420



STUD WALL TAG SAMPLE



MASS WALL TAG SAMPLE

NOTES:

1) REFER TO EGRESS/LIFE SAFETY PLANS FOR FIRE RATED CONSTRUCTION

2) RESILLIENT FURRING CHANNELS SHALL BE 1/2" DEEP, 20 GAUGE CORROSION PROTECTED, SPACED VERTICALLY 24" O.C. MAX

3. PARTITION TYPES ARE NOT SEQUENTIAL

4. ALL GYPSUM BOARD TO BE 5/8" THICK U.O.N.

5. REFER TO SHEET A00.21, FOR PARTITION "HEAD DETAIL"

6. REFER TO SHEET A00.22 FOR PARTITION: "BASE DETAIL"

7. ALL PARTITIONS SHALL BE COORDINATED WITH SCHEDULED FINISHES FOR PARTITION LAYOUT AND REQUIRED CLEARANCES.

8. PROVIDE BLOCKING IN PARTITIONS FOR ALL MILLWORK AS REQUIRED. COORDINATE LOCATIONS AND BLOCKING TYPE WITH MILLWORKER.

9. SEE STRUCTURAL DRAWINGS FOR CMU STRUCTURAL REQUIREMENTS AND STANDARDS.

10. EXTERIOR INSULATION:
- PROVIDE R13 MINIMUM INSULATION
- PROVIDE R10 2" RIGID INSULATION AROUND THE WHOLE BUILDING PERIMETER

11. ON FIRE RATED WALLS THE INTERVENING SPACES BETWEEN INSIDE A FURRED WALL SHALL BE FILLED WITH INORGANIC CLASS A MATERIAL OR SHALL BE FIRE BLOCKED AT MAX 8' IN ANY DIRECTION.

STUD/WALL DEPTH SCHEDULE

WALL TAG #	METAL STUD DEPTH	WOOD STUD DEPTH	CMU DEPTH
1	0 7/8"	-	-
2	1 5/8"	1 1/2"	-
3	2 1/2"	2 1/2"	-
4	3 5/8"	3 1/2"	3 5/8"
6	6"	5 1/2"	5 5/8"
8	8"	7 1/4"	7 5/8"
10	10"	9 1/4"	9 5/8"
12	12"	11 1/4"	11 5/8"

PROJECT NAME:
BK55E

OWNER NAME:

PROJECT ADDRESS:
55 Eckford Street Brooklyn, NY 11222

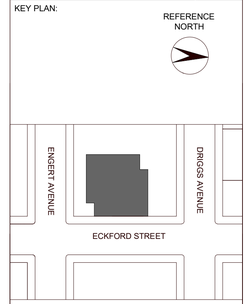
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:
INTERIOR WALL TYPES

SEAL & SIGNATURE:

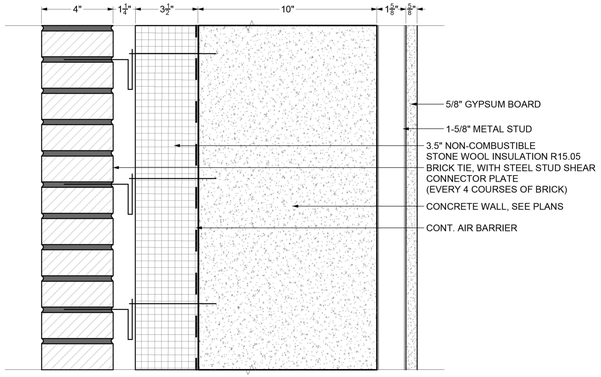


DATE: 02/21/2025

SCALE:

DRAWING NO: **A020**

OUTDOOR



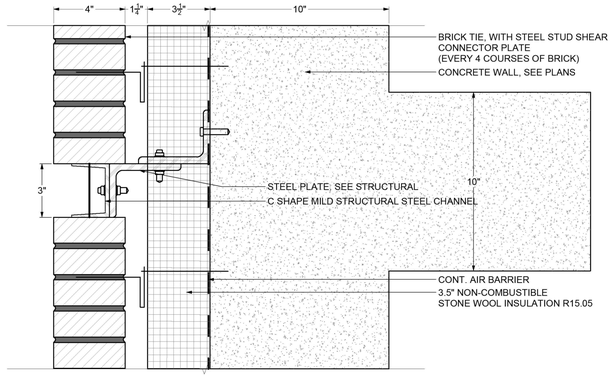
WALL TYPE A

BRICK WALL

EXTERIOR BRICK WALL WITH FURRING
(2HR MIN. RATED)

WALL TYPE A	
WALL ASSEMBLY	R-VALUE
3.5" R-15.05 STONE WOOL INSULATION	15.05
Total R-Value of Wall Assembly	16.95(EFFECTIVE)
U-Factor of Wall Assembly	0.059 (PER Comcheck)

OUTDOOR



WALL TYPE A1

BRICK WALL @ SLAB

EXTERIOR BRICK WALL WITH FURRING
(2HR MIN. RATED)

WALL TYPE A1	
WALL ASSEMBLY	R-VALUE
3.5" R-15.05 STONE WOOL INSULATION	15.05
Total R-Value of Wall Assembly	16.95(EFFECTIVE)
U-Factor of Wall Assembly	0.059 (PER Comcheck)

OUTDOOR

WALL TYPE B

BRICK WALL WITH METAL STUD

EXTERIOR BRICK WALL WITH METAL STUD
(2HR MIN. RATED)

WALL TYPE B	
WALL ASSEMBLY	R-VALUE
3.5" R-15.05 STONE WOOL INSULATION	15.05
6" R-19 MINERALWOOL INSULATION	19
Total R-Value of Wall Assembly	25.64(EFFECTIVE)
U-Factor of Wall Assembly	0.039 (PER Comcheck)

OUTDOOR

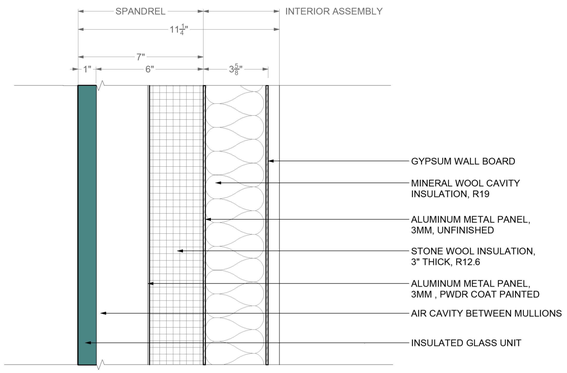
WALL TYPE B1

BRICK WALL WITH METAL STUD @ SLAB

EXTERIOR BRICK WALL WITH FURRING
(2HR MIN. RATED)

WALL TYPE B1	
WALL ASSEMBLY	R-VALUE
3.5" R-15.05 STONE WOOL INSULATION	15.05
Total R-Value of Wall Assembly	16.95(EFFECTIVE)
U-Factor of Wall Assembly	0.059 (PER Comcheck)

OUTDOOR

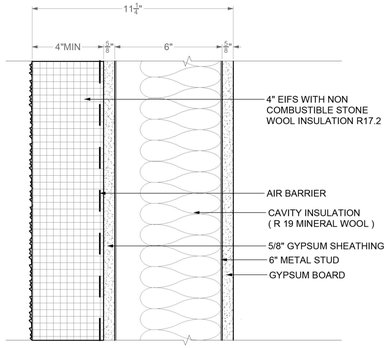


WALL TYPE C

CW SPANDREL WITH CLEAR SHADOW BOX

WALL TYPE C	
WALL ASSEMBLY	R-VALUE
U-Factor of Wall Assembly	0.176 (PER APPENDIX CA TABLE 5.5.3)

OUTDOOR



WALL TYPE D

EXTERIOR WALL WITH EIFS
FACING ON MASS WALL
(3HR MIN. RATED)

WALL TYPE D	
WALL ASSEMBLY	R-VALUE
4" R-17.2 STONE WOOL INSULATION	17.2
6" R-19 MINERALWOOL INSULATION	19
Total R-Value of Wall Assembly	27.78(EFFECTIVE)
U-Factor of Wall Assembly	0.036 (PER Comcheck)

PROJECT NAME:

BK55E

OWNER NAME:

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MEP ENGINEER

REAL ENGINEERING

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#	Description	Date

KEY PLAN:

APPROVAL:

DWG TITLE:

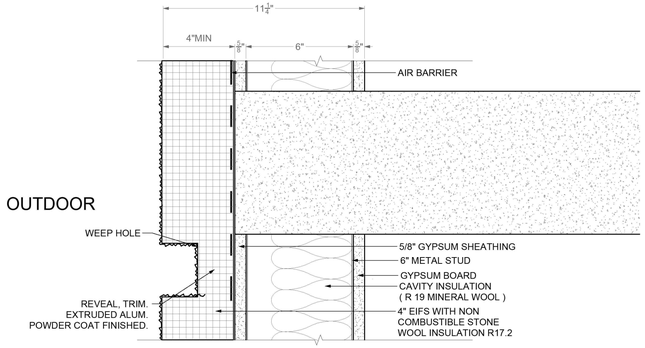
EXTERIOR WALL TYPES

SEAL & SIGNATURE:

DATE: 02/21/2025

SCALE:

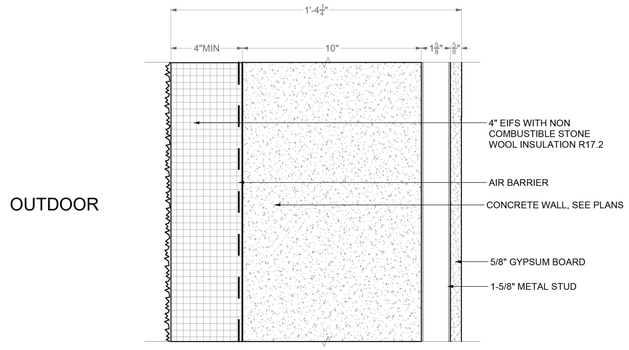
DRAWING NO: **A021**



WALL TYPE D1

EXTERIOR WALL WITH EIFS @ SLAB
FACING ON MASS WALL
(3HR MIN. RATED)

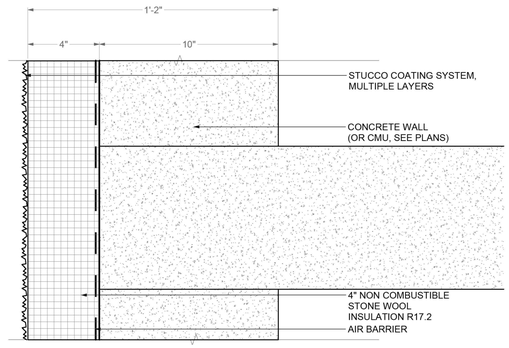
WALL TYPE D1	
WALL ASSEMBLY	R-VALUE
4" R-17.2 STONE WOOL INSULATION	17.2
Total R-Value of Wall Assembly	19.23(EFFECTIVE)
U-Factor of Wall Assembly	0.052 (PER Comcheck)



WALL TYPE E

EXTERIOR WALL WITH EIFS
FACING ON MASS WALL
(3HR MIN. RATED)

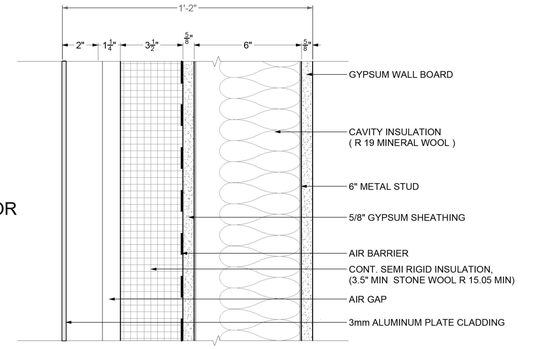
WALL TYPE E	
WALL ASSEMBLY	R-VALUE
4" R-17.2 STONE WOOL INSULATION	17.2
Total R-Value of Wall Assembly	19.23 (EFFECTIVE)
U-Factor of Wall Assembly	0.052 (PER Comcheck)



WALL TYPE E1

EXTERIOR WALL WITH EIFS @ SLAB
FACING ON MASS WALL
(3HR MIN. RATED)

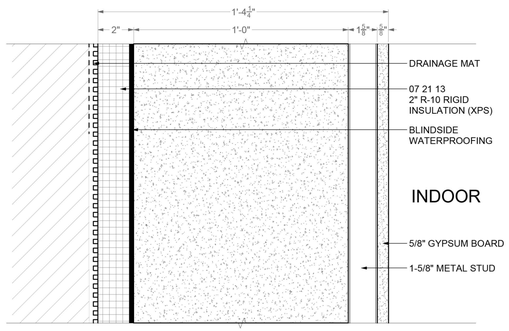
WALL TYPE E1	
WALL ASSEMBLY	R-VALUE
4" R-17.2 STONE WOOL INSULATION	17.2
Total R-Value of Wall Assembly	19.23(EFFECTIVE)
U-Factor of Wall Assembly	0.052 (PER Comcheck)



WALL TYPE F

METAL CLADDING WALL AND FURRING

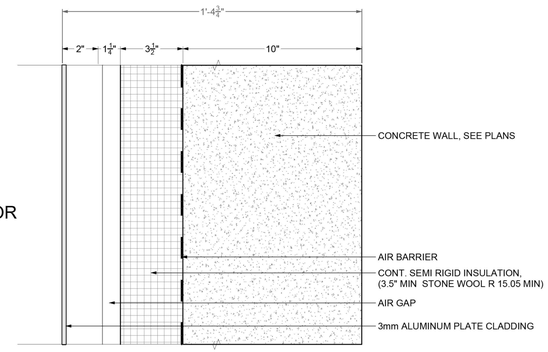
WALL TYPE F	
WALL ASSEMBLY	R-VALUE
3.5" R-15.05 STONE WOOL INSULATION	15.05
6" R-19 MINERALWOOL INSULATION	19
Total R-Value of Wall Assembly	25.64(EFFECTIVE)
U-Factor of Wall Assembly	0.039 (PER Comcheck)



WALL TYPE G

CONCRETE FOUNDATION WALL
CONTINUOUS INSULATION R-VALUE: 10
U FACTOR: 0.1

WALL TYPE G	
WALL ASSEMBLY	R-VALUE
2" R-10 RIGID INSULATION	10
Total R-Value of Wall Assembly	11.49 (EFFECTIVE)
U-Factor of Wall Assembly	0.087 (PER Comcheck)



WALL TYPE H

METAL CLADDING WALL AND CONCRETE

WALL TYPE H	
WALL ASSEMBLY	R-VALUE
3.5" R-15.05 STONE WOOL INSULATION	15.05
Total R-Value of Wall Assembly	16.95(EFFECTIVE)
U-Factor of Wall Assembly	0.059 (PER Comcheck)

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

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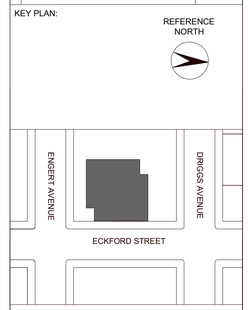
MEP ENGINEER

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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

EXTERIOR WALL TYPES

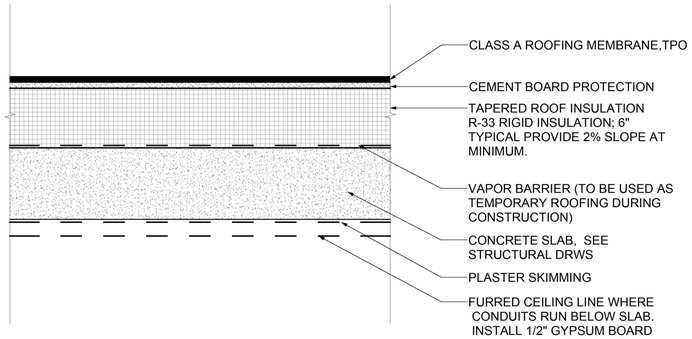
SEAL & SIGNATURE:



DATE: 02/21/2025

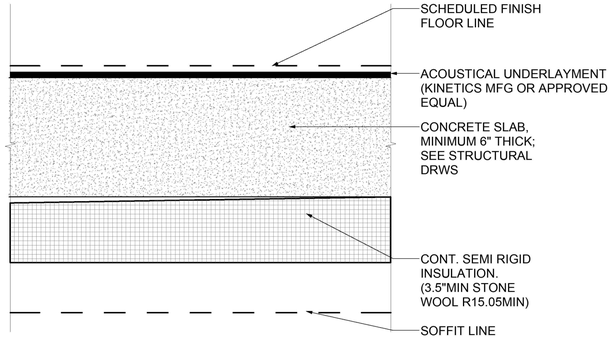
SCALE:

DRAWING NO: **A022**



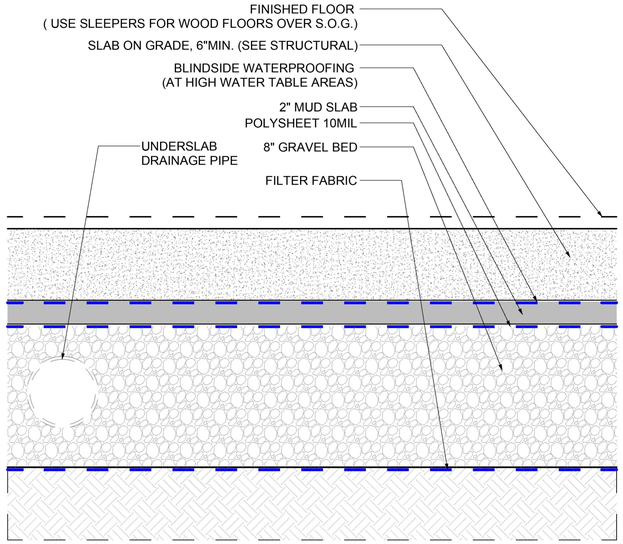
R1: ROOF CONSTRUCTION DETAIL ON SHEET A812-2

2HR FIRE RATED, UL P801

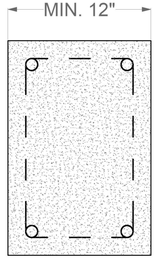


F1: SOFFIT OVER UNCONDITIONED SPACE

2HR FIRE RATED, As per BC Table 721.2.2.1 for
Reinforced Concrete Slabs over 5" thickness

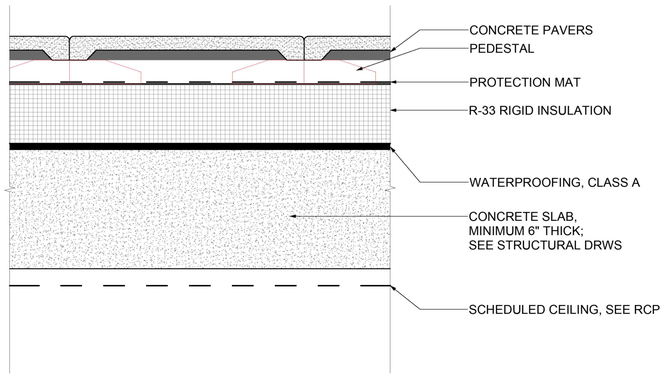


F4: SLAB ON GRADE



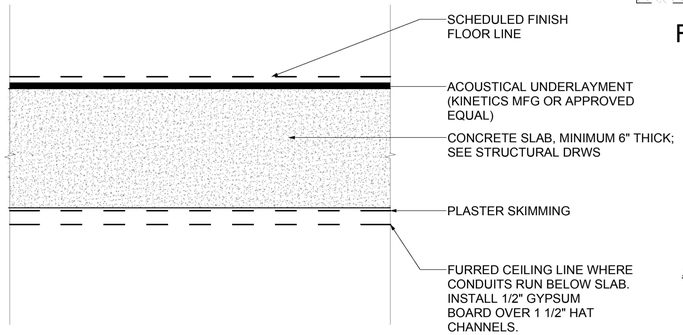
STRUCTURAL CONCRETE COLUMNS

3 HR FIRE RATED
PER NYC BC TABLE 721.2.4



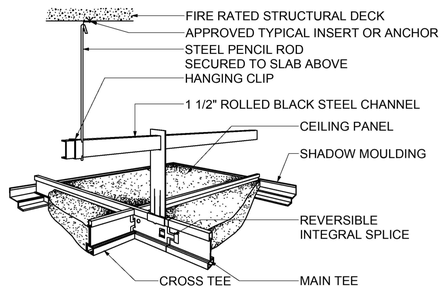
R2: TERRACE FLOOR OR ROOF CONSTRUCTION

2HR FIRE RATED, As per BC Table 721.2.2.1 for
Reinforced Concrete Slabs over 5" thickness
STC: 50MIN



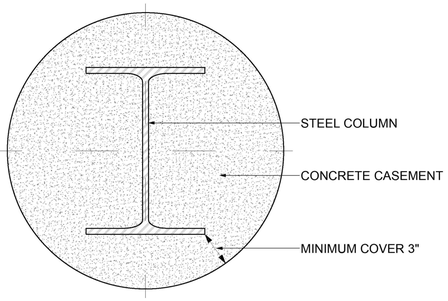
F2:TYPICAL FLOOR CONSTRUCTION

2HR FIRE RATED, As per BC Table 721.2.2.1 for
Reinforced Concrete Slabs over 5" thickness
STC: 50 MIN
IIC: 50 MIN



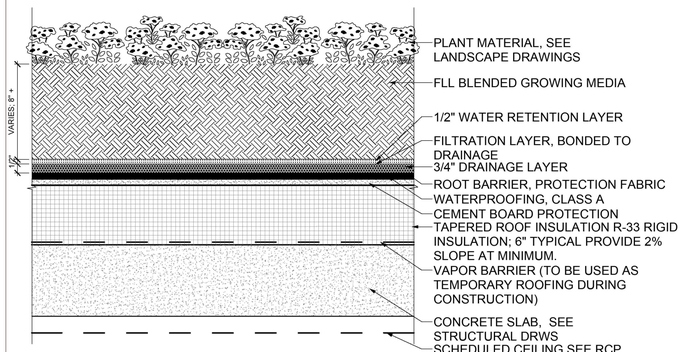
TYPICAL SUSPENDED CEILING

NON-RATED (NOT TO SCALE)



STEEL COLUMN WITH CONCRETE CASEMENT

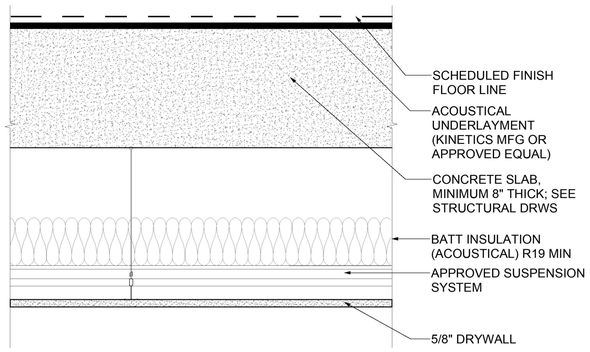
2 HR FIRE RATED
PER BC TABLE 721.5.1(5) MINIMUM COVER (inch) FOR STEEL COLUMNS ENCASED IN NORMAL-WEIGHT CONCRETE [FIGURE 721.5.1(6)(c)]



NOTE:
1.SYSTEM COMPONENTS ARE SHOWN AT NOMINAL SIZE, COMPRESSION WILL OCCUR AT RETENTION LAYER BASED ON AMOUNT (HEIGHT/VOLUME) OF GROWING MEDIA PLACED ON SYSTEM. MAXIMUM COMPRESSION 18" ±.

R3: GREEN ROOF CONSTURCITON

2HR FIRE RATED, UL P801



F3: TYPICAL FLOOR CONSTRUCTION

2HR FIRE RATED, As per BC Table 721.2.2.1 for
Reinforced Concrete Slabs over 5" thickness
STC: 50 MIN
IIC:50 MIN

FIRE RESISTANCE RATING, BC TABLES 601 & 602

BULDING ELEMENT			TYPE 1-B RATING (HRS)
EXTERIOR WALLS WITH AN EXTERIOR SEPARATION OF	x < 5 ft	Bearing	1
		Non-Bearing	1
	5 ft <= x <10ft	Bearing	1
		Non-Bearing	1
	10 ft<=x<30 ft	Bearing	1
		Non-Bearing	1
	30ft <= x	Bearing	0
		Non-Bearing	0
PRIMARY STRUCTURAL FRAME			2
BEARING WALLS, EXTERIOR			2
BEARING WALLS, INTERIOR			2
NON BEARING WALLS AND PARTITIONS			0
FLOOR CONSTRUCTION (INCLUDING SUPPORTING BEAMS AND JOISTS)			2
ROOF CONSTRUCTION (INCLUDING SUPPORTING BEAMS AND JOISTS)			1

a. fire protection of structural members shall not be required, including protection of roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below

PROJECT NAME:

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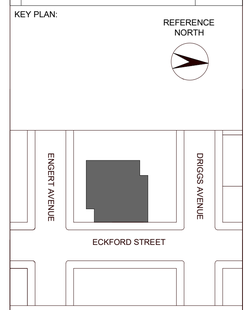
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Totowa, NJ 07512
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

ROOF AND CEILING ASSEMBLIES

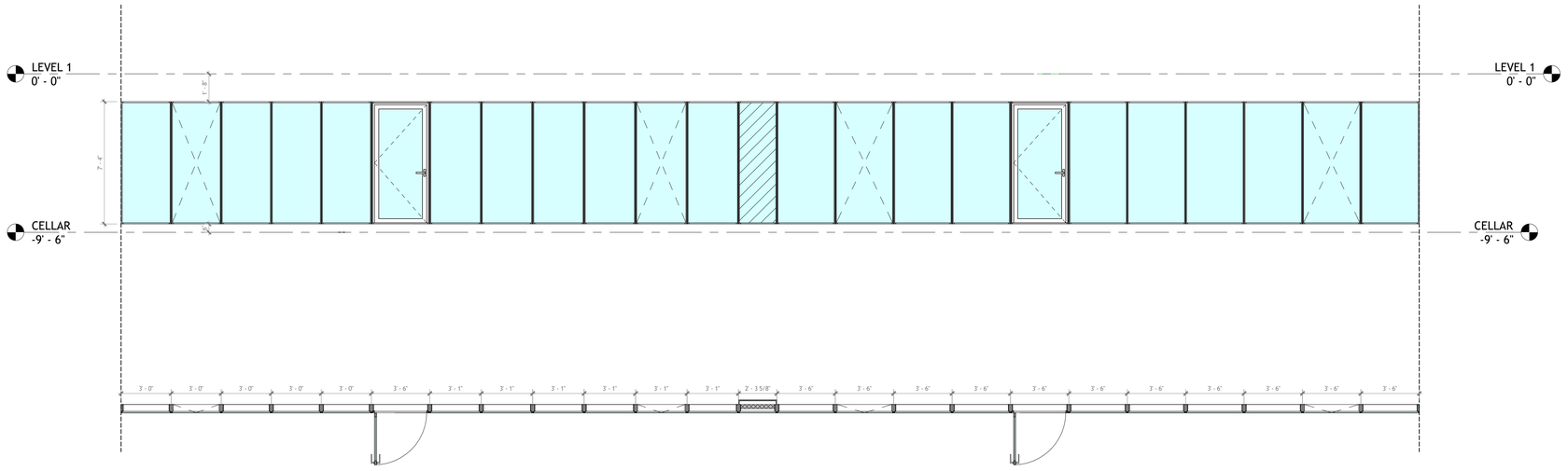
SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE:

DRAWING NO: **A023**



1 CELLAR WEST.F
1/4" = 1'-0"

PROJECT NAME:

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OWNER NAME:

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#	Description	Date

KEY PLAN:

REFERENCE NORTH



APPROVAL:

DWG TITLE:

FENESTRATION SCHEDULE - CELLAR

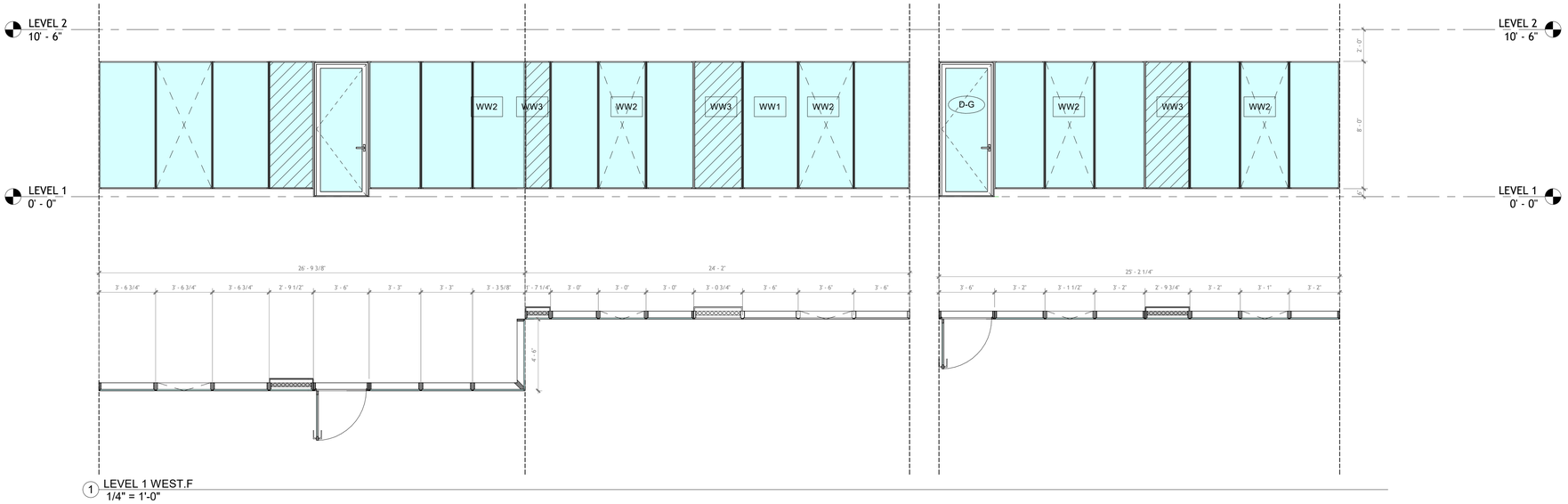
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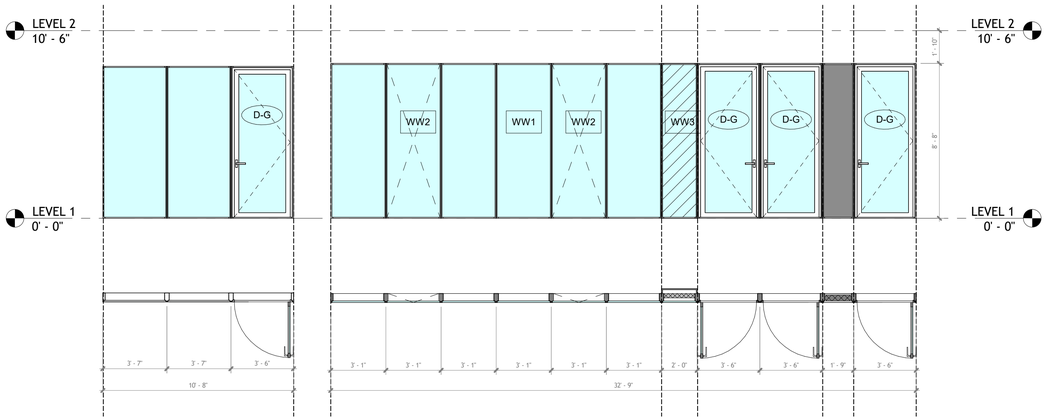
DATE: 02/21/2025

SCALE: 1/4" = 1'-0"

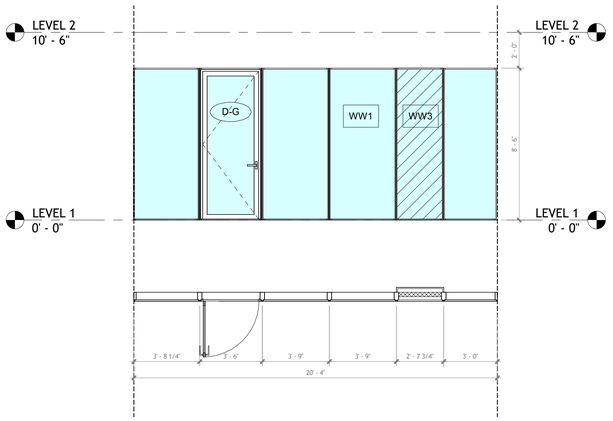
DRAWING NO: **A030**



1 LEVEL 1 WEST.F
1/4" = 1'-0"



2 LEVEL 1 EAST.F
1/4" = 1'-0"



3 LEVEL 1 SOUTH.F
1/4" = 1'-0"

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

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ARCHITECT

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STRUCTRAL ENGINEER

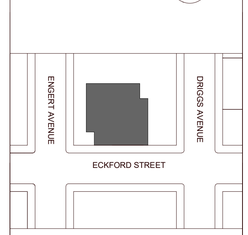
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

FENESTRATION SCHEDULE - LV1

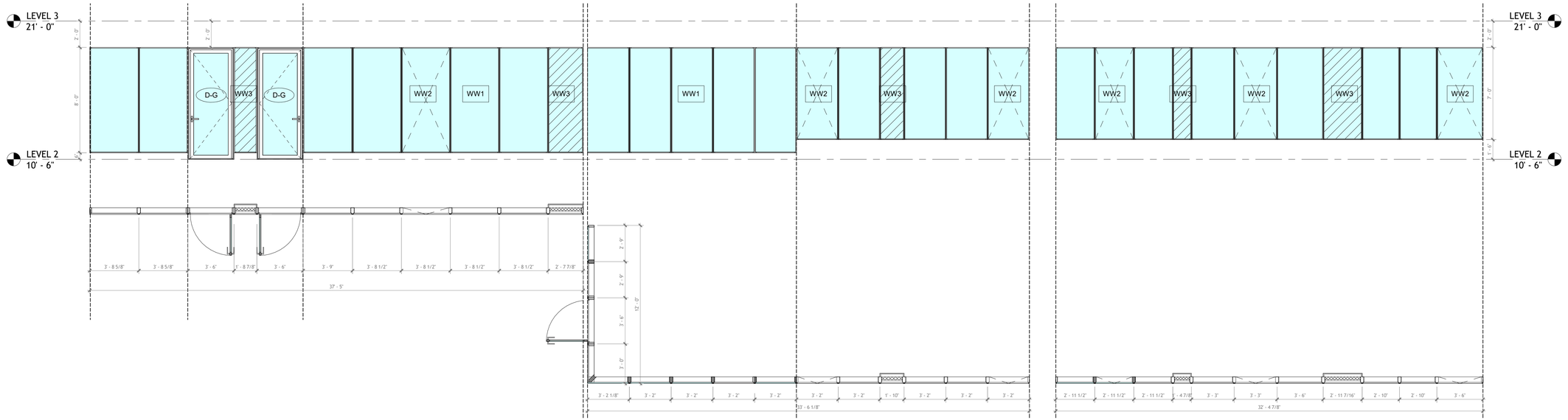
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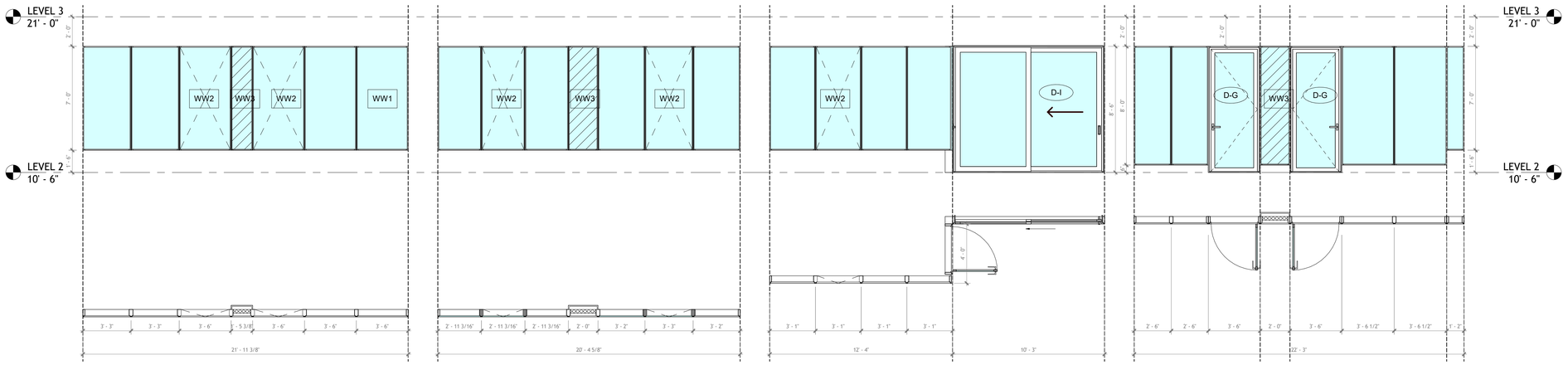
DATE: 02/21/2025

SCALE: 1/4" = 1'-0"

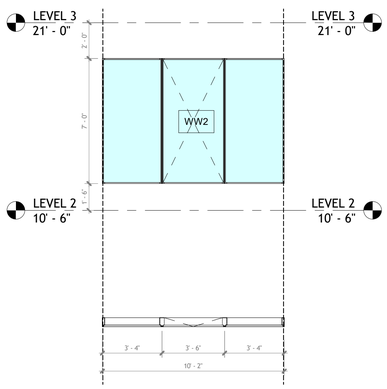
DRAWING NO: **A031**



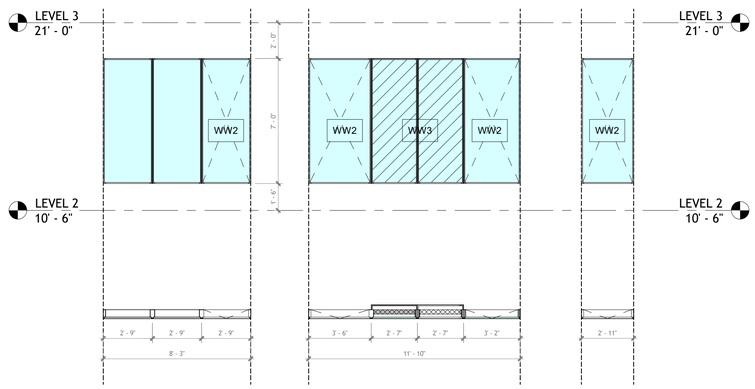
1 LEVEL 2 WEST.F
1/4" = 1'-0"



2 LEVEL 2 EAST.F
1/4" = 1'-0"



3 LEVEL 2 EAST.F 2
1/4" = 1'-0"



4 LEVEL 2 SOUTH F
1/4" = 1'-0"

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

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#	Description	Date

KEY PLAN:

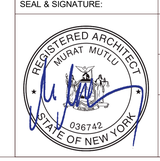


APPROVAL:

DWG TITLE:

FENESTRATION SCHEDULE - LV2

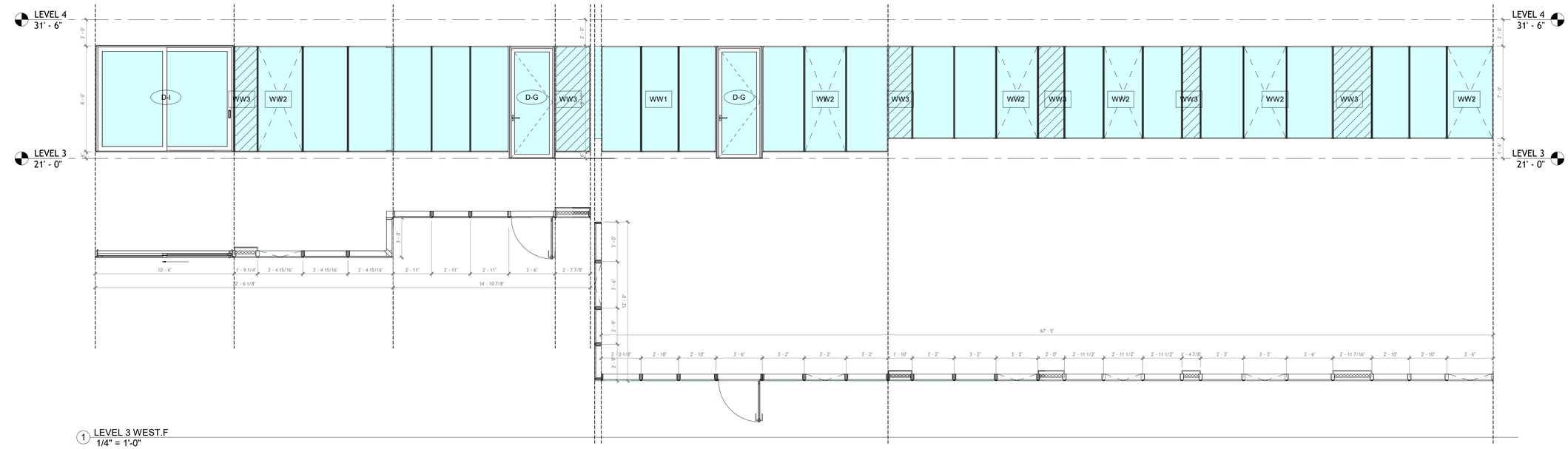
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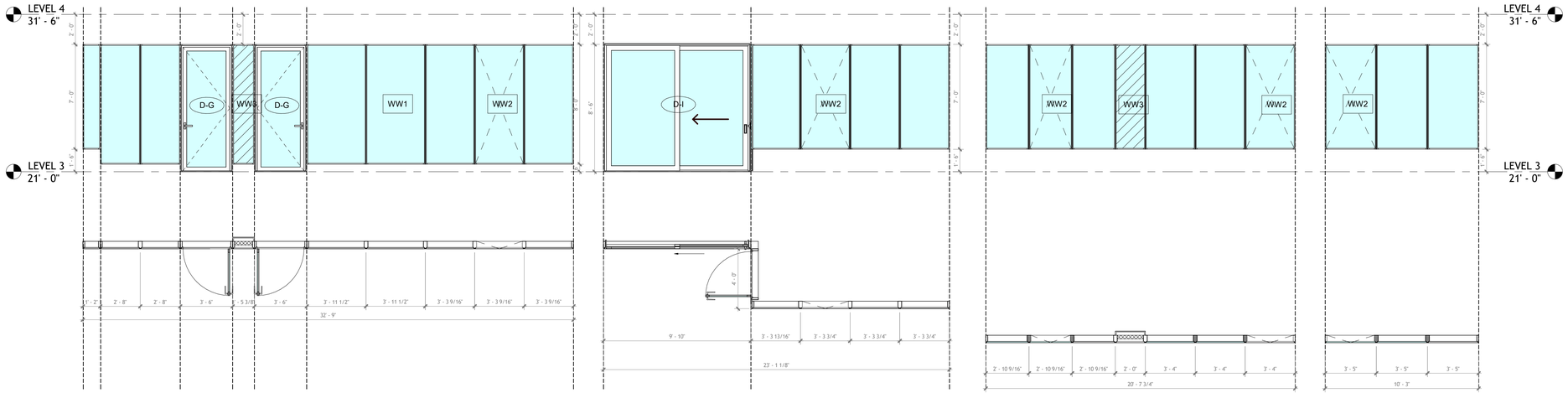
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SCALE: 1/4" = 1'-0"

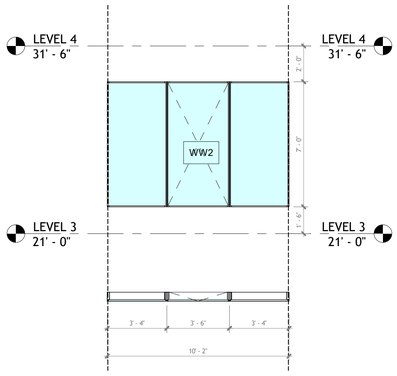
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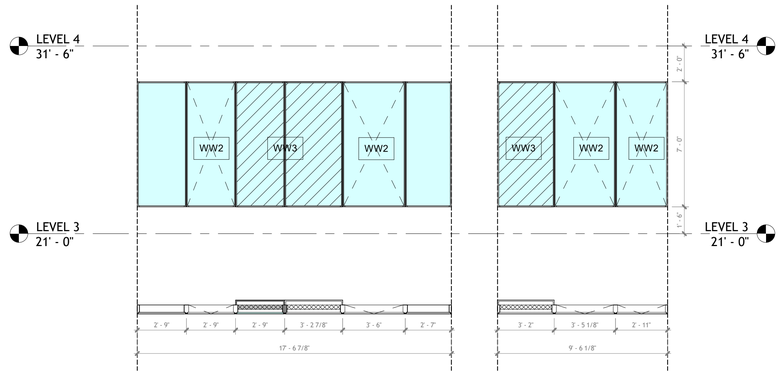
1 LEVEL 3 WEST.F
1/4" = 1'-0"



2 LEVEL 3 EAST.F
1/4" = 1'-0"



3 LEVEL 3 EAST.F 2
1/4" = 1'-0"



4 LEVEL 3 SOUTH.F
1/4" = 1'-0"

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

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STRUCTRAL ENGINEER

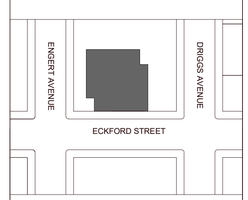
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MEP ENGINEER

REAL ENGINEERING
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

FENESTRATION SCHEDULE - LV3

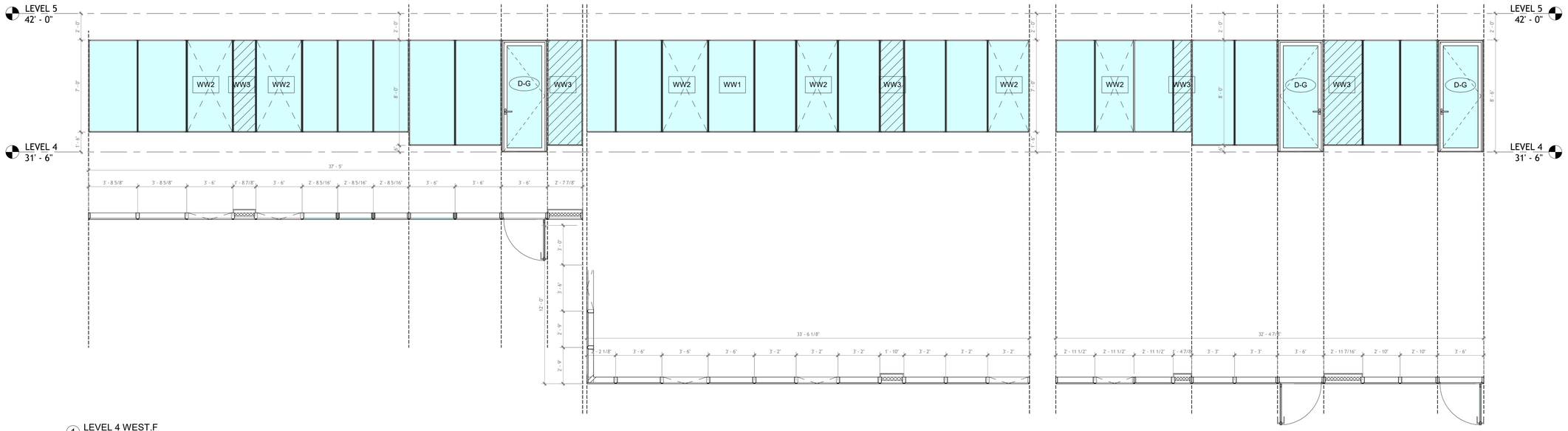
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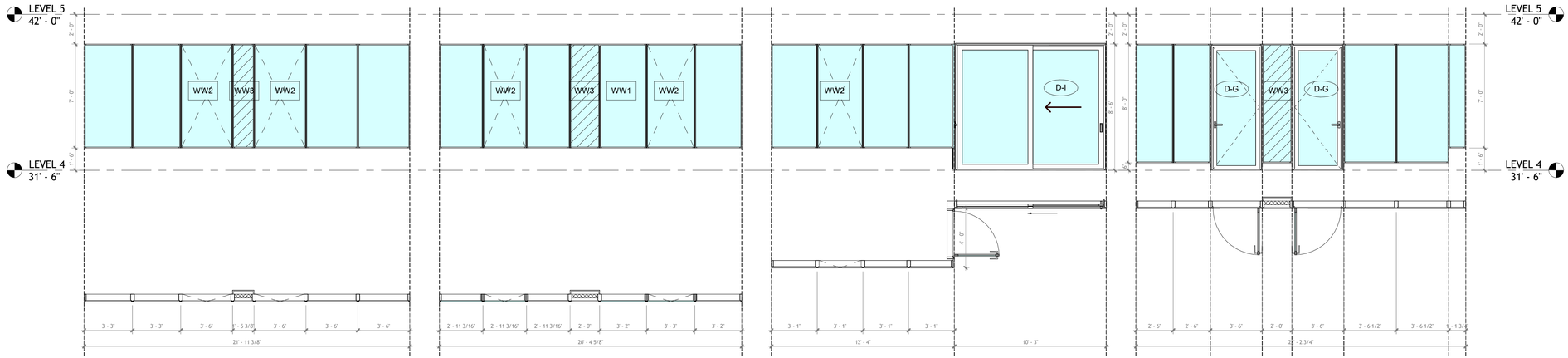
DATE: 02/21/2025

SCALE: 1/4" = 1'-0"

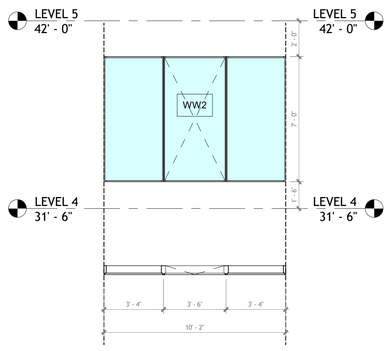
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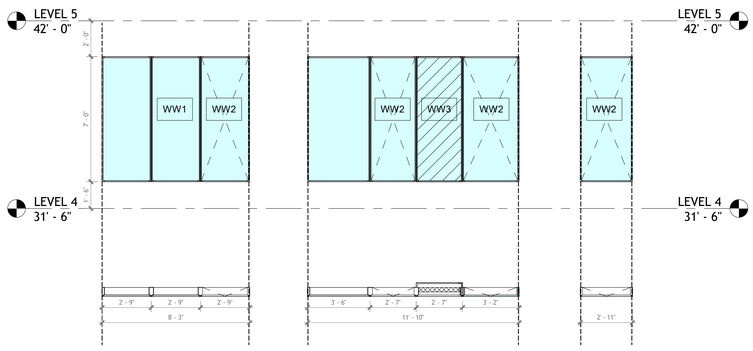
1 LEVEL 4 WEST.F
1/4" = 1'-0"



2 LEVEL 4 EAST.F
1/4" = 1'-0"



3 LEVEL 4 EAST.F 2
1/4" = 1'-0"



4 LEVEL 4 SOUTH. F
1/4" = 1'-0"

PROJECT NAME:

BK55E

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STRUCTRAL ENGINEER

SHARON ENGINEERING P.C
34-27 Steinway Street, Suite 201
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T: (718) 752-1500

MEP ENGINEER

REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

FENESTRATION SCHEDULE - LV4

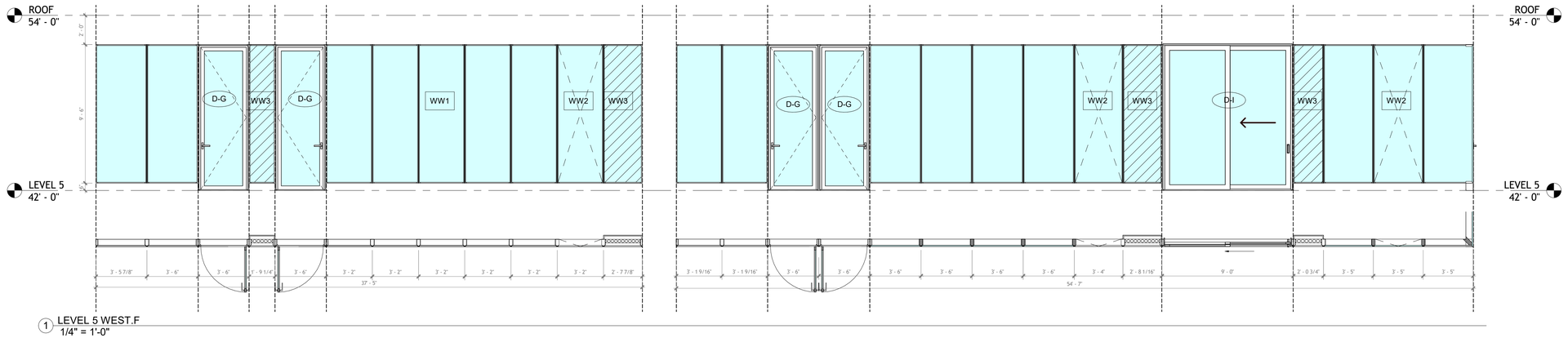
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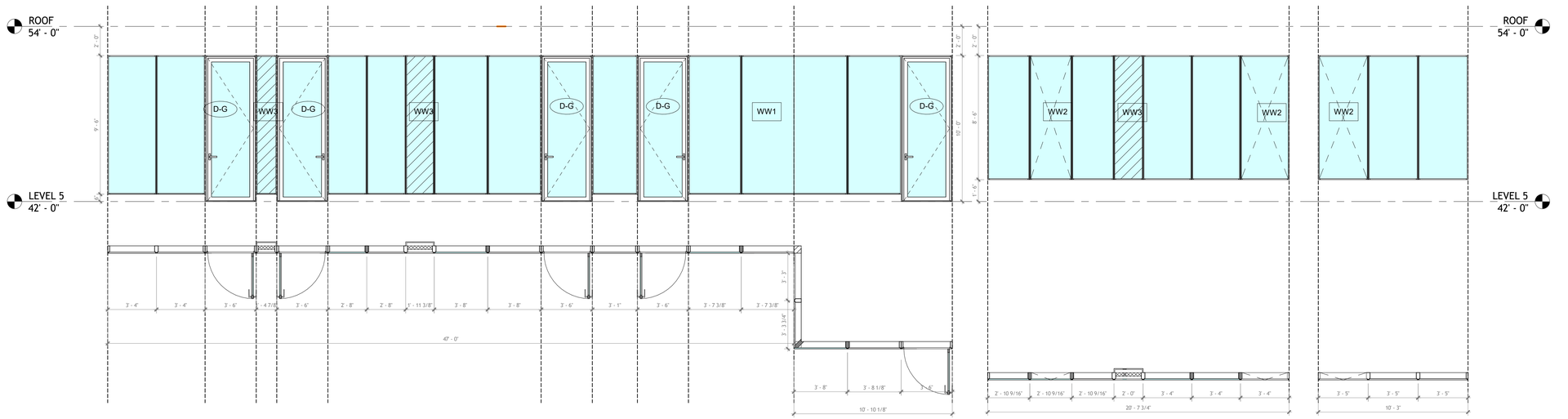
DATE: 02/21/2025

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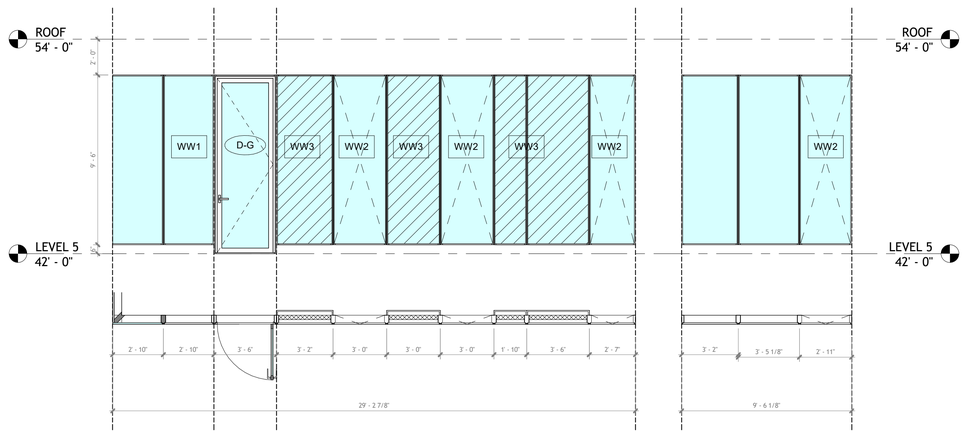
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1 LEVEL 5 WEST.F
1/4" = 1'-0"



2 LEVEL 5 EAST.F
1/4" = 1'-0"



3 LEVEL 5 SOUTH.F
1/4" = 1'-0"

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

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Long Island City, NY 11101
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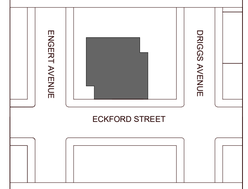
MEP ENGINEER

REAL ENGINEERING
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#	Description	Date

KEY PLAN:

REFERENCE NORTH



APPROVAL:

DWG TITLE:

FENESTRATION SCHEDULE - LV5

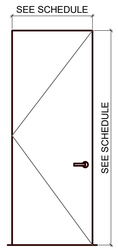
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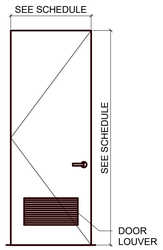
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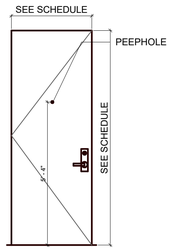
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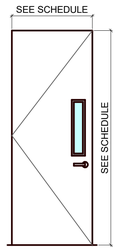
DOOR TYPE A
SINGLE DOOR - FLUSH



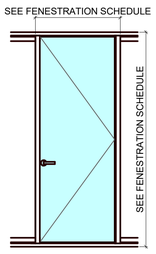
DOOR TYPE B
SINGLE DOOR - FLUSH LOUVER/VENT



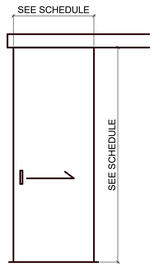
DOOR TYPE C
SINGLE DOOR - FLUSH, DOOR LOCKER, PEEPHOLE



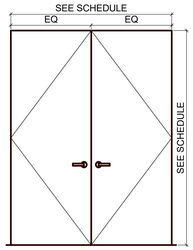
DOOR TYPE D
SINGLE DOOR - FLUSH VISION PANEL A



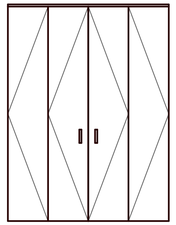
DOOR TYPE E
SINGLE GLASS DOOR - FLUSH, DOOR LOCKER



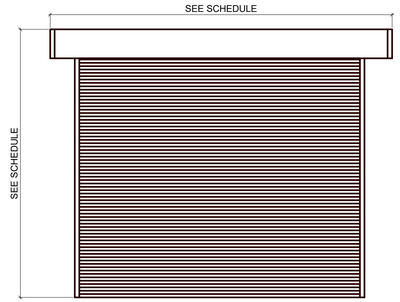
DOOR TYPE F
SINGLE DOOR - POCKET DOOR



DOOR TYPE G
PAIRED DOOR - FLUSH



DOOR TYPE H
PAIRED BIFOID DOOR - FLUSH



DOOR TYPE S
SINGLE OVERHEAD COILING DOOR

GLASS DOOR

SET TYPE 1
STOREFRONT GLASS DOOR,
SINGLE (ADJUST QUANTITIES FOR DOUBLE)

1	DOOR BOTTOM RAIL
1	DOOR TOP RAIL
1	TOP PIVOT
1	FLOOR CLOS/HOLD (COORD W/ DETAILS)
1	MAGNETIC LOCK
1	DOOR STOP
1	THRESHOLD (COORD W/ DETAILS)
1	WIRING DIAGRAM
1	EMERG EXIT BUTTON
1	MOTION SENSOR
1	POWER SUPPLY
1	CARD / FOB READER
1	WEATHER / PERIMETER SEALS
1	FOB AND KEY ACTIVATED LATCH
1	PULL BAR: ON THE NON-EGRESS SIDE
1	PANIC DEVICE BAR WITH TOP/BOTTOM LATCH ON THE EGRESS SID

*THRESHOLD AT FINISH TRANSITION
*PROVIDE MNFR'S STANDARD WEATHERPROOFING ACCESSORIES

SET TYPE 2
INTERIOR ALUMINUM GLASS SWING DOOR (AMENITIES)

1	CONCEALED OVERHEAD DOOR CLOSER
1	FLOOR STOPS
1	PULL BARS
3	SIDE MOUNTED HINGES PER DOOR
1	FOB AND KEY ACTIVATED LATCH
1	MOTION SENSOR, EMERG. EXIT BUTTON, POWER SUPPLY

*THRESHOLD AT FINISH TRANSITION

SET TYPE 3
BALCONY GLASS SWING DOOR

1	HARDWARE SUPPLIED WITH DOOR ASSEMBLY

*THRESHOLD AT FINISH TRANSITION

SET TYPE 4
NOT USED

SET TYPE 5
BALCONY ALUMINUM GLASS SLIDING DOOR

1	HARDWARE SUPPLIED WITH DOOR ASSEMBLY

SET TYPE 6
SHOWER GLASS DOOR

1	PULL BARS
2	SIDE MOUNTED HINGES
1	WATER STOPPER

BOH DOOR

SET TYPE 10
LOBBY, RECEPTIONIST DOOR

3	SPRING HINGES
1	STOREROOM LOCKSET WITH LEVER HANDLES
1	CYLINDER(EACH)
1	OVERHEAD SURFACE MOUNTED DOOR CLOSER
1	DOOR STOP
3	DOOR SILENCER

*THRESHOLD AT FINISH TRANSITION

SET TYPE 11
PUBLIC, RESTROOM,JANITOR

3	HINGES
1	PRIVACY LOCK
1	SURFACE CLOSER
1	KICK PLATE
1	DOOR STOP
3	SILENCER
1	COAT HOOK

SET TYPE 12
ELEV LOBBY PAIR - ACCESS CONTROLLED

6	HINGE (HEAVY WEIGHT)
2	MAGNETIC LOCK
2	FIRE RATED CONC VERT ROD, PASSAGE
2	SURFACE CLOSER
2	DOOR STOP
1	GASKETING
1	ASTRAGAL SEAL
1	WIRING DIAGRAM
1	EMERG EXIT BUTTON
1	MOTION SENSOR
1	CARD / FOB READER

SET TYPE 13
AMENITIES (ADJUST QUANTITIES FOR DOUBLE)

3	HINGE (HEAVY WEIGHT)
1	CLASSROOM LOCK
1	SURFACE CLOSER
1	KICK PLATE
1	DOOR STOP
1	THRESHOLD
1	GASKETING

SET TYPE 14
LOADING AT PKG GARAGE - PAIR

6	HINGE (HVY WGT. SS)
1	DUST PROOF STRIKE
1	FLUSH BOLT (CONSTANT-LATCH)
1	STOREROOM OR CLOSET LOCK
1	COORDINATOR
2	SURFACE CLOSER
2	KICK PLATE
1	THRESHOLD
1	GASKETING (HEAD & JAMBS)
2	SWEEP
1	ASTRAGAL

SET TYPE 15
CORRIDOR, SINGLE, HOLD OPEN DOORS

6	HINGE (HEAVY WEIGHT)
2	FIRE RATED CONC VERT ROD, PASSAGE
2	SURFACE CLOSER
2	ELECTROMAGNETIC HOLDER
1	GASKETING
1	ASTRAGAL SEAL

SET TYPE 16
CORRIDOR, PAIR, DOUBLE HOLD OPEN DOORS

6	HINGE (HEAVY WEIGHT)
2	FIRE RATED CONC VERT ROD, PASSAGE
2	SURFACE CLOSER
2	ELECTROMAGNETIC HOLDER
1	GASKETING
1	ASTRAGAL
1	ASTRAGAL SEAL

SET TYPE 17
EXIT DOOR - STAIR (ADJUST QUANTITIES FOR DOUBLE)
SPRING HINGES

3	HINGE (HEAVY WEIGHT)
1	FIRE RATED RIM EXIT, PASSAGE
1	SURFACE CLOSER
1	KICK PLATE
1	DOOR STOP
1	THRESHOLD (COORD W/ DETAILS)
1	GASKETING
1	SWEEP

*PROVIDE WEATHER STRIP IF EXTERIOR
*PANIC BAR

SET TYPE 18
STAIR (EXIT DISCHARGE)
(ADJUST QUANTITIES FOR DOUBLE)

3	HINGE (HEAVY WEIGHT)
1	EXIT DEVICE (RIM, STOREROOM)
1	SURFACE CLOSER
1	KICK PLATE
1	DOOR STOP
1	THRESHOLD (COORD W/ DETAILS)
1	GASKETING
1	SWEEP

*PROVIDE WEATHER STRIP IF EXTERIOR
*PANIC BAR

UNIT DOOR

SET TYPE 19
UNIT, ENTRANCE

2	HINGE, FULL MORTISE
2	HINGE, SPRING
1	APT ENTRY LOCKSET WITH LEVEL HANDLES
1	PEEP HOLES(ONE AT ADA HEIGHT)
1	DOOR KNOCKER
1	CHAIN DOOR FASTENER
1	FLOOR DOME STOP
1	DOOR SWEEP
1	SET SMOKE GASKETING (HEAD & JAMB)
3	DOOR SILENCER
1	VIDEO INTERCOM
1	DOOR STOP

*THRESHOLD AT FINISH TRANSITION

SET TYPE 20
UNIT, BEDROOM

3	HINGE, FULL MORTISE
1	PRIVACY LOCKSET WITH LEVEL HANDLES
1	DOOR STOP
3	SILENCER

*THRESHOLD AT FINISH TRANSITION

SET TYPE 21
UNIT, BATHROOM

3	HINGE, FULL MORTISE
1	PRIVACY LOCKSET WITH LEVEL HANDLES
1	DOOR STOP
3	SILENCER

*THRESHOLD AT FINISH TRANSITION

SET TYPE 22
UNIT, POCKET DOOR

1	POCKET FRAME&HARDWARE
1	EDGE PULL
2	FLUSH PULLS
1	POCKET DOOR LATCH

SET TYPE 23
UNIT, CLOSET, SINGLE

1	PASSAGE LOCKSET W/ LEVER HANDLE
3	HINGE, FULL MORTISE
1	DOOR STOP
3	SILENCER

SET TYPE 24
UNIT, CLOSET, PAIRED

6	HINGE, FULL MORTISE
2	ROLLER LATCH
2	PASSAGE LATCH W/ LEVER HANDLES
2	DOOR STOP
2	SILENCER

SET TYPE 25
UNIT, CLOSET, BIFOLD

1	BIFOLD DOOR HARDWARE
2	PULL

SET TYPE 26
UNIT, POCKET DOOR

1	POCKET FRAME&HARDWARE
1	EDGE PULL
2	FLUSH PULLS
1	POCKET DOOR LATCH

SET TYPE 27
UNIT, W/D ROOM (LANDRY ROOM)

1	ROLLER LATCH
3	HINGE, FULL MORTISE
1	PASSAGE LATCH W/ LEVER HANDLES
1	DOOR STOP
3	SILENCER

*THRESHOLD AT FINISH TRANSITION

SET TYPE 28
UNIT, LAUNDRY CLOSET, PAIRED

6	HINGE, FULL MORTISE
2	ROLLER LATCH
2	SINGLE DUMMY TRIM
2	DOOR STOP
2	SILENCER

*THRESHOLD AT FINISH TRANSITION

ROOF DOOR

SET TYPE 30
EXTERIOR HM - SERVICE; ROOF

3	HINGE (HVY WGT, SS)
1	STOREROOM OR CLOSET LOCK
1	SURF OVERHEAD STOP
1	SURFACE CLOSER
1	KICK PLATE
1	THRESHOLD (COORD W/ DETAILS)
1	GASKETING (HEAD & JAMBS)
1	SWEEP

SET TYPE 31
EXTERIOR HM - STAIR TO ROOF

3	HINGE (HVY WGT, SS)
1	FIRE RATED RIM EXIT, PASSAGE
1	SURF OVERHEAD STOP
1	SURFACE CLOSER
1	KICK PLATE
1	THRESHOLD (COORD W/ DETAILS)
1	GASKETING (HEAD & JAMBS)
1	SWEEP

SET TYPE 32
EXTERIOR HM - ELEV VEST TO ROOF

3	HINGE (HVY WGT, SS)
1	PASSAGE LATCH
1	SURF OVERHEAD STOP
1	SURFACE CLOSER
1	KICK PLATE
1	THRESHOLD (COORD W/ DETAILS)
1	GASKETING (HEAD & JAMBS)
1	SWEEP

SET TYPE 47
FIRE COMMAND; PUMP RM - ACCESS CONTROLLED

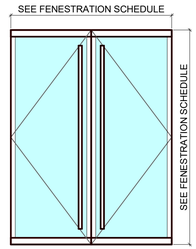
3	HINGE (HEAVY WEIGHT)
1	STOREROOM OR CLOSET LOCK
1	SMART PAC BRIDGE RECTIFIER
1	ELECTRIC STRIKE
1	SURFACE CLOSER
1	KICK PLATE
1	DOOR STOP
1	THRESHOLD (COORD W/ DETAILS)
1	GASKETING
1	SWEEP
1	FRAME WIRING HARNESS
1	POWER SUPPLY
1	CARD READER

SET TYPE 48
PUBLIC CLOSET/STORAGE SINGLE DOORS

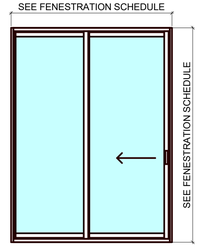
1	PASSAGE LOCKSET W/ LEVER HANDLES PER DOOR
3	SPRING HINGES
3	HINGE, FULL MORTISE
1	STOREROOM LOCKSET WITH LEVER HANDLES
1	OVERHEAD SURFACE MOUNTED DOOR CLOSER
1	DOOR STOP
1	DOOR GASKET
1	PRIVACY LOCK
3	SILENCER

SET TYPE 49
COMPACTOR RM

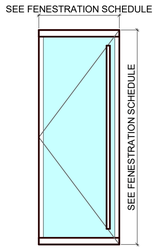
3	HINGE (HEAVY WEIGHT)
1	EXIT DEVICE (RIM, STOREROOM)
1	SURFACE CLOSER
1	KICK PLATE
1	DOOR STOP
1	THRESHOLD
1	GASKETING
1	SWEEP



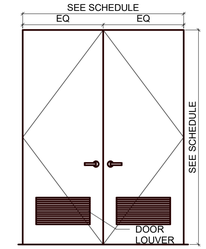
DOOR TYPE P
PAIRED GLASS DOOR



DOOR TYPE R
GLASS SLIDING DOOR



DOOR TYPE O
SINGLE GLASS DOOR - FLUSH



DOOR TYPE J
PAIRED DOOR - FLUSH LOUVER

UTILITY DOOR

SET TYPE 41
REFUSE ROOM

3	HINGE (HEAVY WEIGHT)
1	PASSAGE LATCH
1	SURFACE CLOSER
1	KICK PLATE
1	DOOR STOP
1	THRESHOLD (COORD W/ DETAILS)
1	GASKETING
1	SWEEP

SET TYPE 42
UTILITY ROOM,SINGLE

3	HINGE (HEAVY WEIGHT)
1	STOREROOM OR CLOSET LOCK
1	SURFACE CLOSER
1	KICK PLATE
1	DOOR STOP
1	THRESHOLD (COORD W/ DETAILS)
1	GASKETING
1	SWEEP

SET TYPE 43
UTILITY ROOM, PAIR

6	HINGE (HEAVY WEIGHT)
2	FLUSH BOLT
1	DUST PROOF STRIKE
1	STOREROOM OR CLOSET LOCK
2	SURFACE CLOSER
2	KICK PLATE
2	DOOR STOP
1	THRESHOLD (COORD W/ DETAILS)
1	GASKETING
2	SWEEP
1	ASTRAGAL
1	ASTRAGAL SEAL

SET TYPE 44
CLOSET SLIDING DOOR (2 PANELS)

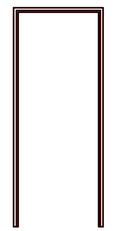
1	PIECE BI-PASS SLIDING DOOR TRACK
2	SLIDING CLOSET DOOR FINGER PULLS
1	SLIDING FLOOR GUIDES

SET TYPE 45
PUBLIC CLOSET DOUBLE DOORS

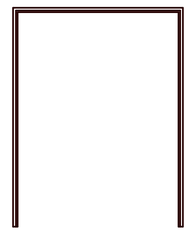
2	SPRING HINGES
1	STOREROOM LOCKSET WITH LEVER HANDLES
1	OVERHEAD SURFACE MOUNTED DOOR CLOSER
1	KICKPLATE
1	DOOR STOP
1	DOOR GASKET

SET TYPE 46
ELEC RM, TRANSFORMER RM, GENERATOR RM

3	HINGE (HEAVY WEIGHT)
1	EXIT DEVICE (RIM, STOREROOM)
1	SURFACE CLOSER
1	KICK PLATE
1	DOOR STOP
1	THRESHOLD
1	GASKETING
1	SWEEP



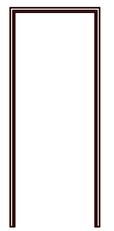
AL01
SINGLE ALUM.



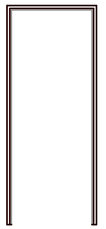
AL02
PAIRED ALUM.



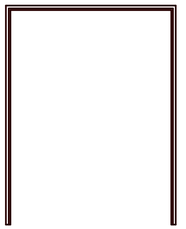
HM01
SINGLE HOLLW METAL..



HM02
SINGLE CMU HOLLOW METAL



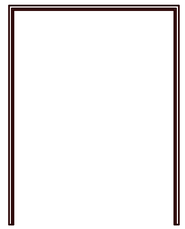
HM03
HOLLOW METAL DOUBLE ACTING



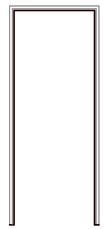
HM04
PAIRED HOLLOW METAL DOUBLE ACTING



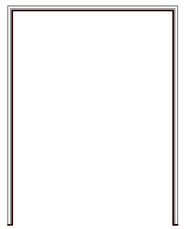
WD01
SINGLE WOOD



WD02
PAIRED WOOD



EZ01
SINGLE EZY JAMP FRAMELESS/HIDDEN FRAME



EZ02
PAIRED EZY JAMP FRAMELESS/HIDDEN FRAME

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:
55 Eckford Street Brooklyn, NY 11222

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MEP ENGINEER
REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:
DOOR TYPES

SEAL & SIGNATURE:



DATE: 02/21/2025
SCALE: 3/8" = 1'-0"
DRAWING NO: **A040**

Door Schedule-UNIT

TAG	Count	ZONE	Type	DOOR SIZE			PANEL			DOOR FRAME			DOOR FIRE RATING	DOOR HARDWARE	DOOR INSULATION	DOOR CLOSER
				DOOR WIDTH	DOOR HEIGHT	DOOR THICKNESS	DOOR TPYE	DOOR MATERIAL	DOOR FINISH	DOOR FRAME TYPE	DOOR FRAME MATERIAL	DOOR FRAME FINISH				
CELLAR																
D-B	2	UNIT	D-B/SINGLE DOOR/BATHROOM/2'-10" x 7'-0"	2'-10"	7'-0"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		22		
D-D	1	UNIT	D-D/DOUBLE CLOSET DOOR/3'-0" x4'-0"	3'-0"	4'-0"	0'-1 3/4"	G	WD	PT2	EZ02	N/A	N/A		25		
D-D	3	UNIT	D-D/DOUBLE CLOSET DOOR/4'-0" x 7'-0"	4'-0"	7'-0"	0'-1 3/4"	G	WD	PT2	EZ02	N/A	N/A		25		
D-G	2	UNIT	D-G/SINGLE GLAZING DOOR/BALCONY/	SEE A200	SEE A200	SEE A200	E	IGU	CLEAR	SEE A040	ALUM	SEE A200		3		
D-J	2	UNIT	D-F/DOUBLE W/D DOOR/4'-0" x 7'-0" VENT	4'-0"	7'-0"	0'-1 3/4"	J	WD	PT2	EZ02	N/A	N/A		29		
LEVEL 1																
D-A	4	UNIT	D-A/SINGLE DOOR/BEDROOM/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		21		
D-B	2	UNIT	D-B/SINGLE DOOR/BATHROOM/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		22		
D-B	2	UNIT	D-B/SINGLE DOOR/BATHROOM/2'-10" x 7'-6" REVERSE	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		22		
D-C	2	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/2'-0" x 7'-6"	2'-0"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-C	3	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-D	1	UNIT	D-D/DOUBLE CLOSET DOOR/3'-0" x4'-0"	3'-0"	4'-0"	0'-1 3/4"	G	WD	PT2	EZ02	N/A	N/A		25		
D-D	1	UNIT	D-D/DOUBLE CLOSET DOOR/3'-0" x7'-6"	3'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ02	N/A	N/A		25		
D-D	1	UNIT	D-D/DOUBLE CLOSET DOOR/4'-0" x 7'-6"	4'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ02	N/A	N/A		25		
D-D	1	UNIT	D-D/DOUBLE CLOSET DOOR/5'-0" x 7'-6"	5'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ01	N/A	N/A		24		
D-G	4	UNIT	D-G/SINGLE GLAZING DOOR/BALCONY/	SEE A200	SEE A200	SEE A200	E	IGU	CLEAR	SEE A040	ALUM	SEE A200		3		
D-H	1	UNIT	D-H/BIFOLD DOOR/CLOSET DOOR/5'-0 x 7'-6	5'-0"	7'-6"	0'-1 3/4"	H	WD	PT2	EZ02	N/A	N/A		26		
LEVEL 2																
D-A	11	UNIT	D-A/SINGLE DOOR/BEDROOM/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		21		
D-B	6	UNIT	D-B/SINGLE DOOR/BATHROOM/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		22		
D-B	3	UNIT	D-B/SINGLE DOOR/BATHROOM/2'-10" x 7'-6" REVERSE	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		22		
D-C	3	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/1'-6" x 7'-6"	1'-6"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-C	2	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/2'-0" x 7'-6"	2'-0"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-C	3	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/2'-6" x 7'-6"	2'-6"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-C	7	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-D	2	UNIT	D-D/DOUBLE CLOSET DOOR/3'-0" x7'-6"	3'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ02	N/A	N/A		25		
D-D	3	UNIT	D-D/DOUBLE CLOSET DOOR/4'-0" x 7'-6"	4'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ02	N/A	N/A		25		
D-D	1	UNIT	D-D/DOUBLE CLOSET DOOR/5'-0" x 7'-6"	5'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ01	N/A	N/A		24		
D-E	1	UNIT	D-E POCKET DOOR 2'-8" x 7'-6"	2'-8"	7'-6"	0'-1 3/4"	F	WD	PT2	EZ02	N/A	N/A		26		
D-F	5	UNIT	D-F/SINGLE DOOR/ W/D ROOM(vent)/2'-6" x 7'-6	2'-6"	7'-6"	0'-1 3/4"	B	WD	PT2	EZ01	N/A	N/A		28		
D-G	6	UNIT	D-G/SINGLE GLAZING DOOR/BALCONY/	SEE A200	SEE A200	SEE A200	E	IGU	CLEAR	SEE A040	ALUM	SEE A200		3		
D-H	1	UNIT	D-H/BIFOLD DOOR/CLOSET DOOR/5'-0 x 7'-6	5'-0"	7'-6"	0'-1 3/4"	H	WD	PT2	EZ02	N/A	N/A		26		
D-H	1	UNIT	D-H/BIFOLD DOOR/CLOSET DOOR/6'-0 x 7'-6	6'-0"	7'-6"	0'-1 3/4"	H	WD	PT2	EZ02	N/A	N/A		26		
D-I	1	UNIT	D-I/SLIDING DOOR/BALCONY/6'-0" x 7'-10 1/2"	SEE A200	SEE A200	SEE A200	R	IGU	CLEAR	AL01	ALUM	SEE A200		3		
LEVEL 3																
D-A	11	UNIT	D-A/SINGLE DOOR/BEDROOM/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		21		
D-B	6	UNIT	D-B/SINGLE DOOR/BATHROOM/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		22		
D-B	4	UNIT	D-B/SINGLE DOOR/BATHROOM/2'-10" x 7'-6" REVERSE	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		22		
D-C	2	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/1'-6" x 7'-6"	1'-6"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-C	1	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/2'-0" x 7'-6"	2'-0"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-C	1	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/2'-6" x 7'-6"	2'-6"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-C	3	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-D	3	UNIT	D-D/DOUBLE CLOSET DOOR/3'-0" x7'-6"	3'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ02	N/A	N/A		25		
D-D	3	UNIT	D-D/DOUBLE CLOSET DOOR/4'-0" x 7'-6"	4'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ02	N/A	N/A		25		
D-D	2	UNIT	D-D/DOUBLE CLOSET DOOR/5'-0" x 7'-6"	5'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ01	N/A	N/A		24		
D-F	5	UNIT	D-F/SINGLE DOOR/ W/D ROOM(vent)/2'-6" x 7'-6	2'-6"	7'-6"	0'-1 3/4"	B	WD	PT2	EZ01	N/A	N/A		28		
D-G	5	UNIT	D-G/SINGLE GLAZING DOOR/BALCONY/	SEE A200	SEE A200	SEE A200	E	IGU	CLEAR	SEE A040	ALUM	SEE A200		3		
D-H	2	UNIT	D-H/BIFOLD DOOR/CLOSET DOOR/5'-0 x 7'-6	5'-0"	7'-6"	0'-1 3/4"	H	WD	PT2	EZ02	N/A	N/A		26		
D-H	1	UNIT	D-H/BIFOLD DOOR/CLOSET DOOR/6'-0 x 7'-6	6'-0"	7'-6"	0'-1 3/4"	H	WD	PT2	EZ02	N/A	N/A		26		
D-I	2	UNIT	D-I/SLIDING DOOR/BALCONY/6'-0" x 7'-10 1/2"	SEE A200	SEE A200	SEE A200	R	IGU	CLEAR	AL01	ALUM	SEE A200		3		
LEVEL 4																
D-A	11	UNIT	D-A/SINGLE DOOR/BEDROOM/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		21		
D-B	4	UNIT	D-B/SINGLE DOOR/BATHROOM/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		22		
D-B	3	UNIT	D-B/SINGLE DOOR/BATHROOM/2'-10" x 7'-6" REVERSE	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		22		
D-C	3	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/1'-6" x 7'-6"	1'-6"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-C	1	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/2'-0" x 7'-6"	2'-0"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-C	4	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/2'-6" x 7'-6"	2'-6"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-C	7	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-D	2	UNIT	D-D/DOUBLE CLOSET DOOR/3'-0" x7'-6"	3'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ02	N/A	N/A		25		
D-D	3	UNIT	D-D/DOUBLE CLOSET DOOR/4'-0" x 7'-6"	4'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ02	N/A	N/A		25		
D-D	1	UNIT	D-D/DOUBLE CLOSET DOOR/5'-0" x 7'-6"	5'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ01	N/A	N/A		24		
D-E	1	UNIT	D-E POCKET DOOR 2'-8" x 7'-6"	2'-8"	7'-6"	0'-1 3/4"	F	WD	PT2	EZ02	N/A	N/A		26		
D-F	5	UNIT	D-F/SINGLE DOOR/ W/D ROOM(vent)/2'-6" x 7'-6	2'-6"	7'-6"	0'-1 3/4"	B	WD	PT2	EZ01	N/A	N/A		28		
D-G	6	UNIT	D-G/SINGLE GLAZING DOOR/BALCONY/	SEE A200	SEE A200	SEE A200	E	IGU	CLEAR	SEE A040	ALUM	SEE A200		3		
D-H	1	UNIT	D-H/BIFOLD DOOR/CLOSET DOOR/5'-0 x 7'-6	5'-0"	7'-6"	0'-1 3/4"	H	WD	PT2	EZ02	N/A	N/A		26		
D-H	1	UNIT	D-H/BIFOLD DOOR/CLOSET DOOR/6'-0 x 7'-6	6'-0"	7'-6"	0'-1 3/4"	H	WD	PT2	EZ02	N/A	N/A		26		
D-I	1	UNIT	D-I/SLIDING DOOR/BALCONY/6'-0" x 7'-10 1/2"	SEE A200	SEE A200	SEE A200	R	IGU	CLEAR	AL01	ALUM	SEE A200		3		
LEVEL 5																
D-A	9	UNIT	D-A/SINGLE DOOR/BEDROOM/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		21		
D-B	6	UNIT	D-B/SINGLE DOOR/BATHROOM/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		22		
D-B	2	UNIT	D-B/SINGLE DOOR/BATHROOM/2'-10" x 7'-6" REVERSE	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		22		
D-C	1	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/2'-0" x 7'-6"	2'-0"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-C	4	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-D	4	UNIT	D-D/DOUBLE CLOSET DOOR/4'-0" x 7'-6"	4'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ02	N/A	N/A		25		
D-D	2	UNIT	D-D/DOUBLE CLOSET DOOR/5'-0" x 7'-6"	5'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ01	N/A	N/A		24		
D-F	3	UNIT	D-F/SINGLE DOOR/ W/D ROOM(vent)/2'-6" x 7'-6	2'-6"	7'-6"	0'-1 3/4"	B	WD	PT2	EZ01	N/A	N/A		28		
D-G	10	UNIT	D-G/SINGLE GLAZING DOOR/BALCONY/	SEE A200	SEE A200	SEE A200	E	IGU	CLEAR	SEE A040	ALUM	SEE A200		3		
D-H	1	UNIT	D-H/BIFOLD DOOR/CLOSET DOOR/5'-0 x 7'-6	5'-0"	7'-6"	0'-1 3/4"	H	WD	PT2	EZ02	N/A	N/A		26		
D-I	1	UNIT	D-I/SLIDING DOOR/BALCONY/6'-0" x 7'-10 1/2"	SEE A200	SEE A200	SEE A200	R	IGU	CLEAR	AL01	ALUM	SEE A200		3		

Door Schedule-UNIT COUNTING SUMMARY

TAG	Count	ZONE	Type	DOOR SIZE			PANEL			DOOR FRAME			DOOR FIRE RATING	DOOR HARDWARE	DOOR INSULATION	DOOR CLOSER
				DOOR WIDTH	DOOR HEIGHT	DOOR THICKNESS	DOOR TPYE	DOOR MATERIAL	DOOR FINISH	DOOR FRAME TYPE	DOOR FRAME MATERIAL	DOOR FRAME FINISH				
D-A	46	UNIT	D-A/SINGLE DOOR/BEDROOM/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		21		
D-B	2	UNIT	D-B/SINGLE DOOR/BATHROOM/2'-10" x 7'-0"	2'-10"	7'-0"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		22		
D-B	24	UNIT	D-B/SINGLE DOOR/BATHROOM/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		22		
D-B	14	UNIT	D-B/SINGLE DOOR/BATHROOM/2'-10" x 7'-6" REVERSE	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		22		
D-C	8	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/1'-6" x 7'-6"	1'-6"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-C	7	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/2'-0" x 7'-6"	2'-0"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-C	8	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/2'-6" x 7'-6"	2'-6"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-C	24	UNIT	D-C/SINGLE DOOR/SINGLE CLOSET DOOR/2'-10" x 7'-6"	2'-10"	7'-6"	0'-1 3/4"	A	WD	PT2	EZ01	N/A	N/A		24		
D-D	2	UNIT	D-D/DOUBLE CLOSET DOOR/3'-0" x4'-0"	3'-0"	4'-0"	0'-1 3/4"	G	WD	PT2	EZ02	N/A	N/A		25		
D-D	8	UNIT	D-D/DOUBLE CLOSET DOOR/3'-0" x7'-6"	3'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ02	N/A	N/A		25		
D-D	3	UNIT	D-D/DOUBLE CLOSET DOOR/4'-0" x 7'-0"	4'-0"	7'-0"	0'-1 3/4"	G	WD	PT2	EZ02	N/A	N/A		25		
D-D	14	UNIT	D-D/DOUBLE CLOSET DOOR/4'-0" x 7'-6"	4'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ02	N/A	N/A		25		
D-D	7	UNIT	D-D/DOUBLE CLOSET DOOR/5'-0" x 7'-6"	5'-0"	7'-6"	0'-1 3/4"	G	WD	PT2	EZ01	N/A	N/A		24		
D-E	2	UNIT	D-E POCKET DOOR 2'-8" x 7'-6"	2'-8"	7'-6"	0'-1 3/4"	F	WD	PT2	EZ02	N/A	N/A		26		
D-F	18	UNIT	D-F/SINGLE DOOR/ W/D ROOM(vent)/2'-6" x 7'-6	2'-6"	7'-6"	0'-1 3/4"	B	WD	PT2	EZ01	N/A	N/A		28		
D-G	33	UNIT	D-G/SINGLE GLAZING DOOR/BALCONY/	SEE A200	SEE A200	SEE A200	E	IGU	CLEAR	SEE A040	ALUM	SEE A200		3		
D-H	6	UNIT	D-H/BIFOLD DOOR/CLOSET DOOR/5'-0 x 7'-6	5'-0"	7'-6"	0'-1 3/4"	H	WD	PT2	EZ02	N/A	N/A		26		
D-H	3	UNIT	D-H/BIFOLD DOOR/CLOSET DOOR/6'-0 x 7'-6	6'-0"	7'-6"	0'-1 3/4"	H	WD	PT2	EZ02	N/A	N/A		26		
D-I	5	UNIT	D-I/SLIDING DOOR/BALCONY/6'-0" x 7'-10 1/2"	SEE A200	SEE A200	SEE A200	R	IGU	CLEAR	AL01	ALUM	SEE A200		3		
D-J	2	UNIT	D-F/DOUBLE W/D DOOR/4'-0" x 7'-0" VENT	4'-0"	7'-0"	0'-1 3/4"	J	WD	PT2	EZ02	N/A	N/A		29		

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

UNIT DOOR SCHEDULE

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE:

DRAWING NO: **A041**

Door Schedule-COMMON

DOOR MARK	Count	ZONE	Type	DOOR SIZE			PANEL			DOOR FIRE RATING	DOOR FRAME TYPE	DOOR FRAME MATERIAL	DOOR FRAME FINISH	DOOR HARDWARE	DOOR INSULATION	DOOR CLOSER
				DOOR HEIGHT	DOOR WIDTH	DOOR THICKNESS	DOOR TPYE	DOOR MATERIAL	DOOR FINISH							
CELLAR																
DCL-01	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-0"	7'-0"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
DCL-02	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-0"	7'-0"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
DCL-03	1	PUBLIC	Public/SINGLE DOOR/UTILITY HWF/3'-0" x 7'-0"	7'-0"	3'-0"	0'-1 3/4"	C	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
DCL-04	1	PUBLIC	Public/SINGLE DOOR/UTILITY HWF/3'-0" x 7'-0"	7'-0"	3'-0"	0'-1 3/4"	C	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
DCL-05	1	PUBLIC	Public/SINGLE DOOR/UTILITY HWF/3'-0" x 7'-0"	7'-0"	3'-0"	0'-1 3/4"	C	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
DCL-06	1	PUBLIC	Public/SINGLE DOOR/UTILITY HWF/3'-0" x 7'-0"	7'-0"	3'-0"	0'-1 3/4"	C	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
DCL-07	1	PUBLIC	Public/SINGLE DOOR/UTILITY HWF/3'-0" x 7'-0"	7'-0"	3'-0"	0'-1 3/4"	C	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
RCL-01	1	PUBLIC	Public/SINGLE DOOR/REFUSE HWF/3'-0" x 7'-0"	7'-0"	3'-0"	0'-2"	A	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	41	Y	Y
SCL-01	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-0"	7'-0"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
SCL-02	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-0"	7'-0"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
LEVEL 1																
D01-01	1	PUBLIC	Public/SINGLE DOOR/UTILITY HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
D01-02	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
D01-03	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
D01-04	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D01-05	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D01-06	1	PUBLIC	Public/SINGLE DOOR/OUTSIDE/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT1	3/4HR	SEE A040	HOLLOW METAL	PT1	20	Y	Y
D01-07	1	PUBLIC	Public/SINGLE DOOR/OUTSIDE/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT1	3/4HR	SEE A040	HOLLOW METAL	PT1	20	Y	Y
D01-08	1	PUBLIC	Public/SINGLE DOOR/OUTSIDE/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT1	3/4HR	SEE A040	HOLLOW METAL	PT1	20	Y	Y
G01-01	1	PUBLIC	Public/SINGLE GLAZING DOOR/ENTRY	SEE A200	SEE A200	SEE A200	P	IGU	CLEAR		SEE A040	ALUM	N/A	1		
G01-02	1	PUBLIC	Public/SINGLE GLAZING DOOR/ENTRY	SEE A200	SEE A200	SEE A200	P	IGU	CLEAR		SEE A040	ALUM	N/A	1		
G01-03	1	PUBLIC	Public/SINGLE GLAZING DOOR/ENTRY	SEE A200	SEE A200	SEE A200	P	IGU	CLEAR		SEE A040	ALUM	N/A	1		
P01-01	1	PUBLIC	Public/COILING DOOR/GARAGE DOOR/7'-6"x14'-0"	7'-6"	14'-0"	0'-0 7/8"	S	MTL	PT1		SEE A040	HOLLOW METAL	PT1	SUPPLIER		
R01-01	1	PUBLIC	Public/SINGLE DOOR/REFUSE HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	A	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	41	Y	Y
S01-01	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
S01-02	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
S01-03	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
LEVEL 2																
D02-01	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D02-02	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D02-03	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D02-04	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D02-05	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
R02-01	1	PUBLIC	Public/SINGLE DOOR/REFUSE HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	A	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	41	Y	Y
S02-01	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
S02-02	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
LEVEL 3																
D03-01	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D03-02	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D03-03	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D03-04	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D03-05	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
R03-01	1	PUBLIC	Public/SINGLE DOOR/REFUSE HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	A	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	41	Y	Y
S03-01	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
S03-02	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
LEVEL 4																
D04-01	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D04-02	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D04-03	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D04-04	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D04-05	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
R04-01	1	PUBLIC	Public/SINGLE DOOR/REFUSE HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	A	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	41	Y	Y
S04-01	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
S04-02	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
LEVEL 5																
D05-01	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D05-02	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D05-03	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
D05-04	1	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
R05-01	1	PUBLIC	Public/SINGLE DOOR/REFUSE HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	A	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	41	Y	Y
S05-01	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
S05-02	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
ROOF																
GRF-01	1	PUBLIC	Public/SINGLE GLAZING DOOR/ENTRY	SEE A200	SEE A200	SEE A200	P	IGU	CLEAR		SEE A040	ALUM	N/A	1		
SRF-01	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-0"	7'-0"	3'-0"	0'-1 3/4"	D	MTL	PT1		SEE A040	HOLLOW METAL	PT1	19	Y	Y
SRF-02	1	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-0"	7'-0"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y

Door Schedule-COMMON COUNTING SUMMARY

DOOR MARK	Count	ZONE	Type	DOOR SIZE			PANEL			DOOR FIRE RATING	DOOR FRAME TYPE	DOOR FRAME MATERIAL	DOOR FRAME FINISH	DOOR HARDWARE	DOOR INSULATION	DOOR CLOSER
				DOOR HEIGHT	DOOR WIDTH	DOOR THICKNESS	DOOR TPYE	DOOR MATERIAL	DOOR FINISH							
<varies>	2	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-0"	7'-0"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
P01-01	1	PUBLIC	Public/COILING DOOR/GARAGE DOOR/7'-6"x14'-0"	7'-6"	14'-0"	0'-0 7/8"	S	MTL	PT1		SEE A040	HOLLOW METAL	PT1	SUPPLIER		
<varies>	21	PUBLIC	Public/SINGLE DOOR/UNIT ENTRY/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT3	1.5HR	SEE A040	HOLLOW METAL	PT3	20		Y
<varies>	3	PUBLIC	Public/SINGLE DOOR/OUTSIDE/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT1	3/4HR	SEE A040	HOLLOW METAL	PT1	20	Y	Y
RCL-01	1	PUBLIC	Public/SINGLE DOOR/REFUSE HWF/3'-0" x 7'-0"	7'-0"	3'-0"	0'-2"	A	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	41	Y	Y
<varies>	5	PUBLIC	Public/SINGLE DOOR/REFUSE HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	A	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	41	Y	Y
<varies>	4	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-0"	7'-0"	3'-0"	0'-1 3/4"	D	MTL	PT1	<varies>	SEE A040	HOLLOW METAL	PT1	19	Y	Y
<varies>	13	PUBLIC	Public/SINGLE DOOR/STAIRWELL HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	D	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
<varies>	5	PUBLIC	Public/SINGLE DOOR/UTILITY HWF/3'-0" x 7'-0"	7'-0"	3'-0"	0'-1 3/4"	C	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
D01-01	1	PUBLIC	Public/SINGLE DOOR/UTILITY HWF/3'-0" x 7'-6"	7'-6"	3'-0"	0'-1 3/4"	C	MTL	PT1	1.5HR	SEE A040	HOLLOW METAL	PT1	19	Y	Y
<varies>	4	PUBLIC	Public/SINGLE GLAZING DOOR/ENTRY	SEE A200	SEE A200	SEE A200	P	IGU	CLEAR		SEE A040	ALUM	N/A	1		

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE

330 West 38th Street #1704
New York, NY 10018
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STRUCTRAL ENGINEER

SHARON ENGINEERING P.C

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MEP ENGINEER

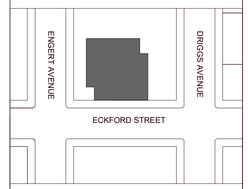
REAL ENGINEERING

205 US Route 46 West, Suite #1
Totowa, NJ 07512
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#	Description	Date

KEY PLAN:

REFERENCE NORTH



APPROVAL:

DWG TITLE:

COMMON AREA DOOR SCHEDULE

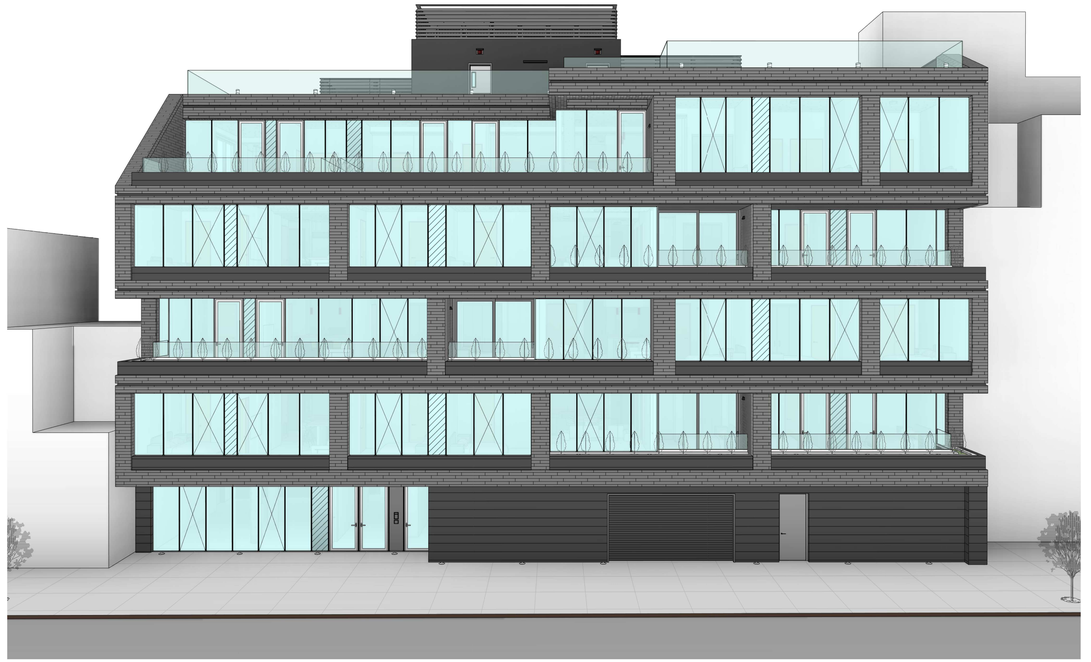
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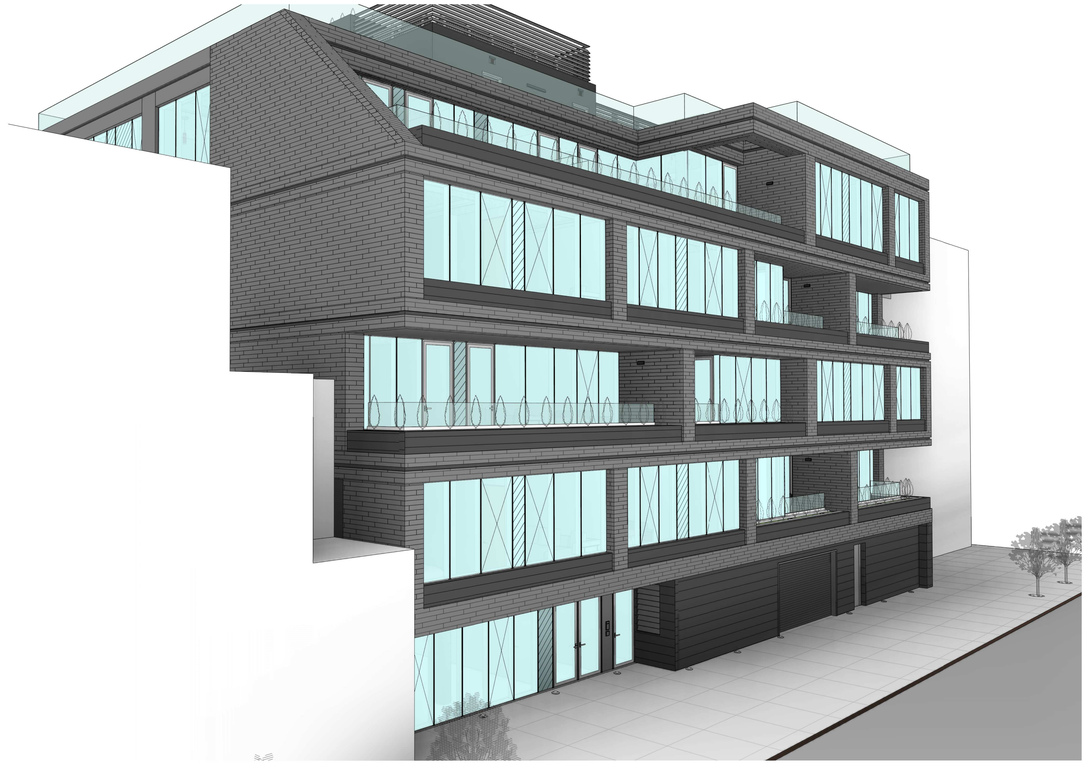
DATE: 02/21/2025

SCALE:

DRAWING NO: **A042**



1 3D View 01



2 3D View 02

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

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STRUCTRAL ENGINEER

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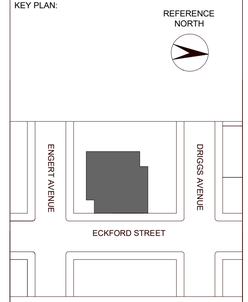
MEP ENGINEER

REAL ENGINEERING

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T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

3D VIEW

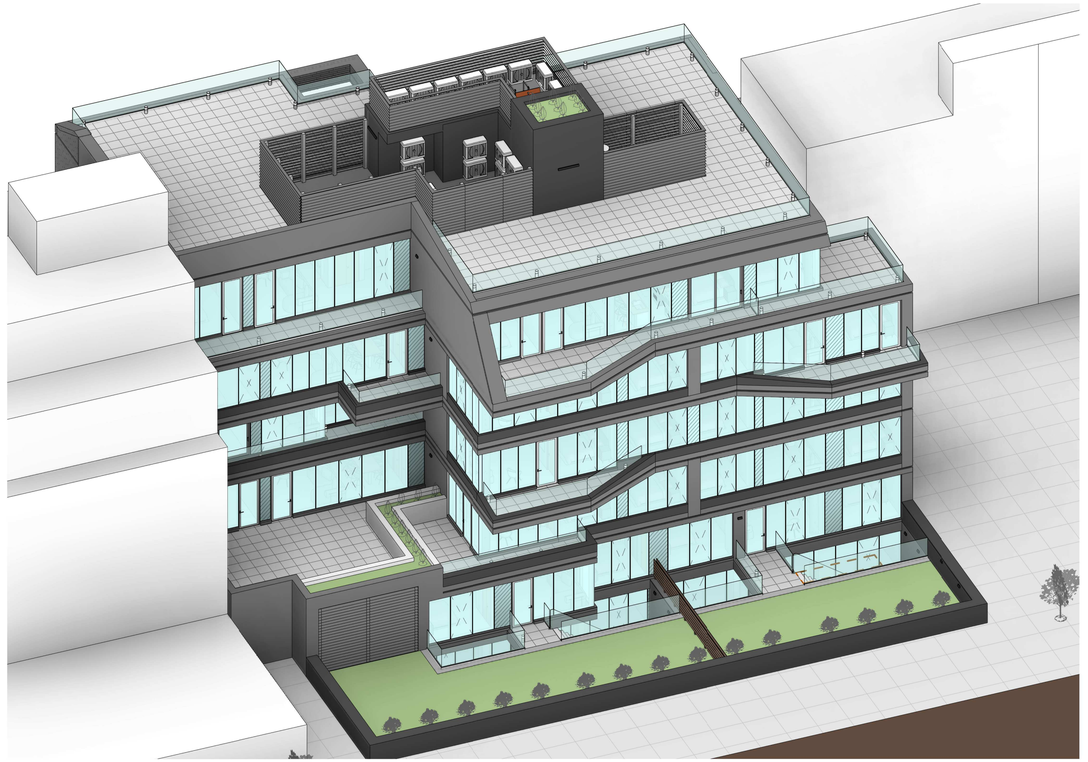
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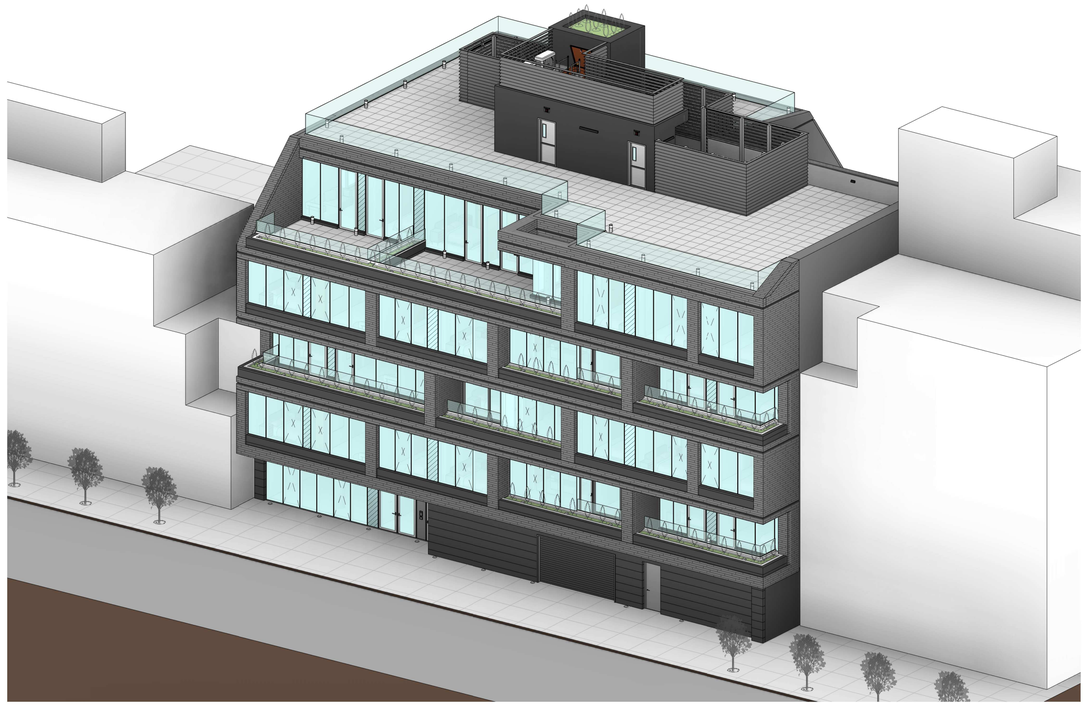
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SCALE:

DRAWING NO: **A050**



1 3D View 03



2 3D View 04

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

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MEP ENGINEER

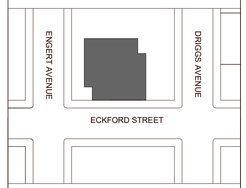
REAL ENGINEERING

205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:

REFERENCE NORTH



APPROVAL:

DWG TITLE:

3D VIEW

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE:

DRAWING NO: **A051**



1 CELLAR
3/16" = 1'-0"

GENERAL NOTES

1. ALL PARTITION TO BE FULL HEIGHT U.O.N. SEE SHEET A020 FOR ALL TYPES.

2. SEE STRUCTURAL, CIVIL, MEP DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.

3. PROVIDE WATERPROOF MEMBRANE AT TOILETS AND PANTRIES AT FLOOR AND 18" UP THE WALLS.

4. ALL MECHANICAL SYSTEMS LOCATED/CROSSING OVER EGRESS CORRIDORS ARE TO BE SEISMICALLY BRACED.

5. FOR FINISHES, SEE SCHEDULES

6. FOR PLUMBING AND EQUIPMENT SEE MEP PLANS

7. ALL WINDOW AND LOUVER INFORMATION WILL BE ON ELEVATIONS. LOUVERS ARE TO BE DRAINABLE.

8. ALL GYPSUM BOARD IN TOILET AND PANTRY ARE TO BE MOISTURE RESISTANT TYPE.

9. ALL GYPSUM BOARD IN SHOWER AREAS ARE TO BE CEMENTITIOUS BOARD.

10. HINGE FACE OF ALL DOORS ARE TO BE 3" FROM ADJACENT PERPENDICULAR WALL U.N.O.

12. FURNISH AND INSTALL NEW SEMI RECESSED FIRE EXTINGUISHER AND HOSE CABINET WITH APPROPRIATE FIRE RATING ENCLOSURE AS INDICATED. PROVIDE BLOCKING AS NECESSARY.

13. SEE DETAIL PAGES FOR ROOF DETAILS.

14. FUR OUT ALL CMU WALLS EXCEPT IN THE GARAGE AND STAIRS.

15. SEE WALL SECTIONS FOR PARAPET WALL CONSTRUCTION

16. PROVIDE PITCH POCKETS ABOVE MECHANICAL SHAFTS, COORDINATE WITH PLUMBING DRAWINGS

17. PROVIDE RESTRICTED KEY ACCESS ELEVATOR AS SHOWN ON THE PLANS. PROVIDED CUT SHEET FOR MANUFACTURER IS REFERNCE ONLY. PROVIDE APPROVED EQUAL

SHEET NOTES

1. MILLWORK: BUILT-IN KITCHEN CABINETS WITH COUNTER TOP
2. MILLWORK: VANITIES
3. TEMPERED GLASS GUARD, 42' H PROTECTION FROM FINISHED FLOOR. SEE SECTIONS, ELEVATIONS AND DETAILS FOR CURB/KNEE WALL HEIGHT BELOW GLASS
4. WINDOW OPENING PROTECTED BY WATER CURTAIN (SEE SPRINKLER DRAWING)
5. VIDEO INTERCOM SYSTEM PER MDL SEC 50.

MDL NOTES

SEC. 35 ENTRANCE DOORS AND LIGHTS
THE OWNER OF EVERY MULTIPLE DWELLING SHALL INSTALL AND MAINTAIN A LIGHT OR LIGHTS AT OR NEAR THE OUTSIDE OF THE FRONT ENTRANCE-WAY OF THE BUILDING WHICH SHALL IN THE AGGREGATE PROVIDE NOT LESS THAN FIFTY WATTS INCANDESCENT ILLUMINATION FOR A BUILDING WITH A FRONTAGE UP TO TWENTY-TWO FEET AND ONE HUNDRED WATTS INCANDESCENT ILLUMINATION FOR A BUILDING WITH A FRONTAGE IN EXCESS OF TWENTY-TWO FEET, OR EQUIVALENT ILLUMINATION AND SHALL BE KEPT BURNING FROM SUNSET EVERY DAY TO SUNRISE ON THE DAY FOLLOWING.

SEC. 50. ENTRANCES: DOORS, LOCKS AND INTERCOMMUNICATION SYSTEMS

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STRUCTRAL ENGINEER

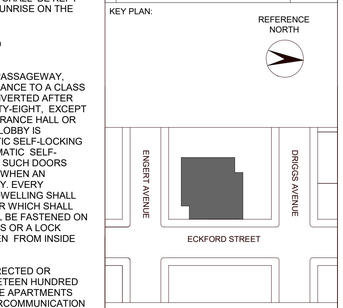
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Construction Plan CELLAR

SEAL & SIGNATURE:

REGISTERED ARCHITECT MURAT MUTLU 036742 STATE OF NEW YORK

DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A100**



1 LEVEL 1
3/16" = 1'-0"

GENERAL NOTES

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2. SEE STRUCTURAL, CIVIL, MEP DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.

3. PROVIDE WATERPROOF MEMBRANE AT TOILETS AND PANTRIES AT FLOOR AND 18" UP THE WALLS.

4. ALL MECHANICAL SYSTEMS LOCATED/CROSSING OVER EGRESS CORRIDORS ARE TO BE SEISMICALLY BRACED.

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7. ALL WINDOW AND LOUVER INFORMATION WILL BE ON ELEVATIONS. LOUVERS ARE TO BE DRAINABLE.

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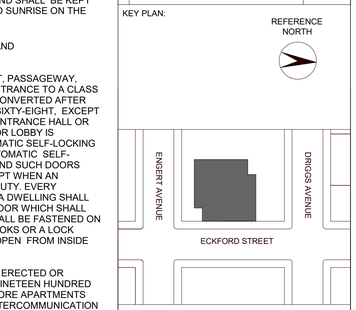
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Construction Plan LEVEL 1

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A101**



GENERAL NOTES

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5. VIDEO INTERCOM SYSTEM PER MDL SEC 50.

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#	Description	Date

KEY PLAN:

REFERENCE NORTH

APPROVAL:

DWG TITLE:

Construction Plan LEVEL 2

SEAL & SIGNATURE:

REGISTERED ARCHITECT MURAT MUTLU 036742 STATE OF NEW YORK

DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A102**



1 LEVEL 3
3/16" = 1'-0"

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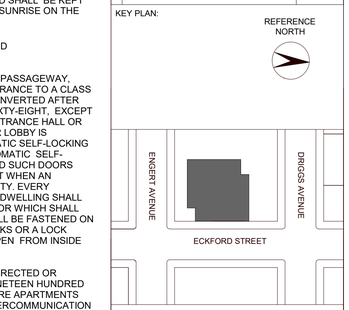
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Construction Plan LEVEL 3

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A103**



1 LEVEL 4
3/16" = 1'-0"

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SHEET NOTES

1. MILLWORK: BUILT-IN KITCHEN CABINETS WITH COUNTER TOP
2. MILLWORK: VANITIES
3. TEMPERED GLASS GUARD, 42' H PROTECTION FROM FINISHED FLOOR. SEE SECTIONS, ELEVATIONS AND DETAILS FOR CURB/KNEE WALL HEIGHT BELOW GLASS
4. WINDOW OPENING PROTECTED BY WATER CURTAIN (SEE SPRINKLER DRAWING)
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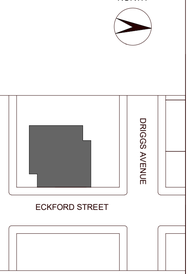
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MEP ENGINEER

REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Construction Plan LEVEL 4

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A104**



1 LEVEL 5
3/16" = 1'-0"

GENERAL NOTES

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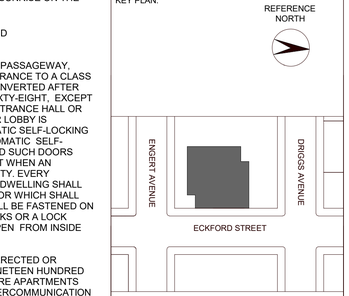
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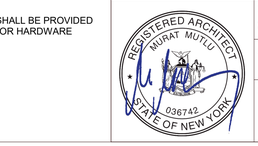


APPROVAL:

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Construction Plan LEVEL 5

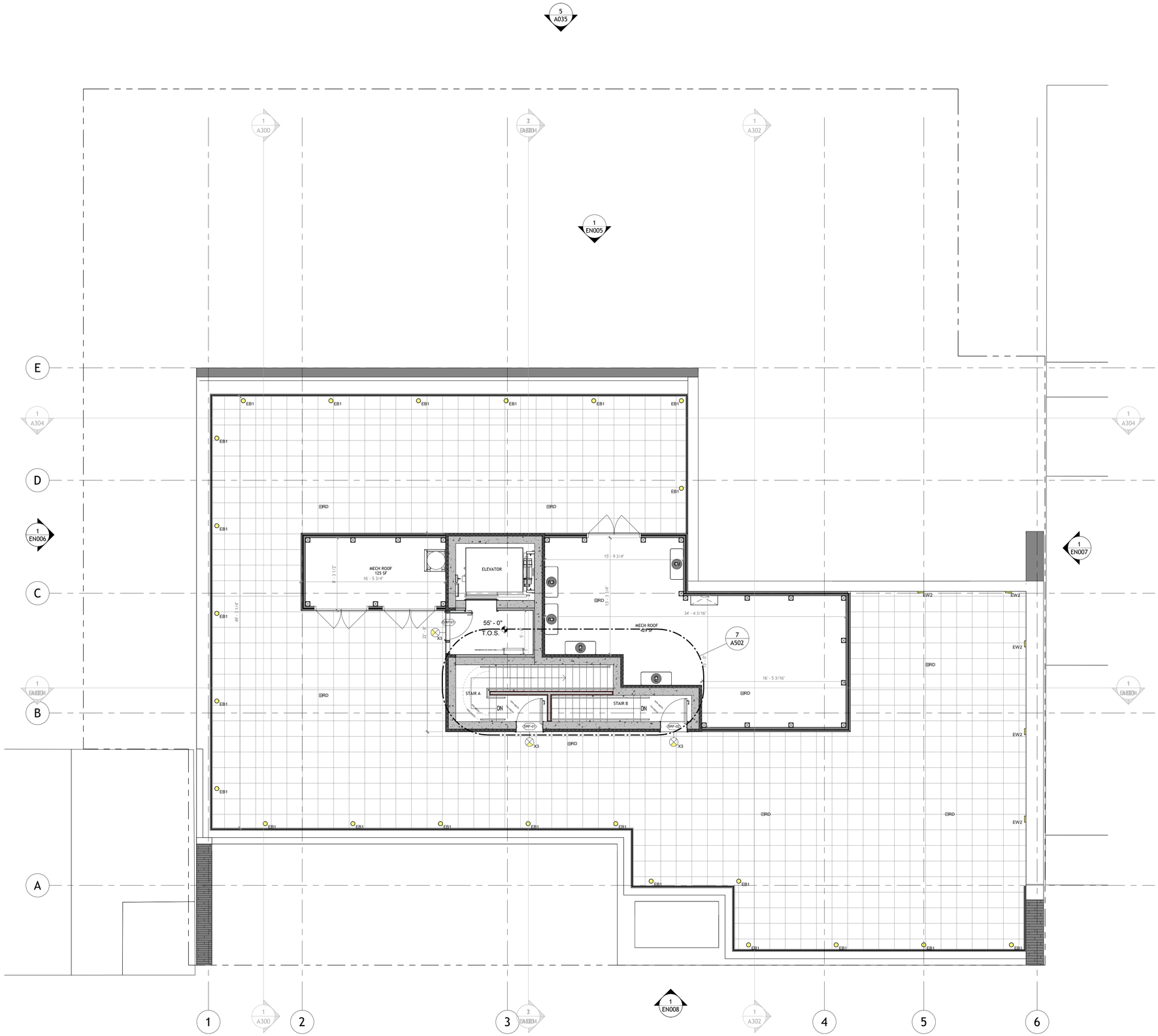
SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A105**



1 ROOF
3/16" = 1'-0"

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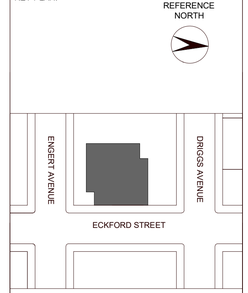
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Construction Plan
LEVEL ROOF

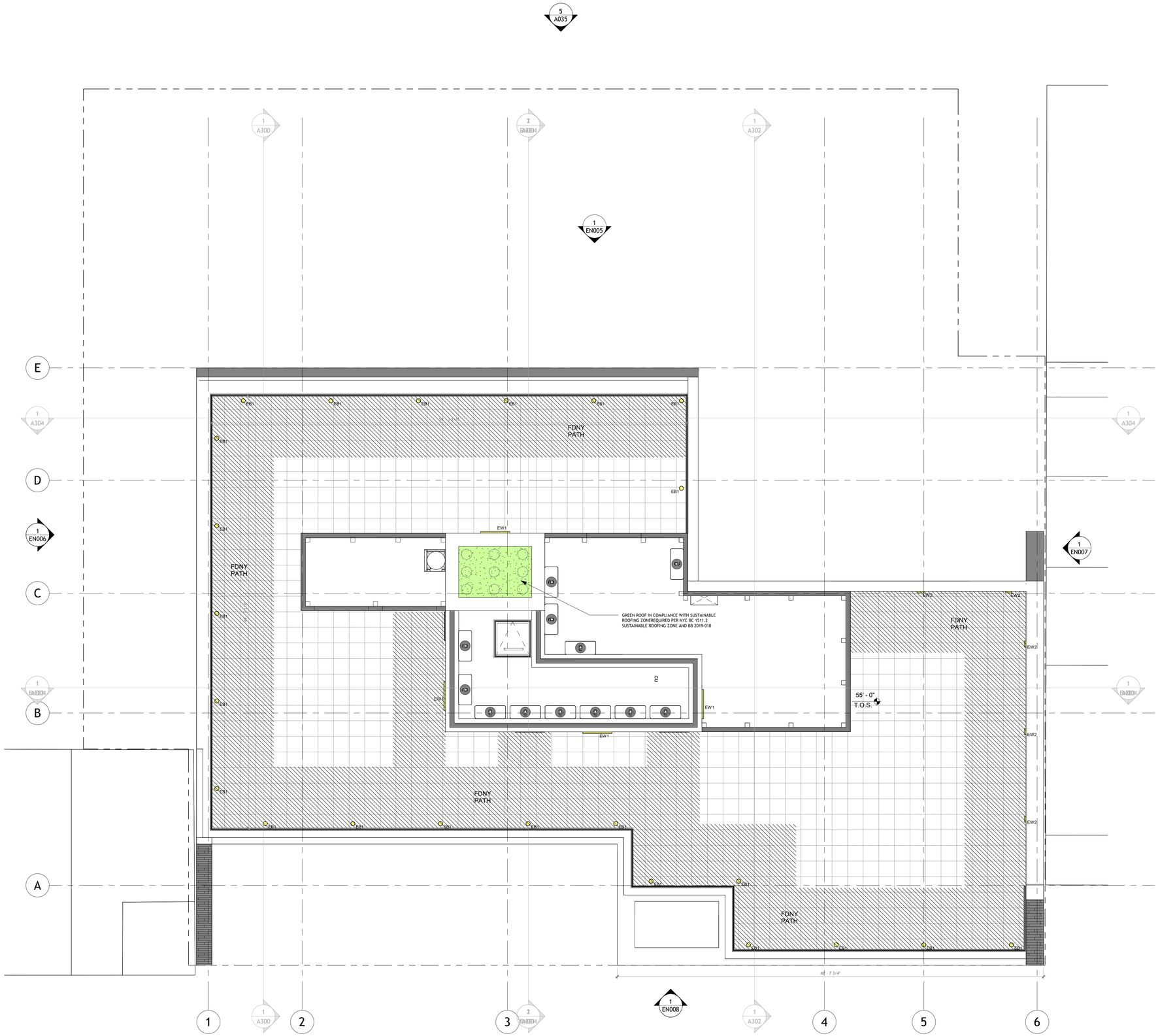
SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A106**



1 LEVEL BULKHEAD
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THERE SHALL BE A DIRECT ENTRANCE TO THE CELLAR, OR TO THE LOWEST STORY IF THERE BE NO CELLAR, FROM THE OUTSIDE OF EVERY MULTIPLE DWELLING ERECTED AFTER APRIL EIGHTEENTH, NINETEEN HUNDRED TWENTY-NINE, EXCEPT THAT IN NON-FIREPROOF MULTIPLE DWELLINGS ERECTED AFTER SUCH DATE WHICH ARE THREE STORIES OR LESS IN HEIGHT AND OCCUPIED BY NOT MORE THAN TWO FAMILIES ON ANY STORY, ANY STAIR LEADING TO SUCH CELLAR OR LOWEST STORY MAY BE LOCATED INSIDE THE DWELLING PROVIDED IT IS ENCLOSED IN FIREPROOF WALLS AND FIREPROOF DOORS AND ASSEMBLIES WITH THE DOORS SELF-CLOSING, AT BOTH THE LEVEL OF SUCH CELLAR OR LOWEST STORY AND THAT OF THE STORY ABOVE.
NO SUCH OUTSIDE ENTRANCE EXISTING IN ANY MULTIPLE DWELLING ON APRIL EIGHTEENTH, NINETEEN HUNDRED TWENTY-NINE, SHALL BE OBSTRUCTED.

DOOR NOTES

1) SEE DOOR SCHEDULES FOR HARDWARE AND DOOR TYPES AND COMPLY WITH ANY ADDITIONAL INFORMATION ON THE DRAWINGS

2) ALL DOORS THROUGH THE BUILDING SHALL BE PROVIDED WITH DISABLED PERSON COMPLIANT DOOR HARDWARE AND DOOR SADDLES

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

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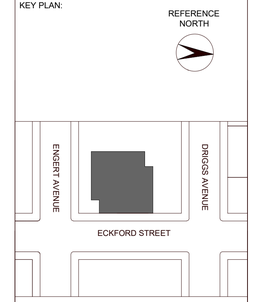
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#	Description	Date

KEY PLAN:

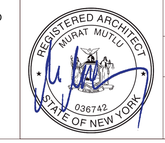


APPROVAL:

DWG TITLE:

Construction Plan
LEVEL BULKHEAD

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A107**



1 RCP-CELLAR
3/16" = 1'-0"

RCP LEDGEND

R1	RECESSED ROUND FIXTURE 6"
R2	RECESSED ROUND FIXTURE 6",WET AREAS
R3	RECESSED SQUARE FIXTURE, 6"
R3-EM	RECESSED SQUARE FIXTURE, 6" EMERGENCY
W1	WALL MOUNTED FIXTURE, ABOVE MIRROR,
W2-EM	WALL MOUNTED FIXTURE WITH EM, 4'
W3-EM	WALL MOUNTED FITURE,WITH EM, 2'
S1	SURFACE MOUNTED ROUND FIXTURE, 11"
S2	SURFACE MOUNTED SQUARE FIXTURE, 12"
S2-EM	SURFACE MOUNTED SQUARE FIXTURE, WITH EM, 12'
P1	PENDANT ROUND FIXTURE, 9"X7"
S3	SURFACE MOUNTED FIXTURE, 24",
S3-EM	SURFACE MOUNTED FIXTURE, WITH EM, 24"
T-4'	TRACK LIGHT TRACK WITH HEADS, 4'
LP4	LINEAR PENDANT: 4'
LP4-EM	LINEAR PENDANT, 4', EMERGENCY
X1-2-3-4-5	EXIT SIGNS
XEP	EXIT SIGN, POLL MOUNTED, EXTERIOR
XEW	EXIT SIGN, WALL MOUNTED, EXTERIOR
EW1	LINEAR WALL MOUNTED FIXTURE, 40"
EW2	LINEAR WALL MOUNTED FIXTURE, 8"
E-L8	LINEAR SOFFIT RECESSED, EXTERIOR
EMW	WALL MOUNTED EMERGENCY FIXTURE
EM	SUFFIX FOR ALL EMERGENCY FIXTURES
ES1	SURFACE MOUNTED, EXTERIOR
EB1	EXTERIOR BOLLARD LIGHTING
$	REGULAR LIGHT SWITCH
$1	TENANT BALCONY SWITCH
$T	TIMER SWITCH,EXTERIOR GRADE IF INSTALLED OUTSIDE
SC	SENSOR CONTROL (MOTION, IN PUBLIC AREAS)
SC2	SENSOR CONTROL (MOTION, BACK OF THE HOUSE AREAS)
C XX"-XX"	COVE LIGHT

NOTE: FOR INTERIOR FIXTURES WITH NO EM OR NO SWITCH, FIXTURES TO BE ON 24/7

SHEET LEDGEND

- SECURITY CAMERA
- SENSOR CONTROL
- SC — SWITCH
- $ — EXIT LIGHT
- BATHROOM EXHAUSTED FAN
- LR — LINEAR LIGHT, RECESSED
- LP — LINEAR LIGHT, PENDANT FIXTURE
- LS — LINEAR LIGHT, SURFACE MOUNTED
- ROUND LIGHT FIXTURE, SEE SCHEDULE FOR MOUNTING TYPE
- NC — NO DROP CEILING
- GWB — GYMPSUM WALL BOARD DROP CEILING
- GWB2 — GYMPSUM WALL BOARD DROP CEILING, 2 HR RATED FOR MEP TRANSFER
- GWBW — GYMPSUM WALL BOARD DROP CEILING IN WET AREA
- GWBS — GYMPSUM WALL BOARD DROP CEILING UNDER STAIR SLOPE SURFACE
- CONC — COVER COAT COMPOUND OVER CONCRETE
- CONCS — COVER COAT COMPOUND OVER STAIR SLOPE SURFACE
- CONF — GYPSUM WALL BOARD WITH 1 1/2" HAT CHANNEL FURRING OVER BOTTOM OF CONCRETE SLAB
- STS — STUCCO SOFFIT
- MTS — METAL SOFFIT
- CL — CLADDING CEILING, SAME STRUCTURE DETAILS AS FACADE'S CLADDING
- XX'-XX" — CEILING HEIGHT
- AIR HANDLER(SEE MEP FOR ACCESS REQUIREMENT), PROVIDE ACCESS PANEL WITH DRYWALL INLAY AND CONCEALED CHANGES.
- WALL MOUNTED DIFFUSER, AIR IN
- WALL MOUNTED DIFFUSER, AIR OUT
- CEILING MOUNTED DIFFUSER, AIR IN
- CEILING MOUNTED DIFFUSER, AIR OUT
- BORDER DROPPED SLAB ABOVE
- SD — SMOKE DETECTOR
- RCP LIGHT GRID
- CEILLING SOFFIT

RCP GENERAL NOTES

1. SEE ARCH SECTIONS FOR TYPICAL CEILING DETAILS

2. ALL WET AREAS ARE TO RECEIVE NON SAG WATER RESISTANT GYPSUM BOARD

3. REFER TO LIGHTING SPECIFICATIONS AND ELECTRIC DRAWINGS AND SPECIFICATIONS FOR FIXTURE TYPES AND SCHEDULE

4. COORDINATE WITH MEP FOR HVAC/SPRINKLER LOCATIONS

5. REFER TO GENERAL SHEETS FOR TYPICAL DEVICE MOUNTING HEIGHT

6. COORDINATE WITH FIRE ALARM DRAWINGS FOR SMOKE DETECTOR REQUIREMENTS

7. SEAL ALL WALL AND CEILING PENETRATIONS THROUGH FIRE RATED ASSEMBLIES TO MEET THE REQUIRED RATING

8. ALL CEILING HEIGHTS ARE TO BE A.F.F. UNLESS OTHERWISE NOTED

9. ON RESIDENTIAL FLOORS IF NO CEILING HEIGHT IS ASSIGNED TO A SPACE, IT SHALL MEAN THAT GENERAL CEILING HEIGHT SHALL BE MAINTAINED AS ADJACENT ROOMS. ALL VISIBLE CEILINGS AND FIRE RATED FLOOR ASSEMBLIES SHALL RECEIVE GYPSUM BOARD WITH PAINTED FINISH.

10. PROVIDE CEILING ACCESS PANELS WITH DRYWALL RECESSED AND CONCEALED HINGE, PUSH LATCH AND REMOVABLE DOOR PANEL, SIZE TBD BY MEP EQUIP REQUIREMENT. SEE MECH. PLANS FOR PANEL LOCATIONS.

11. REFER TO SPRINKLER DRAWINGS FOR SPRINKLERHEAD LOCATIONS.

12. REFER TO MECHANICAL DRAWINGS FOR DIFFUSER LOCATIONS.

13. ALL MEP EQUIPMENT, CONDUITS, WIRING, PIPING, DUCTWORK SHALL BE CONCEALED BEHIND GYPSUM BOARD CEILINGS OR SOFFITS EXCEPT IN THE GARAGE, GYM, AND BUILDING UTILITY ROOMS. ALL VISIBLE MEP ELEMENTS SHALL BE PAINTED WHEN EXPOSED (EXCEPT EQUIPMENT).

14. CONTRACTOR IS RESPONSIBLE TO COORDINATE MEP SYSTEMS WITH MEP SHOP DRAWINGS AND MEP BIM MODEL. CONTRACTOR SHOULD NOTIFY THE ARCHITECT FOR ANY CLASHES BETWEEN ANY MEP ELEMENT, LIGHT FIXTURE, ARCHITECTURAL ELEMENTS OR STRUCTURAL PRIOR TO CONSTRUCTION. IF ARCHITECT IS ONLY NOTIFIED ABOUT CLASHES AFTER INSTALLATION OF MEP SYSTEMS, CONTRACTOR SHALL UNINSTALL AND REINSTALL ANY CONFLICTING MEP ELEMENT WITH NO ADDITIONAL COST TO THE OWNER.

LIGHTING CONTROL AND REDUCTION

CONTROL STRATEGY FOR: CORRIDORS, LOBBIES AUTOMATIC ON/OFF OF 75% FIXTURES. 25% OF FIXTURES TO REMAIN ENERGIZED AT ALL TIMES (I.E. EMERGENCY FIXTURES TO REMAIN ON)

CONTROL STRATEGY FOR: STAIRS
NO SWITCHES PERMITTED. BILEVEL OCCUPANCY SENSERS TO BE PROVIDED. EM TYPE FIXTURES TO BE ON AT ALL TIMES.

CONTROL STRATEGY FOR: UTIL.
ROOMS AND CLOSETS LOCAL SWICHES WITH DUAL TECHNOLOGY SENSOR (MANUAL ON, AUTOMATIC OFF 100% OF FIXTURES) AND ASTRONOMICAL IMECLOCK SWEEP.

CONTROL STRATEGY FOR: DWELLING UNITS
FIXTURES SHALL HAVE 75% HIGH-EFFICACY LAMPS SWICHES WITH MANUAL ON/OFF FOR GENERAL LIGHTING. COVE OR ACCENT LIGHTING SHALL HAVE DEDICATED SWITCHES TO PROVIDE A MINIMUM ILLUMINATION LEVEL OF 1 FOOTCANDLE.

CONTROL STRATEGY FOR PARKING GARAGE:
PARKING GARAGE LIGHTING SHALL HAVE AUTOMATIC LIGHTING SHUTOFF EXCEPT FOR EMERGENCY FIXTURES. LIGHTING POWER OF EACH LUMINAIRE SHALL BE AUTOMATICALLY REDUCED BY A MINIMUM OF 30% WHEN THERE IS NO ACTIVITY DETECTED WITHIN A LIGHTING ZONE FOR 20 MINUTES.

CONTROL STRATEGY FOR: EXTERIOR LIGHTING
AUTOMATIC CONTROL TURNS OFF THE LIGHTING WHEN DAYLIGHT IS AVAILABLE. FROM 12 AM TO 6AM: ALL FAÇADE OR LANDSCAPE LIGHTING TO AUTOMATICALLY SHUT OFF; OTHER LIGHTING TO AUTOMATICALLY REDUCE CONNECTED LIGHTING POWER BY AT LEAST 30 PERCENT WHEN NO ACTIVITY HAS BEEN DETECTED FOR A TIME OF NO LONGER THAN 15 MINUTES. DURING A LOSS OF POWER OF AT LEAST 10 HOURS, CONTROLS SHALL BE CABLE OF RETAINING PROGRAMMING.

CONTROL STRATEGY FOR COMMON AREAS
OCCUPANCY SENSOR THAT AUTOMATICALLY TURNS OFF ALL LIGHTS WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE.
CONTROL STRATEGY FOR DAYLIT AREAS
SPACES WITHIN 15' PERPENDICULARLY AND 2' HORIZONTALLY FROM A WINDOW SHALL HAVE SEPARATE SWITCHES THAN SPACES BEYOND DAYLIT AREAS. TOP LIGHT DAYLIT AREAS ALSO SHALL HAVE
SEPARATE SWITCHES.

CONTROL STRATEGY FOR ELEVATORS
SHALL DE-ENERGIZE FANS AND LIGHTING WHEN THE ELEVATOR IS STOPPED, UNOCCUPIED, WITH DOORS CLOSED FOR MORE THAN 15 MINUTES.

SPACES WITH %50 MIN ENERGY REDUCTION
THESE SPACES SHALL HAVE MANUAL CONTROLS TO REDUCE LIGHTING LOAD BY AT LEAST %50:
- ALL LIVING ROOMS SHALL HAVE A DIMMER SWITCH
- ALL BED ROOMS SHALL HAVE A DIMMER SWITCH
-- ALL ACCESSORY SPACES SHALL HAVE A DIMMER SWITCH
- ALL UTILITY ROOMS SHALL HAVE A DIMMER SWITCH

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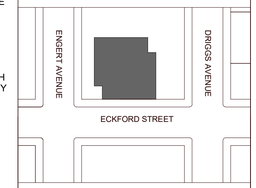
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Reflected Ceiling Plan CELLAR

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: As indicated

DRAWING NO: **A120**



1 First Floor Architectural Ceiling Plan
3/16" = 1'-0"

RCP LEDGEND

R1	RECESSED ROUND FIXTURE 6"
R2	RECESSED ROUND FIXTURE 6",WET AREAS
R3	RECESSED SQUARE FIXTURE, 6"
R3-EM	RECESSED SQUARE FIXTURE, 6" EMERGENCY
W1	WALL MOUNTED FIXTURE, ABOVE MIRROR,
W2-EM	WALL MOUNTED FIXTURE WITH EM, 4'
W3-EM	WALL MOUNTED FITURE,WITH EM, 2'
S1	SURFACE MOUNTED ROUND FIXTURE, 11"
S2	SURFACE MOUNTED SQUARE FIXTURE, 12"
S2-EM	SURFACE MOUNTED SQUARE FIXTURE, WITH EM, 12'
P1	PENDANT ROUND FIXTURE, 9"X7"
S3	SURFACE MOUNTED FIXTURE, 24",
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T-4'	TRACK LIGHT TRACK WITH HEADS, 4'
LP4	LINEAR PENDANT: 4'
LP4-EM	LINEAR PENDANT, 4', EMERGENCY
X1-2-3-4-5	EXIT SIGNS
XEP	EXIT SIGN, POLL MOUNTED, EXTERIOR
XEW	EXIT SIGN, WALL MOUNTED, EXTERIOR
EW1	LINEAR WALL MOUNTED FIXTURE, 40"
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EM	SUFFIX FOR ALL EMERGENCY FIXTURES
ES1	SURFACE MOUNTED, EXTERIOR
EB1	EXTERIOR BOLLARD LIGHTING
$	REGULAR LIGHT SWITCH
$1	TENANT BALCONY SWITCH
$T	TIMER SWITCH,EXTERIOR GRADE IF INSTALLED OUTSIDE
SC	SENSOR CONTROL (MOTION, IN PUBLIC AREAS)
SC2	SENSOR CONTROL (MOTION, BACK OF THE HOUSE AREAS)
C XX"-XX"	COVE LIGHT

NOTE: FOR INTERIOR FIXTURES WITH NO EM OR NO SWITCH, FIXTURES TO BE ON 24/7

SHEET LEDGEND

	SECURITY CAMERA
	SENSOR CONTROL
SC	SWITCH
$	
	EXIT LIGHT
	BATHROOM EXHAUSTED FAN
LR	LINEAR LIGHT, RECESSED
LP	LINEAR LIGHT, PENDANT FIXTURE
LS	LINEAR LIGHT, SURFACE MOUNTED
	ROUND LIGHT FIXTURE, SEE SCHEDULE FOR MOUNTING TYPE
NC	NO DROP CEILING
GWB	GYPSUM WALL BOARD DROP CEILING
GWB2	GYPSUM WALL BOARD DROP CEILING, 2 HR RATED FOR MEP TRANSFER
GWBW	GYPSUM WALL BOARD DROP CEILING IN WET AREA
GWBS	GYPSUM WALL BOARD DROP CEILING UNDER STAIR SLOPE SURFACE
CONC	COVER COAT COMPOUND OVER CONCRETE
CONCS	COVER COAT COMPOUND OVER STAIR SLOPE SURFACE
CONF	GYPSUM WALL BOARD WITH 1 1/2" HAT CHANNEL FURRING OVER BOTTOM OF CONCRETE SLAB
STS	STUCCO SOFFIT
MTS	METAL SOFFIT
CL	CLADDING CEILING, SAME STRUCTURE DETAILS AS FACADE'S CLADDING
XX'-XX"	CEILING HEIGHT
	AIR HANDLER(SEE MEP FOR ACCESS REQUIREMENT), PROVIDE ACCESS PANEL WITH DRYWALL INLAY AND CONCEALED CHANGES.
	WALL MOUNTED DIFFUSER, AIR IN
	WALL MOUNTED DIFFUSER, AIR OUT
	CEILING MOUNTED DIFFUSER, AIR IN
	CEILING MOUNTED DIFFUSER, AIR OUT
	BORDER DROPPED SLAB ABOVE
SD	SMOKE DETECTOR
	RCP LIGHT GRID
	CEILLING SOFFIT

RCP GENERAL NOTES

1. SEE ARCH SECTIONS FOR TYPICAL CEILING DETAILS

2. ALL WET AREAS ARE TO RECEIVE NON SAG WATER RESISTANT GYPSUM BOARD

3. REFER TO LIGHTING SPECIFICATIONS AND ELECTRIC DRAWINGS AND SPECIFICATIONS FOR FIXTURE TYPES AND SCHEDULE

4. COORDINATE WITH MEP FOR HVAC/SPRINKLER LOCATIONS

5. REFER TO GENERAL SHEETS FOR TYPICAL DEVICE MOUNTING HEIGHT

6. COORDINATE WITH FIRE ALARM DRAWINGS FOR SMOKE DETECTOR REQUIREMENTS

7. SEAL ALL WALL AND CEILING PENETRATIONS THROUGH FIRE RATED ASSEMBLIES TO MEET THE REQUIRED RATING

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LIGHTING CONTROL AND REDUCTION

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CONTROL STRATEGY FOR: STAIRS
NO SWITCHES PERMITTED. BILEVEL OCCUPANCY SENSERS TO BE PROVIDED. EM TYPE FIXTURES TO BE ON AT ALL TIMES.

CONTROL STRATEGY FOR: UTIL.
ROOMS AND CLOSETS LOCAL SWICHES WITH DUAL TECHNOLOGY SENSOR (MANUAL ON, AUTOMATIC OFF 100% OF FIXTURES) AND ASTRONOMICAL IMECLOCK SWEEP.

CONTROL STRATEGY FOR: DWELLING UNITS
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CONTROL STRATEGY FOR: PARKING GARAGE:
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CONTROL STRATEGY FOR: EXTERIOR LIGHTING
AUTOMATIC CONTROL TURNS OFF THE LIGHTING WHEN DAYLIGHT IS AVAILABLE. FROM 12 AM TO 6AM: ALL FAÇADE OR LANDSCAPE LIGHTING TO AUTOMATICALLY SHUT OFF; OTHER LIGHTING TO AUTOMATICALLY REDUCE CONNECTED LIGHTING POWER BY AT LEAST 30 PERCENT WHEN NO ACTIVITY HAS BEEN DETECTED FOR A TIME OF NO LONGER THAN 15 MINUTES. DURING A LOSS OF POWER OF AT LEAST 10 HOURS, CONTROLS SHALL BE CABLE OF RETAINING PROGRAMMING.

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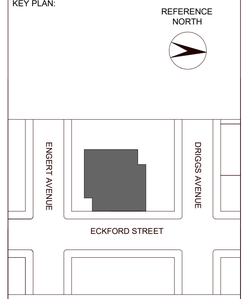
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Reflected Ceiling Plan LEVEL 1

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: As indicated

DRAWING NO: **A121**



1 Second Floor Architectural Ceiling Plan
3/16" = 1'-0"

RCP LEDGEND

R1	RECESSED ROUND FIXTURE 6"
R2	RECESSED ROUND FIXTURE 6",WET AREAS
R3	RECESSED SQUARE FIXTURE, 6"
R3-EM	RECESSED SQUARE FIXTURE, 6" EMERGENCY
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C XX"-XX"	COVE LIGHT

NOTE: FOR INTERIOR FIXTURES WITH NO EM OR NO SWITCH, FIXTURES TO BE ON 24/7

SHEET LEDGEND

	SECURITY CAMERA
	SENSOR CONTROL
SC	SWITCH
$	
	EXIT LIGHT
	BATHROOM EXHAUSTED FAN
LR	LINEAR LIGHT, RECESSED
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CL	CLADDING CEILING, SAME STRUCTURE DETAILS AS FACADE'S CLADDING
XX'-XX"	CEILING HEIGHT
	AIR HANDLER(SEE MEP FOR ACCESS REQUIREMENT), PROVIDE ACCESS PANEL WITH DRYWALL INLAY AND CONCEALED CHANGES.
	WALL MOUNTED DIFFUSER, AIR IN
	WALL MOUNTED DIFFUSER, AIR OUT
	CEILING MOUNTED DIFFUSER, AIR IN
	CEILING MOUNTED DIFFUSER, AIR OUT
	BORDER DROPPED SLAB ABOVE
SD	SMOKE DETECTOR
	RCP LIGHT GRID
	CEILLING SOFFIT

RCP GENERAL NOTES

1. SEE ARCH SECTIONS FOR TYPICAL CEILING DETAILS

2. ALL WET AREAS ARE TO RECEIVE NON SAG WATER RESISTANT GYPSUM BOARD

3. REFER TO LIGHTING SPECIFICATIONS AND ELECTRIC DRAWINGS AND SPECIFICATIONS FOR FIXTURE TYPES AND SCHEDULE

4. COORDINATE WITH MEP FOR HVAC/SPRINKLER LOCATIONS

5. REFER TO GENERAL SHEETS FOR TYPICAL DEVICE MOUNTING HEIGHT

6. COORDINATE WITH FIRE ALARM DRAWINGS FOR SMOKE DETECTOR REQUIREMENTS

7. SEAL ALL WALL AND CEILING PENETRATIONS THROUGH FIRE RATED ASSEMBLIES TO MEET THE REQUIRED RATING

8. ALL CEILING HEIGHTS ARE TO BE A.F.F. UNLESS OTHERWISE NOTED

9. ON RESIDENTIAL FLOORS IF NO CEILING HEIGHT IS ASSIGNED TO A SPACE, IT SHALL MEAN THAT GENERAL CEILING HEIGHT SHALL BE MAINTAINED AS ADJACENT ROOMS. ALL VISIBLE CEILINGS AND FIRE RATED FLOOR ASSEMBLIES SHALL RECEIVE GYPSUM BOARD WITH PAINTED FINISH.

10. PROVIDE CEILING ACCESS PANELS WITH DRYWALL RECESSED AND CONCEALED HINGE, PUSH LATCH AND REMOVABLE DOOR PANEL, SIZE TBD BY MEP EQUIP REQUIREMENT. SEE MECH. PLANS FOR PANEL LOCATIONS.

11. REFER TO SPRINKLER DRAWINGS FOR SPRINKLERHEAD LOCATIONS.

12. REFER TO MECHANICAL DRAWINGS FOR DIFFUSER LOCATIONS.

13. ALL MEP EQUIPMENT, CONDUITS, WIRING, PIPING, DUCTWORK SHALL BE CONCEALED BEHIND GYPSUM BOARD CEILINGS OR SOFFITS EXCEPT IN THE GARAGE, GYM, AND BUILDING UTILITY ROOMS. ALL VISIBLE MEP ELEMENTS SHALL BE PAINTED WHEN EXPOSED (EXCEPT EQUIPMENT).

14. CONTRACTOR IS RESPONSIBLE TO COORDINATE MEP SYSTEMS WITH MEP SHOP DRAWINGS AND MEP BIM MODEL. CONTRACTOR SHOULD NOTIFY THE ARCHITECT FOR ANY CLASHES BETWEEN ANY MEP ELEMENT, LIGHT FIXTURE, ARCHITECTURAL ELEMENTS OR STRUCTURAL PRIOR TO CONSTRUCTION. IF ARCHITECT IS ONLY NOTIFIED ABOUT CLASHES AFTER INSTALLATION OF MEP SYSTEMS, CONTRACTOR SHALL UNINSTALL AND REINSTALL ANY CONFLICTING MEP ELEMENT WITH NO ADDITIONAL COST TO THE OWNER.

LIGHTING CONTROL AND REDUCTION

CONTROL STRATEGY FOR: CORRIDORS, LOBBIES AUTOMATIC ON/OFF OF 75% FIXTURES. 25% OF FIXTURES TO REMAIN ENERGIZED AT ALL TIMES (I.E. EMERGENCY FIXTURES TO REMAIN ON)

CONTROL STRATEGY FOR: STAIRS
NO SWITCHES PERMITTED. BILEVEL OCCUPANCY SENSERS TO BE PROVIDED. EM TYPE FIXTURES TO BE ON AT ALL TIMES.

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ROOMS AND CLOSETS LOCAL SWICHES WITH DUAL TECHNOLOGY SENSOR (MANUAL ON, AUTOMATIC OFF 100% OF FIXTURES) AND ASTRONOMICAL IMECLOCK SWEEP.

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CONTROL STRATEGY FOR: EXTERIOR LIGHTING
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CONTROL STRATEGY FOR COMMON AREAS
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- ALL BED ROOMS SHALL HAVE A DIMMER SWITCH
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PROJECT NAME:

BK55E

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#	Description	Date

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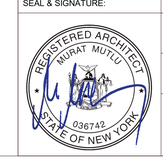


APPROVAL:

DWG TITLE:

Reflected Ceiling Plan LEVEL 2

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: As indicated

DRAWING NO: **A122**



1 RCP_LV3
3/16" = 1'-0"

RCP LEDGEND

R1	RECESSED ROUND FIXTURE 6"
R2	RECESSED ROUND FIXTURE 6",WET AREAS
R3	RECESSED SQUARE FIXTURE, 6"
R3-EM	RECESSED SQUARE FIXTURE, 6" EMERGENCY
W1	WALL MOUNTED FIXTURE, ABOVE MIRROR,
W2-EM	WALL MOUNTED FIXTURE WITH EM, 4'
W3-EM	WALL MOUNTED FITURE,WITH EM, 2'
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S2-EM	SURFACE MOUNTED SQUARE FIXTURE, WITH EM, 12"
P1	PENDANT ROUND FIXTURE, 9"X7"
S3	SURFACE MOUNTED FIXTURE, 24",
S3-EM	SURFACE MOUNTED FIXTURE, WITH EM, 24"
T-4'	TRACK LIGHT TRACK WITH HEADS, 4'
LP4	LINEAR PENDANT: 4'
LP4-EM	LINEAR PENDANT, 4', EMERGENCY
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XEP	EXIT SIGN, POLL MOUNTED, EXTERIOR
XEW	EXIT SIGN, WALL MOUNTED, EXTERIOR
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E-L8	LINEAR SOFFIT RECESSED, EXTERIOR
EMW	WALL MOUNTED EMERGENCY FIXTURE
EM	SUFFIX FOR ALL EMERGENCY FIXTURES
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C XX"-XX"	COVE LIGHT

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SHEET LEDGEND

	SECURITY CAMERA
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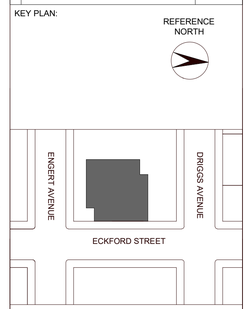
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Reflected Ceiling Plan LEVEL 3

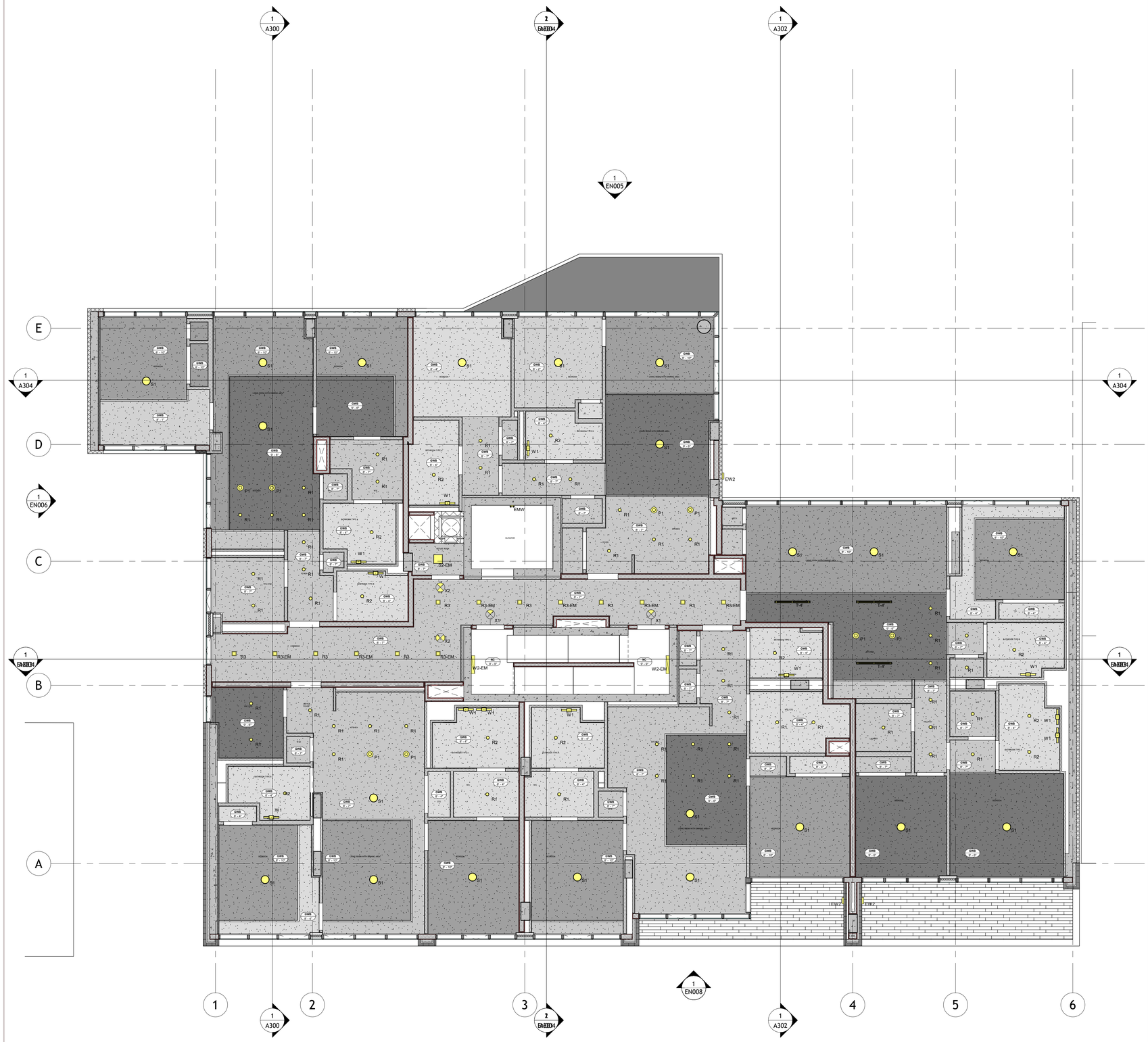
SEAL & SIGNATURE:

REGISTERED ARCHITECT MURAT MUTLU 036742 STATE OF NEW YORK

DATE: 02/21/2025

SCALE: As indicated

DRAWING NO: **A123**



1 RCP_LV4
3/16" = 1'-0"

RCP LEDGEND

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SHEET LEDGEND

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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Reflected Ceiling Plan LEVEL 4

SEAL & SIGNATURE:

REGISTERED ARCHITECT MURAT MUTLU 036742 STATE OF NEW YORK

DATE: 02/21/2025

SCALE: As indicated

DRAWING NO: **A124**



1 RCP_LV5
3/16" = 1'-0"

RCP LEDGEND

R1	RECESSED ROUND FIXTURE 6"
R2	RECESSED ROUND FIXTURE 6",WET AREAS
R3	RECESSED SQUARE FIXTURE, 6"
R3-EM	RECESSED SQUARE FIXTURE, 6" EMERGENCY
W1	WALL MOUNTED FIXTURE, ABOVE MIRROR,
W2-EM	WALL MOUNTED FIXTURE WITH EM, 4'
W3-EM	WALL MOUNTED FITURE,WITH EM, 2'
S1	SURFACE MOUNTED ROUND FIXTURE, 11"
S2	SURFACE MOUNTED SQUARE FIXTURE, 12"
S2-EM	SURFACE MOUNTED SQUARE FIXTURE, WITH EM, 12'
P1	PENDANT ROUND FIXTURE, 9"X7"
S3	SURFACE MOUNTED FIXTURE, 24",
S3-EM	SURFACE MOUNTED FIXTURE, WITH EM, 24"
T-4'	TRACK LIGHT TRACK WITH HEADS, 4'
LP4	LINEAR PENDANT: 4'
LP4-EM	LINEAR PENDANT, 4', EMERGENCY
X1-2-3-4-5	EXIT SIGNS
XEP	EXIT SIGN, POLL MOUNTED, EXTERIOR
XEW	EXIT SIGN, WALL MOUNTED, EXTERIOR
EW1	LINEAR WALL MOUNTED FIXTURE, 40"
EW2	LINEAR WALL MOUNTED FIXTURE, 8"
E-L8	LINEAR SOFFIT RECESSED, EXTERIOR
EMW	WALL MOUNTED EMERGENCY FIXTURE
EM	SUFFIX FOR ALL EMERGENCY FIXTURES
ES1	SURFACE MOUNTED, EXTERIOR
EB1	EXTERIOR BOLLARD LIGHTING
$	REGULAR LIGHT SWITCH
$1	TENANT BALCONY SWITCH
$T	TIMER SWITCH,EXTERIOR GRADE IF INSTALLED OUTSIDE
SC	SENSOR CONTROL (MOTION, IN PUBLIC AREAS)
SC2	SENSOR CONTROL (MOTION, BACK OF THE HOUSE AREAS)
C XX"-XX"	COVE LIGHT

NOTE: FOR INTERIOR FIXTURES WITH NO EM OR NO SWITCH, FIXTURES TO BE ON 24/7

SHEET LEDGEND

	SECURITY CAMERA
	SENSOR CONTROL
SC	SWITCH
$	EXIT LIGHT
⊗	BATHROOM EXHAUSTED FAN
⊠	LINEAR LIGHT, RECESSED
LR	LINEAR LIGHT, PENDANT FIXTURE
LP	LINEAR LIGHT, SURFACE MOUNTED
LS	ROUND LIGHT FIXTURE, SEE SCHEDULE FOR MOUNTING TYPE
NC	NO DROP CEILING
GWB	GYMPSUM WALL BOARD DROP CEILING
GWB2	GYMPSUM WALL BOARD DROP CEILING, 2 HR RATED FOR MEP TRANSFER
GWBW	GYMPSUM WALL BOARD DROP CEILING IN WET AREA
GWBS	GYMPSUM WALL BOARD DROP CEILING UNDER STAIR SLOPE SURFACE
CONC	COVER COAT COMPOUND OVER CONCRETE
CONCS	COVER COAT COMPOUND OVER STAIR SLOPE SURFACE
CONF	GYPSUM WALL BOARD WITH 1 1/2" HAT CHANNEL FURRING OVER BOTTOM OF CONCRETE SLAB
STS	STUCCO SOFFIT
MTS	METAL SOFFIT
CL	CLADDING CEILING, SAME STRUCTURE DETAILS AS FACADE'S CLADDING
XX'-XX"	CEILING HEIGHT
	AIR HANDLER(SEE MEP FOR ACCESS REQUIREMENT), PROVIDE ACCESS PANEL WITH DRYWALL INLAY AND CONCEALED CHANGES.
	WALL MOUNTED DIFFUSER, AIR IN
	WALL MOUNTED DIFFUSER, AIR OUT
	CEILING MOUNTED DIFFUSER, AIR IN
	CEILING MOUNTED DIFFUSER, AIR OUT
	BORDER DROPPED SLAB ABOVE
SD	SMOKE DETECTOR
	RCP LIGHT GRID
	CEILLING SOFFIT

RCP GENERAL NOTES

1. SEE ARCH SECTIONS FOR TYPICAL CEILING DETAILS

2. ALL WET AREAS ARE TO RECEIVE NON SAG WATER RESISTANT GYPSUM BOARD

3. REFER TO LIGHTING SPECIFICATIONS AND ELECTRIC DRAWINGS AND SPECIFICATIONS FOR FIXTURE TYPES AND SCHEDULE

4. COORDINATE WITH MEP FOR HVAC/SPRINKLER LOCATIONS

5. REFER TO GENERAL SHEETS FOR TYPICAL DEVICE MOUNTING HEIGHT

6. COORDINATE WITH FIRE ALARM DRAWINGS FOR SMOKE DETECTOR REQUIREMENTS

7. SEAL ALL WALL AND CEILING PENETRATIONS THROUGH FIRE RATED ASSEMBLIES TO MEET THE REQUIRED RATING

8. ALL CEILING HEIGHTS ARE TO BE A.F.F. UNLESS OTHERWISE NOTED

9. ON RESIDENTIAL FLOORS IF NO CEILING HEIGHT IS ASSIGNED TO A SPACE, IT SHALL MEAN THAT GENERAL CEILING HEIGHT SHALL BE MAINTAINED AS ADJACENT ROOMS. ALL VISIBLE CEILINGS AND FIRE RATED FLOOR ASSEMBLIES SHALL RECEIVE GYPSUM BOARD WITH PAINTED FINISH.

10. PROVIDE CEILING ACCESS PANELS WITH DRYWALL RECESSED AND CONCEALED HINGE, PUSH LATCH AND REMOVABLE DOOR PANEL, SIZE TBD BY MEP EQUIP REQUIREMENT. SEE MECH. PLANS FOR PANEL LOCATIONS.

11. REFER TO SPRINKLER DRAWINGS FOR SPRINKLERHEAD LOCATIONS.

12. REFER TO MECHANICAL DRAWINGS FOR DIFFUSER LOCATIONS.

13. ALL MEP EQUIPMENT, CONDUITS, WIRING, PIPING, DUCTWORK SHALL BE CONCEALED BEHIND GYPSUM BOARD CEILINGS OR SOFFITS EXCEPT IN THE GARAGE, GYM, AND BUILDING UTILITY ROOMS. ALL VISIBLE MEP ELEMENTS SHALL BE PAINTED WHEN EXPOSED (EXCEPT EQUIPMENT).

14. CONTRACTOR IS RESPONSIBLE TO COORDINATE MEP SYSTEMS WITH MEP SHOP DRAWINGS AND MEP BIM MODEL. CONTRACTOR SHOULD NOTIFY THE ARCHITECT FOR ANY CLASHES BETWEEN ANY MEP ELEMENT, LIGHT FIXTURE, ARCHITECTURAL ELEMENTS OR STRUCTURAL PRIOR TO CONSTRUCTION. IF ARCHITECT IS ONLY NOTIFIED ABOUT CLASHES AFTER INSTALLATION OF MEP SYSTEMS, CONTRACTOR SHALL UNINSTALL AND REINSTALL ANY CONFLICTING MEP ELEMENT WITH NO ADDITIONAL COST TO THE OWNER.

LIGHTING CONTROL AND REDUCTION

CONTROL STRATEGY FOR: CORRIDORS, LOBBIES AUTOMATIC ON/OFF OF 75% FIXTURES. 25% OF FIXTURES TO REMAIN ENERGIZED AT ALL TIMES (I.E. EMERGENCY FIXTURES TO REMAIN ON)

CONTROL STRATEGY FOR: STAIRS
NO SWITCHES PERMITTED. BILEVEL OCCUPANCY SENSERS TO BE PROVIDED. EM TYPE FIXTURES TO BE ON AT ALL TIMES.

CONTROL STRATEGY FOR: UTIL
ROOMS AND CLOSETS LOCAL SWICHES WITH DUAL TECHNOLOGY SENSOR (MANUAL ON, AUTOMATIC OFF 100% OF FIXTURES) AND ASTRONOMICAL IMECLOCK SWEEP.

CONTROL STRATEGY FOR: DWELLING UNITS
FIXTURES SHALL HAVE 75% HIGH-EFFICACY LAMPS SWICHES WITH MANUAL ON/OFF FOR GENERAL LIGHTING. COVE OR ACCENT LIGHTING SHALL HAVE DEDICATED SWITCHES TO PROVIDE A MINIMUM ILLUMINATION LEVEL OF 1 FOOTCANDLE.

CONTROL STRATEGY FOR PARKING GARAGE:
PARKING GARAGE LIGHTING SHALL HAVE AUTOMATIC LIGHTING SHUTOFF EXCEPT FOR EMERGENCY FIXTURES. LIGHTING POWER OF EACH LUMINAIRE SHALL BE AUTOMATICALLY REDUCED BY A MINIMUM OF 30% WHEN THERE IS NO ACTIVITY DETECTED WITHIN A LIGHTING ZONE FOR 20 MINUTES.

CONTROL STRATEGY FOR: EXTERIOR LIGHTING
AUTOMATIC CONTROL TURNS OFF THE LIGHTING WHEN DAYLIGHT IS AVAILABLE. FROM 12 AM TO 6AM: ALL FAÇADE OR LANDSCAPE LIGHTING TO AUTOMATICALLY SHUT OFF; OTHER LIGHTING TO AUTOMATICALLY REDUCE CONNECTED LIGHTING POWER BY AT LEAST 30 PERCENT WHEN NO ACTIVITY HAS BEEN DETECTED FOR A TIME OF NO LONGER THAN 15 MINUTES. DURING A LOSS OF POWER OF AT LEAST 10 HOURS, CONTROLS SHALL BE CABLE OF RETAINING PROGRAMMING.

CONTROL STRATEGY FOR COMMON AREAS
OCCUPANCY SENSOR THAT AUTOMATICALLY TURNS OFF ALL LIGHTS WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE.
CONTROL STRATEGY FOR DAYLIT AREAS
SPACES WITHIN 15' PERPENDICULARLY AND 2' HORIZONTALLY FROM A WINDOW SHALL HAVE SEPARATE SWITCHES THAN SPACES BEYOND DAYLIT AREAS. TOP LIGHT DAYLIT AREAS ALSO SHALL HAVE
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PROJECT NAME:

BK55E

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55 Eckford Street Brooklyn, NY 11222

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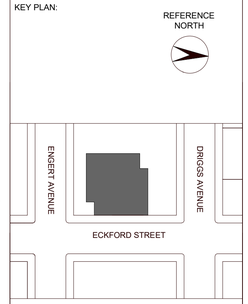
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Reflected Ceiling Plan LEVEL 5

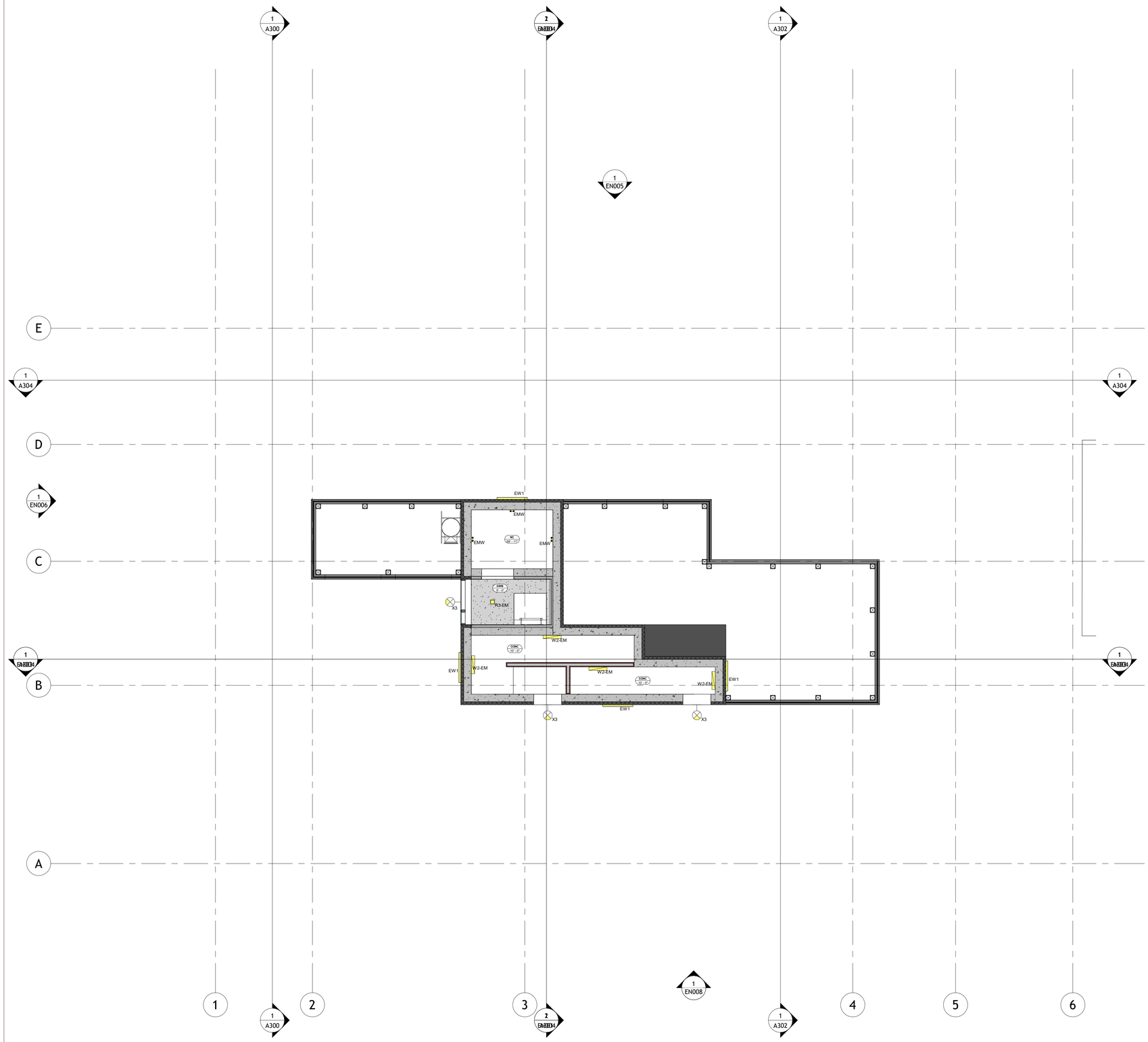
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ARCHITECT

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STRUCTRAL ENGINEER

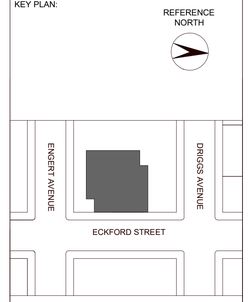
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Reflected Ceiling Plan ROOF

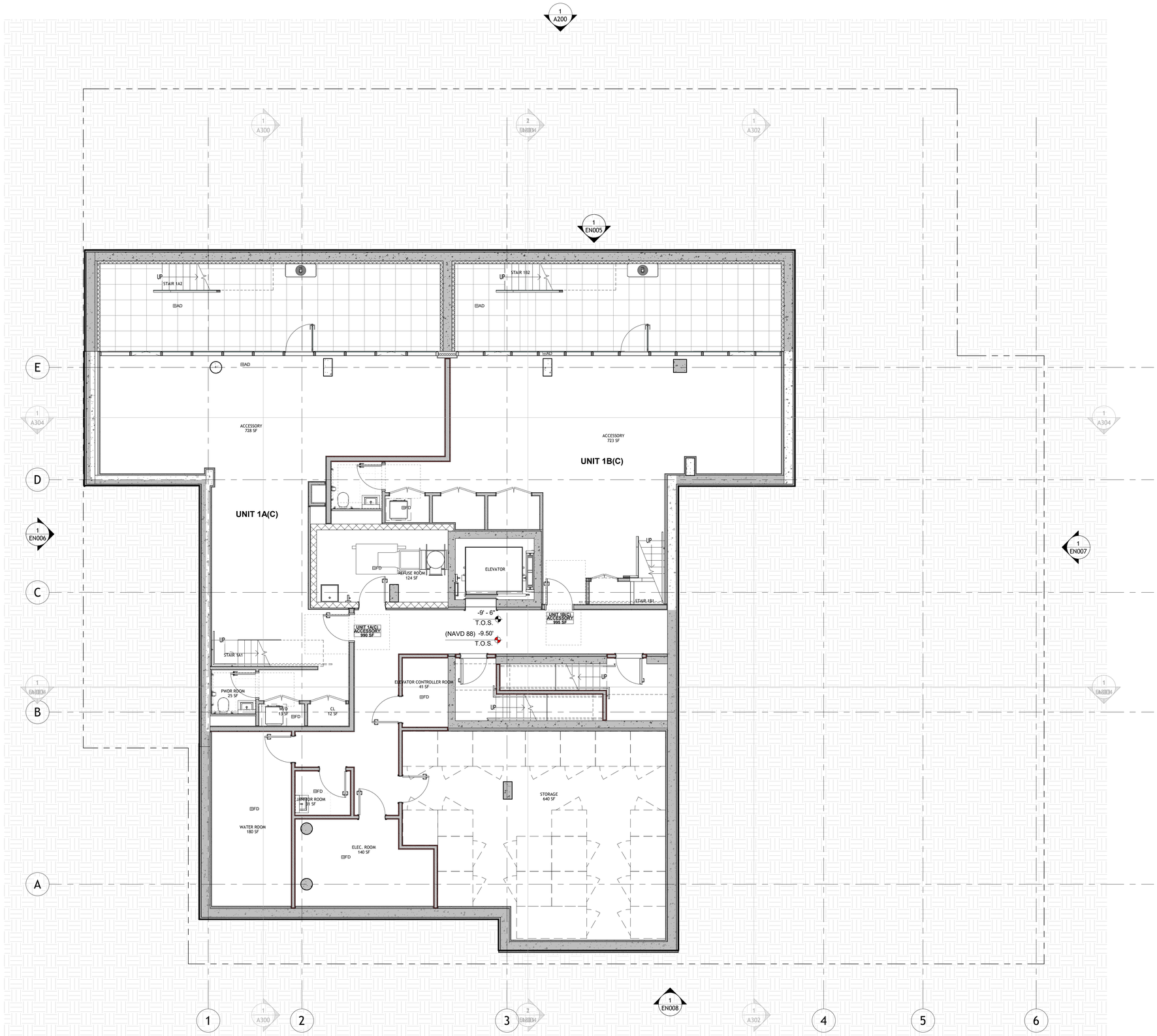
SEAL & SIGNATURE:



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SCALE: As indicated

DRAWING NO: **A126**



1 FURNITURE LAYOUT CELLAR
3/16" = 1'-0"

GENERAL NOTES

1. ALL PARTITION TO BE FULL HEIGHT U.O.N. SEE SHEET A020 FOR ALL TYPES.

2. SEE STRUCTURAL, CIVIL, MEP DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.

3. PROVIDE WATERPROOF MEMBRANE AT TOILETS AND PANTRIES AT FLOOR AND 18" UP THE WALLS.

4. ALL MECHANICAL SYSTEMS LOCATED/CROSSING OVER EGRESS CORRIDORS ARE TO BE SEISMICALLY BRACED.

5. FOR FINISHES, SEE SCHEDULES

6. FOR PLUMBING AND EQUIPMENT SEE MEP PLANS

7. ALL WINDOW AND LOUVER INFORMATION WILL BE ON ELEVATIONS. LOUVERS ARE TO BE DRAINABLE.

8. ALL GYPSUM BOARD IN TOILET AND PANTRY ARE TO BE MOISTURE RESISTANT TYPE.

9. ALL GYPSUM BOARD IN SHOWER AREAS ARE TO BE CEMENTITIOUS BOARD.

10. HINGE FACE OF ALL DOORS ARE TO BE 3" FROM ADJACENT PERPENDICULAR WALL U.N.O.

12. FURNISH AND INSTALL NEW SEMI RECESSED FIRE EXTINGUISHER AND HOSE CABINET WITH APPROPRIATE FIRE RATING ENCLOSURE AS INDICATED. PROVIDE BLOCKING AS NECESSARY.

13. SEE DETAIL PAGES FOR ROOF DETAILS.

14. FUR OUT ALL CMU WALLS EXCEPT IN THE GARAGE AND STAIRS.

15. SEE WALL SECTIONS FOR PARAPET WALL CONSTRUCTION

16. PROVIDE PITCH POCKETS ABOVE MECHANICAL SHAFTS, COORDINATE WITH PLUMBING DRAWINGS

17. PROVIDE RESTRICTED KEY ACCESS ELEVATOR AS SHOWN ON THE PLANS. PROVIDED CUT SHEET FOR MANUFACTURER IS REFERNCE ONLY. PROVIDE APPROVED EQUAL

SHEET NOTES

1. MILLWORK: BUILT-IN KITCHEN CABINETS WITH COUNTER TOP
2. MILLWORK: VANITIES
3. TEMPERED GLASS GUARD, 42' H PROTECTION FROM FINISHED FLOOR. SEE SECTIONS, ELEVATIONS AND DETAILS FOR CURB/KNEE WALL HEIGHT BELOW GLASS
4. WINDOW OPENING PROTECTED BY WATER CURTAIN (SEE SPRINKLER DRAWING)
5. VIDEO INTERCOM SYSTEM PER MDL SEC 50.

MDL NOTES

SEC. 35 ENTRANCE DOORS AND LIGHTS
THE OWNER OF EVERY MULTIPLE DWELLING SHALL INSTALL AND MAINTAIN A LIGHT OR LIGHTS AT OR NEAR THE OUTSIDE OF THE FRONT ENTRANCE-WAY OF THE BUILDING WHICH SHALL IN THE AGGREGATE PROVIDE NOT LESS THAN FIFTY WATTS INCANDESCENT ILLUMINATION FOR A BUILDING WITH A FRONTAGE UP TO TWENTY-TWO FEET AND ONE HUNDRED WATTS INCANDESCENT ILLUMINATION FOR A BUILDING WITH A FRONTAGE IN EXCESS OF TWENTY-TWO FEET, OR EQUIVALENT ILLUMINATION AND SHALL BE KEPT BURNING FROM SUNSET EVERY DAY TO SUNRISE ON THE DAY FOLLOWING.

SEC. 50. ENTRANCES: DOORS, LOCKS AND INTERCOMMUNICATION SYSTEMS

1.EVERY ENTRANCE FROM THE STREET, PASSAGEWAY, COURT, YARD, CELLAR, OR SIMILAR ENTRANCE TO A CLASS A MULTIPLE DWELLING ERECTED OR CONVERTED AFTER JANUARY FIRST, NINETEEN HUNDRED SIXTY-EIGHT, EXCEPT AN ENTRANCE LEADING TO THE MAIN ENTRANCE HALL OR LOBBY WHICH MAIN ENTRANCE HALL OR LOBBY IS EQUIPPED WITH ONE OR MORE AUTOMATIC SELF-LOCKING DOORS, SHALL BE EQUIPPED WITH AUTOMATIC SELF-CLOSING AND SELF-LOCKING DOORS AND SUCH DOORS SHALL BE LOCKED AT ALL TIMES EXCEPT WHEN AN ATTENDANT SHALL ACTUALLY BE ON DUTY. EVERY ENTRANCE FROM THE ROOF TO SUCH A DWELLING SHALL BE EQUIPPED WITH A SELF-CLOSING DOOR WHICH SHALL NOT BE SELF- LOCKING AND WHICH SHALL BE FASTENED ON THE INSIDE WITH MOVABLE BOLTS, HOOKS OR A LOCK WHICH DOES NOT REQUIRE A KEY TO OPEN FROM INSIDE THE DWELLING.

2.EVERY CLASS A MULTIPLE DWELLING ERECTED OR CONVERTED AFTER JANUARY FIRST, NINETEEN HUNDRED SIXTY-EIGHT CONTAINING EIGHT OR MORE APARTMENTS SHALL ALSO BE EQUIPPED WITH AN INTERCOMMUNICATION SYSTEM. SUCH INTERCOMMUNICATION SYSTEM SHALL BE LOCATED AT AN AUTOMATIC SELF-LOCKING DOOR GIVING PUBLIC ACCESS TO THE MAIN ENTRANCE HALL OR LOBBY OF SAID MULTIPLE DWELLING AND SHALL CONSIST OF A DEVICE OR DEVICES FOR VOICE COMMUNICATION BETWEEN THE OCCUPANT OF EACH APARTMENT AND A PERSON OUTSIDE SAID DOOR TO THE MAIN ENTRANCE HALL OR LOBBY AND TO PERMIT SUCH APARTMENT OCCUPANT TO RELEASE THE LOCKING MECHANISM OF SAID DOOR FROM THE APARTMENT.

SEC. 54. CELLAR ENTRANCE.

THERE SHALL BE A DIRECT ENTRANCE TO THE CELLAR, OR TO THE LOWEST STORY IF THERE BE NO CELLAR, FROM THE OUTSIDE OF EVERY MULTIPLE DWELLING ERECTED AFTER APRIL EIGHTEENTH, NINETEEN HUNDRED TWENTY-NINE, EXCEPT THAT IN NON-FIREPROOF MULTIPLE DWELLINGS ERECTED AFTER SUCH DATE WHICH ARE THREE STORIES OR LESS IN HEIGHT AND OCCUPIED BY NOT MORE THAN TWO FAMILIES ON ANY STORY, ANY STAIR LEADING TO SUCH CELLAR OR LOWEST STORY MAY BE LOCATED INSIDE THE DWELLING PROVIDED IT IS ENCLOSED IN FIREPROOF WALLS AND FIREPROOF DOORS AND ASSEMBLIES WITH THE DOORS SELF-CLOSING, AT BOTH THE LEVEL OF SUCH CELLAR OR LOWEST STORY AND THAT OF THE STORY ABOVE.
NO SUCH OUTSIDE ENTRANCE EXISTING IN ANY MULTIPLE DWELLING ON APRIL EIGHTEENTH, NINETEEN HUNDRED TWENTY-NINE, SHALL BE OBSTRUCTED.

DOOR NOTES

1) SEE DOOR SCHEDULES FOR HARDWARE AND DOOR TYPES AND COMPLY WITH ANY ADDITIONAL INFORMATION ON THE DRAWINGS

2) ALL DOORS THROUGH THE BUILDING SHALL BE PROVIDED WITH DISABLED PERSON COMPLIANT DOOR HARDWARE AND DOOR SADDLES

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

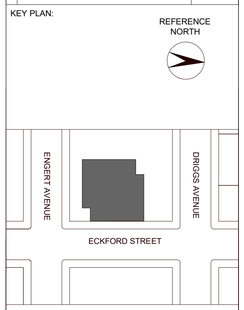
ARCHITECT
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STRUCTRAL ENGINEER
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MEP ENGINEER
REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

FURNITURE LAYOUT PLAN CELLAR

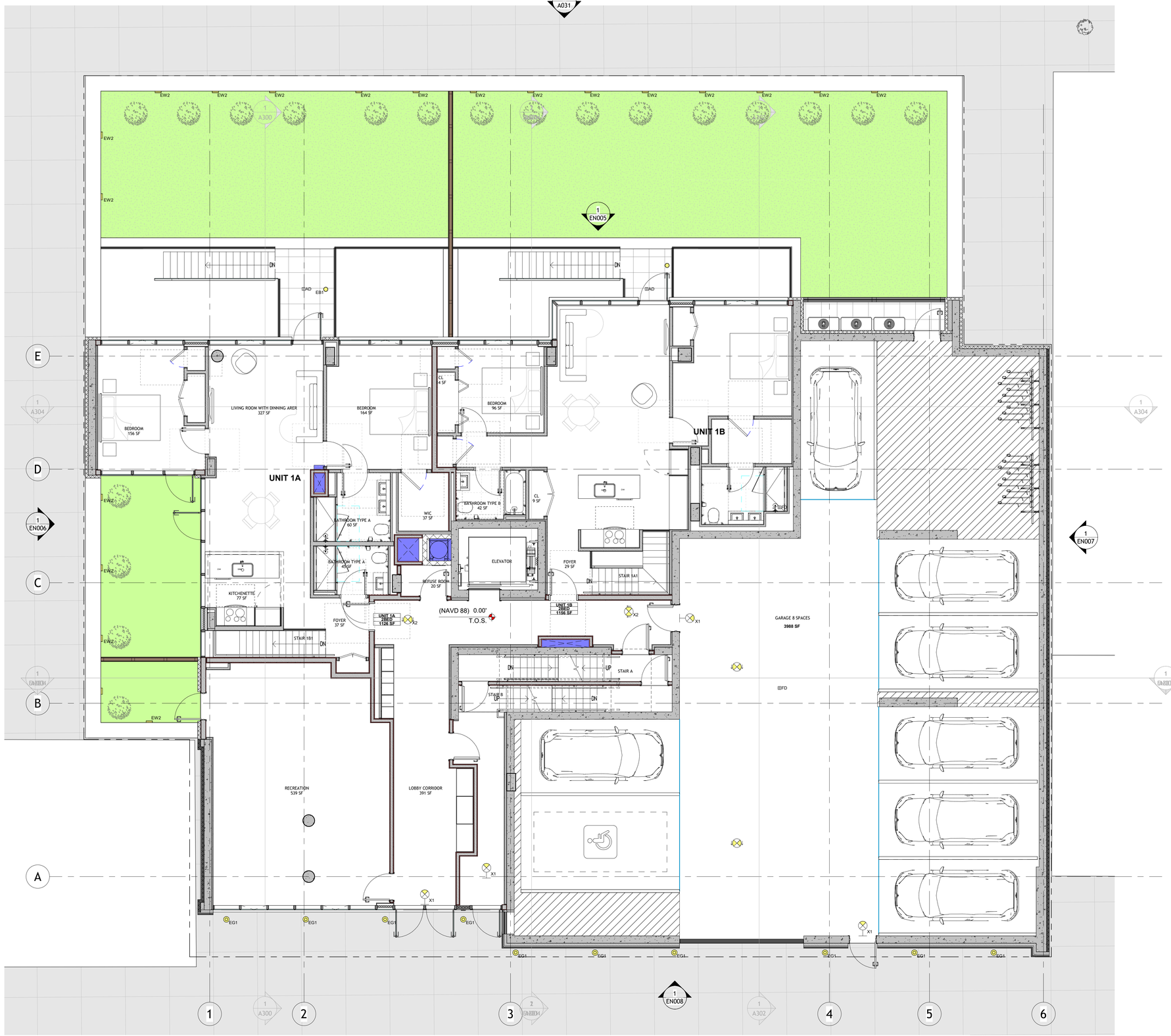
SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A140**



1 FURNITURE LAYOUT LEVEL 1
3/16" = 1'-0"

GENERAL NOTES

1. ALL PARTITION TO BE FULL HEIGHT U.O.N. SEE SHEET A020 FOR ALL TYPES.

2. SEE STRUCTURAL, CIVIL, MEP DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.

3. PROVIDE WATERPROOF MEMBRANE AT TOILETS AND PANTRIES AT FLOOR AND 18" UP THE WALLS.

4. ALL MECHANICAL SYSTEMS LOCATED/CROSSING OVER EGRESS CORRIDORS ARE TO BE SEISMICALLY BRACED.

5. FOR FINISHES, SEE SCHEDULES

6. FOR PLUMBING AND EQUIPMENT SEE MEP PLANS

7. ALL WINDOW AND LOUVER INFORMATION WILL BE ON ELEVATIONS. LOUVERS ARE TO BE DRAINABLE.

8. ALL GYPSUM BOARD IN TOILET AND PANTRY ARE TO BE MOISTURE RESISTANT TYPE.

9. ALL GYPSUM BOARD IN SHOWER AREAS ARE TO BE CEMENTITIOUS BOARD.

10. HINGE FACE OF ALL DOORS ARE TO BE 3" FROM ADJACENT PERPENDICULAR WALL U.N.O.

12. FURNISH AND INSTALL NEW SEMI RECESSED FIRE EXTINGUISHER AND HOSE CABINET WITH APPROPRIATE FIRE RATING ENCLOSURE AS INDICATED. PROVIDE BLOCKING AS NECESSARY.

13. SEE DETAIL PAGES FOR ROOF DETAILS.

14. FUR OUT ALL CMU WALLS EXCEPT IN THE GARAGE AND STAIRS.

15. SEE WALL SECTIONS FOR PARAPET WALL CONSTRUCTION

16. PROVIDE PITCH POCKETS ABOVE MECHANICAL SHAFTS, COORDINATE WITH PLUMBING DRAWINGS

17. PROVIDE RESTRICTED KEY ACCESS ELEVATOR AS SHOWN ON THE PLANS. PROVIDED CUT SHEET FOR MANUFACTURER IS REFERNCE ONLY. PROVIDE APPROVED EQUAL

SHEET NOTES

1. MILLWORK: BUILT-IN KITCHEN CABINETS WITH COUNTER TOP
2. MILLWORK: VANITIES
3. TEMPERED GLASS GUARD, 42' H PROTECTION FROM FINISHED FLOOR. SEE SECTIONS, ELEVATIONS AND DETAILS FOR CURB/KNEE WALL HEIGHT BELOW GLASS
4. WINDOW OPENING PROTECTED BY WATER CURTAIN (SEE SPRINKLER DRAWING)
5. VIDEO INTERCOM SYSTEM PER MDL SEC 50.

MDL NOTES

SEC. 35 ENTRANCE DOORS AND LIGHTS
THE OWNER OF EVERY MULTIPLE DWELLING SHALL INSTALL AND MAINTAIN A LIGHT OR LIGHTS AT OR NEAR THE OUTSIDE OF THE FRONT ENTRANCE-WAY OF THE BUILDING WHICH SHALL IN THE AGGREGATE PROVIDE NOT LESS THAN FIFTY WATTS INCANDESCENT ILLUMINATION FOR A BUILDING WITH A FRONTAGE UP TO TWENTY-TWO FEET AND ONE HUNDRED WATTS INCANDESCENT ILLUMINATION FOR A BUILDING WITH A FRONTAGE IN EXCESS OF TWENTY-TWO FEET, OR EQUIVALENT ILLUMINATION AND SHALL BE KEPT BURNING FROM SUNSET EVERY DAY TO SUNRISE ON THE DAY FOLLOWING.

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2.EVERY CLASS A MULTIPLE DWELLING ERECTED OR CONVERTED AFTER JANUARY FIRST, NINETEEN HUNDRED SIXTY-EIGHT CONTAINING EIGHT OR MORE APARTMENTS SHALL ALSO BE EQUIPPED WITH AN INTERCOMMUNICATION SYSTEM. SUCH INTERCOMMUNICATION SYSTEM SHALL BE LOCATED AT AN AUTOMATIC SELF-LOCKING DOOR GIVING PUBLIC ACCESS TO THE MAIN ENTRANCE HALL OR LOBBY OF SAID MULTIPLE DWELLING AND SHALL CONSIST OF A DEVICE OR DEVICES FOR VOICE COMMUNICATION BETWEEN THE OCCUPANT OF EACH APARTMENT AND A PERSON OUTSIDE SAID DOOR TO THE MAIN ENTRANCE HALL OR LOBBY AND TO PERMIT SUCH APARTMENT OCCUPANT TO RELEASE THE LOCKING MECHANISM OF SAID DOOR FROM THE APARTMENT.

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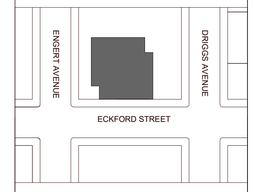
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205 US Route 46 West, Suite #1
Totowa, NJ 07512
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#	Description	Date

KEY PLAN:

REFERENCE NORTH



APPROVAL:

DWG TITLE:

FURNITURE LAYOUT PLAN LV1

SEAL & SIGNATURE:

REGISTERED ARCHITECT
MURAT MUTLU
036742
STATE OF NEW YORK

DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A141**



1 FURNITURE LAYOUT LEVEL 2
3/16" = 1'-0"

GENERAL NOTES

1. ALL PARTITION TO BE FULL HEIGHT U.O.N. SEE SHEET A020 FOR ALL TYPES.

2. SEE STRUCTURAL, CIVIL, MEP DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.

3. PROVIDE WATERPROOF MEMBRANE AT TOILETS AND PANTRIES AT FLOOR AND 18" UP THE WALLS.

4. ALL MECHANICAL SYSTEMS LOCATED/CROSSING OVER EGRESS CORRIDORS ARE TO BE SEISMICALLY BRACED.

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SHEET NOTES

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4. WINDOW OPENING PROTECTED BY WATER CURTAIN (SEE SPRINKLER DRAWING)
5. VIDEO INTERCOM SYSTEM PER MDL SEC 50.

MDL NOTES

SEC. 35 ENTRANCE DOORS AND LIGHTS
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STRUCTRAL ENGINEER

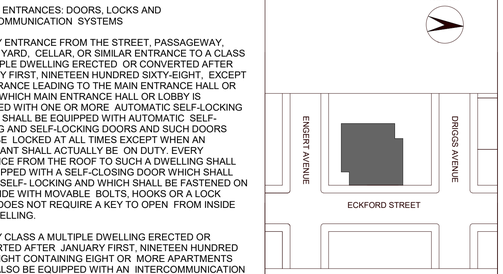
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#	Description	Date

KEY PLAN:

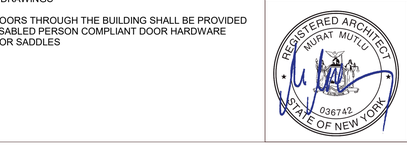


APPROVAL:

DWG TITLE:

FURNITURE LAYOUT PLAN LV2

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A142**



1 FURNITURE LAYOUT LEVEL 3
3/16" = 1'-0"

GENERAL NOTES

1. ALL PARTITION TO BE FULL HEIGHT U.O.N. SEE SHEET A020 FOR ALL TYPES.

2. SEE STRUCTURAL, CIVIL, MEP DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.

3. PROVIDE WATERPROOF MEMBRANE AT TOILETS AND PANTRIES AT FLOOR AND 18" UP THE WALLS.

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14. FUR OUT ALL CMU WALLS EXCEPT IN THE GARAGE AND STAIRS.

15. SEE WALL SECTIONS FOR PARAPET WALL CONSTRUCTION

16. PROVIDE PITCH POCKETS ABOVE MECHANICAL SHAFTS, COORDINATE WITH PLUMBING DRAWINGS

17. PROVIDE RESTRICTED KEY ACCESS ELEVATOR AS SHOWN ON THE PLANS. PROVIDED CUT SHEET FOR MANUFACTURER IS REFERNCE ONLY. PROVIDE APPROVED EQUAL

SHEET NOTES

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4. WINDOW OPENING PROTECTED BY WATER CURTAIN (SEE SPRINKLER DRAWING)
5. VIDEO INTERCOM SYSTEM PER MDL SEC 50.

MDL NOTES

SEC. 35 ENTRANCE DOORS AND LIGHTS
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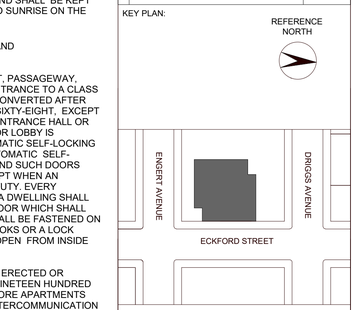
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#	Description	Date

KEY PLAN:

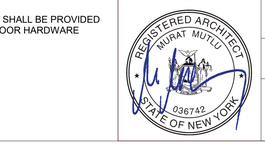


APPROVAL:

DWG TITLE:

FURNITURE LAYOUT PLAN LV3

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A143**



1 FURNITURE LAYOUT LEVEL 4
3/16" = 1'-0"

GENERAL NOTES

1. ALL PARTITION TO BE FULL HEIGHT U.O.N. SEE SHEET A020 FOR ALL TYPES.

2. SEE STRUCTURAL, CIVIL, MEP DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.

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15. SEE WALL SECTIONS FOR PARAPET WALL CONSTRUCTION

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5. VIDEO INTERCOM SYSTEM PER MDL SEC 50.

MDL NOTES

SEC. 35 ENTRANCE DOORS AND LIGHTS
THE OWNER OF EVERY MULTIPLE DWELLING SHALL INSTALL AND MAINTAIN A LIGHT OR LIGHTS AT OR NEAR THE OUTSIDE OF THE FRONT ENTRANCE-WAY OF THE BUILDING WHICH SHALL IN THE AGGREGATE PROVIDE NOT LESS THAN FIFTY WATTS INCANDESCENT ILLUMINATION FOR A BUILDING WITH A FRONTAGE UP TO TWENTY-TWO FEET AND ONE HUNDRED WATTS INCANDESCENT ILLUMINATION FOR A BUILDING WITH A FRONTAGE IN EXCESS OF TWENTY-TWO FEET, OR EQUIVALENT ILLUMINATION AND SHALL BE KEPT BURNING FROM SUNSET EVERY DAY TO SUNRISE ON THE DAY FOLLOWING.

SEC. 50. ENTRANCES: DOORS, LOCKS AND INTERCOMMUNICATION SYSTEMS

1.EVERY ENTRANCE FROM THE STREET, PASSAGEWAY, COURT, YARD, CELLAR, OR SIMILAR ENTRANCE TO A CLASS A MULTIPLE DWELLING ERECTED OR CONVERTED AFTER JANUARY FIRST, NINETEEN HUNDRED SIXTY-EIGHT, EXCEPT AN ENTRANCE LEADING TO THE MAIN ENTRANCE HALL OR LOBBY WHICH MAIN ENTRANCE HALL OR LOBBY IS EQUIPPED WITH ONE OR MORE AUTOMATIC SELF-LOCKING DOORS, SHALL BE EQUIPPED WITH AUTOMATIC SELF-CLOSING AND SELF-LOCKING DOORS AND SUCH DOORS SHALL BE LOCKED AT ALL TIMES EXCEPT WHEN AN ATTENDANT SHALL ACTUALLY BE ON DUTY. EVERY ENTRANCE FROM THE ROOF TO SUCH A DWELLING SHALL BE EQUIPPED WITH A SELF-CLOSING DOOR WHICH SHALL NOT BE SELF- LOCKING AND WHICH SHALL BE FASTENED ON THE INSIDE WITH MOVABLE BOLTS, HOOKS OR A LOCK WHICH DOES NOT REQUIRE A KEY TO OPEN FROM INSIDE THE DWELLING.

2.EVERY CLASS A MULTIPLE DWELLING ERECTED OR CONVERTED AFTER JANUARY FIRST, NINETEEN HUNDRED SIXTY-EIGHT CONTAINING EIGHT OR MORE APARTMENTS SHALL ALSO BE EQUIPPED WITH AN INTERCOMMUNICATION SYSTEM. SUCH INTERCOMMUNICATION SYSTEM SHALL BE LOCATED AT AN AUTOMATIC SELF-LOCKING DOOR GIVING PUBLIC ACCESS TO THE MAIN ENTRANCE HALL OR LOBBY OF SAID MULTIPLE DWELLING AND SHALL CONSIST OF A DEVICE OR DEVICES FOR VOICE COMMUNICATION BETWEEN THE OCCUPANT OF EACH APARTMENT AND A PERSON OUTSIDE SAID DOOR TO THE MAIN ENTRANCE HALL OR LOBBY AND TO PERMIT SUCH APARTMENT OCCUPANT TO RELEASE THE LOCKING MECHANISM OF SAID DOOR FROM THE APARTMENT.

SEC. 54. CELLAR ENTRANCE.

THERE SHALL BE A DIRECT ENTRANCE TO THE CELLAR, OR TO THE LOWEST STORY IF THERE BE NO CELLAR, FROM THE OUTSIDE OF EVERY MULTIPLE DWELLING ERECTED AFTER APRIL EIGHTEENTH, NINETEEN HUNDRED TWENTY-NINE, EXCEPT THAT IN NON-FIREPROOF MULTIPLE DWELLINGS ERECTED AFTER SUCH DATE WHICH ARE THREE STORIES OR LESS IN HEIGHT AND OCCUPIED BY NOT MORE THAN TWO FAMILIES ON ANY STORY, ANY STAIR LEADING TO SUCH CELLAR OR LOWEST STORY MAY BE LOCATED INSIDE THE DWELLING PROVIDED IT IS ENCLOSED IN FIREPROOF WALLS AND FIREPROOF DOORS AND ASSEMBLIES WITH THE DOORS SELF-CLOSING, AT BOTH THE LEVEL OF SUCH CELLAR OR LOWEST STORY AND THAT OF THE STORY ABOVE.
NO SUCH OUTSIDE ENTRANCE EXISTING IN ANY MULTIPLE DWELLING ON APRIL EIGHTEENTH, NINETEEN HUNDRED TWENTY-NINE, SHALL BE OBSTRUCTED.

DOOR NOTES

1) SEE DOOR SCHEDULES FOR HARDWARE AND DOOR TYPES AND COMPLY WITH ANY ADDITIONAL INFORMATION ON THE DRAWINGS

2) ALL DOORS THROUGH THE BUILDING SHALL BE PROVIDED WITH DISABLED PERSON COMPLIANT DOOR HARDWARE AND DOOR SADDLES

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

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#	Description	Date

KEY PLAN:

REFERENCE NORTH

APPROVAL:

DWG TITLE:

FURNITURE LAYOUT PLAN LV4

SEAL & SIGNATURE:

REGISTERED ARCHITECT · MURAT MUTLU · 036742 · STATE OF NEW YORK

DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A144**



1 FURNITURE LAYOUT LEVEL 5
3/16" = 1'-0"

GENERAL NOTES

1. ALL PARTITION TO BE FULL HEIGHT U.O.N. SEE SHEET A020 FOR ALL TYPES.

2. SEE STRUCTURAL, CIVIL, MEP DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.

3. PROVIDE WATERPROOF MEMBRANE AT TOILETS AND PANTRIES AT FLOOR AND 18" UP THE WALLS.

4. ALL MECHANICAL SYSTEMS LOCATED/CROSSING OVER EGRESS CORRIDORS ARE TO BE SEISMICALLY BRACED.

5. FOR FINISHES, SEE SCHEDULES

6. FOR PLUMBING AND EQUIPMENT SEE MEP PLANS

7. ALL WINDOW AND LOUVER INFORMATION WILL BE ON ELEVATIONS. LOUVERS ARE TO BE DRAINABLE.

8. ALL GYPSUM BOARD IN TOILET AND PANTRY ARE TO BE MOISTURE RESISTANT TYPE.

9. ALL GYPSUM BOARD IN SHOWER AREAS ARE TO BE CEMENTITIOUS BOARD.

10. HINGE FACE OF ALL DOORS ARE TO BE 3" FROM ADJACENT PERPENDICULAR WALL U.N.O.

12. FURNISH AND INSTALL NEW SEMI RECESSED FIRE EXTINGUISHER AND HOSE CABINET WITH APPROPRIATE FIRE RATING ENCLOSURE AS INDICATED. PROVIDE BLOCKING AS NECESSARY.

13. SEE DETAIL PAGES FOR ROOF DETAILS.

14. FUR OUT ALL CMU WALLS EXCEPT IN THE GARAGE AND STAIRS.

15. SEE WALL SECTIONS FOR PARAPET WALL CONSTRUCTION

16. PROVIDE PITCH POCKETS ABOVE MECHANICAL SHAFTS, COORDINATE WITH PLUMBING DRAWINGS

17. PROVIDE RESTRICTED KEY ACCESS ELEVATOR AS SHOWN ON THE PLANS. PROVIDED CUT SHEET FOR MANUFACTURER IS REFERNCE ONLY. PROVIDE APPROVED EQUAL

SHEET NOTES

1. MILLWORK: BUILT-IN KITCHEN CABINETS WITH COUNTER TOP
2. MILLWORK: VANITIES
3. TEMPERED GLASS GUARD, 42' H PROTECTION FROM FINISHED FLOOR. SEE SECTIONS, ELEVATIONS AND DETAILS FOR CURB/KNEE WALL HEIGHT BELOW GLASS
4. WINDOW OPENING PROTECTED BY WATER CURTAIN (SEE SPRINKLER DRAWING)
5. VIDEO INTERCOM SYSTEM PER MDL SEC 50.

MDL NOTES

SEC. 35 ENTRANCE DOORS AND LIGHTS
THE OWNER OF EVERY MULTIPLE DWELLING SHALL INSTALL AND MAINTAIN A LIGHT OR LIGHTS AT OR NEAR THE OUTSIDE OF THE FRONT ENTRANCE-WAY OF THE BUILDING WHICH SHALL IN THE AGGREGATE PROVIDE NOT LESS THAN FIFTY WATTS INCANDESCENT ILLUMINATION FOR A BUILDING WITH A FRONTAGE UP TO TWENTY-TWO FEET AND ONE HUNDRED WATTS INCANDESCENT ILLUMINATION FOR A BUILDING WITH A FRONTAGE IN EXCESS OF TWENTY-TWO FEET, OR EQUIVALENT ILLUMINATION AND SHALL BE KEPT BURNING FROM SUNSET EVERY DAY TO SUNRISE ON THE DAY FOLLOWING.

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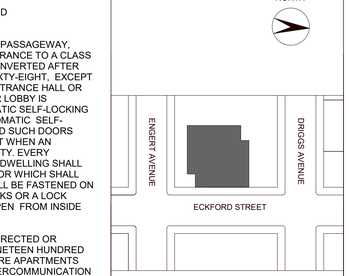
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#	Description	Date

KEY PLAN:

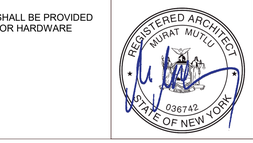


APPROVAL:

DWG TITLE:

FURNITURE LAYOUT PLAN LV5

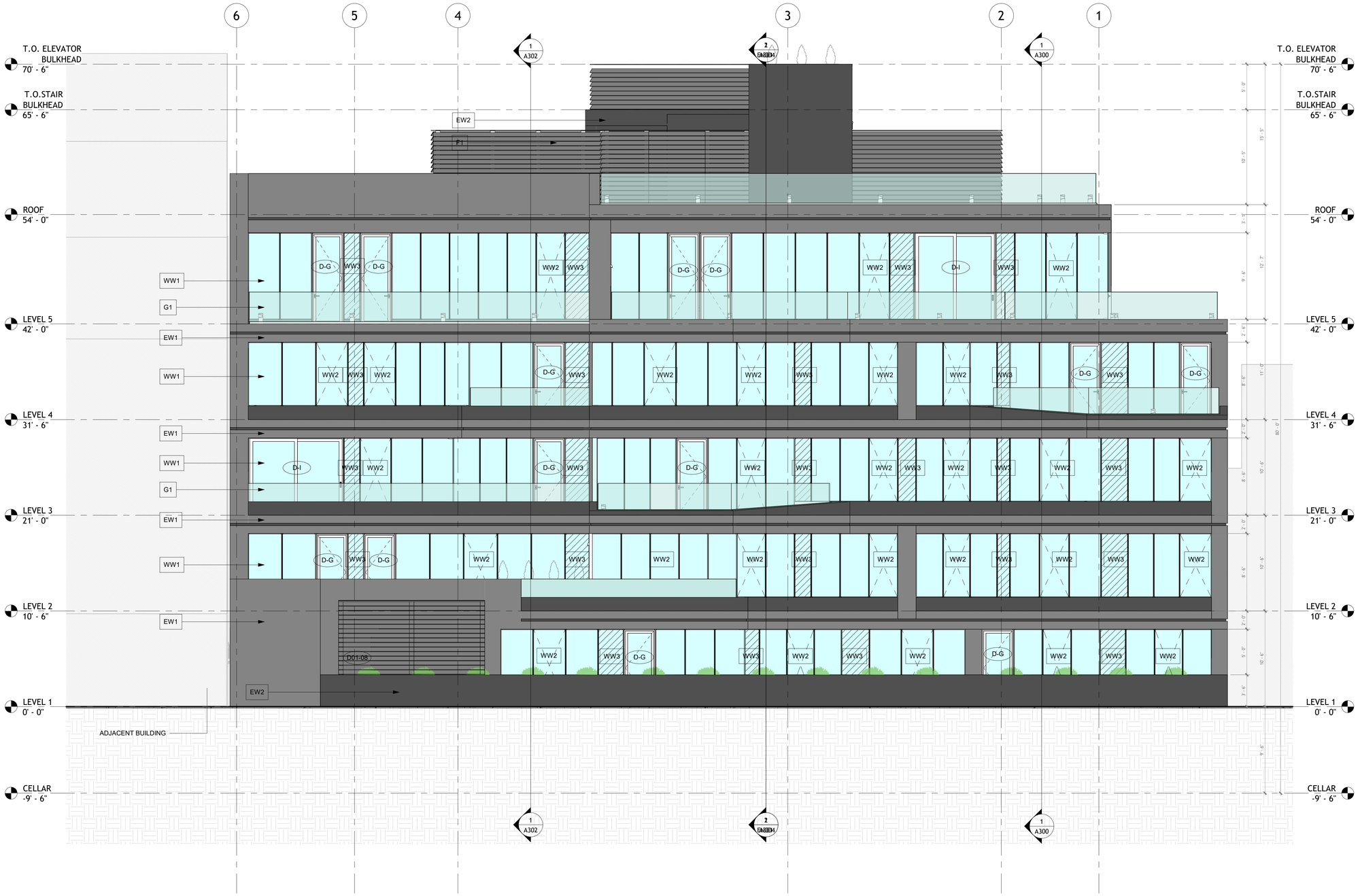
SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A145**



1 West Architectural Building Elevation
3/16" = 1'-0"

LEGEND

EW1: EIFS OVER CONCRETE WALL.
EW2: EIFS DARK OVER CONCRETE WALL.
EW3: EIFS, WITH BRICK PATTERN, GREY COLOR TONE
EW4: METAL CLADDING, HORIZONTALLY RIBBED CHARCOAL COLOR
EW5: METAL CLADDING ON STUD WALL

F1: LOUVERED FENCE, SHALL BE CONTINOUS TYPE WITH VERTICAL FRAMES BEHIND VISIBLE LOUVER LINES
MFG FOR LOUVERS: CONSTRUCTION SPECIALTIES MODEL:VAC-301

WW1: WINDOW/CURTAIN WALL TYPICAL
WW2: PARALLEL PUSH WINDOW
WW3: SHADOW BOX

G1: GLASS GUARD, CLEAR, 42" H FALL PROECTION, LAMINATED SAFETY GLASS WITH EQUALLY SIZED PANES, NO TOP CAP OR VERTICLA SUPPORTS

D1: GARAGE DOOR, STEEL, CHARCOAL PAINT
D2: EGRESS METAL DOOR

NOTES

1) CONTRACTOR SHALL PROVIDE PE (PROFESIONAL ENGINEER) APPROVED SHOP DRAWINGS FOR:
- GLASS GUARDS AND TERRACE DIVIDERS
- WINDOW/CURTAIN WALLS AND STOREFRONTS
- EXTERIOR STUD WALL FRAMING

2) PROVIDE MOCK-UPS AND SAMPLES FOR ALL BUILDING ENVELOPE MATERIALS. FINISHES AND COLOR TONES TO BE DETERMINED BY THE ARCHITECT.

3) PROVIDE SUBMITTALS AND TEST RESULTS FOR ALL BUILDING ENVELOPE MATERIALS.

4) ALL FENESTRATION SHALL BE TESTED PER NFRC STANDARDS. ALL FENESTRATION SHALL BE TESTED IN THE FIELD FOR WATER PENETRATION.

5) EIFS SUPPLIER SHALL BE STO OR APPROVED EQUAL.

6) VAPOR BARRIER SHALL BE FIRE RESIST TYPE

7) ALL EXTERIOR WALLS WITH WITH COMBUSTIBLE RIGID INSULATON SHALL BE NFPA 285 COMPLIANT. SUBMITTALS SHALL BE PROVIDED TO THE ARCHITECT.

8) ALL EXTERIOR METAL SHALL BE GALVANIZED

9) ALL METAL CLADDING SHALL BE, ALUMINUM PLATE CLADDING WITH MINIMUM 3MM THICKNESS. ACM SUBSTITION IS NOT PERMITTED.

10)COORDINATE ALL FIRE ALARM DEVICE LOCATIONS AND HEIGHTS WITH FIRE ALARM DRAWINGS.

11)ALL EIFS SHALL HAVE NONCOMBUSTIBLE STONE WOOL INSULATION.

FIRE BLOCKING REQUIREMENT FOR EIFS (OR OTHER COMBUSTIBLE CLADDING):

FIRE BLOCKING SHALL BE INSTALLED WITHIN CONCEALED SPACES OF EXTERIOR WALL COVERINGS AND OTHER EXTERIOR ARCHITECTURAL ELEMENTS WHERE PERMITTED TO BE OF COMBUSTIBLE CONSTRUCTION AS SPECIFIED IN BC SECTION 1406, AT MAXIMUM INTERVALS OF 20 FEET SO THAT THERE WILL BE NO OPEN SPACE EXCEEDING 100 SQUARE FEET.

CLADDING AROUND BALCONIES

1) EXTERIOR WALL COVERING ON WALLS ABUTTING BALCONIES, AND CLADDING ON THE SIDES AND UNDERSIDE OF BALCONIES, SHALL BE CONSTRUCTED OF NONCOMBUSTIBLE MATERIALS. EXTERIOR WALLS ABUTTING BALCONIES SHALL BE NONCOMBUSTIBLE UP TO 12' ABOVE THE WALKING SURFACE OR TO THE UNDERSIDE OF THE BALCONY ABOVE, WHICHEVER IS LESS. ON CANTILEVERED BALCONIES, THE EXTERIOR WALL ABUTTING THE BALCONY, PLUS 3' ON EACH SIDE, SHALL BE CONSTRUCTED OF NONCOMBUSTIBLE MATERIALS. ON RECESSED AND SEMI RECESSED BALCONIES, THE EXTERIOR WALLS ABUTTING THE BALCONIES SHALL BE CONSTRUCTED OF NONCOMBUSTIBLE MATERIALS.

2) MCM, HPL AND EIFS WITH FOAM PLASTIC INSULATION ARE PROHIBITED TO BE USED AROUND BALCONIES. CONTRACTOR OR THE OWNER SHALL NOT SUBSTITUTE ANY OF THE PROPOSED EXTERIOR FINISHES VIOLATING THIS REQUIREMENT.

SYMBOLS

SINGLE GLASS BALCONY DOOR

PARALLEL PUSH WINDOW

SHADOW BOX

LOUVERS OR LOUVERED SCREEN

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

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ARCHITECT

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STRUCTRAL ENGINEER

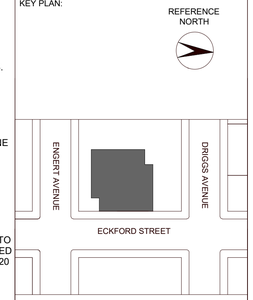
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MEP ENGINEER

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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Elevation West

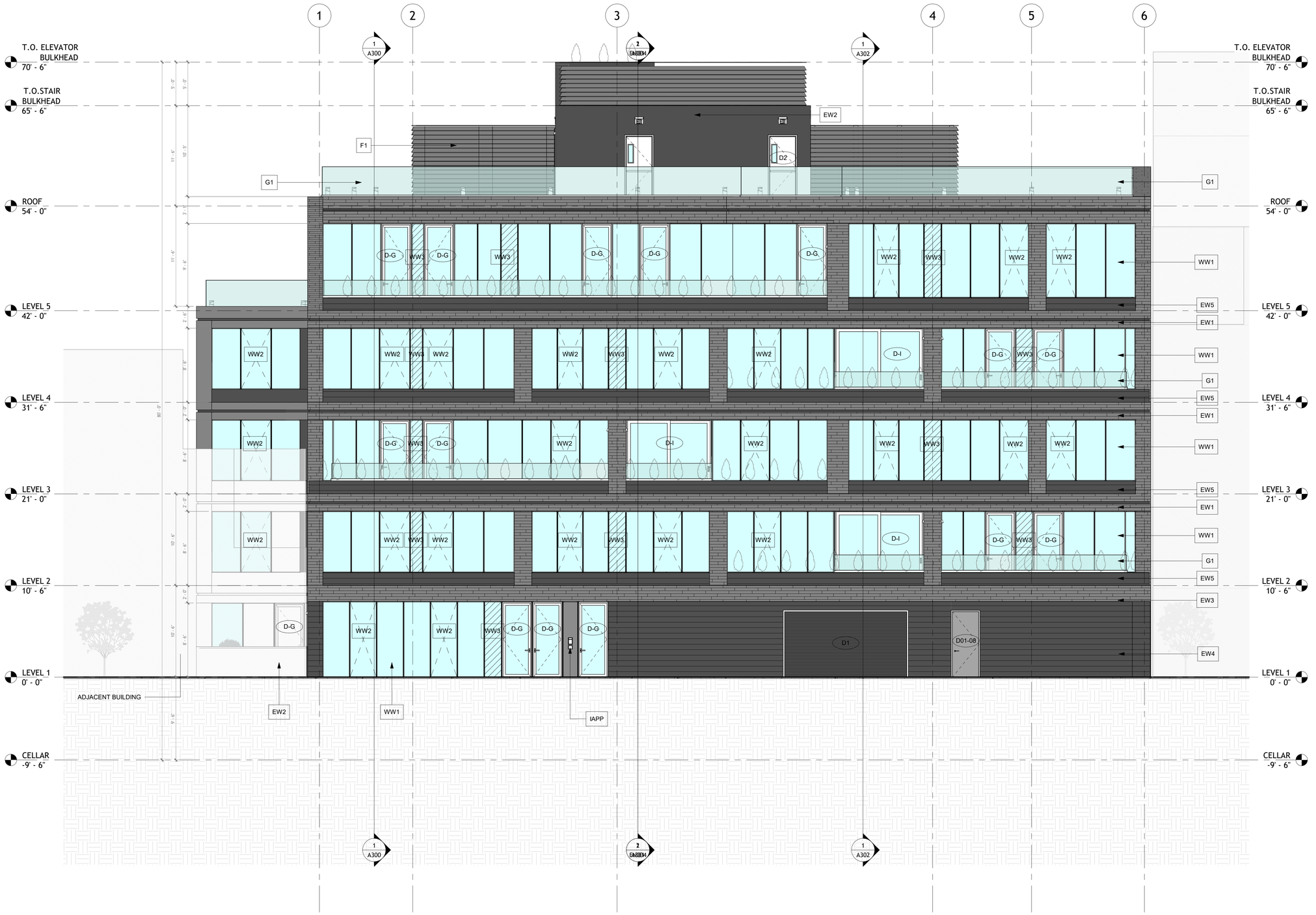
SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: As indicated

DRAWING NO: **A200**



1 East Architectural Building Elevation
3/16" = 1'-0"

LEGEND

EW1: EIFS OVER CONCRETE WALL.
EW2: EIFS DARK OVER CONCRETE WALL.
EW3: EIFS, WITH BRICK PATTERN, GREY COLOR TONE
EW4: METAL CLADDING, HORIZONTALLY RIBBED CHARCOAL COLOR
EW5: METAL CLADDING ON STUD WALL

F1: LOUVERED FENCE, SHALL BE CONTINOUS TYPE WITH VERTICAL FRAMES BEHIND VISIBLE LOUVER LINES
MFG FOR LOUVERS: CONSTRUCTION SPECIALTIES MODEL:VAC-301

WW1: WINDOW/CURTAIN WALL TYPICAL
WW2: PARALLEL PUSH WINDOW
WW3: SHADOW BOX

G1: GLASS GUARD, CLEAR, 42" H FALL PROECTION, LAMINATED SAFETY GLASS WITH EQUALLY SIZED PANES, NO TOP CAP OR VERTICLA SUPPORTS

D1: GARAGE DOOR, STEEL, CHARCOAL PAINT
D2: EGRESS METAL DOOR

NOTES

1) CONTRACTOR SHALL PROVIDE PE (PROFESIONAL ENGINEER) APPROVED SHOP DRAWINGS FOR:
- GLASS GUARDS AND TERRACE DIVIDERS
- WINDOW/CURTAIN WALLS AND STOREFRONTS
- EXTERIOR STUD WALL FRAMING

2) PROVIDE MOCK-UPS AND SAMPLES FOR ALL BUILDING ENVELOPE MATERIALS. FINISHES AND COLOR TONES TO BE DETERMINED BY THE ARCHITECT.

3) PROVIDE SUBMITTALS AND TEST RESULTS FOR ALL BUILDING ENVELOPE MATERIALS.

4) ALL FENESTRATION SHALL BE TESTED PER NFRC STANDARDS. ALL FENESTRATION SHALL BE TESTED IN THE FIELD FOR WATER PENETRATION.

5) EIFS SUPPLIER SHALL BE STO OR APPROVED EQUAL.

6) VAPOR BARRIER SHALL BE FIRE RESIST TYPE

7) ALL EXTERIOR WALLS WITH WITH COMBUSTIBLE RIGID INSULATON SHALL BE NFPA 285 COMPLIANT. SUBMITTALS SHALL BE PROVIDED TO THE ARCHITECT.

8) ALL EXTERIOR METAL SHALL BE GALVANIZED

9) ALL METAL CLADDING SHALL BE, ALUMINUM PLATE CLADDING WITH MINIMUM 3MM THICKNESS. ACM SUBSTITION IS NOT PERMITTED.

10)COORDINATE ALL FIRE ALARM DEVICE LOCATIONS AND HEIGHTS WITH FIRE ALARM DRAWINGS.

11)ALL EIFS SHALL HAVE NONCOMBUSTIBLE STONE WOOL INSULATION.

FIRE BLOCKING REQUIREMENT FOR EIFS (OR OTHER COMBUSTIBLE CLADDING):

FIRE BLOCKING SHALL BE INSTALLED WITHIN CONCEALED SPACES OF EXTERIOR WALL COVERINGS AND OTHER EXTERIOR ARCHITECTURAL ELEMENTS WHERE PERMITTED TO BE OF COMBUSTIBLE CONSTRUCTION AS SPECIFIED IN BC SECTION 1406, AT MAXIMUM INTERVALS OF 20 FEET SO THAT THERE WILL BE NO OPEN SPACE EXCEEDING 100 SQUARE FEET.

CLADDING AROUND BALCONIES

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SYMBOLS

- SINGLE GLASS BALCONY DOOR
- PARALLEL PUSH WINDOW
- SHADOW BOX
- LOUVERS OR LOUVERED SCREEN

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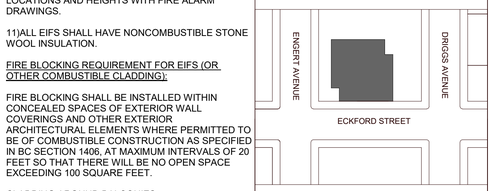
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#	Description	Date

KEY PLAN:

REFERENCE NORTH

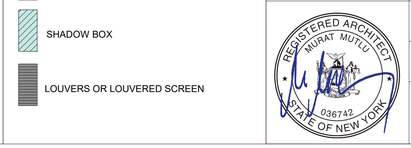


APPROVAL:

DWG TITLE:

Elevation East

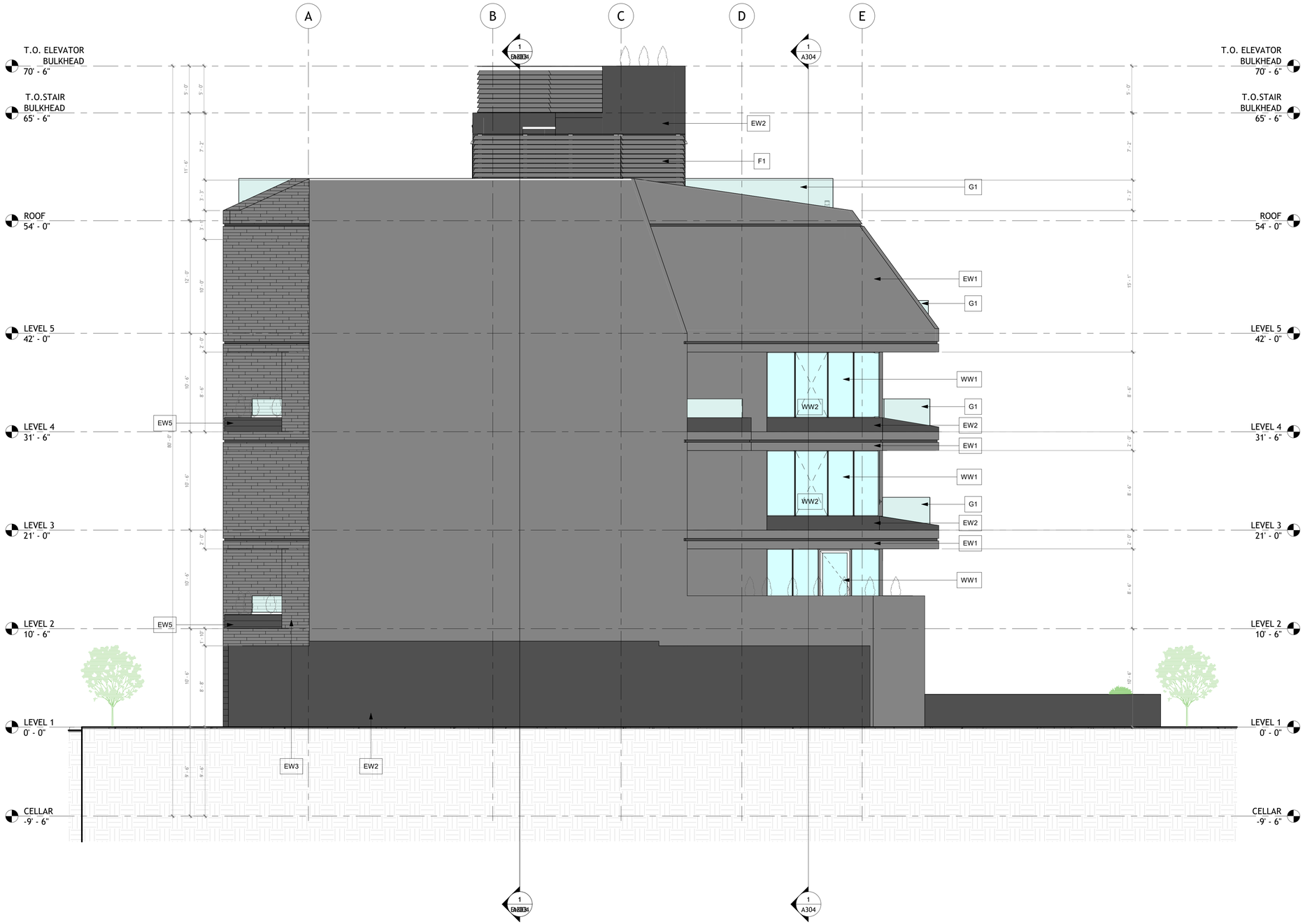
SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: As indicated

DRAWING NO: **A201**



1 North Architectural Building Elevation
3/16" = 1'-0"

LEGEND

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CLADDING AROUND BALCONIES

1) EXTERIOR WALL COVERING ON WALLS ABUTTING BALCONIES, AND CLADDING ON THE SIDES AND UNDERSIDE OF BALCONIES, SHALL BE CONSTRUCTED OF NONCOMBUSTIBLE MATERIALS. EXTERIOR WALLS ABUTTING BALCONIES SHALL BE NONCOMBUSTIBLE UP TO 12' ABOVE THE WALKING SURFACE OR TO THE UNDERSIDE OF THE BALCONY ABOVE, WHICHEVER IS LESS. ON CANTILEVERED BALCONIES, THE EXTERIOR WALL ABUTTING THE BALCONY, PLUS 3' ON EACH SIDE, SHALL BE CONSTRUCTED OF NONCOMBUSTIBLE MATERIALS. ON RECESSED AND SEMI RECESSED BALCONIES, THE EXTERIOR WALLS ABUTTING THE BALCONIES SHALL BE CONSTRUCTED OF NONCOMBUSTIBLE MATERIALS.

2) MCM, HPL AND EIFS WITH FOAM PLASTIC INSULATION ARE PROHIBITED TO BE USED AROUND BALCONIES. CONTRACTOR OR THE OWNER SHALL NOT SUBSTITUTE ANY OF THE PROPOSED EXTERIOR FINISHES VIOLATING THIS REQUIREMENT.

SYMBOLS

SINGLE GLASS BALCONY DOOR

PARALLEL PUSH WINDOW

SHADOW BOX

LOUVERS OR LOUVERED SCREEN

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

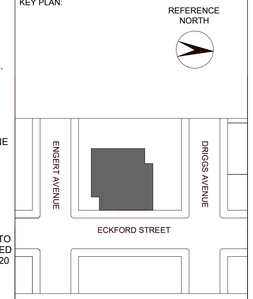
SHARON ENGINEERING P.C
34-27 Steinway Street, Suite 201
Long Island City, NY 11101
T: (718) 752-1500

MEP ENGINEER

REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Elevation North

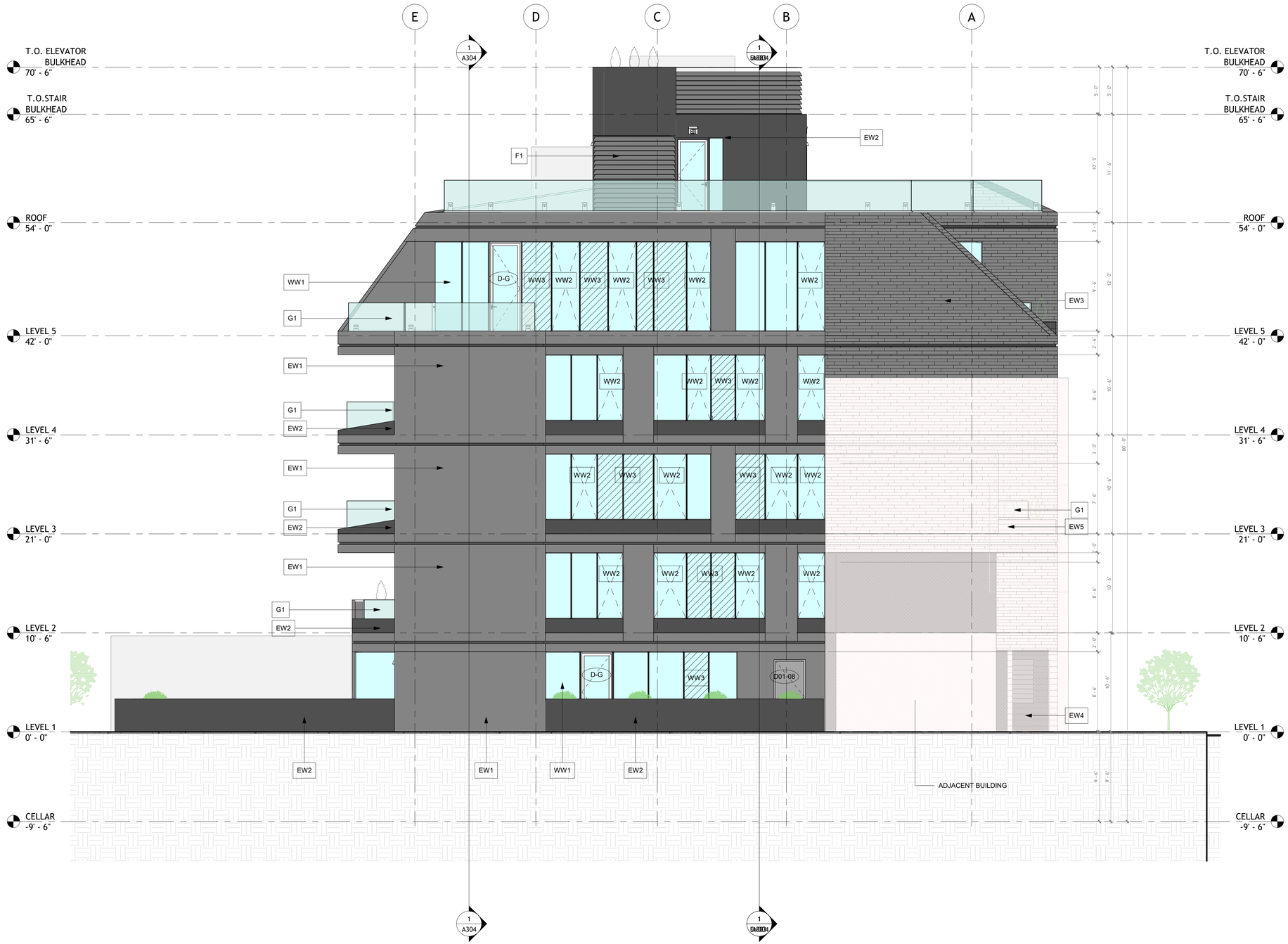
SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: As indicated

DRAWING NO: **A202**



1 South Architectural Building Elevation
3/16" = 1'-0"

LEGEND

EW1: EIFS OVER CONCRETE WALL.
EW2: EIFS DARK OVER CONCRETE WALL.
EW3: EIFS, WITH BRICK PATTERN, GREY COLOR TONE
EW4: METAL CLADDING, HORIZONTALLY RIBBED CHARCOAL COLOR
EW5: METAL CLADDING ON STUD WALL

F1: LOUVERED FENCE, SHALL BE CONTINOUS TYPE WITH VERTICAL FRAMES BEHIND VISIBLE LOUVER LINES
MFG FOR LOUVERS: CONSTRUCTION SPECIALTIES MODEL:VAC-301

WW1: WINDOW/CURTAIN WALL TYPICAL
WW2: PARALLEL PUSH WINDOW
WW3: SHADOW BOX

G1: GLASS GUARD, CLEAR, 42" H FALL PROECTION, LAMINATED SAFETY GLASS WITH EQUALLY SIZED PANES, NO TOP CAP OR VERTICLA SUPPORTS

D1: GARAGE DOOR, STEEL, CHARCOAL PAINT
D2: EGRESS METAL DOOR

NOTES

1) CONTRACTOR SHALL PROVIDE PE (PROFESIONAL ENGINEER) APPROVED SHOP DRAWINGS FOR:
- GLASS GUARDS AND TERRACE DIVIDERS
- WINDOW/CURTAIN WALLS AND STOREFRONTS
- EXTERIOR STUD WALL FRAMING

2) PROVIDE MOCK-UPS AND SAMPLES FOR ALL BUILDING ENVELOPE MATERIALS. FINISHES AND COLOR TONES TO BE DETERMINED BY THE ARCHITECT.

3) PROVIDE SUBMITTALS AND TEST RESULTS FOR ALL BUILDING ENVELOPE MATERIALS.

4) ALL FENESTRATION SHALL BE TESTED PER NFRC STANDARDS. ALL FENESTRATION SHALL BE TESTED IN THE FIELD FOR WATER PENETRATION.

5) EIFS SUPPLIER SHALL BE STO OR APPROVED EQUAL.

6) VAPOR BARRIER SHALL BE FIRE RESIST TYPE

7) ALL EXTERIOR WALLS WITH WITH COMBUSTIBLE RIGID INSULATON SHALL BE NFPA 285 COMPLIANT. SUBMITTALS SHALL BE PROVIDED TO THE ARCHITECT.

8) ALL EXTERIOR METAL SHALL BE GALVANIZED

9) ALL METAL CLADDING SHALL BE, ALUMINUM PLATE CLADDING WITH MINIMUM 3MM THICKNESS. ACM SUBSTITION IS NOT PERMITTED.

10)COORDINATE ALL FIRE ALARM DEVICE LOCATIONS AND HEIGHTS WITH FIRE ALARM DRAWINGS.

11)ALL EIFS SHALL HAVE NONCOMBUSTIBLE STONE WOOL INSULATION.

FIRE BLOCKING REQUIREMENT FOR EIFS (OR OTHER COMBUSTIBLE CLADDING):

FIRE BLOCKING SHALL BE INSTALLED WITHIN CONCEALED SPACES OF EXTERIOR WALL COVERINGS AND OTHER EXTERIOR ARCHITECTURAL ELEMENTS WHERE PERMITTED TO BE OF COMBUSTIBLE CONSTRUCTION AS SPECIFIED IN BC SECTION 1406, AT MAXIMUM INTERVALS OF 20 FEET SO THAT THERE WILL BE NO OPEN SPACE EXCEEDING 100 SQUARE FEET.

CLADDING AROUND BALCONIES

1) EXTERIOR WALL COVERING ON WALLS ABUTTING BALCONIES, AND CLADDING ON THE SIDES AND UNDERSIDE OF BALCONIES, SHALL BE CONSTRUCTED OF NONCOMBUSTIBLE MATERIALS. EXTERIOR WALLS ABUTTING BALCONIES SHALL BE NONCOMBUSTIBLE UP TO 12' ABOVE THE WALKING SURFACE OR TO THE UNDERSIDE OF THE BALCONY ABOVE, WHICHEVER IS LESS. ON CANTILEVERED BALCONIES, THE EXTERIOR WALL ABUTTING THE BALCONY, PLUS 3' ON EACH SIDE, SHALL BE CONSTRUCTED OF NONCOMBUSTIBLE MATERIALS. ON RECESSED AND SEMI RECESSED BALCONIES, THE EXTERIOR WALLS ABUTTING THE BALCONIES SHALL BE CONSTRUCTED OF NONCOMBUSTIBLE MATERIALS.

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SYMBOLS

SINGLE GLASS BALCONY DOOR

PARALLEL PUSH WINDOW

SHADOW BOX

LOUVERS OR LOUVERED SCREEN

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

SHARON ENGINEERING P.C
34-27 Steinway Street, Suite 201
Long Island City, NY 11101
T: (718) 752-1500

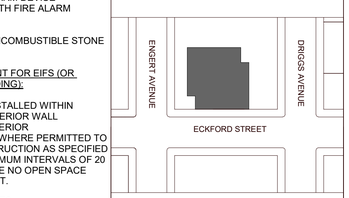
MEP ENGINEER

REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:

REFERENCE NORTH



APPROVAL:

DWG TITLE:

Elevation South

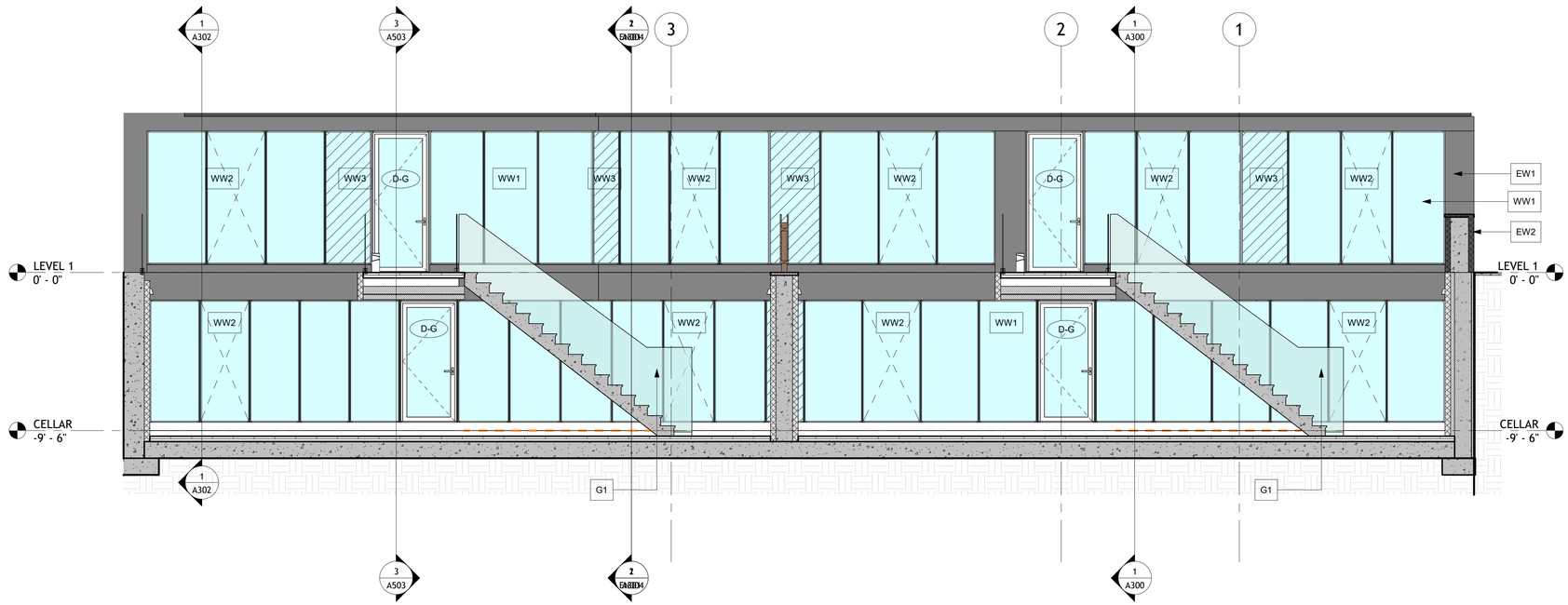
SEAL & SIGNATURE:

REGISTERED ARCHITECT MURAT MUTLU 036742 STATE OF NEW YORK

DATE: 02/21/2025

SCALE: As indicated

DRAWING NO: **A203**



2 West Elevation - Callout 01
1/4" = 1'-0"

LEGEND

EW1: EIFS OVER CONCRETE WALL.
EW2: EIFS DARK OVER CONCRETE WALL.
EW3: EIFS, WITH BRICK PATTERN, GREY COLOR TONE
EW4: METAL CLADDING, HORIZONTALLY RIBBED CHARCOAL COLOR
EW5: METAL CLADDING ON STUD WALL

F1: LOUVERED FENCE, SHALL BE CONTINOUS TYPE WITH VERTICAL FRAMES BEHIND VISIBLE LOUVER LINES
MFG FOR LOUVERS: CONSTRUCTION SPECIALTIES MODEL:VAC-301

WW1: WINDOW/CURTAIN WALL TYPICAL
WW2: PARALLEL PUSH WINDOW
WW3: SHADOW BOX

G1: GLASS GUARD, CLEAR, 42" H FALL PROECTION, LAMINATED SAFETY GLASS WITH EQUALLY SIZED PANES, NO TOP CAP OR VERTICLA SUPPORTS

D1: GARAGE DOOR, STEEL, CHARCOAL PAINT
D2: EGRESS METAL DOOR

NOTES

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3) PROVIDE SUBMITTALS AND TEST RESULTS FOR ALL BUILDING ENVELOPE MATERIALS.

4) ALL FENESTRATION SHALL BE TESTED PER NFRC STANDARDS. ALL FENESTRATION SHALL BE TESTED IN THE FIELD FOR WATER PENETRATION.

5) EIFS SUPPLIER SHALL BE STO OR APPROVED EQUAL.

6) VAPOR BARRIER SHALL BE FIRE RESIST TYPE

7) ALL EXTERIOR WALLS WITH WITH COMBUSTIBLE RIGID INSULATON SHALL BE NFPA 285 COMPLIANT. SUBMITTALS SHALL BE PROVIDED TO THE ARCHITECT.

8) ALL EXTERIOR METAL SHALL BE GALVANIZED

9) ALL METAL CLADDING SHALL BE, ALUMINUM PLATE CLADDING WITH MINIMUM 3MM THICKNESS. ACM SUBSTITION IS NOT PERMITTED.

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SYMBOLS

SINGLE GLASS BALCONY DOOR

PARALLEL PUSH WINDOW

SHADOW BOX

LOUVERS OR LOUVERED SCREEN

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

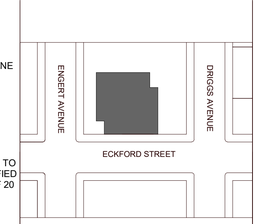
SHARON ENGINEERING P.C
34-27 Steinway Street, Suite 201
Long Island City, NY 11101
T: (718) 752-1500

MEP ENGINEER

REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Elevation

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: As indicated

DRAWING NO: **A204**



1 Section 1
3/16" = 1'-0"

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE

330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

SHARON ENGINEERING P.C

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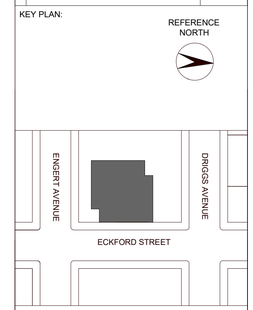
MEP ENGINEER

REAL ENGINEERING

205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Architectural Building Sections

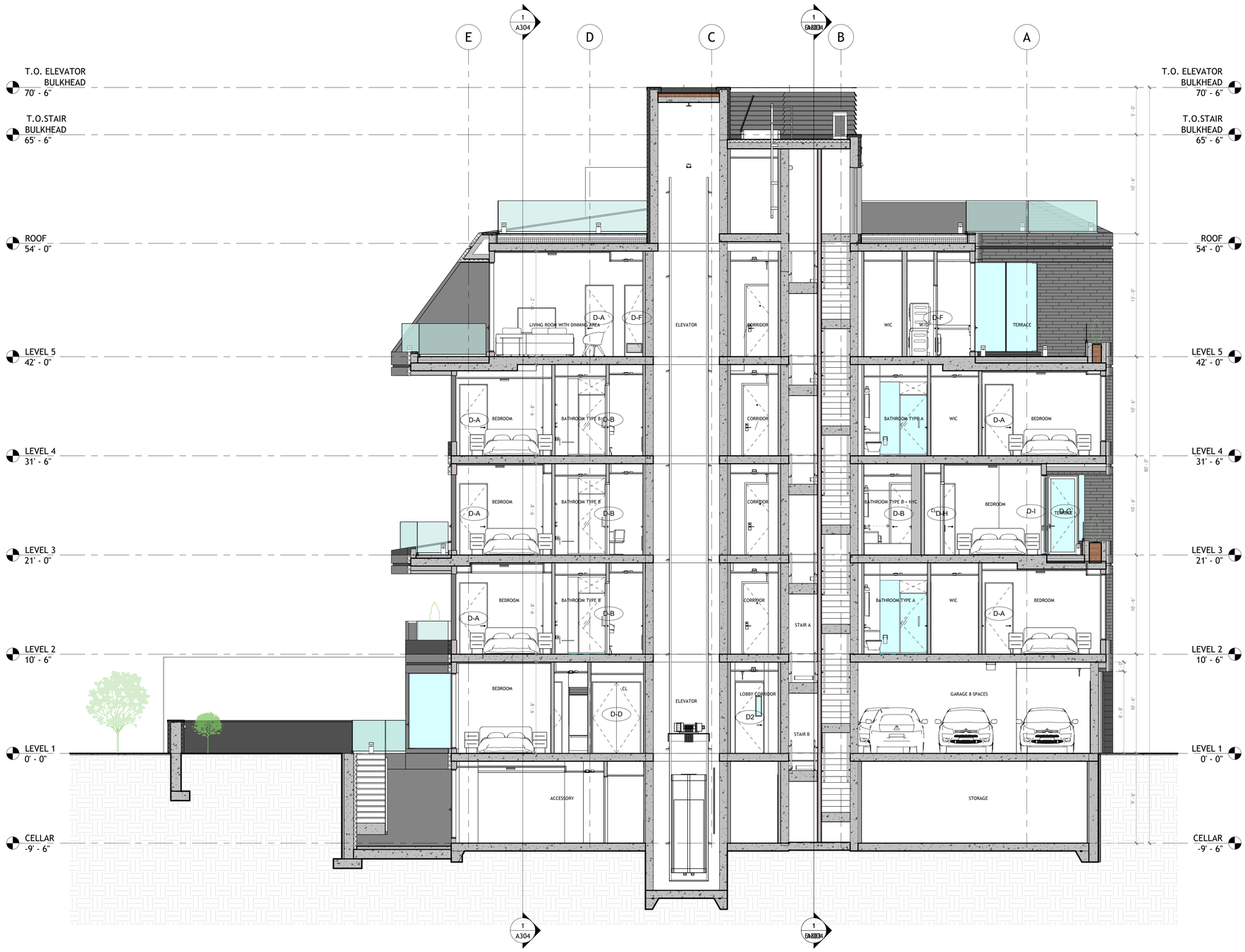
SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A300**



1 Section 2
3/16" = 1'-0"

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE

330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

SHARON ENGINEERING P.C

34-27 Steinway Street, Suite 201
Long Island City, NY 11101
T: (718) 752-1500

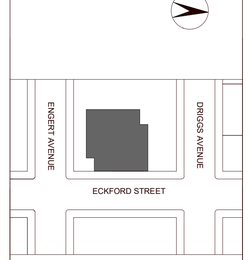
MEP ENGINEER

REAL ENGINEERING

205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Architectural Building Sections

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A301**



1 Section 3
3/16" = 1'-0"

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE

330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

SHARON ENGINEERING P.C

34-27 Steinway Street, Suite 201
Long Island City, NY 11101
T: (718) 752-1500

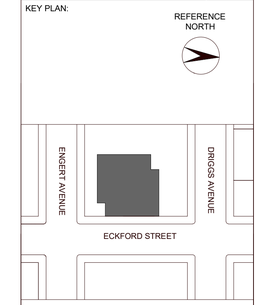
MEP ENGINEER

REAL ENGINEERING

205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Architectural Building Sections

SEAL & SIGNATURE:

REGISTERED ARCHITECT
MURAT MUTLU
036742
STATE OF NEW YORK

DATE:
02/21/2025

SCALE:
3/16" = 1'-0"

DRAWING NO:
A302



1 Section 4
3/16" = 1'-0"

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE

330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

SHARON ENGINEERING P.C

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Long Island City, NY 11101
T: (718) 752-1500

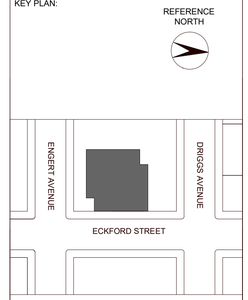
MEP ENGINEER

REAL ENGINEERING

205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Architectural Building Sections

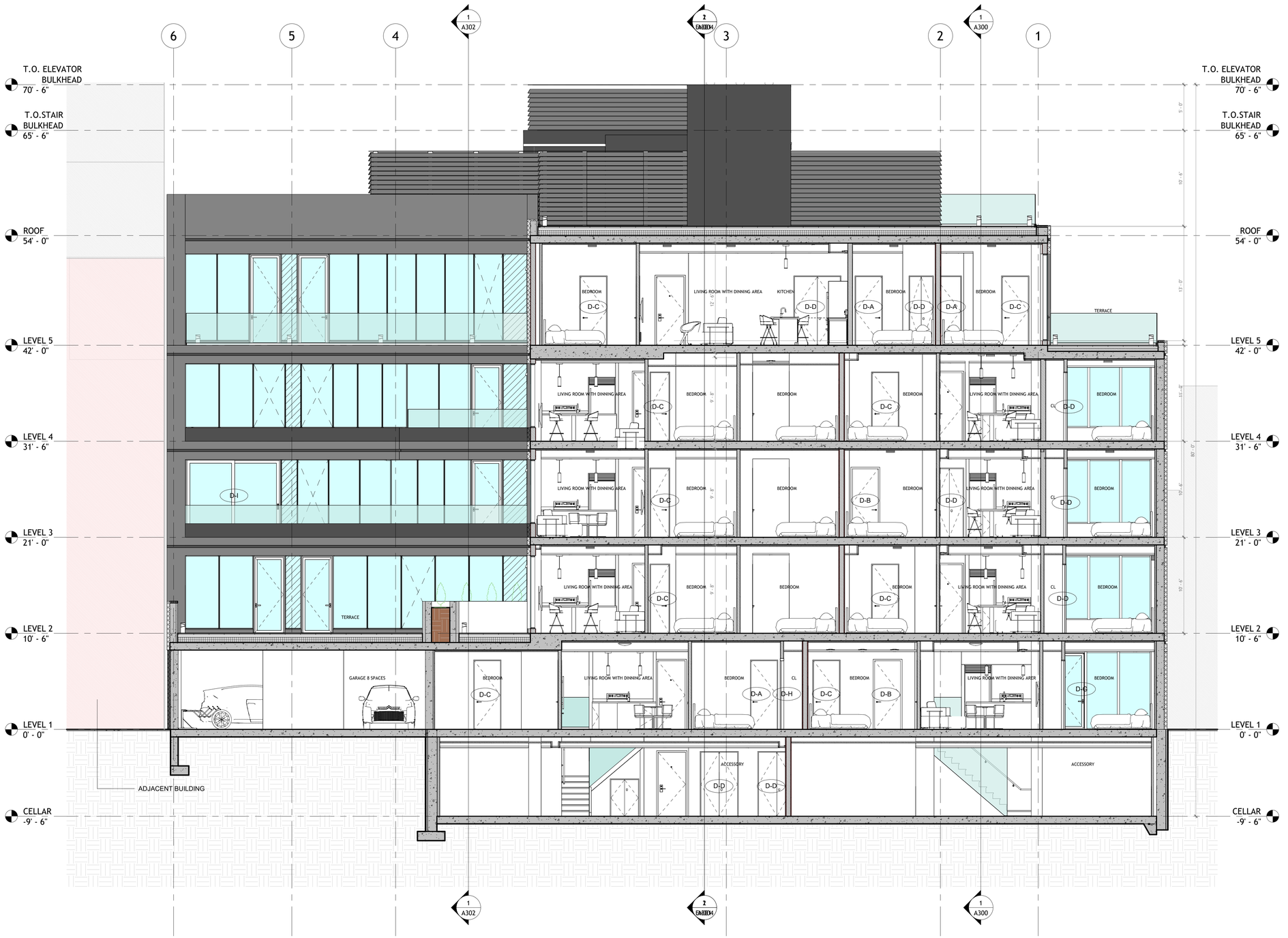
SEAL & SIGNATURE:

REGISTERED ARCHITECT
MURAT MUTLU
036742
STATE OF NEW YORK

DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A303**



1 Section 5
3/16" = 1'-0"

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE

330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

SHARON ENGINEERING P.C

34-27 Steinway Street, Suite 201
Long Island City, NY 11101
T: (718) 752-1500

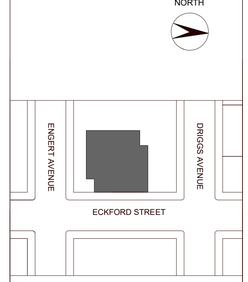
MEP ENGINEER

REAL ENGINEERING

205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Architectural Building Sections

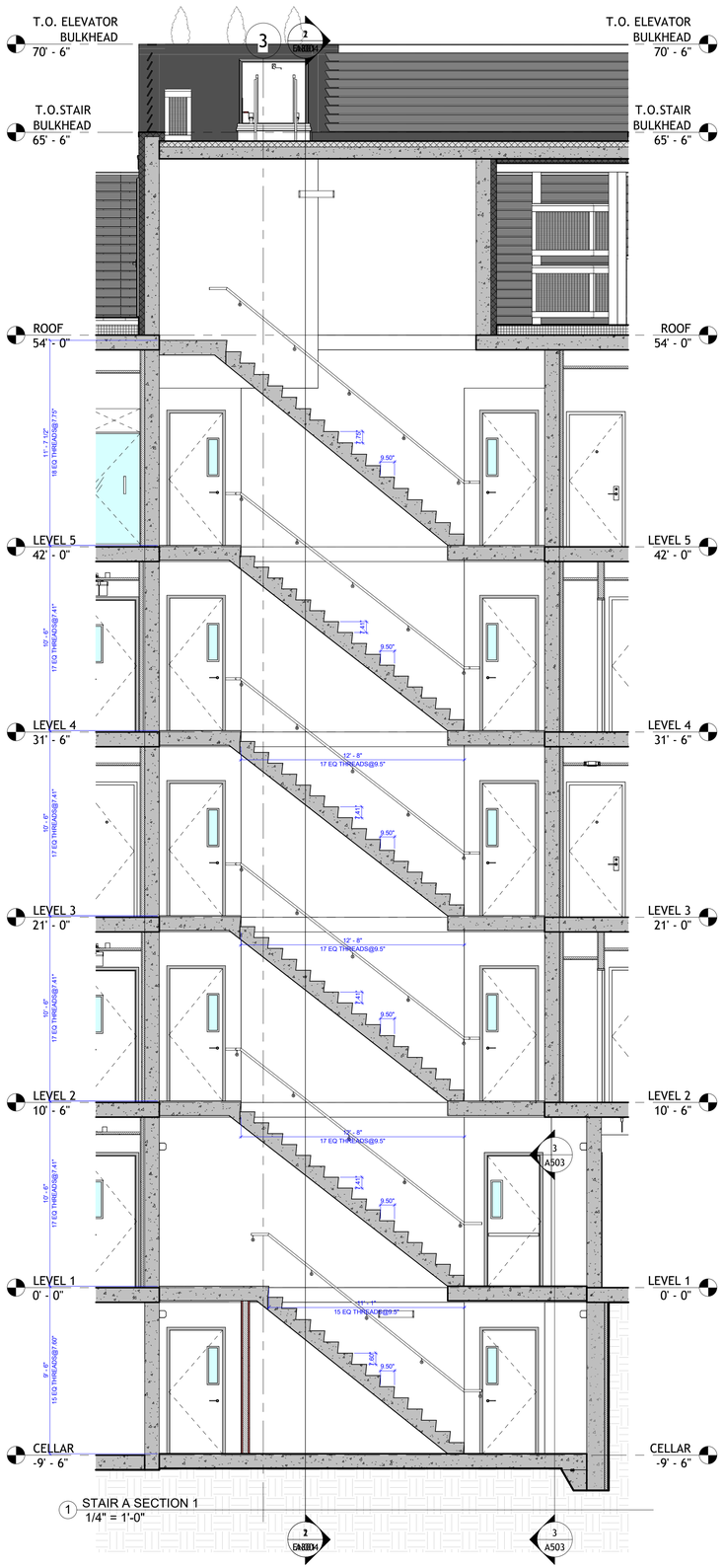
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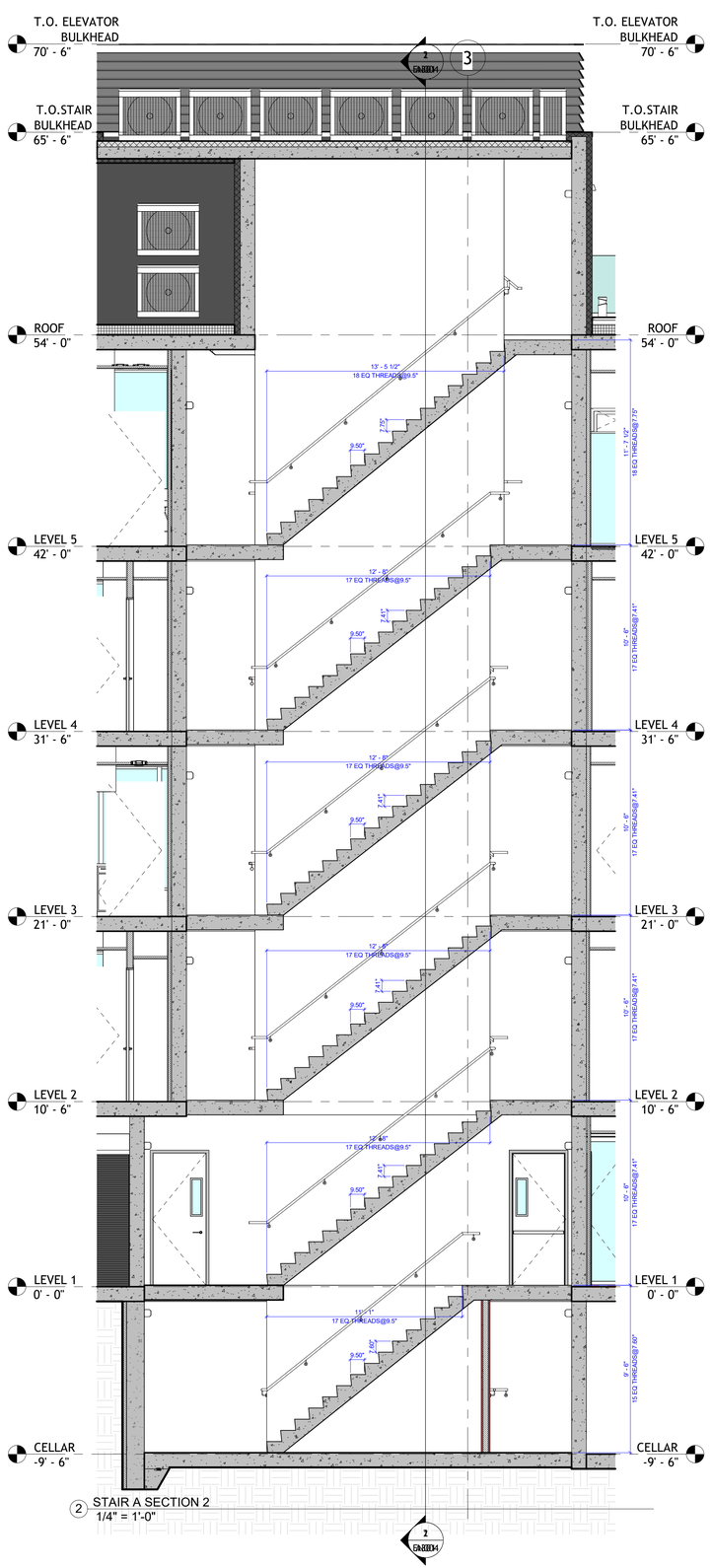
DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

DRAWING NO: **A304**



1 STAIR A SECTION 1
1/4" = 1'-0"



2 STAIR A SECTION 2
1/4" = 1'-0"

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

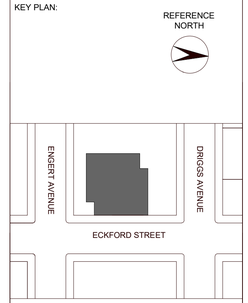
SHARON ENGINEERING P.C
34-27 Steinway Street, Suite 201
Long Island City, NY 11101
T: (718) 752-1500

MEP ENGINEER

REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

STAIR A SECTION

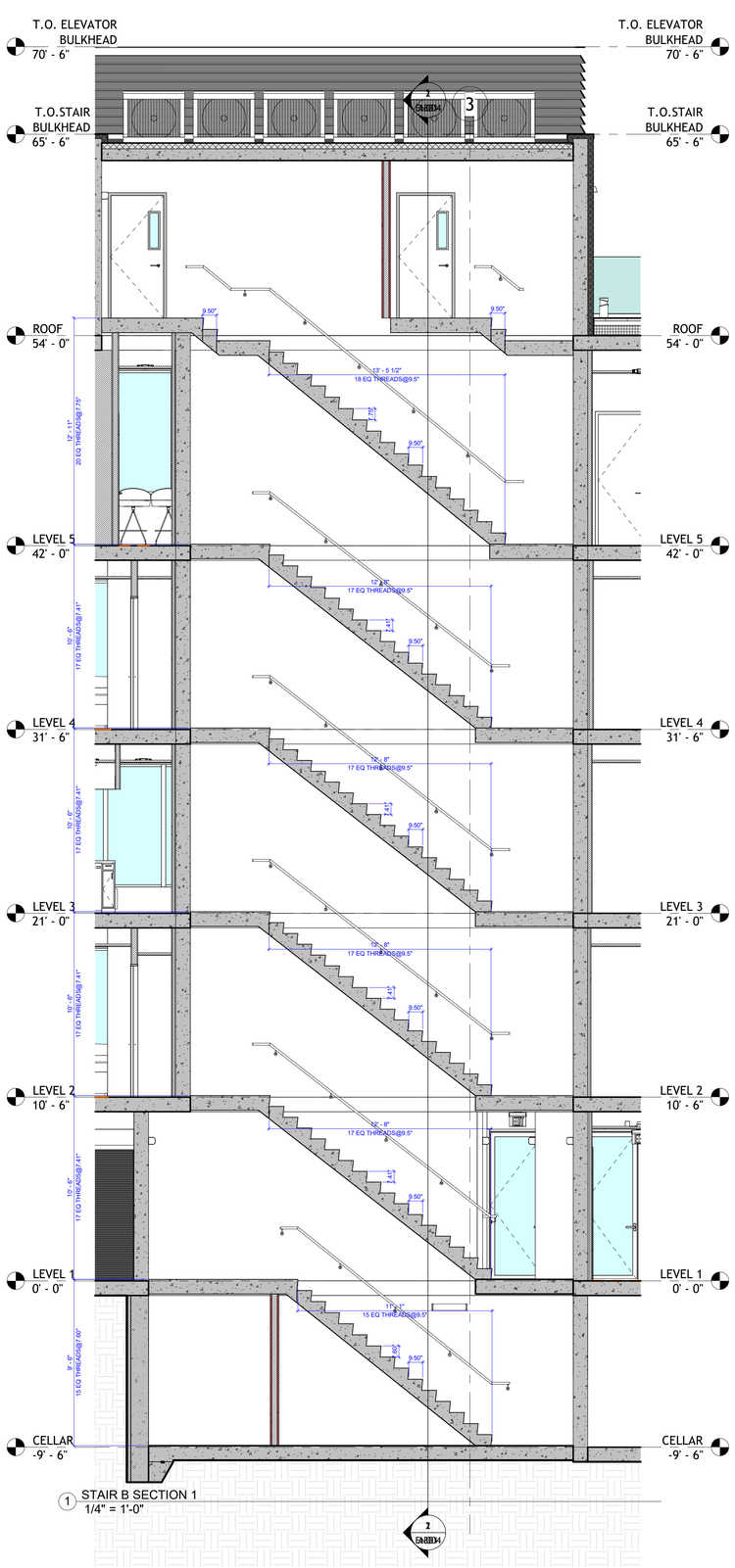
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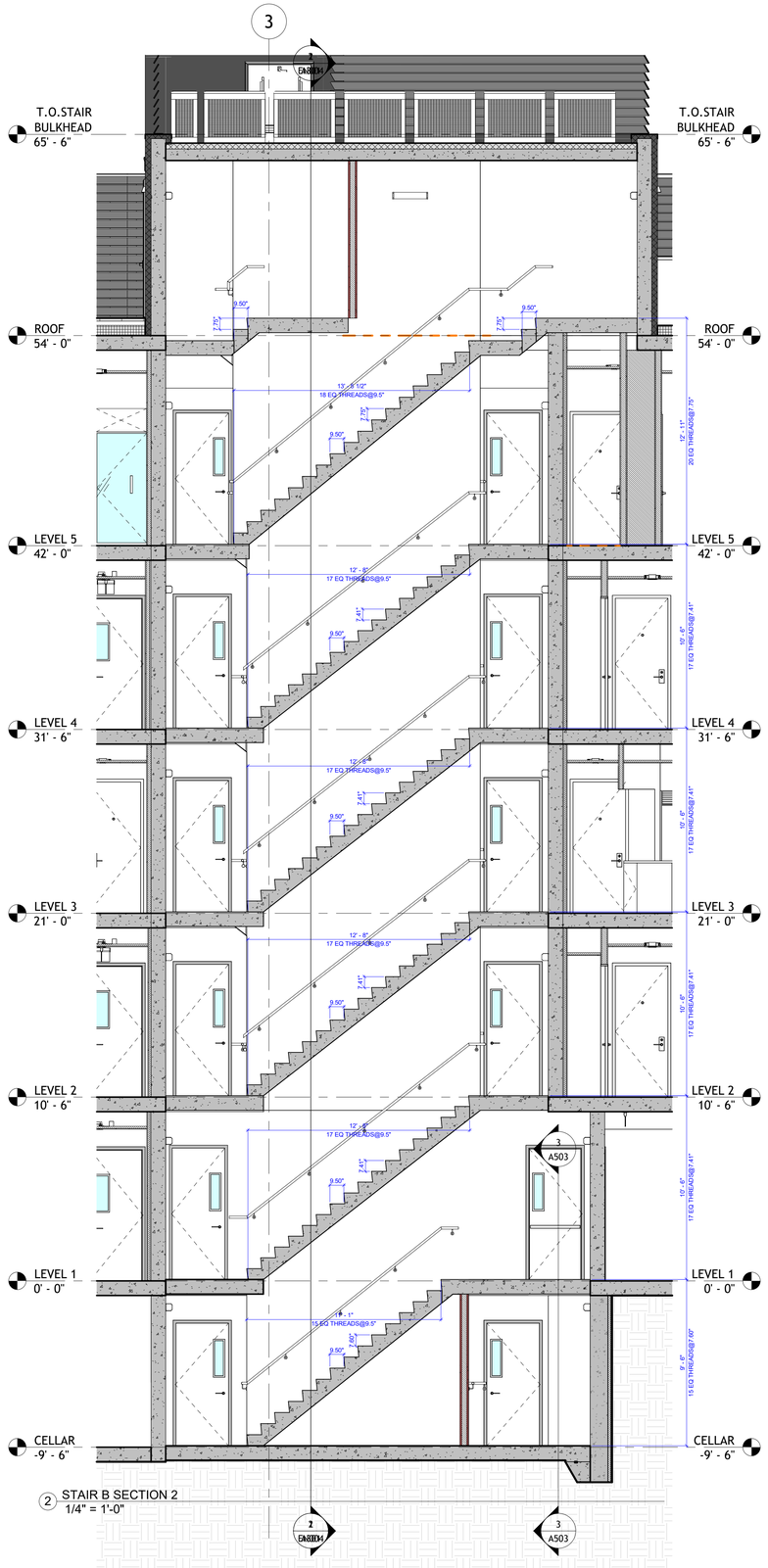
DATE: 02/21/2025

SCALE: 1/4" = 1'-0"

DRAWING NO: **A500**



1 STAIR B SECTION 1
1/4" = 1'-0"



2 STAIR B SECTION 2
1/4" = 1'-0"

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

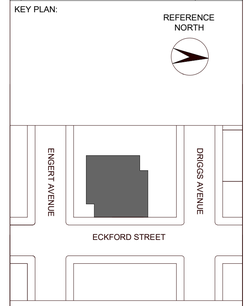
SHARON ENGINEERING P.C
34-27 Steinway Street, Suite 201
Long Island City, NY 11101
T: (718) 752-1500

MEP ENGINEER

REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

STAIR B SECTION

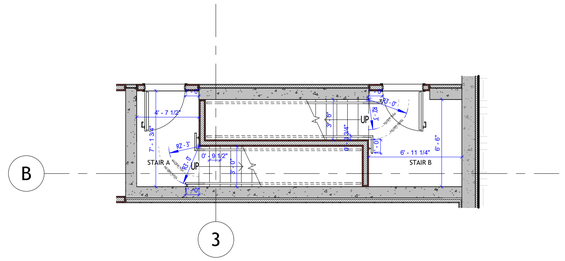
SEAL & SIGNATURE:



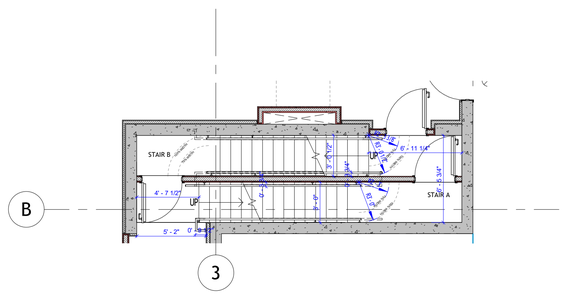
DATE: 02/21/2025

SCALE: 1/4" = 1'-0"

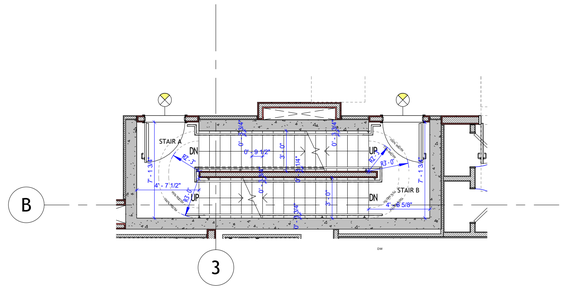
DRAWING NO: **A501**



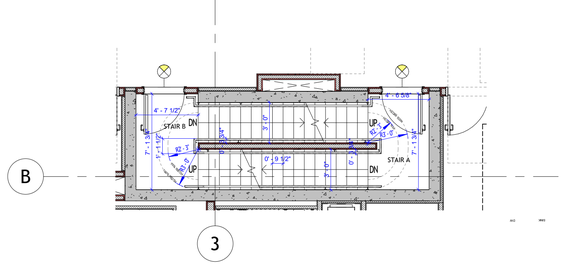
1 STAIR PLAN_CELLAR A B
3/16" = 1'-0"



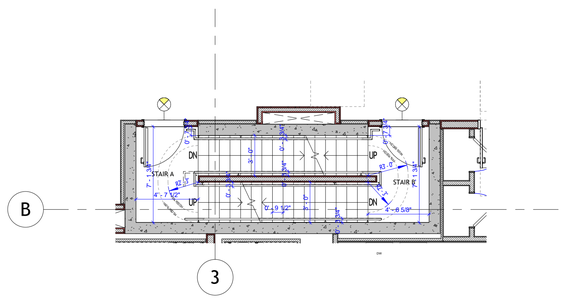
2 STAIR PLAN_LV1 A B
3/16" = 1'-0"



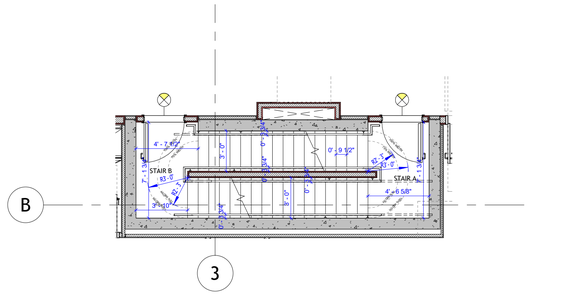
3 STAIR PLAN_LV2 A B
3/16" = 1'-0"



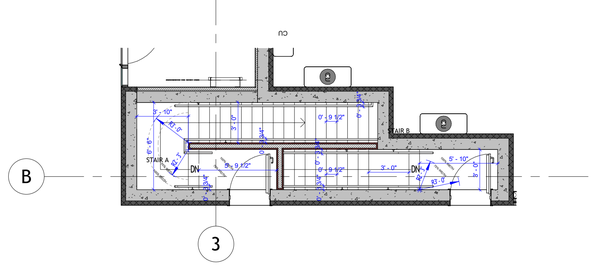
4 STAIR PLAN_LV3 A B
3/16" = 1'-0"



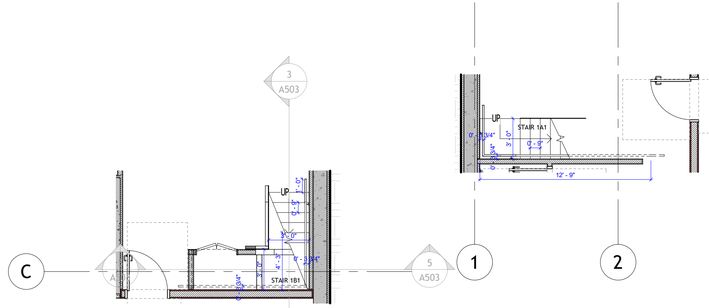
5 STAIR PLAN_LV4 A B
3/16" = 1'-0"



6 STAIR PLAN_LV5 A B
3/16" = 1'-0"

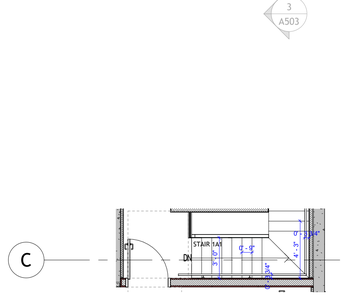


7 STAIR PLAN_ROOF A B
3/16" = 1'-0"

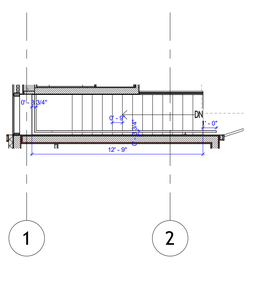


8 CELLAR INTERIOR STAIR 1A1
3/16" = 1'-0"

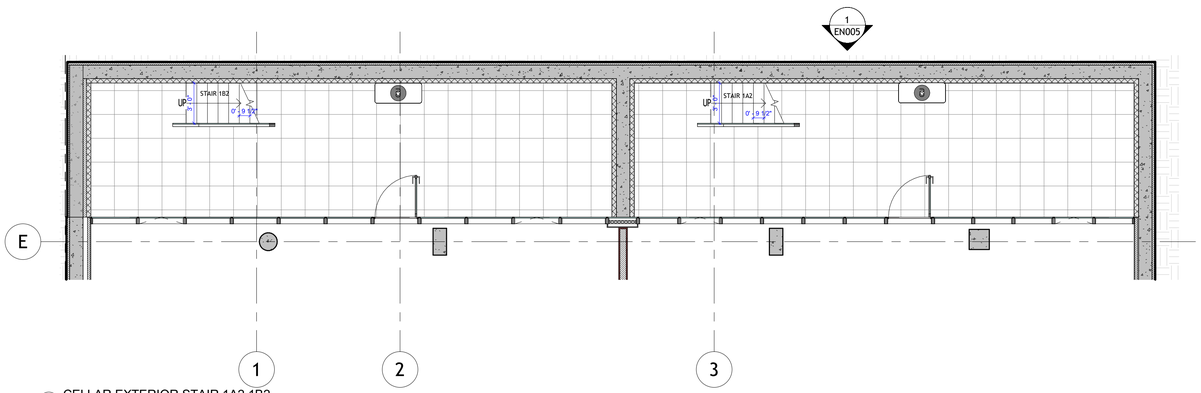
9 CELLAR INTERIOR STAIR 1B1
3/16" = 1'-0"



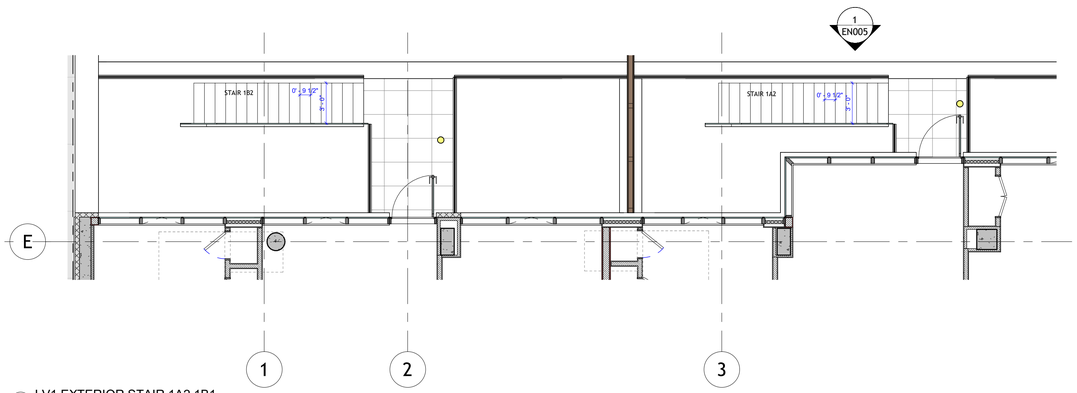
10 LV1 INTERIOR STAIR 1A1
3/16" = 1'-0"



11 LV1 INTERIOR STAIR 1B1
3/16" = 1'-0"



12 CELLAR EXTERIOR STAIR 1A2 1B2
3/16" = 1'-0"



13 LV1 EXTERIOR STAIR 1A2 1B1
3/16" = 1'-0"

PROJECT NAME:

BK55E

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MEP ENGINEER

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T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

STAIR PLANS

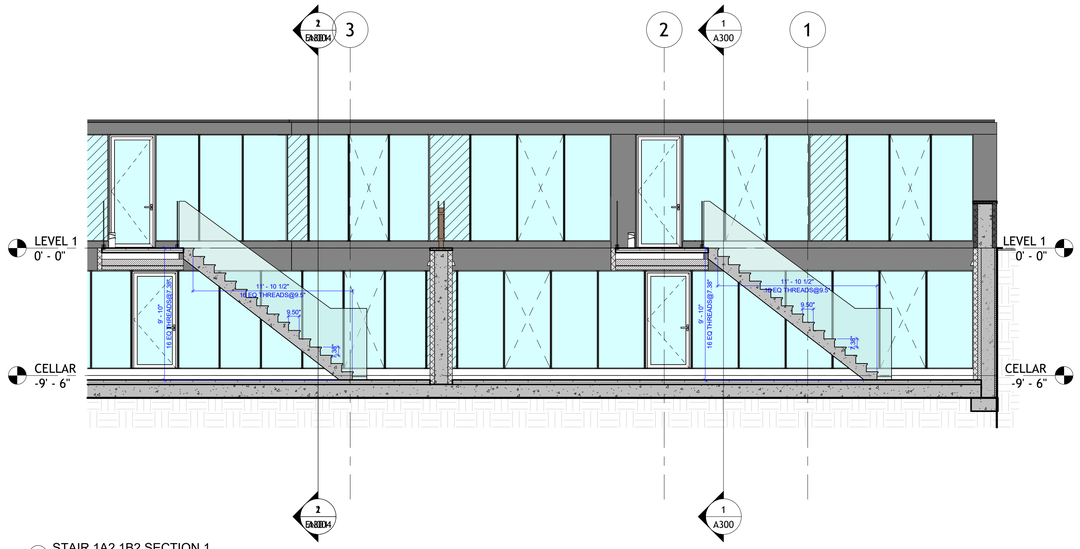
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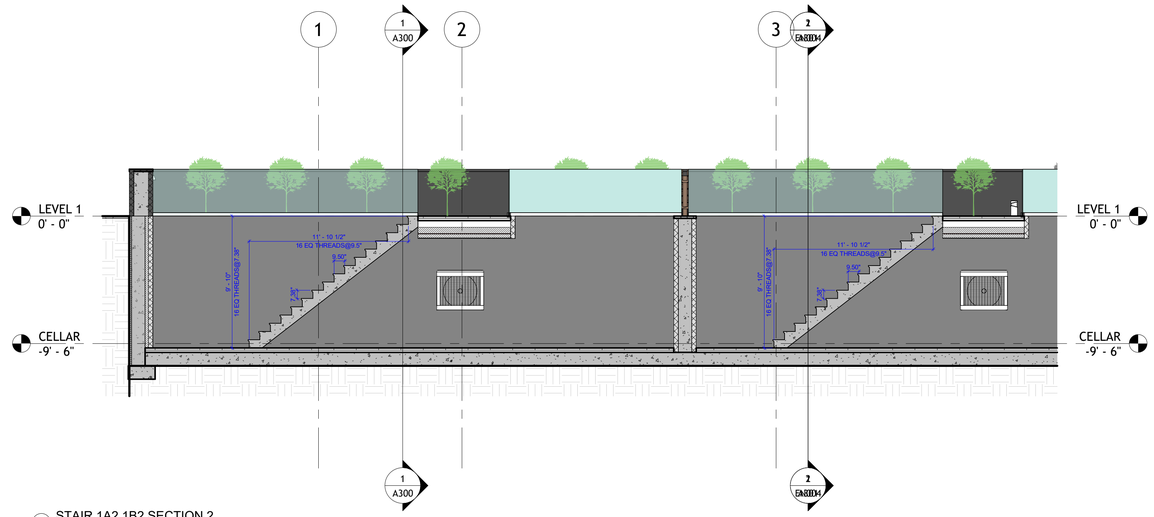
DATE: 02/21/2025

SCALE: 3/16" = 1'-0"

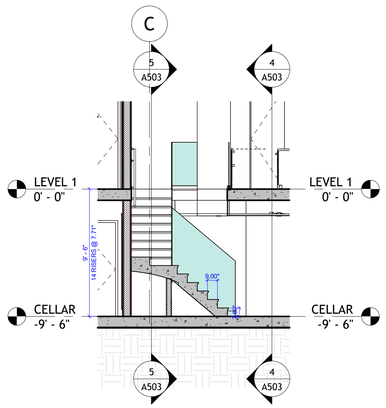
DRAWING NO: **A502**



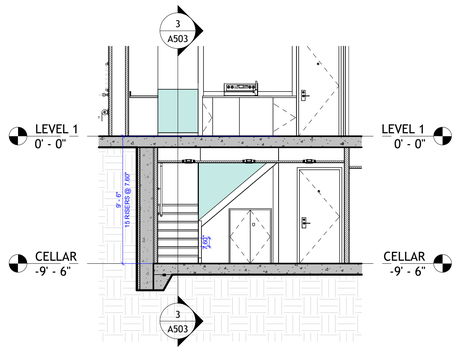
1 STAIR 1A2 1B2 SECTION 1
3/16" = 1'-0"



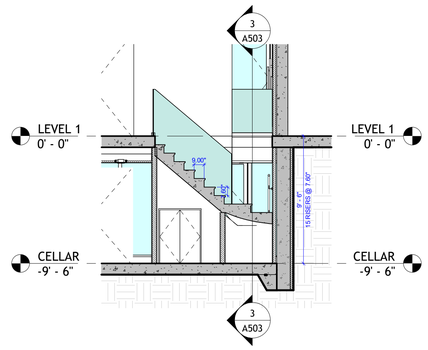
2 STAIR 1A2 1B2 SECTION 2
3/16" = 1'-0"



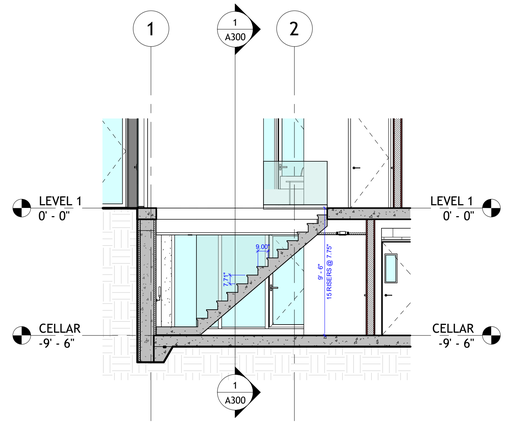
3 STAIR 1A1 SECTION 1
3/16" = 1'-0"



4 STAIR 1A1 SECTION 2
3/16" = 1'-0"



5 STAIR 1A1 SECTION 3
3/16" = 1'-0"



6 STAIR 1B1 SECTION 1
3/16" = 1'-0"

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STRUCTRAL ENGINEER

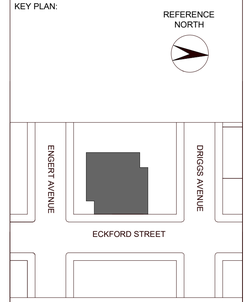
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STAIR SECTIONS

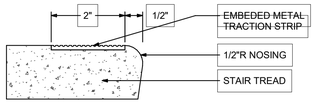
SEAL & SIGNATURE:



DATE: 02/21/2025

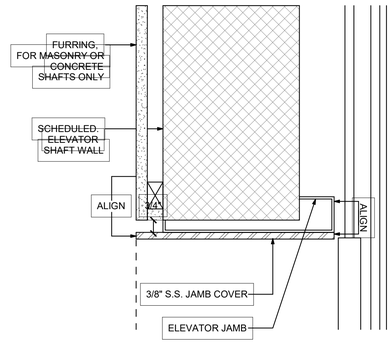
SCALE: 3/16" = 1'-0"

DRAWING NO: **A503**



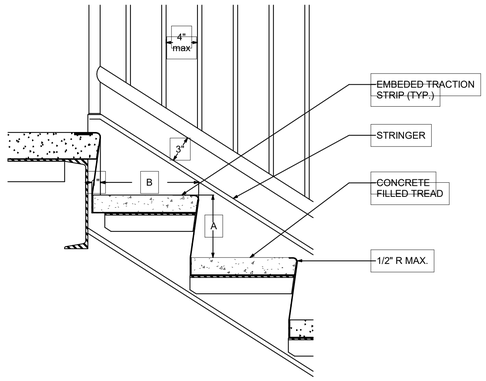
EMBEDED TRACTION STRIP TYP. 1

SCALE 6"=1'



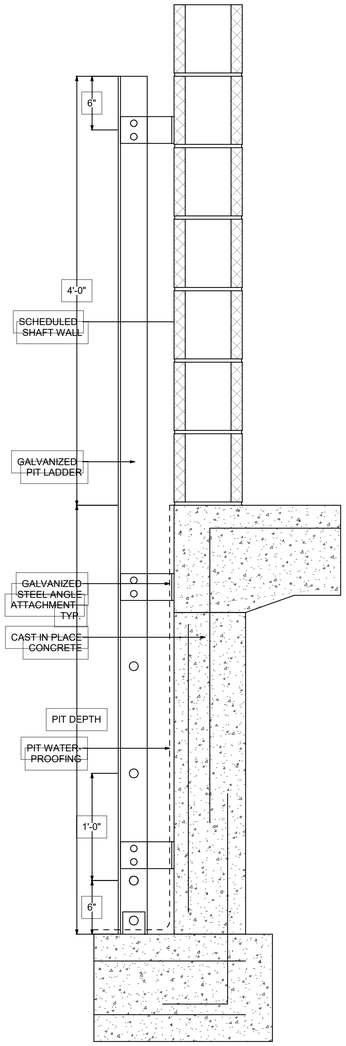
ELEVATOR JAMB DETAIL 3

SCALE 3"=1'



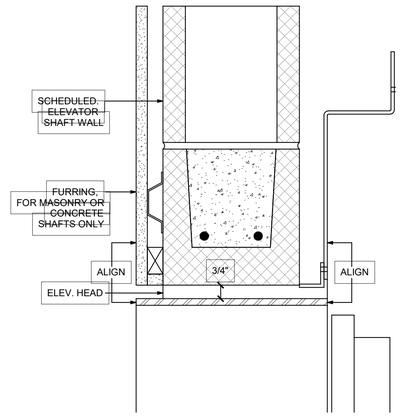
TYP. TOP OF RUN, (METAL STAIR) 6

SCALE 1 1/2"=1'



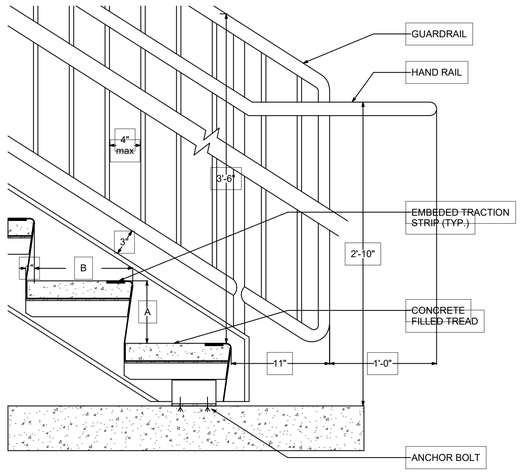
ELEVATOR SECTION PIT LADDER 2

SCALE 1 1/2"=1'



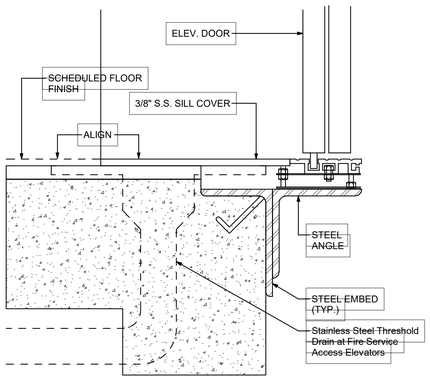
ELEVATOR HEAD DETAIL 4

SCALE 3"=1'



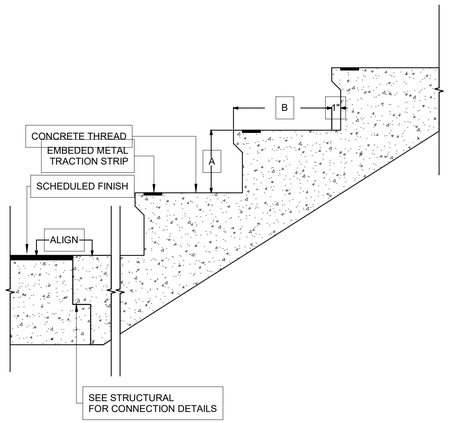
TYP. BOTTOM OF RUN (METAL STAIR) 7

SCALE 1 1/2"=1'



ELEVATOR SILL DETAIL 5

SCALE 3"=1'



TYPICAL CAST IN PLACE CONCRETE STAIR 8

SCALE 1 1/2"=1'

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VERTICAL CIRCULATION DETAILS

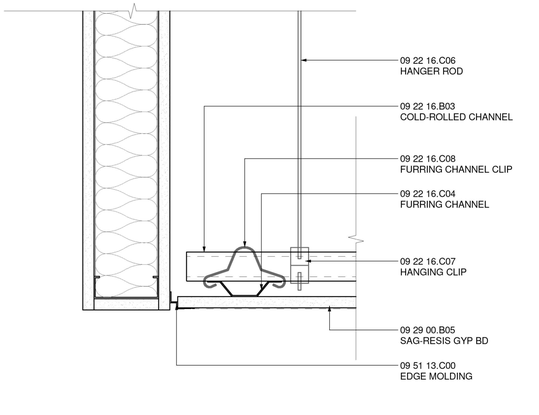
SEAL & SIGNATURE:



DATE: 02/21/2025

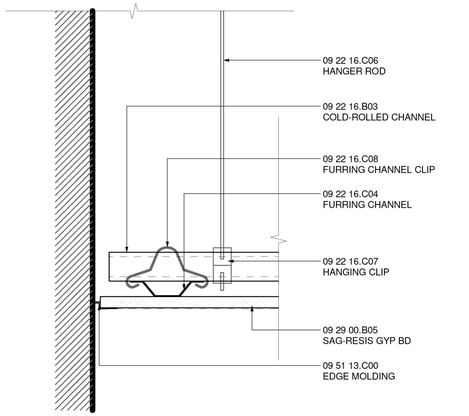
SCALE: 1 1/2" = 1'-0"

DRAWING NO: **A504**



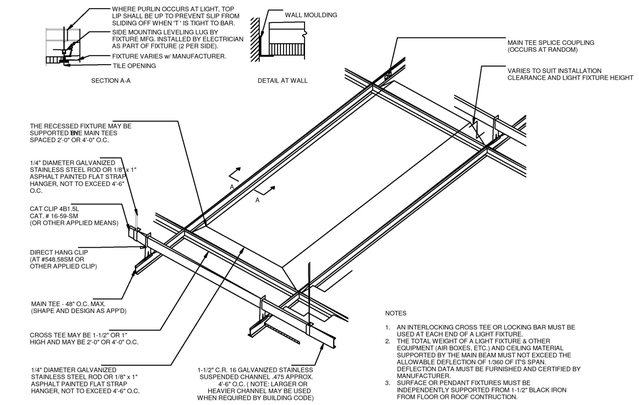
SCALE 3"=1'

GYPSUM PARTITION TO GYPSUM CEILING 9



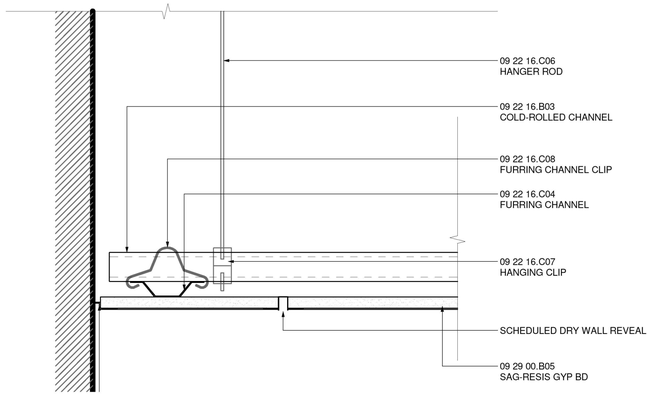
SCALE 3"=1'

GYPSUM CEILING AT PERIMETER 8



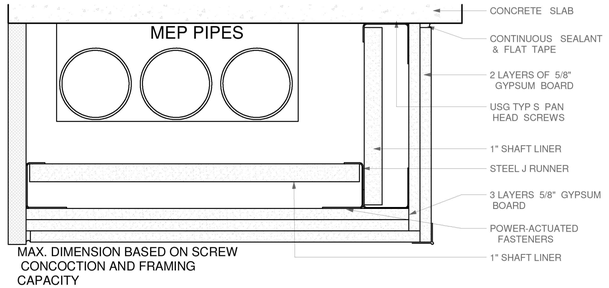
SCALE 3"=1'

TYPICAL CEILING CONSTRUCTION ISOMETRIC 7



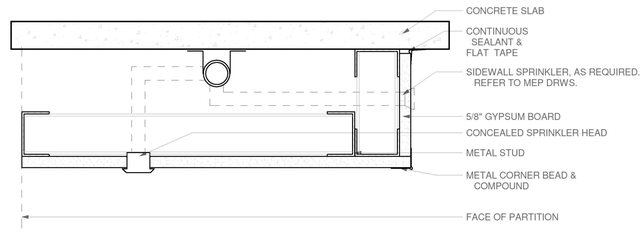
SCALE 3"=1'

GYPSUM PARTITION TO GYPSUM CEILING W. METAL REVEAL 6



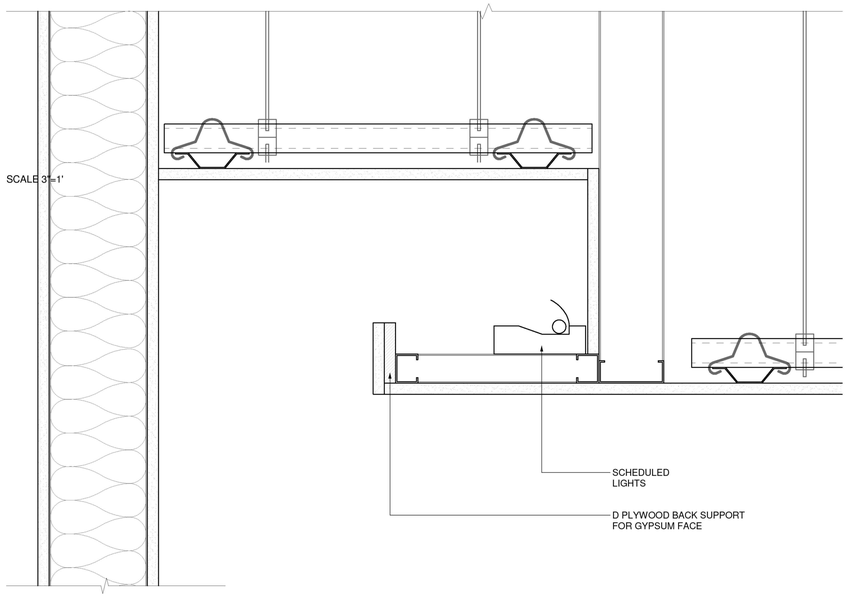
SCALE 3"=1'

2 HOUR RATED PIPES FIREPROOFING DETAIL AT HORIZONTAL OFFSETS 5



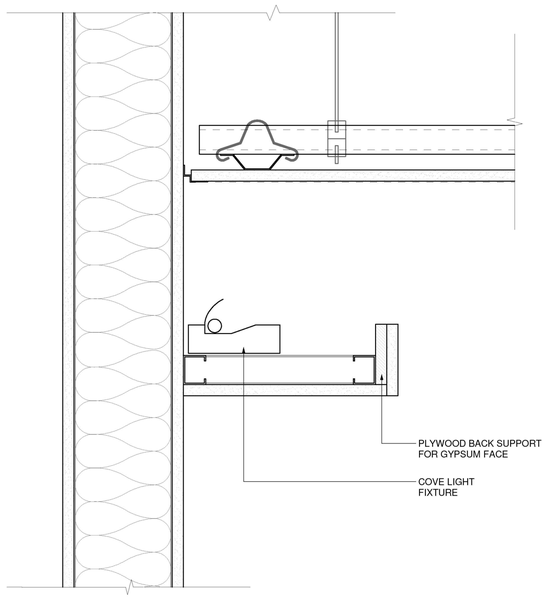
SCALE 3"=1'

NON-RATED DROP SOFFIT 4



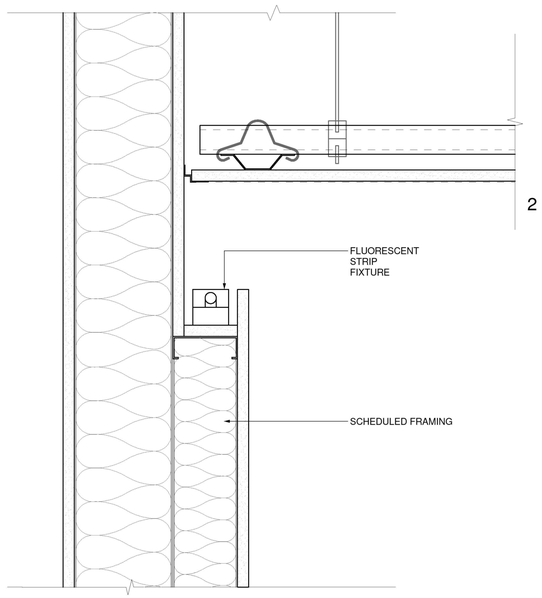
SCALE 3"=1'

TYPICAL CEILING COVE LIGHTING DETAIL A 3



SCALE 3"=1'

TYPICAL CEILING COVE LIGHTING DETAIL B 2



SCALE 3"=1'

TYPICAL CEILING COVE LIGHTING DETAIL C 1

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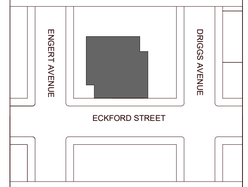
MEP ENGINEER

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Totowa, NJ 07512
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#	Description	Date

KEY PLAN:

REFERENCE NORTH



APPROVAL:

DWG TITLE:

TYPICAL INTERIOR DETAIL CEILING

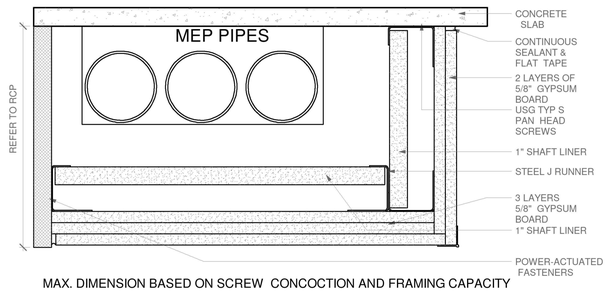
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DATE: 02/21/2025

SCALE:

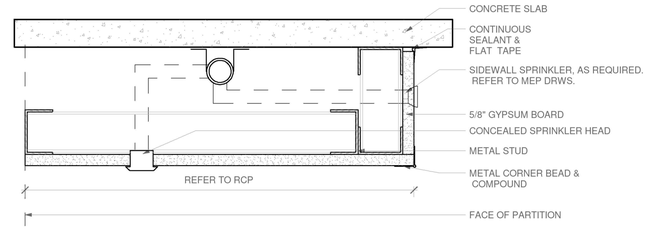
DRAWING NO: **A700**



MAX. DIMENSION BASED ON SCREW CONCOCTION AND FRAMING CAPACITY

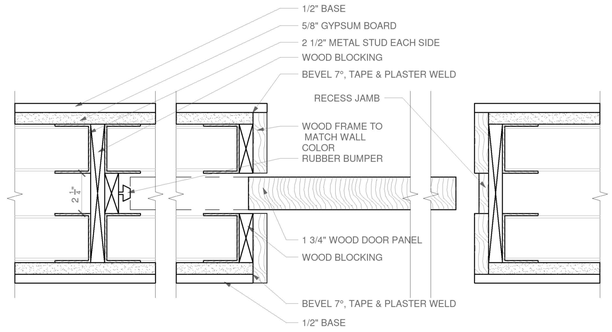
SCALE 3"=1'

2 HOUR RATED PIPES FIREPROOFING DETAIL AT HORIZONTAL OFFSETS 1

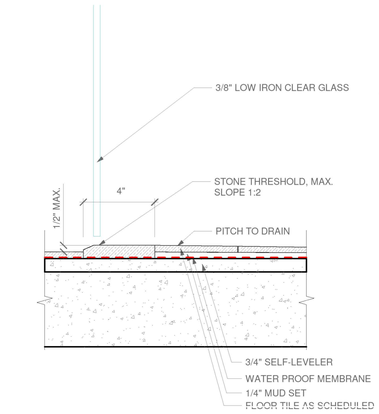


SCALE 3"=1'

NON-RATED DROP SOFFIT 2

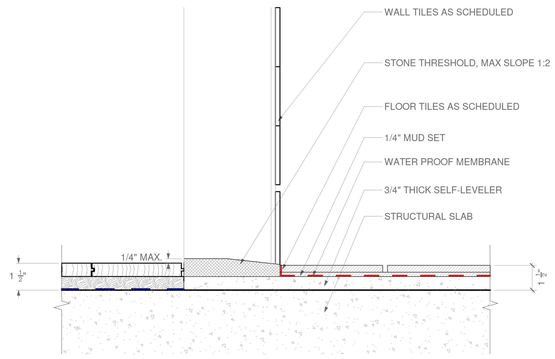


PLAN



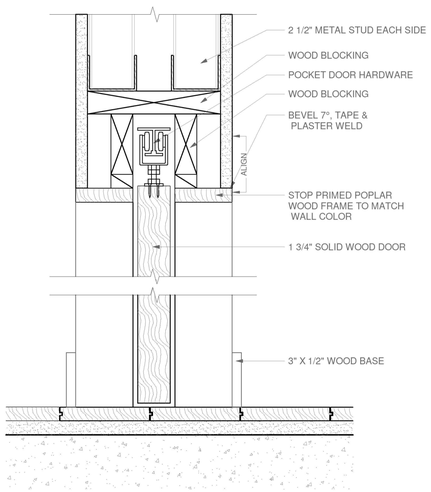
SCALE 3"=1'

TYPICAL ROLL IN AND TRANSFER SHOWER CURB DETAIL, ADAPTABLE 7

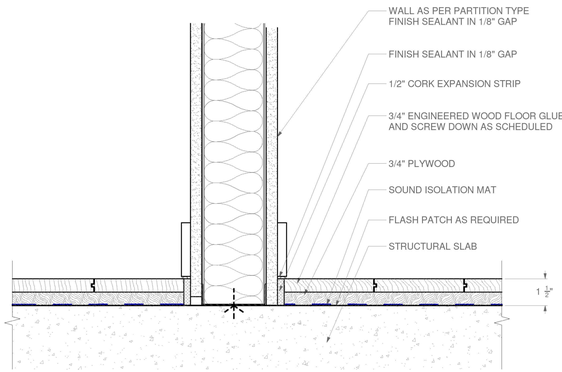


SCALE 3"=1'

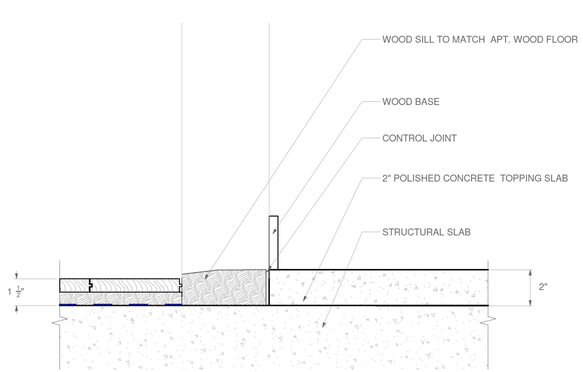
APT-BATH TRANSITION DETAIL 3



SECTION



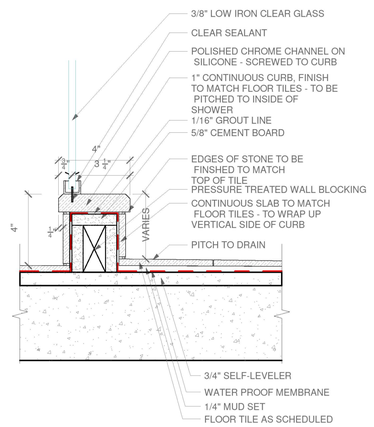
APARTMENT



CORRIDOR

SCALE 3"=1'

APT-CORRIDOR TRANSITION DETAIL 4



SCALE 3"=1'

TYPICAL SHOWER CURB DETAIL 6

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE

330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

SHARON ENGINEERING P.C

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Long Island City, NY 11101
T: (718) 752-1500

MEP ENGINEER

REAL ENGINEERING

205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

TYPICAL INTERIOR DETAIL FIRE STOPPING

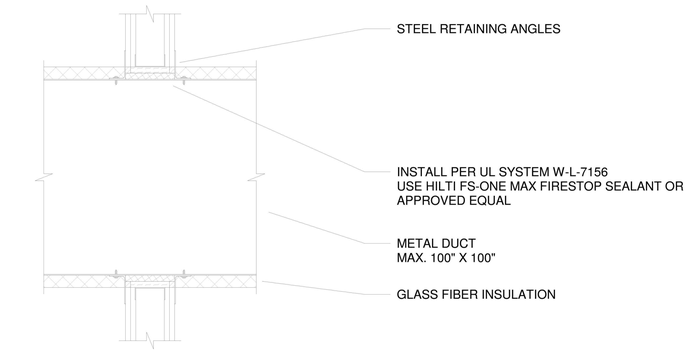
SEAL & SIGNATURE:



DATE: 02/21/2025

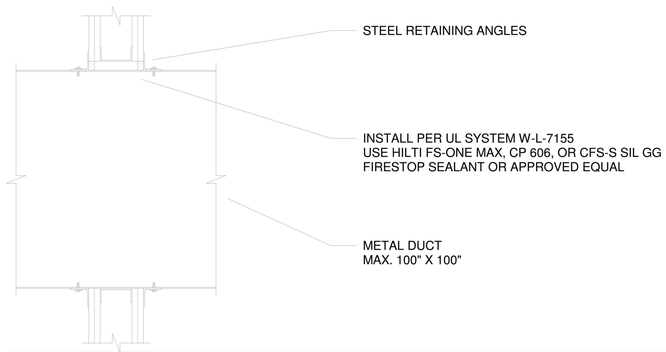
SCALE:

DRAWING NO: **A701**



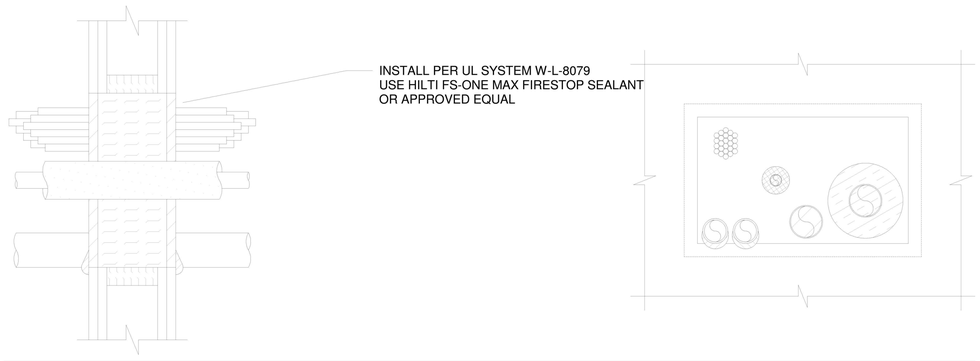
NTS

METAL DUCT WITH GLASS FIBER INSULATION THROUGH GYPSUM WALL ASSEMBLY (2-HR.) 1



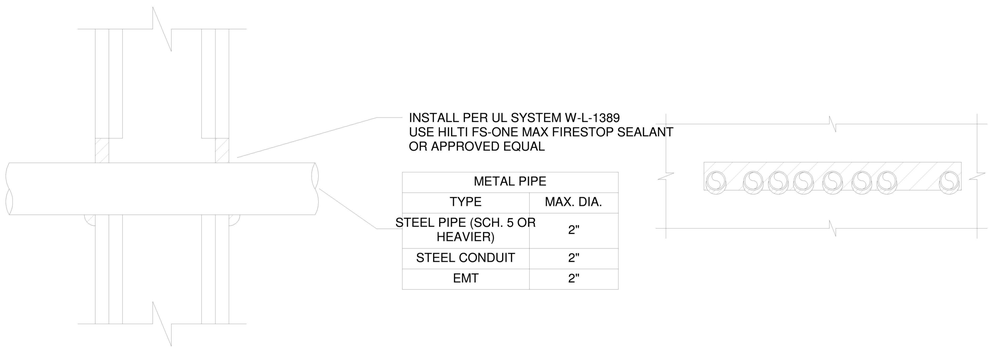
NTS

METAL DUCT THROUGH GYPSUM WALL ASSEMBLY (2-HR.) 2



NTS

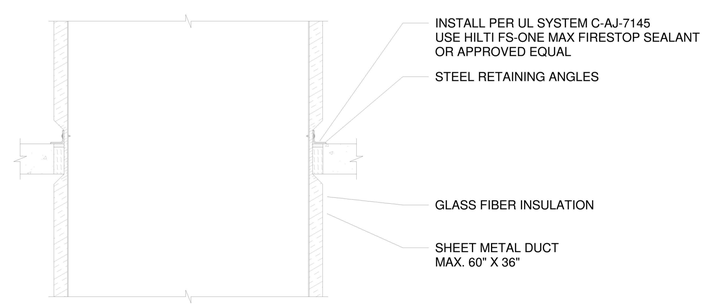
MULTIPLE PENETRATIONS THROUGH GYPSUM WALL ASSEMBLY (2-HR.) 3



METAL PIPE	
TYPE	MAX. DIA.
STEEL PIPE (SCH. 5 OR HEAVIER)	2"
STEEL CONDUIT	2"
EMT	2"

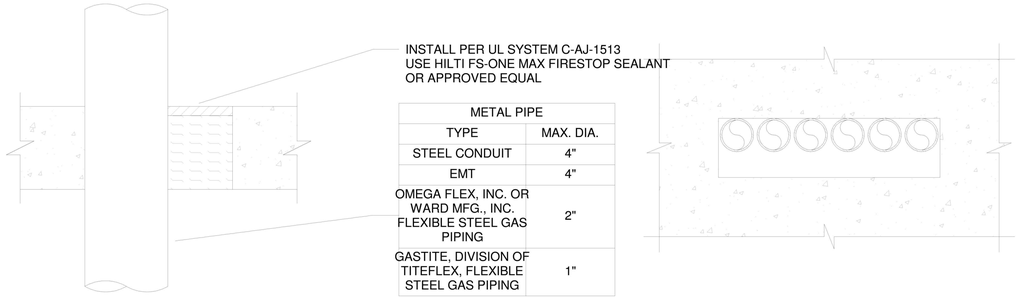
NTS

MULTIPLE METAL PIPES THROUGH GYPSUM WALL ASSEMBLY (2-HR.) 4



NTS

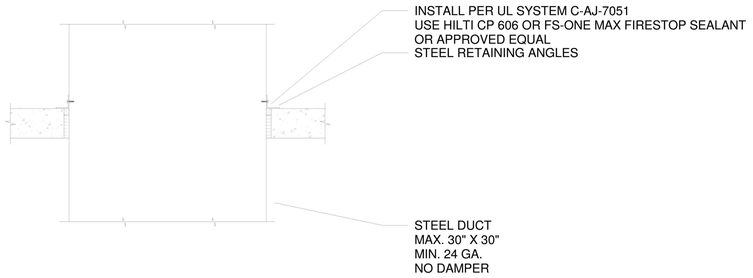
SHEET METAL DUCT WITH GLASS FIBER INSULATION THROUGH CONCRETE FLOOR (2-HR.) 5



METAL PIPE	
TYPE	MAX. DIA.
STEEL CONDUIT	4"
EMT	4"
OMEGA FLEX, INC. OR WARD MFG., INC. FLEXIBLE STEEL GAS PIPING	2"
GASTITE, DIVISION OF TITEFLEX, FLEXIBLE STEEL GAS PIPING	1"

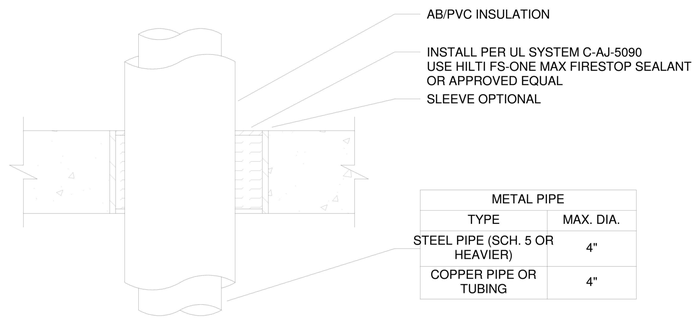
NTS

MULTIPLE METAL PIPES THROUGH CONCRETE FLOOR (2-HR.) 6



NTS

METAL DUCT (WITHOUT DAMPER) THROUGH CONCRETE FLOOR (2-HR.) 7



METAL PIPE	
TYPE	MAX. DIA.
STEEL PIPE (SCH. 5 OR HEAVIER)	4"
COPPER PIPE OR TUBING	4"

NTS

METAL PIPE WITH AB/PVC INSULATION THROUGH CONCRETE FLOOR (2-HR.) 8

PROJECT NAME:

BK55E

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ARCHITECT

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SHARON ENGINEERING P.C

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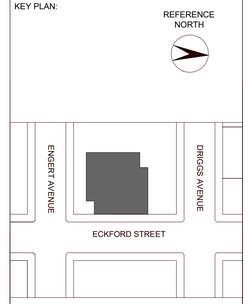
MEP ENGINEER

REAL ENGINEERING

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Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

TYPICAL INTERIOR DETAIL FIRE STOPPING

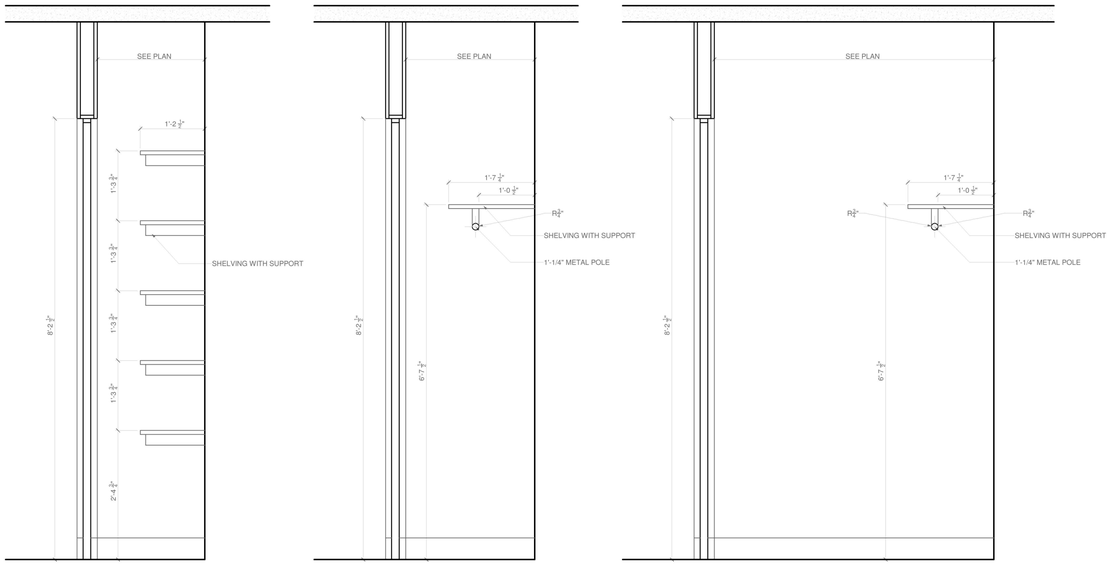
SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE:

DRAWING NO: **A702**



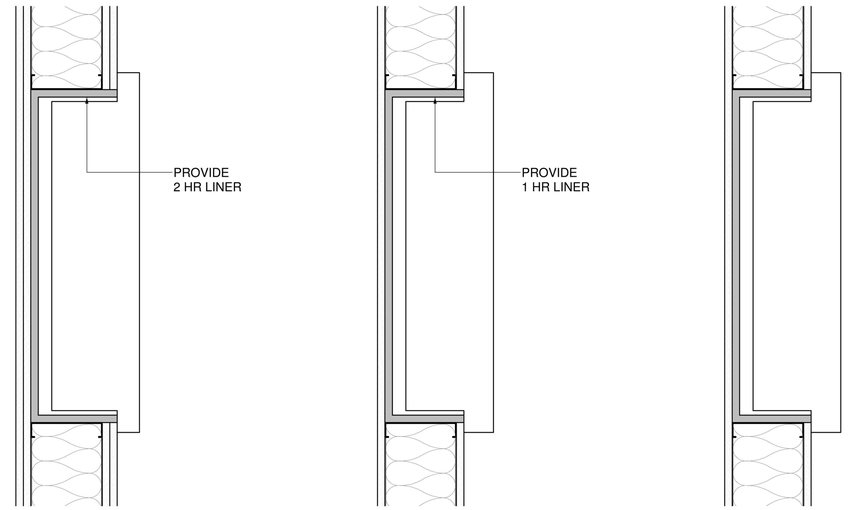
LINEN CLOSET

TYPICAL CLOSET

WALK-IN CLOSET

SCALE 3"=1'

CLOSET SHELVING DETAILS 15

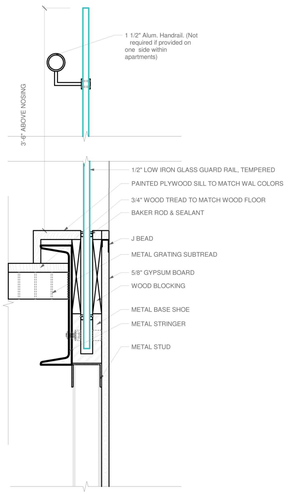


2 HOUR RATED WALL

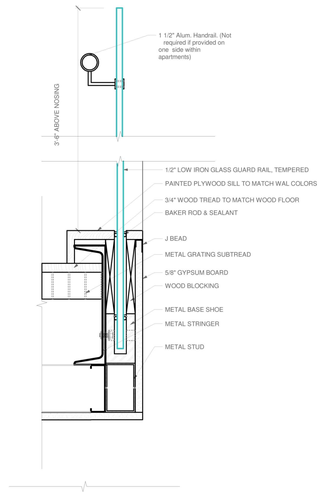
1 HOUR RATED WALL

NON RATED WALL

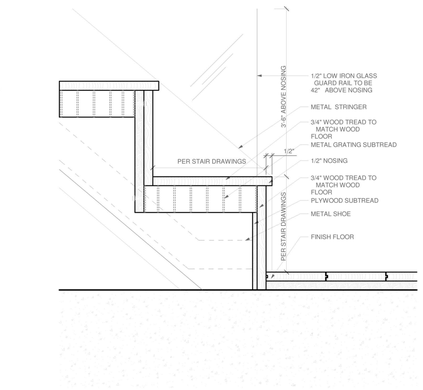
FIRE HOSE/EXTINGUISHER CABINET TYPICAL 14



STAIR WITH FRAMED WALL BELOW

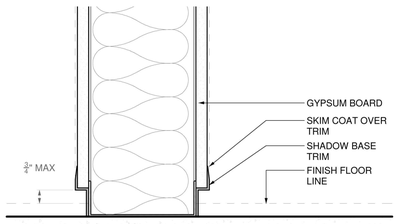


STAIR WITH FRAMED BOTTOM



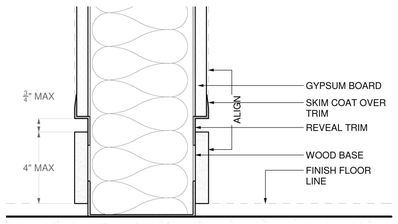
STAIR AT BASE

TYPICAL GLASS GUARD DETAIL 6



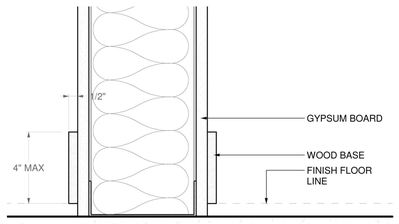
SCALE 3"=1'

SHADOW BASE DETAIL 5



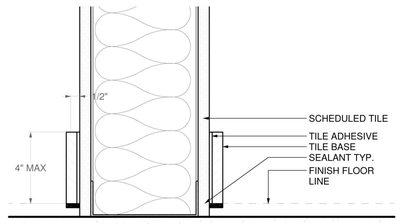
SCALE 3"=1'

RECESSED WOOD BASE DETAIL 4



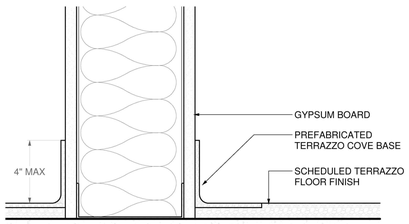
SCALE 3"=1'

WOOD BASE DETAIL 3



SCALE 3"=1'

TILE BASE DETAIL 2



SCALE 3"=1'

TERRAZZO BASE DETAIL 1

PROJECT NAME:

BK55E

OWNER NAME:

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55 Eckford Street Brooklyn, NY 11222

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INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

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T: (718) 752-1500

MEP ENGINEER

REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:

REFERENCE NORTH



APPROVAL:

DWG TITLE:

TYPICAL INTERIOR DETAILS

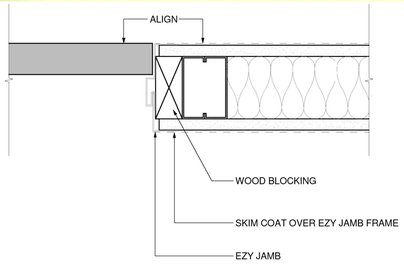
SEAL & SIGNATURE:

REGISTERED ARCHITECT
KURAT MUTLU
036742
STATE OF NEW YORK

DATE: 02/21/2025

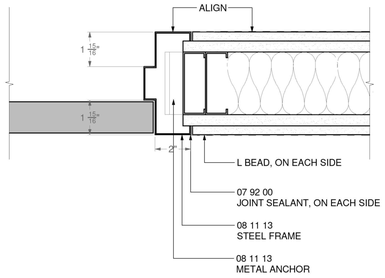
SCALE:

DRAWING NO: **A703**



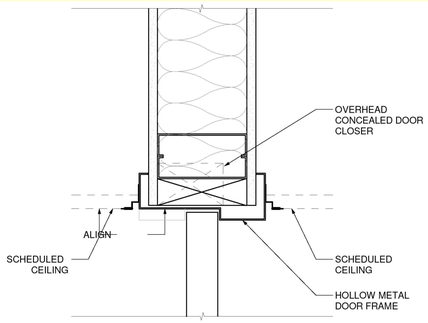
SCALE 3"=1'

EZY JAMB FRAME, JAM/HEAD TYPICAL 7



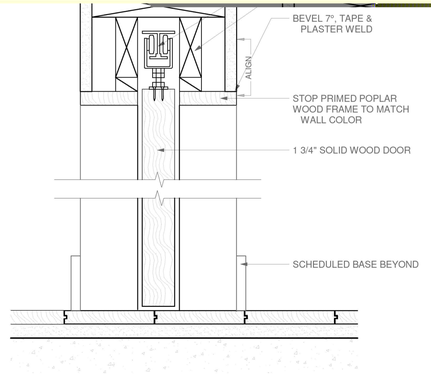
SCALE 3"=1'

FLUSH FRAME@GWB, JAM/HEAD TYP 6



SCALE 3"=1'

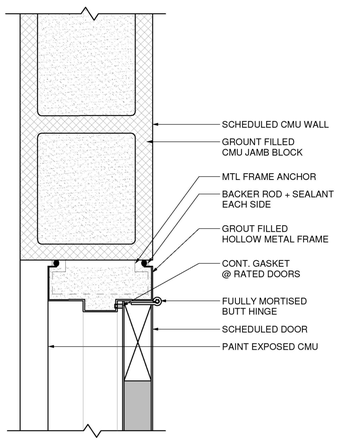
STANDARD FRAME, HEAD SECTION TYP 5



WOOD POCKET DOOR SECTION DETAIL

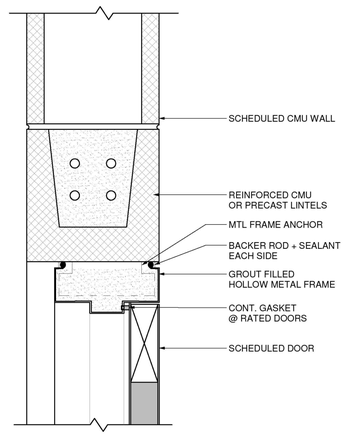
SCALE 3"=1'

WOOD POCKET DOOR DETAIL 8



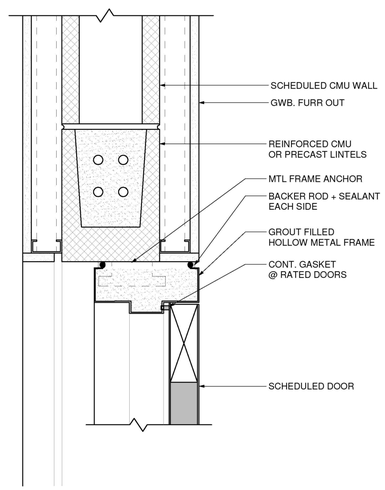
SCALE 3"=1'

INTERIOR HM FRAME JAMB @ CMU 4



SCALE 3"=1'

INTERIOR HM FRAME HEAD @ CMU 3



SCALE 3"=1'

INTERIOR HM FRAME HEAD @ CMU W/FURR OUT 2

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE

330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

SHARON ENGINEERING P.C

34-27 Steinway Street, Suite 201
Long Island City, NY 11101
T: (718) 752-1500

MEP ENGINEER

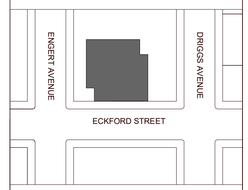
REAL ENGINEERING

205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:

REFERENCE NORTH



APPROVAL:

DWG TITLE:

TYPICAL INTERIOR DETAILS DOORS

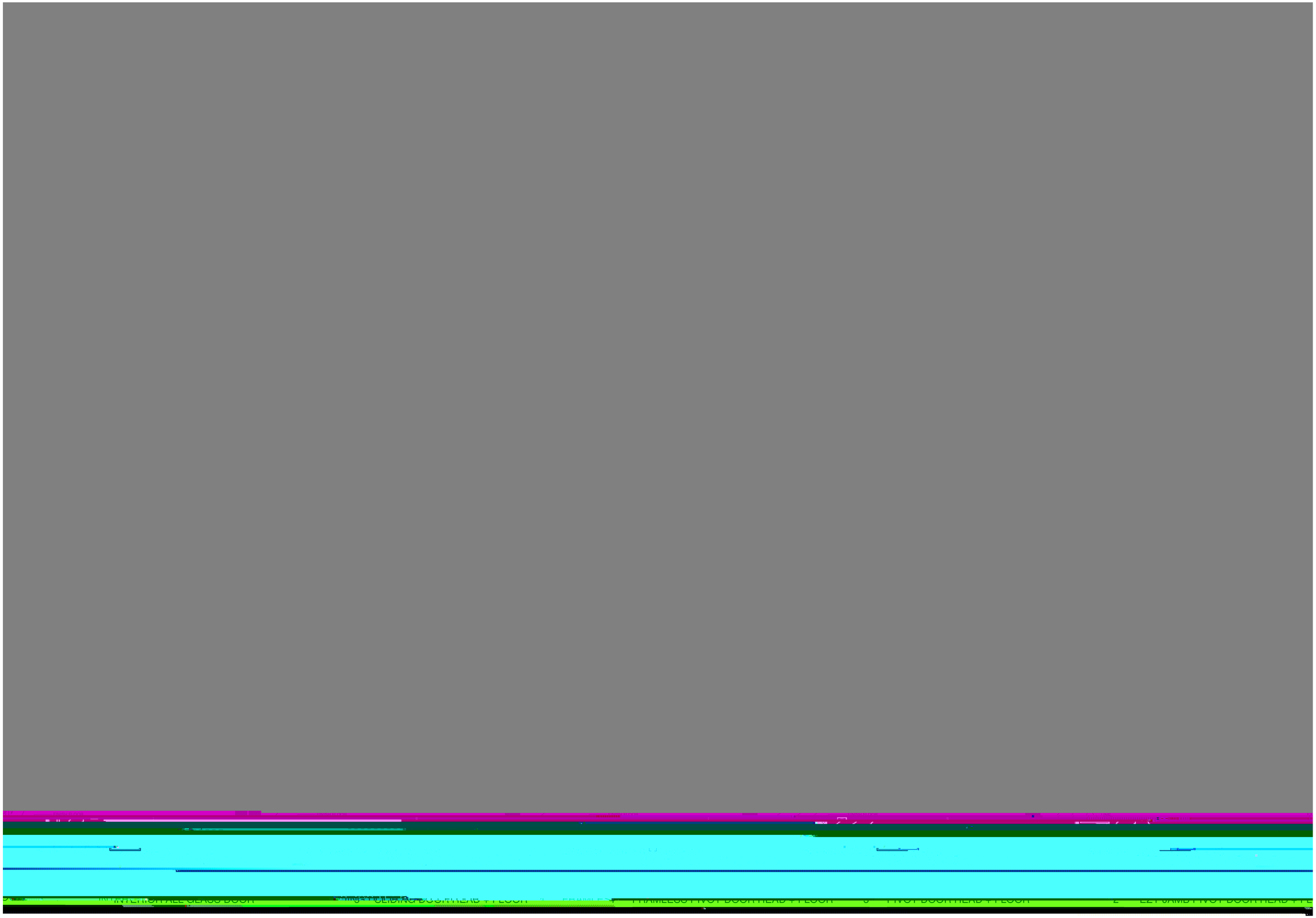
SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE:

DRAWING NO: **A704**



PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE

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T: 212 564 0094

STRUCTRAL ENGINEER

SHARON ENGINEERING P.C

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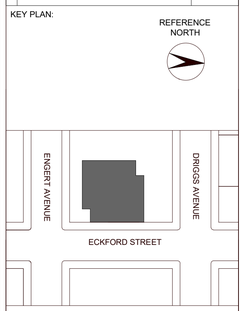
MEP ENGINEER

REAL ENGINEERING

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Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

TYPICAL INTERIOR DETAILS MILLWORK AND WALL BASE

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE:

DRAWING NO: **A705**



TYP. BASE CABINET

3 DRAWERS BASE CABINET

COOKTOP + MICROWAVE CABINET

SCALE 1 1/2"=1'

RESIDENTIAL KITCHEN MILLWORK DETAILS

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

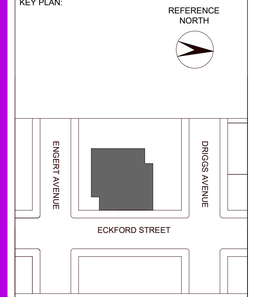
SHARON ENGINEERING P.C
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MEP ENGINEER

REAL ENGINEERING
205 US Route 46 West, Suite #1
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#	Description	Date

KEY PLAN:

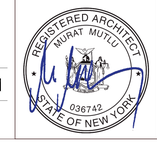


APPROVAL:

DWG TITLE:

TYPICAL INTERIOR DETAILS RESIDENTIAL MILLWORK

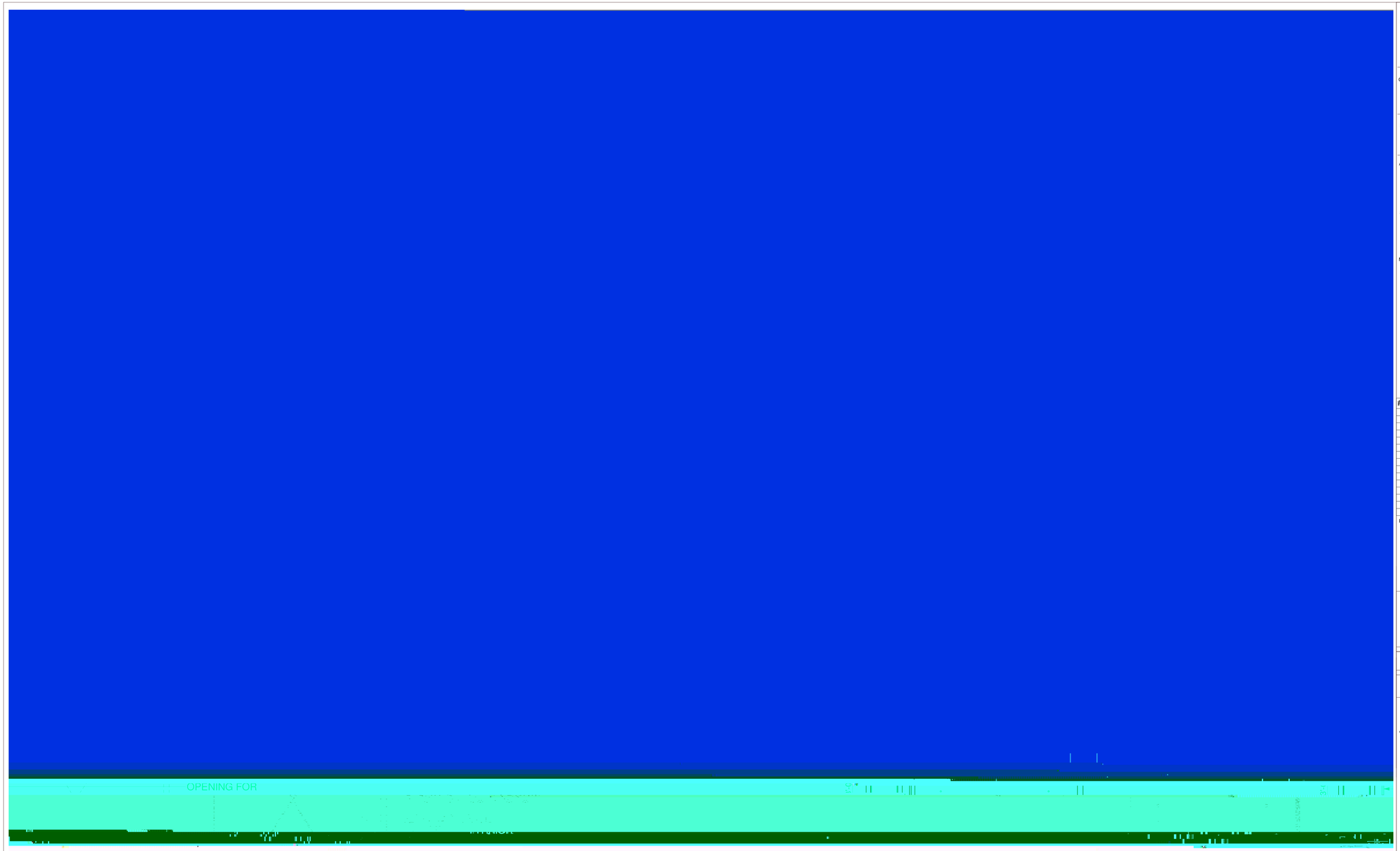
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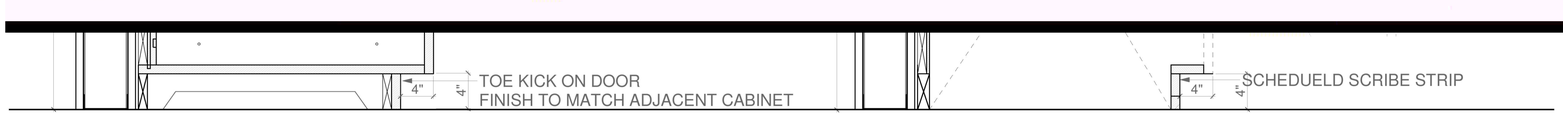


DATE: 02/21/2025

SCALE:

DRAWING NO: **A706**





ADAPTABLE SINK CABINET

OPEN BASE CABINET

SCALE 1 1/2"=1'

RESIDENTIAL KITCHEN MILLWORK DETAILS

1

PROJECT NAME:

BK55E

OWNER NAME:

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ARCHITECT

INOA ARCHITECTURE

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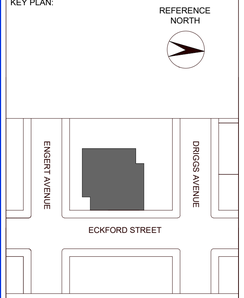
MEP ENGINEER

REAL ENGINEERING

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KEY PLAN:



APPROVAL:

DWG TITLE:

TYPICAL INTERIOR DETAILS RESIDENTIAL MILLWORK

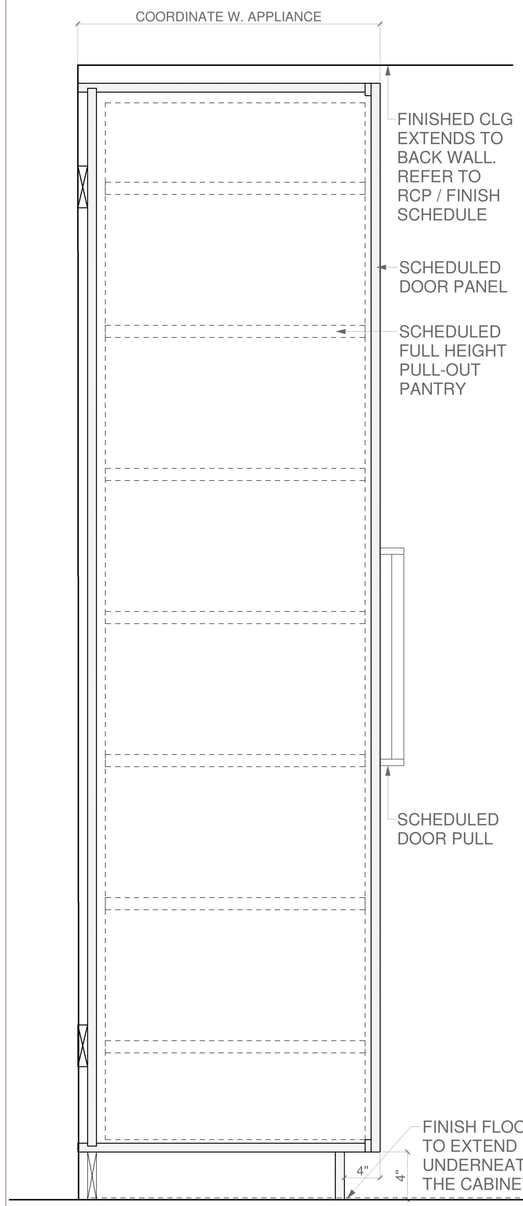
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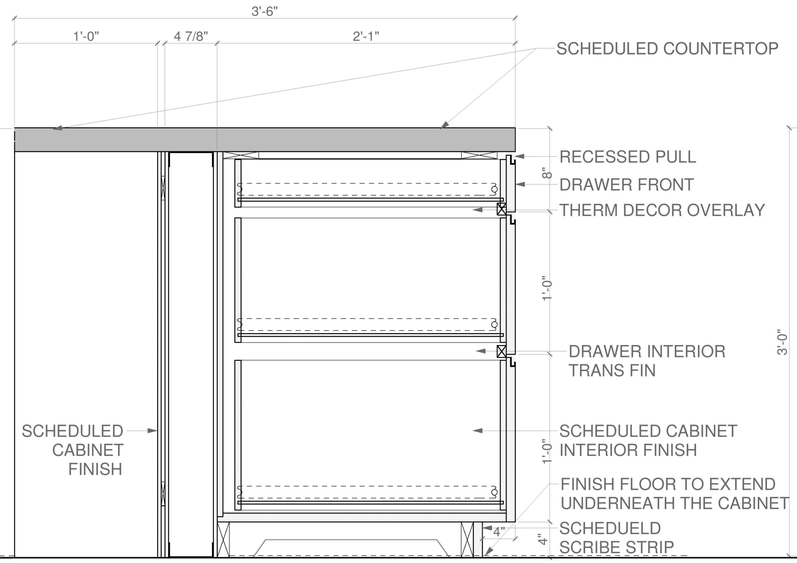
DATE: 02/21/2025

SCALE:

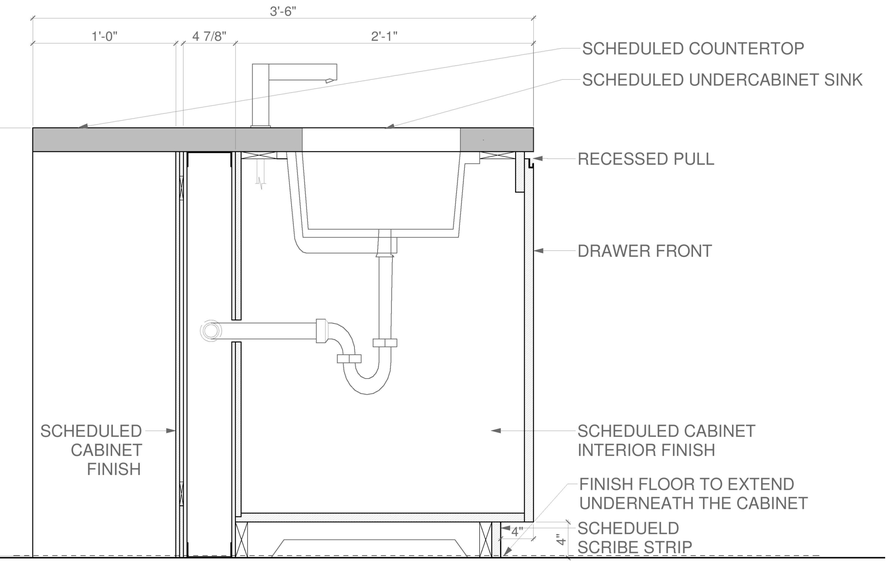
DRAWING NO: **A707**



TYP. PULL-OUT PANTRY SECTION



KITCHEN ISLAND W. 3 DRAWERS



KITCHEN ISLAND W.SINK

SCALE 1 1/2"=1'

RESIDENTIAL KITCHEN MILLWORK DETAILS

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE

330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

SHARON ENGINEERING P.C

34-27 Steinway Street, Suite 201
Long Island City, NY 11101
T: (718) 752-1500

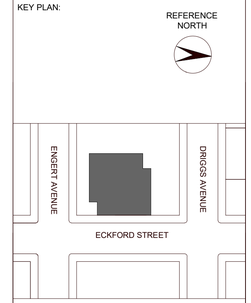
MEP ENGINEER

REAL ENGINEERING

205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

TYPICAL INTERIOR DETAILS RESIDENTIAL MILLWORK

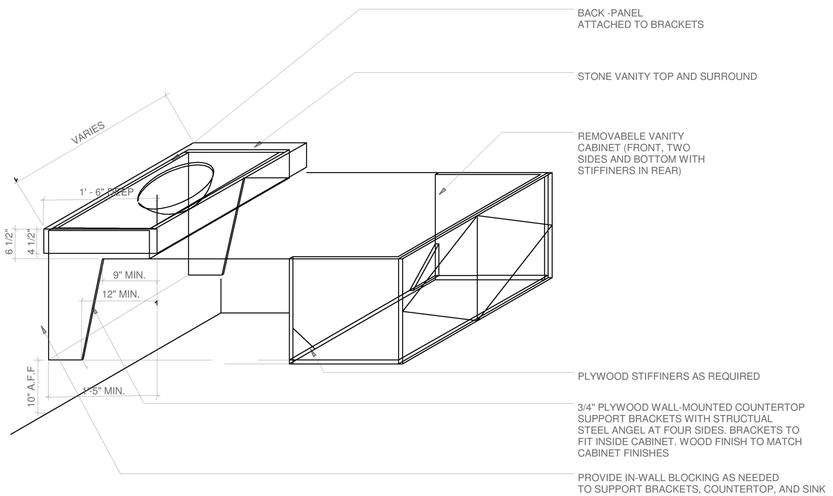
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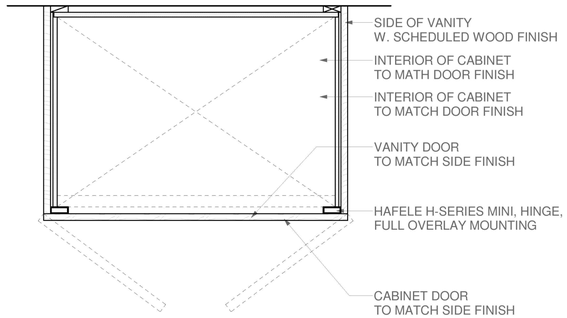
DATE: 02/21/2025

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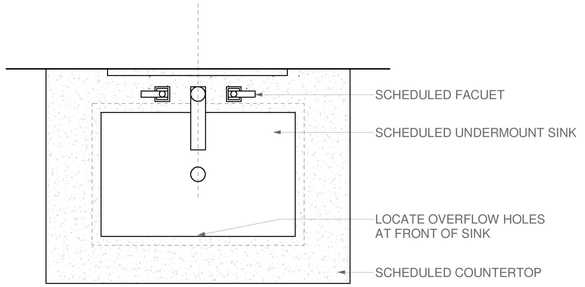
DRAWING NO: **A708**



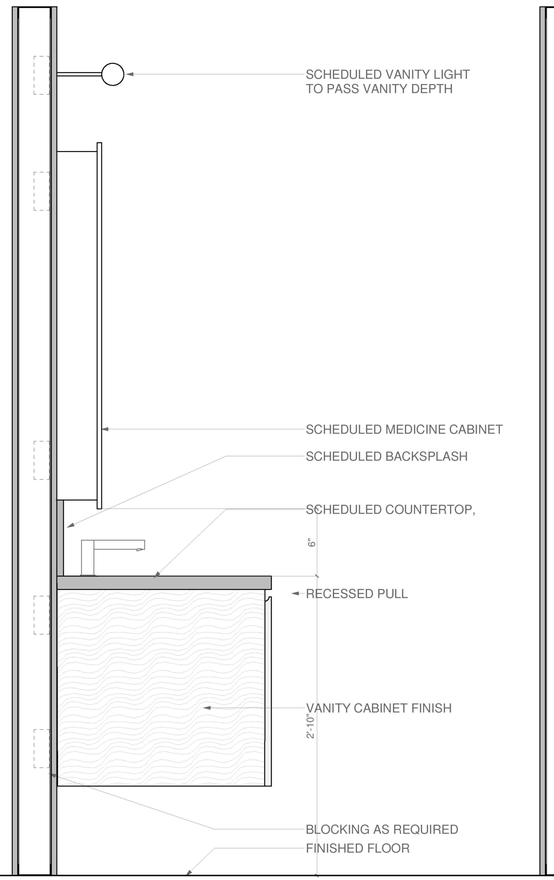
ADAPTABLE VANITY ISOMETRIC



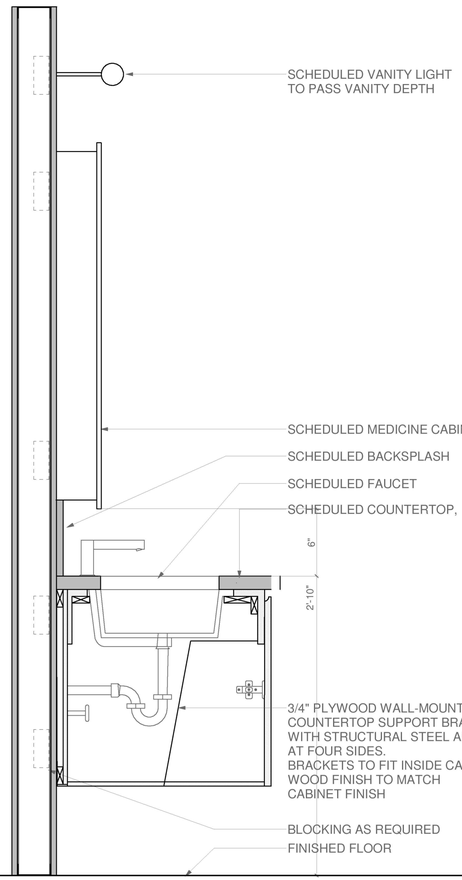
TYP. VANITY PLAN DTL



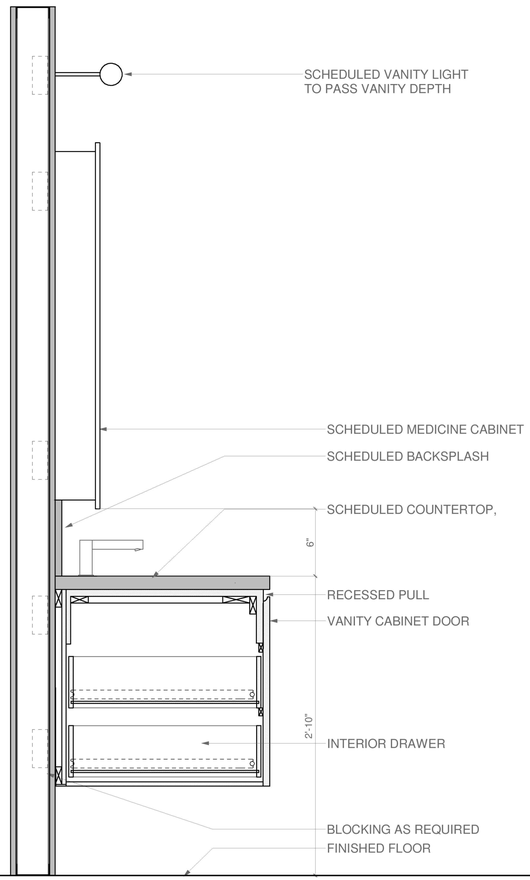
TYP. VANITY PLAN



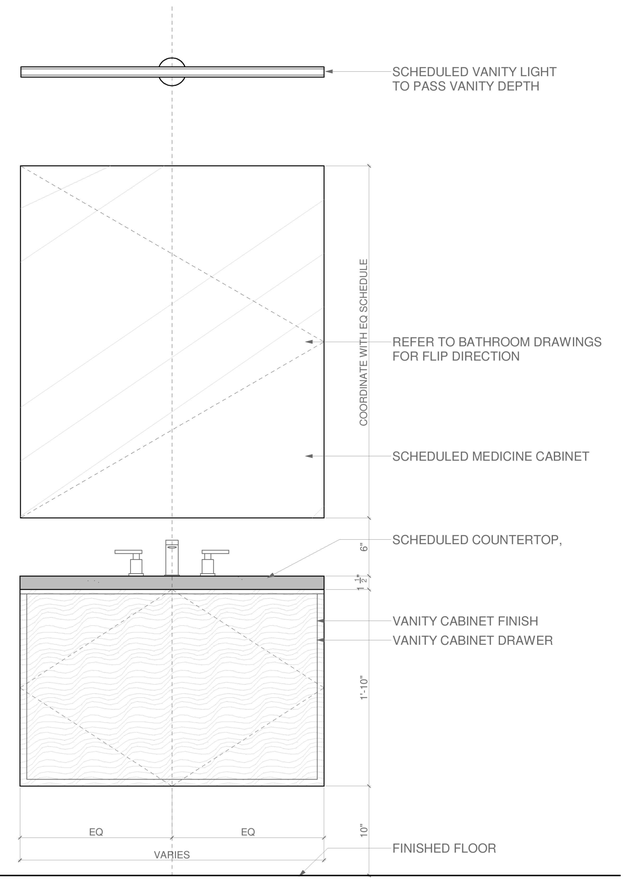
TYP. VANITY REA ELEVATION



TYP. VANITY SINK DTL



TYP. VANITY DTL W. DRAWERS



TYP. VANITY ELEVATION

SCALE 1 1/2"=1'

RESIDENTIAL BATHROOM MILLWORK DETAILS -

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

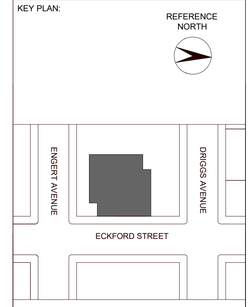
SHARON ENGINEERING P.C
34-27 Steinway Street, Suite 201
Long Island City, NY 11101
T: (718) 752-1500

MEP ENGINEER

REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:

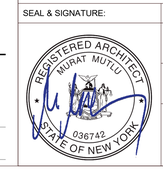


APPROVAL:

DWG TITLE:

TYPICAL INTERIOR DETAILS RESIDENTIAL MILLWORK

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE:

DRAWING NO: **A709**

GROUP 705VP–1

POLYURETHANE AND MS–POLYMER SEALANTS THAT CAN GO UNDER 705 VP ONLY

CCW LM 800 XL

OTHERS AS APPROVED BY CARLISLE

GROUP 705VP–2

SILICONE SEALANTS – APPLICATION OVER 705 VP ONLY

DOW 758

OTHERS AS APPROVED BY CARLISLE

GROUP 705VP–A

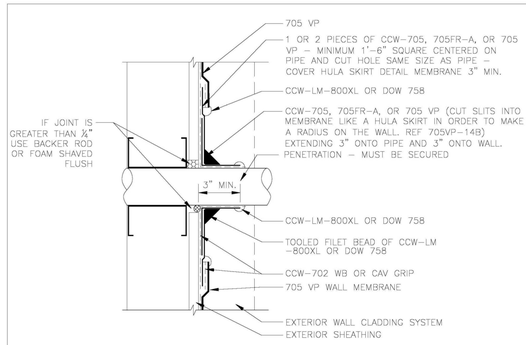
MASTIC TYPE INSULATION ADHESIVES APPROVED FOR BONDING FOAM BOARD TO 705 VP

CCW LM 800 XL

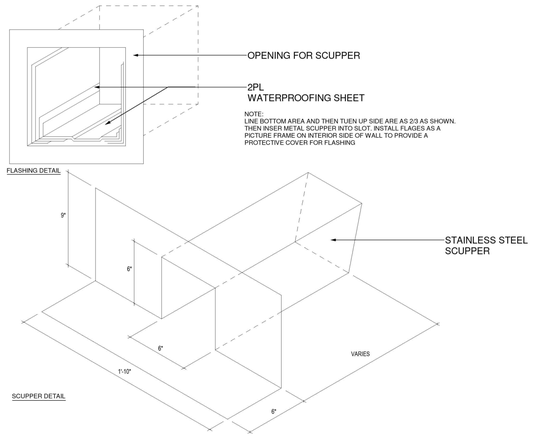
OTHERS AS APPROVED BY CARLISLE

NOTES:
1. FOLLOW APPLICATION INSTRUCTIONS BY SEALANT MANUFACTURER
2. DO NOT INSTALL 1–PART SEALANTS INTO JOINTS EXCEEDING ½" DEPTH
3. EXCEPT SURE SEAL LAP SEALANT, ALLOW SEALANT TO CURE BEFORE COVERING WITH 705 VP

705VP–0A | 705 VP APPROVED SEALANTS | CARLISLE COATINGS & WATERPROOFING ©2017 CARLISLE CORPORATION

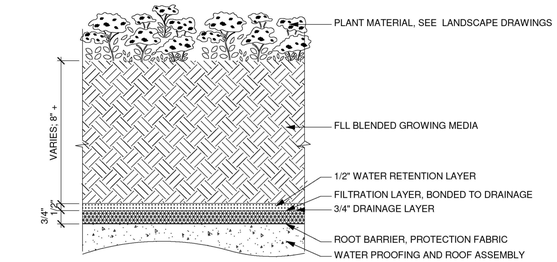


705VP–14A | 705 VP SHEET FLASHING AT PIPE PENETRATION | CARLISLE COATINGS & WATERPROOFING ©2016 CARLISLE CORPORATION



SCALE 1 1/2"=1'

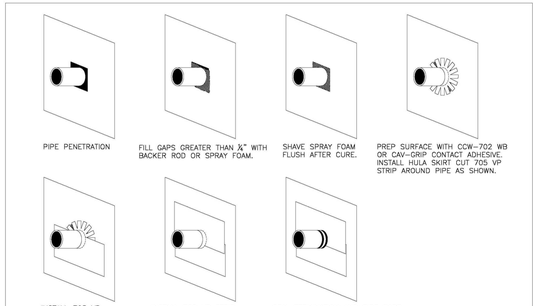
SCUPPER & FLASHING DETAIL 2



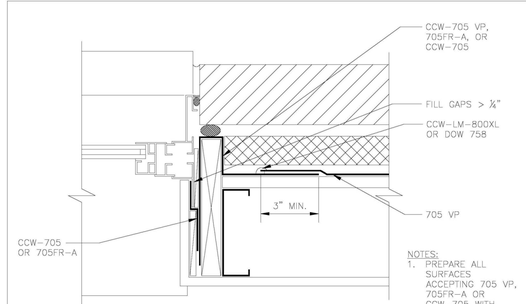
NOTE:
1.SYSTEM COMPONENTS ARE SHOWN AT NOMINAL SIZE. COMPRESSION WILL OCCUR AT RETENTION LAYER BASED ON AMOUNT (HEIGHT/VOLUME) OF GROWING MEDIA PLACED ON SYSTEM. MAXIMUM COMPRESSION 18" ±.

SCALE 3"=1'-0"

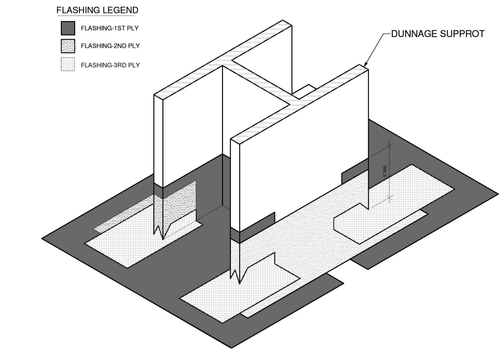
GREEN ROOF DETAIL 5



705VP–14B | INSTALLATION SEQUENCE AT PIPE PENETRATION | CARLISLE COATINGS & WATERPROOFING ©2016 CARLISLE CORPORATION

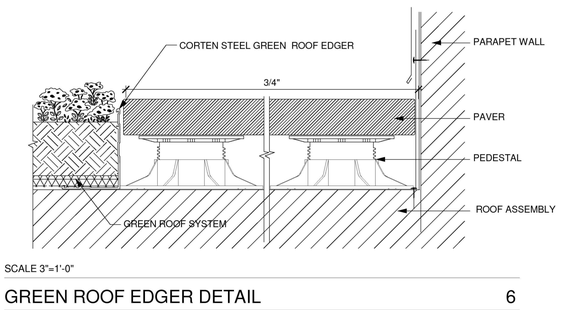


705VP–5A.2 | 705 VP PUNCHED WINDOW – JAMB INTERIOR AIR SEAL WITH FLASHING | CARLISLE COATINGS & WATERPROOFING ©2016 CARLISLE CORPORATION



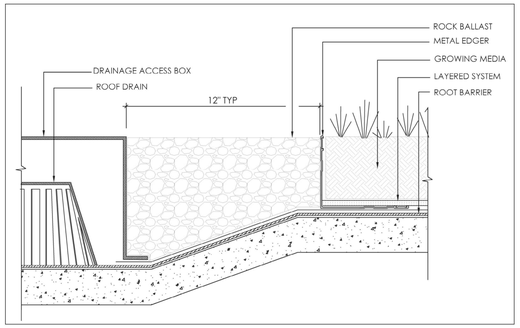
NOT TO SCALE

FLASHING AT DUNNAGE SUPPORTS 3



SCALE 3"=1'-0"

GREEN ROOF EDGER DETAIL 6



SCALE 3"=1'-0"

GREEN ROOF DRAIN DETAIL 7

AIR LEAKAGE PREVENTION CONSTRUCTION NOTES

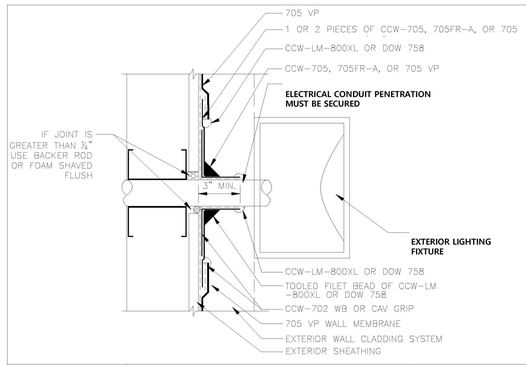
All exterior opaque walls shall have vapor permeable Air Water Barrier. All air barrier membranes shall extend into the rough opening of fenestration and sealed at transitions. All exterior doors shall have weather stripping.

A continuous air barrier shall be provided throughout the building thermal envelope. The air barriers shall be permitted to be located on the inside or outside of the building envelope, located within the assembliescomposing the envelope, or any combination thereof.

Air Barrier Manufacturer: Carlisle
Product:: FIRE RESIST 705 VP (Self-Adhered, Adhesive-Backed Engineered Fabric, Vapor-Permeable)

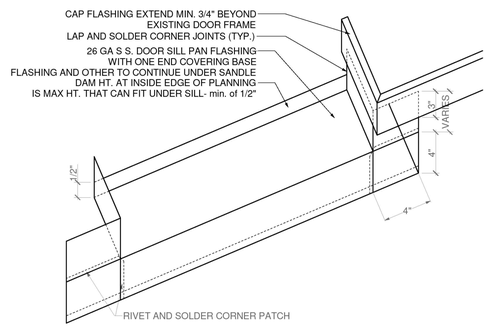
The continuous air barrier shall be constructed to comply with the following:

1. The air barrier shall be continuous for all assemblies that are the thermal envelope of the building and across the joints and assemblies.
2. Air barrier joints and seams shall be sealed, including sealing transitions in places and changes in materials. The joints and seals shall be securely installed in or on the joint for its entire length so as not to dislodge, loosen or otherwise impair its ability to resist positive and negative pressure from wind, stack effect and mechanical ventilation.
3. Penetrations of the air barrier shall be caulked, gasketed or otherwise sealed in a manner compatible with the construction materials and location. Joints and seals associated with penetrations shall be sealed in the same manner or taped or covered with moisture vapor-permeable wrapping material. Sealing materials shall be appropriate to the construction materials being sealed and shall be securely installed around the penetration so as not to dislodge, loosen or otherwise impair the penetrations' ability to resist positive and negative pressure from wind, stack effect and mechanical ventilation. Sealing of concealed fire sprinklers, where required, shall be in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings.
4. Recessed lighting fixtures shall comply with the Energy Code Requirements. Where similar objects are installed that penetrate the air barrier, provisions shall be made to maintain the integrity of the air barrier.



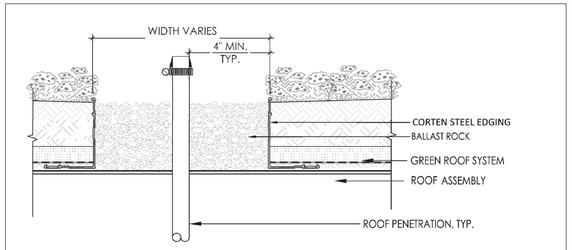
AIR BARRIER DETAIL AT EXTERIOR LIGHTING FIXTURE

OPTIONAL COMPLIANCE WITH NYC ECC 2020
SECTION C405.8.1 Elevator equipment and cabs
- For the luminaires in each elevator cab, not including signals and displays, the sum of the
lumens divided by the sum of the watts shall be not less than 35 lumens per watt.
- Ventilation fans in elevators that do not have their own air-conditioning system shall not
consume more than 0.33 watts/cfm at the maximum rated speed of the fan.
- Controls shall be provided that will de-energize ventilation fans and lighting systems when
the elevator is stopped, unoccupied and with its doors closed for over 15 minutes



NOT TO SCALE

BULKHEAD SILL PAN FLASHING 4



SCALE 3"=1'-0"

GREEN ROOF PENETRATION DETAIL 8

AIR BARRIER MFG. DETAILS 1

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

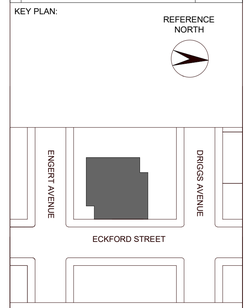
ARCHITECT
INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER
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Long Island City, NY 11101
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MEP ENGINEER
REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

EXTERIOR DETAILS

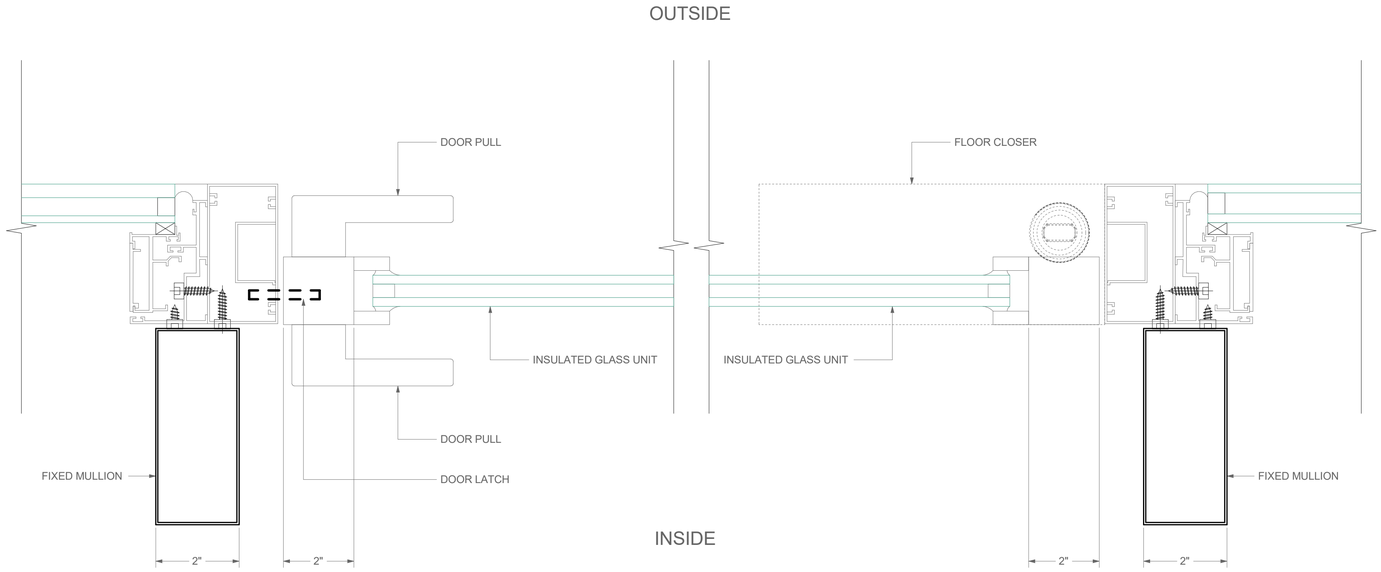
SEAL & SIGNATURE:



DATE: 02/21/2025

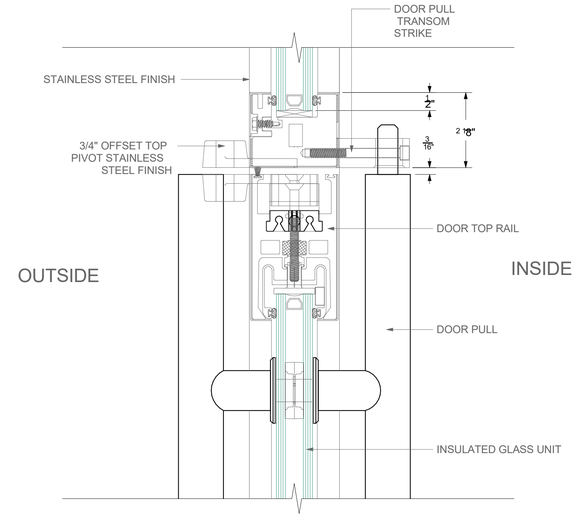
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DRAWING NO: **A800**



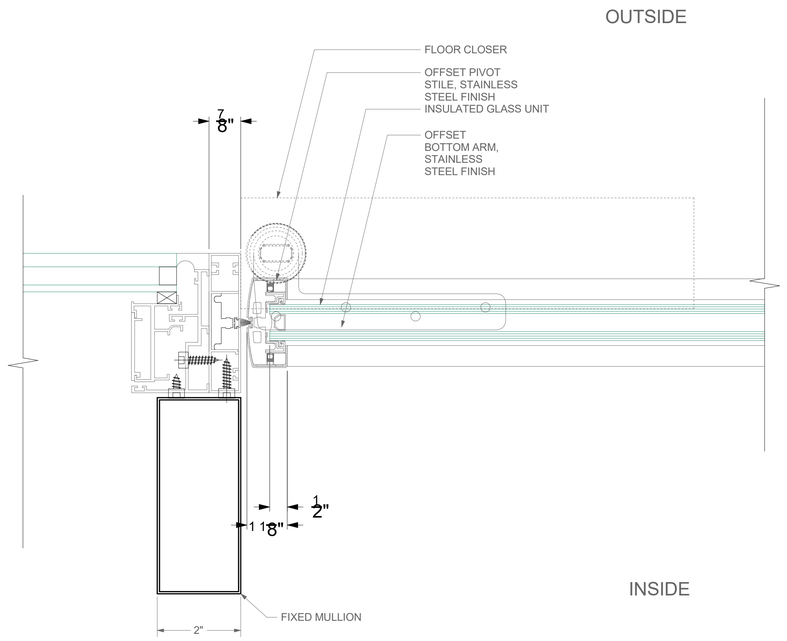
SCALE 6"=1'

COMMON TERRACE EGRESS DOOR, PLAN DETAIL 1



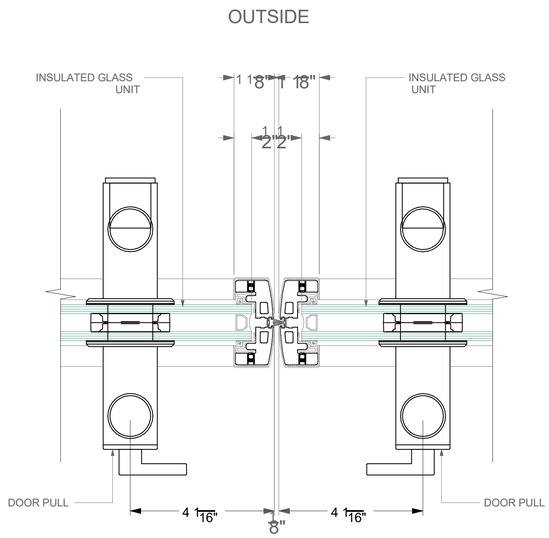
SCALE 6"=1'

STOREFRONT DOOR SECTION DETAIL AT TRANSOM 2



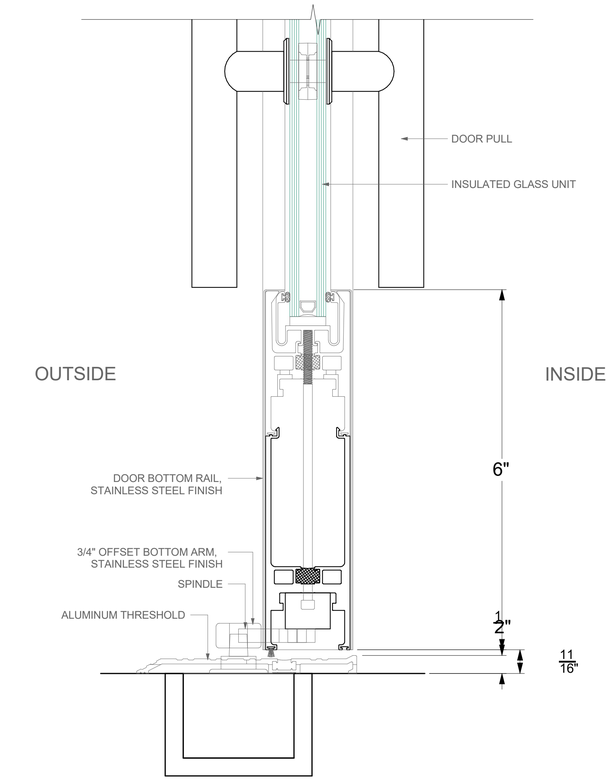
SCALE 6"=1'

STOREFRONT DOOR PLAN DETAIL AT SIDELITE 5



SCALE 6"=1'

STOREFRONT DOOR PLAN DETAIL AT MEETING STILES 4



SCALE 6"=1'

STOREFRONT DOOR SECTION DETAIL AT THRESHOLD 3

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE

330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

SHARON ENGINEERING P.C

34-27 Steinway Street, Suite 201
Long Island City, NY 11101
T: (718) 752-1500

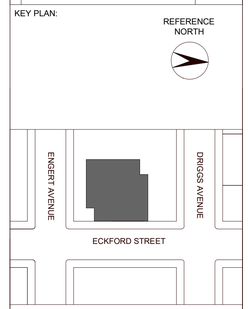
MEP ENGINEER

REAL ENGINEERING

205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

EXTERIOR DETAILS

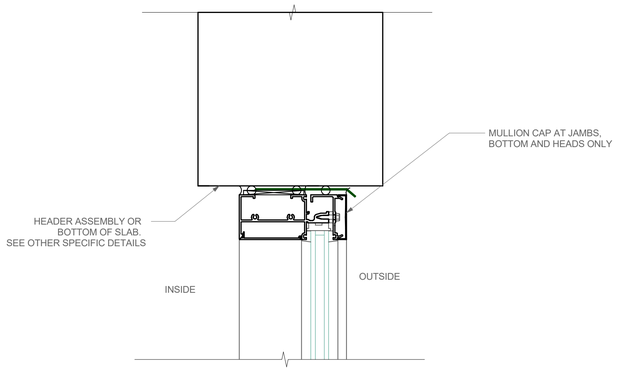
SEAL & SIGNATURE:



DATE: 02/21/2025

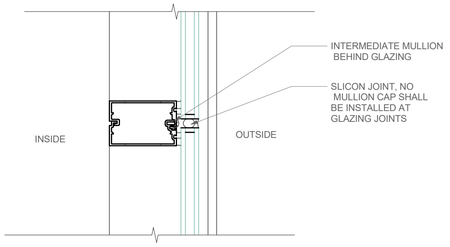
SCALE: 6" = 1'-0"

DRAWING NO: **A801**



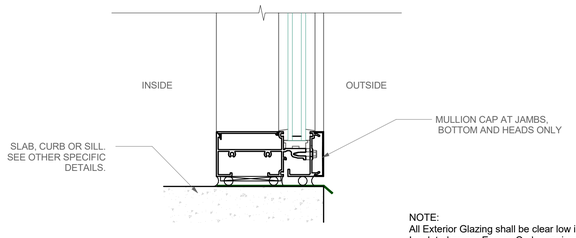
SCALE 3"=1'-0"

TYPICAL WINDOW WALL HEAD DETAIL 1



SCALE 3"=1'-0"

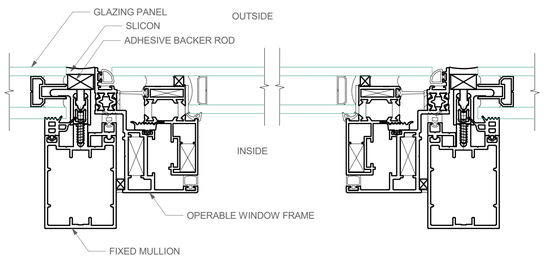
TYPICAL WINDOW WALL HORIZONTAL OR VERTICAL GLAZING JOINT 2



NOTE:
All Exterior Glazing shall be clear low iron, Insulated as per Energy Code requirements, acoustically performing for noise reduction

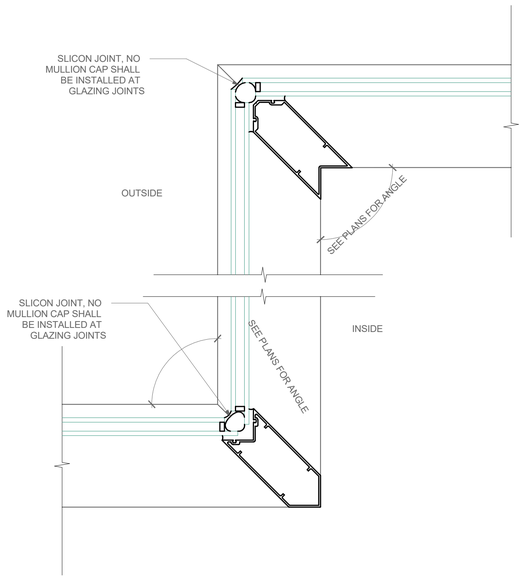
SCALE 3"=1'-0"

TYPICAL WINDOW WALL SILL OR JAMB DETAIL 3



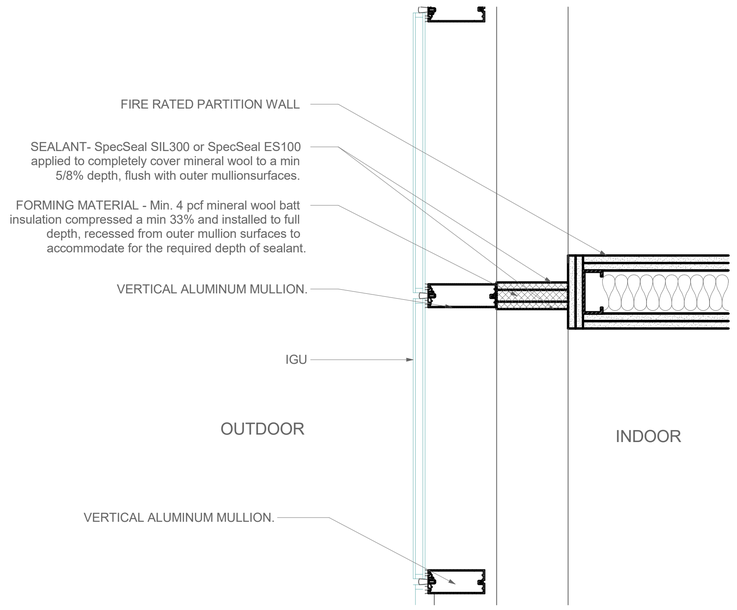
SCALE 3"=1'-0"

TYPICAL PROJECTING WINDOW MULLION DETAIL 4



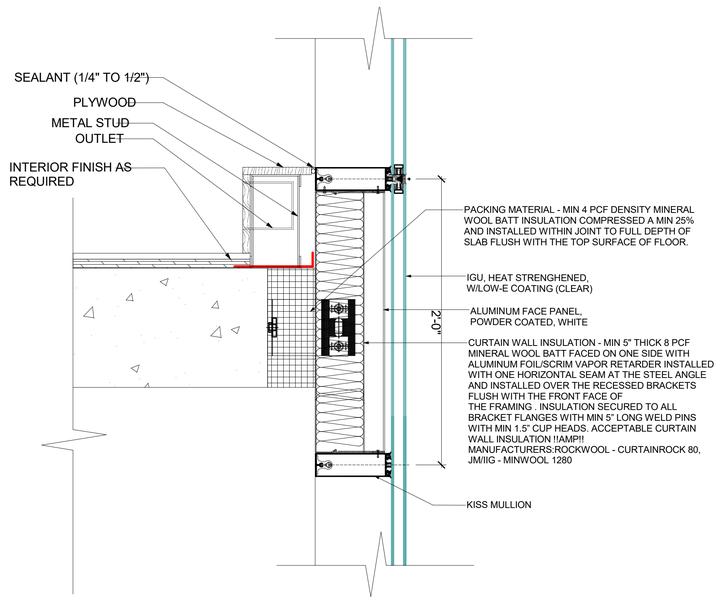
SCALE 3"=1'-0"

TYPICAL WINDOW WALL HORIZONTAL OR VERTICAL GLAZING JOINT 5



SCALE 3"=1'-0"

TYPICAL WINDOW WALL HORIZONTAL OR VERTICAL GLAZING JOINT 6



SCALE 2"=1'-0"

TYPICAL SPANDREL GLASS AT SLAB 7

AIR LEAKAGE NOTES

C402.4.1 Air barriers.
A continuous air barrier shall be provided throughout the building thermal envelope. The air barriers shall be permitted to be located on the inside or outside of the building envelope, located within the assemblies composing the envelope, or any combination thereof. The air barrier shall comply with Sections C402.4.1.1 and C402.4.1.2
C402.4.1.1 Air barrier construction.
The continuous air barriershall be constructed to comply with the following:
1.The air barrier shall be continuous for all assemblies that are the thermal envelope of the building and across the joints and assemblies.
2.Air barrier joints and seams shall be sealed, including sealing transitions in places and changes in materials.Air barrier penetrations shall be sealed in accordance with Section C402.4.2.The joints and seals shall be securely installed in or on the joint for its entire length so as not to dislodge, loosen or otherwise impair its ability to resist positive and negative pressure from wind, stack effect and mechanical ventilation.
3.Recessedlighting fixtures shall comply with Section C402.4.8.Where similar objects are installed which penetrate the air barrier, provisions shall be made to maintain the integrity of the air barrier.
Exception: Buildings that comply with Section C402.4.1.2.3 are not required to comply with Items 1 and 3
C402.4.2 Air barrier penetrations.
Penetrations of the air barrier and paths of air leakage shall be caulked, gasketed or otherwise sealed in a manner compatible with the construction materials and location.Joints and seals shall be sealed in the same manner or taped or covered with a moisture vapor-permeable wrapping material. Sealing materials shall be appropriate to the construction materials being sealed.The joints and seals shall be securely installed in or on the joint for its entire length so as not to dislodge, loosen or otherwise impair its ability to resist positive and negative pressure from wind, stack effect and mechanical ventilation.
C402.4.3 Air leakage of fenestration.
The air leakage of fenestration assemblies shall meet the provisions of Table C402.4.3. Testing shall be in accordance with the applicable reference test standard in Table C402.4.3 by an accredited, independent testing laboratory and labeledby the manufacturer
Exceptions:
1.Field-fabricated fenestration assemblies that are sealed in accordance with Section C402.4.1.
2.Fenestration in buildings that comply with Section C402.4.1.2.3 are not required to meet the air leakage requirements in Table C402.4.3
C402.4.4 Doors and access openings to shafts, chutes, stairways, and elevatorlobbies. Doors and access openings from conditioned space to shafts, chutes, stairways and elevator lobbies shall either meet the requirements of Section C402.4.3 or shall be gasketed, weatherstripped or sealed.
C402.4.5 Air intakes, exhaust openings, stairways and shafts.Stairway enclosures and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope shall be provided with dampers in accordance with SectionC403.2.4.4.
C402.4.6 Loading dock weatherseals.Cargo doors and loading dock doors shall be equipped with weathersealsto restrict infiltration when vehicles are parked in the doorway
C402.4.7 Vestibules.
All building entrancesshall be protected with an enclosed vestibule, with all doors opening into and out of the vestibule equipped with self-closing devices. Vestibules shall be designed so that in passing through the vestibule it is not necessary for the interior and exterior doors to open at the same time.
Exceptions:
1.Doors not intended to be used by the public, such as doors to mechanical or electrical equipment rooms, or intended solely for employee use.
2.Doors opening directly from a sleeping unit or dwelling unit.
3.Doors that open directly from a space less than 3,000 square feet in area.
4.Revolving doors(provided, however, that the installation of one or more revolving doors in the building entrance shall not eliminate the requirement that a vestibule be provided on any doors adjacent to revolving doors).
5.Doors used primarily to facilitate vehicular movement or material handling and adjacent personnel doors.
C402.4.8 Recessed lighting.
Recessed luminaires installed in the building thermal envelopeshall be sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires shall be IC-rated and labeled as having an air leakage rate ofnot more 2.0 cfm (0.944 L/s) when tested in accordance with ASTM E 283 at a 1.57 psf (75 Pa) pressure differential. All recessed luminaires shall be sealed with a gasket or caulk between the housing and interior wall or ceiling covering
C402.4.9 Vapor retarders (Mandatory)
Except as otherwise provided in Section C402.4.9.1, Class I or II vapor retarders are required on the interior side of walls in climate zones 5 and 6 for all framed walls, floors and ceilings where the framed cavity is not ventilated to allow moisture to escape.
Exceptions:
1.Basement walls.
2.Below grade portion of any wall.
3.Construction where moisture or its freezing will not damage the materials

PROJECT NAME:

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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

EXTERIOR DETAILS

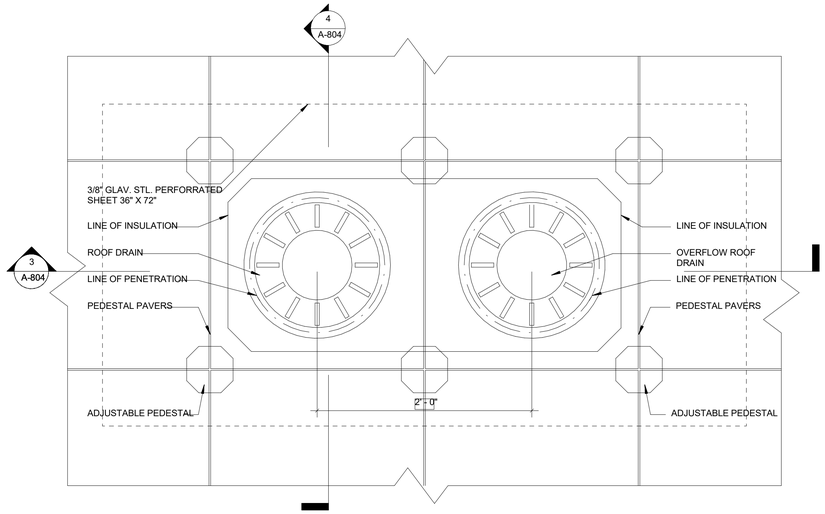
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DATE: 02/21/2025

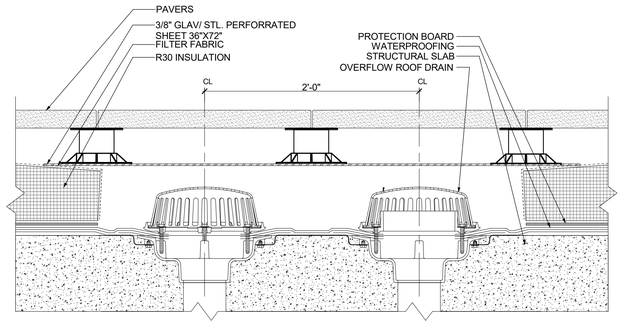
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DRAWING NO: **A802**



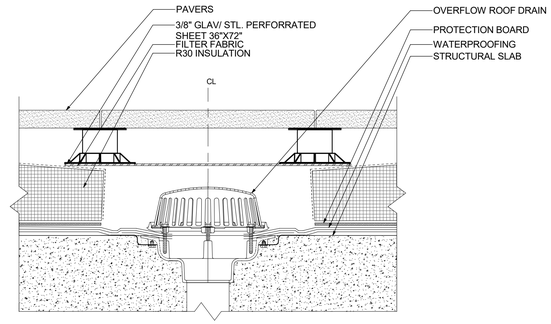
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TYP. WALKABLE ROOF & OVERFLOW DRAIN PLAN DETAIL 1



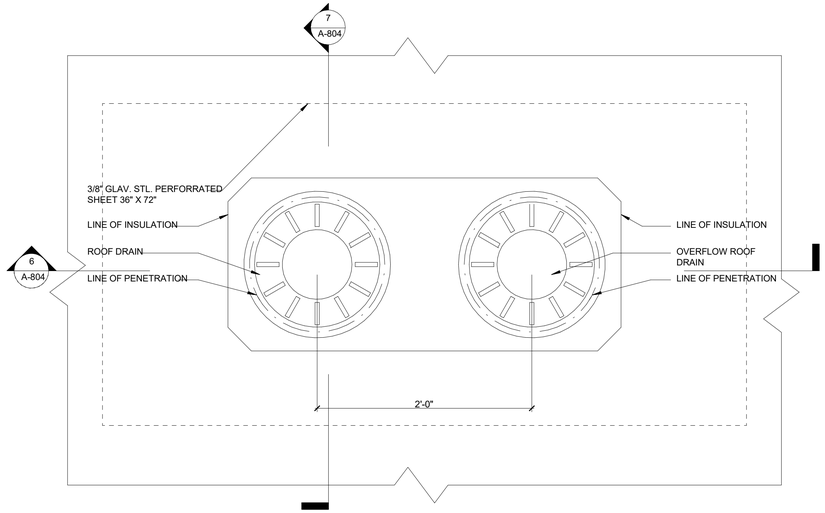
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TYP. OVERFLOW DRAIN AT TERRACE ROOF SECTION DETAIL 3



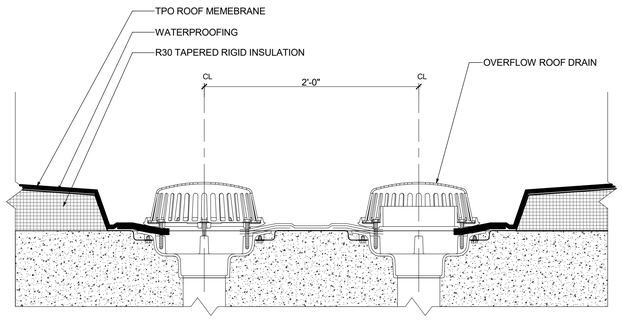
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TYP. DRAIN AT TERRACE ROOF SECTION DETAIL 4



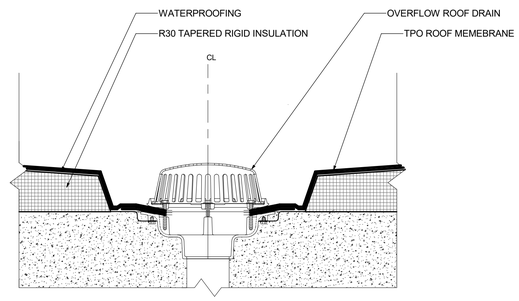
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TYP. NON-WALKABLE ROOF & OVERFLOW DRAIN PLAN DETAIL 2



SCALE 1 1/2"=1'

TYP. OVERFLOW DRAIN AT ROOF SECTION DETAIL 6



SCALE 1 1/2"=1'

TYP. DRAIN AT ROOF SECTION DETAIL 7

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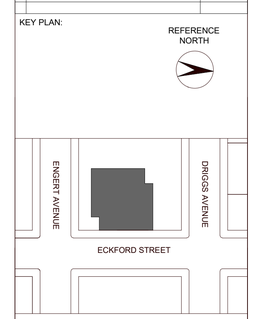
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#	Description	Date

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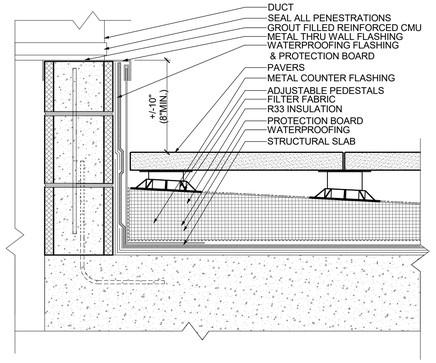
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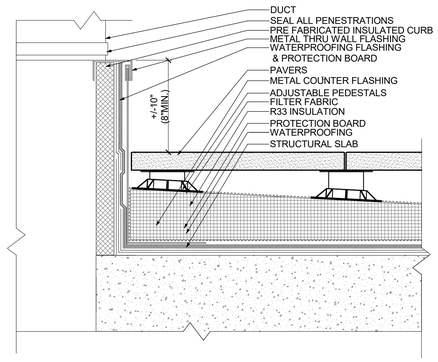
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DRAWING NO: **A803**



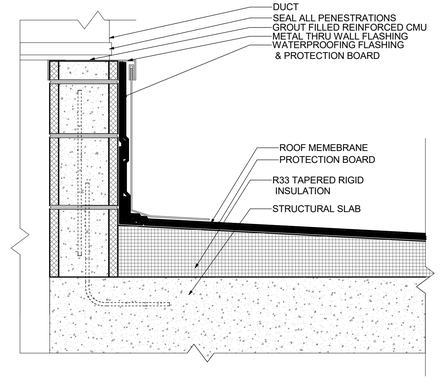
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TYP CMU CURB DETAIL AT TERRACE ROOF 1



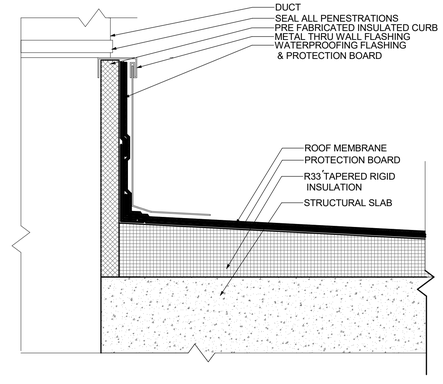
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TYP PRE-FABRICATED CURB DETAIL AT TERRACE ROOF 2



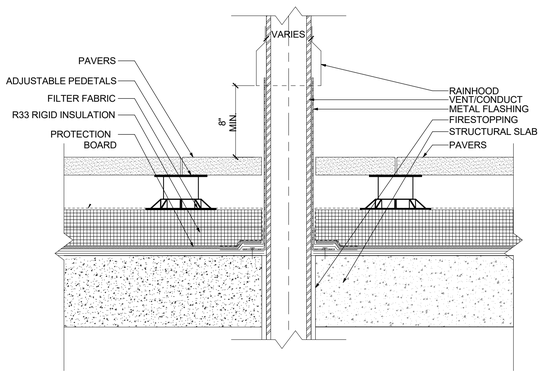
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TYP CMU CURB DETAIL AT ROOF 6



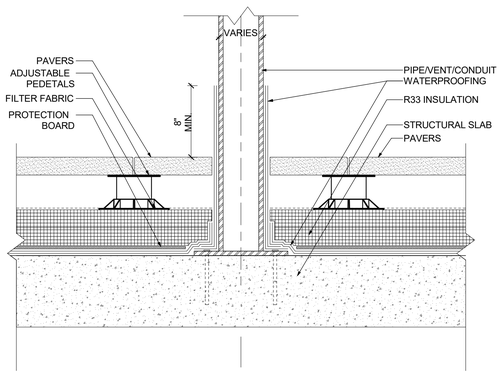
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TYP PRE-FABRICATED CURB DETAIL AT ROOF 7



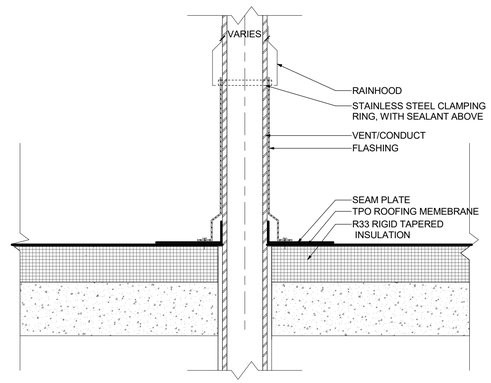
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TYP VENT/CONDUIT PENETRATION DETAIL AT TERRACE ROOF 3



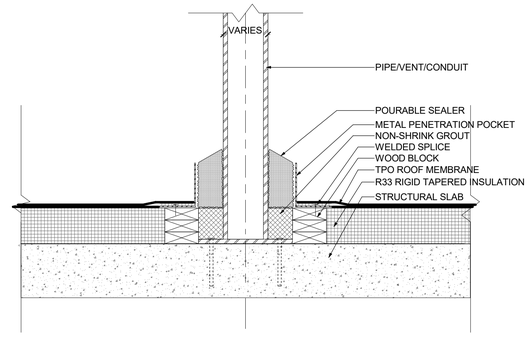
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TYP PIPE SUPPORT DETAIL AT TERRACE ROOF 4



SCALE 1 1/2"=1'

TYP VENT/CONDUIT PENETRATION DETAIL AT ROOF 8



SCALE 1 1/2"=1'

TYP. SUPPORT DETAIL AT ROOF 9

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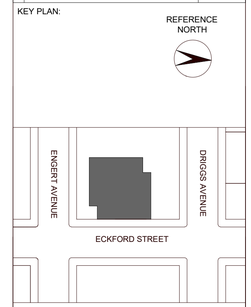
MEP ENGINEER

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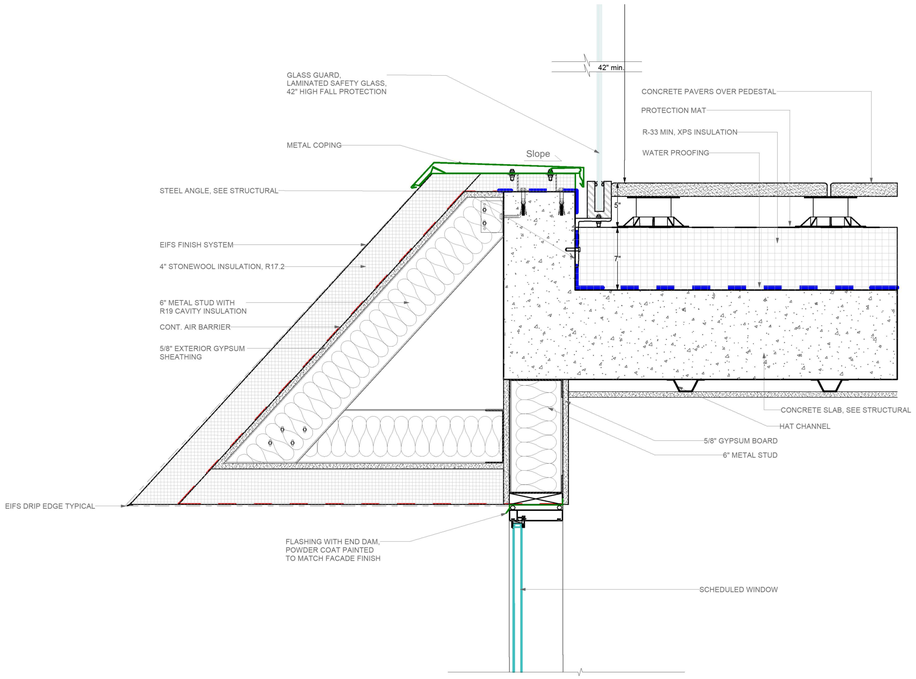
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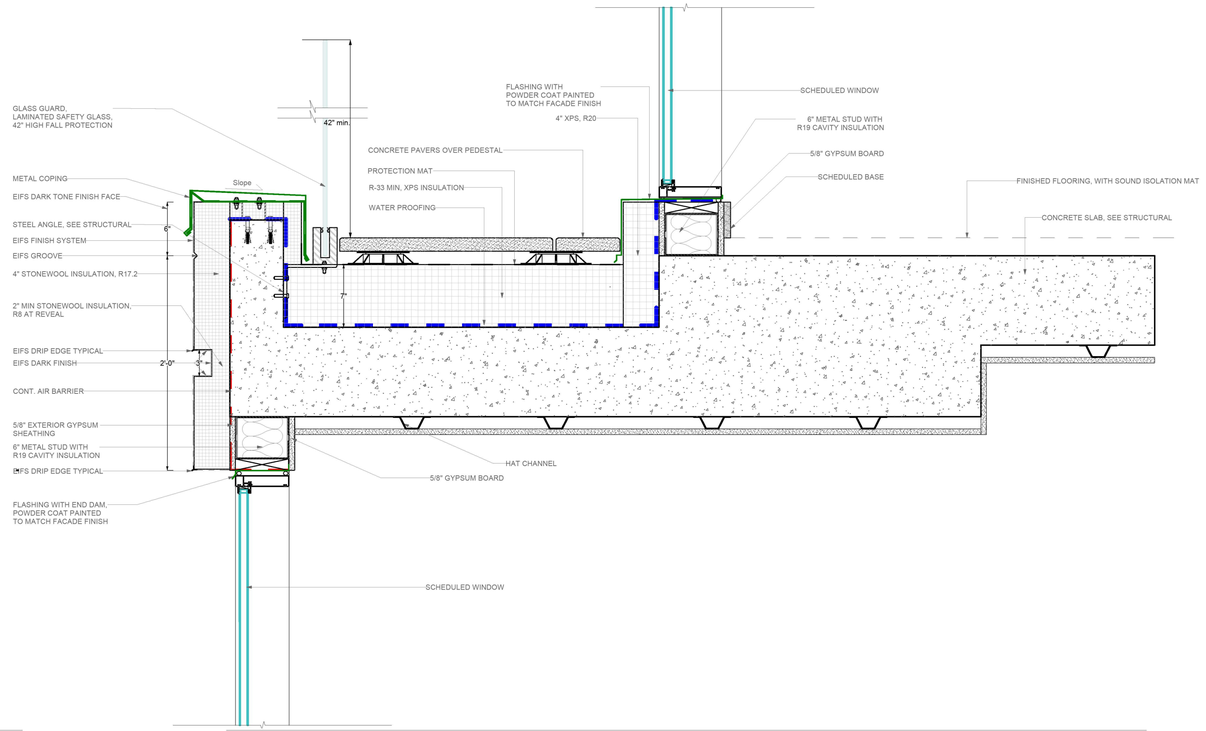
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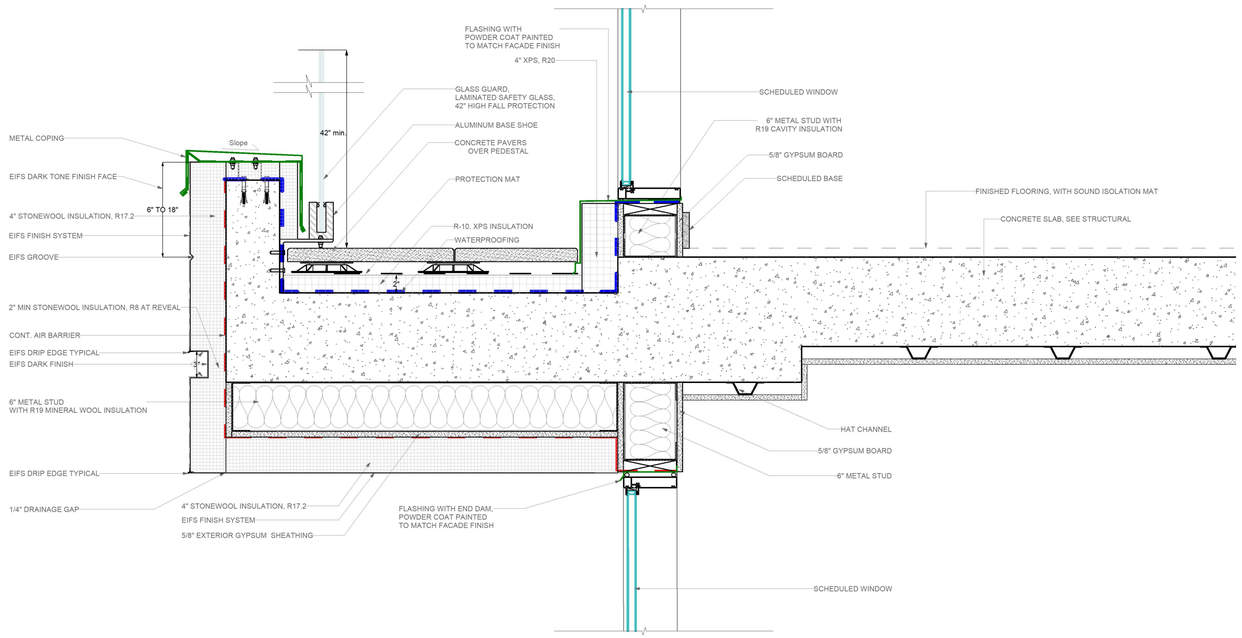
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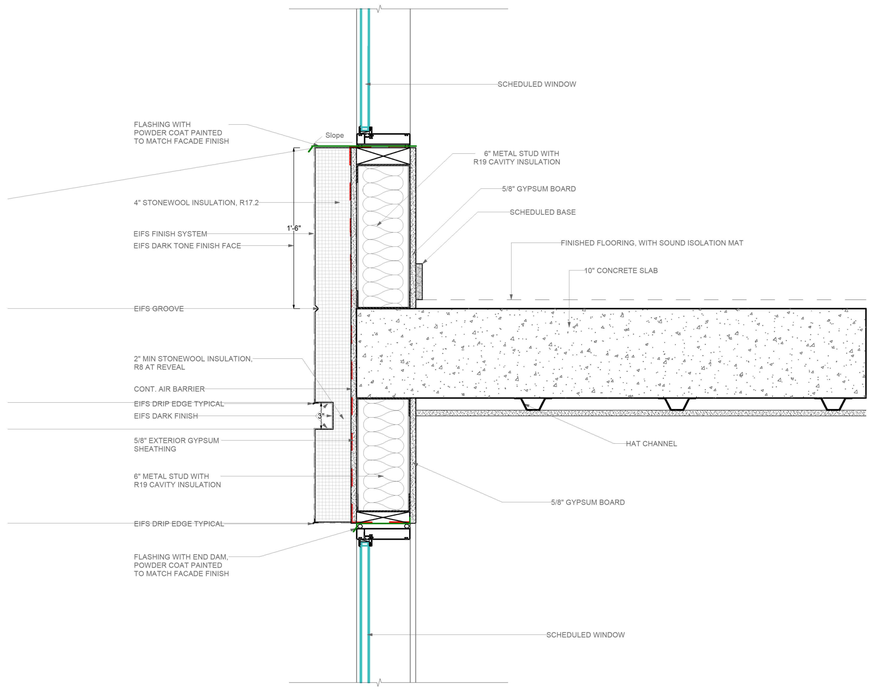
REAR FACADE, ROOF LEVEL AWNING DETAIL 1



REAR FACADE, SETBACK TERRACE DETAIL WITH EIFS FACE 2



REAR FACADE, TYPICAL BALCONY DETAIL 3



REAR FACADE, EIFS DETAIL AT TYPICAL SLAB 4

PROJECT NAME:

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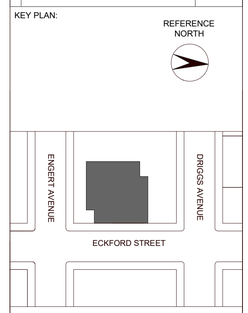
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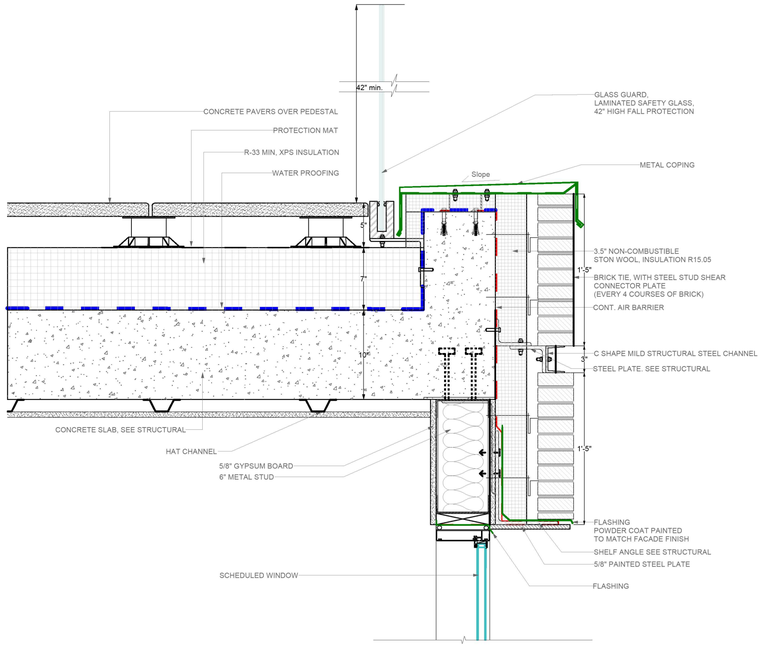
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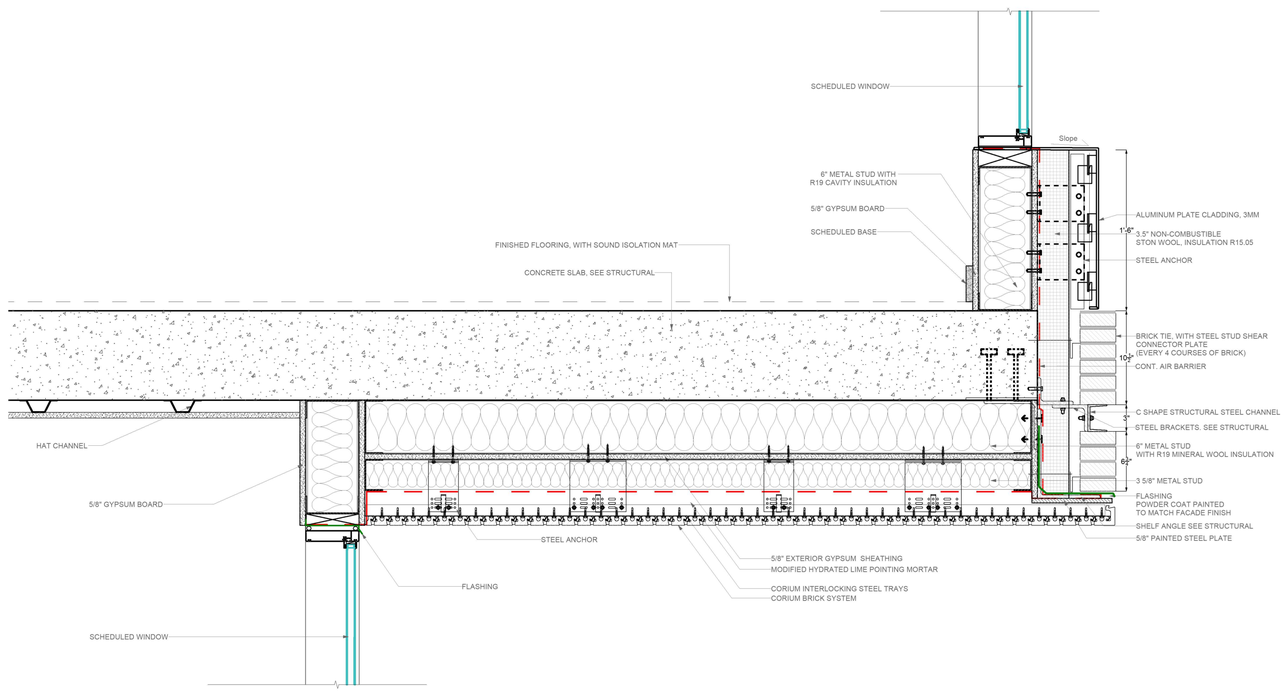
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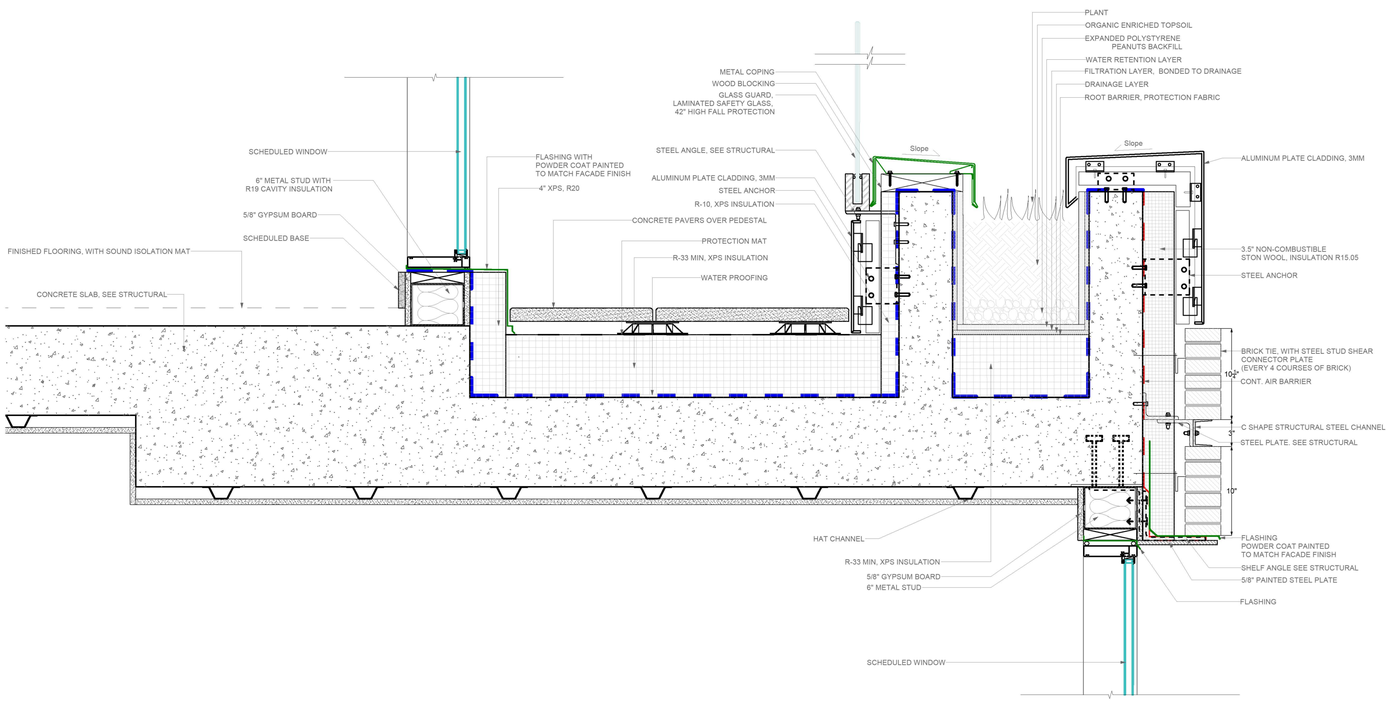
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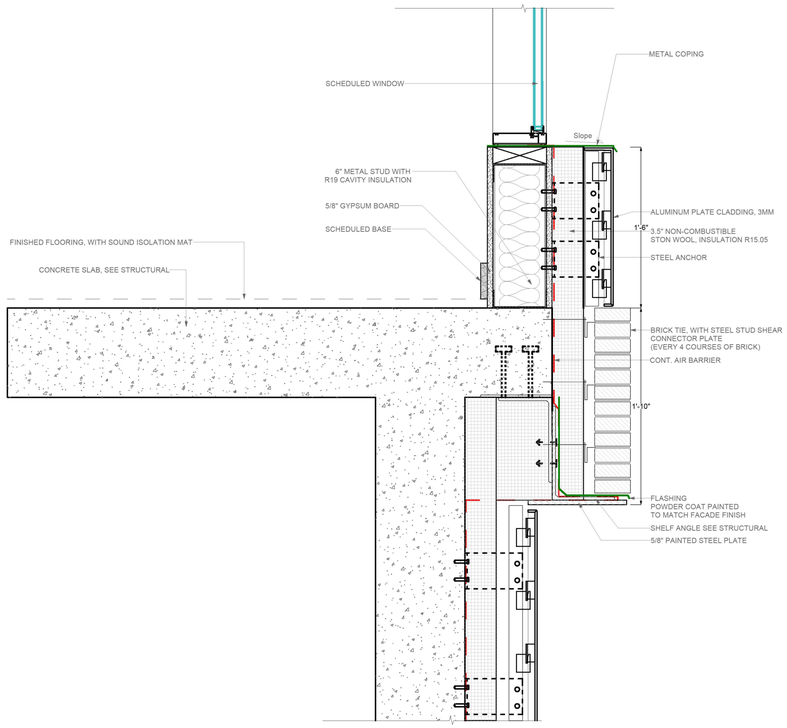
ROOF SLAB WITH BRICK FACE DETAIL, STREET FACADE 1



TYPICAL SLAB OVERHANG DETAIL, STREET FACADE 2



TYPICAL TERRACE FLOOR WITH PLANTER DETAIL, STREET FACADE 3



METAL TO BRICK FACE TRANSITION, STREET FACADE 2ND FLOOR 4

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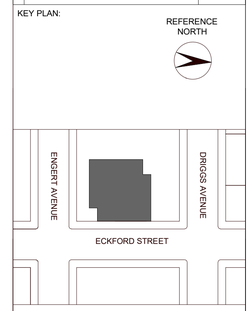
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DATE: 02/21/2025

SCALE:

DRAWING NO: **A811**

1 RCNY §5000-01
TABLE II – PROGRESS INSPECTIONS FOR ENERGY CODE COMPLIANCE – COMMERCIAL BUILDINGS

	Inspection/Test	Periodic (minimum)	Reference Standard (See ECC Chapter C6) or Other Criteria	ECC or Other Citation
IIA	**Envelope Inspections**			
IIA1	**Protection of exposed foundation insulation:** Insulation must be visually inspected to verify proper protection where applied to the exterior of basement or cellar walls, crawl-space walls and/or the perimeter of slab-on-grade floors.	As required during foundation work and prior to backfill	Approved construction documents, ASTM C272	C303.2.1; ASHRAE 90.1 – 5.8.1, 5.9
IIA2	**Insulation placement and R-values:** Installed insulation for each component of the conditioned space envelope and at junctions between components, including thermal bridges and heated slab insulation, must be visually inspected to ensure that the R-values are marked, that such R-values conform to the R-values identified in the construction documents and that the insulation is properly installed. Certifications for unmarked insulation also be visually inspected.	As required to verify continuous enclosure while walls, ceilings and floors are open	Approved construction documents	C303.1, C303.2, C402.1, C402.2, C402.6, C406; ASHRAE 90.1 –5.5, 5.6, 5.8, 5.9, 11 or Appendix G, Appendix I
IIA3	**Fenestration and door U-factor and product ratings:** U-factors, SHGC and VT values of installed fenestration must be visually inspected for conformance with the U-factors,SHGC and VT values identified in the construction	As required during installation	Approved construction documents; NFRC 100, NFRC 200, NFRC 300, ANSI/DASMA 105, ASTM E972	C303.1, C303.2, C402.1, C402.2, C402.6, C406; ASHRAE 90.1 –5.5, 5.6, 5.8, 5.9, 11 or Appendix G, Appendix I
IIA4	**Fenestration air leakage:** Windows and door assemblies, except site-built windows and/or doors, must be visually inspected to verify that installed assemblies are listed and labeled by the manufacturer to the referenced standard. For curtain wall, storefront glazing, commercial entrance doors and revolving doors, the testing reports must be reviewed to verify that the installed assembly complies with the standard cited in the approved plans. Weatherseals at loading docks must be visually verified.	As required during installation; prior to final construction inspection	NFRC 400, AAMA/WDMA/CSA 101/I.S.2/A440; ASTM E283; ANSI/DASMA 105	C402.5.2, C402.5.6; ASHRAE 90.1 – 5.4.3.2, 5.4.3.3, 5.8.2, 5.9
IIA5	**Fenestration areas:** Dimensions of windows, doors and skylights must be verified by visual inspection.	Prior to final construction inspection	Approved construction documents	C402.4; ASHRAE 90.1 – 5.4, 5.5.4, 5.6, 5.9, 11 or Appendix G
IIA6	**Air barrier visual inspection:** Openings and penetrations in the building envelope, including site-built fenestration and doors, must be visually inspected to verify that a continuous air barrier around the envelope forms an air-tight enclosure. The progress inspector must visually inspect to verify that materials and/or assemblies have been tested and meet the requirements of the respective standards, or must observe the testing of the building and/or assemblies and verify that the building and/or assemblies meet the requirements of the standard, in accordance with the standard(s) cited in the approved plans.	As required during construction	Approved construction documents; ASTM E2178, ASTM E2357, ASTM E1677, ASTM E779, ASTM E283.	C402.5; ASHRAE 90.1 – 5.4.3.1, 5.4.3.5, 5.9
N/A IIA7	**Air barrier testing:** Testing must be performed in accordance with section ECC C402.5.1.3.1 or ASHRAE 90.1 section 5.4.3.1.3, and shall be accepted if the building meets the requirements detailed in such section. Test results shall be retained in accordance with the provisions of Title 28 of the Administrative Code. Testing must be performed by a third-party independent of the contractor and acceptable to the department.	As required during construction; or prior to final construction inspection	Approved construction documents; ASTM E 779, ANSI/BOMA 265.1, ASTM E3158, RESNET/ICC 380	C402.5, C402.5.1.3, C406; ASHRAE 90.1 – 5.4.3.1.3, 5.9, Appendix I
IIA8	**Air barrier continuity plan testing:** Each unique air barrier joint or seam must be tested or inspected for compliance. Documentation includes the method of test performed on each unique air barrier joint or seam and the results of the test. If an air barrier joint or seam has a deficiency, the deficiency must be noted, and retested until it complies with the testing requirements. Test results must be retained in accordance with the provisions of Title 28 of the Administrative Code. Testing must be performed by a third-party independent of the contractor and acceptable to the department.	As required during construction	Approved construction documents; ASTM E779, ASTM E1186, ASTM E2813, ASTM E3158	C402.5.1.3; ASHRAE 90.1 – 5.4.3.1.3, 5.9
IIA9	**Vestibules:** Required entrance vestibules must be visually inspected for proper operation.	Prior to final construction inspection	Approved construction documents	C402.5.7; ASHRAE 90.1 – 5.4.3.4
IIB	**Mechanical and Service Water Heating Inspections**			
N/A IIB1	**Fireplaces:** Provision of combustion air and tight-fitting fireplace doors must be verified by visual inspection.	Prior to final construction inspection	Approved construction documents; UL 127	C402.2.8; BC 2111; MC Chapters 7, 8, 9; FGC Chapter 6
N/A IIB2	**Shutoff Dampers:** Dampers for stair and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope must be visually inspected to verify that such dampers, except where permitted to be gravity dampers, comply with approved construction drawings. Manufacturer's literature must be reviewed to verify that the product has been tested and found to meet the standard.	As required during installation	Approved construction documents; AMCA 500D	C402.5.5, C403.7.7; ASHRAE 90.1 – 6.4.3.4
N/A IIB3	**HVAC-R, commercial kitchen equipment, and service water heating equipment:** Equipment sizing, efficiencies, pipe sizing and other performance factors of all major equipment units, as determined by the applicant of record, and no less than 15% of minor equipment units, must be verified by visual inspection and, where necessary, review of manufacturer's data. Pool heaters and covers must be verified by visual inspection.	Prior to final plumbing and construction inspection	Approved construction documents, ASHRAE 183, ASHRAE HVAC Systems and Equipment Handbook	C403.1, C403.2, C403.3, C403.7.5, C404.2, C404.5, C404.9, C404.10, C406; ASHRAE 90.1 – 6.3, 6.4, 6.5, 6.7, 7.4, 7.5, 7.8, 10.4.6, Appendix I
N/A IIB4	**HVAC-R and service water heating system controls:** No less than 20% of each type of required controls must be verified by visual inspection and tested for functionality and proper operation. Such controls must include, but are not limited to: • Thermostatic • Off-hour • Zones • Freeze protection/Snow- and ice-melt system • Ventilation System and Fan Controls • Energy recovery systems • Kitchen/lab exhaust systems • Fan systems serving single and multiple zones • Outdoor heating systems • HVAC control in hotel/motel guest rooms • Air/Water Economizers & controls • Hydronic systems • Heat rejection systems • Hot gas bypass limitation • Refrigeration systems • Door switches • Computer room systems • Service water heating systems • Pool heater and time switches **Controls with seasonally dependent functionality:** Controls whose complete operation cannot be demonstrated due to prevailing weather conditions typical of the season during which progress inspections will be performed shall be permitted to be signed off for the purpose of a Temporary Certificate of Occupancy with only a visual inspection, provided, however, that the progress inspector must perform a supplemental inspection where the controls are visually inspected and tested for functionality and proper operation during the next immediate season thereafter. The owner must provide full access to the progress inspector within two weeks of the progress inspector's request for such access to perform the progress inspection. For such supplemental inspections, the Department must be notified by the approved progress inspection agency of any unresolved deficiencies in the installed work within 180 days of such supplemental inspection.	After installation and prior to final electrical and construction inspection, except that for controls with seasonally dependent functionality, such testing must be performed before sign-off for issuance of a Final Certificate of Occupancy	Approved construction documents, including control system narratives; ASHRAE Guideline 1: The HVAC Commissioning Process where applicable	C403, C404, C406, ASHRAE 90.1 – 6.3, 6.4, 6.5, 6.6, 7.4, 7.5, Appendix I
N/A IIB5	**HVAC-R and service water piping design and insulation:** Installed piping insulation must be visually inspected to verify proper insulation placement and values. Service hot water distribution systems must be inspected to verify the supply of heated water.	After installation and prior to closing shafts,ceilings and walls	Approved construction documents;	C403.11; C404.4, C404.5; MC 603.9; ASHRAE 90.1 – 6.3, 6.4.4, 6.8.2, 6.8.3, 7.4.3
N/A IIB6	**Duct leakage testing, insulation and design:** For duct systems designed to operate at static pressures in excess of 3 inches w.g. (747 Pa), representative sections, as determined by the progress inspector, totaling at least 25% of the duct area, must be tested to verify that actual air leakage is below allowable amounts. Installed duct insulation must be visually inspected to verify proper insulation placement and values. Joints, longitudinal and transverse seams and connections in ductwork must be visually inspected for proper sealing.	After installation and sealing and prior to closing shafts, ceilings and walls	Approved construction documents; SMACNA HVAC Air Duct Leakage Test Manual; SMACNA Duct Construction Standards, Metal and Flexible	C403.11; ASHRAE 90.1 – 6.4.4.2.2
IIC	**Electrical Power and Lighting Systems**			
IIC1	**Metering:** The presence and operation of all required meters for monitoring total electrical energy usage and/or total fuel use, system energy usage, tenant energy usage, or electrical energy usage in the building, in individual dwelling units, or in tenant spaces must be verified by visual inspection.	Prior to final electrical and construction inspection	Approved construction documents	C405.5, C405.11, C405.12; ASHRAE 90.1 – 8.4.3, 8.4.5, 8.4.6, 10.4.5
IIC2	**Lighting in dwelling units:** Lamps in permanently installed lighting fixtures must be visually inspected to verify compliance with high-efficacy requirements.	Prior to final electrical and construction inspection	Approved construction documents	C405.1; ASHRAE 90.1 – 9.1.1
IIC3	**Interior lighting power:** Installed lighting must be verified for compliance with the lighting power allowance by visual inspection of fixtures, lamps, ballasts and transformers.	Prior to final electrical and construction inspection	Approved construction documents	C405.3, C406; ASHRAE 90.1 –9.1, 9.2, 9.5, 9.6, 9.7; 1RCNY §101-07(c)(3)(v)(C)4, Appendix I
IIC4	**Exterior lighting power:** Installed lighting must be verified for compliance with source efficacy and/or the lighting power allowance by visual inspection of fixtures, lamps, ballasts and relevant transformers.	Prior to final electrical and construction inspection	Approved construction documents	C405.4; ASHRAE 90.1 –9.4.2; 1RCNY §101-07(c)(3)(v)(C)4
IIC5	**Lighting controls: Each type of required lighting controls, including:** • occupant sensors • manual interior lighting controls • light-reduction controls • automatic lighting shut-off • daylight zone controls • sleeping unit controls • exterior lighting controls • egress illumination controls must be verified by visual inspection and tested for functionality and proper operation.	Prior to final electrical and construction inspection	Approved construction documents, including control system narratives	C405.2, C406; ASHRAE 90.1 – 9.4.1, 9.4.3, 9.7, Appendix I
IIC6	**Electric motors and elevators:** Where required by the construction documents for energy code compliance, motor listing or labels be visually inspected to verify that they comply with the respective energy requirements in the construction documents. Elevators and escalators must be inspected for compliance with regenerative drive requirements.	Prior to final electrical and construction inspection	Approved construction documents	C403.8, C405.6, C405.7, C405.8, C405.9; ASHRAE 90.1 – 8.4.4, 10.4, 10.8
IID	**Other**			
IID1	**Maintenance information:** Maintenance manuals for mechanical, service hot water and electrical equipment and systems requiring preventive maintenance must be reviewed for applicability to installed equipment and systems before such manuals are provided to the owner. Labels required for such equipment or systems mustl be inspected for accuracy and completeness.	Prior to sign-off or issuance of Final Certificate of Occupancy	Approved construction documents, including electrical drawings where applicable; ASHRAE Guideline 4: Preparation of Operating and Maintenance Documentation for Building Systems	C408.11, C408.2.5.2, C408.3.2; ASHRAE 90.1 – 4.2.2.3, 6.7.2.2, 6.7.2.3.5.2, 8.7.2, 9.4.3.2.2, 9.7.2.2

COMMISSIONING STATEMENT

THE INSTALLED SYSTEM (COOLING) CAPACITY IS 2,124,700 BTU WHICH IS MORE THAN CODE REQUIRED 480,000 BTU.

THE INSTALLED SYSTEM (TOTAL COMBINED SPACE AND WATER HEATING) CAPACITY IS 2,510,146.92 BTU WHICH IS MORE THAN CODE REQUIRED 600,000 BTU

BUILDING MECHANICAL AND SERVICE WATER SYSTEMS COMMISSIONING IS REQUIRED
REFER TO MECHANICAL SET FOR MORE INFORMATION

OWNER SHALL ENGAGE A REGISTRED DESIGN PROFESSIONAL OR APPROVED AGENCY TO PROVIDE COMMISSIONING SERVICES IN COMPLIENCE WITH SECTION C408 OF 2020 NYCECC.

THE SPECIFICATIONS SHALL BE PROVIDED BY A COMMISSION AGENT AND TO BE SUBMITTED WITH DESIGN DOCUMENTS FOR BID.

SYSTEMS AND ASSOCIATED CONTROLS TO BE COMMISSIONED:
1) LIGHTING AND POWER (REFER TO MEP DRAWINGS FOR OTHER COMMISSIONING REQUIREDMENTS)

PROFESSIONAL STATEMENT

"TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, SUCH PLANS OR SPECIFICATIONS ARE IN COMPLIANCE WITH 2020 NEW YORK CITY ENERGY CONSERVATION CODE BY APPLICATION OF ASHRAE 90.1-2016 AS MODIFIED BY APPENDIX CA"

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

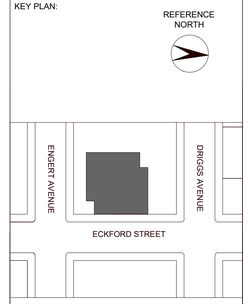
ARCHITECT
INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER
SHARON ENGINEERING P.C
34-27 Steinway Street, Suite 201
Long Island City, NY 11101
T: (718) 752-1500

MEP ENGINEER
REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:

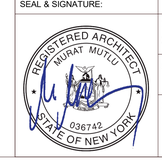


APPROVAL:

DWG TITLE:

ENERGY COMPLIANCE INFORMATION

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: 1/4" = 1'-0"

DRAWING NO: **EN001**

ENERGY COMPLIACNE NOTES

[NYC ENERGY CODE 2020] C401.1 SCOPE

THE PROVISIONS IN THIS CHAPTER ARE APPLICABLE TO COMMERCIAL BUILDINGS AND THEIR BUILDING SITES.

[NYC ENERGY CODE 2020] C401.2 APPLICATION

COMMERCIAL BUILDINGS SHALL COMPLY WITH ONE OF THE FOLLOWING COMPLIANCE PATHS:
1.ASHRAE COMPLIANCE PATH: THE REQUIREMENTS OF ASHRAE 90.1-2016 (AS AMENDED), AS SET FORTH IN APPENDIX CA.

PROPOSED BUILDING COMPLIES WITH THE REQUIREMENTS OF ASHRAE_NYCECC_2020_APPENDIX_CA. SEE EN PAGES AND MEP DRAWINGS.

ASHRAE 90.1-2016 (AS AMENDED), AS SET FORTH IN APPENDIX CA

CHAPTER 5_BUILDING ENVELOPE

5.4.1 INSULATION
WHERE INSULATION IS REQUIRED IN SECTION 5.5 OR SECTION 5.6, IT SHALL COMPLY WITH THE REQUIREMENTS FOUND IN SECTION 5.8.1.

5.4.2 FENESTRATION AND DOORS
PROCEDURES FOR DETERMINING FENESTRATION AND DOOR PERFORMANCE ARE DESCRIBED IN SECTION 5.8.2. PRODUCT SAMPLES USED FOR DETERMINING FENESTRATION PERFORMANCE SHALL BE PRODUCTION LINE UNITS OR REPRESENTATIVE OF UNITS PURCHASED BY THE CONSUMER OR CONTRACTOR.

5.4.3 AIR LEAKAGE

5.4.3.1 CONTINUOUS AIR BARRIER
THE ENTIRE BUILDING ENVELOPE SHALL BE DESIGNED AND CONSTRUCTED WITH A CONTINUOUS AIR BARRIER.

EXCEPTIONS TO 5.4.3.1
1. SEMIHEATED SPACES IN CLIMATE ZONES 0 THROUGH 6.
2. SINGLE WYTHE CONCRETE MASONRY BUILDINGS IN CLIMATE ZONE 2B.

5.4.3.1.1 CONTINUOUS AIR BARRIER DESIGN
THE CONTINUOUS AIR BARRIER SHALL BE DESIGNED AND NOTED IN THE FOLLOWING MANNER:

A. ALL AIR BARRIER COMPONENTS OF EACH BUILDING ENVELOPE ASSEMBLY SHALL BE CLEARLY IDENTIFIED OR OTHERWISE NOTED ON CONSTRUCTION DOCUMENTS.

B. THE JOINTS, INTERCONNECTIONS, AND PENETRATIONS OF THE CONTINUOUS AIR BARRIER COMPONENTS, INCLUDING LIGHTING FIXTURES, SHALL BE DETAILED OR OTHERWISE NOTED.

C. THE CONTINUOUS AIR BARRIER SHALL EXTEND OVER ALL SURFACES OF THE BUILDING ENVELOPE (AT THE LOWEST FLOOR, WALLS, AND ROOF).

D. THE CONTINUOUS AIR BARRIER SHALL BE DESIGNED TO RESIST POSITIVE AND NEGATIVE PRESSURES FROM WIND, STACK EFFECT, AND MECHANICAL VENTILATION.

5.4.3.1.2 CONTINUOUS AIR BARRIER INSTALLATION

THE FOLLOWING AREAS OF THE CONTINUOUS AIR BARRIER IN THE BUILDING ENVELOPE SHALL BE WRAPPED, SEALED, CAULKED, GASKETED, OR TAPED IN AN APPROVED MANNER TO MINIMIZE AIR LEAKAGE:

A. JOINTS AROUND FENESTRATION AND DOOR FRAMES (BOTH MANUFACTURED AND SITE-BUILT).

B. JUNCTIONS BETWEEN WALLS AND FLOORS, BETWEEN WALLS AT BUILDING CORNERS, AND BETWEEN WALLS AND ROOFS OR CEILINGS.

C. PENETRATIONS THROUGH THE CONTINUOUS AIR BARRIER IN BUILDING ENVELOPE ROOFS, WALLS, AND FLOORS.

D. BUILDING ASSEMBLIES USED AS DUCTS OR PLENUMS.

E. JOINTS, SEAMS, CONNECTIONS BETWEEN PLANES, AND OTHER CHANGES IN CONTINUOUS AIR BARRIER MATERIALS.

5.4.3.1.3 TESTING, ACCEPTABLE MATERIALS, AND ASSEMBLIES
THE BUILDING SHALL COMPLY WITH WHOLE-BUILDING PRESSURIZATION TESTING IN ACCORDANCE WITH SECTION 5.4.3.1.3(A) OR WITH THE CONTINUOUS AIR BARRIER REQUIREMENTS IN SECTION 5.4.3.1.3(B) OR 5.4.3.1.3(C).

B. MATERIALS THAT HAVE AN AIR PERMEANCE NOT EXCEEDING 0.004 CFM/FT2 UNDER A PRESSURE DIFFERENTIAL OF 0.3 IN. OF WATER (1.57 PSF) WHEN TESTED IN ACCORDANCE WITH ASTM E2178. THE FOLLOWING MATERIALS MEET THESE REQUIREMENTS:

1. PLYWOOD—MINIMUM 3/8 IN.
2. ORIENTED STRAND BOARD—MINIMUM 3/8 IN.
3. EXTRUDED POLYSTYRENE INSULATION BOARD—MINIMUM 1/2 IN.
4. FOIL-FACED URETHANE INSULATION BOARD—MINIMUM 1/2 IN.
5. EXTERIOR GYPSUM SHEATHING OR INTERIOR GYPSUM BOARD—MINIMUM 1/2 IN.
6. CEMENT BOARD—MINIMUM 1/2 IN.
7. BUILT-UP ROOFING MEMBRANE
8. MODIFIED BITUMINOUS ROOF MEMBRANE
9.SINGLE-PLY ROOF MEMBRANE
10. A PORTLAND CEMENT/SAND PARGE, STUCCO, OR GYPSUM PLASTER—MINIMUM 1/2 IN. THICK
11. CAST-IN-PLACE AND PRECAST CONCRETE
SHEET METAL
12. CLOSED-CELL 2 LB/FT3 NOMINAL DENSITY SPRAY POLYURETHANE FOAM—MINIMUM 1 IN.

C. ASSEMBLIES OF MATERIALS AND COMPONENTS (SEALANTS, TAPES, ETC.) THAT HAVE AN AVERAGE AIR LEAKAGE NOT TO EXCEED 0.04 CFM/FT2 UNDER A PRESSURE DIFFERENTIAL OF 0.3 IN. OF WATER (1.57 PSF) WHEN TESTED IN ACCORDANCE WITH ASTM E2357, ASTM E1677, ASTM E1680, OR ASTM E283. THE FOLLOWING ASSEMBLIES MEET THESE REQUIREMENTS:

1. CONCRETE MASONRY WALLS THAT ARE

(A) FULLY GROUTED, OR
(B) PAINTED TO FILL THE PORES.

5.4.3.2 FENESTRATION AND DOORS
AIR LEAKAGE FOR FENESTRATION AND DOORS SHALL BE DETERMINED IN ACCORDANCE WITH AAMA/WDMA/CSA 101/I.S.2/A440, NFRC 400, OR ASTM E283 AS SPECIFIED BELOW. AIR LEAKAGE SHALL BE DETERMINED BY A LABORATORY ACCREDITED BY A NATIONALLY RECOGNIZED ACCREDITATION ORGANIZATION, SUCH AS THE NATIONAL FENESTRATION RATING COUNCIL, AND SHALL BE LABELED AND CERTIFIED BY THE MANUFACTURER. AIR LEAKAGE SHALL NOT EXCEED

A. 1.0 CFM/FT2 FOR GLAZED SWINGING ENTRANCE DOORS, GLAZED POWER-OPERATED SLIDING ENTRANCE DOORS, GLAZED POWER-OPERATED FOLDING ENTRANCE DOORS, AND REVOLVING DOORS, TESTED AT A PRESSURE OF AT LEAST 1.57 PSF IN ACCORDANCE WITH AAMA/WDMA/CSA 101/I.S.2/A440, NFRC 400, OR ASTM E283;

B. 0.06 CFM/FT2 FOR CURTAINWALL AND STOREFRONT GLAZING, TESTED AT A PRESSURE OF AT LEAST 1.57 PSFIN ACCORDANCE WITH NFRC 400 OR ASTM E283;

C. 0.3 CFM/FT2 FOR UNIT SKYLIGHTS HAVING CONDENSATION WEEPAGE OPENINGS, TESTED AT A PRESSURE OF AT LEAST 1.57 PSF IN ACCORDANCE WITH AAMA/WDMA/CSA 101/I.S.2/A440 OR NFRC 400, OR 0.5 CFM/FT2 TESTED AT A PRESSURE OF AT LEAST 6.24 PSF IN ACCORDANCE WITH AAMA/WDMA/CSA 101/I.S.2/A440;

D. 1.3 CFM/FT2 FOR NONSWINGING DOORS INTENDED FOR VEHICULAR ACCESS AND MATERIAL TRANSPORTATION, WITH A MINIMUM OPENING RATE OF 32 IN/S, TESTED AT A PRESSURE OF AT LEAST 1.57 PSF IN ACCORDANCE WITH ANSI/DASMA 105, NFRC 400, OR ASTM E283;

E. 0.4 CFM/FT2 FOR OTHER OPAQUE NONSWINGING DOORS, GLAZED SECTIONAL GARAGE DOORS, AND UPWARD ACTING GLAZED NONSWINGING DOORS TESTED AT A PRESSURE OF AT LEAST 1.57 PSF IN ACCORDANCE WITH ANSI/DASMA 105, NFRC 400, OR ASTM E283; AND

F. 0.2 CFM/FT2 FOR ALL OTHER PRODUCTS TESTED AT A PRESSURE OF AT LEAST 1.57 PSF IN ACCORDANCE WITH AAMA/WDMA/CSA 101/I.S.2/A440 OR NFRC 400, OR 0.3 CFM/FT2 TESTED AT A PRESSURE OF AT LEAST 6.24 PSF IN ACCORDANCE WITH AAMA/WDMA/CSA 101/I.S/A440.

EXCEPTIONS TO 5.4.3.2

1. FIELD-FABRICATED FENESTRATION AND DOORS.

2. AIR LEAKAGE SHALL NOT EXCEED 1.0 CFM/FT2 WHEN TESTED AT A PRESSURE OF AT LEAST 1.57 PSF IN ACCORDANCE WITH ANSI/DASMA 105, NFRC 400, OR ASTM E283 FOR METAL COILING DOORS IN SEMIHEATED SPACES IN CLIMATE ZONES 0 THROUGH 6.

3. PRODUCTS IN BUILDINGS THAT COMPLY WITH A WHOLE BUILDING AIR LEAKAGE RATE OF 0.4 CFM/FT2 UNDER A PRESSURE DIFFERENTIAL OF 0.3 IN. OF WATER, 1.57 PSF WHEN TESTED IN ACCORDANCE WITH ASTM E779.

5.4.3.4 VESTIBULES

BUILDING ENTRANCES THAT SEPARATE CONDITIONED SPACE FROM THE EXTERIOR SHALL BE PROTECTED WITH AN ENCLOSED VESTIBULE, WITH ALL DOORS OPENING INTO AND OUT OF THE VESTIBULE EQUIPPED WITH SELF-CLOSING DEVICES. VESTIBULES SHALL BE DESIGNED SO THAT IN PASSING THROUGH THE VESTIBULE IT IS NOT NECESSARY FOR THE INTERIOR AND EXTERIOR DOORS TO OPEN AT THE SAME TIME. INTERIOR AND EXTERIOR DOORS SHALL HAVE A MINIMUM DISTANCE BETWEEN THEM OF NOT LESS THAN 7 FT WHEN IN THE CLOSED POSITION. THE FLOOR AREA OF EACH VESTIBULE SHALL NOT EXCEED THE GREATER OF 50 FT2 OR 2% OF THE GROSS CONDITIONED FLOOR AREA FOR THAT LEVEL OF THE BUILDING. THE EXTERIOR ENVELOPE OF CONDITIONED VESTIBULES SHALL COMPLY WITH THE REQUIREMENTS FOR A CONDITIONED SPACE. THE INTERIOR AND EXTERIOR ENVELOPE OF UNCONDITIONED VESTIBULES SHALL COMPLY WITH THE REQUIREMENTS FOR A SEMIHEATED SPACE.

EXCEPTIONS TO 5.4.3.4

1. BUILDING ENTRANCES WITH REVOLVING DOORS.

2. DOORS NOT INTENDED TO BE USED AS A BUILDING ENTRANCE.

3. DOORS OPENING DIRECTLY FROM A DWELLING UNIT.

4. BUILDING ENTRANCES IN BUILDINGS LOCATED IN CLIMATE ZONE 1 OR 2.

5. BUILDING ENTRANCES IN BUILDINGS THAT ARE LOCATED IN CLIMATE ZONE 3, LESS THAN FOUR STORIES ABOVE GRADE, AND LESS THAN 10,000 FT2 IN GROSS CONDITIONED FLOOR AREA.

6. BUILDING ENTRANCES IN BUILDINGS THAT ARE LOCATED IN CLIMATE ZONE 0, 4, 5, 6, 7, OR 8 AND ARE LESS THAN 1000 FT2 IN GROSS CONDITIONED FLOOR AREA.

7.DOORS THAT OPEN DIRECTLY FROM A SPACE THAT IS LESS THAN 3,000 FT2 IN AREA AND IS SEPARATE FROM THE BUILDING ENTRANCE, IN BUILDINGS LESS THAN 75 FEET IN HEIGHT, AND DOORS THAT OPEN DIRECTLY FROM A SPACE THAT IS LESS THAN 1,000 SQUARE FEET IN AREA, IN BUILDINGS 75 FEET AND GREATER IN HEIGHT.

8.SEMIHEATED SPACES.

5.4.3.4.1
WHERE VESTIBULES ARE REQUIRED UNDER SECTION 5.4.3.4, FOR SPACES HAVING A GROSS CONDITIONED FLOOR AREA FOR THAT LEVEL OF THE BUILDING OF 40,000 FT2 AND GREATER, AND WHEN THE DOORS OPENING INTO AND OUT OF THE VESTIBULE ARE EQUIPPED WITH AUTOMATIC, ELECTRICALLY DRIVEN, SELF-CLOSING DEVICES, THE INTERIOR AND EXTERIOR DOORS SHALL HAVE A MINIMUM DISTANCE BETWEEN THEM OF NOT LESS THAN 16 FT.

TABLE 5.5-4 BUILDING ENVELOPE REQUIREMENTS FOR CLIMATE ZONE 4A

ENVELOPE (NON-RESIDENTIAL)	INSULATION MIN. R-VALUE	ASSEMBLY MAX. U-FACTOR	PROPOSED R-VALUE	PROPOSED U-FACTOR
ROOFS, INSULATION ENTIRELY ABOVE DECK	R-33 CI	U-0.030	R-33 CI	0.030(PER COMCHECK)
WALLS, MASS	R-13.25 CI	U-0.086	R-15.05 CI	
BELOW GRADE WALL	R-10 CI	C-0.092	R-10 CI	
WALLS, STEEL FRAMED	R-13 + R8.5CI	U-0.061	R-19 + R-15.05 CI	
SLAB-ON GRADE FLOORS, UNHEATED	R-15 FOR 24"	F-0.520	R-20 FOR 24"	
OPAQUE DOORS, SWINGS		U-0.370		U-0.3
FLOOR, MASS	R-16.7	U-0.051	R-17.2	U-0.056

* VALUES BASED ON ASHRAE 2016 TABLE 5.5-4 BUILDING ENVELOPE REQUIREMENTS FOR CLIMATE ZONE 4A

FENESTRATION	ASSEMBLY MAX. U	ASSEMBLY MAX. SHGC	ASSEMBLY MIN. V/T / SHGC	PROPOSED U	PROPOSED SHGC	PROPOSED VT
METAL FRAMING, FIXED(95'-)	U-0.30	SHGC-0.36	1.10	U-0.3	SHGC-0.25	0.59
METAL FRAMING, OPERABLE(95'-)	U-0.40	SHGC-0.36	1.10	U-0.3	SHGC-0.25	0.59
METAL FRAMING, ENTRANCE DOOR	U-0.68	SHGC-0.36	1.10	U-0.3	SHGC-0.25	0.59

LINEAR THERMAL BRIDGES(ASHEA_2020_CA_TABLE 5.4.4)

LTB NO.	ENERGY IDENTITY	Ψ-VALUE	Ψ-VALUE CALCULATION	TERMAL LENGTH	ASSEMBLY ID FROM ENERGY ANALYSIS	SECTION DETAIL LOCATION
LTB. 1	_SLAB EDGE	0.44	DEFAULT VALUE (C402.6)	918' - 7 15/32"	WALL TYPE A1,B1,D1, E1 WHEN APPLICABLE	SEE EN05~EN08 AND A800 SHEETS
LTB. 2	_PARAPET	0.42	DEFAULT VALUE (C402.6)	338' - 5"	N/A	SEE EN05~EN08 AND A800 SHEETS
LTB. 3	_FENESTRATION PARAMETER	0.32	DEFAULT VALUE (C402.6)	3059' - 1 17/32"	N/A	SEE EN05~EN08 AND A800 SHEETS
LTB. 4	_BALCONY	0.50	Ψ-VALUE OF BETTER PERFORMING DETAILS PER BC HYDRO BUILDING ENVELOPE THERMAL BRIDGING GUIDE V.1.2	591' - 0 29/32"	N/A	SEE EN05~EN08 AND A800 SHEETS

CHAPTER 4_LIGHTING

9.4.1 LIGHTING CONTROL
BUILDING LIGHTING CONTROLS SHALL BE INSTALLED TO MEET THE PROVISIONS OF SECTIONS 9.4.1.1, 9.4.1.2, 9.4.1.3 AND 9.4.1.4.

9.4.1.1 INTERIOR LIGHTING CONTROLS
FOR EACH SPACE IN THE BUILDING, ALL OF THE LIGHTING CONTROL FUNCTIONS INDICATED IN TABLE 9.6.1, FOR THE APPROPRIATE SPACE TYPE IN THE FIRST COLUMN, AND AS DESCRIBED BELOW, SHALL BE IMPLEMENTED. ALL CONTROL FUNCTIONS LABELED WITH AN "REQ" ARE MANDATORY AND SHALL BE IMPLEMENTED. IF A SPACE TYPE HAS CONTROL FUNCTIONS LABELED "ADD1," THEN AT LEAST ONE OF THOSE FUNCTIONS SHALL BE IMPLEMENTED. IF A SPACE TYPE HAS CONTROL FUNCTIONS LABELED "ADD2," THEN AT LEAST ONE OF THOSE FUNCTIONS SHALL BE IMPLEMENTED. FOR SPACE TYPES NOT LISTED, SELECT A REASONABLY EQUIVALENT TYPE.

IF USING THE SPACE-BY-SPACE METHOD, THE SPACE TYPE USED FOR DETERMINING CONTROL REQUIREMENTS SHALL BE THE SAME SPACE TYPE THAT IS USED FOR DETERMINING THE LPD ALLOWANCE.

A. LOCAL CONTROL: THERE SHALL BE ONE OR MORE MANUAL LIGHTING CONTROLS IN THE SPACE THAT CONTROLS ALL OF THE LIGHTING IN THE SPACE. EACH CONTROL DEVICE SHALL CONTROL AN AREA (1) NO LARGER THAN 2500 FT2 IF THE SPACE IS ≤ 10,000 FT2 AND (2) NO LARGER THAN 10,000 FT2 OTHERWISE. THE DEVICE INSTALLED TO COMPLY WITH THIS PROVISION SHALL BE READILY ACCESSIBLE AND LOCATED SO THAT THE OCCUPANTS CAN SEE THE CONTROLLED LIGHTING WHEN USING THE CONTROL DEVICE.

EXCEPTION TO 9.4.1.1(A)
REMOTE LOCATION OF THIS LOCAL CONTROL DEVICE OR DEVICES SHALL BE PERMITTED FOR REASONS OF SAFETY OR SECURITY WHEN EACH REMOTE CONTROL DEVICE HAS AN INDICATOR PILOT LIGHT AS PART OF OR NEXT TO THE CONTROL DEVICE AND THE LIGHT IS CLEARLY LABELED TO IDENTIFY THE CONTROLLED LIGHTING.

B.RESTRICTED TO MANUAL ON: NONE OF THE LIGHTING SHALL BE AUTOMATICALLY TURNED ON.

EXCEPTION TO 9.4.1.1(B)
MANUAL ON IS NOT REQUIRED WHERE MANUAL ON OPERATION OF THE GENERAL LIGHTING WOULD ENDANGER THE SAFETY OR SECURITY OF THE ROOM OR BUILDING OCCUPANTS.

C.RESTRICTED TO PARTIAL AUTOMATIC ON: NO MORE THAN 50% OF THE LIGHTING POWER FOR THE GENERAL LIGHTING SHALL BE ALLOWED TO BE AUTOMATICALLY TURNED ON, AND NONE OF THE REMAINING LIGHTING SHALL BE AUTOMATICALLY TURNED ON.

EXCEPTION TO 9.4.1.1(C)
LIGHTING IN OPEN-PLAN OFFICE SPACES SHALL BE ALLOWED TO TURN ON AUTOMATICALLY TO MORE THAN 50%, PROVIDED THE CONTROL ZONE IS NO LARGER THAN 600 FT2.

D. BILEVEL LIGHTING CONTROL: THE GENERAL LIGHTING IN THE SPACE SHALL BE CONTROLLED SO AS TO PROVIDE AT LEAST ONE INTERMEDIATE STEP IN LIGHTING POWER OR CONTINUOUS DIMMING IN ADDITION TO FULL ON AND FULL OFF. AT LEAST ONE INTERMEDIATE STEP SHALL BE BETWEEN 30% AND 70% (INCLUSIVE) OF FULL LIGHTING POWER.

E. AUTOMATIC DAYLIGHT RESPONSIVE CONTROLS FOR SIDELIGHTING: IN ANY SPACE WHERE THE COMBINED INPUT POWER OF ALL GENERAL LIGHTING COMPLETELY OR PARTIALLY WITHIN THE PRIMARY SIDELIGHTED AREAS IS 100 W OR GREATER, THE GENERAL LIGHTING IN THE PRIMARY SIDELIGHTED AREAS SHALL BE CONTROLLED BY PHOTOCONTROLS. IN ANY SPACE WHERE THE COMBINED INPUT POWER OF ALL GENERAL LIGHTING COMPLETELY OR PARTIALLY WITHIN THE PRIMARY SIDELIGHTED AREA AND SECONDARY SIDELIGHTED AREA IS 200 W OR GREATER, THE GENERAL LIGHTING IN THE PRIMARY SIDELIGHTED AREA AND SECONDARY SIDELIGHTED AREA SHALL BE CONTROLLED BY PHOTOCONTROLS. GENERAL LIGHTING IN THE SECONDARY SIDELIGHTED AREA SHALL BE CONTROLLED INDEPENDENTLY OF THE GENERAL LIGHTING IN THE PRIMARY SIDELIGHTED AREA.THE CONTROL SYSTEM SHALL HAVE THE FOLLOWING CHARACTERISTICS:

1. THE CALIBRATION ADJUSTMENT CONTROL SHALL BE LOCATED NO HIGHER THAN 11 FT ABOVE THE FINISHED FLOOR.
2.THE PHOTOCONTROL SHALL REDUCE ELECTRIC LIGHTING IN RESPONSE TO AVAILABLE DAYLIGHT USING CONTINUOUS DIMMING OR WITH AT LEAST ONE CONTROL POINT BETWEEN 50% AND 70% OF DESIGN LIGHTING POWER, A SECOND CONTROL POINT BETWEEN 20% AND 40% OF DESIGN LIGHTING POWER OR THE LOWEST DIMMING LEVEL THE TECHNOLOGY ALLOWS, AND A THIRD CONTROL POINT THAT TURNS OFF ALL THE CONTROLLED LIGHTING.
3.THE CALIBRATION SHALL NOT REQUIRE THE PHYSICAL PRESENCE OF A PERSON AT THE SENSOR WHILE THE CALIBRATION IS PROCESSING.

EXCEPTION TO 9.4.1.1(E)
THE FOLLOWING AREAS ARE EXEMPTED FROM SECTION 9.4.1.1(E):
PRIMARY SIDELIGHTED AREAS WHERE THE TOP OF ANY EXISTING ADJACENT STRUCTURE IS TWICE AS HIGH ABOVE THE WINDOWS AS ITS DISTANCE AWAY FROM THE WINDOWS.
SIDELIGHTED AREAS WHERE THE TOTAL GLAZING AREA IS LESS THAN 20 FT2.
RETAIL SPACES.

F. AUTOMATIC DAYLIGHT RESPONSIVE CONTROLS FOR TOPLIGHTING: IN ANY SPACE WHERE THE COMBINED INPUT POWER FOR ALL GENERAL LIGHTING COMPLETELY OR PARTIALLY WITHIN DAYLIGHT AREA UNDER SKYLIGHTS AND DAYLIGHT AREA UNDER ROOF MONITORS IS 100 W OR GREATER, GENERAL LIGHTING IN THE DAYLIGHT AREA SHALL BE CONTROLLED BY PHOTOCONTROLS. THE CONTROL SYSTEM SHALL HAVE THE FOLLOWING CHARACTERISTICS:

1. THE PHOTOCONTROL SHALL REDUCE ELECTRIC LIGHTING IN RESPONSE TO AVAILABLE DAYLIGHT USING CONTINUOUS DIMMING OR WITH AT LEAST ONE CONTROL POINT THAT IS BETWEEN 50% AND 70% OF DESIGN LIGHTING POWER, A SECOND CONTROL POINT BETWEEN 20% AND 40% OF DESIGN LIGHTING POWER OR THE LOWEST DIMMING LEVEL THE TECHNOLOGY ALLOWS, AND A THIRD CONTROL POINT THAT TURNS OFF ALL THE CONTROLLED LIGHTING.
2. THE CALIBRATION SHALL NOT REQUIRE THE PHYSICAL PRESENCE OF A PERSON AT THE SENSOR WHILE THE CALIBRATION IS PROCESSING.
3. GENERAL LIGHTING IN OVERLAPPING TOPLIGHTED AND SIDELIGHTED DAYLIGHT AREAS SHALL BE CONTROLLED TOGETHER WITH GENERAL LIGHTING IN THE DAYLIGHT AREA UNDER SKYLIGHTS OR DAYLIGHT AREA UNDER ROOF MONITORS.

EXCEPTION TO 9.4.1.1(F)
THE FOLLOWING AREAS ARE EXEMPTED FROM SECTION 9.4.1.1(F):
1. DAYLIGHT AREA UNDER SKYLIGHTS WHERE IT IS DOCUMENTED THAT EXISTING ADJACENT STRUCTURES OR NATURAL OBJECTS BLOCK DIRECT SUNLIGHT FOR MORE THAN 1500 DAYTIME HOURS PER YEAR BETWEEN 8 A.M. AND 4 P.M.
2. DAYLIGHT AREA UNDER SKYLIGHTS WHERE THE OVERALL SKYLIGHT EFFECTIVE APERTURE FOR THE ENCLOSED SPACE IS LESS THAN 0.006.
3. IN EACH SPACE WITHIN BUILDINGS IN CLIMATE ZONE 8 WHERE THE INPUT POWER OF THE GENERAL LIGHTING WITHIN DAYLIGHT AREAS IS LESS THAN 200 W.

G. AUTOMATIC PARTIAL OFF (FULL OFF COMPLIES): THE GENERAL LIGHTING POWER IN THE SPACE SHALL BE AUTOMATICALLY REDUCED BY AT LEAST 50% WITHIN 15 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE. THE CONTROLS IN OPEN PLAN OFFICES, CAFETERIA DINING AREAS, AND FAST FOOD DINING AREAS, 300 FT2 AND GREATER IN AREA, SHALL BE CONFIGURED SO THAT GENERAL LIGHTING POWER IN EACH CONTROL ZONE IS REDUCED BY NOT LESS THAN 80% OF THE FULL ZONE GENERAL LIGHTING POWER IN A REASONABLY UNIFORM ILLUMINATION PATTERN WITHIN 15 MINUTES OF ALL OCCUPANTS LEAVING THAT CONTROL ZONE. CONTROL FUNCTIONS THAT SWITCH CONTROL ZONE LIGHTS COMPLETELY OFF WHEN THE ZONE IS VACANT MEET THIS REQUIREMENT.

EXCEPTION TO 9.4.1.1(G)
THIS REQUIREMENT DOES NOT HAVE TO BE COMPLIED WITH IN SPACES THAT MEET ALL FOUR OF THE FOLLOWING REQUIREMENTS:
1.THE SPACE HAS AN INSTALLED LPD OF NO MORE THAN 0.80 W/FT2.
2.THE SPACE IS LIGHTED BY HID LAMP.
3.THE GENERAL LIGHTING POWER IN THE SPACE IS AUTOMATICALLY REDUCED BY AT LEAST 30% WITHIN 15 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE.
4. LIGHTING LOAD DOES NOT EXCEED 0.02 W/FT2 MULTIPLIED BY THE GROSS LIGHTED AREA OF THE BUILDING.

H. AUTOMATIC FULL OFF: ALL LIGHTING, INCLUDING LIGHTING CONNECTED TO EMERGENCY CIRCUITS, SHALL BE AUTOMATICALLY SHUT OFF WITHIN 15 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE. A CONTROL DEVICE MEETING THIS REQUIREMENT SHALL CONTROL NO MORE THAN 5000 FT2, PROVIDED THAT FOR OPEN PLAN OFFICE SPACES OR DINING SPACES A CONTROL DEVICE MEETING THIS REQUIREMENT SHALL CONTROL NOT GREATER THAN 600 FT2.

EXCEPTION TO 9.4.1.1(H)
THE FOLLOWING LIGHTING IS NOT REQUIRED TO BE AUTOMATICALLY SHUT OFF:
1. GENERAL LIGHTING AND TASK LIGHTING IN SHOP, LABORATORY, AND PRESCHOOL CLASSROOMS.
2. GENERAL LIGHTING AND TASK LIGHTING IN SPACES WHERE AUTOMATIC SHUTOFF WOULD ENDANGER THE SAFETY OR SECURITY OF ROOM OR BUILDING OCCUPANTS.
3. LIGHTING REQUIRED FOR 24/7 OPERATION.
4. LIGHTING LOAD DOES NOT EXCEED 0.02 W/FT2 MULTIPLIED BY THE GROSS LIGHTED AREA OF THE BUILDING.

I. SCHEDULED SHUTOFF: ALL LIGHTING IN THE SPACE, INCLUDING LIGHTING CONNECTED TO EMERGENCY CIRCUITS, SHALL BE AUTOMATICALLY SHUT OFF DURING PERIODS WHEN THE SPACE IS SCHEDULED TO BE UNOCCUPIED USING EITHER (1) A TIME-OF-DAY OPERATED CONTROL DEVICE THAT AUTOMATICALLY TURNS THE LIGHTING OFF AT SPECIFIC PROGRAMMED TIMES OR (2) A SIGNAL FROM ANOTHER AUTOMATIC CONTROL DEVICE OR ALARM/SECURITY SYSTEM. THE CONTROL DEVICE OR SYSTEM SHALL PROVIDE INDEPENDENT CONTROL SEQUENCES THAT (1) CONTROL THE LIGHTING FOR AN AREA OF NO MORE THAN 25,000 FT2, (2) INCLUDE NO MORE THAN ONE FLOOR, AND (3) SHALL BE PROGRAMMED TO ACCOUNT FOR WEEKENDS AND HOLIDAYS. ANY MANUAL CONTROL INSTALLED TO PROVIDE OVERRIDE OF THE SCHEDULED SHUTOFF CONTROL SHALL NOT TURN THE LIGHTING ON FOR MORE THAN TWO HOURS PER ACTIVATION DURING SCHEDULED OFF PERIODS AND SHALL NOT CONTROL MORE THAN 5000 FT2.

EXCEPTION TO 9.4.1.1(I)
THE FOLLOWING LIGHTING IS NOT REQUIRED TO BE ON SCHEDULED SHUTOFF:
1. LIGHTING IN SPACES WHERE LIGHTING IS REQUIRED FOR 24/7 CONTINUOUS OPERATION.
2. LIGHTING IN SPACES WHERE PATIENT CARE IS RENDERED.
3. LIGHTING IN SPACES WHERE AUTOMATIC SHUTOFF WOULD ENDANGER THE SAFETY OR SECURITY OF THE ROOM OR BUILDING OCCUPANTS.
4. LIGHTING LOAD NOT EXCEEDING 0.02 W/FT2 MULTIPLIED BY THE GROSS LIGHTED AREA OF THE BUILDING.

9.4.1.2 PARKING GARAGE LIGHTING CONTROL
LIGHTING FOR PARKING GARAGES SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:

A. PARKING GARAGE LIGHTING SHALL HAVE AUTOMATIC LIGHTING SHUTOFF PER SECTION 9.4.1.1(I).

B. LIGHTING POWER OF EACH LUMINAIRE SHALL BE AUTOMATICALLY REDUCED BY A MINIMUM OF 30% WHEN THERE IS NO ACTIVITY DETECTED WITHIN A LIGHTING ZONE FOR 15 MINUTES. LIGHTING ZONES FOR THIS REQUIREMENT SHALL BE NO LARGER THAN 3600 FT2.

C. LIGHTING FOR COVERED VEHICLE ENTRANCES AND EXITS FROM BUILDINGS AND PARKING STRUCTURES SHALL BE SEPARATELY CONTROLLED BY A DEVICE THAT AUTOMATICALLY REDUCES THE LIGHTING BY AT LEAST 50% FROM SUNSET TO SUNRISE.

D. THE POWER TO LUMINAIRES WITHIN 20 FT OF ANY PERIMETER WALL STRUCTURE THAT HAS A NET OPENING-TO-WALL RATIO OF AT LEAST 40% AND NO EXTERIOR OBSTRUCTIONS WITHIN 20 FT, SHALL BE AUTOMATICALLY REDUCED IN RESPONSE TO DAYLIGHT BY AT LEAST 50%.

EXCEPTION TO 9.4.1.2(D)
LIGHTING IN THE FOLLOWING AREAS IS EXEMPT:
1. LIGHTING IN DAYLIGHT TRANSITIONS ZONES AND RAMPS WITHOUT PARKING.

9.4.1.3 SPECIAL APPLICATIONS
A. THE FOLLOWING LIGHTING SHALL BE SEPARATELY CONTROLLED FROM THE GENERAL LIGHTING IN ALL SPACES:

1. DISPLAY OR ACCENT LIGHTING.
2. LIGHTING IN DISPLAY CASES.
3. NONVISUAL LIGHTING, SUCH AS FOR PLANT GROWTH OR FOOD WARMING.
4. LIGHTING EQUIPMENT THAT IS FOR SALE OR USED FOR DEMONSTRATIONS IN LIGHTING EDUCATION.

B. GUESTROOMS
1. ALL LIGHTING AND ALL SWITCHED RECEPTACLES IN GUESTROOMS AND SUITES IN HOTELS, MOTELS, BOARDING HOUSES, OR SIMILAR BUILDINGS SHALL BE AUTOMATICALLY CONTROLLED SUCH THAT THE POWER TO THE LIGHTING AND SWITCHED RECEPTACLES IN EACH ENCLOSED SPACE WILL BE TURNED OFF WITHIN 15 MINUTES AFTER ALL OCCUPANTS LEAVE THAT SPACE.

EXCEPTION TO 9.4.1.3(B)(1)
ENCLOSED SPACES WHERE THE LIGHTING AND SWITCHED RECEPTACLES ARE CONTROLLED BY CAPTIVE KEY SYSTEMS AND BATHROOMS ARE EXEMPT.

2. BATHROOMS SHALL HAVE A SEPARATE CONTROL DEVICE INSTALLED TO AUTOMATICALLY TURN OFF THE BATHROOM LIGHTING WITHIN 30 MINUTES AFTER ALL OCCUPANTS HAVE LEFT THE BATHROOM.

EXCEPTION TO 9.4.1.3(B)(2)
NIGHT LIGHTING OF UP TO 5 W PER BATHROOM IS EXEMPT.

C. ALL SUPPLEMENTAL TASK LIGHTING, INCLUDING PERMANENTLY INSTALLED UNDERSHELF OR UNDERCABINET LIGHTING, SHALL BE CONTROLLED FROM EITHER (1) A CONTROL DEVICE INTEGRAL TO THE LUMINAIRES OR (2) BY A WALL-MOUNTED CONTROL DEVICE THAT IS READILY ACCESSIBLE AND LOCATED SO THAT THE OCCUPANT CAN SEE THE CONTROLLED LIGHTING.

9.4.1.4 EXTERIOR LIGHTING CONTROL
LIGHTING FOR EXTERIOR APPLICATIONS NOT EXEMPTED IN SECTION 9.1 SHALL MEET THE FOLLOWING REQUIREMENTS:

A. LIGHTING SHALL BE CONTROLLED BY A DEVICE THAT AUTOMATICALLY TURNS OFF THE LIGHTING WHEN SUFFICIENT DAYLIGHT IS AVAILABLE.

B. ALL BUILDING FAÇADE AND LANDSCAPE LIGHTING SHALL BE AUTOMATICALLY SHUT OFF BETWEEN MIDNIGHT OR BUSINESS CLOSING, WHICHEVER IS LATER, AND 6 A.M. OR BUSINESS OPENING, WHICHEVER COMES FIRST, OR BETWEEN TIMES ESTABLISHED BY THE AUTHORITY HAVING JURISDICTION.

C. LIGHTING NOT SPECIFIED IN SECTION 9.4.1.4(B) AND LIGHTING FOR SIGNAGE SHALL BE CONTROLLED BY A DEVICE THAT AUTOMATICALLY REDUCES THE CONNECTED LIGHTING POWER BY AT LEAST

ENERGY COMPLIACNE NOTES

9.4.3 FUNCTIONAL TESTING
LIGHTING CONTROL DEVICES AND CONTROL SYSTEMS SHALL BE TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED, AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHEN OCCUPANT SENSORS, TIME SWITCHES, PROGRAMMABLE SCHEDULE CONTROLS, OR PHOTOSENSORS ARE INSTALLED, AT A MINIMUM, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:

A. OCCUPANT SENSORS
1. CERTIFY THAT THE SENSOR HAS BEEN LOCATED AND AIMED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
2. FOR PROJECTS WITH UP TO SEVEN (7) OCCUPANCY SENSORS, ALL OCCUPANCY SENSORS SHALL BE TESTED.
3. FOR PROJECTS WITH MORE THAN SEVEN (7) OCCUPANCY SENSORS, TESTING SHALL BE DONE FOR EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY.
(A) FOR EACH SENSOR TO BE TESTED, VERIFY THE FOLLOWING:
(1)STATUS INDICATOR (AS APPLICABLE) OPERATES CORRECTLY.
(2)CONTROLLED LIGHTS TURN OFF OR DOWN TO THE PERMITTED LEVEL WITHIN THE REQUIRED TIME.
(3)FOR AUTO-ON OCCUPANT SENSORS, THE LIGHTS TURN ON TO THE PERMITTED LEVEL WHEN SOMEONE ENTERS THE SPACE.
(4)FOR MANUAL-ON SENSORS, THE LIGHTS TURN ON ONLY WHEN MANUALLY ACTIVATED.
(5)THE LIGHTS ARE NOT INCORRECTLY TURNED ON BY MOVEMENT IN NEARBY AREAS OR BY HVAC OPERATION.

B. AUTOMATIC TIME SWITCHES
1. CONFIRM THAT THE AUTOMATIC TIME-SWITCH CONTROL IS PROGRAMMED WITH APPROPRIATE WEEKDAY, WEEKEND, AND HOLIDAY (AS APPLICABLE) SCHEDULES.
2. DOCUMENT FOR THE OWNER AUTOMATIC TIME-SWITCH PROGRAMMING, INCLUDING WEEKDAY, WEEKEND, AND HOLIDAY SCHEDULES, AS WELL AS ALL SETUP AND PREFERENCE PROGRAM SETTINGS.
3. VERIFY THAT CORRECT TIME AND DATE ARE PROPERLY SET IN THE TIME SWITCH.
4. VERIFY THAT ANY BATTERY BACKUP (AS APPLICABLE) IS INSTALLED AND ENERGIZED.
5. VERIFY THAT THE OVERRIDE TIME LIMIT IS SET TO NO MORE THAN TWO (2) HOURS.
6. SIMULATE OCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
(A) ALL LIGHTS CAN BE TURNED ON AND OFF BY THEIR RESPECTIVE AREA CONTROL SWITCH.
(B) THE SWITCH ONLY OPERATES LIGHTING IN THE ENCLOSED SPACE IN WHICH THE SWITCH IS LOCATED.
7. SIMULATE UNOCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
(A)ALL NONEXEMPT LIGHTING TURNS OFF.
(B)MANUAL OVERRIDE SWITCH ALLOWS ONLY THE LIGHTS IN THE ENCLOSED SPACE WHERE THE OVERRIDE SWITCH IS LOCATED TO TURN ON OR REMAIN ON UNTIL THE NEXT SCHEDULED SHUT OFF OCCURS.

C. DAYLIGHT CONTROLS
1. ALL CONTROL DEVICES (PHOTOCONTROLS) HAVE BEEN PROPERLY LOCATED, FIELD-CALIBRATED, AND SET FOR APPROPRIATE SET POINTS AND THRESHOLD LIGHT LEVELS.
2. DAYLIGHT CONTROLLED LIGHTING LOADS ADJUST TO APPROPRIATE LIGHT LEVELS IN RESPONSE TO AVAILABLE DAYLIGHT.
3. THE LOCATION WHERE CALIBRATION ADJUSTMENTS ARE MADE IS READILY ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL.

THE INDIVIDUALS RESPONSIBLE FOR THE FUNCTIONAL TESTING SHALL NOT BE DIRECTLY INVOLVED IN EITHER THE DESIGN OR CONSTRUCTION OF THE PROJECT AND SHALL PROVIDE DOCUMENTATION CERTIFYING THAT THE INSTALLED LIGHTING CONTROLS MEET OR EXCEED ALL DOCUMENTED PERFORMANCE CRITERIA.

SECTION C405.8.1 ELEVATOR EQUIPMENT AND CABS
- FOR THE LUMINAIRES IN EACH ELEVATOR CAB, NOT INCLUDING SIGNALS AND DISPLAYS, THE SUM OF THE LUMENS DIVIDED BY THE SUM OF THE WATTS SHALL BE NOT LESS THAN 35 LUMENS PER WATT.
- VENTILATION FANS IN ELEVATORS THAT DO NOT HAVE THEIR OWN AIR-CONDITIONING SYSTEM SHALL NOT CONSUME MORE THAN 0.33 WATTS/CFM AT THE MAXIMUM RATED SPEED OF THE FAN.
- CONTROLS SHALL BE PROVIDED THAT WILL DE-ENERGIZE VENTILATION FANS AND LIGHTING SYSTEMS WHEN THE ELEVATOR IS STOPPED, UNOCCUPIED AND WITH ITS DOORS CLOSED FOR OVER 15 MINUTES

ELECTRICAL ENERGY MONITORING NOTES:
RESIDENTIAL (DWELLING UNITS) ARE DESIGNED TO BE SEPARATELY METERED VIA UTILITY METERS.
RESIDENTIAL COMMON AREA ELECTRICAL USAGE WILL BE SEPARATE METERED.
FOR THE COMMON AREAS AND COMMUNITY FACILITY:

ELECTRICAL ENERGY MONITORING DEVICES ARE GOING TO BE INSTALLED TO SEPARATELY MEASURE/RECORD TOTAL ELECTRICAL ENERGY, HVAC SYSTEMS, INTERIOR LIGHTING, EXTERIOR LIGHTING, AND RECEPTACLE CIRCUITS.
SEPARATE ELECTRICAL SUB-PANELS ARE GOING TO BE INSTALLED FOR THESE CIRCUITS. THE METERING DEVICES WILL MEASURE AND RECORD USAGE. BASIS OF DESIGN: SCHNEIDER ELECTRIC POWERLOGIC EM3500 SERIES OR EQUAL

WHOLE-BUILDING ENERGY & ELECTRICAL MONITORING NOTES:
RESIDENTIAL (DWELLING UNITS) ELECTRICAL USAGE ARE DESIGNED TO BE SEPARATELY METERED VIA UTILITY METERS.
NO RESIDENTIAL (DWELLING UNITS) NATURAL GAS EQUIPMENT ON THIS PROJECT. THE COMMUNITY FACILITY TOTAL ELECTRICAL USAGE WILL BE SEPARATELY METERED BY THE UTILITY COMPANY.
THE COMMUNITY FACILITY TOTAL NATURAL GAS USAGE WILL BE SEPARATELY METERED BY THE UTILITY COMPANY.

AIR BARRIER MFG. DETAILS

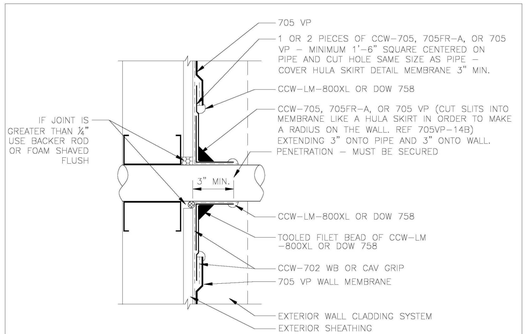
GROUP 705VP–1
POLYURETHANE AND MS–POLYMER SEALANTS THAT CAN GO UNDER 705 VP ONLY
CCW LM 800 XL
OTHERS AS APPROVED BY CARLISLE

GROUP 705VP–2
SILICONE SEALANTS – APPLICATION OVER 705 VP ONLY
DOW 758
OTHERS AS APPROVED BY CARLISLE

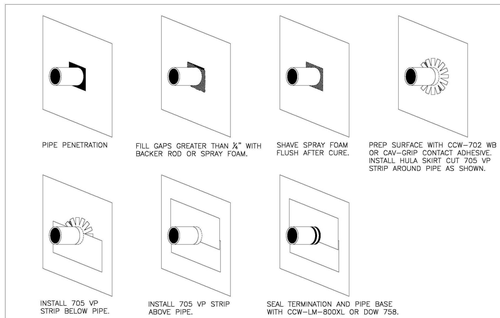
GROUP 705VP–A
MASTIC TYPE INSULATION ADHESIVES APPROVED FOR BONDING FOAM BOARD TO 705 VP
CCW LM 800 XL
OTHERS AS APPROVED BY CARLISLE

NOTES:
1. FOLLOW APPLICATION INSTRUCTIONS BY SEALANT MANUFACTURER
2. DO NOT INSTALL 1–PART SEALANTS INTO JOINTS EXCEEDING ½" DEPTH
3. EXCEPT SURE SEAL LAP SEALANT, ALLOW SEALANT TO CURE BEFORE COVERING WITH 705 VP

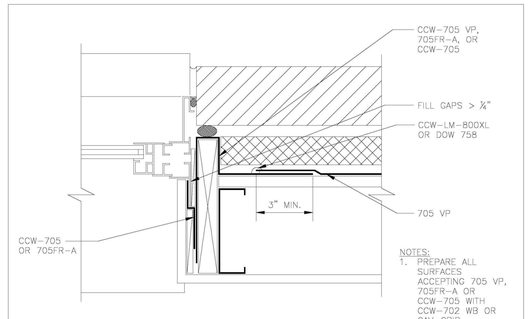
705VP–0A | 705 VP APPROVED SEALANTS | CARLISLE COATINGS & WATERPROOFING ©2017 CARLISLE CORPORATION



705VP–14A | 705 VP SHEET FLASHING AT PIPE PENETRATION | CARLISLE COATINGS & WATERPROOFING ©2016 CARLISLE CORPORATION



705VP–14B | INSTALLATION SEQUENCE AT PIPE PENETRATION | CARLISLE COATINGS & WATERPROOFING ©2016 CARLISLE CORPORATION



705VP–5A.2 | 705 VP PUNCHED WINDOW – JAMB INTERIOR AIR SEAL WITH FLASHING | CARLISLE COATINGS & WATERPROOFING ©2016 CARLISLE CORPORATION

AIR LEAKAGE PREVENTION CONSTRUCTION NOTES

ALL EXTERIOR OPAQUE WALLS SHALL HAVE VAPOR PERMEABLE AIR WATER BARRIER. ALL AIR BARRIER MEMBRANES
SHALL EXTEND INTO THE ROUGH OPENING OF FENESTRATION AND SEALED AT TRANSITIONS. ALL EXTERIOR DOORS SHALL HAVE WEATHER STRIPPING.

A CONTINUOUS AIR BARRIER SHALL BE PROVIDED THROUGHOUT THE BUILDING THERMAL ENVELOPE. THE AIR BARRIERS SHALL BE PERMITTED TO BE LOCATED ON THE INSIDE OR OUTSIDE OF THE BUILDING ENVELOPE, LOCATED WITHIN THE ASSEMBLIESCOMPOSING THE ENVELOPE, OR ANY COMBINATION THEREOF.

AIR BARRIER MANUFACTURER: CARLISLE
PRODUCT:: FIRE RESIST 705 VP (SELF-ADHERED, ADHESIVE-BACKED ENGINEERED FABRIC, VAPOR-PERMEABLE)

THE CONTINUOUS AIR BARRIER SHALL BE CONSTRUCTED TO COMPLY WITH THE FOLLOWING:

1. THE AIR BARRIER SHALL BE CONTINUOUS FOR ALL ASSEMBLIES THAT ARE THE THERMAL ENVELOPE OF THE BUILDING AND ACROSS THE JOINTS AND ASSEMBLIES.
2. AIR BARRIER JOINTS AND SEAMS SHALL BE SEALED, INCLUDING SEALING TRANSITIONS IN PLACES AND CHANGES IN MATERIALS. THE JOINTS AND SEALS SHALL BE SECURELY INSTALLED IN OR ON THE JOINT FOR ITS ENTIRE LENGTH SO AS NOT TO DISLODGE, LOOSEN OR OTHERWISE IMPAIR ITS ABILITY TO RESIST POSITIVE AND NEGATIVE PRESSURE FROM WIND, STACK EFFECT AND MECHANICAL VENTILATION.
3. PENETRATIONS OF THE AIR BARRIER SHALL BE CAULKED, GASKETED OR OTHERWISE SEALED IN A MANNER COMPATIBLE WITH THE CONSTRUCTION MATERIALS AND LOCATION. JOINTS AND SEALS ASSOCIATED WITH PENETRATIONS SHALL BE SEALED IN THE SAME MANNER OR TAPED OR COVERED WITH MOISTURE VAPOR-PERMEABLE WRAPPING MATERIAL. SEALING MATERIALS SHALL BE APPROPRIATE TO THE CONSTRUCTION MATERIALS BEING SEALED AND SHALL BE SECURELY INSTALLED AROUND THE PENETRATION SO AS NOT TO DISLODGE, LOOSEN OR OTHERWISE IMPAIR THE PENETRATIONS' ABILITY TO RESIST POSITIVE AND NEGATIVE PRESSURE FROM WIND, STACK EFFECT AND MECHANICAL VENTILATION. SEALING OF CONCEALED FIRE SPRINKLERS, WHERE REQUIRED, SHALL BE IN A MANNER THAT IS RECOMMENDED BY THE MANUFACTURER. CAULKING OR OTHER ADHESIVE SEALANTS SHALL NOT BE USED TO FILL VOIDS BETWEEN FIRE SPRINKLER COVER PLATES AND WALLS OR CEILINGS.
4. RECESSED LIGHTING FIXTURES SHALL COMPLY WITH THE ENERGY CODE REQUIREMENTS. WHERE SIMILAR OBJECTS ARE INSTALLED THAT PENETRATE THE AIR BARRIER, PROVISIONS SHALL BE MADE TO MAINTAIN THE INTEGRITY OF THE AIR BARRIER

PROJECT NAME:
BK55E

OWNER NAME:

PROJECT ADDRESS:
55 Eckford Street Brooklyn, NY 11222

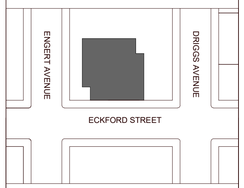
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STRUCTRAL ENGINEER
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REAL ENGINEERING
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#	Description	Date

KEY PLAN:
REFERENCE NORTH



APPROVAL:

DWG TITLE:
ENERGY COMPLIANCE NOTES

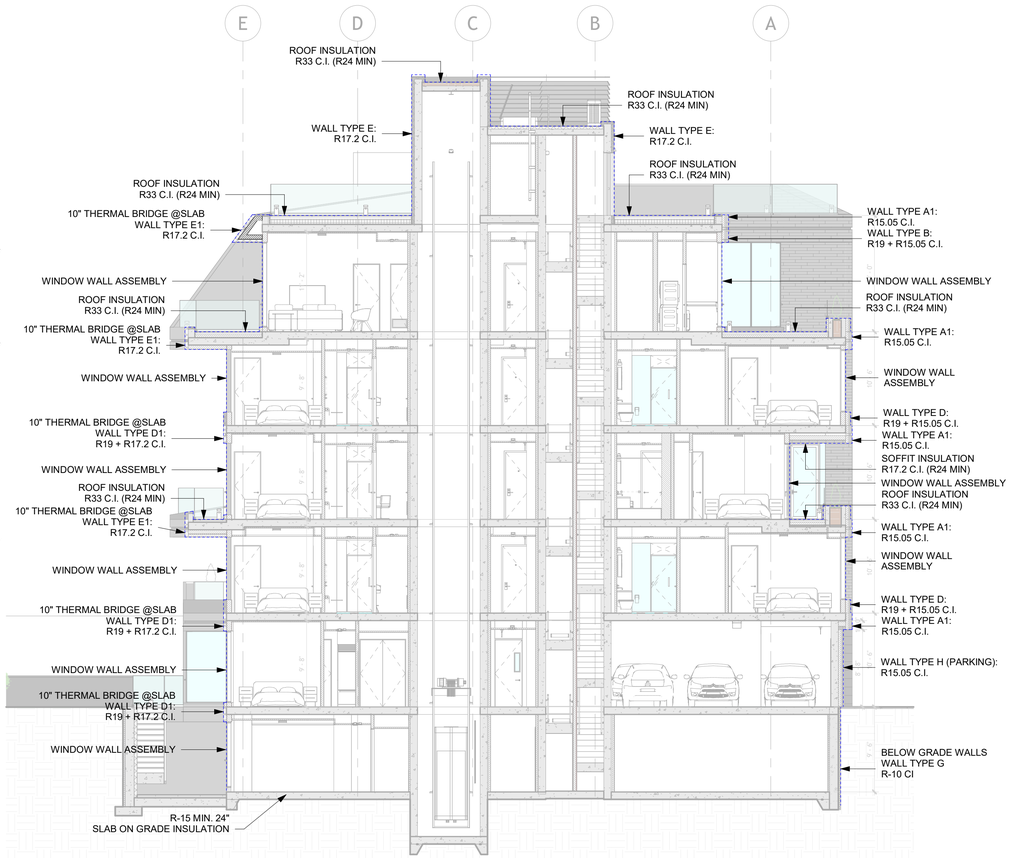
SEAL & SIGNATURE:



DATE: 02/21/2025
SCALE:
DRAWING NO: **EN003**



1 ENERGY THERMAL BRIDGE SECTION DIAGRAM 1
1/8" = 1'-0"



2 ENERGY THERMAL BRIDGE SECTION DIAGRAM 2
1/8" = 1'-0"

PROJECT NAME:

BK55E

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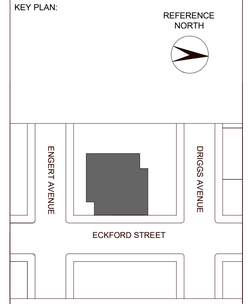
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

THERMAL BOUNDRY DIAGRAM

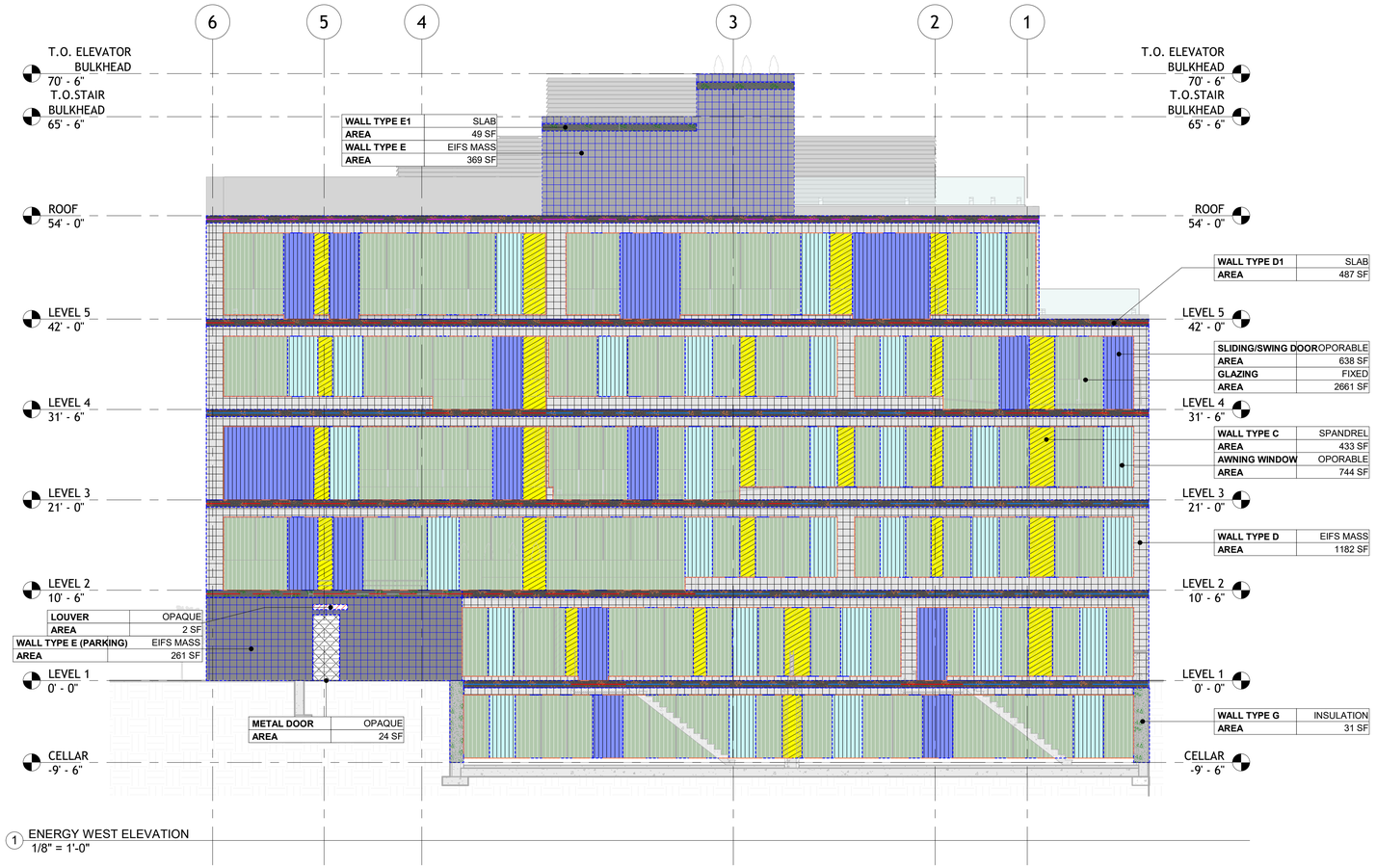
SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: 1/8" = 1'-0"

DRAWING NO: **EN004**



1 ENERGY WEST ELEVATION
1/8" = 1'-0"

ENERGY FENESTRATION SCHEDULE

TAG CATEGORY	TAG TYPE NAME	HEIGHT	WIDTH	AREA	GLASS TYPE	ASSEMBLY U-FACTOR	SHGC	AIR LEAKAGE	VISIBLE TRANSMITTANCE
ENERGY WEST									
BELOW 95'									
FIXED	GLAZING	SEE ELEVATION A200	SEE SHEETS A160	2661 SF	IGU, LOW-E, CLEAR	0.3	0.25	≤ 0.20 CFM/SF	0.59
OPORABLE	AWNING WINDOW	SEE ELEVATION A200	SEE SHEETS A160	744 SF	IGU, LOW-E, CLEAR	0.3	0.25	≤ 0.20 CFM/SF	0.59
OPORABLE	SLIDING/SWING DOOR	SEE ELEVATION A200	SEE SHEETS A160	638 SF	IGU, LOW-E, CLEAR	0.3	0.25	≤ 0.20 CFM/SF	0.59
				4044 SF					

ENERGY THERMAL BRIDGE SCHEDULE

Level Text	TERMAL LENGTH
ENERGY WEST	
LINEAR THERMAL BRIDGE OF BALCONY	
Level 1	6' - 5"
Level 1	7' - 3"
Level 2	56' - 9 3/4"
Level 3	68' - 0 1/32"
Level 4	28' - 2 13/16"
Level 4	13' - 11 7/8"
Level 5	109' - 5"
	290' - 1 15/32"
LINEAR THERMAL BRIDGE OF FENESTRATION	
Level 1	8' - 0"
Level 1	21' - 8 1/4"
Level 1	0' - 6"
Level 1	3' - 6 1/16"
Level 1	8' - 6"
Level 1	25' - 2 5/16"
Level 1	8' - 0"
Level 1	50' - 11 3/8"
Level 1	8' - 0"
Level 1	13' - 5 3/4"
Level 1	0' - 6"
Level 1	3' - 6"
Level 1	0' - 6"
Level 1	33' - 11 5/8"
Level 2	8' - 6"
Level 2	71' - 3 1/8"
Level 2	7' - 0"
Level 2	17' - 8"
Level 2	1' - 6"
Level 2	53' - 7 1/8"
Level 2	7' - 0"
Level 2	32' - 4 7/8"
Level 2	7' - 0"
Level 2	32' - 4 7/8"
Level 3	7' - 0"
Level 3	67' - 11"
Level 3	7' - 0"
Level 3	0' - 6"
Level 3	1' - 6"
Level 3	21' - 8 1/8"
Level 3	1' - 6"
Level 3	45' - 8 7/8"
Level 3	8' - 6"
Level 3	37' - 5"
Level 3	8' - 6"
Level 3	37' - 5"
Level 4	7' - 0"
Level 4	37' - 5"
Level 4	8' - 6"
Level 4	13' - 1 7/8"
Level 4	1' - 6"
Level 4	24' - 3 1/8"
Level 4	7' - 0"
Level 4	33' - 6 1/8"
Level 4	7' - 0"
Level 4	33' - 6 1/8"
Level 4	32' - 4 7/8"
Level 4	8' - 6"
Level 4	22' - 1 7/16"
Level 4	1' - 6"
Level 4	10' - 3 15/32"
Level 4	7' - 0"
Level 5	54' - 7"
Level 5	9' - 6"
Level 5	12' - 3 3/4"
Level 5	0' - 6"
Level 5	9' - 0 1/32"
Level 5	0' - 6"
Level 5	20' - 0 1/32"
Level 5	0' - 6"
Level 5	7' - 0"
Level 5	0' - 6"
Level 5	6' - 3 3/16"
Level 5	9' - 6"
Level 5	9' - 6"
Level 5	21' - 7 7/8"
Level 5	0' - 6"
Level 5	3' - 6"
Level 5	0' - 6"
Level 5	1' - 9 1/4"
Level 5	0' - 6"
Level 5	3' - 6"
Level 5	0' - 6"
Level 5	6' - 11 7/8"
Level 5	9' - 6"
Level 5	37' - 5"
Level Cellar	6' - 10"
Level Cellar	77' - 9 5/8"
Level Cellar	6' - 10"
Level Cellar	77' - 9 5/8"
	1319' - 2 21/32"
LINEAR THERMAL BRIDGE OF PARAPET	
Level Roof	96' - 8"
	96' - 8"
LINEAR THERMAL BRIDGE OF SLAB EDGE	
Level 1	12' - 5 3/4"
Level 1	31' - 10 5/8"
Level 1	21' - 6 1/4"
Level 2	52' - 7 1/4"
Level 3	41' - 4 31/32"
Level 4	41' - 9 3/16"
Level 4	25' - 5 1/8"
	227' - 1 5/32"

ENERGY WALL SCHEDULE

TAG TYPE NAME	TAG CATEGORY	HEIGHT	WIDTH	AREA
ENERGY WEST				
_SLAB				
WALL TYPE D1	SLAB	SEE ELEVATION A200	SEE ELEVATION A200	487 SF
WALL TYPE E1	SLAB	SEE ELEVATION A200	SEE ELEVATION A200	49 SF
				536 SF
_WALL				
LOUVER	OPAQUE	SEE ELEVATION A200	SEE ELEVATION A200	2 SF
METAL DOOR	OPAQUE	SEE ELEVATION A200	SEE SHEETS A160	24 SF
WALL TYPE C	SPANDREL	SEE ELEVATION A200	SEE ELEVATION A200	433 SF
WALL TYPE D	EIFS MASS	SEE ELEVATION A200	SEE ELEVATION A200	1182 SF
WALL TYPE E	EIFS MASS	SEE ELEVATION A200	SEE ELEVATION A200	369 SF
WALL TYPE E (PARKING)	EIFS MASS	SEE ELEVATION A200	SEE ELEVATION A200	261 SF
				2271 SF
ABOVE GRADE				2807 SF
_WALL				
WALL TYPE G	INSULATION	SEE ELEVATION A200	SEE ELEVATION A200	31 SF
				31 SF
BELOW GRADE				31 SF

WINDOW WALL RATIO

ENERGY TYPE	AREA	% OF TOTAL	WWR
ENERGY WEST			
ENERGY FENESTRATION	4044 SF	59.03%	WWR
ENERGY WALL	2807 SF	40.97%	
	6850 SF		

ENERGY LEGEND

- WALL TYPE A — BRICK WALL
- WALL TYPE A1 — BRICK WALL @ SLAB
- WALL TYPE B — BRICK WALL WITH METAL STUD
- WALL TYPE B1 — BRICK WALL WITH METAL STUD @ SLAB
- WALL TYPE C — CW SPANDREL WITH CLEAR SHADOW BOX
- WALL TYPE D — EXTERIOR WALL WITH EIFS AND METAL STUD
- WALL TYPE D1 — EXTERIOR WALL WITH EIFS AND METAL STUD @ SLAB
- WALL TYPE E — EXTERIOR WALL WITH EIFS
- WALL TYPE E1 — EXTERIOR WALL WITH EIFS @ SLAB
- WALL TYPE F — METAL CLADDING WALL AND FURRING
- WALL TYPE G — CONCRETE FOUNDATION WALL
- WALL TYPE H — METAL CLADDING WALL AND CONCRETE
- METAL DOOR
- LOUVER
- FENESTRATION - FIXED
- FENESTRATION - OPERABLE WINDOWS
- FENESTRATION - SLIDING / SWING DOORS
- FENESTRATION LINEAR THERMAL BRIDGE
- PARAPET LINEAR THERMAL BRIDGE
- SLAB EDGE LINEAR THERMAL BRIDGE
- BALCONY LINEAR THERMAL BRIDGE

SEE:
A021.00 FOR EXTERIOR WALL TYPES,
A030.00 FOR WINDOW SCHEDULE,
A045.00-A047.00 FOR DOOR SCHEDULE,
A810 SERIES FOR EXTERIOR WALL DETAILS
MEP DRAWINGS FOR LOUVER REQUIRMENTS

PROJECT NAME:
BK55E

OWNER NAME:

PROJECT ADDRESS:
55 Eckford Street Brooklyn, NY 11222

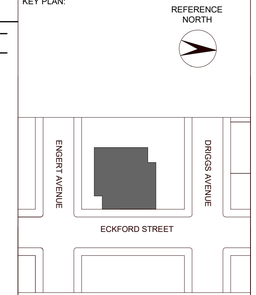
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Totowa, NJ 07512
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#	Description	Date

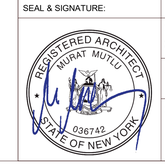
KEY PLAN:



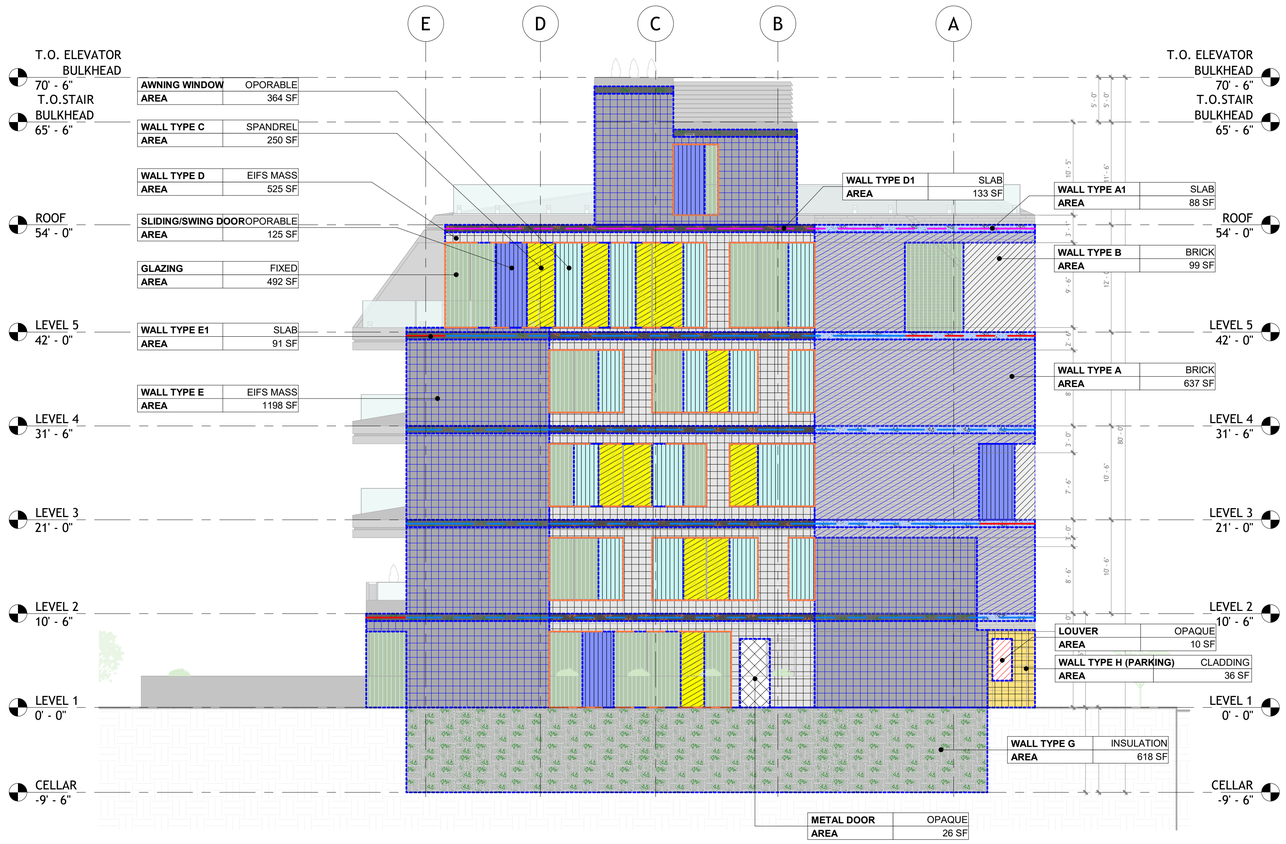
APPROVAL:

DWG TITLE:
ENERGY WEST ELEVATION

SEAL & SIGNATURE:



DATE: 02/21/2025
SCALE: 1/8" = 1'-0"
DRAWING NO: **EN005**



1 ENERGY SOUTH ELEVATION
1/8" = 1'-0"

ENERGY FENESTRATION SCHEDULE

TAG CATEGORY	TAG TYPE NAME	HEIGHT	WIDTH	AREA	GLASS TYPE	ASSEMBLY U-FACTOR	SHGC	AIR LEAKAGE	VISIBLE TRANSMITTANCE
ENERGY SOUTH									
BELOW 95'									
FIXED	GLAZING	SEE ELEVATION A200	SEE SHEETS A160	492 SF	IGU, LOW-E, CLEAR	0.3	0.25	≤ 0.20 CFM/SF	0.59
OPORABLE	SLIDING/SWING DOOR	SEE ELEVATION A200	SEE SHEETS A160	125 SF	IGU, LOW-E, CLEAR	0.3	0.25	≤ 0.20 CFM/SF	0.59
OPORABLE	AWNING WINDOW	SEE ELEVATION A200	SEE SHEETS A160	364 SF	IGU, LOW-E, CLEAR	0.3	0.25	≤ 0.20 CFM/SF	0.59
				980 SF					

ENERGY THERMAL BRIDGE SCHEDULE

Level Text	TERMAL LENGTH
ENERGY SOUTH	
LINEAR THERMAL BRIDGE OF BALCONY	
Level 2	4' - 6"
Level 3	6' - 3 1/4"
Level 5	14' - 6 3/4"
Level 5	4' - 3 15/16"
	29' - 7 15/16"
LINEAR THERMAL BRIDGE OF FENESTRATION	
Level 1	8' - 6"
Level 1	20' - 4"
Level 1	8' - 6"
Level 1	20' - 4"
Level 2	8' - 3"
Level 2	7' - 0"
Level 2	8' - 3"
Level 2	7' - 0"
Level 2	11' - 10"
Level 2	7' - 0"
Level 2	11' - 10"
Level 2	7' - 0"
Level 2	2' - 11"
Level 2	7' - 0"
Level 2	2' - 11"
Level 2	7' - 0"
Level 3	8' - 3"
Level 3	7' - 0"
Level 3	8' - 3"
Level 3	7' - 0"
Level 3	11' - 10"
Level 3	7' - 0"
Level 3	11' - 10"
Level 3	7' - 0"
Level 3	2' - 11"
Level 3	7' - 0"
Level 3	2' - 11"
Level 3	7' - 0"
Level 3	7' - 0"
Level 3	17' - 6 7/8"
Level 3	7' - 0"
Level 3	17' - 6 7/8"
Level 3	7' - 0"
Level 3	9' - 6 1/8"
Level 3	7' - 0"
Level 3	9' - 6 1/8"
Level 4	29' - 2 15/16"
Level 4	9' - 6"
Level 4	29' - 2 15/16"
Level 4	9' - 6"
Level 4	9' - 6 1/8"
Level 4	9' - 6"
Level 4	9' - 6 1/8"
Level 4	9' - 6"
Level 5	5' - 0"
Level 5	7' - 11"
Level 5	7' - 11"
Level 5	5' - 0"
	457' - 2 1/8"
LINEAR THERMAL BRIDGE OF PARAPET	
Level Roof	66' - 0"
	66' - 0"
LINEAR THERMAL BRIDGE OF SLAB EDGE	
Level 2	70' - 4"
Level 3	64' - 0 3/4"
Level 4	70' - 4"
Level 5	51' - 5 5/16"
	256' - 2 1/16"

ENERGY WALL SCHEDULE

TAG TYPE NAME	TAG CATEGORY	HEIGHT	WIDTH	AREA
ENERGY SOUTH				
_SLAB				
WALL TYPE A1	SLAB	SEE ELEVATION A200	SEE ELEVATION A200	88 SF
WALL TYPE D1	SLAB	SEE ELEVATION A200	SEE ELEVATION A200	133 SF
WALL TYPE E1	SLAB	SEE ELEVATION A200	SEE ELEVATION A200	91 SF
				312 SF
_WALL				
LOUVER	OPAQUE	SEE ELEVATION A200	SEE ELEVATION A200	10 SF
METAL DOOR	OPAQUE	SEE ELEVATION A200	SEE SHEETS A160	26 SF
WALL TYPE A	BRICK	SEE ELEVATION A200	SEE ELEVATION A200	637 SF
WALL TYPE B	BRICK	SEE ELEVATION A200	SEE ELEVATION A200	99 SF
WALL TYPE C	SPANDREL	SEE ELEVATION A200	SEE ELEVATION A200	250 SF
WALL TYPE D	EIFS MASS	SEE ELEVATION A200	SEE ELEVATION A200	525 SF
WALL TYPE E	EIFS MASS	SEE ELEVATION A200	SEE ELEVATION A200	1198 SF
WALL TYPE H (PARKING)	CLADDING	SEE ELEVATION A200	SEE ELEVATION A200	36 SF
				2781 SF
ABOVE GRADE				3093 SF
_WALL				
WALL TYPE G	INSULATION	SEE ELEVATION A200	SEE ELEVATION A200	618 SF
				618 SF
BELOW GRADE				618 SF

WINDOW WALL RATIO

ENERGY TYPE	AREA	% OF TOTAL	WWR
ENERGY SOUTH			
ENERGY FENESTRATION	980 SF	24.06%	WWR
ENERGY WALL	3093 SF	75.94%	
	4073 SF		

ENERGY LEGEND

- WALL TYPE A — BRICK WALL
- WALL TYPE A1 — BRICK WALL @ SLAB
- WALL TYPE B — BRICK WALL WITH METAL STUD
- WALL TYPE B1 — BRICK WALL WITH METAL STUD @ SLAB
- WALL TYPE C — CW SPANDREL WITH CLEAR SHADOW BOX
- WALL TYPE D — EXTERIOR WALL WITH EIFS AND METAL STUD
- WALL TYPE D1 — EXTERIOR WALL WITH EIFS AND METAL STUD @ SLAB
- WALL TYPE E — EXTERIOR WALL WITH EIFS
- WALL TYPE E1 — EXTERIOR WALL WITH EIFS @ SLAB
- WALL TYPE F — METAL CLADDING WALL AND FURRING
- WALL TYPE G — CONCRETE FOUNDATION WALL
- WALL TYPE H — METAL CLADDING WALL AND CONCRETE
- METAL DOOR
- LOUVER
- FENESTRATION - FIXED
- FENESTRATION - OPERABLE WINDOWS
- FENESTRATION - SLIDING / SWING DOORS
- FENESTRATION LINEAR THERMAL BRIDGE
- PARAPET LINEAR THERMAL BRIDGE
- SLAB EDGE LINEAR THERMAL BRIDGE
- BALCONY LINEAR THERMAL BRIDGE

SEE:
A021.00 FOR EXTERIOR WALL TYPES,
A030.00 FOR WINDOW SCHEDULE,
A045.00-A047.00 FOR DOOR SCHEDULE,
A810 SERIES FOR EXTERIOR WALL DETAILS
MEP DRAWINGS FOR LOUVER REQUIRMENTS

PROJECT NAME:
BK55E

OWNER NAME:

PROJECT ADDRESS:
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Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



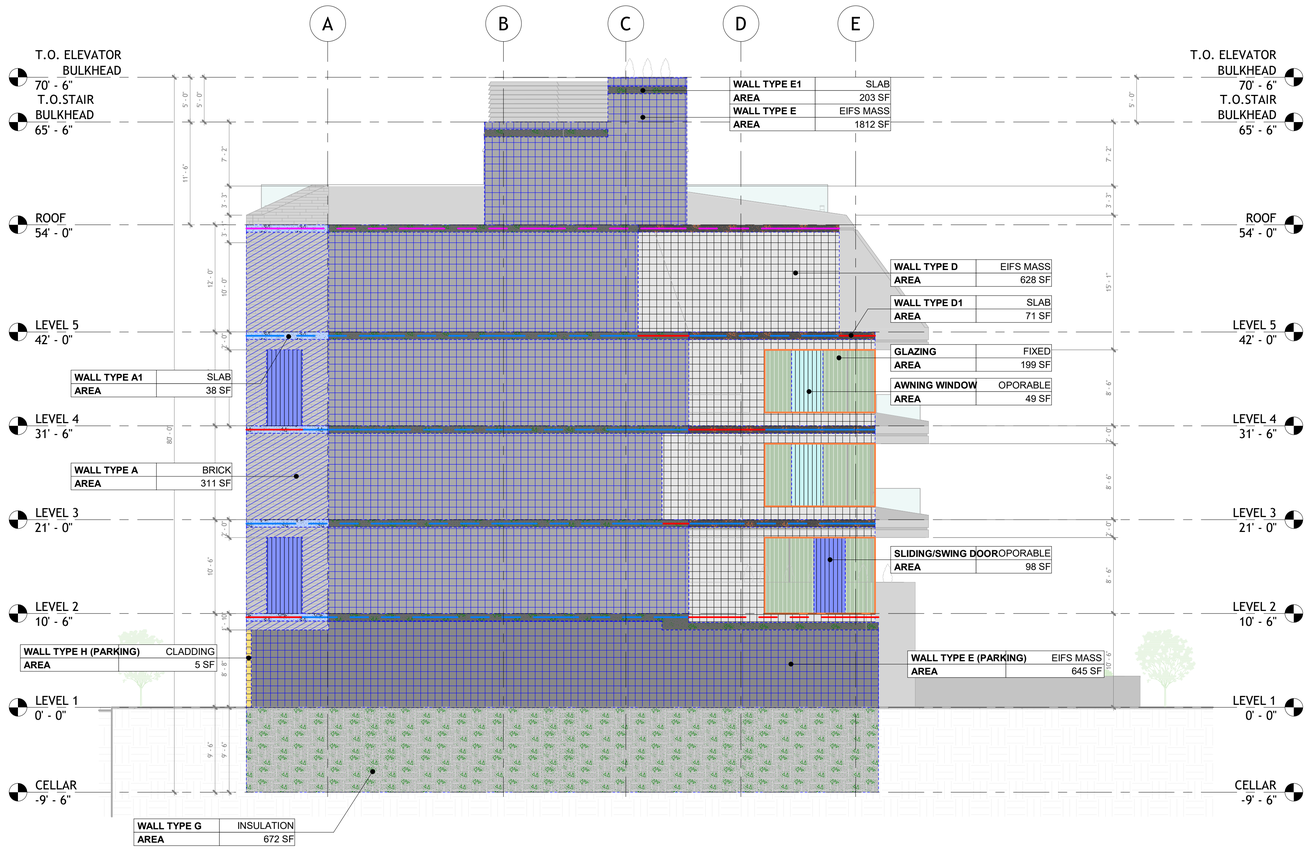
APPROVAL:

DWG TITLE:
ENERGY SOUTH ELEVATION

SEAL & SIGNATURE:



DATE: 02/21/2025
SCALE: 1/8" = 1'-0"
DRAWING NO: **EN006**



1 ENERGY NORTH ELEVATION
1/8" = 1'-0"

ENERGY FENESTRATION SCHEDULE

TAG CATEGORY	TAG TYPE NAME	HEIGHT	WIDTH	AREA	GLASS TYPE	ASSEMBLY U-FACTOR	SHGC	AIR LEAKAGE	VISIBLE TRANSMITTANCE
ENERGY NORTH BELOW 95'									
FIXED	GLAZING	SEE ELEVATION A200	SEE SHEETS A160	199 SF	IGU, LOW-E, CLEAR	0.3	0.25	≤ 0.20 CFM/SF	0.59
OPORABLE	SLIDING/SWING DOOR	SEE ELEVATION A200	SEE SHEETS A160	98 SF	IGU, LOW-E, CLEAR	0.3	0.25	≤ 0.20 CFM/SF	0.59
OPORABLE	AWNING WINDOW	SEE ELEVATION A200	SEE SHEETS A160	49 SF	IGU, LOW-E, CLEAR	0.3	0.25	≤ 0.20 CFM/SF	0.59
				346 SF					

ENERGY THERMAL BRIDGE SCHEDULE

Level Text	TERMAL LENGTH
ENERGY NORTH	
LINEAR THERMAL BRIDGE OF BALCONY	
Level 2	6' - 3 1/4"
Level 2	21' - 2 3/4"
Level 3	3' - 0"
Level 4	8' - 6"
Level 4	6' - 3 1/4"
Level 5	4' - 0"
Level 5	5' - 8"
	54' - 11 1/4"
LINEAR THERMAL BRIDGE OF FENESTRATION	
Level 2	12' - 4"
Level 2	8' - 6"
Level 2	12' - 4"
Level 2	8' - 6"
Level 3	12' - 4"
Level 3	7' - 0"
Level 3	12' - 4"
Level 3	7' - 0"
Level 4	12' - 4"
Level 4	7' - 0"
Level 4	12' - 4"
Level 4	7' - 0"
	119' - 0"
LINEAR THERMAL BRIDGE OF PARAPET	
Level Roof	66' - 4"
	66' - 4"
LINEAR THERMAL BRIDGE OF SLAB EDGE	
Level 2	43' - 2 3/4"
Level 3	20' - 10"
Level 3	46' - 6"
Level 4	2' - 11 5/32"
Level 4	40' - 3 19/32"
Level 4	12' - 4"
Level 5	43' - 10"
Level 5	16' - 10"
	226' - 9 1/2"

ENERGY WALL SCHEDULE

TAG TYPE NAME	TAG CATEGORY	HEIGHT	WIDTH	AREA
ENERGY NORTH				
_SLAB				
WALL TYPE A1	SLAB	SEE ELEVATION A200	SEE ELEVATION A200	38 SF
WALL TYPE D1	SLAB	SEE ELEVATION A200	SEE ELEVATION A200	71 SF
WALL TYPE E1	SLAB	SEE ELEVATION A200	SEE ELEVATION A200	203 SF
				312 SF
_WALL				
WALL TYPE A	BRICK	SEE ELEVATION A200	SEE ELEVATION A200	311 SF
WALL TYPE D	EIFS MASS	SEE ELEVATION A200	SEE ELEVATION A200	628 SF
WALL TYPE E	EIFS MASS	SEE ELEVATION A200	SEE ELEVATION A200	1812 SF
WALL TYPE E (PARKING)	EIFS MASS	SEE ELEVATION A200	SEE ELEVATION A200	645 SF
WALL TYPE H (PARKING)	CLADDING	SEE ELEVATION A200	SEE ELEVATION A200	5 SF
				3401 SF
ABOVE GRADE				3713 SF
_WALL				
WALL TYPE G	INSULATION	SEE ELEVATION A200	SEE ELEVATION A200	672 SF
				672 SF
BELOW GRADE				672 SF

WINDOW WALL RATIO

ENERGY TYPE	AREA	% OF TOTAL	WWR
ENERGY NORTH			
ENERGY FENESTRATION	346 SF	8.51%	WWR
ENERGY WALL	3713 SF	91.49%	
	4058 SF		

ENERGY LEGEND

- WALL TYPE A — BRICK WALL
- WALL TYPE A1 — BRICK WALL @ SLAB
- WALL TYPE B — BRICK WALL WITH METAL STUD
- WALL TYPE B1 — BRICK WALL WITH METAL STUD @ SLAB
- WALL TYPE C — CW SPANDREL WITH CLEAR SHADOW BOX
- WALL TYPE D — EXTERIOR WALL WITH EIFS AND METAL STUD
- WALL TYPE D1 — EXTERIOR WALL WITH EIFS AND METAL STUD @ SLAB
- WALL TYPE E — EXTERIOR WALL WITH EIFS
- WALL TYPE E1 — EXTERIOR WALL WITH EIFS @ SLAB
- WALL TYPE F — METAL CLADDING WALL AND FURRING
- WALL TYPE G — CONCRETE FOUNDATION WALL
- WALL TYPE H — METAL CLADDING WALL AND CONCRETE
- METAL DOOR
- LOUVER
- FENESTRATION - FIXED
- FENESTRATION - OPERABLE WINDOWS
- FENESTRATION - SLIDING / SWING DOORS
- FENESTRATION LINEAR THERMAL BRIDGE
- PARAPET LINEAR THERMAL BRIDGE
- SLAB EDGE LINEAR THERMAL BRIDGE
- BALCONY LINEAR THERMAL BRIDGE

SEE:
A021.00 FOR EXTERIOR WALL TYPES,
A030.00 FOR WINDOW SCHEDULE,
A045.00-A047.00 FOR DOOR SCHEDULE,
A810 SERIES FOR EXTERIOR WALL DETAILS
MEP DRAWINGS FOR LOUVER REQUIRMENTS

PROJECT NAME:
BK55E

OWNER NAME:

PROJECT ADDRESS:
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:
ENERGY NORTH ELEVATION

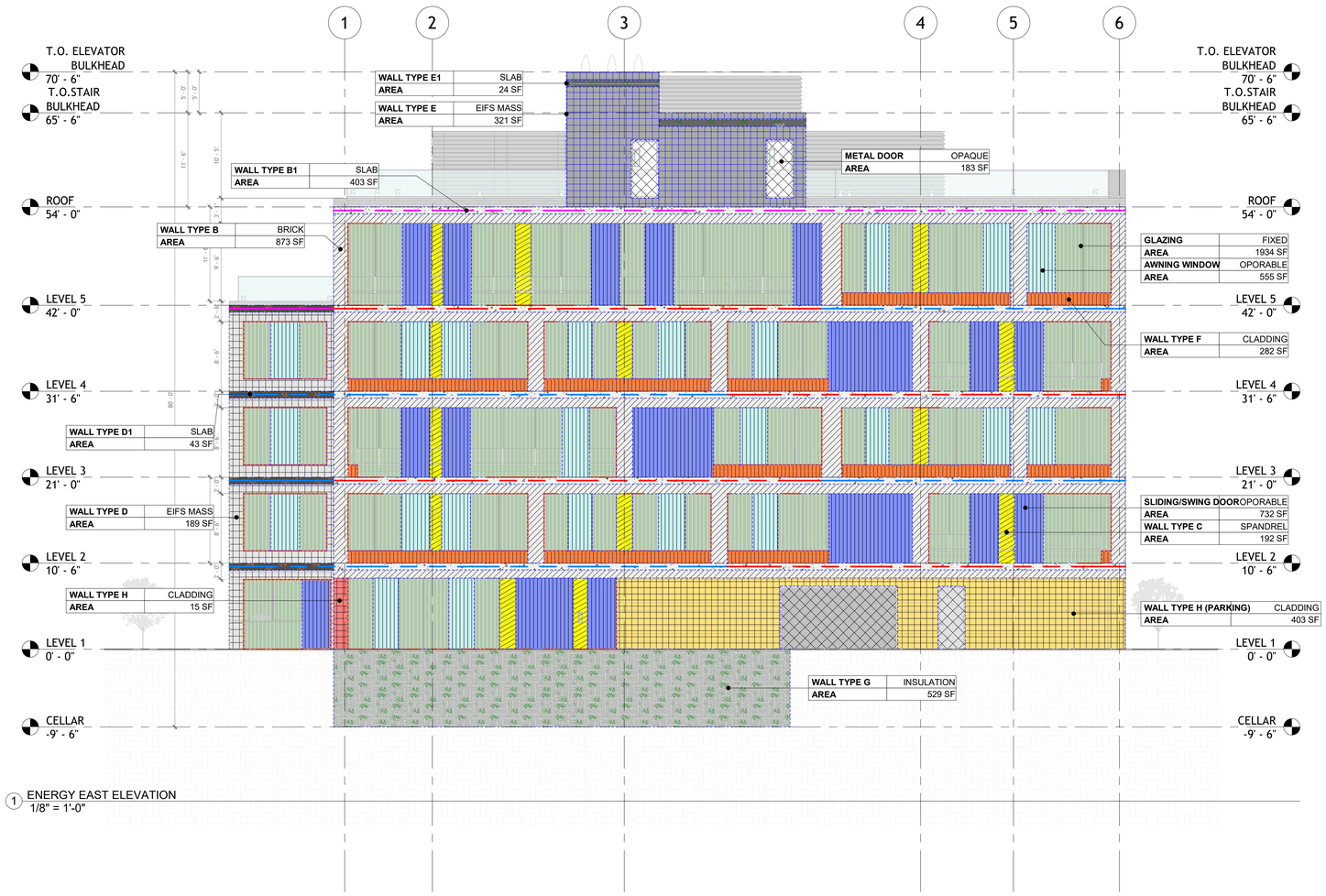
SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: 1/8" = 1'-0"

DRAWING NO: **EN007**



1 ENERGY EAST ELEVATION
1/8" = 1'-0"

ENERGY THERMAL BRIDGE SCHEDULE SUMMARY

LIGHT&AIR ORIENTATION	TERMAL LENGTH
LINEAR THERMAL BRIDGE OF BALCONY	
ENERGY EAST	216' - 4 1/4"
ENERGY NORTH	54' - 11 1/4"
ENERGY SOUTH	29' - 7 15/16"
ENERGY WEST	290' - 1 15/32"
	591' - 0 29/32"
LINEAR THERMAL BRIDGE OF FENESTRATION	
ENERGY EAST	1163' - 8 3/4"
ENERGY NORTH	119' - 0"
ENERGY SOUTH	457' - 2 1/8"
ENERGY WEST	1319' - 2 21/32"
	3059' - 1 17/32"
LINEAR THERMAL BRIDGE OF PARAPET	
ENERGY EAST	109' - 5"
ENERGY NORTH	66' - 4"
ENERGY SOUTH	66' - 0"
ENERGY WEST	96' - 8"
	338' - 5"
LINEAR THERMAL BRIDGE OF SLAB EDGE	
ENERGY EAST	208' - 6 3/4"
ENERGY NORTH	226' - 9 1/2"
ENERGY SOUTH	256' - 2 1/16"
ENERGY WEST	227' - 1 5/32"
	918' - 7 15/32"

WINDOW WALL RATIO SUMMARY

ENERGY TYPE	AREA	% OF TOTAL	WWR
ENERGY FENESTRATION	8590 SF	40.65%	WWR
ENERGY WALL	12541 SF	59.35%	
	21131 SF		

ENERGY WALL SCHEDULE SUMMARY

LIGHT&AIR ORIENTATION	AREA
ENERGY EAST	2928 SF
ENERGY NORTH	3713 SF
ENERGY SOUTH	3093 SF
ENERGY WEST	2807 SF
ABOVE GRADE	12541 SF
ENERGY EAST	529 SF
ENERGY NORTH	672 SF
ENERGY SOUTH	618 SF
ENERGY WEST	31 SF
BELOW GRADE	1850 SF

ENERGY FENESTRATION SCHEDULE SUMMARY

LIGHT&AIR ORIENTATION	AREA
ENERGY EAST	3221 SF
ENERGY NORTH	346 SF
ENERGY SOUTH	980 SF
ENERGY WEST	4044 SF
	8590 SF

ENERGY FENESTRATION SCHEDULE

TAG CATEGORY	TAG TYPE NAME	HEIGHT	WIDTH	AREA	GLASS TYPE	ASSEMBLY U-FACTOR	SHGC	AIR LEAKAGE	VISIBLE TRANSMITTANCE
ENERGY EAST									
BELOW 95'									
FIXED	GLAZING	SEE ELEVATION A200	SEE SHEETS A160	1934 SF	IGU, LOW-E, CLEAR	0.3	0.25	≤ 0.20 CFM/SF	0.59
OPORABLE	SLIDING/SWING DOOR	SEE ELEVATION A200	SEE SHEETS A160	732 SF	IGU, LOW-E, CLEAR	0.3	0.25	≤ 0.20 CFM/SF	0.59
OPORABLE	AWNING WINDOW	SEE ELEVATION A200	SEE SHEETS A160	555 SF	IGU, LOW-E, CLEAR	0.3	0.25	≤ 0.20 CFM/SF	0.59
				3221 SF					
TOTAL FENESTRATION				8590 SF					

ENERGY THERMAL BRIDGE SCHEDULE

Level Text	TERMAL LENGTH
ENERGY EAST	
LINEAR THERMAL BRIDGE OF BALCONY	
Level 2	48' - 7"
Level 3	59' - 7 1/8"
Level 4	48' - 7"
Level 5	59' - 7 1/8"
	216' - 4 1/4"
LINEAR THERMAL BRIDGE OF FENESTRATION	
Level 1	10' - 8"
Level 1	8' - 6"
Level 1	10' - 8"
Level 1	8' - 6"
Level 1	32' - 9"
Level 1	8' - 8"
Level 1	32' - 9"
Level 1	8' - 8"
Level 2	10' - 2"
Level 2	7' - 0"
Level 2	10' - 2"
Level 2	7' - 0"
Level 2	21' - 11 3/8"
Level 2	7' - 0"
Level 2	21' - 11 3/8"
Level 2	7' - 0"
Level 2	20' - 4 5/8"
Level 2	7' - 0"
Level 2	20' - 4 5/8"
Level 2	7' - 0"
Level 2	7' - 0"
Level 2	12' - 4 5/8"
Level 2	1' - 6"
Level 2	10' - 2 1/4"
Level 2	8' - 6"
Level 2	22' - 6 7/8"
Level 2	8' - 6"
Level 2	21' - 1"
Level 2	1' - 6"
Level 2	1' - 2"
Level 2	7' - 0"
Level 2	22' - 3"
Level 3	10' - 3"
Level 3	7' - 0"
Level 3	10' - 3"
Level 3	7' - 0"
Level 3	10' - 3"
Level 3	7' - 0"
Level 3	7' - 0"
Level 3	20' - 7 3/4"
Level 3	7' - 0"
Level 3	20' - 7 3/4"
Level 3	7' - 0"
Level 3	13' - 3"
Level 3	1' - 6"
Level 3	9' - 10 1/8"
Level 3	8' - 6"
Level 3	23' - 1 1/8"
Level 3	8' - 6"
Level 3	31' - 7"
Level 3	1' - 6"
Level 3	1' - 2"
Level 3	7' - 0"
Level 3	32' - 9"
Level 3	10' - 2"
Level 3	7' - 0"
Level 3	10' - 2"
Level 3	7' - 0"
Level 4	10' - 2"
Level 4	7' - 0"
Level 4	10' - 2"
Level 4	7' - 0"
Level 4	21' - 11 3/8"
Level 4	7' - 0"
Level 4	21' - 11 3/8"
Level 4	7' - 0"
Level 4	20' - 4 5/8"
Level 4	7' - 0"
Level 4	20' - 4 5/8"
Level 4	7' - 0"
Level 4	7' - 0"
Level 4	22' - 7"
Level 4	8' - 6"
Level 4	10' - 3 9/16"
Level 4	1' - 6"
Level 4	12' - 3 7/16"
Level 4	8' - 6"
Level 4	22' - 2 3/4"
Level 4	7' - 0"
Level 4	1' - 1 3/4"
Level 4	1' - 6"
Level 4	21' - 1"
Level 5	57' - 10 1/8"
Level 5	10' - 0"
Level 5	57' - 10 1/8"
Level 5	10' - 0"
Level 5	8' - 6"
Level 5	20' - 7 3/4"
Level 5	8' - 6"
Level 5	20' - 7 3/4"
Level 5	8' - 6"
Level 5	10' - 3"
Level 5	8' - 6"
Level 5	10' - 3"
	1163' - 8 3/4"
LINEAR THERMAL BRIDGE OF PARAPET	
	12' - 9"
Level Roof	96' - 8"
	109' - 5"
LINEAR THERMAL BRIDGE OF SLAB EDGE	
Level 2	60' - 10"
Level 3	37' - 0 7/8"
Level 3	12' - 9"
Level 4	60' - 10"
Level 5	37' - 0 7/8"
	208' - 6 3/4"

ENERGY WALL SCHEDULE

TAG TYPE NAME	TAG CATEGORY	HEIGHT	WIDTH	AREA
ENERGY EAST				
_SLAB				
WALL TYPE B1	SLAB	SEE ELEVATION A200	SEE ELEVATION A200	403 SF
WALL TYPE D1	SLAB	SEE ELEVATION A200	SEE ELEVATION A200	43 SF
WALL TYPE E1	SLAB	SEE ELEVATION A200	SEE ELEVATION A200	24 SF
				470 SF
_WALL				
METAL DOOR	OPAQUE	SEE ELEVATION A200	SEE SHEETS A160	183 SF
WALL TYPE B	BRICK	SEE ELEVATION A200	SEE ELEVATION A200	873 SF
WALL TYPE C	SPANDREL	SEE ELEVATION A200	SEE ELEVATION A200	192 SF
WALL TYPE D	EIFS MASS	SEE ELEVATION A200	SEE ELEVATION A200	189 SF
WALL TYPE E	EIFS MASS	SEE ELEVATION A200	SEE ELEVATION A200	321 SF
WALL TYPE F	CLADDING	SEE ELEVATION A200	SEE ELEVATION A200	282 SF
WALL TYPE H	CLADDING	SEE ELEVATION A200	SEE ELEVATION A200	15 SF
WALL TYPE H (PARKING)	CLADDING	SEE ELEVATION A200	SEE ELEVATION A200	403 SF
				2458 SF
ABOVE GRADE				2928 SF
_WALL				
WALL TYPE G	INSULATION	SEE ELEVATION A200	SEE ELEVATION A200	529 SF
				529 SF
BELOW GRADE				529 SF

WINDOW WALL RATIO

ENERGY TYPE	AREA	% OF TOTAL	WWR
ENERGY EAST			
ENERGY FENESTRATION	3221 SF	52.39%	WWR
ENERGY WALL	2928 SF	47.61%	
	6148 SF		

ENERGY LEGEND

- WALL TYPE A — BRICK WALL
- WALL TYPE A1 — BRICK WALL @ SLAB
- WALL TYPE B — BRICK WALL WITH METAL STUD
- WALL TYPE B1 — BRICK WALL WITH METAL STUD @ SLAB
- WALL TYPE C — CW SPANDREL WITH CLEAR SHADOW BOX
- WALL TYPE D — EXTERIOR WALL WITH EIFS AND METAL STUD
- WALL TYPE D1 — EXTERIOR WALL WITH EIFS AND METAL STUD @ SLAB
- WALL TYPE E — EXTERIOR WALL WITH EIFS
- WALL TYPE E1 — EXTERIOR WALL WITH EIFS @ SLAB
- WALL TYPE F — METAL CLADDING WALL AND FURRING
- WALL TYPE G — CONCRETE FOUNDATION WALL
- WALL TYPE H — METAL CLADDING WALL AND CONCRETE
- METAL DOOR
- LOUVER
- FENESTRATION - FIXED
- FENESTRATION - OPERABLE WINDOWS
- FENESTRATION - SLIDING / SWING DOORS
- FENESTRATION LINEAR THERMAL BRIDGE
- PARAPET LINEAR THERMAL BRIDGE
- SLAB EDGE LINEAR THERMAL BRIDGE
- BALCONY LINEAR THERMAL BRIDGE

SEE:
A021.00 FOR EXTERIOR WALL TYPES,
A030.00 FOR WINDOW SCHEDULE,
A045.00-A047.00 FOR DOOR SCHEDULE,
A810 SERIES FOR EXTERIOR WALL DETAILS
MEP DRAWINGS FOR LOUVER REQUIRMENTS

PROJECT NAME:
BK55E

OWNER NAME:

PROJECT ADDRESS:
55 Eckford Street Brooklyn, NY 11222

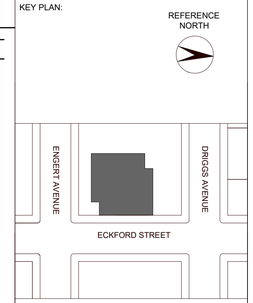
ARCHITECT
INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER
SHARON ENGINEERING P.C
34-27 Steinway Street, Suite 201
Long Island City, NY 11101
T: (718) 752-1500

MEP ENGINEER
REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:
ENERGY EAST ELEVATION

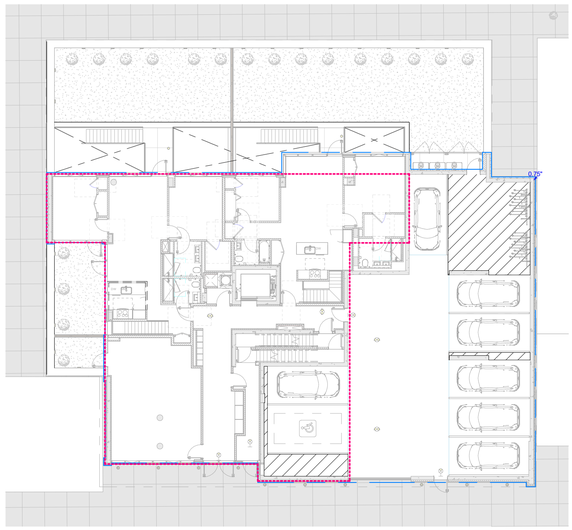
SEAL & SIGNATURE:

REGISTERED ARCHITECT BURAT MUTLU 036742 STATE OF NEW YORK

DATE: 02/21/2025

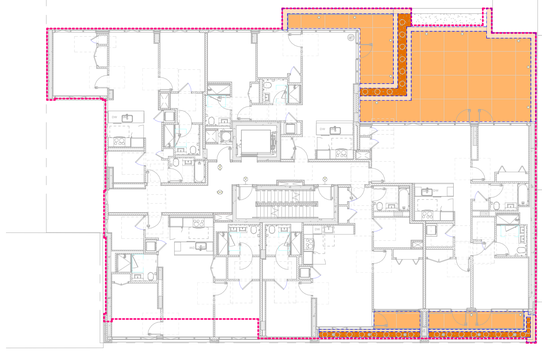
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DRAWING NO: **EN008**



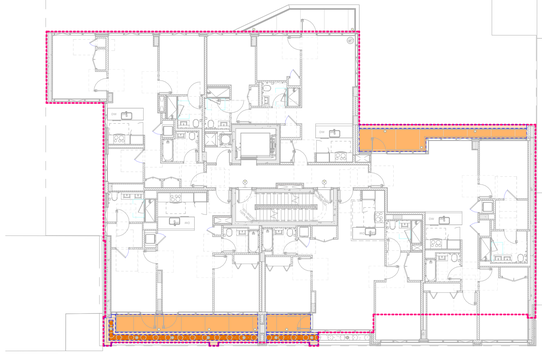
1 SLAB ON GRADE & ROOF PLAN LV1
1/16" = 1'-0"

ROOF R1	BULKHEAD
AREA	178 SF
ROOF R2	TERRACE
AREA	878 SF
ROOF R3	GREEN ROOF
AREA	115 SF



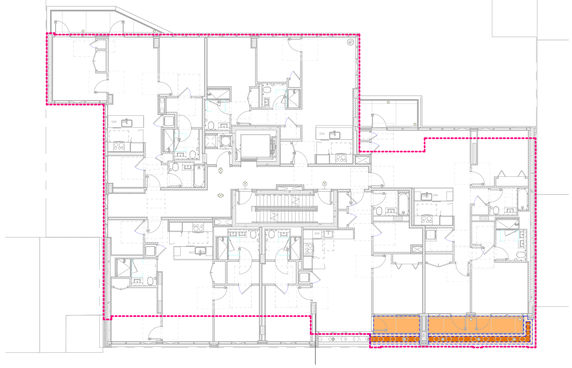
2 ENERGY ROOF PLAN LV2
1/16" = 1'-0"

ROOF R1	BULKHEAD
AREA	88 SF
ROOF R2	TERRACE
AREA	292 SF
ROOF R3	GREEN ROOF
AREA	60 SF



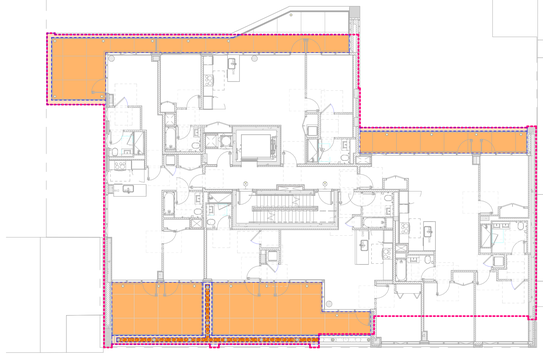
3 ENERGY ROOF PLAN LV3
1/16" = 1'-0"

ROOF R1	BULKHEAD
AREA	39 SF
ROOF R2	TERRACE
AREA	126 SF
ROOF R3	GREEN ROOF
AREA	46 SF



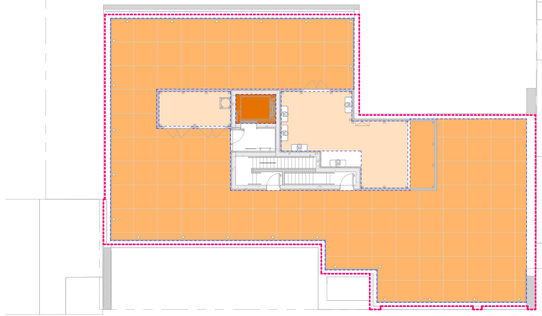
4 ENERGY ROOF PLAN LV4
1/16" = 1'-0"

ROOF R1	BULKHEAD
AREA	142 SF
ROOF R2	TERRACE
AREA	1142 SF
ROOF R3	GREEN ROOF
AREA	54 SF



5 ENERGY ROOF PLAN LV5
1/16" = 1'-0"

ROOF R1	BULKHEAD
AREA	505 SF
ROOF R2	TERRACE
AREA	3331 SF
ROOF R3	GREEN ROOF
AREA	58 SF



6 ENERGY ROOF PLAN LV ROOF
1/16" = 1'-0"

ENERGY ROOF/TERRACE SCHEDULE

Level Text	TAG CATEGORY	OPAQUE ELEMENTS	MIN R VALUE(ASHRAE)	R VALUE	AREA
ROOF R1					
Level 2	BULKHEAD	INSULATION ENTIRELY ABOVE DECK	R-33 C.I.	R-33 C.I.	178 SF
Level 3	BULKHEAD	INSULATION ENTIRELY ABOVE DECK	R-33 C.I.	R-33 C.I.	88 SF
Level 4	BULKHEAD	INSULATION ENTIRELY ABOVE DECK	R-33 C.I.	R-33 C.I.	39 SF
Level 5	BULKHEAD	INSULATION ENTIRELY ABOVE DECK	R-33 C.I.	R-33 C.I.	142 SF
Level Roof	BULKHEAD	INSULATION ENTIRELY ABOVE DECK	R-33 C.I.	R-33 C.I.	505 SF
					953 SF
ROOF R2					
Level 2	TERRACE	INSULATION ENTIRELY ABOVE DECK	R-33 C.I.	R-33 C.I.	878 SF
Level 3	TERRACE	INSULATION ENTIRELY ABOVE DECK	R-33 C.I.	R-33 C.I.	292 SF
Level 4	TERRACE	INSULATION ENTIRELY ABOVE DECK	R-33 C.I.	R-33 C.I.	126 SF
Level 5	TERRACE	INSULATION ENTIRELY ABOVE DECK	R-33 C.I.	R-33 C.I.	1142 SF
Level Roof	TERRACE	INSULATION ENTIRELY ABOVE DECK	R-33 C.I.	R-33 C.I.	3331 SF
					5770 SF

ENERGY ROOF/TERRACE SCHEDULE

Level Text	TAG CATEGORY	OPAQUE ELEMENTS	MIN R VALUE(ASHRAE)	R VALUE	AREA
ROOF R3					
Level 2	GREEN ROOF	INSULATION ENTIRELY ABOVE DECK	R-33 C.I.	R-33 C.I.	115 SF
Level 3	GREEN ROOF	INSULATION ENTIRELY ABOVE DECK	R-33 C.I.	R-33 C.I.	60 SF
Level 4	GREEN ROOF	INSULATION ENTIRELY ABOVE DECK	R-33 C.I.	R-33 C.I.	46 SF
Level 5	GREEN ROOF	INSULATION ENTIRELY ABOVE DECK	R-33 C.I.	R-33 C.I.	54 SF
Level Roof	GREEN ROOF	INSULATION ENTIRELY ABOVE DECK	R-33 C.I.	R-33 C.I.	59 SF
					334 SF
					7057 SF

SHEET NOTES

ROOF TYPE R1: ROOF ASSEMEBLY. SEE SHEET A020 SERIES , AND DETAILS ON A800 SERIES.

ROOF TYPE R2: TERRACE ROOF. SEE A020 SERIES, AND DETAILS ON A800 SERIES.

ROOF TYPE R3: GREEN ROOF. SEE A020 SERIES, AND DETAILS ON A800 SERIES.

FLOOR TYPE F1: FLOOR OVER UNCONDITIONED SPACE. SEE A020 SERIES, AND DETAILS ON A800 SERIES.

ENERGY SOFFIT/ROOF LEDGEND

- NONRESIDENTIAL ROOF R1
- RESIDENTIAL ROOF R2
- GREEN ROOF R3
- FLOOR TYPE F1
- FLOOR TYPE F5
- CONDITIONED SPACE ABOVE
- CONDITIONED SPACE BELOW
- ENERGY AREA BOUNDRY

ENERGY SLAB ON GRADE

Level Text	TERMAL LENGTH
SLAB ON GRADE PRAMITER	
Level 1	1' - 8 3/4"
Level 1	0' - 4 3/4"
Level 1	17' - 0"
Level 1	0' - 4 3/4"
Level 1	10' - 6"
Level 1	0' - 4"
Level 1	20' - 4"
Level 1	0' - 8"
Level 1	0' - 4"
Level 1	10' - 8"
Level 1	0' - 4"
Level 1	1' - 9"
Level 1	16' - 0"
Level 1	52' - 7 1/4"
Level 1	4' - 6"
Level 1	28' - 10 3/8"
Level 1	3' - 9 1/4"
Level 1	16' - 0 3/8"
Level 1	3' - 9 1/4"
Level 1	2' - 0"
Level 1	5' - 6"
Level 1	9' - 11"
Level 1	0' - 4"
Level 1	0' - 0 3/4"
Level 1	69' - 0"
Level 1	2' - 0 3/4"
Level 1	0' - 11 3/4"
Level 1	60' - 0 1/2"
Level 1	4' - 4 1/4"
Level 1	32' - 9"
Level 1	0' - 6 3/4"
Level 1	1' - 9"
	379' - 3 1/2"

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

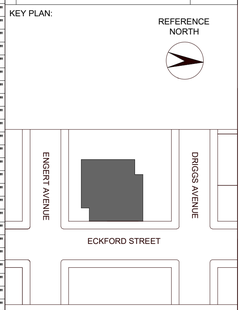
SHARON ENGINEERING P.C
34-27 Steinway Street, Suite 201
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T: (718) 752-1500

MEP ENGINEER

REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

ENERGY ROOF PLAN DIAGRAM

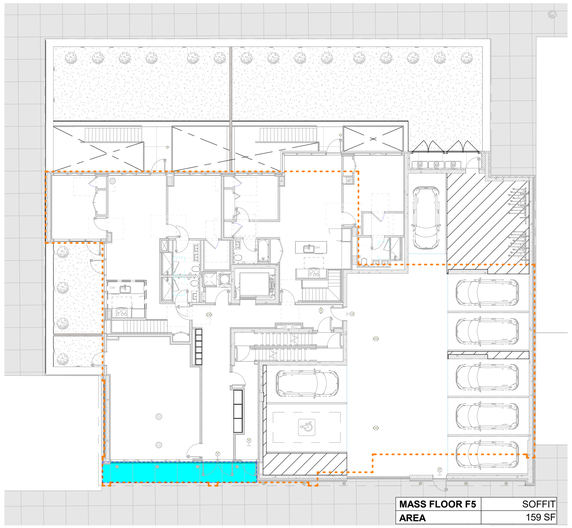
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DATE: 02/21/2025

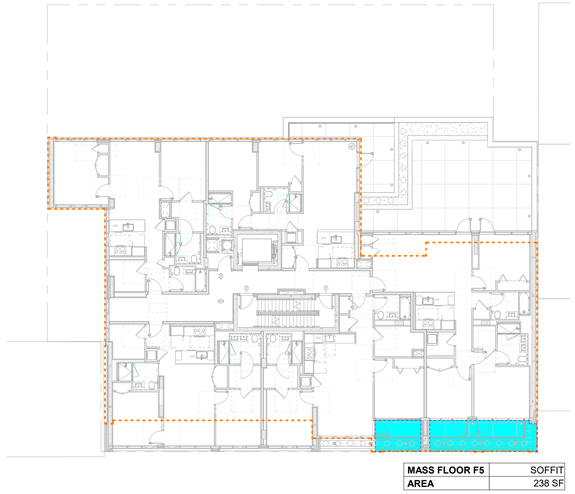
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DRAWING NO: **EN009**



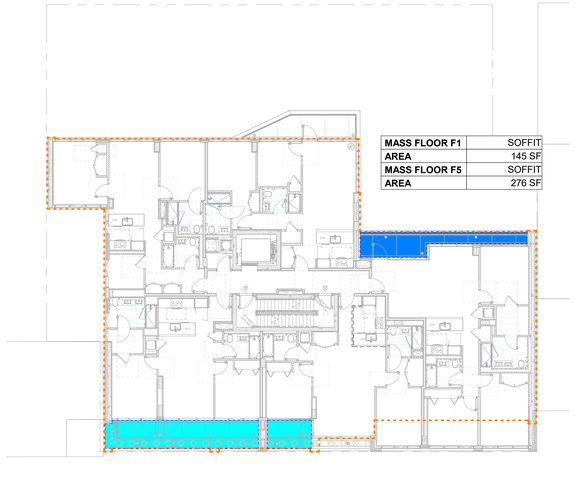
MASS FLOOR F5	SOFFIT
AREA	159 SF

1 ENERGY SOFFIT PLAN LV1
1/16" = 1'-0"



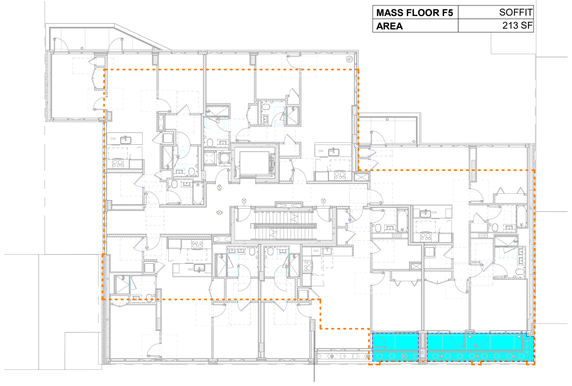
MASS FLOOR F5	SOFFIT
AREA	238 SF

2 ENERGY SOFFIT PLAN LV2
1/16" = 1'-0"



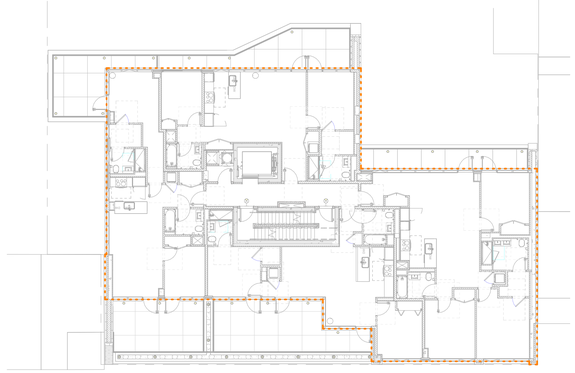
MASS FLOOR F1	SOFFIT
AREA	145 SF
MASS FLOOR F5	SOFFIT
AREA	276 SF

3 ENERGY SOFFIT PLAN LV3
1/16" = 1'-0"



MASS FLOOR F5	SOFFIT
AREA	213 SF

4 ENERGY SOFFIT PLAN LV4
1/16" = 1'-0"



5 ENERGY SOFFIT PLAN LV5
1/16" = 1'-0"

ENERGY MASS FLOOR SCHEDULE

Level Text	OPAQUE TYPE	OPAQUE ELEMENTS	MIN R VALUE(ASHRAE)	R VALUE	AREA
Level 1	FLOOR TYPE F5 (SEE SHEETA023)	MASS FLOOR	R-16.7 C.I.	R-17.2 C.I.	159 SF
Level 2	FLOOR TYPE F5 (SEE SHEETA023)	MASS FLOOR	R-16.7 C.I.	R-17.2 C.I.	238 SF
Level 3	FLOOR TYPE F5 (SEE SHEETA023)	MASS FLOOR	R-16.7 C.I.	R-17.2 C.I.	276 SF
Level 3	FLOOR TYPE F1 (SEE SHEETA023)	MASS FLOOR	R-16.7 C.I.	R-17.2 C.I.	145 SF
Level 4	FLOOR TYPE F5 (SEE SHEETA023)	MASS FLOOR	R-16.7 C.I.	R-17.2 C.I.	213 SF
					1031 SF

SHEET NOTES

ROOF TYPE R1: ROOF ASSEMEBLY. SEE SHEET A020 SERIES , AND DETAILS ON A800 SERIES.

ROOF TYPE R2: TERRACE ROOF. SEE A020 SERIES, AND DETAILS ON A800 SERIES.

ROOF TYPE R3: GREEN ROOF. SEE A020 SERIES, AND DETAILS ON A800 SERIES.

FLOOR TYPE F1: FLOOR OVER UNCONDITIONED SPACE. SEE A020 SERIES, AND DETAILS ON A800 SERIES.

ENERGY SOFFIT/ROOF LEDGEND

- NONRESIDENTIAL ROOF R1
- RESIDENTIAL ROOF R2
- GREEN ROOF R3
- FLOOR TYPE F1
- FLOOR TYPE F5
- CONDITIONED SPACE ABOVE
- CONDITIONED SPACE BELOW
- ENERGY AREA BOUNDRY

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

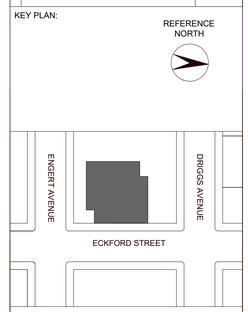
SHARON ENGINEERING P.C
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Long Island City, NY 11101
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MEP ENGINEER

REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

ENERGY MASS FLOOR PLAN DIAGRAM

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE: 1/16" = 1'-0"

DRAWING NO: **EN010**

COMcheck Software Version 4.1.5.5

Envelope Compliance Certificate

Project Information

Energy Code:	2020 New York City Energy Cons. Code, App. CA Modeling Envelope Backstop
Project Title:	PROJECT BK_55E
Location:	New York, New York
Climate Zone:	4a
Project Type:	New Construction
Vertical Glazing / Wall Area:	26%
Performance Sim. Specs:	EnergyPlus 8.1.0.009 (EPW: USA_NY_New.York-LaGuardia.AP.725030_TMY3.epw)

WWR RATIO SHOWN IN COMCHECK REPORT INCLUDES BELOW GRADE WALL AREAS

Construction Site:
55 Eckford Street Brooklyn, NY
11222
BROOKLYN, NY 11222

Owner/Agent:

Designer/Contractor:
INOA ARCHITECTURE
330 WEST 38TH STREET #1704
NEW YORK, NY 10018
2125640094
INFO@IN-OA.COM

Building Area	Floor Area
1-Multifamily : Residential	22064
2-Parking Garage : Residential	3094

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
SLAB ON GRADE AT 1ST FLOOR: Slab-On-Grade:Unheated, Vertical 2 ft., [Bldg. Use 1 - Multifamily] (d)	379	---	20.0	0.510	0.520
ROOF R1 BULKHEAD: Insulation Entirely Above Deck, [Bldg. Use 1 - Multifamily]	953	---	33.0	0.030	0.030
ROOF R2 TERRACE: Insulation Entirely Above Deck, [Bldg. Use 1 - Multifamily]	5770	---	33.0	0.030	0.030
ROOF R3 GREEN ROOF: Insulation Entirely Above Deck, [Bldg. Use 1 - Multifamily]	334	---	33.0	0.030	0.030
MASS FLOOR F1: Insulation Entirely Above Deck, [Bldg. Use 1 - Multifamily]	145	---	17.2	0.056	0.030
MASS FLOOR F5: Insulation Entirely Above Deck, [Bldg. Use 1 - Multifamily]	886	---	17.2	0.056	0.030
NORTH					
WALL TYPE D1: Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	71	---	17.2	0.052	0.086
WALL TYPE E1: Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	203	---	17.2	0.052	0.086
WALL TYPE A: Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	379	---	15.0	0.059	0.086
OPERABLE-WINDOW (AWNING): Other Window:Operable: 95' above-grade, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	68	---	---	0.300	0.400
WALL TYPE A1: Solid Concrete:10" Thickness, Normal Density,	38	---	15.0	0.059	0.086

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Furring: None, [Bldg. Use 1 - Multifamily]					
WALL TYPE D: Steel-Framed, 24" o.c., [Bldg. Use 1 - Multifamily]	906	19.0	17.2	0.036	0.061
FIXED GLAZING: Other Window:Fixed: 95' above-grade, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	199	---	---	0.300	0.400
OPERABLE-WINDOW (AWNING): Other Window:Operable: 95' above-grade, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	30	---	---	0.300	0.400
OPERABLE-DOOR: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	49	---	---	0.300	0.400
WALL TYPE E: Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	1812	---	17.2	0.052	0.086
WALL TYPE E (PARKING): Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 2 - Parking Garage]	645	---	17.2	0.052	0.086
WALL TYPE H (PARKING): Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 2 - Parking Garage]	5	---	15.0	0.059	0.086
WALL TYPE G (BELOW GRADE): Solid Concrete:10" Thickness, Normal Density, Furring: None, Wall Ht 10.0, Depth B.G. 10.0, [Bldg. Use 1 - Multifamily]	637	---	10.0	0.087	0.085
EAST					
WALL TYPE B1: Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	403	---	15.0	0.059	0.086
WALL TYPE D1: Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	43	---	17.2	0.052	0.086
WALL TYPE E1: Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	24	---	17.2	0.052	0.086
WALL TYPE B: Steel-Framed, 24" o.c., [Bldg. Use 1 - Multifamily]	3790	19.0	15.0	0.039	0.061
FIXED GLAZING: Other Window:Fixed: 95' above-grade, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	1733	---	---	0.300	0.400
OPERABLE-WINDOW (AWNING): Other Window:Operable: 95' above-grade, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	482	---	---	0.300	0.400
OPERABLE-DOOR: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	611	---	---	0.300	0.400
STOREFRONT ENTRANCE DOOR: Glass (> 50% glazing):Metal Frame, Entrance Door, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	91	---	---	0.300	0.680
WALL TYPE C (SPANDREL): Other Metal Building Wall, [Bldg. Use 1 - Multifamily] (b)	192	---	---	0.176	0.048
WALL TYPE D: Steel-Framed, 24" o.c., [Bldg. Use 1 - Multifamily]	493	19.0	17.2	0.036	0.061
FIXED GLAZING: Other Window:Fixed: 95' above-grade, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	201	---	---	0.300	0.400
OPERABLE-WINDOW (AWNING): Other Window:Operable: 95' above-grade, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	73	---	---	0.300	0.400
OPERABLE-DOOR: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	30	---	---	0.300	0.400
WALL TYPE E: Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	368	---	17.2	0.052	0.086
OPAQUE DOOR: Uninsulated Single-Layer Metal, Swinging, [Bldg. Use 1 - Multifamily]	47	---	---	0.700	0.370
WALL TYPE F: Steel-Framed, 24" o.c., [Bldg. Use 1 - Multifamily]	282	19.0	15.0	0.039	0.061
WALL TYPE H: Solid Concrete:10" Thickness, Normal Density, Furring:	15	---	15.0	0.059	0.086

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
None, [Bldg. Use 1 - Multifamily]					
WALL TYPE H (PARKING): Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 2 - Parking Garage]	539	---	15.0	0.059	0.086
OPAQUE DOOR: Uninsulated Single-Layer Metal, Swinging, [Bldg. Use 2 - Parking Garage]	136	---	---	0.700	0.370
WALL TYPE G (BELOW GRADE): Solid Concrete:10" Thickness, Normal Density, Furring: None, Wall Ht 10.0, Depth B.G. 10.0, [Bldg. Use 1 - Multifamily]	529	---	10.0	0.087	0.085
SOUTH					
WALL TYPE A1: Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	88	---	15.0	0.059	0.086
WALL TYPE D1: Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	133	---	17.2	0.052	0.086
WALL TYPE E1: Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	91	---	17.2	0.052	0.086
LOUVER: Other Metal Building Wall, [Bldg. Use 1 - Multifamily] (b)	10	---	---	0.050	0.048
WALL TYPE A: Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	671	---	15.0	0.059	0.086
OPERABLE-WINDOW (AWNING): Other Window:Operable: 95' above-grade, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	34	---	---	0.300	0.400
WALL TYPE B: Steel-Framed, 24" o.c., [Bldg. Use 1 - Multifamily]	99	19.0	15.0	0.039	0.061
WALL TYPE C (SPANDREL): Other Metal Building Wall, [Bldg. Use 1 - Multifamily] (b)	250	---	---	0.176	0.048
WALL TYPE D: Steel-Framed, 24" o.c., [Bldg. Use 1 - Multifamily]	1498	19.0	17.2	0.036	0.061
FIXED GLAZING: Other Window:Fixed: 95' above-grade, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	492	---	---	0.300	0.400
OPERABLE-WINDOW (AWNING): Other Window:Operable: 95' above-grade, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	91	---	---	0.300	0.400
OPERABLE-DOOR: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	364	---	---	0.300	0.400
OPAQUE DOOR: Uninsulated Single-Layer Metal, Swinging, [Bldg. Use 1 - Multifamily]	26	---	---	0.700	0.370
WALL TYPE E: Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	11998	---	17.2	0.052	0.086
WALL TYPE H (PARKING): Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	36	---	15.0	0.059	0.086
WALL TYPE G (BELOW GRADE): Solid Concrete:10" Thickness, Normal Density, Furring: None, Wall Ht 10.0, Depth B.G. 10.0, [Bldg. Use 1 - Multifamily]	618	---	10.0	0.087	0.085
WEST					
WALL TYPE C (SPANDREL): Other Metal Building Wall, [Bldg. Use 1 - Multifamily] (b)	433	---	---	0.176	0.048
WALL TYPE D: Steel-Framed, 24" o.c., [Bldg. Use 1 - Multifamily]	5225	19.0	17.2	0.036	0.061
FIXED GLAZING: Other Window:Fixed: 95' above-grade, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	2661	---	---	0.300	0.400
OPERABLE-WINDOW (AWNING): Other Window:Operable: 95' above-grade, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	744	---	---	0.300	0.400
OPERABLE-DOOR: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Specs.: Product ID SB70, SHGC 0.25, VT 0.59, < 95' above-grade, [Bldg. Use 1 - Multifamily] (c)	638	---	---	0.300	0.400
WALL TYPE D1: Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	487	---	17.2	0.052	0.086

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
WALL TYPE E: Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	369	---	17.2	0.052	0.086
WALL TYPE E (PARKING): Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 2 - Parking Garage]	285	---	17.2	0.052	0.086
OPAQUE DOOR: Uninsulated Single-Layer Metal, Swinging, [Bldg. Use 2 - Parking Garage]	24	---	---	0.700	0.370
WALL TYPE E1: Solid Concrete:10" Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Multifamily]	49	---	17.2	0.052	0.086
LOUVER: Other Metal Building Wall, [Bldg. Use 1 - Multifamily] (b)	2	---	---	0.050	0.048
WALL TYPE G (BELOW GRADE): Solid Concrete:10" Thickness, Normal Density, Furring: None, Wall Ht 10.0, Depth B.G. 10.0, [Bldg. Use 1 - Multifamily]	31	---	10.0	0.087	0.085

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) 'Other' components require supporting documentation for proposed U-factors.
(c) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.
(d) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.

Qualifies for 2020 NYCECC, App. CA Modeling : Envelope design 6% (allowable margin = -14.0%)

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2020 New York City Energy Cons. Code, App. CA Modeling Envelope Backstop requirements in COM*check* Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

ANALYSIS & INSPECTION CHECKLIST

COMcheck Software Version 4.1.5.5

Inspection Checklist

Energy Code: 2020 New York City Energy Cons. Code, App. CA Modeling

Requirements: 0.0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
4.2.2, 5.4.3.1.1, 5.7 [PR1][1]	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
5.5.4.2.3 [PR7][2]	In buildings > 2,500 ft2, any enclosed spaces directly under a roof with ceiling heights > 15 ft. and used as an office, lobby, atrium, concourse, corridor, storage (including nonrefrigerated warehouse), gymnasium, fitness/exercise area, playing area, gymnasium seating area, convention exhibit/event space, courtroom, automotive service, fire station engine room, manufacturing corridor/transition and bay areas, retail, library reading and stack areas, distribution/sorting area, transportation baggage and seating areas, or workshop, the following requirements apply: The daylight zone under skylights is >= half the floor area and (a) the skylight area to daylight zone is >= 3 percent with a skylight VT >= 0.40 or (b) the minimum skylight effective aperture >= 1 percent. The skylights have a measured haze value > 90 percent.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

Section # & Req.ID	Footing / Foundation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
4.2.4 [FO1][2]	Installed below-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	R-____	R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
5.8.1.2 [FO2][2]	Below-grade wall insulation installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
4.2.4 [FO3][2]	Installed slab-on-grade insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	R-____ ☐ Unheated ☐ Heated	R-____ ☐ Unheated ☐ Heated	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
5.8.1.2 [FO4][2]	Slab edge insulation installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
5.5.3.5 [FO5][2]	Slab edge insulation depth/length.	____ft	____ft	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
5.8.1.7 [FO6][1]	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
5.8.1.7.3 [FO7][1]	Insulation in contact with the ground has <=0.3% water absorption rate per ASTM C272.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
6.4.4.1.5 [FO11][3]	Bottom surface of floor structures incorporating radiant heating insulated to >=R-3.5.	R-____	R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*

Additional Comments/Assumptions:

Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.4.3.2 [FR1][3]	Factory-built and site-assembled fenestration and doors are labeled or certified as meeting air leakage requirements.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
5.4.3.4 [FR4][3]	Vestibules are installed where building entrances separate conditioned space from the exterior, and meet exterior envelope requirements. Doors have self-closing devices, and are >=7 ft apart (>= 16 ft apart for adjoining floor area >= 40000 sq.ft.). Vestibule floor area <=7 50 sq.ft. or 2 percent of the adjoining conditioned floor area.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
5.5.4.3a [FR8][1]	Vertical fenestration U-Factor.	U-____	U-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
5.5.4.3b [FR9][1]	Skylight fenestration U-Factor.	U-____	U-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
5.5.4.4.1 [FR10][1]	Vertical fenestration SHGC value.	SHGC:____	SHGC:____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
5.5.4.4.2 [FR11][1]	Skylight SHGC value.	SHGC:____	SHGC:____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
5.8.2.1, 5.8.2.3, 5.8.2.4, 5.8.2.5 [FR12][2]	Fenestration products rated (U-factor, SHGC, and VT) in accordance with NFRC or energy code defaults are used.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
5.8.2.2 [FR13][1]	Fenestration and door products are labeled, or a signed and dated certificate listing the U-factor, SHGC, VT, and air leakage rate has been provided by the manufacturer.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
5.5.3.6 [FR14][2]	U-factor of opaque doors associated with the building thermal envelope meets requirements.	U-____ ☐ Swinging ☐ Nonswinging	U-____ ☐ Swinging ☐ Nonswinging	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
5.4.3.1 [FR15][1]	Continuous air barrier is wrapped, sealed, caulked, gasketed, and/or taped in an approved manner, except in semiheated spaces in climate zones 1-6.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

ANALYSIS & INSPECTION CHECKLIST

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

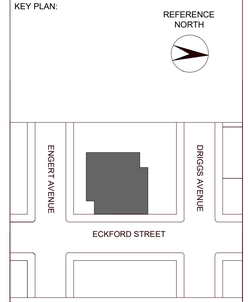
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#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

ENERGY COMCHECK

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE:

DRAWING NO: **EN011**

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
8.4.2 [EL10][2]	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
4.2.4 [IN2][1]	Installed roof insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. For some ceiling systems, verification may need to occur during Framing Inspection.	R-____ ☐ Above deck ☐ Metal ☐ Attic	R-____ ☐ Above deck ☐ Metal ☐ Attic	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
5.8.1.2, 5.8.1.3 [IN3][1]	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the ceiling slope is <= 3:12.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
4.2.4 [IN6][1]	Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	R-____ ☐ Mass ☐ Metal ☐ Steel ☐ Wood	R-____ ☐ Mass ☐ Metal ☐ Steel ☐ Wood	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
5.8.1.2 [IN7][1]	Above-grade wall insulation installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
4.2.4 [IN8][2]	Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	R-____ ☐ Mass ☐ Steel ☐ Wood	R-____ ☐ Mass ☐ Steel ☐ Wood	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
5.8.1.1 [IN10][2]	Building envelope insulation is labeled with R-value or insulation certificate has been provided listing R-value and other relevant data.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
5.8.1.9 [IN18][2]	Building envelope insulation extends over the full area of the component at the proposed rated R or U value.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
5.8.1.4 [IN11][2]	Eaves are baffled to deflect air to above the insulation.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
5.8.1.5 [IN12][2]	Insulation is installed in substantial contact with the inside surface separating conditioned space from unconditional space.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
5.8.1.6 [IN13][2]	Recessed equipment installed in building envelope assemblies does not compress the adjacent insulation.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
5.8.1.7.1 [IN15][2]	Attics and mechanical rooms have insulation protected where adjacent to attic or equipment access.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.8.1.7.2 [IN16][2]	Foundation vents do not interfere with insulation.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
5.8.1.8 [IN17][3]	Insulation intended to meet the roof insulation requirements cannot be installed on top of a suspended ceiling. Mark this requirement compliant if insulation is installed accordingly.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
5.4.3.3 [FI1][3]	Weatherseals installed on all loading dock cargo doors in Climate Zones 4-8.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

ANALYSIS & INSPECTION CHECKLIST

ANALYSIS & INSPECTION CHECKLIST

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

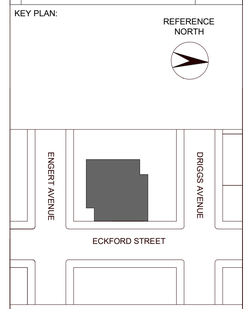
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MEP ENGINEER

REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:

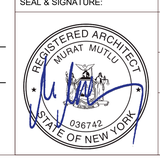


APPROVAL:

DWG TITLE:

ENERGY COMCHECK

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE:

DRAWING NO: **EN012**

NYC Buildings

EN1: Energy Cost Budget Worksheet

Enter information for sections 1, 2 and 3 - incorporate in the drawing set.
Must be typewritten

1	Location Information				
	House No(s) 530	Street Name: 55 ECKFORD STREET			
	Borough BROOKLYN	Block: 2698	Lot: 32	BIN 3067536	CB No.1
	Job Type (NB, Alt, etc.)	New Building			

2a	Applicant Information		
	Last Name:MUTLU	First Name:MURAT	Middle Initial
	Business Name: INOA ARCHITECTURE INC.PC	Business Email: MURAT@IN-OA.COM	
	Business Address: 330W 38TH ST, 1704	Business Telephone: 607-262-0368	
	City NEW YORK	State NY	Zip 10018
	Email MURAT@IN-OA.COM	License Number: RA-036742	

2b	Modeling Firm		
	Last Name (lead modeler): GERCEK	First Name (lead modeler): ERSIN	Middle Initial
	Business Name: REAL ENGINEERING SERVICES, LLC	Email (lead modeler): ersin@realengineering.com	
	Business Address: 205 ROUTE 46, SUITE 1	Telephone (lead modeler)	
	City: TOTOWA	State: NJ	Zip: 07512

3a	Energy Modeling Information	
	Modeling Protocol (Sect 11 or Apx G)	Section 11 ECB
	Modeling Software & version	Trace 3D Plus v-7.0
	Weather File	NY_New.York-LaGuardia.AP.72
	Proposed Unmet Load Hours	207
	Baseline Unmet Load Hours	3
	Gross Square Feet	34194
	Modelled Square Feet	30435.06399
	Conditioned Square Feet	25027.3831
	Semi-heated Square Feet	0
	Unconditioned Square Feet	5407.680892

3b	Energy Modeling Information per Modeled Square Feet		
Proposed	Total Energy Cost ($/sf)	$	1.73
	Site EUI (kBtu/sf)		39.27
	Source EUI (kBtu/sf)		100.14
	GHG (tCO_2e/sf)		0.003326
Baseline	Total Energy Cost ($/sf)	$	2.31
	Site EUI (kBtu/sf)		52.52
	Source EUI (kBtu/sf)		133.93
	GHG (tCO_2e/sf)		0.004448
% Savings	Total Energy Cost ($/sf)		25.23%
	Site EUI (kBtu/sf)		25.23%
	Source EUI (kBtu/sf)		25.23%
	GHG (tCO_2e/sf)		25.23%

3c	List all Job Numbers Associated with this Model	
	MECHANICAL	B01167721-52

Falsification of any statement is a misdemeanor under the NYC Administrative Building Code and is punishable by a fine or imprisonment, or both. It is unlawful to give to a city employee, or for a city employee to accept, any benefit, monetary or otherwise, either as a gratuity for properly performing the job or in exchange for special consideration. Violation is punishable by imprisonment or fine or both.

Name (please print)

Signature | Date

P.E. / R.A. Seal (apply seal, then sign and date over seal)

NYC Buildings

EN1: Energy Cost Budget Worksheet

FOR INFORMATIONAL PURPOSES ONLY: NOT REQUIRED FOR ENERGY CODE COMPLIANCE

3d	Carbon Emissions Limit (LL97)			
	Occupancy	Total Gross SQFT per occupancy	tCO_2e limit (2024)	tCO_2e limit (2030)
	Group R-2	34,194	0.00675	0.00407
	TOTAL	34,194		

3e	Carbon Emissions Information (LL97)		
		tCO_2e Limits for 2024-2029	tCO_2e Limits for 2030-2034
	tCO_2e Limit (LL97)	231	139
	tCO_2e for this Building	101	
	Does this building comply with LL97?	This building is subject to meeting LL97 of 2019. The proposed design is estimated to comply with the Carbon Limits for 2024-2029 & 2030-2035.	

**Total carbon emissions (tCO_2e) for this building is an estimate for informational purposes based on the proposed occupancy, gross square footage, and modeled annual energy usage. The performance of the building will be affected by construction quality, occupancy, and operational impacts. Actual carbon emissions may be higher or lower than this estimate. **

NYC Buildings

EN1: Energy Cost Budget Worksheet

4a	Energy Modeling Protocol (select)
	Section 11 ECB

4b.	Purchased Energy Rates & Compliance Documentation							
	Fuel	Utility Rate Provider/Rate Structure (i.e Con Ed)	Virtual Utility Rate ($/unit)	Baseline Design Total Charge ($)	Virtual Utility Rate ($/unit)	Proposed Design Total Charge ($)	Supporting Doc. Location	Model Output Report
	Electric	Con Edison	$0.150	$ 70,271.66	$0.150	$ 52,543.33		Economic and Life Cycle
	Gas/Steam	N/A	$0.000	-	$0.000	$ -		Economic and Life Cycle
	Other - ($/kBTU)		$0.000		$0.000			
							COST SAVINGS	COMPLIES?
	TOTAL			$ 70,271.66		$ 52,543.33	$ 17,728.33	COMPLIES

4c.	Performance Cost Index - Appendix G ONLY		
		Baseline Building	Proposed Building
	Building Performance Factor		
	Baseline Regulated Cost		
	Baseline Unregulated Cost	$ 11,336.67	$ 11,336.67
	Total Energy Cost		
	Performance Cost Index		

4d.	Performance Source Energy Index - Appendix G ONLY		
		Baseline Building	Proposed Building
	Building Performance Factor		
	Baseline Regulated Source Energy		
	Baseline Unregulated Source Energy	657,572	657,572
	Total Source Energy		
	Performance Source Energy Index		

4e.	Weighted BPF		
	Space Classification	Modeled Area	Weighted BPF (energy cost)
	All Other	8,371	Input modeled areas for each space
	Dormitory		Weighted BPF (source energy)
	Healthcare/ hospital		Input modeled areas for each space
	Hotel/motel		
	Multifamily	22,064	
	Office		
	Restaurant		
	Retail		
	School		
	Warehouse		
	TOTAL	30,435	

4f.	Weighted Envelope Backstop (results from ComCheck)	
	Allowable Margin (baseline)	-14%
	Envelope Design (proposed)	6.0%

NYC Buildings

EN1: Energy Cost Budget Worksheet

INSTRUCTIONS: If the modeling parameters call for averaging 4 rotations, enter the data into each of the white columns. If the modeling protocol does not require averaging the 4 rotations, enter the data into only the column labeled "0°" (do not enter '0' into the columns labeled 90, 180, 270).

5a	Baseline Rotations																
	Baseline Model																
	0°			90°			180°			270°			Average of 4 rotations			Model Output Location (Report)	
	Annual usage (kwh/therm/kBTU)																
	kwh	therm	kBTU	kwh	therm	kBTU	kwh	therm	kBTU	kwh	therm	kBTU	kwh	therm	kBTU		
Interior Lighting	20,500	-	-										20,500	-	-	Consumption	
Misc. Equip. Unregulated	75,578	-	-										75,578	-	-	Consumption	
Misc. Equip. Regulated	-	-	-										-	-	-	Consumption	
Space Heat	150,631	-	-										150,631	-	-	Consumption	
Space Cool	129,242	-	-										129,242	-	-	Consumption	
Heat Rejection	-	-	-										-	-	-	Consumption	
Pumps & Misc	-	-	-										-	-	-	Consumption	
Vent Fans	79,436	-	-										79,436	-	-	Consumption	
Dom. Hot Water	2,628	-	-										2,628	-	-	Consumption	
Exterior Lighting	10,464	-	-										10,464	-	-	Consumption	
Exterior Misc.	-	-	-										-	-	-	Consumption	
TOTAL	468,478												468,478			Site Consumption Summary_A SHRAE 90.1 2016 Baseline	
	Annual cost ($)																
Electric	$70,271.66												$70,271.66				
Gas/Steam	-												-				
Other																	
TOTAL	$70,271.66												$70,271.66				

NYC Buildings

EN1: Energy Cost Budget Worksheet

5b	Energy Modeling Usage Summary										
	Compliance based on Section 11 ECB										
	Baseline Model				Proposed Model						
	Electric Usage (kwh)	Gas/Steam Usage (Therm)	Other (i.e. chilled water) (kBTU)	% Usage	Electric Usage (kwh)	Gas/Steam Usage (Therm)	Other (i.e. chilled water) (kBTU)	% Usage	Energy Savings Per End Use (%)	Cost Savings per End Use (%)	Model Output Location (Report)
Interior Lighting	20,500	-	-	4%	20,500		-	6%	0%	0%	Consumption
Misc. Equip. Unregulated	75,578	-	-	16%	75,578	-	-	22%	0%	0%	Consumption
Misc. Equip. Regulated	-	-	-	0%	-	-	-	0%	0%	0%	Consumption
Space Heat	150,631	-	-	32%	144,581	-	-	41%	5%	5%	Consumption
Space Cool	129,242	-	-	28%	66,567	-	-	19%	53%	53%	Consumption
Heat Rejection	-	-	-	0%	-	-	-	0%	0%	0%	Consumption
Pumps & Misc	-	-	-	0%	-	-	-	0%	0%	0%	Consumption
Vent Fans	79,436	-	-	17%	29,972	-	-	9%	42%	42%	Consumption
Dom. Hot Water	2,628	-	-	1%	2,628	-	-	1%	0%	0%	Consumption
Exterior Lighting	10,464	-	-	2%	10,464	-	-	3%	0%	0%	Consumption
Exterior Misc.	-	-	-	0%	-	-	-	0%	0%	0%	Consumption
TOTAL	468,478	-	-	100%	350,289	-	-	100%	100%	100%	

5c	Energy Related Design Features		
	List energy related features in the design that exceed the mandatory/prescriptive requirements under each category.		List energy related features in the design that do not meet the prescriptive requirements under each category.
	Opaque Envelope	OPAQUE ENVELOPE= 59%	Opaque Envelope	
	Fenestration & WWR	FENESTRATION(WWR)= 41%	Fenestration & WWR	DO NOT MEET THE MAXIMUM =40%
	Ventilation Systems	Exhaust air ventilation shall pass through an energy recovery ventilator and outside air will be preconditioned through an ERV	Ventilation Systems	
	Cooling Systems	Cooling system shall be provided through high efficiency variable refrigerant flor (VRF) heat pump systems in cmpliance with energy efficiency requirements per NYC	Cooling Systems	
	Heating Systems	Heating system shall be provided through high efficiency VRF heat pump systems in compliance with energy efficien requirements per NYC ECC Appendix CA - ASHRAE 90.1	Heating Systems	
	Service Water Heating	Service water heating shall be provided via high efficiency electric water heaters.	Service Water Heating	
	Lighting Power	SEE SHEET EN 003.00 MAX ALLOWABLE WATTAGE 23716W>PROPOSED WATTAGE 8956 W	Lighting Power	
	Lighting Controls	COMPLIES SEE RCP SHEET NOTES A120.00 SERIES	Lighting Controls	
	Other		Other	

NYC Buildings

EN1: Energy Cost Budget Worksheet

6a	Above-Grade Wall & Fenestration Areas									
	Compliance based on Section 11 ECB									
			Baseline Case			Proposed Case			Supporting Doc. Location	Model Output Report
			Multifamily							
		Orientation	Window + Wall Area (ft^2)	Vertical Glazing Area		Window + Wall Area (ft^2)	Vertical Glazing Area			
				(ft^2)	(%)		(ft^2)	(%)		
	Above-Grade Wall & Vertical Glazing Area by Orientation	North	4,065	228	5.6	4,065	278	6.8	EN-007	Envelope Summary
		East	6,108	3,191	52.2	6,108	3,191	52.2	EN-008	Envelope Summary
		South	4,065	919	22.6	4,065	940	23.1	EN-006	Envelope Summary
		West	6,876	4,091	59.5	6,876	4,091	59.5	EN-005	Envelope Summary
		Total	**21115.23991**	**8428.572316**	39.9	**21115.23991**	**8499.506485**	40.3	EN-008	Envelope Summary
	Roof & Skylight Area	Roof + Skylight Area (ft^2)		Skylight Area		Roof + Skylight Area (ft^2)	Skylight Area		Supporting Doc. Location	Model Output Report
				(ft^2)	(%)		(ft^2)	(%)		
		Total	**7,069**	**0**	0.0	7,069	0	0.0	EN-009	Envelope Summary

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

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STRUCTRAL ENGINEER

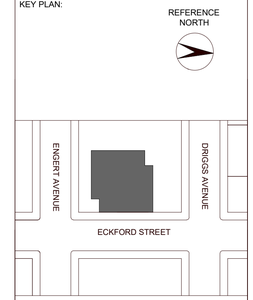
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T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Energy Modeling-En1 Report

SEAL & SIGNATURE:



DATE: 02/21/2025

SCALE:

DRAWING NO: **EN030**

NYC Buildings

EN1: Energy Cost Budget Worksheet

6b. Vertical Fenestration

Compliance based on Section 11 ECB

Model Input Parameter	Category (Res/Non-Res)	Item #	Baseline Case: Description (from ASHRAE)	Baseline Case: U-factor	Baseline Case: SHGC	Baseline Case: VLT	Proposed Case: Description (from design)	Proposed Case: U-factor	Proposed Case: SHGC	Proposed Case: VLT	Proposed Case: % Overall Wall/Roof Area	Supporting Doc. Location	Model Output Report
Vertical	Residential	1	Metal framing (operable), below 95ft	U-0.40	0.36	0.59	AWNING WINDOW	0.3	0.25	0.59	8%	EN005-EN008	Envelope Summary
Vertical	Residential	2	Metal framing (operable), below 95ft	U-0.40	0.36	0.59	SLIDING/SWING DOOR	0.3	0.25	0.59	7%	EN005-EN008	Envelope Summary
Vertical	Residential	3	Metal framing (fixed), below 95ft	U-0.30	0.36	0.59	GLAZING	0.3	0.25	0.59	25%	EN005-EN008	Envelope Summary
Vertical		4											
Vertical		5											
Vertical		6											
Vertical		7											
Vertical		8											
Vertical		9											
Vertical		10											
Vertical		11											
Vertical		12											
Skylight		1											
Skylight		2											
Shading Devices			Shading projections, manual shading devices, or self-shading have been modeled.				List any permanent or auto-controlled shading devices:			Total % WWR	40%		
			Any shading by adjacent structures has been modeled identically to the proposed case.							Total % skylt			

NYC Buildings

EN1: Energy Cost Budget Worksheet

6c. Opaque Elements

Compliance based on Section 11 ECB

Model Input Parameter	Space-Conditioning Category	Item #	Baseline Case: Description	Baseline Case: U-factor/ C-factor/ F-factor	Proposed Case: Description	Proposed Case: Assembly U-factor/ C-factor/ F-factor	% of above-grade wall	Supporting Doc Location	Model Output Report
Roof Construction	Residential	1	Insulation Entirely Above Deck	U-0.030	ROOF TYPE R1 & R2	0.03	-	EN009.00/A023.00	Envelope Summary
			Solar Reflectance	SR =					
	Non-Residential	2			ROOF TYPE R3	0.03	-	EN009.00/A023.00	Envelope Summary
			Solar Reflectance	SR =					
Above-Grade Exterior Wall Construction (Values on this tab should align with modeled inputs. For additional rows, use tab 6c2)	Residential	1	Metal Building	U-0.048	LOUVER	0.05	1%	EN005.00-EN008.00/A023.00	Envelope Summary
	Residential	2	Mass	U-0.086	WALL TYPE A	0.059	5%	EN005.00-EN008.00/A023.00	Envelope Summary
	Residential	3	Mass	U-0.086	WALL TYPE A1	0.059	1%	EN005.00-EN008.00/A023.00	Envelope Summary
	Residential	4	Steel-Framed	U-0.061	WALL TYPE B	0.039	4%	EN005.00-EN008.00/A023.00	Envelope Summary
	Residential	5	Mass	U-0.086	WALL TYPE B1	0.059	2%	EN005.00-EN008.00/A023.00	Envelope Summary
	Residential	6	Metal Building		WALL TYPE C	0.176	4%	EN005.00-EN008.00/A023.00	Envelope Summary
	Residential	7	Steel-Framed		WALL TYPE D	0.036	12%	EN005.00-EN008.00/A023.00	Envelope Summary
	Residential	8	Mass	U-0.086	WALL TYPE D1	0.052	4%	EN005.00-EN008.00/A023.00	Envelope Summary
	Residential	9	Mass	U-0.086	WALL TYPE E	0.052	22%	EN005.00-EN008.00/A023.00	Envelope Summary
	Residential	10	Mass	U-0.086	WALL TYPE E1	0.052	3%	EN005.00-EN008.00/A023.00	Envelope Summary
Below-Grade Exterior Wall Construction	Residential	1	Below-Grade Wall	C-0.092	WALL TYPE G	0.087	-	EN005.00-EN008.00/A023.00	Envelope Summary
		2							
Exposed Floor Construction	Residential	1	Steel-Joist	U-0.033	EXPOSED FLOOR CONSTRUCTION -F1/F5	0.056	-	EN009.00/A023.00	Envelope Summary
Slab-On-Grade Floors	Residential	1	Unheated	F-0.520	SLAB ON GRADE[LV1]	0.52	-	EN009.00/A023.00	Envelope Summary
Opaque Doors		1			METAL DOOR	0.7	1%	EN005.00-EN008.00/A023.00	Envelope Summary
		2							Envelope Summary

NYC Buildings

EN1: Energy Cost Budget Worksheet

6c. Opaque Elements - Weighted Average

Compliance based on Section 11 ECB

Model Input Parameter	Space-Conditioning Category	Item #	Baseline Case: Description	Baseline Case: U-factor/ C-factor/ F-factor	Proposed Case: Description	Proposed Case: Assembly U-factor/ C-factor/ F-factor	Proposed Case: % of above-grade wall	Supporting Doc Location	Model Output Report
Roof Construction		1							
		2							
		3							
		4							
		5							
		6							
		7							
Above-Grade Opaque Wall Construction	Residential	1	Steel-Framed	U-0.061	WALL TYPE F	0.039	1%	EN005.00-EN008.00/A023.00	Envelope Summary
	Residential	2	Mass	U-0.086	WALL TYPE H	0.059	2%	EN005.00-EN008.00/A023.00	Envelope Summary
		3							
		4							
		5							
		6							
		7							
		8							
		9							
		10							
		11							
		12							
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		24							
		25							
		26							
		27							
		28							
		29							
		30							
		31							
		32							
		33							
		34							
		35							
						Total % Opaque Roof			
						Total % Opaque Wall	Above grade % does not equal 6b.		

Note:
6c1+6c2=56%+3%=59% works(EN1 sheet bug when above grade wall types more than 10 lines)
6b+6c=41%+59%=100%

NYC Buildings

EN1: Energy Cost Budget Worksheet

6d.2 Interior LPD: Building Area Method

Compliance based on Section 11 ECB

Building Area Type (Table 9.5.1)	Total Area Space/Bldg Type (ft²)	Baseline Case: Auto. Controls (Yes/No)	Baseline Case: Daylight Ctrls (Yes/No)	Baseline Case: Modeled LPD (W/ft2)	Proposed Case: Auto. Controls (Yes/No)	Proposed Case: Daylight Ctrls (Yes/No)	Proposed Case: Modeled LPD (W/ft2)	Supporting Doc. Location	Model Output Report
Multifamily	22,064			0.49	Yes	Yes	0.68	EN003.00/RCP SCHEDULE/2005.00	Lighting and Daylighting Summary
Parking garage	3,095			0.12	Yes	Yes	0.15	EN003.00/RCP SCHEDULE/2005.00	Lighting and Daylighting Summary
Total	25,159			*0.44*			*0.61*		

NYC Buildings

EN1: Energy Cost Budget Worksheet

6e. Exterior Lighting Power

Compliance based on Section 11 ECB

	Baseline Design (Watts)	Proposed Design (Watts)	Supporting Doc. Location	Model Output Report
Tradable Lighting Power	1374.282	2567	EN003.00/RCP SCHEDULE/2005.00	Site Consumption
Non-Tradable Lighting Power				
Base Site Allowance	500			
Total Lighting Power	**1874**	**2567**		Site Consumption

3	M districts, except MX; C districts, except C5, C6 and C overlays on R
500	Base Site Allowance (watts)

Area Type	Area Parameters	Length or Area (FT or SQFT)	Proposed Watts	Baseline Watts	Unit Allowances
Tradable Surfaces	Uncovered Parking Areas: Total area of uncovered parking and drive areas (sq.ft)				0.05 W/SF
	Building Grounds: Length of walkways less than 10' wide				0.60 W/SF
	Building Grounds: Area of walkways greater than 10' wide				0.11 W/SF
	Building Grounds: Plaza areas (sqft)				0.11 W/SF
	Building Grounds: Special feature areas (sqft)				0.11 W/SF
	Building Grounds: Dining ares (sqft)				0.75 W/SF
	Building Grounds: Area of stairways (sqft)				0.70 W/SF
	Building Grounds: Area of pedestrian tunnels (sqft)				0.14 W/SF
	Building Grounds: Area of landscaping (sq.ft)	9816.3	2567	1374.282	0.14 W/SF
	Building Entrances & Exits: Total door width of pedestrian and vehicular entrances and exits (ft)				20.00 W/FT
	Building Entrances & Exits: Area of entry canopies (sq.ft)				0.14 W/SF
	Building Entrances & Exits: Loading Docks (sq.ft)				0.14 W/SF
	Sales canopies: Free standing and attached (sq.ft)				0.14 W/SF
	Outdoor sales areas: Open areas (including vehicle sales and lots) (sq.ft)				0.35 W/SF
	Outdoor sales areas: Total length of street frontage for vehicle sales (ft)				7.00 W/FT
Non-Tradable Surfaces	Building façades: Area of façade #1 (sqft) / Length of façade #1 (ft)				3.75 W/FT
	Building façades: Area of façade #2 (sqft) / Length of façade #2 (ft)				3.75 W/FT
	Building façades: Area of façade #3 (sqft) / Length of façade #3 (ft)				3.75 W/FT
	Building façades: Area of façade #4 (sqft) / Length of façade #4 (ft)				3.75 W/FT
	ATMs: # of Locations: / Total # of ATMs				Allowance = 135W per location plus 45W per additional ATM per location.
	Guarded facility entrances: Area of uncovered entrances and gatehouse inspection areas at guarded facilities (sq.ft)				0.14 W/FT
	Vehicle Loading Area: Area of uncovered loading areas for emergency service vehicles (sq.ft)				0.14 W/FT
	Drive-throughs: # of drive-throughs				200 Watts/drive thru
	hour retail entrances (main only): # of main entrances:				400 Watts/entrance

NYC Buildings

EN1: Energy Cost Budget Worksheet

6f.1 Miscellaneous Equipment - Regulated

Space Type (or Equipment Type)	Space Area (or # Equip.)	Equipment Power Density (W/SF) or (Equip Demand)	Annual kwh	Modeling Parameters/ Schedule	Baseline Modeled Identically? (Yes/No)	Supporting Doc. Location	Model Output Report
	SQFT	W/SF	kwh				
Space heat	25027.3831		144580.5493	Heat Pumps	Yes	Proposed Site Consumption Summary. Energy Consumption table	Proposed Site Consumption Summary. Energy Consumption table
Space Cool	25027.3831		66566.66487	Heat Pumps	Yes	Proposed Site Consumption Summary. Energy Consumption table	Proposed Site Consumption Summary. Energy Consumption table
Vent Fans	25027.3831		29972.22191	Heat Pumps	Yes	Proposed Site Consumption Summary. Energy Consumption table	Proposed Site Consumption Summary. Energy Consumption table
Dom. Hot Water	25027.3831		2627.777724	Electric Water Heater	Yes	Proposed Site Consumption Summary. Energy Consumption table	Proposed Site Consumption Summary. Energy Consumption table
TOTAL	100,110		0				

6f.2 Miscellaneous Equipment - Un-Regulated

Space Type (or Equipment Type)	Space Area (or # Equip.)	Equipment Power Density (W/SF) or (Equip Demand)	Annual kwh	Modeling Parameters/ Schedule	Baseline Modeled Identically? (Yes/No)	Supporting Doc. Location	Model Output Report
	SQFT	W/SF	kwh				
Interior Equipment	25027.3831		75577.7722	Plug loads	Yes	Proposed Site Consumption	Proposed Site Consumption

NYC

EN1: Energy Cost Budget Worksheet

NYC Buildings

EN1: Energy Cost Budget Worksheet

6g	Service Hot Water Systems						
Compliance based on Section 11 ECB							
Model Input Parameter	Baseline Design	Units	Proposed Design	Units	Supporting Doc Location	Model Output Report	
	Multifamily						
System Type & Fuel	Electric Water Heater		Electric Water Heater		Site Consumption Summary	P-002	
Input Rating	36		36	kW	Site Consumption Summary	P-002	
Efficiency	0.937	EF	93.70%	EF	Site Consumption Summary	P-002	
Storage Volume	120	Gal	120	Gal	Site Consumption Summary	P-002	
Storage Temperature	140	T	140	T	Site Consumption Summary	P-002	
Peak HW Demand	0.58	GPM	0.58	GPM	Site Consumption Summary	P-002	Peak water demand
Number of Primary DHW pumps	1	#	1	#	Site Consumption	P-002	
Primary DHW Pump Power	0.21	kW	0.21	kW	Site Consumption	P-002	
Primary DHW Pump Control	Constant Volume		Constant Volume			P-002	

6h	HVAC and SHW Narrative	Please provide a narrative of the building's heating, cooling, ventilation & service hot water systems

Heating & Cooling:
VRF system is proposed for heating and cooling of the building. Each apartment shall have an independent VRF heat pump system. The indoor fan coil units for the apartments shall be ceilind ducted. The common areas of the building as lobby, corridors and rec. room shall be provided with a dedicated VRF heat pump system.Independent single zone, remote air cooled systems are proposed for the elevator machine room.

Ventilation:
Ventilation for common areas and general environmental exhaust shall be processed through a proposed energy recovery ventilator. Ventilation air for common areas and apartments will be pre treated through an energy recovery system before distribution to each zone. Outside air will be ducted directly to each indoor units.

Service Water Heating:
(2) Central Electric hot water heaters with hot water storage are proposed to serve the whole building as well as common areas.

NYC Buildings

EN1: Energy Cost Budget Worksheet

HVAC Cover Sheet					Proposed Building Classification (auto-populated + drop-down)			Baseline systems correspond to Section 11 ECB
This column not used for Section 11 projects	Proposed System Design	System Name in Mechanical Schedule	System Name in Model Reports (baseline)	System Name in Model Reports (proposed)	Condenser Cooling Source	Heating System Classification	Zone Classification	
	VRF	CU-2B,CU-2C,CU-2D,CU-2E,CU-3B,CU-3D,CU-	CU-2B-System 8,CU-2C-System 8,CU-2D-System	CU-2B,CU-2C,CU-2D,CU-2E,CU-3B,CU-	Air/None	Heat Pump	Single-Zone Residential	
	VRF	CU-2A,CU-3A,CU-3C,CU-4A	CU-2A-System 8,CU-3A-System 8,CU-3C-System	CU-2A,CU-3A,CU-3C,CU-4A	Air/None	Heat Pump	Single-Zone Residential	
	VRF	CU-1A,CU-1B,CU-4C,CU-5C,CU-5D	CU-1A-System 8,CU-1B-System 8,CU-4C-System	CU-1A,CU-1B,CU-4C,CU-5C,CU-5D	Air/None	Heat Pump	Single-Zone Residential	
	VRF	CU-CELLAR, CU-EMR	CU-CELLAR-System 8, CU-EMR-System 8	CU-CELLAR, CU-EMR	Air/None	Heat Pump	Single-Zone Residential	
	VRF	CU-1	CU-1-System 8	CU-1	Air/None	Heat Pump	Single-Zone Residential	

Baseline System	Minimum Efficiencies	Fan Power	Heating System Classification

System Count
5

NYC Buildings

EN1: Energy Cost Budget Worksheet

6i	Air-Side HVAC					
	HVAC System / Group (BASELINE DESIGN)		HVAC System / Group (PROPOSED DESIGN)			
	Description	Units	Description	Units	Supporting Doc. Location	Model Output Report
System Description	NA		VRF			
System Name in Model	CU-2B-System 8,CU-2C-System 8,CU-2D-System 8,CU-2E-System 8,CU-3B-System 8,CU-3D-System 8,CU-3E-System 8,CU-4D-System 8,CU-4E-System 8,CU-5A-System 8,CU-5B-System 8		CU-2B,CU-2C,CU-2D,CU-2E,CU-3B,CU-3D,CU-3E,CU-4B,CU-4D,CU-4E,CU-5A,CU-5B		M-010	System Component Summary
# of Similar Systems	12		12		M-010	System Component Summary
Total Cooling Capacity	36000	BTU / h	36000	BTU/h	M-010	System Component Summary
*Table 6.8.1 Unitary Cooling Capacity Range	>=17,000 and <65,000	BTU / h			M-010	System Component Summary
*Unitary Cooling Eff.	9.29	EER	13	EER	M-010	System Component Summary
*Unitary Cooling Part-load Eff. (if applicable)	-	IEER	18.3(SEER)	IEER	M-010	System Component Summary
Total Heating Capacity	42000	BTU/h	42000	BTU/h	M-010	System Component Summary
*Table 6.8.1 Unitary Heating Capacity Range	>=17,000 and <65,000	Et			M-010	System Component Summary
*Unitary Heating Efficiency	2.72	COP	11.4	HSPF	M-010	System Component Summary
*Fan Control	Single- or two-speed fan		3 speed fan		M-010	System Component Summary
Supply Airflow	727	cfm	1060	cfm	M-010	System Component Summary
Outdoor Airflow	80	cfm	80	cfm	M-010	System Component Summary
*Demand Control Ventilation	No		No		M-010	System Component Summary
Economizer provided?	No		No		M-010	System Component Summary
*Economizer High-Limit Shutoff (°F)	n/a		n/a		M-010	System Component Summary
Exhaust Air Energy Recovery System Provided?	No		Yes		M-010	System Component Summary
*Exhaust Air Energy Recovery Effectiveness			79.70%		M-010	System Component Summary
Fan Brake Horsepower	-	hp	-	hp	M-010	System Component Summary
Fan Motor Efficiency	67	%	67	%	M-010	System Component Summary
Supply Fan Power		kW	-	kW	M-010	System Component Summary
Return Fan Power		kW	-	kW	M-010	System Component Summary
Exhaust Fan Power		kW	-	kW	M-010	System Component Summary
Relief Fan Power		kW	-	kW	M-010	System Component Summary
Allowed/Total Fan Power:	-	kW	-	kW	M-010	System Component Summary
EIR	0.37		0.26			
HIR	0.37		0.09			
% OA	0.11		0.11			
Other (describe)						

NYC Buildings

EN1: Energy Cost Budget Worksheet

6i	Air-Side HVAC					
	HVAC System / Group (BASELINE DESIGN)		HVAC System / Group (PROPOSED DESIGN)			
	Description	Units	Description	Units	Supporting Doc. Location	Model Output Report
System Description	NA		VRF			
System Name in Model	CU-1-System 8		CU-1		M-010	System Component Summary
# of Similar Systems	1		1		M-010	System Component Summary
Total Cooling Capacity	72000	BTU / h	72000	BTU/h	M-010	System Component Summary
*Table 6.8.1 Unitary Cooling Capacity Range	>=17,000 and <65,000	BTU / h			M-010	System Component Summary
*Unitary Cooling Eff.	9.29	EER	10.4	EER	M-010	System Component Summary
*Unitary Cooling Part-load Eff. (if applicable)	-	IEER	18.9	IEER	M-010	System Component Summary
Total Heating Capacity	81000	BTU/h	81000	BTU/h	M-010	System Component Summary
*Table 6.8.1 Unitary Heating Capacity Range	>=65,000 and <135,000	Et			M-010	System Component Summary
*Unitary Heating Efficiency	2.72	COP	3.48	COP	M-010	System Component Summary
*Fan Control	Single- or two-speed fan		3 Speed fan		M-010	System Component Summary
Supply Airflow	1220	cfm	2957	cfm	M-010	System Component Summary
Outdoor Airflow	210	cfm	210	cfm	M-010	System Component Summary
*Demand Control Ventilation	No		No		M-010	System Component Summary
Economizer provided?	No		No		M-010	System Component Summary
*Economizer High-Limit Shutoff (°F)	n/a		n/a		M-010	System Component Summary
Exhaust Air Energy Recovery System Provided?	No		Yes		M-010	System Component Summary
*Exhaust Air Energy Recovery Effectiveness			79.70%		M-010	System Component Summary
Fan Brake Horsepower	-	hp	-	hp	M-010	System Component Summary
Fan Motor Efficiency	67	%	67	%	M-010	System Component Summary
Supply Fan Power	-	kW	-	kW	M-010	System Component Summary
Return Fan Power		kW	-	kW	M-010	System Component Summary
Exhaust Fan Power		kW	-	kW	M-010	System Component Summary
Relief Fan Power		kW	-	kW	M-010	System Component Summary
Allowed/Total Fan Power:		kW	-	kW	M-010	System Component Summary
EIR	0.37		0.33			
HIR	0.37		0.29			
% OA	0.17		0.17			
Other (describe)						

NYC Buildings

EN1: Energy Cost Budget Worksheet

6i	Air-Side HVAC					
	HVAC System / Group (BASELINE DESIGN)		HVAC System / Group (PROPOSED DESIGN)			
	Description	Units	Description	Units	Supporting Doc. Location	Model Output Report
System Description	NA		VRF			
System Name in Model	CU-1A-System 8,CU-1B-System 8,CU-4C-System 8,CU-5C-System 8,CU-5D-System 8		CU-1A,CU-1B,CU-4C,CU-5C,CU-5D		M-010	System Component Summary
# of Similar Systems	5		5		M-010	System Component Summary
Total Cooling Capacity	60000	BTU / h	60000	BTU/h	M-010	System Component Summary
*Table 6.8.1 Unitary Cooling Capacity Range	>=17,000 and <65,000	BTU / h			M-010	System Component Summary
*Unitary Cooling Eff.	9.29	EER	10	EER	M-010	System Component Summary
*Unitary Cooling Part-load Eff. (if applicable)	-	IEER	16.2 (SEER)	IEER	M-010	System Component Summary
Total Heating Capacity	64000	BTU/h	64000	BTU/h	M-010	System Component Summary
*Table 6.8.1 Unitary Heating Capacity Range	>=17,000 and <65,000	Et			M-010	System Component Summary
*Unitary Heating Efficiency	2.72	COP	9.1 (HSPF)	COP	M-010	System Component Summary
*Fan Control	Single- or two-speed fan		3 speed fan		M-010	System Component Summary
Supply Airflow	1652	cfm	1752	cfm	M-010	System Component Summary
Outdoor Airflow	80	cfm	80	cfm	M-010	System Component Summary
*Demand Control Ventilation	No		No		M-010	System Component Summary
Economizer provided?	No		No		M-010	System Component Summary
*Economizer High-Limit Shutoff (°F)	n/a		n/a		M-010	System Component Summary
Exhaust Air Energy Recovery System Provided?	No		Yes		M-010	System Component Summary
*Exhaust Air Energy Recovery Effectiveness			80%		M-010	System Component Summary
Fan Brake Horsepower	-	hp	0	hp	M-010	System Component Summary
Fan Motor Efficiency	67	%	67	%	M-010	System Component Summary
Supply Fan Power		kW	0	kW	M-010	System Component Summary
Return Fan Power		kW	0	kW	M-010	System Component Summary
Exhaust Fan Power		kW	0	kW	M-010	System Component Summary
Relief Fan Power		kW	0	kW	M-010	System Component Summary
Allowed/Total Fan Power:	-	kW	0	kW	M-010	System Component Summary
EIR	0.37		0.34			
HIR	0.37		#VALUE!			
% OA	0.05		0.05			
Other (describe)						

NYC Buildings

EN1: Energy Cost Budget Worksheet

6i	Air-Side HVAC					
	HVAC System / Group (BASELINE DESIGN)		HVAC System / Group (PROPOSED DESIGN)			
	Description	Units	Description	Units	Supporting Doc. Location	Model Output Report
System Description	NA		VRF			
System Name in Model	CU-2A-System 8,CU-3A-System 8,CU-3C-System 8,CU-4A-System 8		CU-2A,CU-3A,CU-3C,CU-4A		M-010	System Component Summary
# of Similar Systems	4		4		M-010	System Component Summary
Total Cooling Capacity	48000	BTU / h	48000	BTU/h	M-010	System Component Summary
*Table 6.8.1 Unitary Cooling Capacity Range	>=17,000 and <65,000	BTU / h			M-010	System Component Summary
*Unitary Cooling Eff.	9.29	EER	12.2	EER	M-010	System Component Summary
*Unitary Cooling Part-load Eff. (if applicable)	-	IEER	17 (SEER)	IEER	M-010	System Component Summary
Total Heating Capacity	54000	BTU/h	54000	BTU/h	M-010	System Component Summary
*Table 6.8.1 Unitary Heating Capacity Range	>=17,000 and <65,000	Et			M-010	System Component Summary
*Unitary Heating Efficiency	2.72	COP	10 (HSPF)	COP	M-010	System Component Summary
*Fan Control	Single- or two-speed fan		3 Speed fan		M-010	System Component Summary
Supply Airflow	695	cfm	1249	cfm	M-010	System Component Summary
Outdoor Airflow	80	cfm	80	cfm	M-010	System Component Summary
*Demand Control Ventilation	No		No		M-010	System Component Summary
Economizer provided?	No		No		M-010	System Component Summary
*Economizer High-Limit Shutoff (°F)	n/a		n/a		M-010	System Component Summary
Exhaust Air Energy Recovery System Provided?	No		Yes		M-010	System Component Summary
*Exhaust Air Energy Recovery Effectiveness			79.70%		M-010	System Component Summary
Fan Brake Horsepower	-	hp	-	hp	M-010	System Component Summary
Fan Motor Efficiency	67	%	67	%	M-010	System Component Summary
Supply Fan Power		kW	-	kW	M-010	System Component Summary
Return Fan Power		kW	-	kW	M-010	System Component Summary
Exhaust Fan Power		kW	-	kW	M-010	System Component Summary
Relief Fan Power		kW	-	kW	M-010	System Component Summary
Allowed/Total Fan Power:	-	kW	-	kW	M-010	System Component Summary
EIR	0.37		0.28			
HIR	0.37		#VALUE!			
% OA	0.12		0.12			
Other (describe)						

PROJECT NAME:

BK55E

OWNER NAME:

PROJECT ADDRESS:

55 Eckford Street Brooklyn, NY 11222

ARCHITECT

INOA ARCHITECTURE
330 West 38th Street #1704
New York, NY 10018
T: 212 564 0094

STRUCTRAL ENGINEER

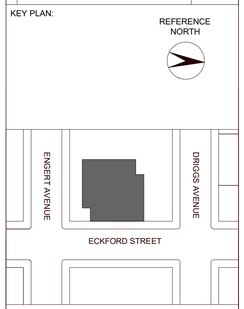
SHARON ENGINEERING P.C
34-27 Steinway Street, Suite 201
Long Island City, NY 11101
T: (718) 752-1500

MEP ENGINEER

REAL ENGINEERING
205 US Route 46 West, Suite #1
Totowa, NJ 07512
T: (973) 837-6066

#	Description	Date

KEY PLAN:



APPROVAL:

DWG TITLE:

Energy Modeling-En1 Report

SEAL & SIGNATURE:

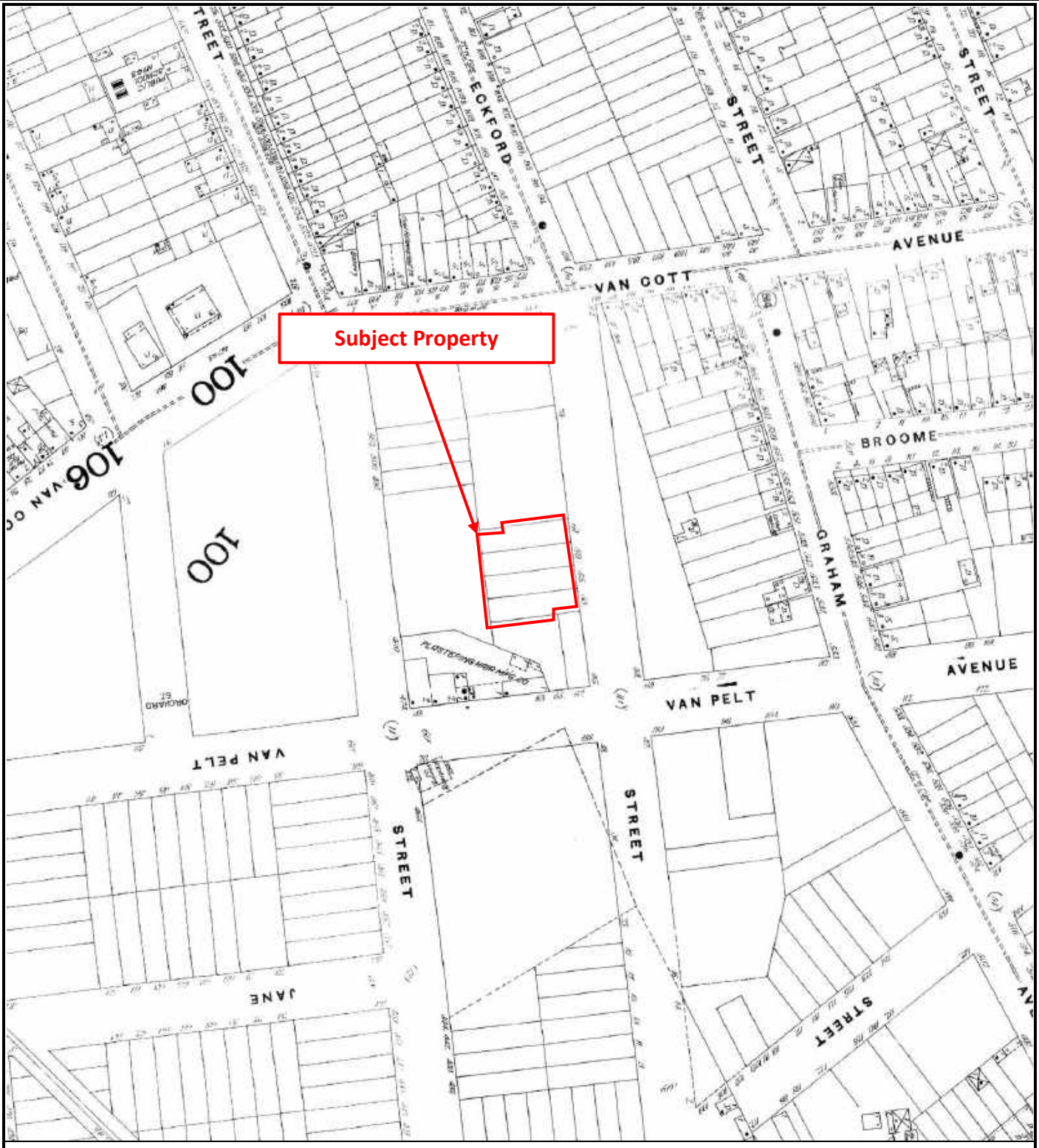


DATE: 02/21/2025

SCALE:

DRAWING NO: **EN032**

APPENDIX C SANBORN FIRE INSURANCE MAPS



1887 Historic Sanborn Map

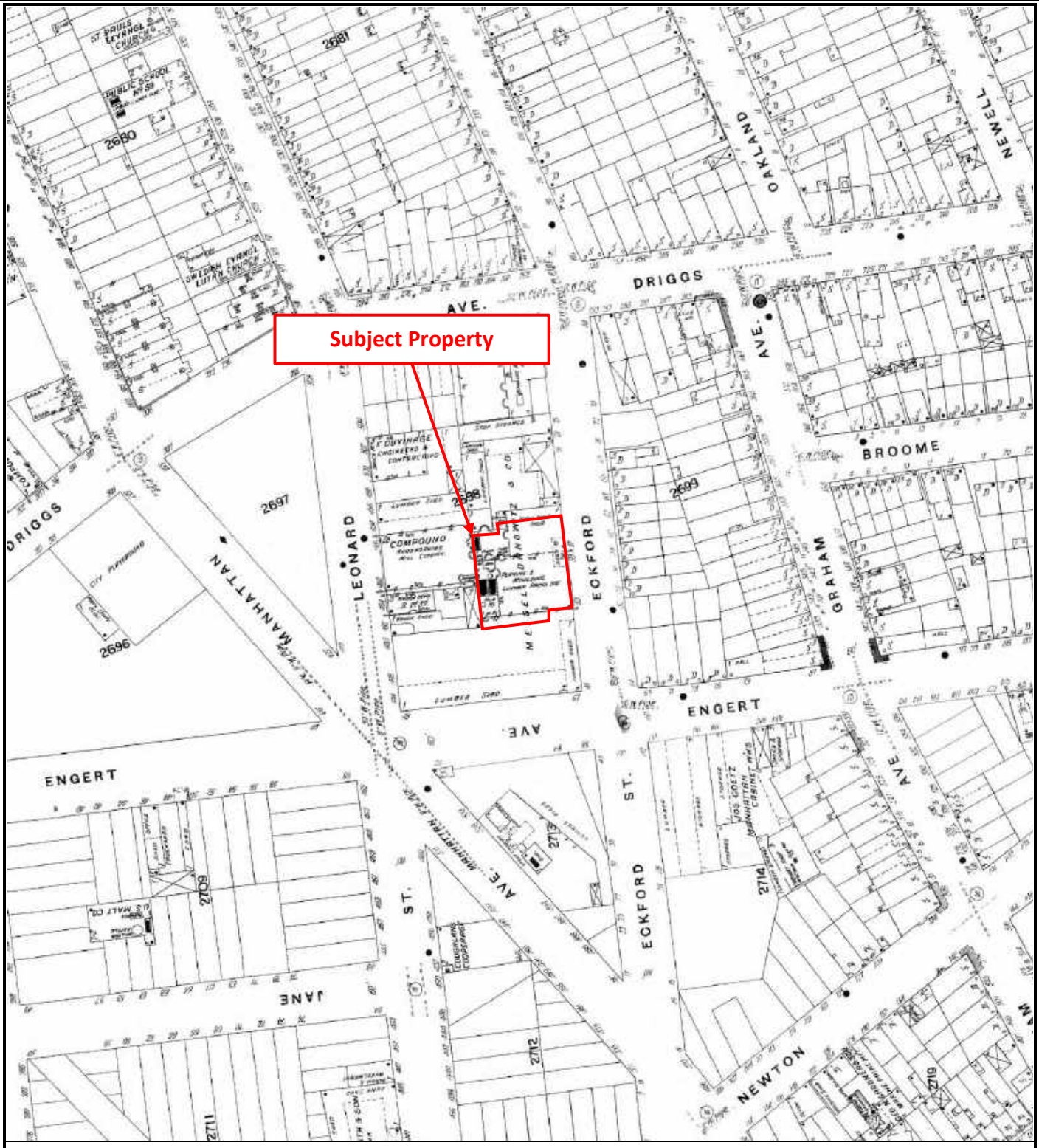
55 Eckford Street

Brooklyn, New York 11222

TOUCHSTONE

ENVIRONMENTAL GEOLOGY P.C.

N



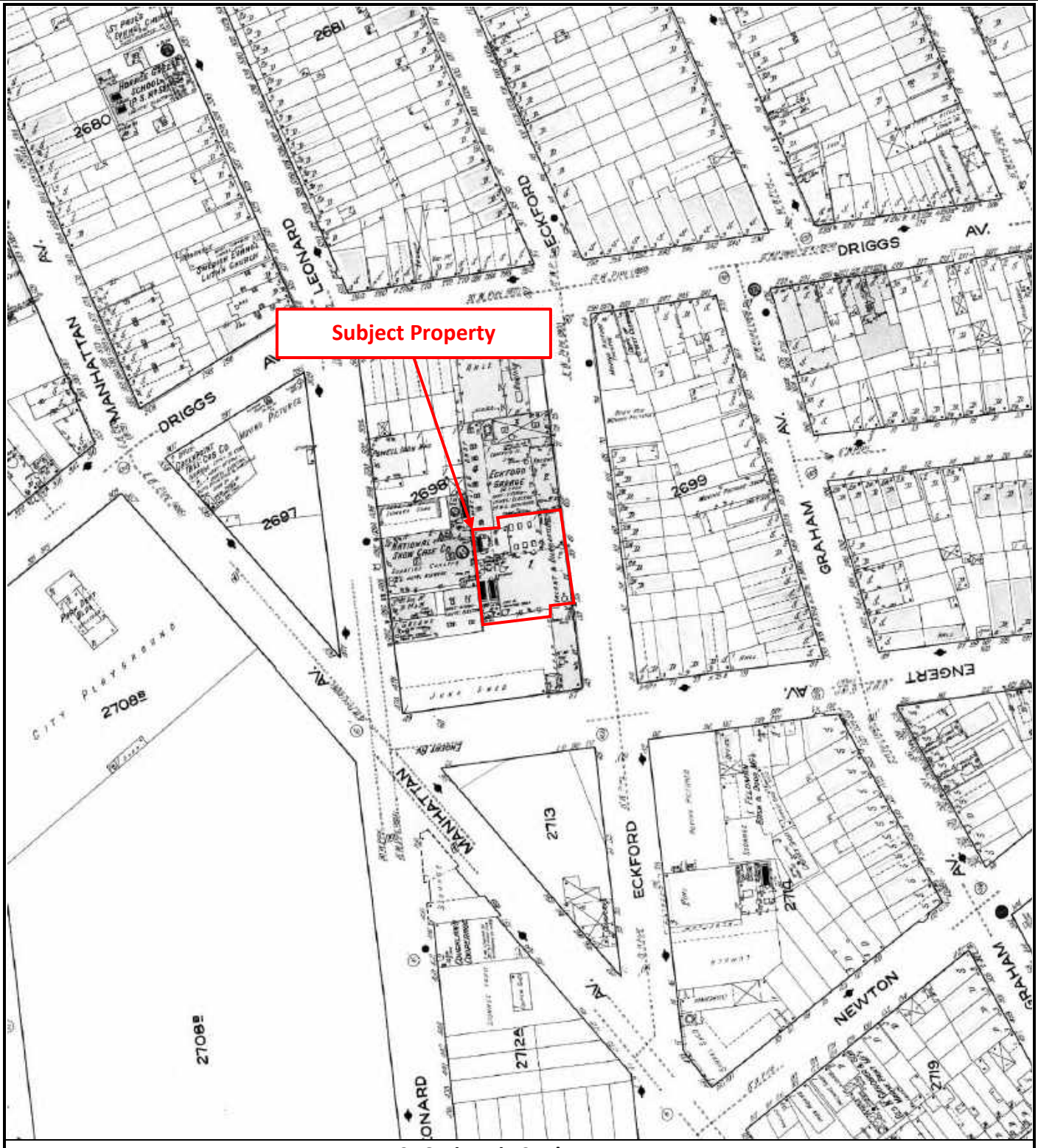
1905 Historic Sanborn Map

55 Eckford Street

Brooklyn, New York 11222

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ENVIRONMENTAL GEOLOGY P.C.



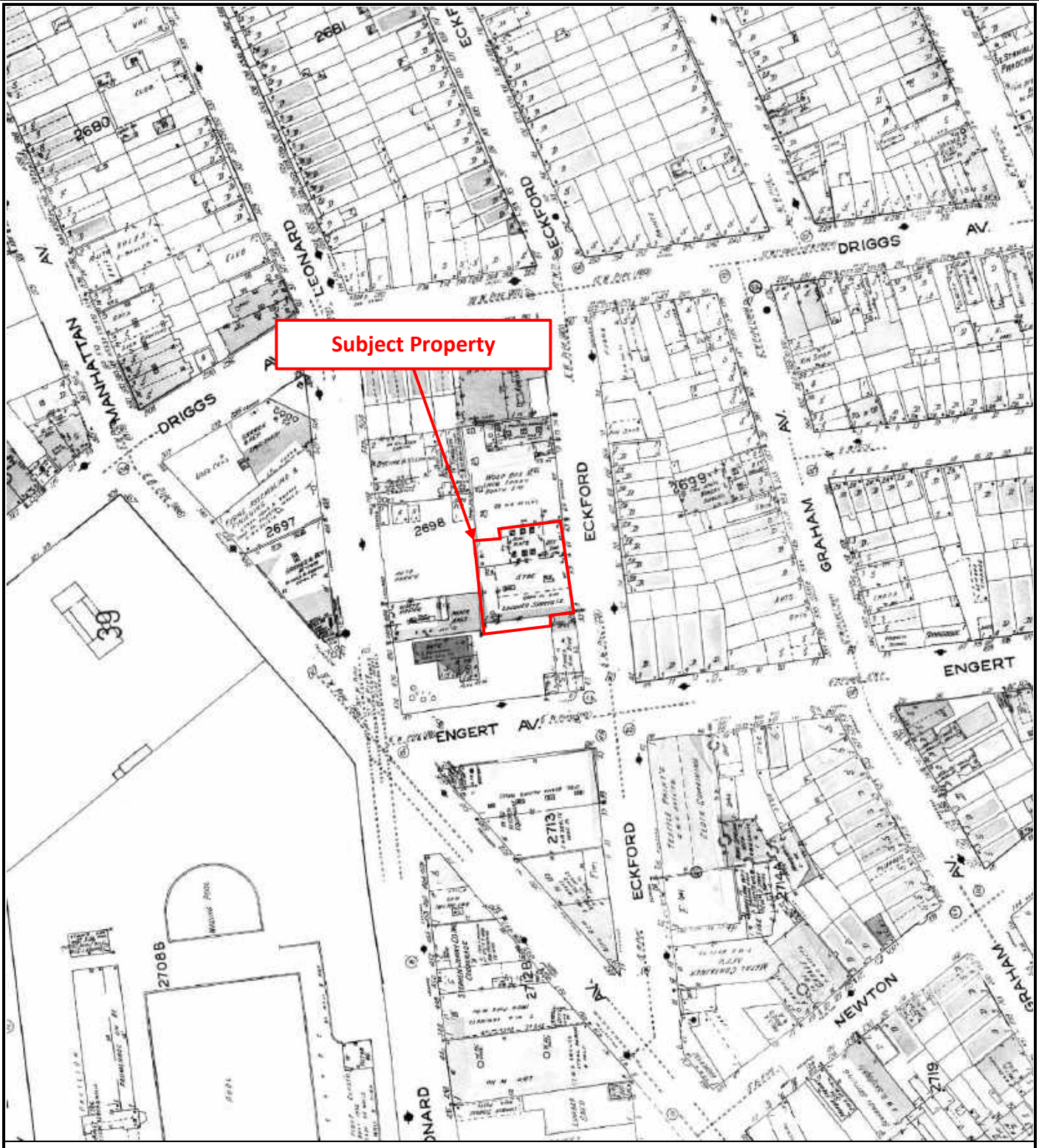
1916 Historic Sanborn Map

55 Eckford Street

Brooklyn, New York 11222

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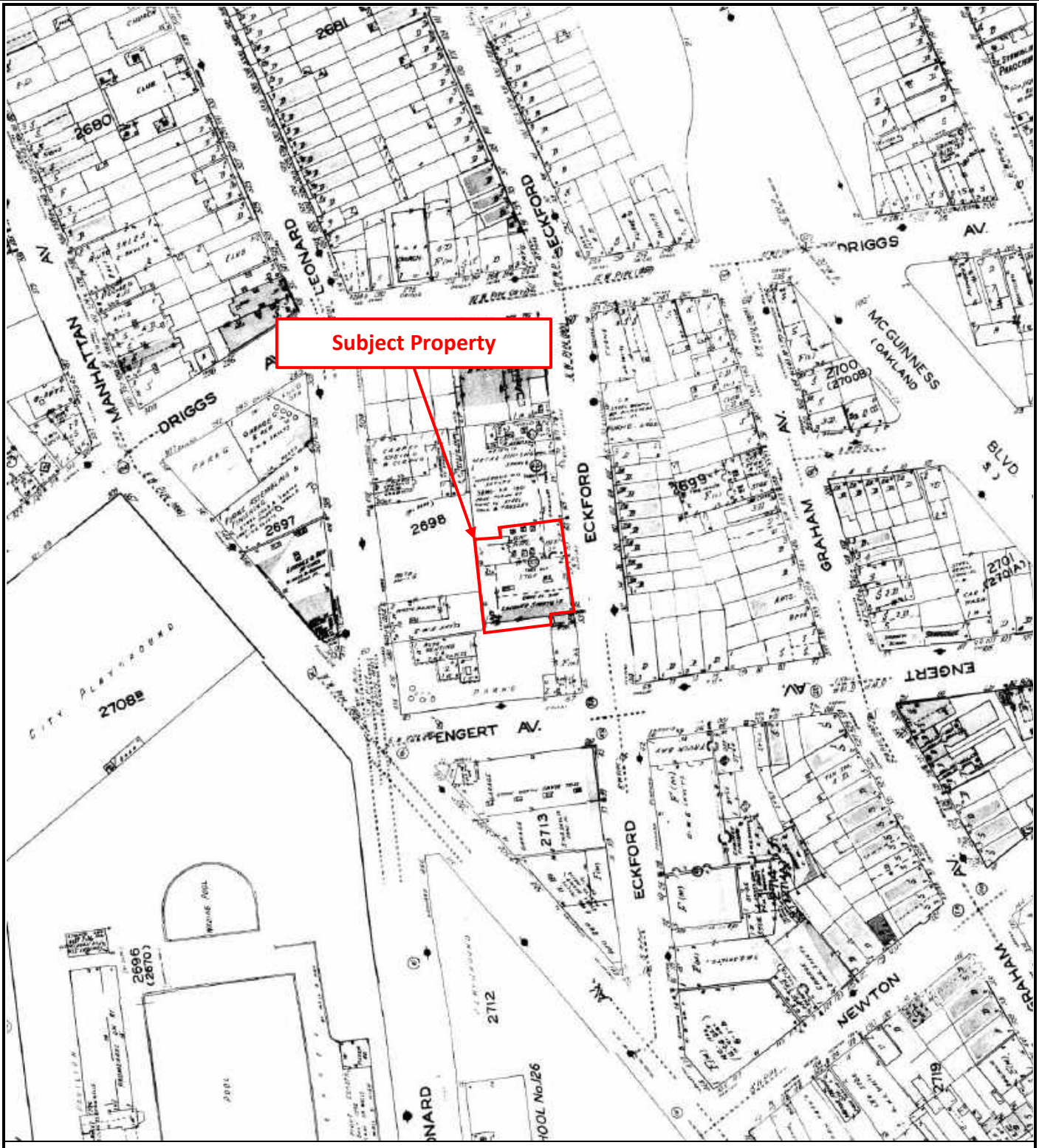
1951 Historic Sanborn Map

55 Eckford Street

Brooklyn, New York 11222

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1965 Historic Sanborn Map

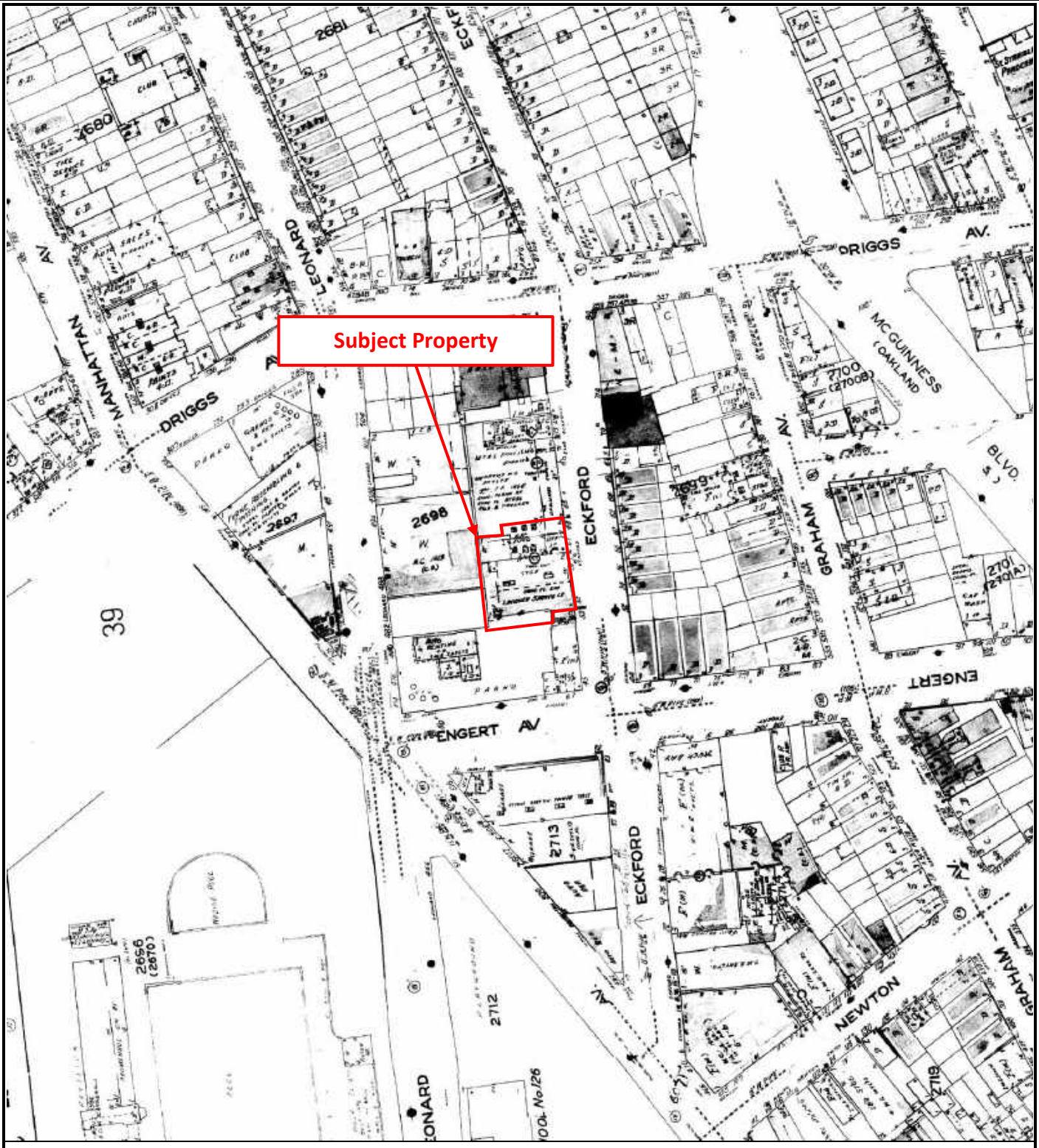
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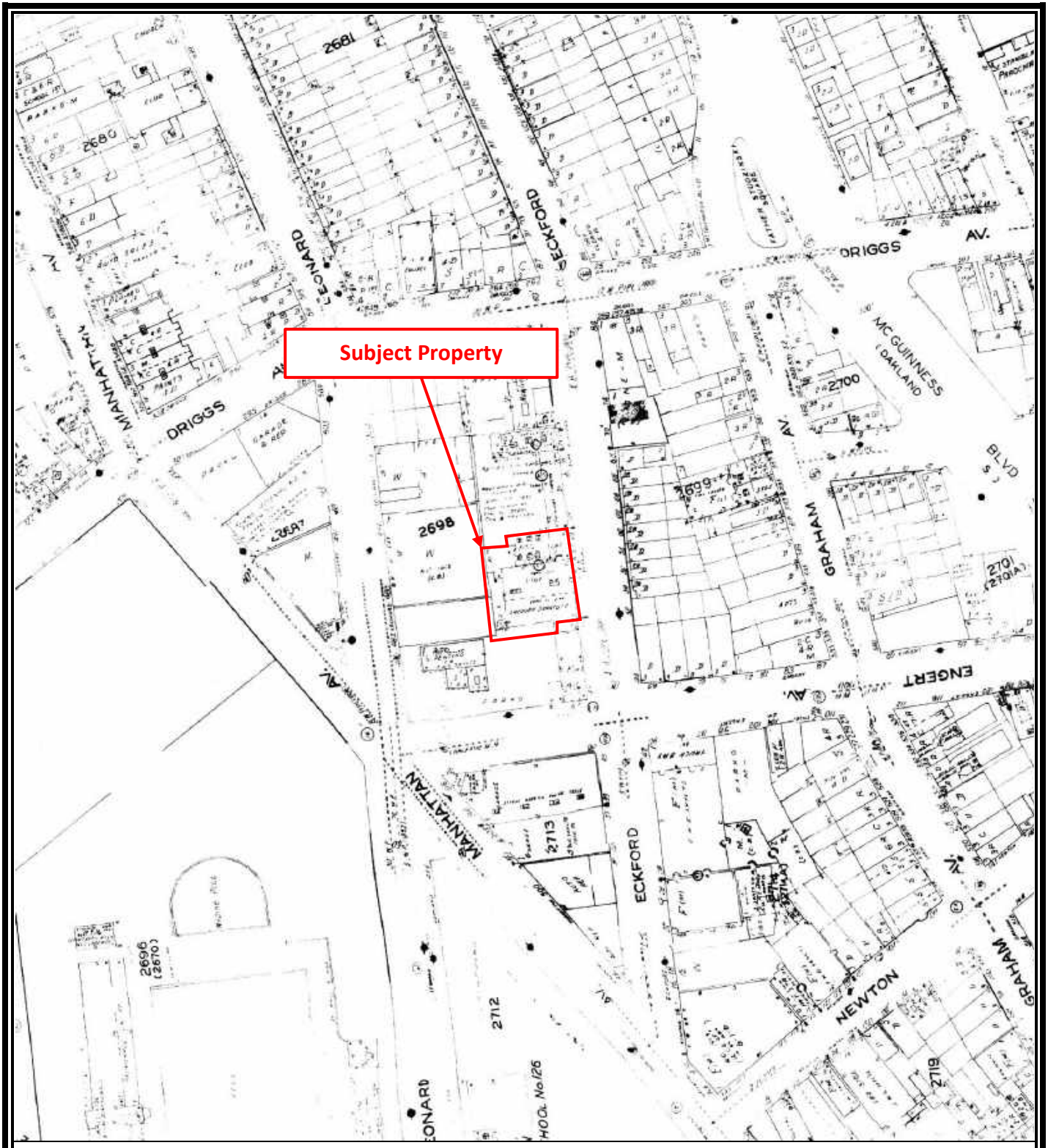
1980 Historic Sanborn Map

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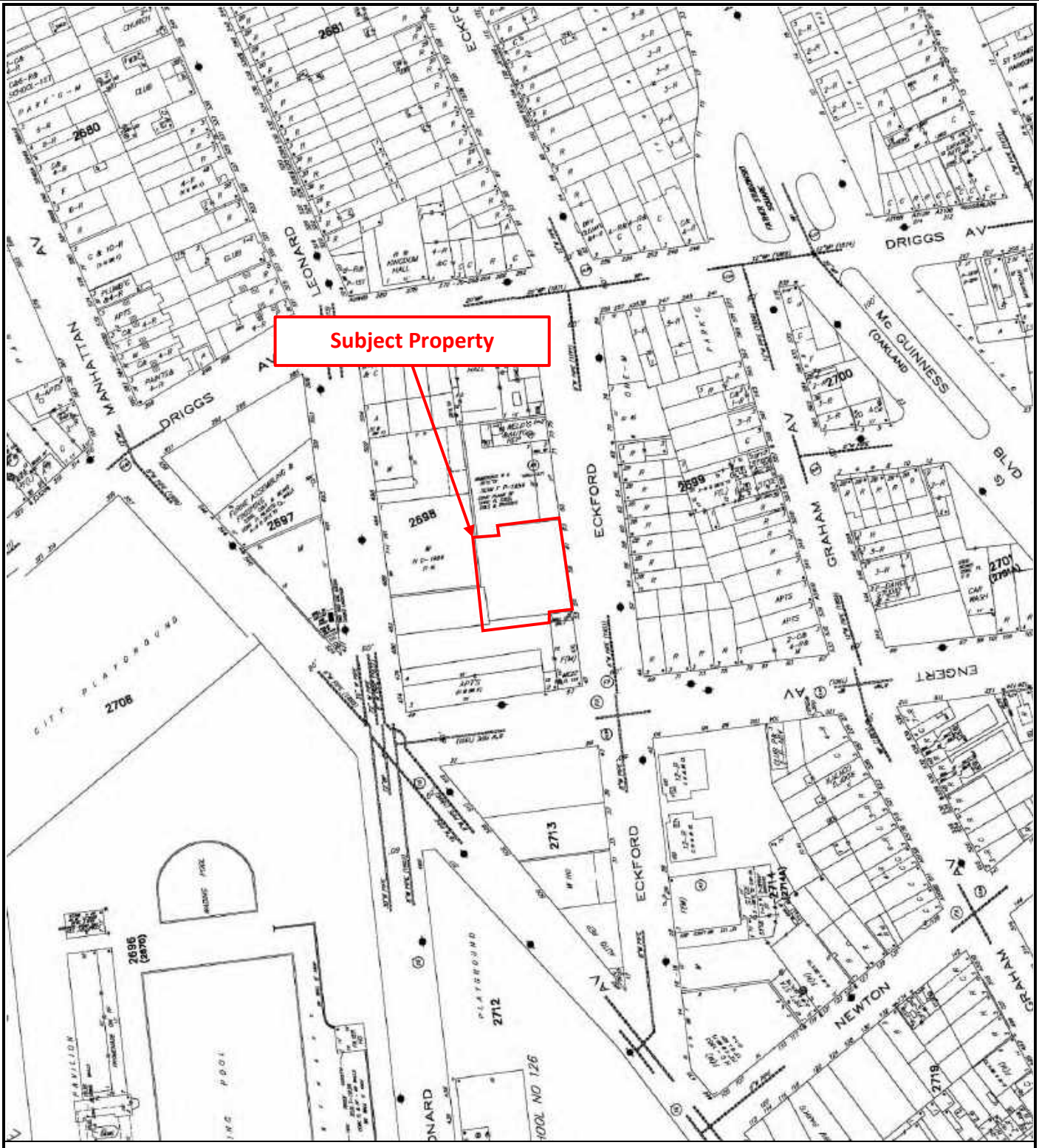


1991 Historic Sanborn Map

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Brooklyn, New York 11222

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2007 Historic Sanborn Map

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APPENDIX D CONSTRUCTION HEALTH AND SAFETY PLAN (CHASP)

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New York, NY 10001
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F: 212.279.8180
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CONSTRUCTION HEALTH AND SAFETY PLAN

55 ECKFORD ST LLC SITE
55 Eckford Street
Brooklyn, NY 11222
Block 2698 Lot 32
NYSDEC BCP Site No. C224168

May 2025
File No. 41.0163263.00

PREPARED FOR:
55 Eckford St LLC
100 Jericho Quadrangle, Suite 220
Jericho, NY 11753

PREPARED BY:
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ATTACHMENT – 4 ACCIDENT AND INJURY REPORT FORM

1.0 INTRODUCTION

1.1 OVERVIEW

This project-specific Construction Health and Safety Plan (CHASP) has been developed by GZA GeoEnvironmental of New York (GZA) on behalf of 55 Eckford St LLC (Owner/Client) to establish the procedures necessary for the protection from potential contaminated materials resulting from the remedial activities at 55 Eckford Street in Brooklyn, New York (Site). This CHASP is intended to supplement the Contractor's Safety Program. The procedures in this plan have been developed based on current knowledge regarding the hazards which are known or anticipated for the operations to be conducted at this Site.

1.2 SITE HAZARDS

This CHASP covers only the hazards associated with potential chemical exposures. Physical hazards such as injuries from typical excavation field work activities, including the operation of heavy equipment, noise exposure, heat and cold stress, electrical hazards, fire hazards, excavation hazards and general safety hazards associated with walking on working surfaces (trip and fall) are covered by the Contractor's safety program.

The construction activities call for the handling, transport and disposal of soil, fill, fluids and other materials removed from the property. Site activities may pose chemical exposure hazards. Potential chemical exposure hazards include skin contact, ingestion and inhalation hazards which may result from the presence of volatile organic compounds, semi-volatile organic compounds, and inorganic metallic elements (metals) on-Site. The potential adverse health effects form these detected contaminants are diverse. Many of these compounds are known or suspected to result in chronic illness from long-term exposures. However, due to the limited nature of the proposed construction, only acute effects are a potential concern. See **Section 2.0** for detailed chemical hazard information.

1.3 PROJECT TEAM

The organizational structure established for the implementation of construction health and safety requirements established by this CHASP, include identifying personnel who have been assigned specific authority to implement and enforce the provisions of this CHASP. Prior to the construction appropriate personnel will be identified in the table below:

Name	Project Title/Assigned Role	Phone Numbers
Victoria Whelan (GZA)	Project Manager	Work: 212-594-8140 Mobile: 347-443-1059
Daniel Kaykov (55 Eckford St LLC)	Site Supervisor	Work: 718-690-1370 Mobile:
TBD	Site Health and Safety Officer	Work: Mobile:
TBD	Alternate Site Health and Safety Officer	Work: Mobile:

The control of Site hazards is dependent upon the degree to which management enforces compliance and employees cooperate with the specified health and safety requirements. Therefore, personnel at all levels of the organization must recognize their individual responsibility to comply. All activities covered by this CHASP must be conducted in compliance with this CHASP and with applicable federal, state, and local health and safety regulations, including 29 Code of Federal Regulations (CFR) 1910.120. Personnel covered by this CHASP who cannot or will not comply must be excluded from Site activities by the Project Superintendent.

2.0 HAZARD ASSESSMENT

The following hazard assessment applies only to the activities within the specified scope of this CHASP.

2.1 CHEMICAL HAZARDS AND KNOWN/SUSPECT CHEMICALS OF CONCERN

The chemical hazard information provided below is based on data provided in the Remedial Investigation Report performed by GZA GeoEnvironmental, dated March 2025 and revised May 2025. Safety Data Sheets (SDS) are included in **Attachment 1.** During the investigations, representative Site soils, soil vapor and groundwater samples were collected. Constituents with exceeding concentrations and their respective health effects are listed below for reference. Information presented is based upon established Occupational Safety and Health Administration (OSHA) permissible exposure limits (PEL) and The National Institute for Occupational Safety and Health (NIOSH) recommended exposure limits (RELs) with time-weighted average (TWA). All other analytical parameters were reported within acceptable levels for Site urban residential land use. See **Section 4.2** for a description of the PPE that should be used for this Site.

Chemicals	REL/PEL/STEL	Health Hazards
Acetone	PEL = 250 ppm TWA	Can cause serious eye irritation. May cause drowsiness and dizziness.

Chemicals	REL/PEL/STEL	Health Hazards
Antimony	PEL = 0.5 mg/m³ TWA REL = 0.5 mg/m³ TWA	Contact can irritate the skin and eyes. may be a carcinogen.
Arsenic	PEL = 10 µg/m³	Toxic if swallowed or if inhaled. Causes skin irritation. Causes serious eye damage. May cause cancer
Barium	PEL = 0.5 mg/m³ TWA REL = 0.5 mg/m³ TWA	Toxic if swallowed. Causes serious eye irritation. Harmful if inhaled.
Benz(a)anthracene	PEL = 0.2 mg/m³ TWA REL = 0.1 mg/m³ TWA	Irritation to respiratory system, bladder, kidneys, skin; dermatitis, bronchitis, cumulative lung damage; suspect human carcinogen.
Benzo(a)pyrene	PEL = 0.2 mg/m³ TWA REL = 0.1 mg/m³ TWA	Irritation to respiratory system, bladder, kidneys, skin; dermatitis, bronchitis, cumulative lung damage; suspect human carcinogen.
Benzo(b)fluoranthene	PEL = 0.2 mg/m³ TWA REL = 0.1 mg/m³ TWA	No signs or symptoms of acute or chronic exposure have been reported in humans; suspect human carcinogen.
Benzo(k)fluoranthene	PEL = 0.2 mg/m³ TWA REL = 0.1 mg/m³ TWA	Contact can irritate the skin and eyes. Benzo(k)fluoranthene may be a carcinogen.
Benzo(g,h,i)perylene	PEL = 0.2 mg/m³ TWA REL = 0.1 mg/m³ TWA	Very toxic to aquatic life with long lasting effects.
Cadmium	PEL = 5 µg/m³	Fatal if inhaled. Harmful if swallowed. Harmful in contact with skin. May cause respiratory irritation. May cause cancer.
Chloroform	PEL = 10 ppm TWA	Symptoms include vomiting, cough, irritant effects, shortness of breath, respiratory arrest, narcosis, dizziness, nausea, agitation, spasms, inebriation, headache, stomach/intestinal disorders, ataxia, and cardiovascular disorders. Drying-out effect resulting in rough and chapped skin.
Chrysene	PEL = 0.2 mg/m³ TWA REL = 0.1 mg/m³ TWA	Irritation to respiratory system, bladder, kidneys, skin; dermatitis, bronchitis, cumulative lung damage; suspect human carcinogen.
cis-1,2-Dichlorothene	PEL = 200 ppm TWA	Can cause moderate skin irritation. Highly flammable liquid and vapor.
Copper	PEL = 0.1 mg/m³ REL = 0.1 mg/m³	Irritation eyes, upper respiratory system; metal fume fever: chills, muscle ache, nausea, fever, dry throat, cough, lassitude (weakness, exhaustion); metallic or sweet taste; discoloration skin, hair.
Dibenz(a,h)anthracene	PEL = 0.2 mg/m³ TWA REL = 0.1 mg/m³ TWA	No signs or symptoms of acute or chronic exposure have been reported in humans; suspect human carcinogen.
Dibenzofuran	No occupational exposure limit values	Harmful if swallowed.
Dieldrin	PEL = 0.1 mg/m³	Can be fatal if swallowed or in contact with skin. A suspected carcinogen. Long term exposure can cause damage to organs if swallowed.
Fluoranthene	PEL = 0.2 mg/m³ TWA REL = 0.1 mg/m³ TWA	Harmful if swallowed.
Fluorene	PEL = 0.2 mg/m³ TWA REL = 0.1 mg/m³ TWA	Very toxic to aquatic life with long lasting effects.
Indeno(1,2,3-cd)pyrene	PEL = 0.2 mg/m³ TWA REL = 0.1 mg/m³ TWA	No signs or symptoms of acute or chronic exposure have been reported in humans; suspect human carcinogen.
Lead	PEL = 0.05 mg/m3 REL = 0.05 mg/m3	Lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation eyes; hypertension.

Chemicals	REL/PEL/STEL	Health Hazards
Magnesium	PEL = 15 mg/m³	Irritation eyes, nose; metal fume fever: cough, chest pain, flu-like fever.
Manganese	PEL = 5 mg/m³ REL = 1 mg/m³	Manganism, asthenia, insomnia, mental confusion, metal fume fever, dry throat, cough, chest tightness, low-back pain, vomiting, malaise, kidney damage.
Mercury	PEL = 0.05 mg/m³ REL = 0.1 mg/m³	Irritation eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis; tremor, insomnia, irritability, indecision, headache, lassitude (weakness, exhaustion); stomatitis, salivation; gastrointestinal disturbance, anorexia, weight loss; proteinuria.
Methylene Chloride	PEL = 25 ppm TWA	Can cause skin irritation, serious eye irritation, drowsiness, or dizziness. A suspected carcinogen. Prolonged exposure can cause damage to organs.
n-heptane	PEL = 500 ppm REL = 85 ppm	Highly flammable liquid and vapor. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Very toxic to aquatic life with long lasting effects.
n-hexane	PEL = 500 ppm REL = 50 ppm	Highly flammable liquid and vapor. Suspected of damaging fertility or the unborn child. airways. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.
Naphthalene	PEL = 0.1 ppm (California) REL = 10 ppm TWA	Acute exposure of humans to naphthalene by inhalation, ingestion, and dermal contact is associated with hemolytic anemia, damage to the liver, and neurological damage. Cataracts have also been reported in workers acutely exposed.
Nickel	PEL = 1 mg/m³ REL = 0.015 mg/m³	May cause an allergic skin reaction. Suspected of causing cancer. Causes damage to organs (lungs) through prolonged and repeated exposure if inhaled. Harmful to aquatic life with long lasting effects.
Phenanthrene	PEL = 0.2 mg/m³ REL = 0.1 mg/m³	Harmful if swallowed. Very toxic to aquatic life with long lasting effects.
Pyrene	No occupational exposure limit values	Very toxic to aquatic life with long lasting effects
Vinyl Chloride	PEL = 1 ppm TWA	Lassitude, abdominal pain, gastrointestinal bleeding, enlarged liver, pallor cyanosis of extremities. Can cause frostbite in liquid form. A possible carcinogen.
Selenium	PEL = 0.2 mg/m³ REL = 0.2 mg/m³	Toxic if swallowed or if inhaled. May cause damage to organs through prolonged or repeated exposure. May cause long lasting harmful effects to aquatic life.
Sodium	PEL = 2 mg/m³ REL = 2 mg/m³	Irritation to eyes, skin, and mucous membrane.
Tert-butylbenzene	No occupational exposure limit values	Flammable liquid and vapor. Causes skin irritation.
Tetrachloroethene (PCE)	PEL = 100 ppm TWA	Irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen]
Trichloroethene (TCE)	PEL = 100 ppm TWA REL = 2 ppm TWA	Irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen].
Zinc	PEL = 15 mg/m³ REL = 5 mg/m³	Exposure to zinc oxide can occur through inhalation, ingestion, and eye or skin contact; affects the respiratory system; Acute exposure to zinc oxide can result in coughing, substernal pain, upper respiratory tract irritation,

Chemicals	REL/PEL/STEL	Health Hazards
		rales, chills, fever, nausea, and vomiting; Chronic exposure to zinc oxide by skin contact may result in popular-pustular skin eruptions in the axilla, inner thigh, inner arm, scrotum, and pubic areas.
PFBS	No occupational exposure limit values	Harmful if swallowed. Causes severe skin burns and eye damage.
PFOA	No occupational exposure limit values	Harmful if swallowed or inhaled and causes can cause serious eye damage. A suspected carcinogen. Causes damage to the liver through prolonged or repeated exposure. May damage fertility or the unborn child.
PFOS	No occupational exposure limit values	Harmful is swallowed. Causes severe skin burns and eye damage. May cause respiratory irritation.

2.2 VOLATILE ORGANIC COMPOUNDS (VOCS)

Various VOCs were detected in previous soil, groundwater, and soil gas samples.

Soil sampling from the Remedial Investigation detected acetone and methylene chloride above either their respective New York State Department of Environmental Conservation (NYSDEC) Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs) and/or Protection of Groundwater Soil Cleanup Objectives (PGWSCOs) in one or more soil samples.

Groundwater sampling detected Tert-Butylbenzene above their respective NYSDEC Technical and Operation Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS) in one sample.

Soil vapor and ambient air samples showed petroleum-related VOCs and chlorinated VOCs present at low to high concentrations. There were several VOCs that exceeded the respective New York State Department of Health (NYSDOH) Decision Matrices, including Cis-Dichloroethylene, n-heptane, n-hexane, Tetrachloroethene (PCE), Trichloroethene (TCE), and/or Vinyl Chloride.

2.3 SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCS)

The SVOCs detected in the Remedial Investigation sampling that exceeded the NYSDEC Part 375 UUSCO, RRUSCOs and/or PGWSCOs are Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Dibenzofuran, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Naphthalene, Phenanthrene, and Pyrene.

Groundwater sampling detected Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, and chrysene above the NYSDEC TOGS 1.1.1 AWQS.

Due to the relatively low vapor pressure of SVOCs, no vapor hazards are anticipated at ambient temperatures. However, if Site conditions are dry, the generation of contaminated dusts may pose a potential inhalation hazard. Therefore, dust levels should be controlled with wetting, if necessary, as described in **Section 3.2**. In addition, repeated contact with certain SVOCs have been associated with the development of skin cancer. Dermal contact with SVOCs with the skin may cause photosensitization of the skin, producing skin burns after subsequent exposure to ultraviolet radiation. Protective measures, such as the wearing of chemically resistant gloves, are appropriate when handling SVOC contaminated materials.

2.4 METALS

Remedial Investigation Soil sampling detected Arsenic, Barium, Cadmium, Copper, Lead, Mercury, Nickel, Selenium, and Zinc above their respective NYSDEC Part 375 UUSCO, PGWSCOs and/or RRUSCOs.

Metals detected above the NYSDEC TOGS 1.1.1 AWQS in the Remedial Investigation groundwater sampling are Antimony, Arsenic, Lead, Manganese, and Sodium.

The exceedances are likely attributed to historic fill materials present throughout the Site. Overexposure to metal compounds has been associated with a variety of local and systemic health hazards, both acute and chronic in nature, including lung damage, neurological effects, gastrointestinal effects, kidney and liver damage, allergic dermatitis, and other skin disorders. Exposure to metals is most commonly through inhalation and ingestion of dust. Due to the wide variety of metals detected in soil and groundwater samples, a Community Air Monitoring Program (CAMP) should be implemented to monitor the total dust in air. GZA believes that airborne metals are not a significant risk to Site workers. However, if Site conditions are dry, the generation of contaminated dusts may pose a potential inhalation hazard. Therefore, dust levels should be controlled with wetting, if necessary, as described in **Section 3.2**.

2.5 POLYCHLORINATED BIPHENYLS (PCBS)

Polychlorinated biphenyls (PCBs) were not detected soil samples above the UUSCO. PCBs were not detected in groundwater above the NYSDEC TOGS 1.1.1. AWQS.

Due to the relatively low vapor pressure of PCBs, vapor hazards at ambient temperatures are not expected to occur. However, if Site conditions are dry, the generation of contaminated dusts may pose a potential inhalation hazard. Therefore, dust levels should be controlled with wetting, if necessary, as described in **Section 3.2**.

2.6 PESTICIDES

The pesticide dieldrin were detected in soil samples above the UUSCOs. Pesticides were not detected in groundwater above the TOGS 1.1.1 AWQS.

Due to the relatively low vapor pressure of pesticide compounds, vapor hazards at ambient temperatures are not expected to occur.

2.7 PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)

The emerging contaminants Perfluorooctanesulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA) were not detected in soil samples above their respective NYSDEC Part 375 UUSCOs during the Remedial Investigation.

PFAS in groundwater were compared to the NYSDEC Part 375 Remedial Program for PFAS. PFOA, PFOS, were not detected above the NYSDEC Part 375 Remedial Program for PFAS in groundwater samples during the Remedial Investigation.

3.0 AIR MONITORING

Air monitoring falls into two separate categories: direct reading/environmental monitoring, and personal exposure monitoring. The following Sections summarize the types of environmental monitoring as well as the appropriate response actions applicable to the Site.

3.1 ORGANIC VAPOR MONITORING

Volatile organic vapor hazards have been identified for the Site (see **Section 2.0**). Therefore, organic vapor monitoring with a photoionization detector (PID) is expected to be required for the Site. Monitoring for VOCs will be conducted prior to the start of ground intrusive activities, to establish the Site background VOC concentration levels. The background concentration will then be incorporated and considered when evaluating VOC concentrations at the Site. Vapor monitoring will be performed during the first three days of ground intrusive activity and compared to the background concentrations to determine if additional monitoring is warranted.

3.2 AIR MONITORING INSTRUMENTS AND ACTION LEVELS

Photoionization Detector (PID) - Breathing Zone Readings.

Response Levels (above background levels)	Action
0 to 10 ppm	Remain in Level D. Use colorimetric tubes or other chemical specific device to verify PID readings do not contain low PEL toxic materials (e.g., Benzene, Vinyl Chloride, etc.) where applicable. If benzene is present above 1 ppm withdraw from excavation and proceed to level C.
10 to 25 ppm	Withdraw from work area and contact Project Management. Proceed to Level C protection for re-entry, or discontinue operation
> 25 ppm	Secure operations withdraw from work area and discontinue work at that location until contaminants can be evaluated, and detailed plan implemented.

3.3 TOTAL PARTICULATES

Due to the presence of SVOCs, and metals in soils on-Site, total respirable particulates may be a concern. Dust levels should be visually monitored and if levels become noticeable, soils should be wetted down to control dusty conditions. Wetting may be accomplished using various methods, including a hose connected to a fire hydrant or other on-Site source of water. The Client's Project Superintendent shall be responsible for determining when the wetting of soils is needed and the most appropriate method to use. In addition, recommended measurements for particulate monitoring are detailed below.

Upwind concentrations should be measured at the start of each workday during active handling of excavated materials (including stockpiling and truck loading) and periodically thereafter to establish background conditions. The particulate air monitoring work will be conducted using a pDR-1200 personal airborne particulate monitor (or approved equivalent) calibrated daily.

The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers (um) in size (PM-10) and capable of integrating over a period of 5-minutes or less for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate excess of the action level.

Dust migration will be visually assessed during all work activities, and at no time will the downwind perimeter particulate levels be allowed to exceed a total standard of 10 mg/m^3 (or "nuisance" dust levels).

If the downwind PM-10 particulate level is 100 micrograms per cubic meter (ug/m^3) greater than the background (upwind perimeter) for a 5-minute period, or if airborne dust is observed leaving

the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques (e.g., soil wetting) provided the downwind PM-10 particulate levels do not exceed 150 ug/m^3 above the upwind level and no visible dust is migrating from the work area.

If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 ug/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume if dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentrations to within 150 ug/m^3 of the upwind level and in preventing visible dust migration.

3.4 PARTICULATE MONITORING, RESPONSE LEVELS, AND ACTIONS

Parameter	Monitoring Instrument	Response Levels (above background	Action	Conditions for Continuing Work Activities
Particulates < 10 um (PM-10)	Dust Meter	Fugitive dust migration	1. Implement dust suppression techniques	Dust suppression techniques are in place
		> 100 ug/m^3 but < 150 ug/m^3	1.Implement dust suppression techniques	Levels must not exceed 150 ug/m^3 with dust suppression techniques in place
		> 150 ug/m^3	1. Halt activity 2. Re-evaluate activities	Levels decrease below 150 ug/m^3 and fugitive dust migration is prevented

3.5 ODOR CONTROL

If nuisance odors are encountered during the RAWP, a soil equivalent foam concentrate, Rusmar AC-645 Long-Duration Foam (or approved equivalent) will be applied to the soil surface.

If nuisance odors are identified, work will be halted, and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of all other complaints about the project. Implementation of all odor controls, including the halt of work, will be the responsibility of the Volunteer's Remedial Engineer, who is responsible for certifying the Final Engineering Report.

All necessary means will be employed to prevent on- and off-Site nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; (e) use of chemical odorants in spray or misting systems; and (f) use of staff to monitor odors in surrounding neighborhoods.

Where odor nuisances have developed during remedial work and cannot be corrected, or where the release of nuisance odors cannot otherwise be avoided due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering excavation and handling areas under tented containment structures equipped with appropriate air venting/filtering systems.

4.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) will be donned as described below for the activities covered by this CHASP. Based on available analytical data and the proposed intrusive activities, the Contractor, anticipates that all activities will require Level D, Modified Level D PPE.

4.1 GENERAL SITE WORK

General Site work conducted outside the excavation areas, operators of heavy equipment, and non-intrusive activities which do not generate dust will require Level D protective equipment. Level D is defined as:

- Hardhat
- Eye protection
- Hearing protection (with site workers at all times and donned when appropriate)
- Steel-toed work boots
- Work clothes

Workers shall wear appropriate hearing protection during designated hearing protection-required tasks (such as, jack hammering, pile driving etc.). To reduce the exposure to noise, personnel working in areas of excessive noise must use hearing protectors (earplugs or earmuffs).

Rule-of-Thumb: Wherever actual data from sound level meters or noise dosimeters is unavailable, if it is necessary to raise one's voice above a normal conversational level to communicate with others within 3 to 5 feet away, hearing protection should be worn.

4.2 EXCAVATION AREAS AND OTHER SOIL HANDLING

Personnel working in the areas of active excavation, but not operating heavy equipment, and any other personnel potentially contacting contaminated materials will be required to wear Modified Level D PPE. Modified Level D is defined as:

- Hardhat
- Eye protection
- Hearing protection (as warranted)
- Steel-toed work boots
- Tyvek Coveralls
- Disposable nitrile chemically resistant gloves

Level C PPE and Level B are not expected to be required during general excavation.

5.0 SITE CONTROL

To prevent both exposure of unprotected personnel and migration of contamination due to tracking by personnel or equipment, work areas along with personal protective equipment requirements will be clearly identified with signage. Pedestrian traffic will be managed to the extent possible by the Contractor's Traffic and Pedestrian Control Plan.

The Contractor will designate a work zone and support zone as defined below.

5.1 WORK ZONE

Work zones on Site will be temporary or dynamic, encompassing the work area(s) actively being worked in on that particular day(s). Site personnel will be advised of the current work area(s) as part of site safety meetings. The Contractor will have a hydrant permit or other water source available to wet down exposed soils to control dust.

5.2 SUPPORT ZONE

The support zone will consist of an area outside the areas of active excavation and soil handling, where equipment and support vehicles will be located. Eating, drinking and smoking will be permitted only in this area. Sanitary facilities will be located on Site. In addition, potable water and water and soap for hand washing will be available at the Site.

5.3 OTHER SITE CONTROL AND SAFETY MEASURES

The following measures are designed to augment the specific health and safety guidelines provided in this plan. These issues will form the basis of the Site ordination and daily safety meetings discussed in **Section 7.0**, below.

- The Site hazards will be evaluated by the Client's Project Superintendent using the Site Safety Checklist.
- No one is to perform field work alone. Team members must be intimately familiar with the procedures for initiating an emergency response.
- Avoidance of contamination is of the utmost importance. Whenever possible, avoid contact with contaminated (or potentially contaminated) surfaces or materials. Walk around (not through) puddles and dis-colored surfaces. Do not kneel on the ground or set equipment on the ground.
- Eating, drinking, chewing gum or tobacco, smoking or any practice that increases the probability of hand-to-mouth transfer and ingestion of materials is prohibited except in the support zone after proper decontamination as defined in **Section 6.0.**
- The use of alcohol or drugs is prohibited during the conduct or field operations.
- Safety equipment (PPE) will be required for all field personnel unless otherwise approved by the subcontractor's health and safety representatives and/or the Project Superintendent.

5.4 SITE SECURITY

The Site shall be unoccupied during Site work except for Contractor personnel and subcontractors. If possible, access to the work areas during field work will be limited by closing site gates to reduce unauthorized pedestrian traffic. The Client's Project Superintendent is responsible for identifying the presence of all employees on Site.

Equipment left on Site during off hours must be locked, immobilized and/or otherwise secured to prevent theft or unauthorized use or access. The Contractor and subcontractors' employees will not be permitted on Site during off-hours without specific client approval.

6.0 DECONTAMINATION

Proper decontamination will be performed for personnel and equipment before leaving the Site. All solid waste generated during decontamination will be bagged by the Contractor personnel and stored on Site for disposal.

6.1 PERSONAL DECONTAMINATION

Personal decontamination will be accomplished by following a systematic procedure of cleaning and removal of personal protective equipment (PPE). The Contractor will supply decontamination equipment to allow PPE to be brushed to remove gross contamination and then scrubbed clean in a detergent solution and then rinsed clean. To facilitate this, a three-basin wash system will be set up on site by the Contractor.

Disposable PPE, such as Tyvek coveralls, gloves, and hearing protection, etc. that do not come into contact with hazardous materials will be placed in trash bags in an on-Site container pending a disposal. Alternative chemical decontamination procedures, such as steam-cleaning reusable rubber outer boots, may be used if necessary.

Steps required in a decontamination sequence will depend on the level of protection worn in accordance with **Section 4.0**:

1. Remove and wipe clean hard hat
2. Brush boots and gloves of gross contamination
3. Scrub boots and gloves clean
4. Remove boot covers (if in use)
5. Rinse boots and gloves
6. Dry non-disposable equipment with paper towels
7. Remove Tyvek coveralls
8. Remove eye protection
9. Remove chemically resistant gloves

6.2 EQUIPMENT DECONTAMINATION

Hand tools and portable equipment will be decontaminated upon leaving the active excavation areas using the same procedures for personal decontamination. Wooden tools are difficult to decontaminate because they absorb chemicals. Wooden hand tools will be kept on Site for the project duration and handled only by protected workers. At the end of the Site activities, wooden tools will be discarded if they cannot be decontaminated properly.

Large Equipment will be decontaminated in an area near the entrance to the Site. Decontamination of large equipment will mitigate the risk of spreading potentially-contaminated soil off-Site. The Contractor will use a combination of long-handled brushed, rods and shovels for general exterior cleaning and dislodging contaminated soil caught in tires and the undersides of vehicles and equipment.

Prior to leaving the Site, large equipment will be inspected to assure that excess material has not adhered to the equipment. If needed, the Contractor will clean the large equipment, including

washing tires and undercarriages with a hose to remove excess adhered soil prior to leaving the Site.

Exposed excavated material will be covered on each truck after loading. The cover will be secured and remain in place until the container has reached the disposal facility.

7.0 MEDICAL MONITORING AND TRAINING REQUIREMENTS

Training records for Site personnel and subcontractors shall be provided by the Contractor prior to on-Site work and will be maintained on Site.

7.1 MEDICAL MONITORING

In excavation areas and general Site work areas it is not anticipated that respiratory protection will be required by the levels of soil contamination. Medical monitoring will only be required if hazardous contamination is encountered.

7.2 TRAINING

All personnel covered by this CHASP must have completed the appropriate training requirements specified in 29 CFR 1910.1200 Hazard Communication and 29 CFR 1910.120(e). In accordance with NYC Department of Building, Local Law 196, at job sites where it is required to designate a Construction Superintendent, Site Safety Coordinators or Site Safety Managers will need, workers will need to undergo Construction Safety Training (i.e. OSHA 10-hour and OSHA 30-hour classes).

Workers requiring access to the excavation (laborers and operators) prior to completion of soil remedial activities will require 40-hour HAZWOPER training due to the presence of hazardous lead in soil and the potential for gasoline contaminated soils and underground storage tanks.

Also, at least one Contractor employee must be on Site during all activities to act as the Site Foreman and will be responsible for identifying existing and predictable hazards in surroundings or working conditions that are unsanitary, hazardous, or dangerous to Site workers and or the community, and will have the authorization to take prompt corrective measures to eliminate them. This individual must have documentation of at least three days of supervised field experience as well as completion of the specified 8-hour training course for managers and supervisors. Records of certifications and training should be kept by the Contractor.

7.3 SUBCONTRACTORS

Subcontractors will be required to provide to the Contractor Project (Site) Manager specific written documentation that each individual assigned to this project has completed the medical monitoring and training requirements specified above. This information must be provided prior to their performing any work on site.

7.4 SITE SAFETY MEETINGS

Prior to the commencement of on-Site investigative activities, a Site safety meeting will be held to review the specific requirements of this CHASP. Sign-off sheets will be collected at this meeting (see **Attachment 2**). Short safety refresher meetings will be conducted daily or as conditions or work activates change. In addition, the Project Superintendent will document that Site visitors have had the required training in accordance with 29 CFR 1910.120 and will provide documented pre-entry safety briefings.

8.0 EMERGENCY ACTION PLAN

OSHA defines emergency response as any "response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual-aid groups, local fire departments, etc.) to an occurrence which results, or is likely to result in an uncontrolled release of a hazardous substance." The Contractor personnel covered by this CHASP may not participate in any emergency response where there are potential safety or health hazards (i.e., fire, explosion, or chemical exposure). The Contractor response actions will be limited to evacuation and medical/first aid as described below.

The basic elements of an emergency evacuation plan include employee training, alarm systems, escape routes, escape procedures, critical operations or equipment, rescue and medical duty assignments, designation of responsible parties, emergency reporting procedures, and methods to account for all employees after evacuation.

8.1 EMPLOYEE INFORMATION

General training regarding emergency evacuation procedures is included in the Contractor initial and refresher training courses. Also, as described, employees must be instructed in the specific aspects of emergency evacuation applicable to the Site as part of the site safety meeting prior to the commencement of all on-site activities. On-Site refresher or update training is required anytime escape routes or procedures are modified or personnel assignments are changed. This information will be provided during the Site safety meetings (see **Section 7.4**) will be documented by the Contractor.

8.2 EMERGENCY SIGNAL AND ALARM SYSTEMS

An emergency communication system must be in effect at all sites. The most simple and effective emergency communication system in many situations will be direct verbal communications. Each site must be assessed at the time of initial Site activity and periodically as the work progresses. Verbal communications must be supplemented anytime voices cannot be clearly perceived above ambient noise levels (i.e., noise from heavy equipment, trucks, etc.) and anytime a clear line-of-sight cannot be easily maintained amongst all personnel because of distance, terrain or other obstructions. The Contractor will maintain an air horn (or whistle) on-Site that will be used to signal an emergency so that it can be heard over other construction noises on-Site.

8.3 EMERGENCY CONTACTS

Police:	911
Fire:	911
Ambulance:	911
NYC Health + Hospitals / Woodhull Emergency Room:	718-963-8000

8.4 HOSPITAL LOCATION

The closest emergency room is located at NYC Health + Hospitals / Woodhull at 760 Broadway, Brooklyn, NY 11206. The most direct route to the hospital from the Site is to head north on Eckford Street, turn left at Driggs Avenue, and turn left onto Leonard Street. Heading south along Leonard Street for 1.4 miles then turn left onto Broadway. The entrance to the hospital is on Broadway and Marcus Garvey Blvd. **Attachment 3** presents a hospital route map.

8.5 INCIDENT REPORTING PROCEDURES

Any incident (other than minor first aid treatment) resulting in injury, illness or property damage requires an accident investigation and report. The investigation should be initiated as soon as emergency conditions are under control. The purpose of this investigation is not to attribute blame but to determine the pertinent facts, so that repeat or similar occurrences can be avoided.

The investigation should begin while details are still fresh in the mind of anyone involved. The person administering first aid may be able to start the fact gathering process if the injured can speak. Pertinent facts must be determined. Questions beginning with who, what, when, where, and how are usually most effective to discover ways to improve job performance in terms of efficiency and quality of work, as well as safety and health concerns. An Accident and Injury Report Form is included as **Attachment 4**.

ATTACHMENT – 1
SAFETY DATA SHEETS

ATTACHMENT – 2
HEALTH AND SAFETY BRIEFING

Health and Safety Briefing/Site Orientation Record/Hazard Communication

This is to verify that I, the undersigned, have been provided with a site (orientation) briefing, including hazard communication, regarding the safety and health considerations at the 55 Eckford Street, Brooklyn, New York (Site). I agree to abide by my employer's Site-specific safety and health plan and other safety or health requirements applicable to the Site.

Name (Print)	Signature	Company	Date

Site (orientation) briefing conducted by: _____

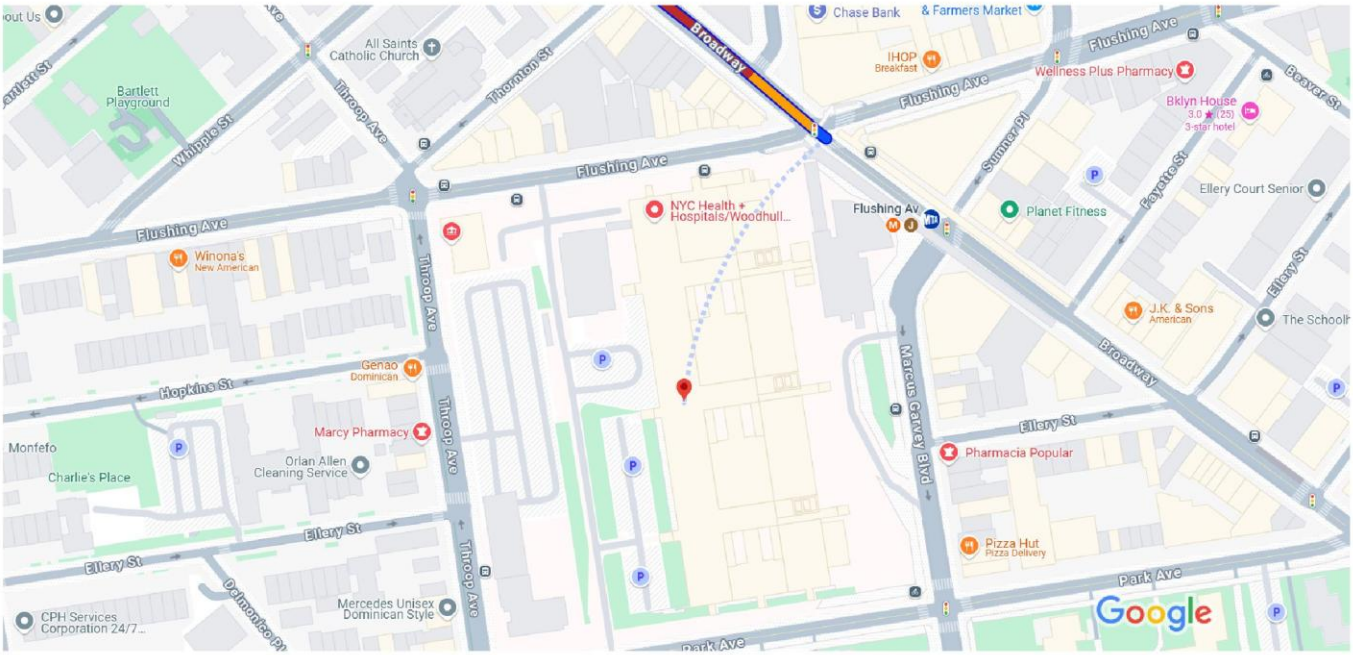
Date:_____

ATTACHMENT – 3
ROUTE TO HOSPITAL

Google Maps

55 Eckford St, Brooklyn, NY 11222 to NYC Health + Hospitals/Woodhull

Drive 1.7 miles, 13 min



Map data ©2025 Google 100 ft

55 Eckford St
Brooklyn, NY 11222

1. Head north on Eckford St toward Driggs Ave — 305 ft
2. Turn left onto Driggs Ave — 266 ft
3. Turn left onto Leonard St — 1.4 mi
4. Turn left onto Broadway — 0.3 mi
   Pass by McDonald's (on the right)

NYC Health + Hospitals/Woodhull
760 Broadway, Brooklyn, NY 11206

ATTACHMENT – 4
ACCIDENT AND INJURY REPORT FORM

SUPERVISOR'S ACCIDENT INVESTIGATION REPORT

Injured Employee _____ Job Title _____

Home Office _____ Division/Department _____

Date/Time of Accident _____

Location of Accident _____

Witnesses to the Accident _____

Injury Incurred? _____ Nature of Injury _____

_____

Engaged in What Task When Injured? _____

_____

Will Lost Time Occur? ____ How Long? _____ Date Lost Time Began _____

Were Other Persons Involved/Injured? _____

_____

How Did the Accident Occur? _____

_____

_____

_____

_____

What Could Be Done to Prevent Recurrence of the Accident? _____

_____

_____

What Actions Have You Taken Thus Far to Prevent Recurrence? _____

_____

_____

Supervisor's Signature _____ Title _____ Date _____

Reviewer's Signature _____ Title _____ Date _____

Note: If the space provided on this form is insufficient, provide additional information on a separate page and attach. The completed accident investigation report must be submitted to the Health and Safety Manager within two days of the occurrence of the accident.



GZA GeoEnvironmental of New York.

APPENDIX E CHEMICAL INJECTION SPECIFICATIONS

31 December 2025

Victoria D. Whelan, P.G.
Vice President
GZA GeoEnvironmental
324 South Service Rd, Suite 119
Melville, NY 11747

Evonik Corporation
Soil & Groundwater Remediation
2005 Market St., Suite 3200
Philadelphia, PA 19103
remediation@evonik.com

Subject: Bench-scale Treatability Testing for Removal of Dissolved Arsenic in Groundwater
Brooklyn, New York Site (Evonik Project No. 26943)
Draft Final Report

Dear Ms. Whelan:

Please accept this draft of our final report on the bench-scale treatability testing we have completed on arsenic-impacted groundwater and soil (i.e., aquifer solids) from a confidential site in Brooklyn, New York (Site). The treatability testing was conducted by Resolution Partners LLC (RP) at their laboratory in Madison, Wisconsin under the direction of Evonik.

Baseline Soil Characterization

Groundwater and soil samples (Figure 1) for use in the testing were provided by GZA and received in a plastic cooler at RP's Madison, WI laboratory on 20 October 2025. The groundwater was contained in seven 1.0 L HDPE bottles with four labelled as GMW-07 and three labelled as GMW-09. The soil was contained in two double layered zip-closure LDPE bags. One was labelled as GZ-01 and weighed 4.1 kg while the other was labelled as GZ-03/GZ-04 and weighed 3.5 kg.

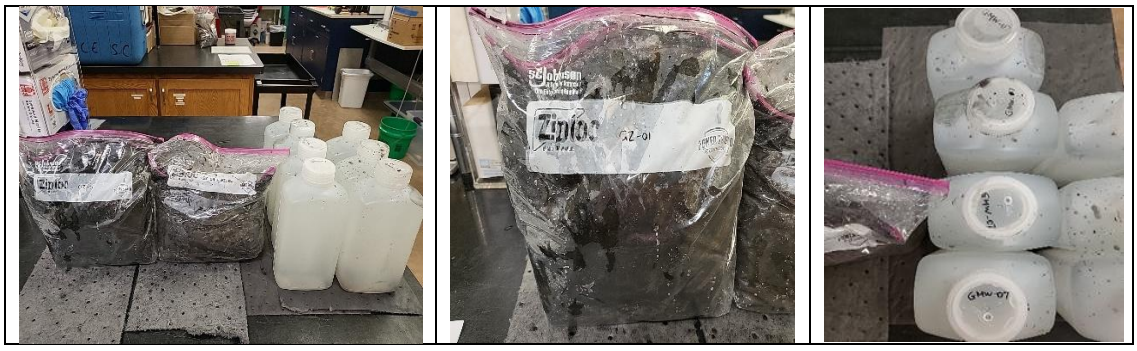


Figure 1. Groundwater and soil samples as received from the Site.

The groundwater samples that were labelled with the same identifier were pooled to form two composites samples and subjected to analysis for pH and ORP at RP. A filtered sample of the groundwater (0.4 µm glass fiber) was submitted to CT Laboratories (CTL), Baraboo, Wisconsin for determination of total arsenic, by EPA 6010C. The two soil sampels were homogenized by thorough manual mixing and subjected to baseline characterization including pH at RP and total arsenic at CTL. The results of baseline characterization of the groundwater and soil are presented in Table 1.

Table 1: Results from baseline characterization of Site groundwater and soil.

Sample	pH	ORP (mV)	Metals[1]	
			Dissolved Arsenic	Total Arsenic
			(µg/L)	(mg/kg)
GWM-07 Composite Groundwater	7.01	77	40.4	-
GWM-09 Composite Groundwater	6.74	105	22.5	-
GZ-01 Composite Soil	8.62	-	-	290
GZ-03/GZ-04 Composite Soil	10.2	-	-	47.0

1. Soil digestion by EPA 3050B and metals analysis by EPA 6010C.

Treatability Testing

Following consultation with GZA it was determined that the groundwater sample with the higher dissolved arsenic concentration (GWM-07) be used in the treatability testing and that its arsenic concentration would be increased by spiking. Spiking was conducted with a concentrated stock solution of sodium arsenite in deionized water sufficient to increase the arsenic concentration by 100 µg/L (i.e., from 44 µg/L to 144 µg/L). A sample of the GWM-07 groundwater was sent for analyses immediately after spiking and was found to have a dissolved arsenic concentration of 86.3 µg/L (Table 2). It was also agreed that the soil with the higher total arsenic concentration (GZ-01) would be used in the treatability testing.

To determine the influence of treatments on dissolved arsenic a series of amber glass reaction vessels were loaded with 250 mL of the composite groundwater, 12.5 g of the composite soil, and the prescribed amount of the specified reagents, then thoroughly mixed. The reaction vessels (Figure 2) were sealed with Teflon®-lined lids and incubated at room temperature (18 ± 2°C) in the dark for 42 days. An untreated control was also established using only the groundwater and soil. At the end of the 42-day reaction period subsamples of the groundwater were removed from each reaction vessel, filtered (0.4 m glass fiber) and submitted to CTL for determination of total arsenic. Details on the treatments applied and the results of pH, ORP, and dissolved arsenic analyses after a 42-day reaction period are presented in Table 2.



Figure 2. Reaction vessels filled with groundwater and soil from the New York site.

Rationale for Selection of Treatments

The Evonik reagents selected for testing (i.e., MetaFix® I-7A, GeoForm® ER) and the dosages applied to the Site groundwater/soil blend were selected based on arsenic geochemistry and our experience in treatment of arsenic at other sites. Other factors considered in setting reagent dosages include injectability of the reagent mass and the required volume of reagent to achieve effective distribution within the treatment zone. The mechanisms involved in the sequestration of dissolved inorganic arsenic (i.e., arsenate and arsenite) include adsorption (e.g., electrostatic binding of arsenic species upon surfaces of iron oxides), precipitation (e.g., formation of insoluble arsenic compounds such as ferric arsenate), and coprecipitation with iron and sulfide to form arsenopyrite (i.e., FeAsS; Equation 1). Organoarsenic compounds are resistant to the aforementioned sequestration mechanisms but are subject to irreversible adsorption on activated carbon.

$$Fe^{2+}_{(aq)} + As(OH)_4^-{}_{(aq)} + HS^-_{(aq)} \rightarrow FeAsS_{(s)} + 2.5\ H_2O + 0.75\ O_{2(aq)} \quad (1)$$

Table 2. Influence of treatments on dissolved arsenic in groundwater from the New York site.

Reaction Vessel	Condition	Reagents & Dosages (% w/w)		Parameter		
		MetaFix® I-7A	**GeoForm® ER**	**ORP** (mV)	**pH** (s.u.)	**Arsenic** (µg/L)
0	Spiked GWM-07 Groundwater	-	-	-	-	86.3
1	Untreated Control	-	-	31	6.85	26.0
2	Treatment 1 (low)	0.5	-	-125	7.18	25.9
3	Treatment 1 (high)	1.0	-	-148	7.08	14.0
4	Treatment 2 (low)	-	0.5	-165	6.79	32.1
5	Treatment 2 (high)	-	1.0	-176	6.65	35.5
6	Treatment 3 (low)	0.25	0.25	-163	7.07	43.3
7	Treatment 3 (high)	0.5	0.5	-208	7.48	11.4

1. Dosages are % w/w based on total mass of groundwater and soil in each reaction vessel.

The Evonik reagents used in this treatability testing are designed to promote the arsenic sequestration mechanisms described above. MetaFix® I-7A contains ZVI, reactive iron-bearing minerals, and activated carbon. GeoForm® ER contains readily-fermented food grade organic carbon, ZVI, ferrous iron, and sulfate. When applied to groundwater containing dissolved arsenic these reagents promote the conversion of dissolved arsenic to insoluble forms through adsorption, precipitation, and coprecipitation reactions. The major arsenic sequestration mechanism promoted by treatment with these reagents is coprecipitation of dissolved arsenic as arsenopyrite (i.e., FeAsS). Technical documents on MetaFix® I-7A and GeoForm® ER are provided in Appendix A.

Results & Discussion

Relative to the untreated control, at the end of the 42-day reaction period, dissolved arsenic concentrations were reduced in response to the higher dosages of both Treatment 1 and Treatment

3. The most effective treatment was the higher dosage of Treatment 3 which included both MetaFix® I-7A and GeoForm® ER (Table 2) which reduced dissolved arsenic to 11.4 µg/L. Additional removal of arsenic to a substantially lower concentration can be expected over time since both MetaFix® I-7A and GeoForm® ER have demonstrated treatment longevity of several years.

The difference between the theoretical dissolved arsenic (i.e., 140.4 µg/L) and that observed in the untreated control (26 µg/L) is likely a function of adsorption of arsenic by soil colloids including clay minerals, organic matter, and iron oxides. This phenomenon (i.e., removal of native dissolved and/or spiked arsenic in untreated controls) is frequently observed and is caused by the physical exposure of previously occluded adsorptive surfaces in the soil during sampling, handling, shipping, and homogenization of the soil sample used in the testing. Of course, this type of enhanced adsorption of arsenic is not observed in situ because the soil (i.e., aquifer solids in the saturated zone) remain undisturbed rather than subjected to the changes described here.

Interpretation & Recommendations

The results indicate that dissolved arsenic in groundwater at the Site can be removed (i.e., sequestered) by treatment using the Evonik reagents MetaFix® and GeoForm® ER. Substantial reduction in dissolved arsenic to well below the New York State Technical and Operational Guidance Standard (NYSDEC TOGS) of 25 µg/L for arsenic was achieved at the end of the 42-day reaction period. Given that MetaFix® I-7A and GeoForm® ER reagents generate long-lasting treatment chemistry, continued removal of dissolved arsenic to can be expected with the extended treatment time that will be enabled by in situ treatment. Thus, the degree of arsenic sequestration observed at the end of the relatively short 42-day reaction period should be viewed as confirmation that the treatment chemistry (i.e., primarily conversion of dissolved arsenic to insoluble arsenopyrite, FeAsS, Figure 3) is applicable to groundwater at the Site rather than an indicator of the maximum arsenic removal/sequestration efficiency that can be achieved.



Figure 3. Naturally-occuring arsenopyrite crystal.

Based on the treatability testing results presented here, our recommendation for treatment of groundwater at the Site is application of the higher dosage of Treatment 3 (i.e., 0.5% MetaFix® I-7A + 0.5% GeoForm® ER). The injection methodology, number and location of injection points, and other Site-specific issues are best determined in collaboration with the selected injection contractor. Evonik staff experienced in the application of these reagents to treat arsenic at other sites are available to provide review and support in the design process.

I am available at your convenience (949-514-1068) to discuss these results and answer questions regarding the treatability testing reported here.

Yours Truly,



Alan G. Seech, Ph.D.
Senior Manager – Technology Applications
Soil & Groundwater Remediation

Copy: Dr. Fayaz Lakhwala, Evonik
Michael Rury, Evonik

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608 -356-2760 • www.ctlaboratories.com

ANALYTICAL REPORT

RESOLUTION PARTNERS LLC
ANGELA HASSELL
967 JONATHON DR.
MADISON, WI 53713

Project Name: EVONIK-GZA BROOKLYN NY
Project Phase:
Contract #: 3364
Project #:
Folder #: 200710
Purchase Order #:

Arrival Temperature: 5.1
Report Date: 12/23/2025
Date Received: 12/22/2025
Reprint Date: 12/23/2025

CT LAB Sample#: 1663063 Sample Description: TS1_CONTROL_DAY42 Sampled: 12/22/2025 08:00

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Metals Results										
Dissolved Arsenic	**26.0**	ug/L	3.5	12	1			12/22/2025 12:38	NAH	EPA 6010C

CT LAB Sample#: 1663064 Sample Description: TS1_T1_LO_DAY42 Sampled: 12/22/2025 08:10

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Metals Results										
Dissolved Arsenic	**25.9**	ug/L	3.5	12	1			12/22/2025 12:46	NAH	EPA 6010C

CT LAB Sample#: 1663065 Sample Description: TS1_T1_HI_DAY42 Sampled: 12/22/2025 08:20

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Metals Results										
Dissolved Arsenic	**14.0**	ug/L	3.5	12	1			12/22/2025 13:14	NAH	EPA 6010C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 1663066 Sample Description: TS1_T2_LO_DAY42 Sampled: 12/22/2025 08:30

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Metals Results										
Dissolved Arsenic	**32.1**	ug/L	3.5	12	1			12/22/2025 13:21	NAH	EPA 6010C

CT LAB Sample#: 1663067 Sample Description: TS1_T2_HI_DAY42 Sampled: 12/22/2025 08:40

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Metals Results										
Dissolved Arsenic	**35.5**	ug/L	3.5	12	1			12/22/2025 13:29	NAH	EPA 6010C

CT LAB Sample#: 1663068 Sample Description: TS1_T3_LO_DAY42 Sampled: 12/22/2025 08:50

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Metals Results										
Dissolved Arsenic	**43.3**	ug/L	3.5	12	1			12/22/2025 13:37	NAH	EPA 6010C

CT LAB Sample#: 1663069 Sample Description: TS1_T3_HI_DAY42 Sampled: 12/22/2025 09:00

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Metals Results										
Dissolved Arsenic	**11.4**	ug/L	3.5 *	12	1			12/22/2025 13:45	NAH	EPA 6010C

CT LAB Sample#: 1663070 Sample Description: TS1_T4_DAY42 Sampled: 12/22/2025 09:10

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 1663070 Sample Description: TS1_T4_DAY42 Sampled: 12/22/2025 09:10

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Metals Results										
Dissolved Arsenic	**23.7**	ug/L	3.5	12	1			12/22/2025 13:52	NAH	EPA 6010C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

Notes regarding entire Chain of Custody:

Notes: * Indicates a value in between the LOD (limit of detection) and the LOQ (limit of quantitation). All LOD/LOQs are adjusted to reflect dilution and also any differences in the sample weight / volume as compared to standard amounts.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

Submitted by: Brett M. Szymanski
Project Manager
608-356-2760

Current CT Laboratories Certifications

Wisconsin (WDNR) Chemistry ID# 157066030
Wisconsin (DATCP) Bacteriology ID# 289
Louisiana NELAP (primary) ID# 115843
Illinois NELAP Lab ID# 200073
Kansas NELAP Lab ID# E-10368
Virginia NELAP Lab ID# 460203
Florida NELAP Lab ID# E871111

DoD-ELAP QSM5.4 -
PJLA Testing Accreditation # 78929

ISO/IEC 17025-2017 Accredited -
PJLA Testing Accreditation # 78929

Rev. 02/2017

CHAIN OF CUSTODY

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Company: ReSolution Partners LLC

Project Contact: Angela Hassell

Telephone: 608-669-1248

Project Name: Evonik-GZA Brooklyn NY

Project #:

Location:

Sampled By: Kevin Baker 608-669-6949

Lab Use Only
Place Header Sticker Here:

200710
RESOLUTION PARTNERS LLC
EVONIK-GZA BROOKLYN NY
Logged By: erc PM BMS

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: ahassell@resolutionpartnersllc.net
brehm@resolutionpartnersllc.net
kbaker@resolutionpartnersllc.net
Company: 967 Jonathon Drive
Address: Madison, WI 53713

Invoice To: * Angela Hassell
EMAIL: ahassell@resolutionpartnersllc.net
Company: ReSolution Partners LLC
Address: 967 Jonathon Drive
Madison, WI 53713

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
* 3 DAY TAT

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal
RUSH*
Date Needed: 12/24
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	Arsenic (6010)															Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test																	
22DEC2025	0800	GW			TS1_Control_Day42	Y	X															1		1663061
22DEC2025	0810	GW			TS1_T1_LO_Day42	Y	X															1		64
22DEC2025	0820	GW			TS1-T1_HI_Day42	Y	X															1		65
22DEC2025	0830	GW			TS1_T2_LO_Day42	Y	X															1		66
22DEC2025	0840	GW			TS1-T2_HI_Day42	Y	X															1		67
22DEC2025	0850	GW			TS1_T3_LO_Day42	Y	X															1		68
22DEC2025	0860	GW			TS1-T3_HI_Day42	Y	X															1		69
22DEC2025	0870	GW			TS1_T4_Day42	Y	X															1		70

Relinquished By:	Date/Time	Received By:	Date/Time
Kevin L Baker	12/22/2025 11:00	Spee Dee	12/22/25 910
Received by:	Date/Time	Received for Laboratory by:	Date/Time
		EC	12/22/25 917

Lab Use Only
Ice Present Yes No
Temp 5.1 IR Gun 33
Cooler # 6578

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ANALYTICAL REPORT

RESOLUTION PARTNERS LLC
ANGELA HASSELL
967 JONATHON DR.
MADISON, WI 53713

Project Name: EVONIK-GZA BROOKLYN NY
Project Phase:
Contract #: 3364
Project #:
Folder #: 199309
Purchase Order #:

Arrival Temperature: 1.8
Report Date: 10/31/2025
Date Received: 10/23/2025
Reprint Date: 10/31/2025

CT LAB Sample#: 1643381 Sample Description: GZ01 SOIL BASELINE Sampled: 10/21/2025 08:00

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**75.3**	%			1			10/27/2025 23:37	BMP	EPA 8000C
Metals Results										
Arsenic	**290**	mg/kg	0.32	1.3	1		10/23/2025 16:00	10/24/2025 09:48	NAH	EPA 6010C

CT LAB Sample#: 1643382 Sample Description: GZ03-04 SOIL BASELINE Sampled: 10/21/2025 08:05

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	**76.0**	%			1			10/27/2025 23:37	BMP	EPA 8000C
Metals Results										
Arsenic	**47**	mg/kg	0.32	1.3	1		10/23/2025 16:00	10/24/2025 09:56	NAH	EPA 6010C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 1643384 Sample Description: GMW07 GW BASELINE Sampled: 10/21/2025 08:10

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Metals Results										
Dissolved Arsenic	**40.4**	ug/L	3.5	12	1			10/23/2025 21:56	NAH	EPA 6010C

CT LAB Sample#: 1643385 Sample Description: GMW09 GW BASELINE Sampled: 10/21/2025 08:15

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Metals Results										
Dissolved Arsenic	**22.5**	ug/L	3.5	12	1			10/23/2025 22:03	NAH	EPA 6010C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

Notes regarding entire Chain of Custody:

Notes: * Indicates a value in between the LOD (limit of detection) and the LOQ (limit of quantitation). All LOD/LOQs are adjusted to reflect dilution and also any differences in the sample weight / volume as compared to standard amounts.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

Submitted by: Brett M. Szymanski
Project Manager
608-356-2760

QC Qualifiers

Code	Description
A	Result cannot be used for compliance due to QC issue
B	Analyte detected in the associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
I	Incubator temperature was outside acceptance limits during test period.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was below detection limit.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Specified calibration criteria was not met.

Current CT Laboratories Certifications

Wisconsin (WDNR) Chemistry ID# 157066030
Wisconsin (DATCP) Bacteriology ID# 289
Louisiana NELAP (primary) ID# 115843
Illinois NELAP Lab ID# 200073
Kansas NELAP Lab ID# E-10368
Virginia NELAP Lab ID# 460203
Florida NELAP Lab ID# E871111

DoD-ELAP QSM5.4 -
PJLA Testing Accreditation # 78929

ISO/IEC 17025-2017 Accredited -
PJLA Testing Accreditation # 78929

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

CT LABORATORIES

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www.ctlaboratories.com

Company: ReSolution Partners LLC

Project Contact: Angela Hassell

Telephone: 608-669-1248

Project Name: Evonik-GZA Brooklyn NY

Project #:

Location:

Sampled By: Kevin Baker 608-669-6949

Log #: 199309
Company: RESOLUTION PARTNERS LL
Project: EVONIK-GZA BROOKLYN N
Logged By: erc PM: BMS

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: ahassell@resolutionpartnersllc.net
brehm@resolutionpartnersllc.net
kbaker@resolutionpartnersllc.net
Company: 967 Jonathon Drive
Address: Madison, WI 53713

Invoice To: * Angela Hassell
EMAIL: ahassell@resolutionpartnersllc.net
Company: ReSolution Partners LLC
Address: 967 Jonathon Drive
Madison, WI 53713

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
* 5 DAY TAT

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal
RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	Arsenic (6010)	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test			
21OCT2025	0800	SO			GZ01 Soil baseline	N	X	1		643387
21OCT2025	0805	SO			GZ03-04 Soil baseline	N	X	1		82
21OCT2025	0810	GW			GMW07 GW baseline	Y	X	1		84
21OCT2025	0815	GW			GMW09 GW baseline	Y	X	1		85

Relinquished By: Kevin L Baker — Date/Time: 10/22/2025 11:00

Received by: — Date/Time:

Received By: Spee Dee — Date/Time: 10/23/25 1209

Received for Laboratory by: — Date/Time: 10/23/25 1216

Lab Use Only
Ice Present Yes No
Temp 1.8 IR Gun 33
Cooler # XXX

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ANALYTICAL REPORT

RESOLUTION PARTNERS LLC
ANGELA HASSELL
967 JONATHON DR.
MADISON, WI 53713

Project Name: EVONIK-GZA BROOKLYN NY
Project Phase:
Contract #: 3364
Project #:
Folder #: 199740
Purchase Order #:

Arrival Temperature: 1.9
Report Date: 11/14/2025
Date Received: 11/11/2025
Reprint Date: 11/14/2025

CT LAB Sample#: 1649917 Sample Description: GMW07 GW 100UG AS SPIKE Sampled: 11/7/2025 08:00

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Metals Results										
Dissolved Arsenic	**86.3**	ug/L	3.5	12	1			11/12/2025 04:41	NAH	EPA 6010C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

Notes regarding entire Chain of Custody:

Notes: * Indicates a value in between the LOD (limit of detection) and the LOQ (limit of quantitation). All LOD/LOQs are adjusted to reflect dilution and also any differences in the sample weight / volume as compared to standard amounts.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

Submitted by: Brett M. Szymanski
Project Manager
608-356-2760

Current CT Laboratories Certifications

Wisconsin (WDNR) Chemistry ID# 157066030
Wisconsin (DATCP) Bacteriology ID# 289
Louisiana NELAP (primary) ID# 115843
Illinois NELAP Lab ID# 200073
Kansas NELAP Lab ID# E-10368
Virginia NELAP Lab ID# 460203
Florida NELAP Lab ID# E871111

DoD-ELAP QSM5.4 -
PJLA Testing Accreditation # 78929

ISO/IEC 17025-2017 Accredited -
PJLA Testing Accreditation # 78929

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: ReSolution Partners LLC

Project Contact: Angela Hassell

Telephone: 608-669-1248

Project Name: Evonik-GZA Brooklyn NY

Project #:

Location:

Sampled By: Kevin Baker 608-669-6949

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Project # 199740
Company: RESOLUTION PARTNERS LLC
Project: EVONIK-GZA BROOKLYN NY
Logged By: erc PM: BMS

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: ahassell@resolutionpartnersllc.net
brehm@resolutionpartnersllc.net
kbaker@resolutionpartnersllc.net
Company: 967 Jonathon Drive
Address: Madison, WI 53713

Invoice To: * Angela Hassell
EMAIL: ahassell@resolutionpartnersllc.net
Company: ReSolution Partners LLC
Address: 967 Jonathon Drive
Madison, WI 53713

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW - groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal

Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	Arsenic (6010)														Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							ANALYSES REQUESTED / Fill in Spaces with Bottles per Test																
07NOV2025	0800	GW			GMW07 GW 100ug As spike	Y	X														1		1649917

Relinquished By: Kevin L Baker — Date/Time: 11/10/2025 11:00

Received By: Spee Dee — Date/Time: 11/11/25 1145

Received by: _____ — Date/Time: _____

Received for Laboratory by: _____ — Date/Time: 11/11/25 1145

Lab Use Only
Ice Present Yes No
Temp 1.9 IR Gun
Cooler # TR

Mechanisms of Arsenic Immobilization by MetaFix® Reagent

FORMATION OF MIXED IRON-ARSENIC MINERAL PRECIPITATES

MetaFix® reagents treat dissolved metals such as arsenic via long-term sequestration as solid arsenic species by means of reductive precipitation and adsorption onto the surfaces of iron oxides, iron oxyhydroxides, and other iron corrosion products.

A primary mechanism of arsenic immobilization in soil or groundwater treated with MetaFix® is the reduction of arsenate [As(V)] anions to arsenite [As(III)]. This reduction step is facilitated by two components of MetaFix®: zero valent iron (ZVI) and iron sulfides, both of which are powerful reductants (electron donors), as indicated in the following redox half-reactions:

ZVI Corrosion (oxidation): $Fe^0 \rightarrow Fe^{2+} + 2e^-$

Iron Sulfide Oxidation: $FeS \rightarrow Fe^{2+} + HS^-$

These reactions generate free ferrous iron and electrons, which subsequently produce stable As-Fe sulfide phases. Corrosion (oxidation) of solid ZVI particles produces dissolved iron that subsequently forms secondary iron minerals, including iron oxides [e.g.; magnetite, Fe_3O_4) and iron oxy-hydroxides (goethite, FeOOH)]. These mineral phases provide reactive surface areas where arsenic oxyanions [As(V) and As(III)] can be bound or co-precipitated (Manning et al., 2002; Kober et al., 2005). Similarly, oxidation of solid FeS provides free iron (Fe^{+2}) and sulfide to react with As(III) resulting in precipitation of insoluble iron-As-S phases including arsenopyrite.

$$Fe^{2+}_{(aq)} + As(OH)_4^-{}_{(aq)} + HS^-_{(aq)} \rightarrow FeAsS_{(s)} + 2.5H_2O + 0.75O_{2(aq)}$$

MetaFix® reagents are designed to have near neutral pH and do not affect the native soil or groundwater pH. MetaFix® creates geochemical conditions (i.e., low Eh and neutral pH) that are conducive to the creation of secondary iron minerals, such as goethite and magnetite, and As-S species (**Figure 1**).

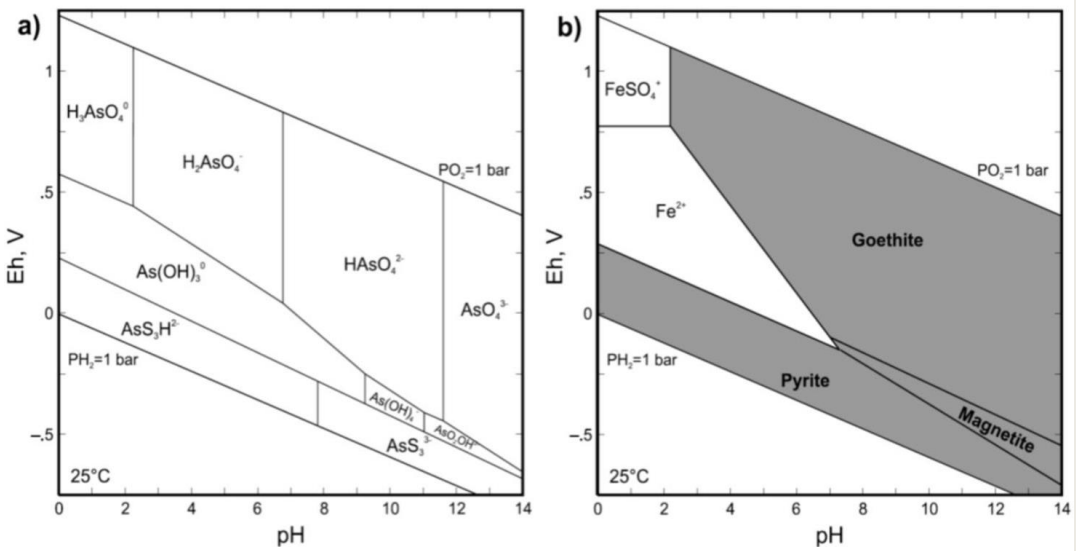


Figure 1 | Eh-pH diagrams for arsenic and iron at 25°C for coupled iron- and sulfate-reducing systems. These paired diagrams show the relative distribution of potentially adsorbing arsenic species (left) relative to representative types of Fe-bearing sorbents (right) that are predicted to occur as a function of Eh and pH. (a) System As-S-H2O, with ΣAs=10-5 and ΣS=10-3; all solids suppressed to show stability fields for the aqueous species. (b) System Fe-C-S-H2O with ΣFe=10-4, ΣC=10-3, and ΣS=10-3; Hematite is suppressed. (From EPA/600/R-07/140)

LONG-TERM STABILITY OF IRON-ARSENIC-SULFIDE SOLID PHASES

The creation of Fe-As-S phases was demonstrated experimentally with the use of iron + sulfide treated soil columns (Przepiora et al., 2008). These results showed that a significant part of the arsenic mass immobilized in the soil was associated with secondary iron oxides and oxyhydroxides, which is in agreement with previous published results in iron rich systems (Manning et al., 2003 Koeber et al., 2005).

$$\mathbf{FeAsS + 7H_2O \rightarrow Fe^{2+}(aq) + H_3ASO_3(aq) + 11H^+ + 11e^- + SO_4^{2-}}$$

Ferrous iron in MetaFix® prevents arsenic remobilization under oxic conditions by:

- Creating protective coatings on the precipitated reduced arsenic mineral phases; and
- Facilitating precipitating and/or adsorption of any arsenic that is potentially mobilized under extreme changes in geochemical conditions.

This has been validated in laboratory testing demonstrating the long-term stability of arsenic in iron + sulfide treated soil under geochemical conditions that could, in theory, reverse the arsenic immobilization processes (Przepiora et al., 2008). Such conditions include extremes of pH and ORP. The observed persistence of As-Fe reduced mineral phases in the iron + sulfide treated column under highly oxic conditions and extreme pH could be attributed to development of protective submicron iron oxide and oxyhydroxide coatings on As-bearing soil surfaces. A similar phenomenon has been observed in natural geologic systems where a primary

a primary or authigenic arsenopyrite is present on earth's surface (Craw et al., 2003). Based on this research, the As-Fe-S phases will be stable in water-saturated and moderately reducing systems, such as those created with MetaFix®.

Table 1 provides a summary of the potential arsenic mobilization processes in natural environments and the corresponding anticipated MetaFix® treatment mechanisms that prevent arsenic remobilization.

TABLE 1 | POTENTIAL AS MOBILIZATION PROCESSES AND METAFIX TREATMENT MECHANISMS

ATTENUATION PROCESSES*	MOBILIZATION PROCESSES*	METAFIX® TREATMENT MECHANISMS
Precipitation of metal arsenates or arsenites or precipitation of arsenic sulfides	Dissolution of metal arsenates/arsenites due to change in pH; dissolution of arsenic sulfides due to increase in pH or shift changes in ORP conditions.	MetaFix® is a pH neutral reagent , therefore pH is maintained ay levels below long-term charge (ZPC) of iron oxides and oxyhydroxides (< pH 8). MetaFix® treatment provides a long-term source of free iron from oxidation of ZVI and FeS. This enables continuous formation of secondary iron precipitates, including iron oxides and iron sulfides that function as a sink for arsenic, if any is remobilized.
Co-precipitation of arsenic as a trace component in oxyhydroxides or sulfides of iron or manganese	Dissolution of host oxyhydroxide due to decrease in pH or shift from oxidizing to reducing conditions; dissolution of host sulfide due to shift from reducing to oxidizing conditions.	
Adsorption to iron oxyhydroxides, iron sulfides, or other mineral surfaces	Desorption at high pH for oxyhydroxides and sulfides; complexation/stabilization in the presence of DOC. Reductive dissolution of iron hydroxides or oxidative dissolution of iron sulfides.	

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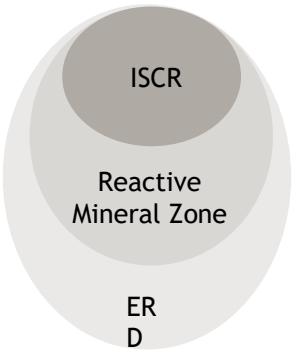
remediation@evonik.com
evonik.com/remediation

PRODUCT OVERVIEW

The MetaFix® Reagent portfolio includes custom formulated products for immobilization of metals; composed of zero-valent iron (ZVI), iron sulfides, iron oxides, pH modifiers, and activated carbon. Following placement of MetaFix® into the saturated zone, a number of physical and chemical processes combine to create geochemical conditions under which common heavy metals are subjected to reduction, adsorption, precipitation, and conversion to stable mineral forms. A wide range of chlorinated volatile organic compounds (CVOCs) can be degraded in reactive zones created with MetaFix®, allowing for treatment of mixed plume impacts.

MetaFix® Reagents are delivered as a dry powder in 50-lb/25-kg bags or 2204-lb/1 metric ton bulk sacks, and can be placed into the saturated zones in a variety of ways including direct push injections, hydraulic and pneumatic fracturing, and direct soil mixing.

GeoForm® Biogeochemical Reagents are specifically designed to generate reactive iron sulfide minerals in situ. GeoForm® includes the key building blocks needed, including a source of sulfate, a source of ferrous iron and electron donor to establish sulfate reducing conditions. GeoForm® is promoting multiple synergistic pathways for reduction of chlorinated compounds including ISCR, ERD and reactive mineral formation. It will also serve to immobilize many heavy metals via reductive precipitation and adsorption. The GeoForm® Extended Release formulation provides an extended reactive life of 5-10 years or more and is ideal for application to PRBs and other situations when a long lasting reagent is desired (*eg*. to prevent rebound).



GeoForm® Extended Release is delivered as a dry powder in 50-lb/25-kg bags or 2204-lb /1 metric ton bulk sacks. GeoForm® can be placed into the saturated zones in a variety of ways including direct push injections, hydraulic and pneumatic fracturing, and direct soil mixing. GeoForm® is non-hazardous and safe to handle.

SITE INFORMATION / DESIGN ASSUMPTIONS

	Value	Unit	Comment
Treatment Area Dimensions:			
Width of targeted zone (perpendicular to gw flow)	102	ft	customer supplied
Length of targeted zone (parallel to gw flow)	102	ft	customer supplied
Depth to top of treatment zone	15	ft bgs	customer supplied
Treatment zone thickness	15	ft	customer supplied
Treatment volume	155,640	ft3	calculated value
Total Porosity	46	%	default value
Groundwater volume	71,594	ft3	calculated value
Soil bulk density	90	lbs/ft3	default value
Soil mass	7,004	ton	calculated value
Transport characteristics:			
Treatment time / design life for one application	2	years	default value
Linear groundwater flow velocity	9	ft/year	calculated value
Distance of inflowing gw over design life	18	ft	calculated value
Effective porosity for groundwater flow	20	%	default value
Volume of water passing region over design life	5577	ft3	calculated value
Soil type	low permeability		customer supplied
Fraction organic carbon in soil, foc	0.010		estimated value

CONTAMINANTS OF CONCERN (COCs)

Contaminant	GW (mg/L)	Soil* (mg/kg)	Total Mass** (lb)
Arsenic	0.2	NA	1.0

*Unless provided, sorbed concentrations of CVOCs were roughly estimated based on expected groundwater concentrations, foc and Koc values. For a more refined estimate, it is recommended that actual values be verified via direct sampling of the targeted treatment interval

**The total COC mass was estimated based on concentrations in soil and groundwater within the targeted area plus expected contributions from inflowing groundwater over the projected design life

GEOCHEMICAL DATA

Competing Electron Acceptors	GW (mg/L)		
Dissolved oxygen	2	customer provided	
Nitrate (as N)	0	customer provided	
Anticipated bioavailable Mn(IV)*	10	30%	**30%**
Anticipated bioavailable Fe(III)*	10	default value	
Sulfate	0	1.112	**1.112**

*An estimated projection of dissolved concentrations of Mn and Fe following ERD/ISCR were used to estimate H demand from the reduction of oxidized Fe and Mn minerals (typically only a portion of actual soil concentrations will be reduced).

ORP (mV)	-100
pH	12

RECOMMENDED APPLICATION RATE AND REQUIREMENTS

Application type: Plume Treatment (grid)

	GeoForm® ER	MetaFix®	Unit
Recommended application rate	0.50	0.50	% by soil mass
Mass of reagents required	70,038	70,038	lbs
Mass of per bag	50	50	lbs
Number of bags required	1,401	1,401	bags
Mass (rounded up based on bag size)	**70,050**	**70,050**	**lbs**

APPENDIX F REMEDIAL COST ESTIMATE

Remedial Cost Estimate
Track 1

55 Eckford St LLC Site
Brooklyn,NY
BCP No. C224168

No	Item	Est QTY	Unit	Unit Price	Cost
1.0	**Contaminated Soil Excavation Transportation and Disposal**				
1.1	Excavation	10,000.0	CY	$ 25.00	$ 250,000.00
1.2	SOE	1.0	LS	$ 3,000,000.00	$ 3,000,000.00
1.3	Transportation of Soils	15,000.0	TON		
1.4	Disposal/Treatment of Soils and leachate	15,000.0	TON	$75.00	$ 1,125,000
				Subtotal	**$ 4,375,000**
2.0	**Groundwater / Soil Gas Remediation**				
2.1	Remedial Design	1.0	Allow	$25,000.00	$ 25,000.00
2.2	Quarterly Groundwater Monitoring	8.0	ea	$7,000.00	$ 56,000.00
2.3	SSDS and Vapor Barrier Installation	49,185.0	SF	$4.00	$ 196,740.00
2.4	SSDS and Vapor Barrier Inspections	4.0	Allow	$1,000.00	$ 4,000.00
2.5	SSDS OM&M	10.0	Allow	$12,000.00	$ 120,000.00
				Subtotal	**$ 401,740**
3.0	**Engineering Oversight**				
3.1	Preconstruction Activities	1.0	Allow	$36,000.00	$ 36,000.00
3.2	Excavation Oversight and CAMP	6.0	months	$35,800.00	$ 214,800.00
3.3	Post Excavation Sampling Analysis	15.0	ea	$1,450.00	$ 21,750.00
3.4	SSDS Installation Oversight	5.0	ea	$1,100.00	$ 5,500.00
3.5	Reporting an Project Management	1.0	Allow	$90,000.00	$ 90,000.00
				Subtotal	**$ 368,050**
				PROJECT TOTAL	**$ 5,144,790**

Remedial Cost Estimate
Track 2/Contigent Track 4

55 Eckford St LLC Site
Brooklyn,NY
BCP No. C224168

No	Item	Est QTY	Unit	Unit Price	Cost
1.0	**Contaminated Soil Excavation Transportation and Disposal**				
1.1	Excavation	5,764.0	CY	$ 45.00	$ 259,380.00
1.2	SOE	1.0	LS	$ 1,000,000.00	$ 1,000,000.00
1.3	Transportation of Soils	8,646.0	TON		
1.4	Disposal/Treatment of Soils and leachate	8,646.0	TON	$60.00	$ 518,760.00
				Subtotal	**$ 1,778,140**
2.0	**Chemical Injection Program**				
2.1	Injection Treatability Study	1.0	Ea	$10,000.00	$ 10,000.00
2.2	Injection Design Report	1.0	Ea	$5,000.00	$ 5,000.00
2.3	Injection Program Implementation	1.0	Ea	$550,000.00	$ 550,000.00
				Subtotal	**$ 565,000**
3.0	**Groundwater / Soil Gas Remediation**				
3.1	Remedial Design	1.0	Allow	$20,000.00	$ 20,000.00
3.2	Quarterly Groundwater Monitoring	20.0	ea	$7,000.00	$ 140,000.00
3.3	SSDS Installation	1.0	Allow	$10,000.00	$ 10,000.00
3.4	SSDS Inspections	4.0	Allow	$1,000.00	$ 4,000.00
3.5	SSDS OM&M	20.0	Allow	$12,000.00	$ 240,000.00
				Subtotal	**$ 414,000**
4.0	**Engineering Oversight**				
4.1	Preconstruction Activities	1.0	Allow	$36,000.00	$ 36,000.00
4.2	Excavation Oversight and CAMP	3.0	months	$35,800.00	$ 107,400.00
4.3	Post Excavation Sampling Analysis	16.0	ea	$1,450.00	$ 23,200.00
4.4	SSDS Installation Oversight	5.0	ea	$1,100.00	$ 5,500.00
4.5	Reporting and Project Management	1.0	Allow	$90,000.00	$ 90,000.00
				Subtotal	**$ 262,100**
				PROJECT TOTAL	**$ 3,019,240**

APPENDIX G GREEN SUSTAINABLE REMEDIATION ANALYSIS



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January 28, 2026
41.0163263.00
55 Eckford St LLC
55 Eckford Street
Brooklyn NY 11222
Block: 2698 Lot 32

Green and Sustainable Remediation Evaluation
NYSDEC BCP Site Number – C224168

Sites remediated under the oversight of the New York State Department of Environmental Conservation (NYSDEC) are required to incorporate the concepts of green remediation into all phases of the cleanup process in accordance with DER-31. Green remediation is defined as "*the practice of considering all environmental effects of remedy implementation and incorporating options to minimize the environmental footprint of cleanup actions*." GZA GeoEnvironmental of New York (GZA) has completed the following evaluation of the remedial activities associated with the *Remedial Action Work Plan* (RAWP) for the site located at 55 Eckford Street, Brooklyn, New York utilizing the SiteWise™ tool for green and sustainable remediation tracking and information provided by the site owner, 55 Eckford St LLC, and its subcontractors.

BACKGROUND

The site is located at Block 2698, Lot 32 in Kings County New York and identified as 55 Eckford Street, Brooklyn New York. 55 Eckford St LLC entered into the Brownfield Cleanup Program (BCP) with the NYSDEC to investigate and remediate the site for development of a residential building. The site is approximately .238 acres and is surrounded by mixed-use development of residential, commercial, and industrial properties. The site has undergone a remedial investigation with the Remedial Investigation Report, dated, February 2025, currently being reviewed by the NYSDEC. Due to the contamination observed during the 2024-2025 remedial investigation, GZA has prepared the RAWP to begin remediation of the Site and limit potential exposure to hazardous materials during the initial construction phase.

The remedial alternatives evaluated under the *RAWP* include Track 1 and Track 2 alternatives. The Track 1 alternative includes the excavation of impacted soils, dewatering of the excavation, installation of a passive Sub-Slab Depressurization System (SSDS), and long-term monitoring of groundwater. The Track 2 alternative includes the excavation of impacted soils to 15 feet below grade, in-situ injections, the installation of an active SSDS, and long-term monitoring (LTM) of groundwater. Descriptions of the general activities performed under these actions as well as the parameters used for the SiteWise™ evaluation are presented in the following sections.

FOOTPRINT ANALYSIS

<u>TRACK 1 REMEDY</u>

The conditional Track 1 alternative will include the removal of soils above the Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) with use of institutional and engineering

controls. In this alternative the entire site footprint will be excavated to at least 28 feet below grade to remove impacted soils above the SCOs. During building construction, a passive SSDS system will be installed, including a 10-inch gravel layer beneath the entire footprint with 4-inch perforated PVC pipe along the northern half of the building and 4-inch steel riser pipe venting to 10-feet above the roof line. The SSDS would also include a vapor barrier installed between the gravel layer and the concrete slab for the building. LTM of groundwater will also be performed on a quarterly basis for a period of less than five years.

The assumptions utilized in the analysis of the demolition process include the following:

- 11,529 cubic yards (CY) of soil will be excavated and disposed of offsite utilizing an excavator, loader, and skid steer.
- End-point sampling of the excavation will include a sample for every 900 square feet (SF) of excavation bottom.
- 7,685 CY of clean soil will be imported to backfill to building foundation grade.
- During the excavation process, 5 laborers, 1 construction manager, and 1 GZA engineer will be present daily for 30 working days.
- Dewatering to support the excavation in the groundwater which is at 10 feet below grade.
- The SSDS will include 100 linear feet of 4-inch schedule 40 PVC, 75 linear feet of 4-inch schedule 40 steel pipe, 13,576 SF of vapor barrier liner, and 750 CY of clean gravel.
- One round of air sampling will be completed at the end of construction to verify no vapor infiltration concerns are present.
- During the SSDS installation process 5 laborers, 2 licensed plumbers, 1 construction manager, and 1 GZA engineer will be present daily for 15 working days.
- LTM of groundwater will be completed quarterly for 5 years after completion of excavation activities.
- LTM events will include sampling of 12 wells to be completed by 1 GZA engineer over a period of 3 days utilizing a peristaltic pump with plastic tubing.
- All groundwater from LTM events will be drummed and transported for offsite disposal.

TRACK 2 REMEDY

The Track 2 alternative will include the removal of soils above the Site-Specific Use SCOs outlined in the RAWP. In this alternative the entire site footprint will be excavated to 15-feet below grade to remove impacted soils for the building foundation. In-situ chemical injections will be utilized to treat remaining contamination beneath the excavation footprint between 15 and 30 feet below grade. During building construction, an active SSDS system will be installed, including a 12-inch gravel layer beneath the entire footprint with 4-inch perforated PVC pipe connected to 4-inch solid PVC header pipes beneath the entire footprint of the building and 4-inch steel riser pipe venting to 10-feet above the roof line. The SSDS would also include a vapor barrier installed between the gravel layer and the concrete slab for the building. LTM of groundwater will also be performed on a quarterly basis for a period of less than 10 years.

The assumptions utilized in the analysis of the demolition process include the following:

- 5,764 cubic yards (CY) of soil will be excavated and disposed of offsite utilizing an excavator, loader, and skid steer.
- End-point sampling of the excavation will include a sample for every 900 square feet (SF) of excavation bottom.
- No soil will be imported to backfill.
- During the excavation process, 5 laborers, 1 construction manager, and 1 GZA engineer will be present daily for 60 working days.
- Injections will be completed across the property from 15 feet to 30 feet bgs with a total of 70,038 pounds pf MetaFix®, 70,038 pounds of GeoForm® ER, and 67,182 gallons of water.
- Injections will be completed over completed over an estimated 15 working days.
- Installation of 3 new permanent monitoring wells to a depth of 20 feet below grade utilizing a hollow stem auger drill rig.
- Wells will be constructed of 2-inch PVC with a 10-foot slotted screen interval, filter pack sand to 2 feet above the screen interval a 2-foot bentonite seal, soil cutting backfill to 2-feet below grade, and a 2-foot concrete seal to grade with a stickup finish.
- The SSDS will include 210 linear feet of 4-inch perforated schedule 40 PVC, 60 linear feet of 4-inch solid schedule 40 PVC , 90 linear feet of 4-inch schedule 40 steel pipe, 13,576 SF of vapor barrier liner, 750 CY of clean gravel, and a 110-volt blower that will operate continuously.
- One round of air sampling will be completed at the end of construction to verify no vapor infiltration concerns are present with the system active and a second round of air sampling will be completed to close out the use of the active SSDS.
- During the SSDS installation process 5 laborers, 2 licensed plumbers, 1 construction manager, and 1 GZA engineer will be present daily for 15 working days.
- LTM of groundwater will be completed quarterly for a minimum of rounds after completion of injection activities.
- LTM events will include sampling of 7 wells to be completed by 1 GZA engineer over a period of 3 days utilizing a peristaltic pump with plastic tubing.
- All groundwater from LTM events will be drummed and transported for offsite disposal.

EVALUATION RESULTS SUMMARY

SiteWise™ breaks down the impacts of project into the following categories:

- Greenhouse gas emissions (metric tons)
- Total energy used (million british thermal units)
- Water consumption (gallons)
- Electricity Usage (megawatt hours)
- Onsite nitrous oxide emissions (metric tons)
- Onsite sulfur oxide emissions (metric tons)
- Onsite particulate matter less than 10 microns (PM10) emissions (metric tons)
- Total nitrous oxide emissions (metric tons)
- Total sulfur oxide emissions (metric tons)
- Total PM10 emissions (metric tons)
- Accident fatality risk
- Accident injury risk

The project impacts for these categories are provided for project wide evaluation as well as individual components of the project. The detailed summary of the evaluation, including the comparison of impacts from each alternative and each alternatives' environmental footprint, is provided in **Attachment 1**. A climate screening checklist of the remedy is also provided as **Attachment 2**.

Overall, the project related impacts from the Track 2 remedy alternative were similar or lower across most compared to the Track 1 remedy. Greenhouse gas emissions and total SO_x emissions in the Track 2 remedy were higher than Track 1 due to the upstream impacts from the production of the injection materials. Similarly, the electricity usage for Track 2 was higher than the Track 1 remedy due to the long term operation of the SSDS blower in the active system. Water usage and onsite emissions were all notably lower in the Track 2 alternative. The full comparison between each metric is provided in Attachment 1.

May 2025
55 Eckford St
Brooklyn, NY

Attachment 1 – SiteWise™ Footprint Analysis

Alternatives Comparison

Remedial Alternatives	GHG Emissions	Total energy Used	Water Consumption	Electricity Usage	Onsite NO_x Emissions	Onsite SO_x Emissions	Onsite PM_{10} Emissions	Total NO_x Emissions	Total SO_x Emissions	Total PM_{10} Emissions	Accident Risk Fatality	Accident Risk Injury
	metric ton	MMBTU	gallons	MWH	metric ton	metric ton	metric ton	metric ton	metric ton	metric ton		
55 Eckford St - Track 1	617.95	1.09E+04	5.23E+05	2.77E+00	1.50E-01	3.18E-02	1.20E-02	2.51E+00	2.10E+00	3.28E+00	5.38E-04	8.99E-02
55 Eckford St - Track 2	1271.20	1.10E+04	7.12E+04	4.65E+00	3.63E-02	7.46E-03	3.02E-03	2.94E+00	4.89E+00	2.40E+00	4.77E-04	1.11E-01

Additional Sustainability Metrics

Remedial Alternatives	Non-Hazardous Waste Landfill Space	Hazardous Waste Landfill Space	Topsoil Consumption	Costing	Lost Hours - Injury	Percent Electricity from Renewable Sources	Final Cost with Footprint Reduction
	tons	tons	cubic yards	$		%	$
55 Eckford St - Track 1	15066.40	0.00E+00	0.00E+00	0.00E+00	7.20E-01	18.2%	0.00E+00
55 Eckford St - Track 2	8069.70	0.00E+00	0.00E+00	0.00E+00	8.85E-01	24.2%	0.00E+00

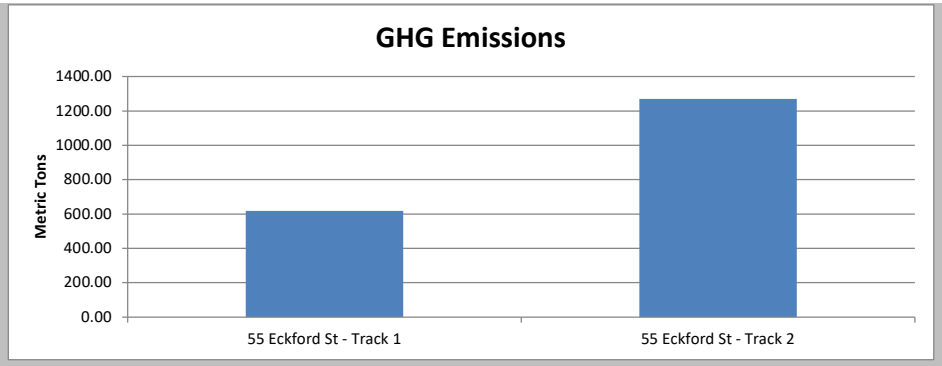
Relative Impact

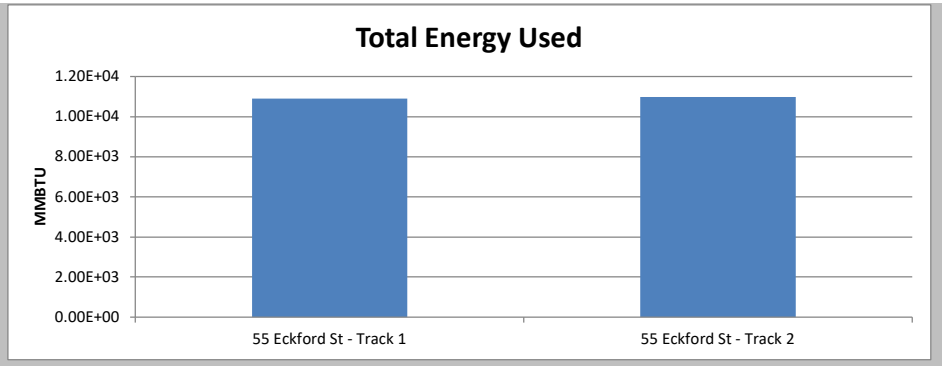
Remedial Alternatives	GHG Emissions	Energy Usage	Water Usage	Electricity Usage	Onsite NOx Emissions	Onsite SOx Emissions	Onsite PM10 Emissions	Total NOx emissions	Total SOx Emissions	Total PM10 Emissions	*Accident Risk Fatality	*Accident Risk Injury	Community Impacts	Resources Lost
55 Eckford St - Track 1	Medium	High	High	Medium	High	High	High	High	Medium	High	Low	Low	user select	user select
55 Eckford St - Track 2	High	High	Low	High	Low	Low	Low	High	High	High	Low	Low	user select	user select

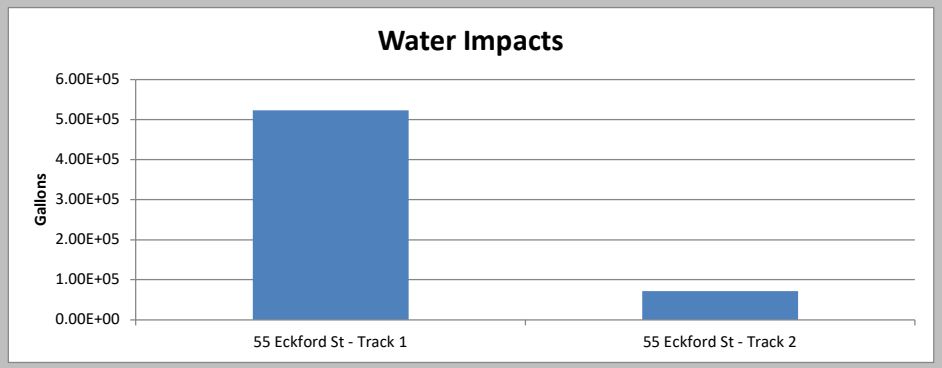
Relative Impact (User Override)

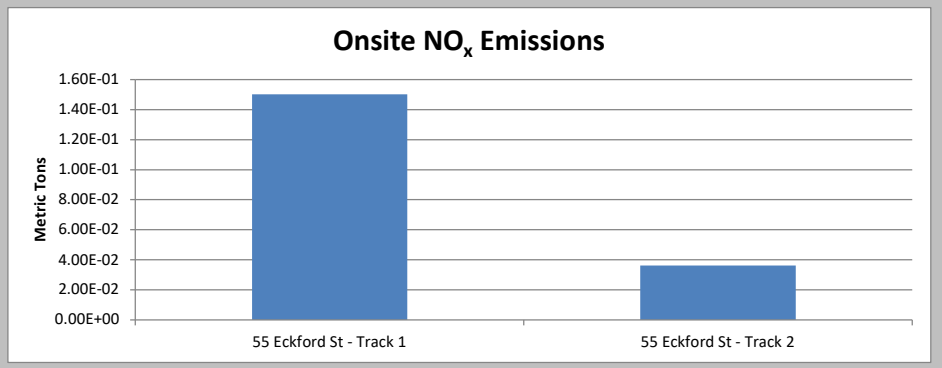
Remedial Alternatives	GHG Emissions	Energy Usage	Water Usage	Electricity Usage	Onsite NOx Emissions	Onsite SOx Emissions	Onsite PM10 Emissions	Total NOx Emissions	Total SOx Emissions	Total PM10 Emissions	*Accident Risk Fatality	*Accident Risk Injury	Community Impacts	Resources Lost
55 Eckford St - Track 1	Medium	High	High	Medium	High	High	High	High	Medium	High	Low	Low	user select	user select
55 Eckford St - Track 2	High	High	Low	High	Low	Low	Low	High	High	High	Low	Low	user select	user select

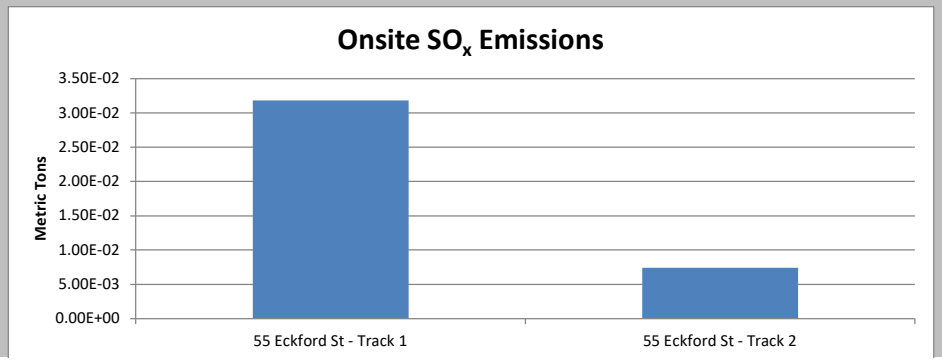
*Accident Risk is an estimate of how many accidents may occur. This risk is not the same as Cancer Risk, which is the probablity (for a single person) of getting cancer. Accident risk is not comparable to Cancer Risk due to inherent fundamental differences.

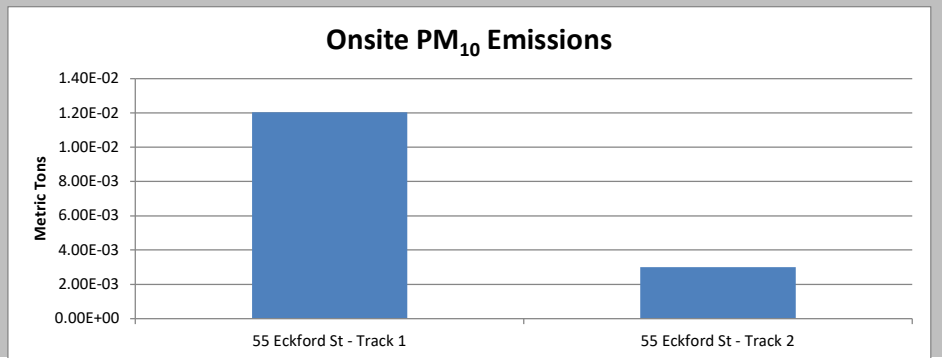

GHG Emissions
Metric Tons
1400.00
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
55 Eckford St - Track 1
55 Eckford St - Track 2

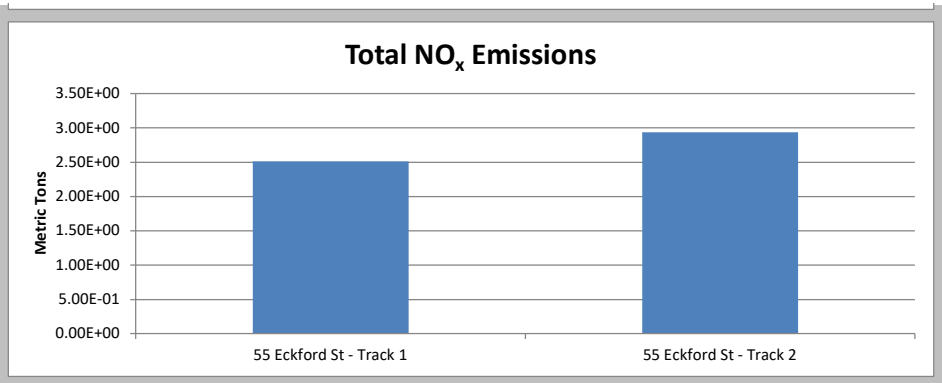

Total Energy Used
MMBTU
1.20E+04
1.00E+04
8.00E+03
6.00E+03
4.00E+03
2.00E+03
0.00E+00
55 Eckford St - Track 1
55 Eckford St - Track 2

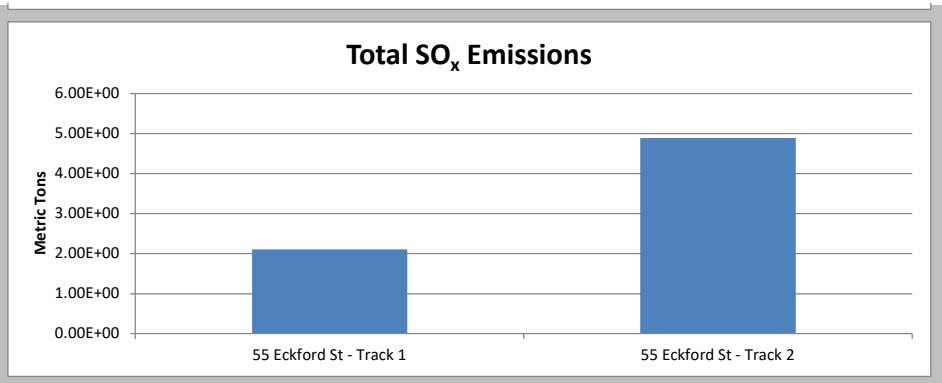

Water Impacts
Gallons
6.00E+05
5.00E+05
4.00E+05
3.00E+05
2.00E+05
1.00E+05
0.00E+00
55 Eckford St - Track 1
55 Eckford St - Track 2

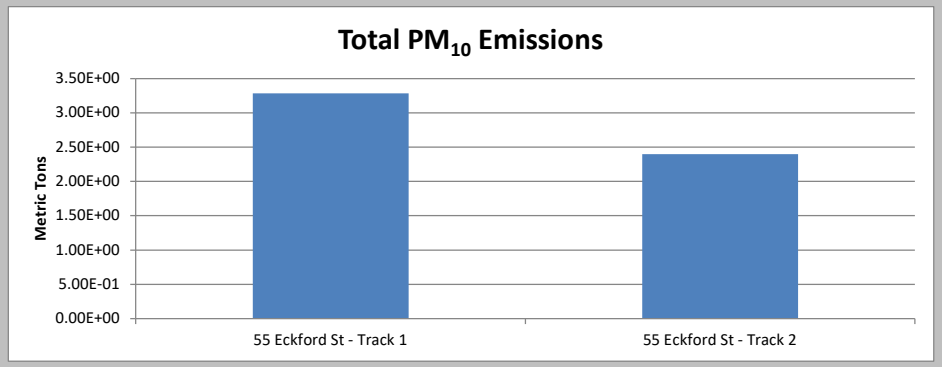

Onsite NOx Emissions
Metric Tons
1.60E-01
1.40E-01
1.20E-01
1.00E-01
8.00E-02
6.00E-02
4.00E-02
2.00E-02
0.00E+00
55 Eckford St - Track 1
55 Eckford St - Track 2

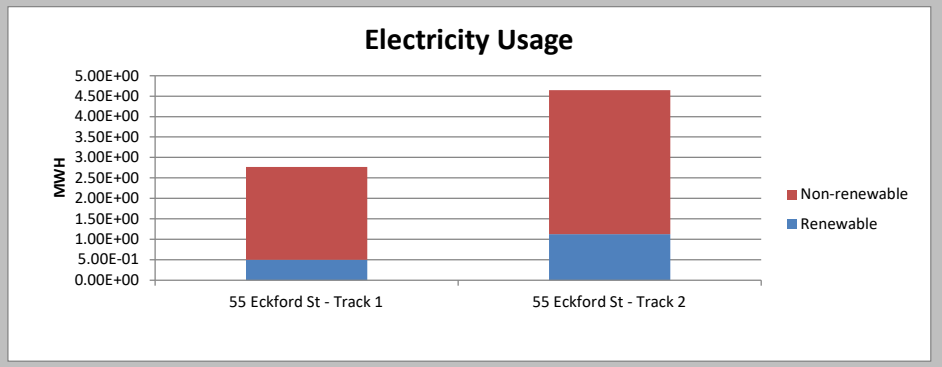

Onsite SOx Emissions
Metric Tons
3.50E-02
3.00E-02
2.50E-02
2.00E-02
1.50E-02
1.00E-02
5.00E-03
0.00E+00
55 Eckford St - Track 1
55 Eckford St - Track 2

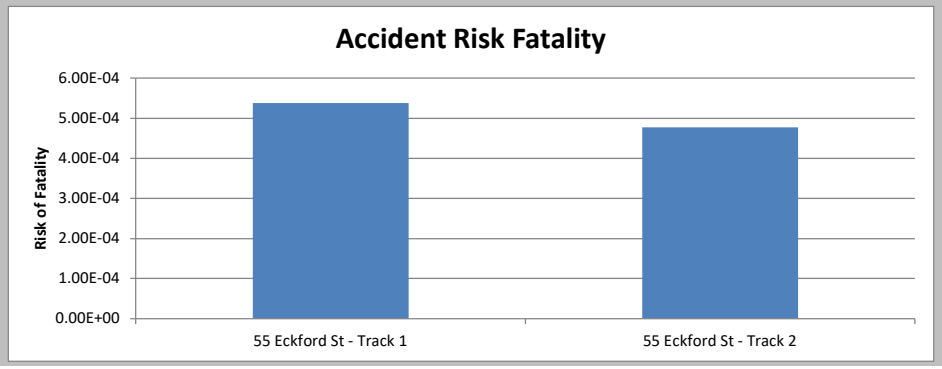

Onsite PM10 Emissions
Metric Tons
1.40E-02
1.20E-02
1.00E-02
8.00E-03
6.00E-03
4.00E-03
2.00E-03
0.00E+00
55 Eckford St - Track 1
55 Eckford St - Track 2

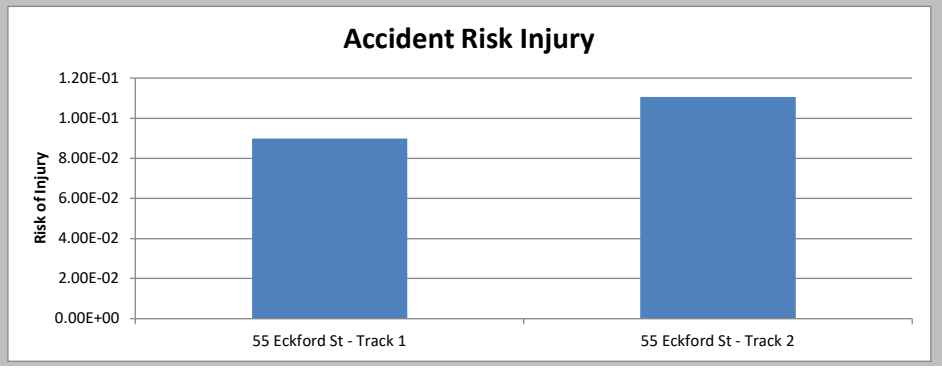

Total NO_x Emissions
Metric Tons
3.50E+00
3.00E+00
2.50E+00
2.00E+00
1.50E+00
1.00E+00
5.00E-01
0.00E+00
55 Eckford St - Track 1
55 Eckford St - Track 2

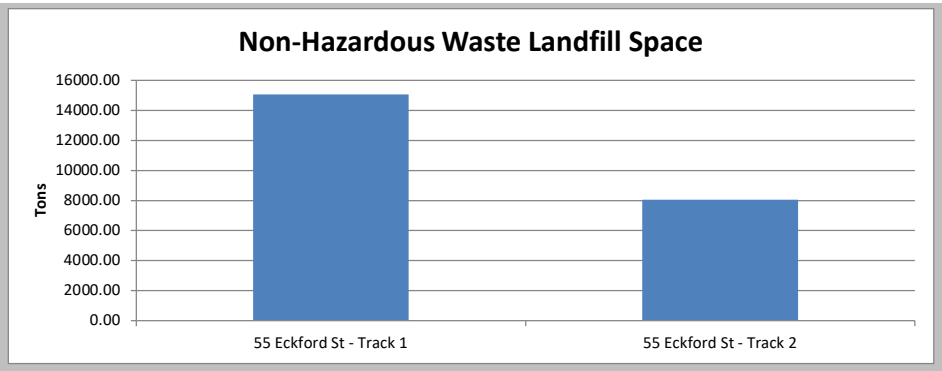

Total SO_x Emissions
Metric Tons
6.00E+00
5.00E+00
4.00E+00
3.00E+00
2.00E+00
1.00E+00
0.00E+00
55 Eckford St - Track 1
55 Eckford St - Track 2

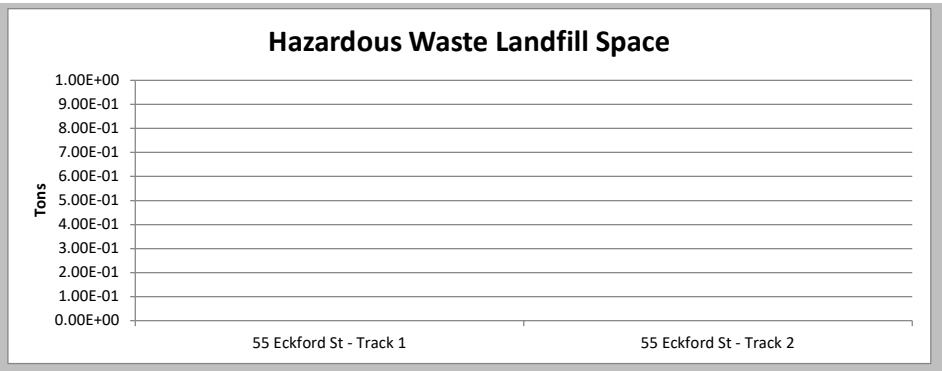

Total PM_{10} Emissions
Metric Tons
3.50E+00
3.00E+00
2.50E+00
2.00E+00
1.50E+00
1.00E+00
5.00E-01
0.00E+00
55 Eckford St - Track 1
55 Eckford St - Track 2

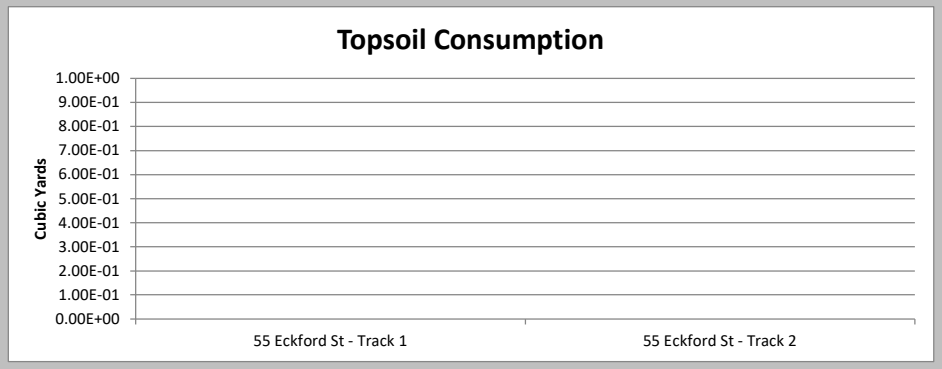

Electricity Usage
MWH
5.00E+00
4.50E+00
4.00E+00
3.50E+00
3.00E+00
2.50E+00
2.00E+00
1.50E+00
1.00E+00
5.00E-01
0.00E+00
55 Eckford St - Track 1
55 Eckford St - Track 2
Non-renewable
Renewable

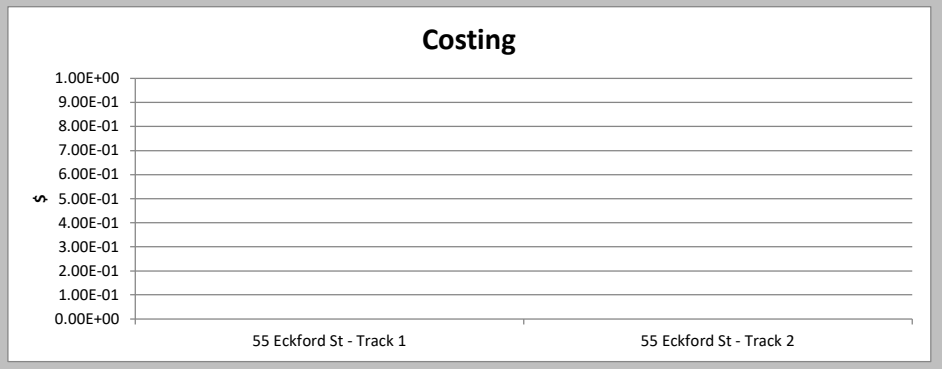

Accident Risk Fatality
Risk of Fatality
6.00E-04
5.00E-04
4.00E-04
3.00E-04
2.00E-04
1.00E-04
0.00E+00
55 Eckford St - Track 1
55 Eckford St - Track 2

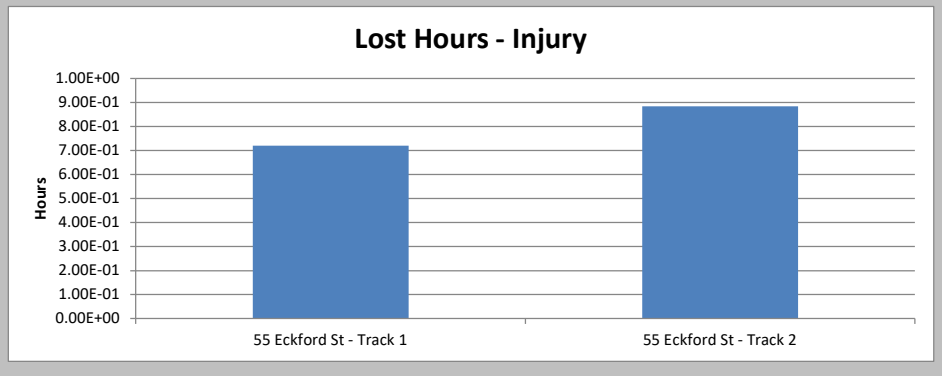

Accident Risk Injury
Risk of Injury
1.20E-01
1.00E-01
8.00E-02
6.00E-02
4.00E-02
2.00E-02
0.00E+00
55 Eckford St - Track 1
55 Eckford St - Track 2

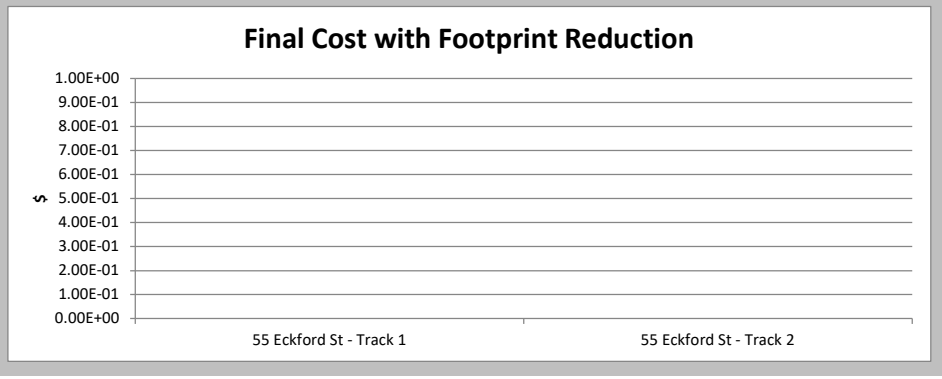

Non-Hazardous Waste Landfill Space
Tons
16000.00
14000.00
12000.00
10000.00
8000.00
6000.00
4000.00
2000.00
0.00
55 Eckford St - Track 1
55 Eckford St - Track 2

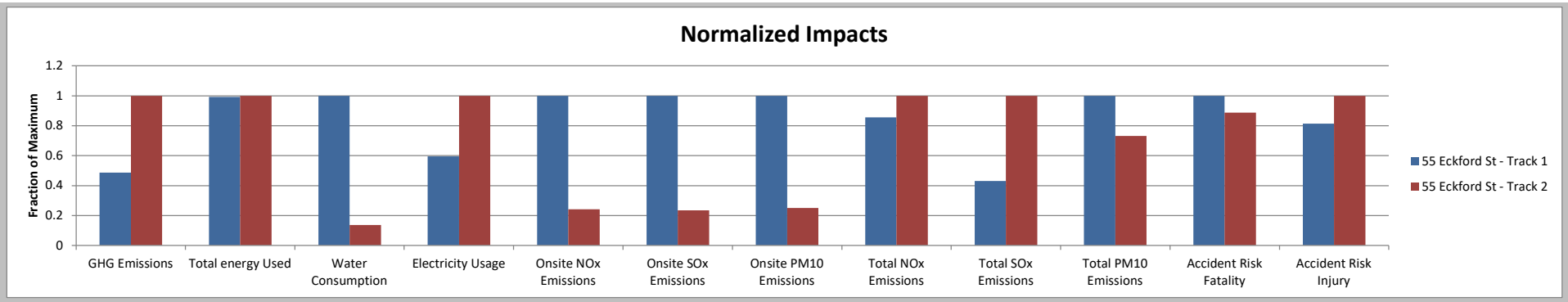

Hazardous Waste Landfill Space
Tons
1.00E+00
9.00E-01
8.00E-01
7.00E-01
6.00E-01
5.00E-01
4.00E-01
3.00E-01
2.00E-01
1.00E-01
0.00E+00
55 Eckford St - Track 1
55 Eckford St - Track 2


Topsoil Consumption
Cubic Yards
1.00E+00
9.00E-01
8.00E-01
7.00E-01
6.00E-01
5.00E-01
4.00E-01
3.00E-01
2.00E-01
1.00E-01
0.00E+00
55 Eckford St - Track 1
55 Eckford St - Track 2


Costing
$
1.00E+00
9.00E-01
8.00E-01
7.00E-01
6.00E-01
5.00E-01
4.00E-01
3.00E-01
2.00E-01
1.00E-01
0.00E+00
55 Eckford St - Track 1
55 Eckford St - Track 2


Lost Hours - Injury
Hours
1.00E+00
9.00E-01
8.00E-01
7.00E-01
6.00E-01
5.00E-01
4.00E-01
3.00E-01
2.00E-01
1.00E-01
0.00E+00
55 Eckford St - Track 1
55 Eckford St - Track 2


Final Cost with Footprint Reduction
$
1.00E+00
9.00E-01
8.00E-01
7.00E-01
6.00E-01
5.00E-01
4.00E-01
3.00E-01
2.00E-01
1.00E-01
0.00E+00
55 Eckford St - Track 1
55 Eckford St - Track 2

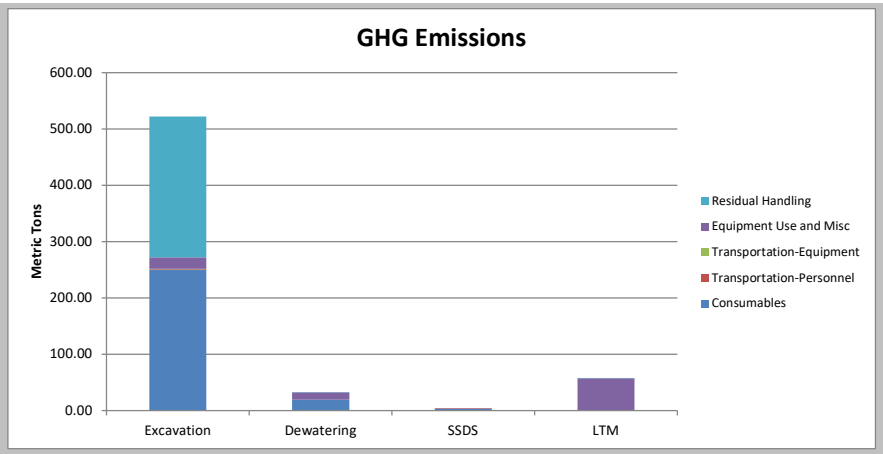

Normalized Impacts
Fraction of Maximum
1.2
1
0.8
0.6
0.4
0.2
0
GHG Emissions
Total energy Used
Water Consumption
Electricity Usage
Onsite NOx Emissions
Onsite SOx Emissions
Onsite PM10 Emissions
Total NOx Emissions
Total SOx Emissions
Total PM10 Emissions
Accident Risk Fatality
Accident Risk Injury
55 Eckford St - Track 1
55 Eckford St - Track 2

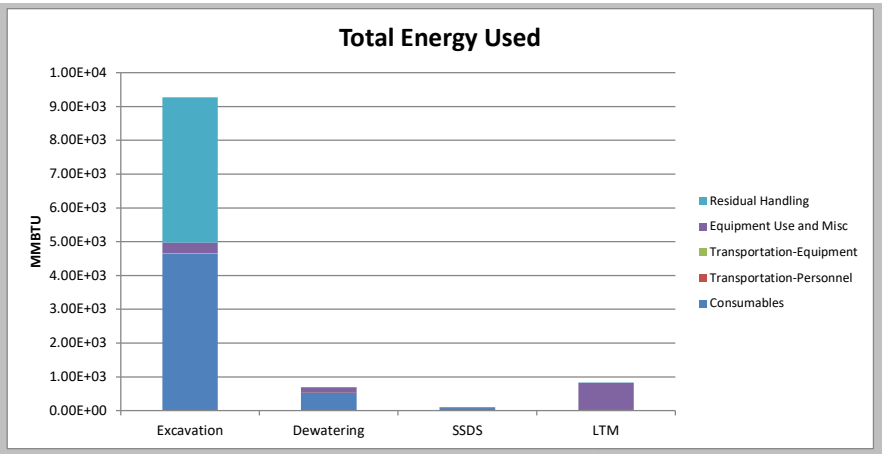
Track 1 Alternative

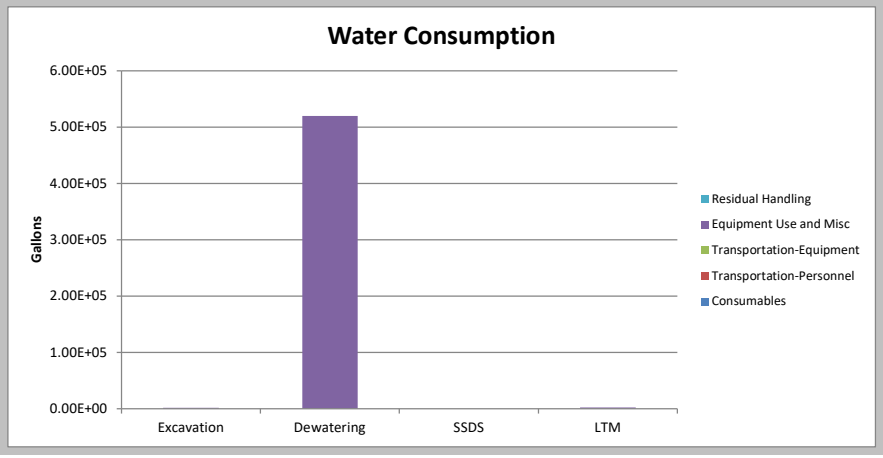
Sustainable Remediation - Environmental Footprint Summary
55 Eckford St - Track 1

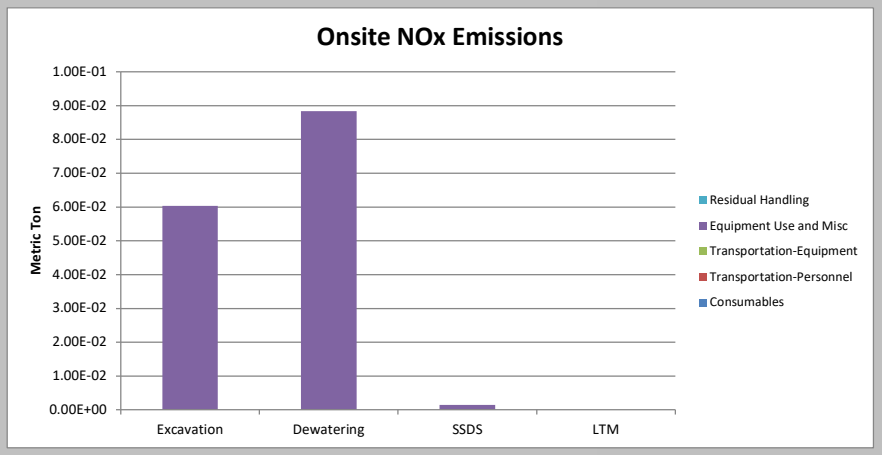
Phase	Activities	GHG Emissions	Total Energy Used	Water Consumption	Electricity Usage	Onsite NOx Emissions	Onsite SOx Emissions	Onsite PM10 Emissions	Total NOx Emissions	Total SOx Emissions	Total PM10 Emissions	Accident Risk Fatality	Accident Risk Injury
		metric ton	MMBTU	gallons	MWH	metric ton	metric ton	metric ton	metric ton	metric ton	metric ton		
Excavation	Consumables	250.01	4.6E+03	NA	NA	NA	NA	NA	1.0E+00	1.3E+00	5.0E-01	NA	NA
	Transportation-Personnel	0.88	1.1E+01	NA	NA	NA	NA	NA	3.4E-04	6.2E-05	5.6E-05	2.1E-05	1.7E-03
	Transportation-Equipment	0.80	1.0E+01	NA	NA	NA	NA	NA	2.5E-04	4.4E-06	6.7E-06	1.6E-06	1.3E-04
	Equipment Use and Misc	20.52	3.2E+02	1.5E+03	8.7E-03	6.0E-02	1.4E-02	1.3E-03	1.2E-01	5.8E-02	6.9E-03	1.5E-04	3.9E-02
	Residual Handling	250.10	4.3E+03	NA	NA	0.0E+00	0.0E+00	0.0E+00	9.8E-01	5.1E-01	2.7E+00	2.6E-04	2.1E-02
	Sub-Total	522.30	9.27E+03	1.50E+03	8.69E-03	6.03E-02	1.44E-02	1.32E-03	2.10E+00	1.82E+00	3.24E+00	4.26E-04	6.19E-02
Dewatering	Consumables	18.98	5.2E+02	NA	NA	NA	NA	NA	2.1E-02	3.3E-02	4.5E-03	NA	NA
	Transportation-Personnel	0.06	7.0E-01	NA	NA	NA	NA	NA	2.3E-05	7.2E-07	3.3E-06	1.6E-06	1.3E-04
	Transportation-Equipment	0.39	5.2E+00	NA	NA	NA	NA	NA	1.2E-04	2.7E-06	4.6E-06	1.2E-06	9.4E-05
	Equipment Use and Misc	13.29	1.6E+02	5.2E+05	2.8E+00	8.8E-02	1.7E-02	1.1E-02	1.0E-01	2.9E-02	1.3E-02	4.4E-06	1.4E-03
	Residual Handling	0.11	1.6E+00	NA	NA	0.0E+00	0.0E+00	0.0E+00	1.7E-04	7.9E-05	4.2E-04	4.4E-07	3.5E-05
	Sub-Total	32.82	6.92E+02	5.20E+05	2.76E+00	8.84E-02	1.70E-02	1.07E-02	1.26E-01	6.17E-02	1.80E-02	7.53E-06	1.63E-03
SSDS	Consumables	3.00	7.9E+01	NA	NA	NA	NA	NA	7.1E-03	1.2E-02	2.1E-03	NA	NA
	Transportation-Personnel	0.81	1.0E+01	NA	NA	NA	NA	NA	2.8E-04	1.9E-04	4.4E-05	1.8E-05	1.5E-03
	Transportation-Equipment	0.00	0.0E+00	NA	NA	NA	NA	NA	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	Equipment Use and Misc	0.88	1.4E+01	0.0E+00	0.0E+00	1.5E-03	3.9E-04	4.2E-05	4.7E-03	2.7E-03	3.2E-04	7.2E-05	2.1E-02
	Residual Handling	0.00	0.0E+00	NA	NA	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	Sub-Total	4.69	1.03E+02	0.00E+00	0.00E+00	1.50E-03	3.87E-04	4.22E-05	1.20E-02	1.48E-02	2.47E-03	8.97E-05	2.21E-02
LTM	Consumables	0.19	8.1E+00	NA	NA	NA	NA	NA	5.6E-04	9.3E-04	1.9E-04	NA	NA
	Transportation-Personnel	0.53	6.7E+00	NA	NA	NA	NA	NA	1.6E-04	7.0E-06	3.3E-05	9.0E-06	7.3E-04
	Transportation-Equipment	0.00	0.0E+00	NA	NA	NA	NA	NA	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	Equipment Use and Misc	56.86	8.1E+02	1.9E+03	3.1E-03	0.0E+00	0.0E+00	0.0E+00	2.7E-01	2.0E-01	2.3E-02	2.7E-06	3.3E-03
	Residual Handling	0.57	7.4E+00	NA	NA	0.0E+00	0.0E+00	0.0E+00	1.8E-04	6.5E-06	2.3E-05	3.1E-06	2.5E-04
	Sub-Total	58.15	8.36E+02	1.92E+03	3.10E-03	0.00E+00	0.00E+00	0.00E+00	2.74E-01	2.06E-01	2.30E-02	1.49E-05	4.28E-03
Total		**6.2E+02**	**1.1E+04**	**5.2E+05**	**2.8E+00**	**1.5E-01**	**3.2E-02**	**1.2E-02**	**2.5E+00**	**2.1E+00**	**3.3E+00**	**5.4E-04**	**9.0E-02**

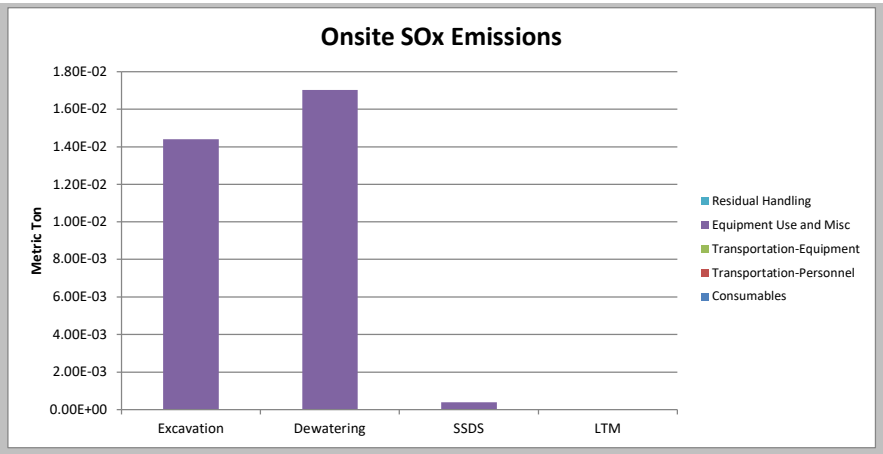
Remedial Alternative Phase	Non-Hazardous Waste Landfill Space	Hazardous Waste Landfill Space	Topsoil Consumption	Costing	Lost Hours - Injury	Percent electricity from renewable sources	Total Cost with Footprint Reduction
	tons	tons	cubic yards	$		%	
Excavation	1.5E+04	0.0E+00	0.0E+00	0	5.0E-01	24.2%	$0
Dewatering	2.3E+00	0.0E+00	0.0E+00	0	1.3E-02	24.2%	
SSDS	0.0E+00	0.0E+00	0.0E+00	0	1.8E-01	0.0%	
LTM	1.0E-01	0.0E+00	0.0E+00	0	3.4E-02	24.2%	
Total	**1.5E+04**	**0.0E+00**	**0.0E+00**	**$0**	**7.2E-01**	**18.2%**	

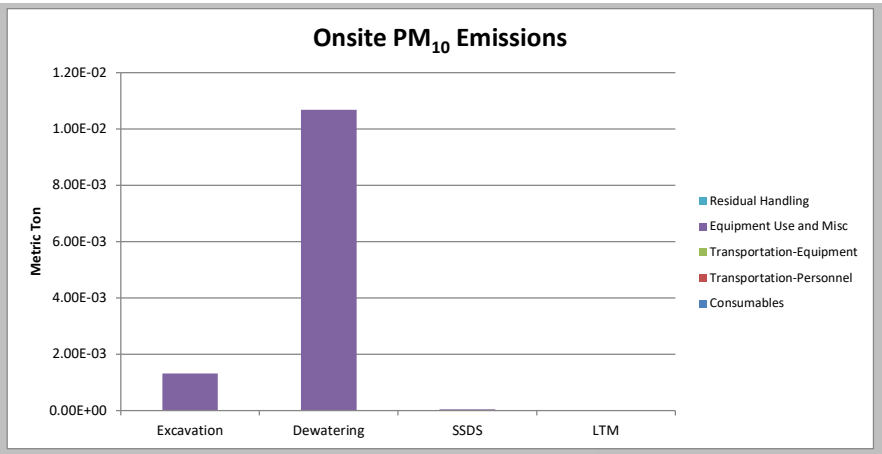

GHG Emissions
Metric Tons
600.00
500.00
400.00
300.00
200.00
100.00
0.00
Excavation
Dewatering
SSDS
LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

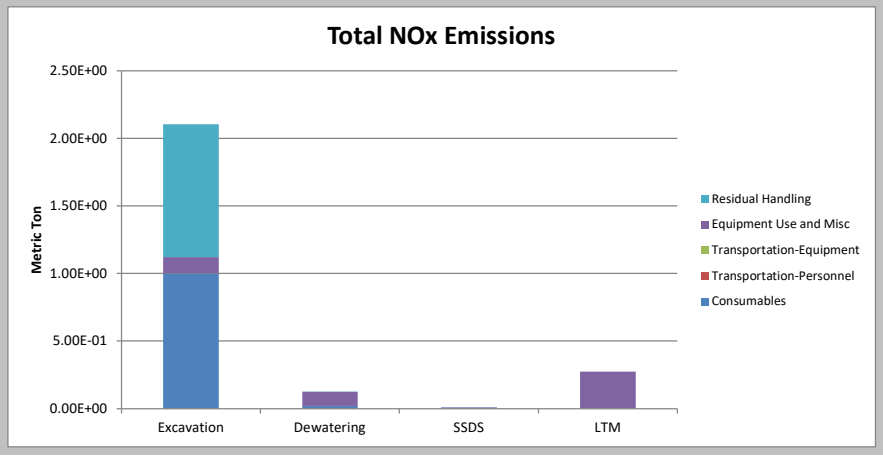

Total Energy Used
MMBTU
1.00E+04
9.00E+03
8.00E+03
7.00E+03
6.00E+03
5.00E+03
4.00E+03
3.00E+03
2.00E+03
1.00E+03
0.00E+00
Excavation
Dewatering
SSDS
LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

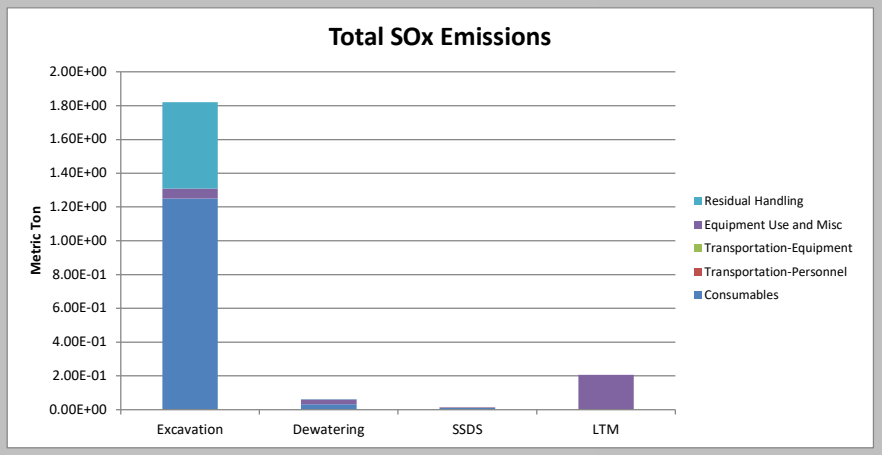

Water Consumption
Gallons
6.00E+05
5.00E+05
4.00E+05
3.00E+05
2.00E+05
1.00E+05
0.00E+00
Excavation
Dewatering
SSDS
LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

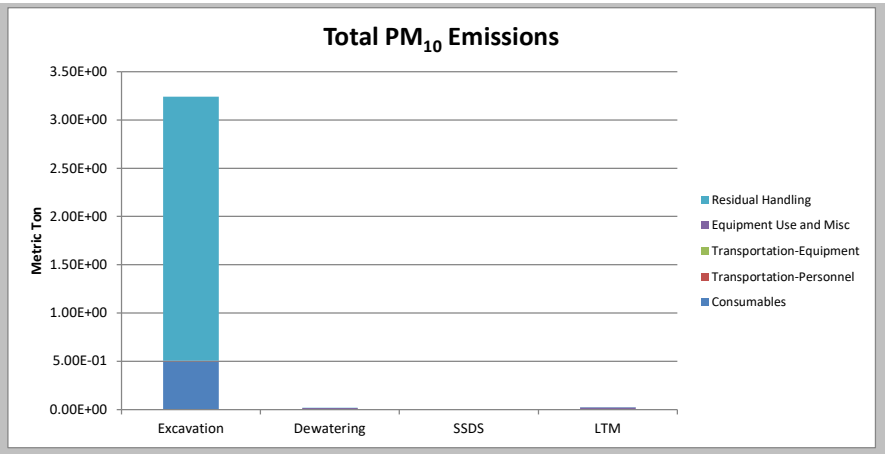

Onsite NOx Emissions
Metric Ton
1.00E-01
9.00E-02
8.00E-02
7.00E-02
6.00E-02
5.00E-02
4.00E-02
3.00E-02
2.00E-02
1.00E-02
0.00E+00
Excavation
Dewatering
SSDS
LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

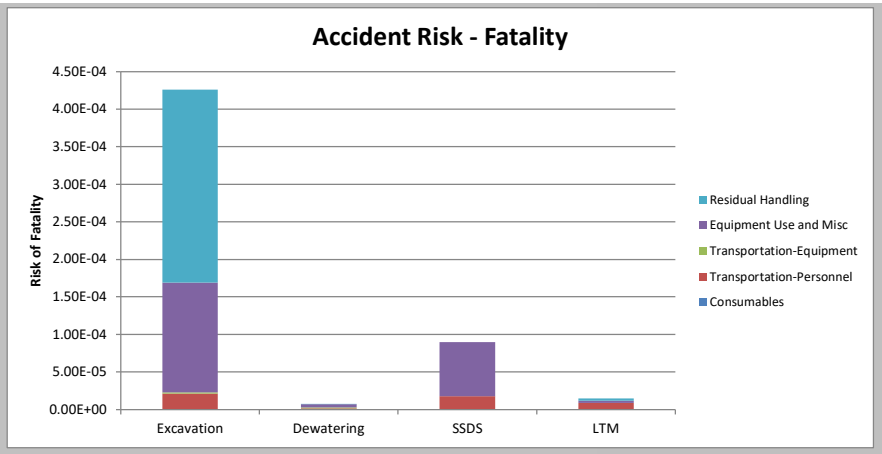

Onsite SOx Emissions
Metric Ton
1.80E-02
1.60E-02
1.40E-02
1.20E-02
1.00E-02
8.00E-03
6.00E-03
4.00E-03
2.00E-03
0.00E+00
Excavation
Dewatering
SSDS
LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

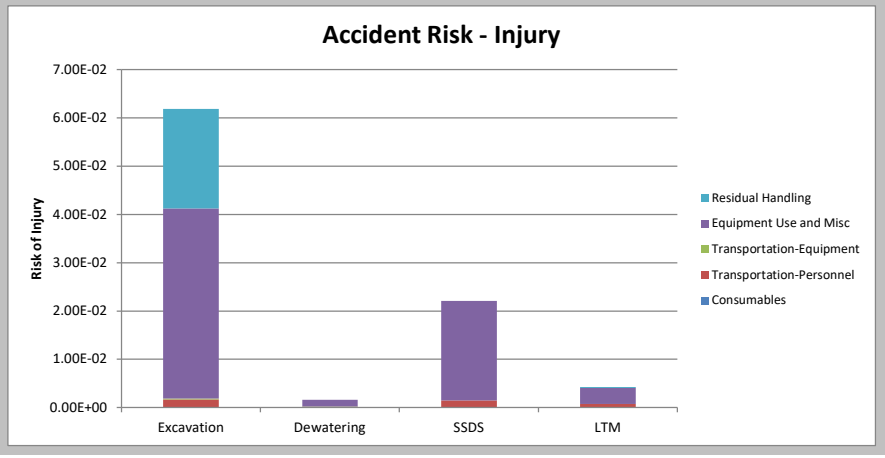

Onsite PM10 Emissions
Metric Ton
1.20E-02
1.00E-02
8.00E-03
6.00E-03
4.00E-03
2.00E-03
0.00E+00
Excavation
Dewatering
SSDS
LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

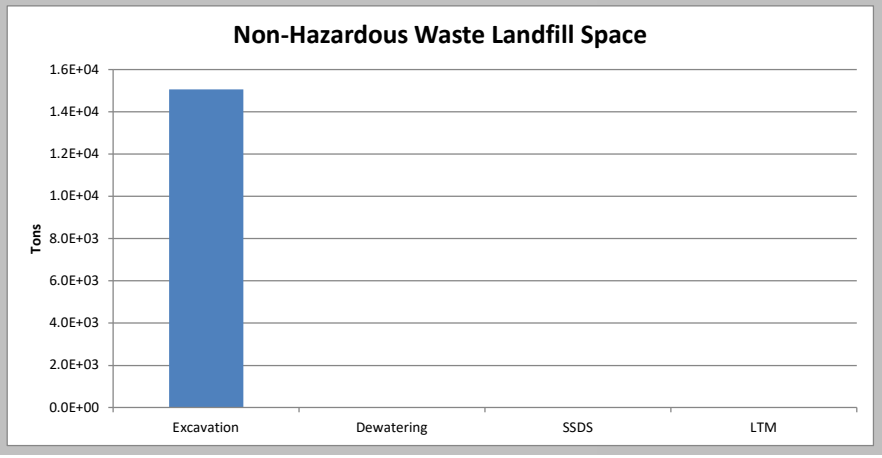

Total NOx Emissions
Metric Ton
2.50E+00
2.00E+00
1.50E+00
1.00E+00
5.00E-01
0.00E+00
Excavation
Dewatering
SSDS
LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

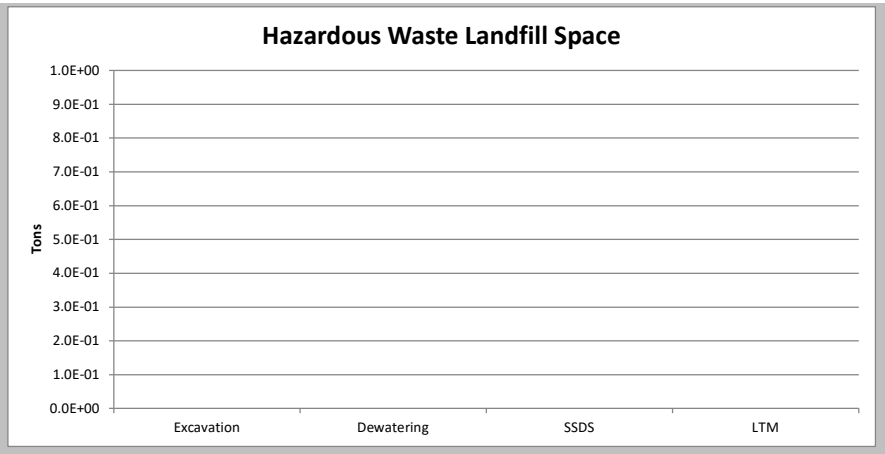

Total SOx Emissions
Metric Ton
2.00E+00
1.80E+00
1.60E+00
1.40E+00
1.20E+00
1.00E+00
8.00E-01
6.00E-01
4.00E-01
2.00E-01
0.00E+00
Excavation
Dewatering
SSDS
LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

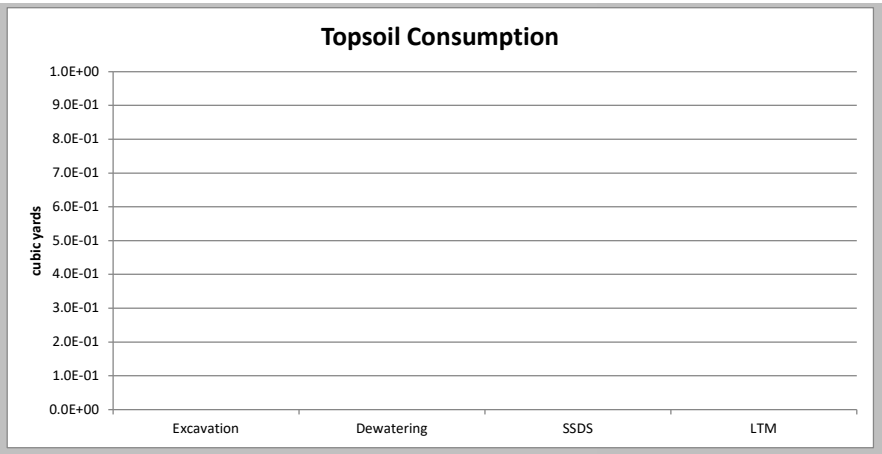

Total PM10 Emissions
Metric Ton
3.50E+00
3.00E+00
2.50E+00
2.00E+00
1.50E+00
1.00E+00
5.00E-01
0.00E+00
Excavation
Dewatering
SSDS
LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

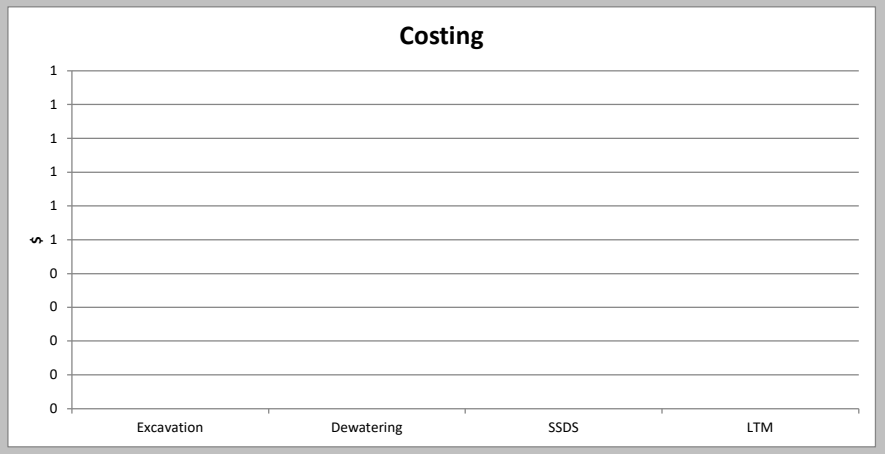

Accident Risk - Fatality
Risk of Fatality
4.50E-04
4.00E-04
3.50E-04
3.00E-04
2.50E-04
2.00E-04
1.50E-04
1.00E-04
5.00E-05
0.00E+00
Excavation
Dewatering
SSDS
LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

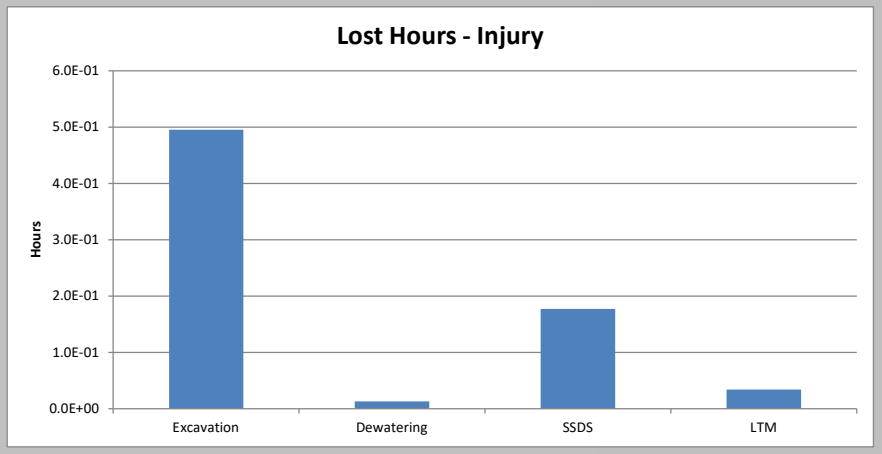

Accident Risk - Injury
Risk of Injury
7.00E-02
6.00E-02
5.00E-02
4.00E-02
3.00E-02
2.00E-02
1.00E-02
0.00E+00
Excavation
Dewatering
SSDS
LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables


Non-Hazardous Waste Landfill Space
Tons
1.6E+04
1.4E+04
1.2E+04
1.0E+04
8.0E+03
6.0E+03
4.0E+03
2.0E+03
0.0E+00
Excavation
Dewatering
SSDS
LTM


Hazardous Waste Landfill Space
1.0E+00
9.0E-01
8.0E-01
7.0E-01
6.0E-01
5.0E-01
4.0E-01
3.0E-01
2.0E-01
1.0E-01
0.0E+00
Tons
Excavation
Dewatering
SSDS
LTM


Topsoil Consumption
1.0E+00
9.0E-01
8.0E-01
7.0E-01
6.0E-01
5.0E-01
4.0E-01
3.0E-01
2.0E-01
1.0E-01
0.0E+00
cubic yards
Excavation
Dewatering
SSDS
LTM


Costing
1
1
1
1
1
1
0
0
0
0
0
$
Excavation
Dewatering
SSDS
LTM

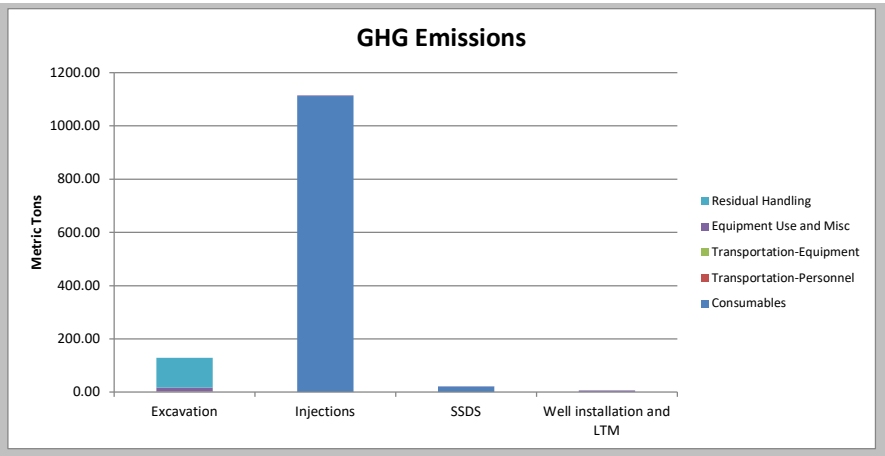

Lost Hours - Injury
6.0E-01
5.0E-01
4.0E-01
3.0E-01
2.0E-01
1.0E-01
0.0E+00
Hours
Excavation
Dewatering
SSDS
LTM

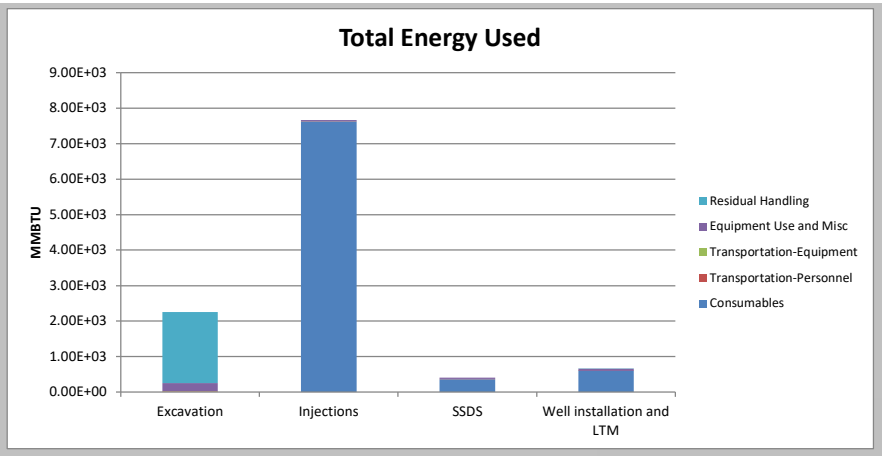
Track 2 Alternative

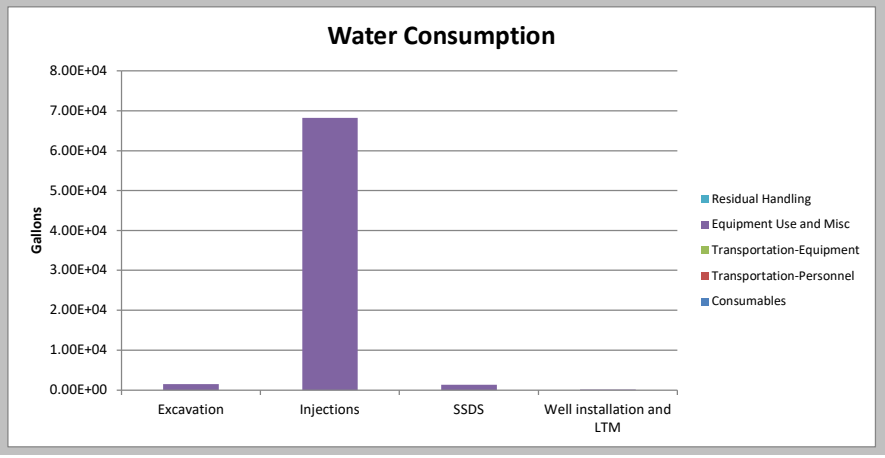
Sustainable Remediation - Environmental Footprint Summary
55 Eckford St - Track 2

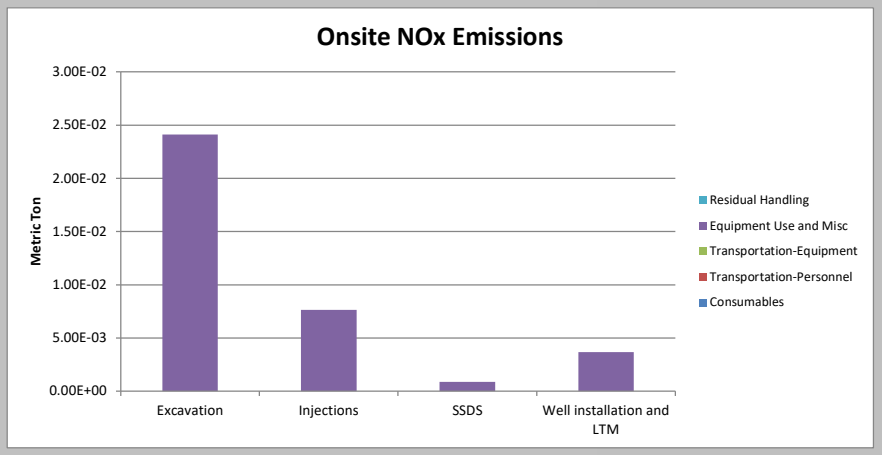
Phase	Activities	GHG Emissions	Total Energy Used	Water Consumption	Electricity Usage	Onsite NOx Emissions	Onsite SOx Emissions	Onsite PM10 Emissions	Total NOx Emissions	Total SOx Emissions	Total PM10 Emissions	Accident Risk Fatality	Accident Risk Injury
		metric ton	MMBTU	gallons	MWH	metric ton	metric ton	metric ton	metric ton	metric ton	metric ton		
Excavation	Consumables	0.00	0.0E+00	NA	NA	NA	NA	NA	0.0E+00	0.0E+00	0.0E+00	NA	NA
	Transportation-Personnel	1.76	2.2E+01	NA	NA	NA	NA	NA	6.7E-04	1.2E-04	1.1E-04	4.2E-05	3.4E-03
	Transportation-Equipment	0.80	1.0E+01	NA	NA	NA	NA	NA	2.5E-04	4.4E-06	6.7E-06	1.6E-06	1.3E-04
	Equipment Use and Misc	15.07	2.2E+02	1.5E+03	8.7E-03	2.4E-02	6.1E-03	6.5E-04	8.0E-02	4.8E-02	5.5E-03	2.3E-04	6.2E-02
	Residual Handling	110.92	2.0E+03	NA	NA	0.0E+00	0.0E+00	0.0E+00	5.2E-01	2.7E-01	1.5E+00	6.3E-05	5.1E-03
	Sub-Total	128.54	2.25E+03	1.50E+03	8.69E-03	2.41E-02	6.15E-03	6.53E-04	6.00E-01	3.23E-01	1.47E+00	3.37E-04	7.06E-02
Injections	Consumables	1,111.94	7.6E+03	NA	NA	NA	NA	NA	2.2E+00	4.4E+00	8.9E-01	NA	NA
	Transportation-Personnel	0.47	5.9E+00	NA	NA	NA	NA	NA	1.8E-04	3.6E-05	2.9E-05	1.6E-05	1.3E-03
	Transportation-Equipment	0.36	4.7E+00	NA	NA	NA	NA	NA	1.1E-04	2.0E-06	3.0E-06	7.8E-07	6.3E-05
	Equipment Use and Misc	1.78	2.7E+01	6.8E+04	2.0E+00	7.6E-03	7.6E-04	2.0E-03	9.1E-03	2.1E-03	3.0E-03	2.8E-05	1.1E-02
	Residual Handling	0.00	0.0E+00	NA	NA	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	Sub-Total	1,114.54	7.67E+03	6.82E+04	2.01E+00	7.64E-03	7.56E-04	1.99E-03	2.23E+00	4.45E+00	8.93E-01	4.49E-05	1.23E-02
SSDS	Consumables	19.87	3.6E+02	NA	NA	NA	NA	NA	7.3E-02	9.5E-02	3.5E-02	NA	NA
	Transportation-Personnel	0.81	1.0E+01	NA	NA	NA	NA	NA	2.8E-04	1.9E-04	4.4E-05	1.8E-05	1.5E-03
	Transportation-Equipment	0.00	0.0E+00	NA	NA	NA	NA	NA	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	Equipment Use and Misc	1.77	3.3E+01	1.3E+03	2.6E+00	8.7E-04	1.8E-04	5.0E-05	5.7E-03	4.2E-03	9.9E-04	7.2E-05	2.1E-02
	Residual Handling	0.00	0.0E+00	NA	NA	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	Sub-Total	22.45	4.06E+02	1.34E+03	2.63E+00	8.71E-04	1.78E-04	5.05E-05	7.94E-02	9.98E-02	3.60E-02	9.02E-05	2.22E-02
Well installation and LTM	Consumables	0.97	6.0E+02	NA	NA	NA	NA	NA	1.6E-03	2.3E-03	3.6E-04	NA	NA
	Transportation-Personnel	0.01	1.7E-01	NA	NA	NA	NA	NA	4.2E-06	1.8E-07	8.6E-07	2.3E-07	1.9E-05
	Transportation-Equipment	0.08	1.1E+00	NA	NA	NA	NA	NA	2.6E-05	1.0E-06	2.1E-06	4.3E-07	3.5E-05
	Equipment Use and Misc	4.55	6.4E+01	1.6E+02	1.7E-04	3.7E-03	3.7E-04	3.3E-04	2.4E-02	1.5E-02	2.0E-03	4.7E-06	5.4E-03
	Residual Handling	0.06	7.6E-01	NA	NA	0.0E+00	0.0E+00	0.0E+00	2.4E-05	3.7E-06	1.9E-05	3.1E-07	2.5E-05
	Sub-Total	5.67	6.62E+02	1.60E+02	1.68E-04	3.65E-03	3.73E-04	3.29E-04	2.55E-02	1.78E-02	2.40E-03	5.71E-06	5.46E-03
Total		**1.3E+03**	**1.1E+04**	**7.1E+04**	**4.7E+00**	**3.6E-02**	**7.5E-03**	**3.0E-03**	**2.9E+00**	**4.9E+00**	**2.4E+00**	**4.8E-04**	**1.1E-01**

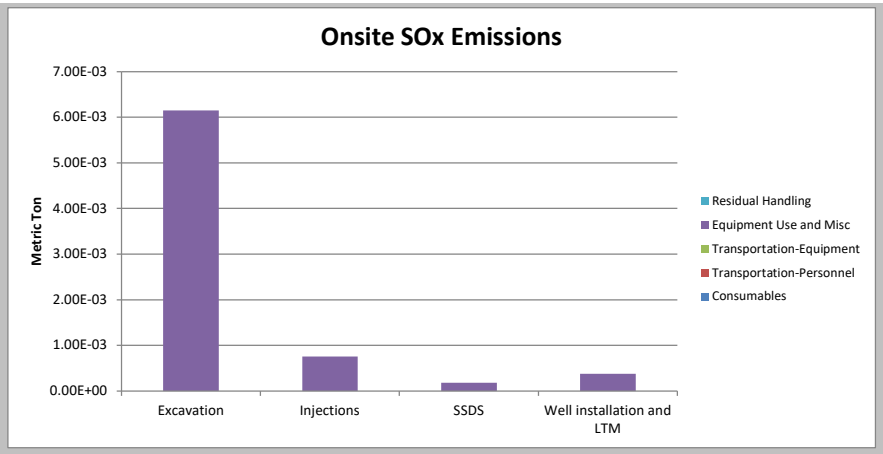
Remedial Alternative Phase	Non-Hazardous Waste Landfill Space	Hazardous Waste Landfill Space	Topsoil Consumption	Costing	Lost Hours - Injury	Percent electricity from renewable sources	Total Cost with Footprint Reduction
	tons	tons	cubic yards	$		%	
Excavation	8.1E+03	0.0E+00	0.0E+00	0	5.6E-01	24.2%	$0
Injections	0.0E+00	0.0E+00	0.0E+00	0	9.8E-02	24.2%	
SSDS	0.0E+00	0.0E+00	0.0E+00	0	1.8E-01	24.2%	
Well installation and LTM	1.0E-01	0.0E+00	0.0E+00	0	4.4E-02	24.2%	
Total	**8.1E+03**	**0.0E+00**	**0.0E+00**	**$0**	**8.8E-01**	**24.2%**	

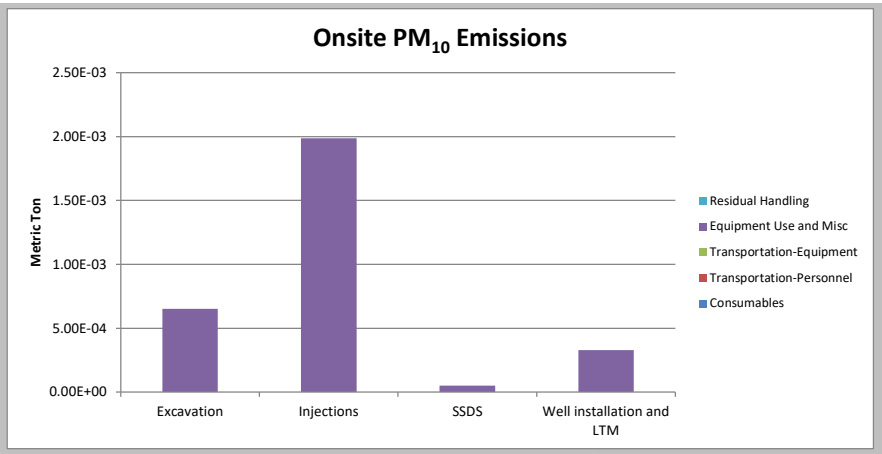

GHG Emissions
Metric Tons
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
Excavation
Injections
SSDS
Well installation and LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

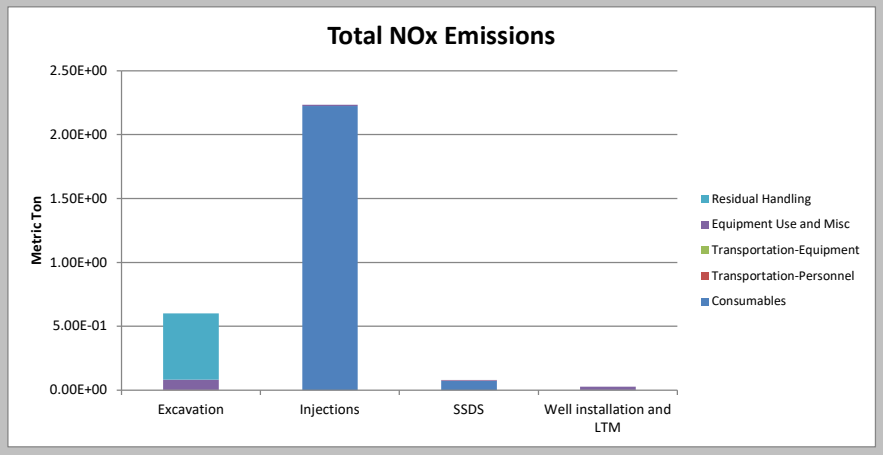

Total Energy Used
MMBTU
9.00E+03
8.00E+03
7.00E+03
6.00E+03
5.00E+03
4.00E+03
3.00E+03
2.00E+03
1.00E+03
0.00E+00
Excavation
Injections
SSDS
Well installation and LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

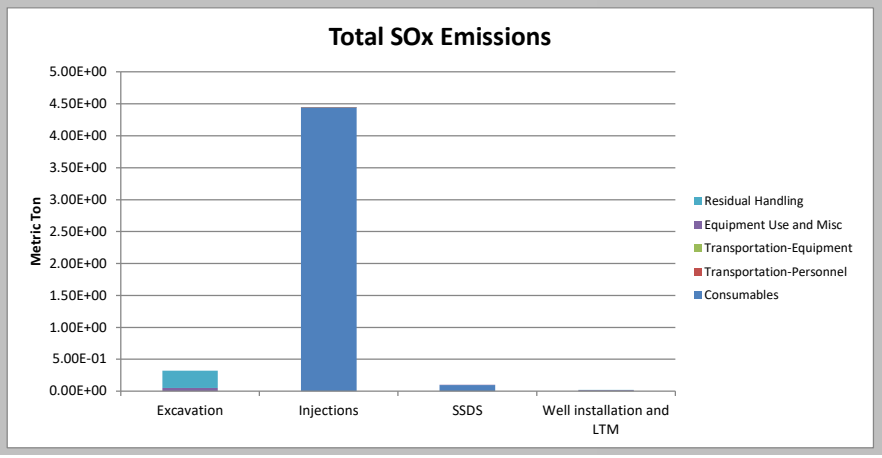

Water Consumption
Gallons
8.00E+04
7.00E+04
6.00E+04
5.00E+04
4.00E+04
3.00E+04
2.00E+04
1.00E+04
0.00E+00
Excavation
Injections
SSDS
Well installation and LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

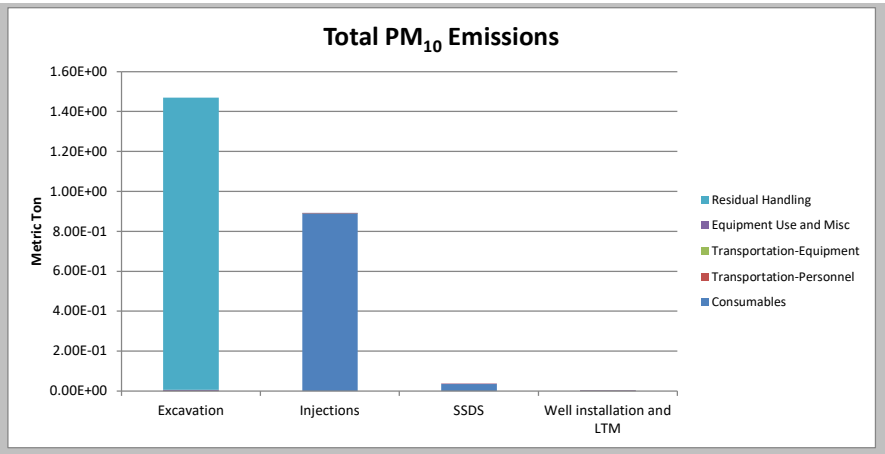

Onsite NOx Emissions
Metric Ton
3.00E-02
2.50E-02
2.00E-02
1.50E-02
1.00E-02
5.00E-03
0.00E+00
Excavation
Injections
SSDS
Well installation and LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

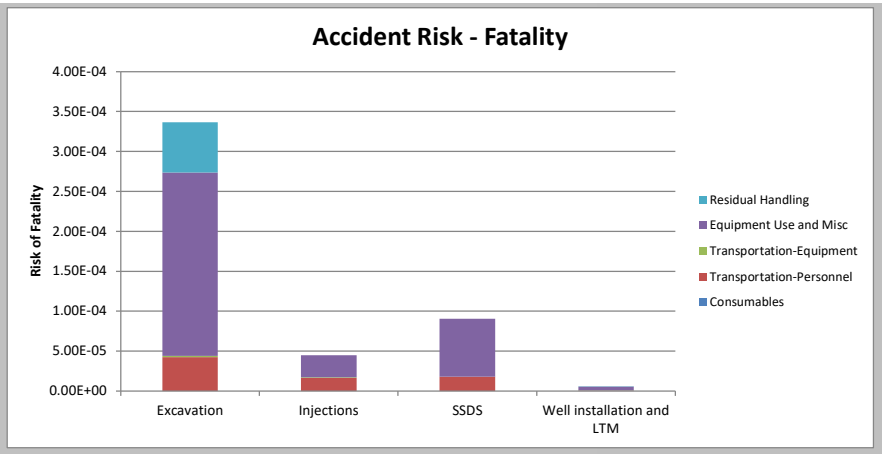

Onsite SOx Emissions
Metric Ton
7.00E-03
6.00E-03
5.00E-03
4.00E-03
3.00E-03
2.00E-03
1.00E-03
0.00E+00
Excavation
Injections
SSDS
Well installation and LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

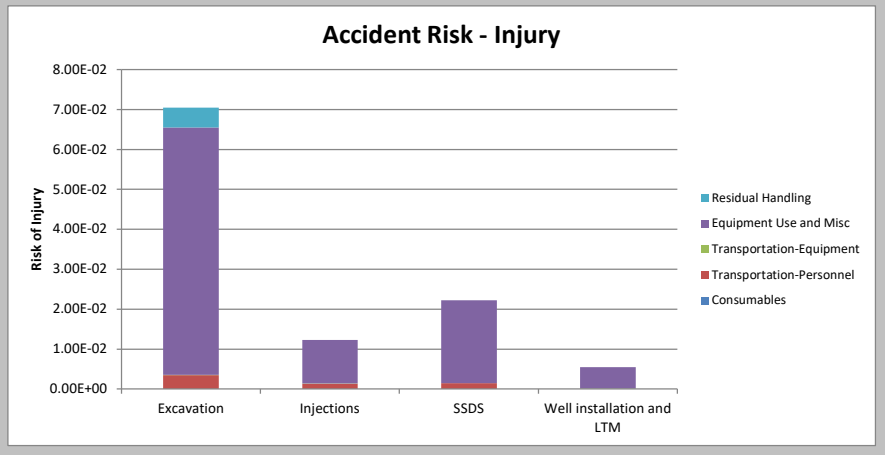

Onsite PM10 Emissions
Metric Ton
2.50E-03
2.00E-03
1.50E-03
1.00E-03
5.00E-04
0.00E+00
Excavation
Injections
SSDS
Well installation and LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

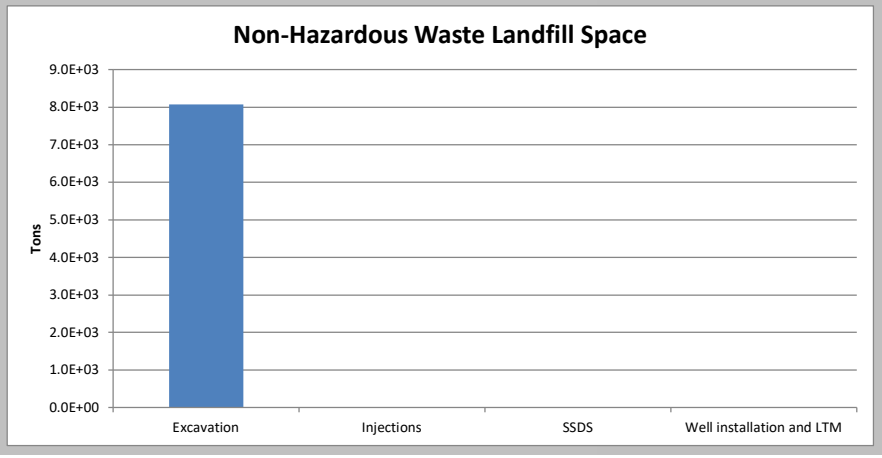

Total NOx Emissions
Metric Ton
2.50E+00
2.00E+00
1.50E+00
1.00E+00
5.00E-01
0.00E+00
Excavation
Injections
SSDS
Well installation and LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

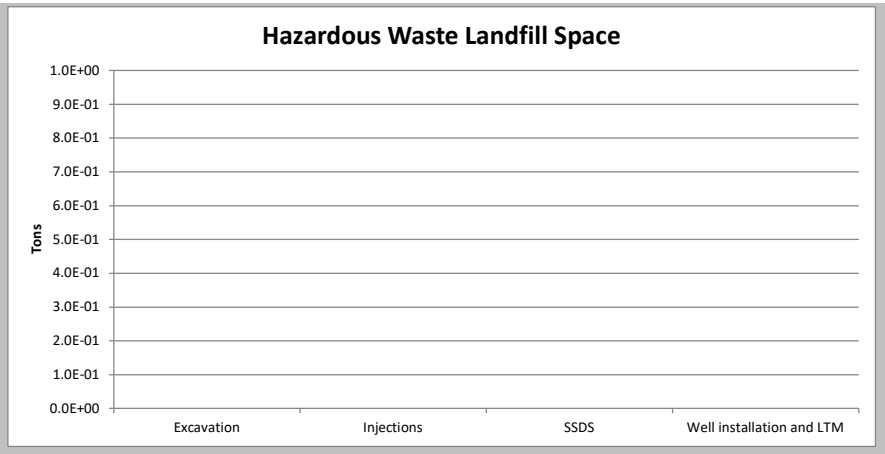

Total SOx Emissions
Metric Ton
5.00E+00
4.50E+00
4.00E+00
3.50E+00
3.00E+00
2.50E+00
2.00E+00
1.50E+00
1.00E+00
5.00E-01
0.00E+00
Excavation
Injections
SSDS
Well installation and LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

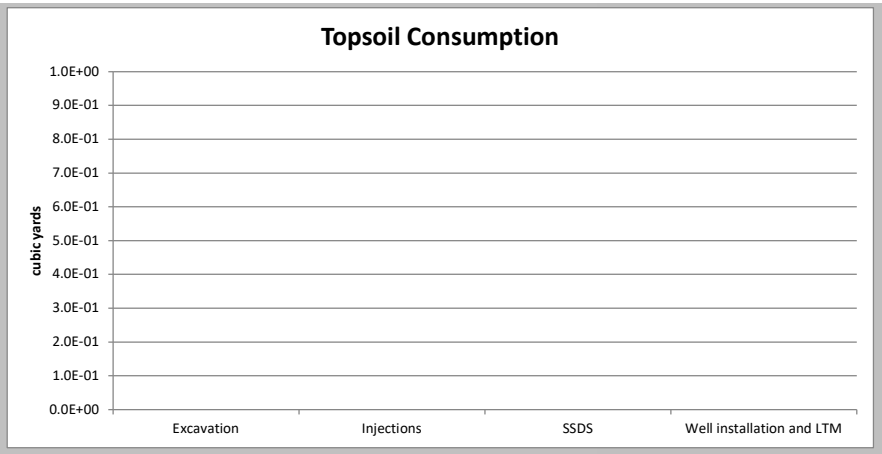

Total PM10 Emissions
Metric Ton
1.60E+00
1.40E+00
1.20E+00
1.00E+00
8.00E-01
6.00E-01
4.00E-01
2.00E-01
0.00E+00
Excavation
Injections
SSDS
Well installation and LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

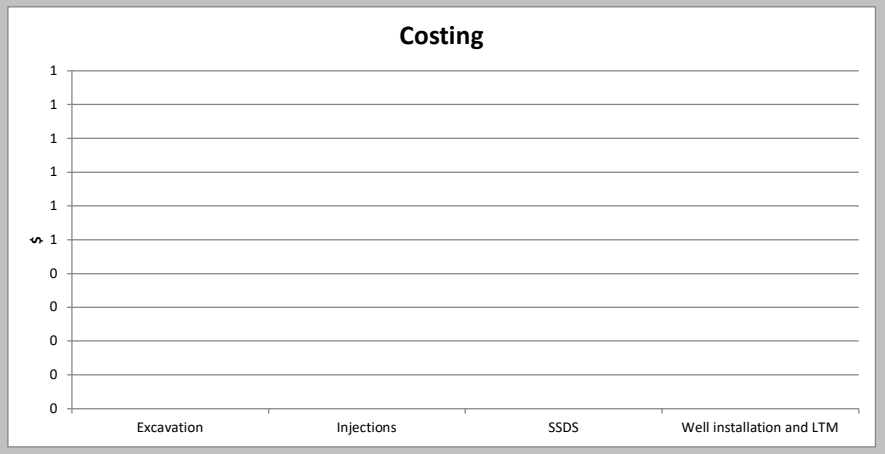

Accident Risk - Fatality
Risk of Fatality
4.00E-04
3.50E-04
3.00E-04
2.50E-04
2.00E-04
1.50E-04
1.00E-04
5.00E-05
0.00E+00
Excavation
Injections
SSDS
Well installation and LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables

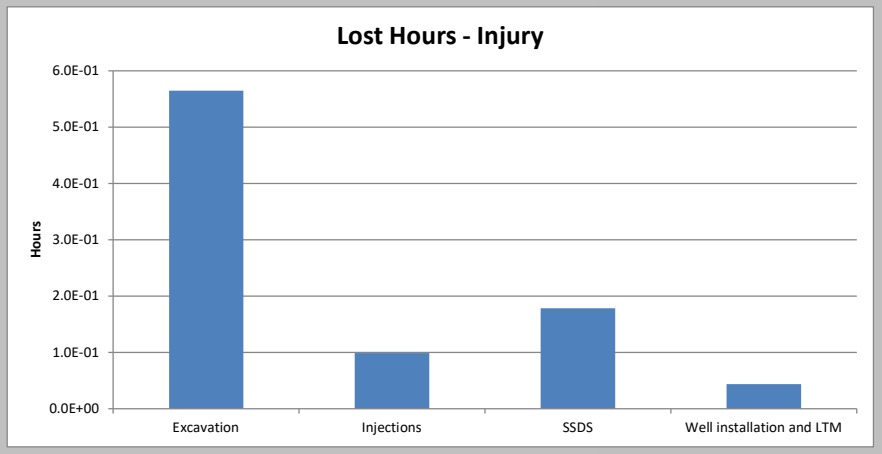

Accident Risk - Injury
Risk of Injury
8.00E-02
7.00E-02
6.00E-02
5.00E-02
4.00E-02
3.00E-02
2.00E-02
1.00E-02
0.00E+00
Excavation
Injections
SSDS
Well installation and LTM
Residual Handling
Equipment Use and Misc
Transportation-Equipment
Transportation-Personnel
Consumables


Non-Hazardous Waste Landfill Space
Tons
9.0E+03
8.0E+03
7.0E+03
6.0E+03
5.0E+03
4.0E+03
3.0E+03
2.0E+03
1.0E+03
0.0E+00
Excavation
Injections
SSDS
Well installation and LTM


Hazardous Waste Landfill Space
1.0E+00
9.0E-01
8.0E-01
7.0E-01
6.0E-01
5.0E-01
4.0E-01
3.0E-01
2.0E-01
1.0E-01
0.0E+00
Tons
Excavation
Injections
SSDS
Well installation and LTM


Topsoil Consumption
1.0E+00
9.0E-01
8.0E-01
7.0E-01
6.0E-01
5.0E-01
4.0E-01
3.0E-01
2.0E-01
1.0E-01
0.0E+00
cubic yards
Excavation
Injections
SSDS
Well installation and LTM


Costing
1
1
1
1
1
1
0
0
0
0
0
$
Excavation
Injections
SSDS
Well installation and LTM


Lost Hours - Injury
6.0E-01
5.0E-01
4.0E-01
3.0E-01
2.0E-01
1.0E-01
0.0E+00
Hours
Excavation
Injections
SSDS
Well installation and LTM

Attachment 2 – Climate Screening Checklist

Climate Screening Checklist

Background

- Project Manager: Victoria Whelan
- Site Name: 55 Eckford St LLC
- Site Number: C224168
- Site Location: 55 Eckford Street, Brooklyn NY
- 

  Site Elevation (average above sea level): Approximately 15 feet above sea level (from 2025 Site Survey).

- ClimAID region: Region 4—New York City and Long Island
- 

- Remedial Stage/Site Classification: Site Classification A

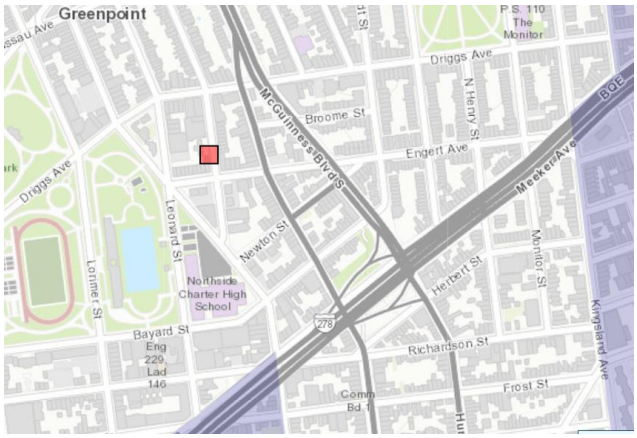
- Contamination -- Media Impacted/Contaminants of Concern:
    - Soil – Metals (Arsenic, cadmium, copper, lead, mercury, nickel, and zinc), SVOCs (Acenaphthylene,, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, and Indeno(1,2,3-cd)pyrene), Pesticides (dieldrin), and PFAS (PFOS)
    - Groundwater – VOCs (tert-butylbenzene), SVOCs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)flouorantene, chrysene), Metals (arsenic, antimony, manganese, and sodium).
    - Soil Vapor – VOCs (Cis-1,2-Dichloroethylene, N-heptane, tetrachloroethylene, Trichloroethylene, and vinyl chloride)

- Proposed/Current Remedy: The remedy includes excavation of the top 12 feet of soil across the entire site footprint, in-situ injections from 12 to 28 feet below grade, installation of an active sub-slab depressurization system, and long-term monitoring of groundwater.

- What is the predicted timeframe of the remedy? Will components of the remedy still be in place in 10+ years?
  The proposed remedy includes components that will remain at the site indefinitely under its proposed future use as a mixed-use commercial and residential property. Injection chemicals will be consumed during the contaminant degradation process and will be in place for less than several years, depending on the natural consumption rate. The active SSDS is anticipated to operate for up to 10 years as an active system and components will remain in place for the life of the building. Long-term monitoring of groundwater is anticipated to last for 10 years.

Is the site in a disadvantaged community (DAC) or potential environmental justice area (PEJA) (Use DECinfolocator: DECinfo Locator (ny.gov))?

☐Yes ☐ No



If the site is in a DAC or PEJA, will climate impacts be magnified? If yes, list how and why.

☐Yes ☒ No

Should thresholds of concern be lowered to account for magnification of impacts? If yes, indicate how lower thresholds will be used in the screening.

☐**Yes** ☒ **No**

Climate Screening Table*

Potential Climate Hazards	**Relevant to the Site Location (Y/N/NA)** [1]	**Projected Change (**Put the reference document/model used here) [2]	**Potential to Impact Remedy (Y/N)**	**Is remedy/site already resilient? (Y/N)** [3]
Precipitation	Potentially	Based on the Climate Mapping for Resilience and Adaptation (CMRA)'s climate projections between 2015 and 2044, the average annual total precipitation for the Site is expected to increase from 47.5 to 48.1 inches above the 1976-2005 average.	N	N/A
Temperature (Extreme Heat or Cold Weather Impacts)	Y	Based on the Climate Mapping for Resilience and Adaptation (CMRA)'s climate projections between 2015 and 2044, the average cooling degree days are expected to increase from 1,494.6 to 1,527.1 cooling degree days Celsius above the 1976-2005 average.	N	N/A
Sea Level Rise	N	N- Based upon the NOAA's Sea Level Rise Viewer the site is not impacted at 10 feet of SLR.	N	N/A
Flooding[4]	N	Based upon FEMA's Resiliency Analysis Planning Tool, the site is not located in the flood hazard area.	N	N/A

Storm Surge	Y	Y – NOAA's Storm Surge Risk Maps tool indicates that the site could be impacted by less than 3 feet of water during a Category 2 hurricane and over 6 feet of water for Category 3 hurricanes and higher.	Y	Y -The SSDS is the portion of the remedy that would susceptible to storm surge and the system includes a cleanout to remove excess water incase of flooding.
Wildfire	N	N/A	N/A	N/A
Drought	N	N/A	N/A	N/A
Storm Severity (could include high winds, lightening, etc.)	Y	N - Based upon FEMA's Resiliency Analysis Planning Tool, there is no increase in storm severity outlook.	N/A	N/A
Landslides	N	N/A	N/A	N/A
Other Hazards:	Seismic Activity – N/A	N/A	N/A	N/A

*Links to potential data sources can be found on the following page

[1] If the first column is N --> The rest of the columns will be N/A, the hazard is not applicable to the site.

[2] List the projected change in specific terms or units e.g. inches of rain fall, feet of sea level rise, etc.

[3] If final column is Y, provide reasoning, if the final column is N --> Climate Vulnerability Assessment (CVA) required.

[4] For system sites- components (e.g. electrical wiring and panels) should be evaluated to determine if they would need to be raised to avoid flooding.

Required Next Steps (If no further action, provide justification):

The vulnerability that was assessed was related to the components remaining in place at the Site after the completion of the proposed Remedial Action (RA). The components remaining in place at the Site are the permanent monitoring wells and the SSDS. The monitoring wells will be installed with stick-up type well completion and sealed with well plugs. These wells are not susceptible to impacts from water/precipitation inundation, temperature increases, or increases in storm severity at the Site. The proposed SSDS will include sub-slab PVC piping, riser pipe, and a blower for an active system. The SSDS sub-slab piping is susceptible to inundation but has a cleanout included to address any flooding of the system. The blower for the system will be installed with weather protections and above any potential for flooding. The injections are not susceptible to impacts from water/precipitation inundation, temperature increases, or increases in storm severity at the Site. Therefore, no further action is needed.

APPENDIX H QUALITY ASSURANCE PROJECT PLAN



Known for excellence.
Built on trust.

QUALITY ASSURANCE PROJECT PLAN (QAPP) / FIELD SAMPLING PLAN (FSP)

55 ECKFORD ST LLC SITE
55 Eckford Street
Block 2698, Lot 32
Brooklyn, New York, 11222
NYSDEC BCP Site No. C224168

May 2025

PREPARED FOR:
55 Eckford St LLC
100 Jericho Quadrangle, Suite 220
Jericho, NY 11753

PREPARED BY:
GZA GeoEnvironmental of New York
104 West 29th Street | 10th Floor | New York, NY 10001

An Equal Opportunity Employer M/F/V/H

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ATTACHMENTS

ATTACHMENT A Qualifications

1.0 INTRODUCTION

This Quality Assurance Project Plan (QAPP) and Field Sampling Plan (FSP) presents the organization, objectives, planned activities, and specific quality assurance/quality control (QA/QC) procedures associated with the Remedial Action Work Plan (RAWP) at 55 Eckford Street, Brooklyn, New York (Site). **Figure 1** presents a Site location map.

This QAPP/FSP describes specific protocols for field sampling, sample handling and storage, chain-of-custody, laboratory analysis, and data handling and management. Preparation of the Plan was based on EPA Quality Assurance Project Plan guidance documents, including:

- *EPA Requirements for Quality Assurance Project Plans* (EPA QA/R-5, March 2001); and
- *Guidance for Quality Assurance Project Plans* (EPA QA/G-5, December 2002).

The data generated from the analysis of samples will be used to determine the extent of contamination, identify impacted targets, and to compare the results of the remedial actions to site-specific cleanup goals. Potential parameters to be analyzed, including their respective quantitation limits (QLs), and data quality levels (DQLs), are provided in **Tables 1A through 1C**.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITY

A qualified person will coordinate and manage the Site sampling and analysis program, data reduction, QA/QC, data validation, analysis, and reporting. Victoria Whalen, P.G. is a qualified environmental professional (QEP), as defined by the New York State Department of Environmental Conservation (NYSDEC) and will direct the sampling activities and coordinate laboratory and drilling activities. The intent of this QAPP/FSP is to be performed the RI in accordance with the technical guidance applicable to Technical Guidance for Site Investigation and Remediation (DER-10), and Sampling, Analysis and Assessment of Per- and Polyfluoroalykly Substances (PFAS) under NYSDEC's Part 375 Remedial Programs dated April 2023.

A qualified person will ensure that the QA/QC plan is implemented. GZA's Senior Technical Specialist, Dr. Chunhua Liu will provide oversight and technical support for the sampling and analytical procedures followed acting as the project QA Officer. This individual has the broad authority to approve or disapprove project plans, specific analyses, and final reports. The QEP is independent from the data generation activities. In general, the QA officer will be responsible for reviewing and advising on all QA/QC aspects of this program.

Laboratories used will be the New York State Department of Health Environmental (NYSDOH) Laboratory Approval Program (ELAP) certified laboratories. The laboratories will communicate directly with the sampler regarding the analytical results and reporting and will be responsible for providing all labels, sample containers, field blank water, trip blanks, shipping coolers, and laboratory documentation. Qualifications of the QA officer are provided in **Attachment A.**

3.0 QA OBJECTIVES FOR DATA MANAGEMENT

The analytical data will be provided by the laboratory using the NYSDEC Category B deliverable format. Analytical data collected for disposal characteristics that may be requested by off-site soil or wastewater disposal facilities will be provided in the format that the facility requests.

All analytical measurements will be made so that the results are representative of the media sampled and the conditions measured. Data will be reported in consistent dry weight units for solid samples [i.e., micrograms per kilogram (µg/kg) and/or milligram per kilogram (mg/kg), micrograms per liter (µg/L) or milligrams per liter (mg/L) for aqueous samples and in micrograms per cubic meter (µg/m^3) for soil vapor and air samples. **Table 2** presents the proposed samples, sampling and analytical parameters, analytical methods, sample preservation requirements and containers.

Quantitation Limits (QLs) are laboratory-specific and reflect those values achievable by the laboratory performing the analyses. Data Quality Levels (DQLs) are those reporting limits required to meet the objectives of the program (i.e., program action levels, cleanup standards, etc.). Data Quality Objectives (DQOs) define the quality of data and documentation required to support decisions made in the various phases of the data collection activities. The DQOs are dependent on the end uses of the data to be collected and are also expressed in terms of objectives for precision, accuracy, representativeness, completeness, and comparability.

The analytical methods to be used at this Site provide the highest level of data quality and can be used for purposes of risk assessment, evaluation of remedial alternatives and verification that cleanup standards have been met. However, in order to ensure that the analytical methodologies are capable of achieving the DQOs, measurement performance criteria have been set for the analytical measurements in terms of accuracy, precision, and completeness.

The overall QA objective is to develop and implement procedures for field sampling, chain-of-custody, laboratory analysis, and reporting which will provide results that are scientifically valid, and the levels of which are sufficient to meet DQOs. Specific procedures for sampling, chain of custody, laboratory instrument calibration, laboratory analysis, reporting of data, internal quality control, and corrective action are described in other sections of this QAPP/FSP.

Tables 3, **4**, and **5** present the precision and accuracy requirements for each parameter to be analyzed. For quantitation limits for parameters associated with soil, sediment, and solid waste samples, the laboratory will be required to attempt to meet or surpass the parameter-specific limits listed in 6 NYCRR Part 375.

For quantitation limits for parameters associated with groundwater samples, the laboratory will be required to attempt to meet or surpass the parameter-specific limits for groundwater from the Division of Water Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards and Guidance Values. In certain instances, if the TOGS criteria are not achievable due to analytical limitations, the laboratory will report the lowest possible quantitation limit.

For quantitation limits for parameters associated with soil gas samples, the laboratory will be required to meet the parameter-specific limits from EPA's Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance), Table 3c-SG:

Question 5 Soil Gas Screening Levels for Scenario-Specific Vapor Attenuation Factors (**α=**$2H10^{-3}$), November 2002. In certain instances, if these criteria are not achievable due to analytical limitations, the laboratory will report the lowest possible quantitation limits (see **Tables 1A through 1C** for affected analytes).

The QA objectives are defined as follows:

Accuracy is the closeness of agreement between an observed value and an accepted reference value. The difference between the observed value and the reference value includes components of both systematic error (bias) and random error.

Accuracy in the field is assessed through the adherence to all field instrument calibration procedures, sample handling, preservation, and holding time requirements, and through the collection of equipment blanks prior to the collection of samples for each type of equipment being used (e.g., split spoons, groundwater sampling pumps).

The laboratory will assess the overall accuracy of their instruments and analytical methods (independent of sample or matrix effects) through the measurement of "standards," materials of accepted reference value. Accuracy will vary from analysis to analysis because of individual sample and matrix effects. In an individual analysis, accuracy will be measured in terms of blank results, the percent recovery (%R) of surrogate compounds in organic analyses, or %R of spiked compounds in matrix spikes (MSs), matrix spike duplicates (MSDs) and/or laboratory control samples (LCSs). This gives an indication of expected recovery for analytes tending to behave chemically like the spiked or surrogate compounds. **Tables 3**, **4**, and **5** summarize the laboratory accuracy requirements.

Precision is the agreement among a set of replicate measurements without consideration of the "true" or accurate value: i.e., variability between measurements of the same material for the same analyte. Precision is measured in a variety of ways including statistically, such as calculating variance or standard deviation.

Precision in the field is assessed through the collection and measurement of field duplicates (one extra sample in addition to the original field sample). Field duplicates will be collected at a frequency of one per twenty investigative samples per matrix per analytical parameter, with the exception of the Toxicity Characteristic Leaching Procedure (TCLP) parameters and parameters associated with wastewater samples. Precision will be measured through the calculation of relative percent differences (RPDs). The resulting information will be used to assess sampling and analytical variability. Field duplicate RPDs must be $\leq$ 50 for soil samples and $\leq$ 30 for aqueous samples. These criteria apply only if the sample and/or duplicate results are >5x the quantitation limit; if both results are $\leq$ 5x the quantitation limit, the criterion will be doubled. Due to the uncertainty of available representative soil gas volume, field duplicates will not be collected for this matrix.

Precision in the laboratory is assessed through the calculation of RPD for duplicate samples. For organic soil, sediment and water analyses, laboratory precision will be assessed through the analysis of MS/MSD samples and field duplicates. For the inorganic analyses, laboratory precision will be assessed through the analysis of matrix duplicates and field duplicates. For soil gas analyses, laboratory precision will be assessed through the analysis of matrix duplicates. MS/MSD samples or

matrix duplicates will be performed at a frequency of one per twenty investigative samples per matrix per parameter. **Tables 3**, **4**, and **5** summarize the laboratory precision requirements.

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount that was expected to be obtained under normal conditions. "Normal conditions" are defined as the conditions expected if the sampling plan was implemented as planned.

Field completeness is a measure of the amount of (1) valid measurements obtained from all the measurements taken in the project and (2) valid samples collected. The field completeness objective is greater than 90 percent.

Laboratory completeness is a measure of the amount of valid measurements obtained from all valid samples submitted to the laboratory. The laboratory completeness objective is greater than 95 percent.

Representativeness is a qualitative parameter that expresses the degree to which data accurately and precisely represent either a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition within a defined spatial and/or temporal boundary. To ensure representativeness, the sampling locations have been selected to provide coverage over a wide area and to highlight potential trends in the data. In addition, field duplicate samples will provide an additional measure of representativeness at a given location.

Representativeness is dependent upon the proper design of the sampling program and will be satisfied by ensuring that the Work Plans and QAPP are followed, and that proper sampling, sample handling, and sample preservation techniques are used.

Representativeness in the laboratory is ensured by using proper analytical procedures, appropriate methods, and meeting sample holding times.

Comparability expresses the confidence with which one data set can be compared to another. Comparability is dependent upon the proper design of the sampling program and will be satisfied by ensuring that the Work Plans and QAPP are followed and that proper sampling techniques are used. Maximization of comparability with previous data sets is expected because the sampling design and field protocols are consistent with those previously used.

Comparability is dependent on the use of recognized EPA or equivalent analytical methods and the reporting of data in standardized units. Laboratory procedures are consistent with those used for previous sampling efforts.

4.0 SAMPLING PLAN

Environmental sampling may include soil, groundwater, soil vapor and sediment sampling. Additionally, wastes generated during remediation or development will be sampled and tested for characterization for disposal. Direct push drilling (GeoProbe®), sonic drilling, and/or test pit excavations will be the preferred methods for obtaining subsurface soil samples. However, other drilling methods including mud rotary and drive and wash may also be used if warranted by site conditions. Hand auger and/or hand-held sampling equipment will be the preferred method for collecting surficial and/or shallow soil

samples. Groundwater samples will be collected using bailers or peristaltic, bladder or submersible pumps. Soil vapor samples will be collected in SUMMA® canisters. Performing grab or composite sampling using appropriate hand-held sampling equipment will be the preferred method for waste characterization sampling.

4.1. Utility Clearance

New York State law requires that New York 811 be notified at least three working days prior to subsurface work is conducted to initiate the utility locating activities. Companies with subsurface utilities present will locate and mark out subsurface utility lines. However, New York 811 contractors will only locate utilities on public property and rights-of-way.

During the recent subsurface investigations, GZA contracted for underground utilities within the Site, including electric lines, gas lines, storm and sanitary sewers, and communication lines will need to be to be located by survey and geophysical survey. If additional subsurface utility locating is considered necessary, a private locating company will be contracted to locate on-site utilities that have not been identified by New York 811 contractors or the Owner.

4.2. Test Pit Soil Sampling

Test pitting and/or excavating may be conducted if necessary. Test pits will allow for visual characterization of subsurface soil conditions and the collection of grab soil samples. Prior to soil sample collection, headspace screening will be conducted to evaluate whether analysis of soil samples is warranted, and if so, which soils should be collected.

Prior to completing a test pit or excavation, underground utilities should be identified as discussed in **Section 4.1**. Should active, underground utilities be located in the vicinity of the intended excavation, hand or vacuum excavation methods should be employed, as appropriate, to confirm the location and depth prior to initiating the excavation.

The size and type of excavator used to complete the test pits will be selected based on the anticipated depth and overall size of the excavation required to meet the project objectives. At no time will field personnel enter a test pit/excavation unless it has been deemed safe to enter by an Excavation Competent person based on training and experience required by 29CFR 1926.652.

Grab soil/solid samples will be collected from the material or interval in question by retrieving a volume for analysis using a clean stainless steel, aluminum, or mild steel/ disposable scoop, trowel, spoon, or bucket auger and placing the soil in a cleaned stainless-steel pan for homogenization before inserting into the sample container. Samples collected for analysis of volatile organic compounds and total organic halides will not be homogenized. Samples for volatile organics analysis and total organic halides will be placed directly into the sample container.

Composite samples will be collected in the same manner described above, except that the discrete sample volumes will be placed in a clean stainless-steel pan and mixed to form the composite. Composite sampling will be performed for the following objectives:

- Waste characterization;
- Determination of the suitability of the soil for on-site re-use; and
- Evaluation of health and safety requirements for workers that will disturb the soil during subsequent construction work.

4.3. Direct Push Drilling Soil Sampling

This drilling method is typically used to collect shallow overburden soils and create boreholes for temporary monitoring well installations, or soil vapor sampling points. Sampling will be performed using four or five-foot-long acetate sleeves that will be advanced continuously to the desired depth below the surface. Soil samples from each sleeve will be screened using a photoionization detector (PID) to detect possible organic vapors. Organic vapor screening will be performed by slicing open the acetate sleeve, making a small slice in the soil column with a clean knife or sampling tool, inserting the PID probe and pushing the slice closed, and monitoring the soil for approximately 5 to 10 seconds. This procedure will be repeated at intervals along the soil column at the field geologist's discretion.

The samples will be examined for staining, discoloration, odors, and debris indicative of contamination (ash, coal fragments, wood chips, cinders, petroleum staining, etc.). Samples for laboratory analysis will be collected from the six-inch interval most likely to be contaminated, based on PID readings, discoloration, staining, and the field geologist's judgment (field conditions may require a section longer than six inches to make sufficient sample; however, this decision will be field based).

The samples will be collected by cutting the soil into two places with a decontaminated steel, stainless steel, or aluminum trowel, spoon, or knife and homogenized in a decontaminated stainless steel pan before being placed in the sample bottles. Samples collected for analysis for VOCs and total organic halides will be placed directly into the sample containers without homogenization (as per EPA sampling method 5035A). Samplers will wear phthalate-free gloves such as nitrile (no latex will be used) and will avoid contact with the gloves with the sample. Clean metal/disposable instruments will be used to transfer samples. If there is insufficient soil volume in the spoon, then this will be made up by attempting a second direct push sleeve at the same depth, or by using the next immediate sample interval above or below this depth, if appropriate. If there is no recovery, then the sample depth will be skipped, and drilling will progress to the next depth interval.

Soil samples will be collected in laboratory provided containers and transported to a NYSDOH ELAP certified laboratory, under proper chain of custody procedures for analysis. Once the sample containers are filled, they will be immediately placed in the cooler with ice (in Ziploc plastic bags to prevent leaking) or synthetic ice packs to maintain the samples at below 4^{o}C.

4.4. Sonic Drill Rig Soil Sampling

The sonic drilling system employs simultaneous high frequency vibration and low speed rotational motion along with down pressure to advance the cutting shoes of the drill string. This technique provides a continuous soil core and generates minimal cuttings. Due to the continuous sampling of the system,

accurate depictions of the stratigraphy and lithology of the overburden are obtained (minimal sloughing). Additionally, few cuttings are mobilized to the surface. Most of the formation material enters the core barrel, except small amounts, which are pushed into the borehole wall.

Drilling operations take place from the drill platform, which is about 4 feet above ground. Steel drill casing and core barrel are connected to the head from the work platform/support truck and are then hoisted to vertical in the derrick. Tool joints are connected and broken by a hydraulic vise/wrench that is in the base of the derrick. The sonic head can pivot 90 degrees to facilitate connection of the drilling rods.

The sonic drilling system uses an override core barrel system and can create a 4- or 6-inch diameter borehole. This is followed by the override casing drilled to the same depth as the core barrel cutting shoe. The core barrel is then removed, and cores are extruded into plastic sleeves. The outer casing prevents cross contamination and formation mixing and allows for a very controlled placement of wells.

GZA proposes to use a track-mounted sonic drill rig collecting soil continuously from either five-foot long or 10-foot-long cores. Samples will be extruded from the core barrel into polyethylene sleeves. Once the plastic sleeve is cut open, soil will be screened using a PID to detect possible organic vapors. Organic vapor screening will be performed by making a small slice in the soil column with a clean knife or sampling tool, inserting the PID probe and pushing the slice closed, and monitoring the soil for approximately 5 to 10 seconds. This procedure will be repeated at intervals along the soil column at the field geologist's discretion.

The samples will be examined for staining, discoloration, odors, and debris indicative of contamination (ash, coal fragments, wood chips, cinders, petroleum staining, etc.) Samples for laboratory analysis will be collected from the six-inch interval most likely to be contaminated, based on PID readings, discoloration, staining, and the field geologist's judgment (field conditions may require a section longer than six inches to make sufficient sample; however, this decision will be field based).

The samples will be collected by cutting the soil into two places with a decontaminated steel, stainless steel, or aluminum trowel, spoon, or knife and homogenized in a decontaminated stainless-steel pan before being placed in the sample bottles. Samples collected for analysis for VOCs and total organic halides will be placed directly into the sample containers without homogenization (as per EPA sampling method 5035A). Samplers will wear phthalate-free gloves such as nitrile (no latex will be used) and will avoid contact with the gloves with the sample. Clean metal/disposable instruments will be used to transfer samples. If there is insufficient soil volume in the spoon, then this will be made up by attempting a second direct push sleeve at the same depth, or by using the next immediate sample interval above or below this depth, if appropriate. If there is no recovery, then the sample depth will be skipped, and drilling will progress to the next depth interval.

Soil samples will be collected in laboratory provided containers and transported to a NYSDOH ELAP certified laboratory, under proper chain of custody procedures for analysis. Once the sample containers

are filled, they will be immediately placed in the cooler with ice (in Ziploc plastic bags to prevent leaking) or synthetic ice packs to maintain the samples at below 4°C.

4.5. Temporary Well Point Installation and Sampling

If proposed for site characterization, temporary well points will be immediately installed in drilled soil direct-push soil borings by placing a one-inch diameter PVC screen and riser pipe directly into the borehole. No additional materials will be placed around the annual space. The screen will be set to straddle the water table. Temporary wells will not be purged prior to sample collection. Depth to water will be measured in each well point to provide data to approximate groundwater flow direction.

Groundwater samples will be collected from the temporary well point using a dedicated microbailer. The samples will be collected in sample bottles (pre-preserved, if appropriate), placed in iced coolers and removed from light immediately after collection. In addition, all sample bottles must be filled to the top so that no aeration of the samples occurs during transport. All bottles will be filled to avoid cascading and aeration of the samples, the goal being to minimize any precipitation of colloidal matter. Samples for dissolved metals will be collected in unpreserved containers and will be filtered and preserved at the laboratory within 24 hours of sampling. Samples will be transported to a NYSDOH ELAP certified laboratory under proper chain of custody procedures for analysis.

Screen and riser pipes will be removed from the borehole and the borehole will be backfilled.

4.6. Permanent Well Installation and Sampling

Groundwater sampling of permanent monitoring wells is described according to the following distinct phases of this work: well installation/construction, well development, well purging, and well sampling.

4.6.1. *Well Installation/Construction*

To collect representative groundwater samples, soil borings drilled with the sonic drilling method will be converted into permanent two-inch diameter monitoring wells. Groundwater monitoring wells will be constructed of threaded two-inch diameter PVC well casing and 20-slot well screen (to investigate the potential of floating product). The 10-foot screen will be set seven feet below the measured water table. Clean silica sand, Morie No. 1 or equivalent, will be placed in the annular space around the well to a minimum of one foot above the top of the well screen, two feet being optimal. Solid PVC riser, attached to the well screen, will extend to grade or above if the well is a stick-up. For a two-inch diameter well, the annular space for the filter pack should be 4 inches thick. A two-foot thick bentonite seal will then be placed above the sand pack and moistened with potable water for a minimum of 15 minutes before backfilling the remaining space with a cement-bentonite grout. If warranted by depth, filling will be completed using a tremie pipe placed below the surface of the grout. A stick-up or flush-mount protective casing with a locking well cap will then be installed, and a measuring point marked on each PVC well riser. Well construction diagrams will be prepared for each well.

4.6.2. Well Development

Following installation, the groundwater monitoring wells will be developed using a two-inch diameter submersible pump(s) (or equivalent) until the water is reasonably free of turbidity and field readings (pH, conductivity, temperature, and dissolved oxygen) sufficiently stabilize. Fifty nephelometric turbidity units (NTUs) or less will be the turbidity goal but not an absolute value. The wells will be developed aggressively to remove fines from the formation and sand pack. The wells will be allowed to equilibrate for seven days prior to sampling. The volume of water removed, the well development time, and field instrument readings will be recorded in the logbook.

4.6.3. Well Purging

The objective is to purge monitoring wells until turbidity stabilizes to a level as low as possible and this parameter will be given the greatest weight in determining when groundwater sampling may begin. With this objective in mind, a low-flow pump will be used to avoid entrainment of particulates within the well or from the formation. Groundwater from each well will be purged until parameters have stabilized. A turbidity level of fifty NTUs or less is the well purging goal, but not an absolute value before sampling. Other field parameters including temperature, conductivity, pH, and dissolved oxygen (DO) will also be monitored. As practical, all field measurements will be taken from the flow cell and will be recorded during and after purging, and before sampling. Field parameters should generally be within ±10 percent for three consecutive readings, one minute apart, prior to sampling.

Upon opening each monitoring well and point, the concentration of VOCs in the headspace will be measured using a PID and water level measurements will be recorded using an electronic interface probe. The depth to product (if present), depth to water, and the total depth will be measured from the top of the marked PVC casings. Water level and free product measurements will first be made and the volume of water in the well determined. The volume of water in the well will be calculated so that the number of well volumes purged and an estimate of the time required to purge the well can be made. Before sampling, the wells will be purged utilizing a low-flow submersible stainless steel pump using dedicated Teflon® or Teflon®-lined polyethylene tubing connected to a flow cell. Very low purging rates are proposed, on the order of 100 ml/minute to 500 ml/minute, to minimize suspension of particulate matter in the well.

Purging will be done with the pump intake placed at the midpoint of the well screen or the midpoint of the water column (to be determined based on the depth and length of the screen interval) to ensure that all stagnant water in the well is removed, while not stirring up sediment that may have accumulated on the bottom of the well. Equipment will be lowered into the well very carefully to prevent suspension of bottom sediment and subsequent entrainment onto sampling equipment. Surging will be avoided. Tubing will be replaced between each well. Pumps must be carefully cleaned between wells according to the procedures specified in **Section 4.15,** below. It is anticipated that no more than three well volumes will be purged in order for turbidity to reach a minimum and the other parameters to stabilize. Ideally,

pumping rates will be at a rate so that no drawdown of the groundwater level occurs (i.e., pumping rate is less than recharge rate). During purging, the sampler will actively monitor and track the volume of water purged and the field parameter readings. Data will be recorded in the field logbook. For example, the sampler will record the running total volume purged from each well and note the readings for the corresponding field parameters.

4.6.4. Well Sampling

Once groundwater conditions have stabilized and groundwater levels have recovered, samples will be collected from the flow cell outlet (connected to the low-flow submersible pump). All non-disposable/non-dedicated (re-usable) sampling equipment will be cleaned according to the procedures specified in **Section 4.15**.

Sampling will be performed with the pump intake at the same location used for purging. Pumping rates for withdrawing the samples will be similar to those followed for well purging.

The samples will be collected in sample bottles (pre-preserved, if appropriate), placed in iced coolers and removed from light immediately after collection. In addition, all sample bottles must be filled to the top so that no aeration of the samples occurs during transport. All bottles will be filled to avoid cascading and aeration of the samples, the goal being to minimize any precipitation of colloidal matter. Samples will be transported to a NYSDOH ELAP certified laboratory under proper chain of custody procedures for analysis. Samples for dissolved metals will be collected in unpreserved containers and will be filtered and preserved at the laboratory within 24 hours of sampling.

4.7. Borehole Abandonment

Soils extracted during the advancement of the borings will be used to backfill the borings, provided that the borings are not to be used for installation of permanent monitoring wells. However, soils that exhibit "gross" contamination, as evidenced by staining or free-phase product, or any visual, olfactory, or PID readings greater than 100 ppm above background, will be managed in accordance with **Section 9**. In this event, bentonite chips or pellets to within 0.5 feet below ground surface. The ground surface will be restored to a similar condition as the surrounding grade (e.g., topsoil, asphalt, or concrete).

4.8. Monitoring Well Abandonment

There may be occasions when monitoring wells will require abandonment. For temporary monitoring wells, the approach will be to pull the PVC well materials from the borehole and backfill the remaining open portion of the borehole with cement/bentonite grout to approximately 0.5 feet below the ground surface. The ground surface will be restored to a similar condition as the surrounding grade (e.g., topsoil, asphalt, or concrete). For permanent overburden and bedrock monitoring wells, depending on the site-specific subsurface geologic conditions and nature of contamination, the abandonment approach will be in accordance with NYSDEC Policy CP-43 – Groundwater Monitoring Well Decommissioning Policy.

4.9. Soil Reuse and Worker Health & Safety Sampling

Soil reuse sampling may be performed to determine whether the soil can be reused elsewhere on the Site, or to determine whether contaminant levels in the soil would warrant OSHA 40-hour HAZWOPER training for workers disturbing the soil during post-remediation construction activities. This sampling would consist of compositing discrete soil samples from borings advanced by direct push (see **Section 4.3**), or during test pits following the procedures outlined in **Section 4.2**.

4.10. Waste Characterization Sampling

Waste classification sampling may be conducted to characterize soil, liquids and/or groundwater for the purpose of proper off-site waste disposal. Specific methods for sampling liquid and solid wastes are briefly discussed below.

4.10.1. Solid Waste

Solid sampling methods include utilizing dedicated stainless steel or Teflon® scoops/shovels, triers, and thiefs. Scoops and shovels are the preferred method for sampling solids from piles or containers. Stainless steel triers are similar to a scoop and are used for the collection of a core sample of a solid material.

4.10.2. Liquid Waste

Liquid sampling methods include utilizing dedicated dippers, glass tube samplers, pump and tubing, kemmerer bottles, and Bacon Bomb samplers. Dippers are used to collect samples from the surface of the liquid and are appropriate for wastes that are homogeneous. Glass tube samplers consist of glass tubes of varying length and diameter used to collect a full-depth liquid sample from a drum or similar container. Pump and tubing (e.g., bladder pump or peristaltic pump) are used to collect liquid samples from a depth (up to approximately 20 feet below grade), and are typically relied upon for sampling subsurface structures, such as underground storage tanks. To minimize the loss of volatile organic components in the liquid, the lowest achievable flow rate is utilized for collecting the sample by this method. Kemmerer bottles and Bacon Bomb samplers are discrete-depth samplers. These samplers are lowered into the liquid and opened to collect a sample at a desired depth.

4.10.3. Grab versus Composite Sampling

Waste characterization of a liquid or a solid can involve grab or composite sampling depending upon the homogeneity and the volume of the waste. Grab sampling consists of collecting a discrete sample or samples of a material and submitting each sample for separate analysis. Grab sampling is appropriate for characterizing small quantities of waste as well as waste streams of varying content (e.g., drums of different contents). Composite sampling consists of taking discrete grab samples of a material and combining them into a smaller number of samples for analysis. Composite sampling generally is appropriate for large volumes of a homogenous waste material, such as a pile of soil or construction debris. The specific number of composite and grab samples largely will depend upon the size and nature of the waste pile (i.e., cubic yards) as well as the analysis required for characterization of the waste.

4.11. Soil Gas Sampling

A direct-push drill rig will be utilized to drive rods with a decontaminated stainless steel probe to the desired sample depth, which will be a minimum of 5 feet bgs or two feet above the water table if groundwater is present at 5 feet. The soil gas probe will then be purged at a flow rate not greater than 0.2 liters/minute to evacuate one to three volumes using a photoionization detector (PID) with an integrated vacuum pump (MiniRAE 3000 or appropriate alternate). Peak and stabilized PID readings will be recorded prior to sample collection. Following the stabilization period, each probe will be connected to an evacuated laboratory-supplied 6-liter SUMMA® canister. SUMMA® canisters are passivated stainless steel vessels that have been cleaned and certified contaminant-free by the contract laborer. After connecting the SUMMA® canister to the soil gas probe, a regulator valve on the canister will be opened and the vacuum will slowly draw the sample into the canister over a period of 20 minutes. The samples will not be drawn at greater than 0.2 liters per minute. Quantitation limits for all analytes range between 1.6 ppbV and 4.0 ppbV, depending on the compound. After collecting the soil gas sample, the valve will be closed and disconnected from the soil gas probe. The soil-gas samples will be transported to a NYSDOH ELAP certified laboratory for TO-15 analysis.

Prior to sample collection, helium will be used as a tracer gas to evaluate the potential for infiltration of outdoor air into the sample. Subsequent rounds of soil gas sampling would include the use of tracer gas only if the initial round of sampling indicates that outdoor air has the potential to influence soil gas sample results.

When soil vapor samples are collected, the following conditions that may influence the interpretation of results will be documented:

- Identification of any nearby commercial or industrial buildings that likely uses volatile organic compounds;
- A sketch of the Site, showing streets, neighboring commercial or industrial facilities (with estimated distances to the Site, and soil-gas sampling locations);

- Weather conditions (e.g., precipitation, outdoor temperature, barometric pressure, wind speed and direction); and
- Any pertinent observations, such as odors or readings from field instrumentation.

4.12. Ambient Air Sampling

Ambient air samples will be collected with an evacuated laboratory-supplied 6-liter SUMMA® canister. SUMMA® canisters are passivated stainless steel vessels that have been cleaned and certified contaminant-free by the contract laborer. The sample will be set at an elevation of approximately 4 to 5 feet above grade, to represent breathing zone air quality conditions. The samples will not be drawn at greater than 0.2 liters per minute. After collecting the ambient air sample, the valve will be closed, and the canister will be labeled with the necessary information. The soil-gas samples will be transported to a NYSDOH ELAP certified laboratory for TO-15 analysis.

When ambient air samples are collected, the following conditions that may influence the interpretation of results will be documented:

- Identification of any nearby commercial or industrial buildings that likely uses volatile organic compounds;
- A sketch of the Site, showing streets, neighboring commercial or industrial facilities (with estimated distances to the Site, and soil-gas sampling locations);
- Weather conditions (e.g., precipitation, outdoor temperature, barometric pressure, wind speed and direction); and
- Any pertinent observations, such as odors or readings from field instrumentation.

4.13. QC Sample Collection

QC samples will include equipment blanks, trip blanks, field duplicates and MS/MSDs.

Equipment blanks will consist of distilled water and will be used to check for potential contamination of the equipment that may cause sample contamination. Equipment blanks will be collected by routing the distilled water through the sampling equipment prior to sample collection. Equipment blanks will be submitted to the laboratory at a frequency of one per day per matrix per type of equipment being used per parameter. Equipment blanks will not be collected with samples for analysis for TCLP parameters, parameters associated with wastewater samples, samples collected for disposal purposes, soil gas samples, chip samples, wipe samples and samples collected for grain size analyses.

Trip blanks will consist of distilled water (supplied by the laboratory) and will be used to assess the potential for volatile organic compound contamination of groundwater samples due to contaminant

migration during sample shipment and storage. Trip blanks will be transported to the site unopened, stored with the investigative samples, and kept closed until analyzed by the laboratory. Trip blanks will be submitted to the laboratory at a frequency of one per cooler that contains groundwater samples for analysis for VOCs.

Field duplicates are an additional aliquot of the same sample submitted for the same parameters as the original sample. Field duplicates will be used to assess the sampling and analytical reproducibility. Field duplicates will be collected by alternately filling sample bottles from the source being sampled. Field duplicates will be submitted at a frequency of one per 20 samples for all matrices and all parameters with the exception of TCLP parameters, parameters associated with wastewater samples, samples collected for waste characterization purposes, chip samples, wipe samples and samples collected for grain size analyses. Soil gas field duplicates will be obtained by using a tubing a T-splitter.

MSs and MSDs are two additional aliquots of the same sample submitted for the same parameters as the original sample. However, the additional aliquots are spiked with the compounds of concern. Matrix spikes provide information about the effect of the sample matrix on the measurement methodology. MS/MSDs will be submitted at a frequency of one per 20 investigative samples per matrix for organic parameters for soil, sediment, and groundwater. MSs will be submitted at a frequency of one per 20 investigative samples per matrix for inorganic parameters.

4.14. Sample Preservation and Containerization

The analytical laboratory will supply the sample containers for the chemical samples. These containers will be cleaned by the manufacturer to meet or exceed all analyte specifications established in the latest U.S. EPA's *Specifications and Guidance for Contaminant-Free Sample Containers*. Certificates of analysis are provided with each bottle lot and maintained on file to document conformance to EPA specifications. The containers will be pre-preserved, where appropriate (see **Table 2**).

Table 6 presents a summary of QC sample preservation and container requirements.

4.15. Equipment Decontamination

Reusable Teflon®, stainless steel, and aluminum sampling equipment shall be cleaned between each use in the following manner:

- Wash/scrub with a biodegradable degreaser ("Simple Green") if there is oily residue on equipment surface
- Tap water rinse
- Wash and scrub with Alconox and water mixture
- Tap water rinse
- Distilled/deionized water rinse

- Air dry

Cleaned equipment shall be wrapped in aluminum foil if not used immediately after air-drying.

Groundwater sampling pumps will be cleaned by washing and scrubbing with an Alconox/water mixture, rinsing with tap water and irrigating with distilled/deionized water.

5.0 DOCUMENTATION AND CHAIN-OF-CUSTODY

5.1. Sample Collection Documentation

5.1.1. Field Notes

Field team members will keep a field logbook to document all field activities. Field logbooks will provide the means of recording the chronology of data collection activities performed during the remediation. As such, entries will be described in as much detail as possible so that a particular situation could be reconstructed without reliance on memory.

The logbook will be a bound notebook with water-resistant pages. Logbook entries will be dated, legible, and contain accurate and inclusive documentation of the activity. The title page of each logbook should contain the following:

- Person to whom the logbook is assigned
- The logbook number
- Project name and number
- Site name and location
- Project start date
- End date

Entries into the logbook will contain a variety of information. At the beginning of each entry, the date, start time, weather, and names of sampling team members present will be entered. Each page of the logbook will be signed and dated by the person making the entry. All entries will be made in permanent ink, signed, and dated and no erasures or obliterations will be made. If an incorrect entry is made, the information will be crossed out with a single strike mark that is signed and dated by the sampler. The correction shall be written adjacent to the error.

Field activities will be fully documented. Information included in the logbook should include, but may not be limited to, the following:

- Chronology of activities, including entry and exit times
- Names of all people involved in sampling activities
- Level of personal protection used

- Any changes made to planned protocol
- Names of visitors to the site during sampling and reason for their visit
- Sample location and identification
- Changes in weather conditions
- Dates (month/day/year) and times (military) of sample collection
- Measurement equipment identification (model/manufacturer) and calibration information
- Sample collection methods and equipment
- Sample depths
- Whether grab or composite sample collected
- How sample composited, if applicable
- Sample description (color, odor, texture, etc.)
- Sample identification code
- Tests or analyses to be performed
- Sample preservation and storage conditions
- Equipment decontamination procedures
- QC sample collection
- Unusual observations
- Record of photographs
- Sketches or diagrams
- Signature of person recording the information

Field logbooks will be reviewed on a daily basis by the Field Team Leader. Logbooks will be supported by standardized forms.

5.1.2. Chain-of-Custody Records

On a regular basis (daily or on such a basis that all holding times will be met), samples will be transferred to the custody of the respective laboratories, via third-party commercial carriers or via laboratory courier service.

Chain-of-custody records are initiated by the samplers in the field. The field portion of the custody documentation should include: (1) the project name; (2) signatures of samplers; (3) the sample number, date and time of collection, and whether the sample is grab or composite; (4) signatures of individuals involved in sampling; and (5) if applicable, air bill or other shipping number. Sample receipt and log-in procedures at the laboratory are described in **Section 5.2.2** of this Plan.

5.1.3. Sample Labeling

Immediately upon collection, each sample will be labeled with a pre-printed adhesive label, which includes the date and time of collection, sampler's initials, tests to be performed, preservative (if applicable), and a unique identifier.

A. The following identification scheme will be used:

Soil borings will be assigned sequential numbers. For soil samples collected from soil borings, sample numbers will be assigned as follows:

GZ-#(sampling interval)

Example:
Sample GZ-4(4-6') = soil sample collected from soil boring #4 at a depth of 5-6' below grade.

Groundwater wells will be assigned sequential numbers. Groundwater samples will be identified by the well that the sample was collected from.

Examples:
GMW-01 = groundwater sample collected from permanent well point #1

Sub-slab soil vapor/soil vapor/ambient air will be assigned numbers coordinating with the adjacent soil boring or a sequential number due to sample names being identical to a previous Site sampling event. Vapor samples will be identified by the soil gas point that the sample was collected from.

Examples:
GSV-01 = Soil vapor sample collected from the soil gas point
OA-01 = Outdoor ambient air sample

Duplicate samples will be labeled as blind duplicates by giving them sample numbers indistinguishable from a normal sample.

Blanks should be spelled out and identify the associated matrix, e.g., Equipment Blank, Soil

MS/MSDs will be noted in the Comments column of the COC.

B. The analysis required will be indicated for each sample.

Example: SVOC

C. Date taken will be the date the sample was collected, using the format: MM-DD-YY.

Example: 04-22-22

D. Time will be the time the sample was collected, using military time.

Example: 14:30

E. The sampler's name will be printed in the "Sampled By" section.

F. Other information relevant to the sample.

Example: Equipment Blank

An example sample label is presented below:

Job No:	XXXXXXXXX
Client:	Name
Sample No:	GZ-01(5-5.5')
Matrix:	Soil
Date Taken:	5/22/24
Time Taken:	14:30
Sampler:	B. Smith
Analysis:	SVOC

Job No. _____
Client: _____
Sample Number _____
Date _____ Sample Time _____
Sample Matrix _____
Grab or Composite (explain) _____
Preservatives _____
Analyses _____
Sampler Signature _____

This sample label contains the authoritative information for the sample. Inconsistencies with other documents will be settled in favor of the vial or container label unless otherwise corrected in writing from the field personnel collecting samples or the QEP.

5.2. Sample Custody

Custody is one of several factors that are necessary for the admissibility of environmental data as evidence in a court of law. Custody procedures help to satisfy the two major requirements for admissibility: relevance and authenticity. Sample custody is addressed in three parts: field sample collection, laboratory analysis, and final evidence files.

A sample or evidence file is considered to be under a person's custody if

- the item is in the actual possession of a person

- the item is in the view of the person after being in actual possession of the person
- the item was in the actual physical possession of the person but is locked up to prevent tampering
- the item is in a designated and identified secure area

5.2.1. Field Custody Procedures

Samples will be collected following the sampling procedures documented in **Section 4.0** of this Plan. Documentation of sample collection is described in **Section 5.1** of this Plan. Sample chain-of-custody and packaging procedures are summarized below. These procedures are intended to ensure that the samples will arrive at the laboratory with the chain-of-custody intact.

- The field sampler is personally responsible for the care and custody of the samples until they are transferred or dispatched properly. Field procedures have been designed such that as few people as possible will handle the samples.

- All bottles will be identified by the use of sample labels with sample numbers, sampling locations, date/time of collection, and type of analysis.

- Sample labels will be completed for each sample using waterproof ink unless prohibited by weather conditions. For example, a logbook notation would explain that a pencil was used to fill out the sample label because the pen would not function in wet weather.

- Samples will be accompanied by a properly completed chain-of-custody form. The sample numbers and locations will be listed on the chain-of-custody form. When transferring the possession of samples, the individuals relinquishing and receiving will sign, date, and note the time on the record. This record documents the transfer of custody of samples from the sampler to another person, to a mobile laboratory, to the permanent laboratory, or to/from a secure storage location.

- All shipments will be accompanied by the chain-of-custody record identifying the contents. The original record will accompany the shipment, and copies will be retained by the sampler and placed in the project files.

- Samples will be properly packaged for shipment and dispatched to the appropriate laboratory for analysis, with a separate signed custody record enclosed in and secured to the inside top of each sample box or cooler. If third party commercial carriers are used for transfer to the laboratory, shipping containers will be secured with strapping tape and custody seals prior to shipment. The custody seals will be attached to the front right and back left of the cooler and covered with clear plastic tape after being signed by field personnel. The cooler will be strapped shut with strapping tape in at least two locations.

- If the samples are sent by third party commercial carrier, the air bill will be used. Air bills will be retained as part of the permanent documentation. Commercial carriers are not required to sign off

on the custody forms since the custody forms will be sealed inside the sample cooler and the custody seals will remain intact.

- Samples remain in the custody of the sampler until transfer of custody is completed. This consists of delivery of samples to the laboratory courier or sample custodian, and signature of the laboratory courier or sample custodian on chain-of-custody document as receiving the samples and signature of sampler as relinquishing samples.

5.2.2. Laboratory Custody Procedures

Samples will be received and logged in by a designated sample custodian or his/her designee. Upon sample receipt, the sample custodian will

- Examine the shipping containers to verify that the custody tape is intact,
- Examine all sample containers for damage,
- Determine if the temperature required for the requested testing program has been maintained during shipment and document the temperature on the chain-of-custody records,
- Compare samples received against those listed on the chain-of-custody,
- Verify that sample holding times have not been exceeded,
- Examine all shipping records for accuracy and completeness,
- Determine sample pH (if applicable) and record on chain-of-custody forms,
- Sign and date the chain-of-custody immediately (if shipment is accepted) and attach the air bill,
- Note any problems associated with the coolers and/or samples on the cooler receipt form and notify the Laboratory Project Manager, who will be responsible for contacting the QEP,
- Attach laboratory sample container labels with unique laboratory identification and test, and
- Place the samples in the proper laboratory storage.

Following receipt, samples will be logged in according to the following procedure:

- The samples will be entered into the laboratory tracking system. At a minimum, the following information will be entered: project name or identification, unique sample numbers (both client and internal laboratory), type of sample, required tests, date and time of laboratory receipt of samples, and field ID provided by field personnel.
- The Laboratory Project Manager will be notified of sample arrival.
- The completed chain-of-custody, air bills, and any additional documentation will be placed in the final evidence file.

6.0 CALIBRATION PROCEDURES

6.1. Field Instruments

Field instruments will be calibrated according to the manufacturer's specifications. Calibration procedures performed will be documented in the field logbook and will include the date/time of

calibration, name of person performing the calibration, reference standard used, temperature at which the readings were taken, and the readings.

6.2. Laboratory Instruments

Calibration procedures for a specific laboratory instrument will consist of initial calibrations, initial calibration verifications, and/or continuing calibration verification. Detailed descriptions of the calibration procedures for a specific laboratory instrument are included in the laboratory's standard operating procedures (SOPs), which describe the calibration procedures, their frequency, acceptance criteria, and the conditions that will require recalibration. These procedures are as required in the respective analytical methodologies (summarized in **Table 2** of this Plan). The initial calibration associated with all analyses must contain a low-level calibration standard which is less than or equal to the quantitation limit.

7.0 SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

No field analyses are anticipated for this program. If site conditions were to warrant field analysis, the responsible contractor will prepare an addendum establishing the field analytical procedures. Analyses of all samples will be performed by NYSDOH ELAP certified laboratories. **Table 2** summarizes the analytical methods to be used during the remediation.

8.0 DATA REDUCTION, VALIDATION, AND REPORTING

Appropriate QC measures will be used to ensure the generation of reliable data from sampling and analysis activities. Proper collection and organization of accurate information followed by clear and concise reporting of the data is a primary goal in this project. Complete data packages suitable for data validation will be provided by the analytical laboratory.

For all analyses, the laboratory will report results that are below the laboratory's reporting limit; these results will be qualified as estimated (J) by the laboratory. The laboratory may be required to report tentatively identified compounds (TICs) for the VOC and SVOC analyses; this will be requested by the sampler on an as-needed basis. A Data Usability Summary Report (DUSR) will be prepared and will be included in the Construction Completion Report (CCR). The DUSR for this project is Ms. Christin Camardella. Qualifications of the DUSR preparer can be found in **Attachment A.**

8.1. Data Evaluation/Validation

8.1.1. Field Data Evaluation

Measurements and sample collection information will be transcribed directly into the field logbook or onto standardized forms. If errors are made, results will be legibly crossed out, initialed and dated by

the person recording the data, and corrected in a space adjacent to the original (erroneous) entry. Daily reviews of the field records by the Field Team Leader will ensure that:

- Logbooks and standardized forms have been filled out completely and that the information recorded accurately reflects the activities that were performed.
- Records are legible and in accordance with good record keeping procedures, i.e., entries are signed and dated, data are not obliterated, changes are initialed, dated, and explained.
- Sample collection, handling, preservation, and storage procedures were conducted in accordance with the protocols described in the Plan, and that any deviations were documented and approved by the appropriate personnel.

8.1.2. Data Usability

A Data Usability Summary Report (DUSR) will be prepared in accordance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

The data usability evaluation will include reviewing the quality assurance/quality control (QA/QC) information including: (1) chain-of-custody; (2) the summary QA/QC information provided by the laboratory; and (3) the project narrative.

For each data package the following questions will be evaluated:

- Is the data package complete as defined under the requirements for the NYSDEC ASP Category B, USEPA CLP deliverables or other standards/guidance?
- Have all holding times and preservation requirements been met?
- Do the quality control (QC) data fall within the laboratory and project established limits and specifications?

8.2. Identification and Treatment of Outliers

Any data point which deviates markedly from others in its set of measurements will be investigated; however, the suspected outlier will be recorded and retained in the data set. One or both of the following tests will be used to identify outliers.

Dixon's test for extreme observations is an easily computed procedure for determining whether a single very large or very small value is consistent with the remaining data. The one-tailed t-test for difference may also be used in this case. It should be noted that these tests are designed for testing a single value. If more than one outlier is suspected in the same data set, other statistical sources may be consulted and the most appropriate test of hypothesis will be used and documented, if warranted.

Since an outlier may result from unique circumstances at the time of sample analysis or data collection, those persons involved in the analysis and data reduction will be consulted. This may provide an experimental reason for the outlier. Further statistical analysis may be performed with and without the outlier to determine its effect on the conclusions. In many cases, two data sets may be reported, one including, and one excluding the outlier.

In summary, every effort will be made to include the outlying values in the reported data. If the value is rejected, it will be identified as an outlier, reported with its data set and its omission noted.

9.0 INTERNAL QUALITY CONTROL

The subcontracting laboratories' Quality Assurance Project Plans will identify the supplemental internal analytical quality control procedures to be used. At a minimum, this will include:

- Matrix spike and/or matrix spike duplicate samples
- Matrix duplicate analyses
- Laboratory control samples
- Instrument calibrations
- Instrument tunes for SW-846 8260B and 8270C and EPA Method TO-15 analyses
- Method and/or instrument blanks
- Surrogate spikes for organic analyses
- Internal standard spikes for SW-846 8260B and 8270C and EPA Method TO-15 analyses
- Quantitation limit determination and confirmation by analysis of low-level calibration standard

As outline on **Table 5** and summarized in **Section 4.13**, field quality control samples will include:

- Equipment blanks
- Field duplicate samples
- Trip blanks
- MS/MSDs

10.0 CORRECTIVE ACTION

The entire sampling program will be under the direction of the QEP. The emphasis in this program is on preventing problems by identifying potential errors, discrepancies, and gaps in the data-collection-laboratory-analysis-interpretation process. Any problems identified will be promptly resolved. Likewise, follow-up corrective action is always an option in the event that preventative corrective actions are not totally effective.

The acceptance limits for the sampling and analyses to be conducted in this program will be those stated in the method or defined by other means in the Plan. Corrective actions are likely to be immediate in nature and most often will be implemented by the contracted laboratory analyst or the Program Manager. The corrective action will usually involve recalculation, reanalysis, or resampling.

10.1. Immediate Corrective Action

Corrective action in the field may be needed when the sample network is changed (i.e., more/less samples, sampling locations other than those specified in the Plan), or when sampling procedures and/or field analytical procedures require modification, etc. due to unexpected conditions. The field team may identify the need for corrective action. The Field Team Leader will approve the corrective action and notify the Program Manager. The Program Manager will approve the corrective measure. The Field Team Leader will ensure that the corrective measure is implemented by the field team.

Corrective actions will be implemented and documented in the field logbook. Documentation will include:

- A description of the circumstances that initiated the corrective action,
- The action taken in response,
- The final resolution, and
- Any necessary approvals

No staff member will initiate corrective action without prior communication of findings through the proper channels.

Corrective action in the laboratory may occur prior to, during, and after initial analyses. A number of conditions such as broken sample containers, omissions or discrepancies with chain-of-custody documentation, low/high pH readings, and potentially high concentration samples may be identified during sample log-in or just prior to analysis. Following consultation with laboratory analysts and Laboratory Section Leaders, it may be necessary for the Laboratory QA Manager to approve the implementation of corrective action. The laboratory SOPs specify some conditions during or after analysis that may automatically trigger corrective action or optional procedures. These conditions may include dilution of samples, additional sample extract cleanup, automatic reinjection/reanalysis when certain QC criteria are not met, loss of sample through breakage or spillage, etc.

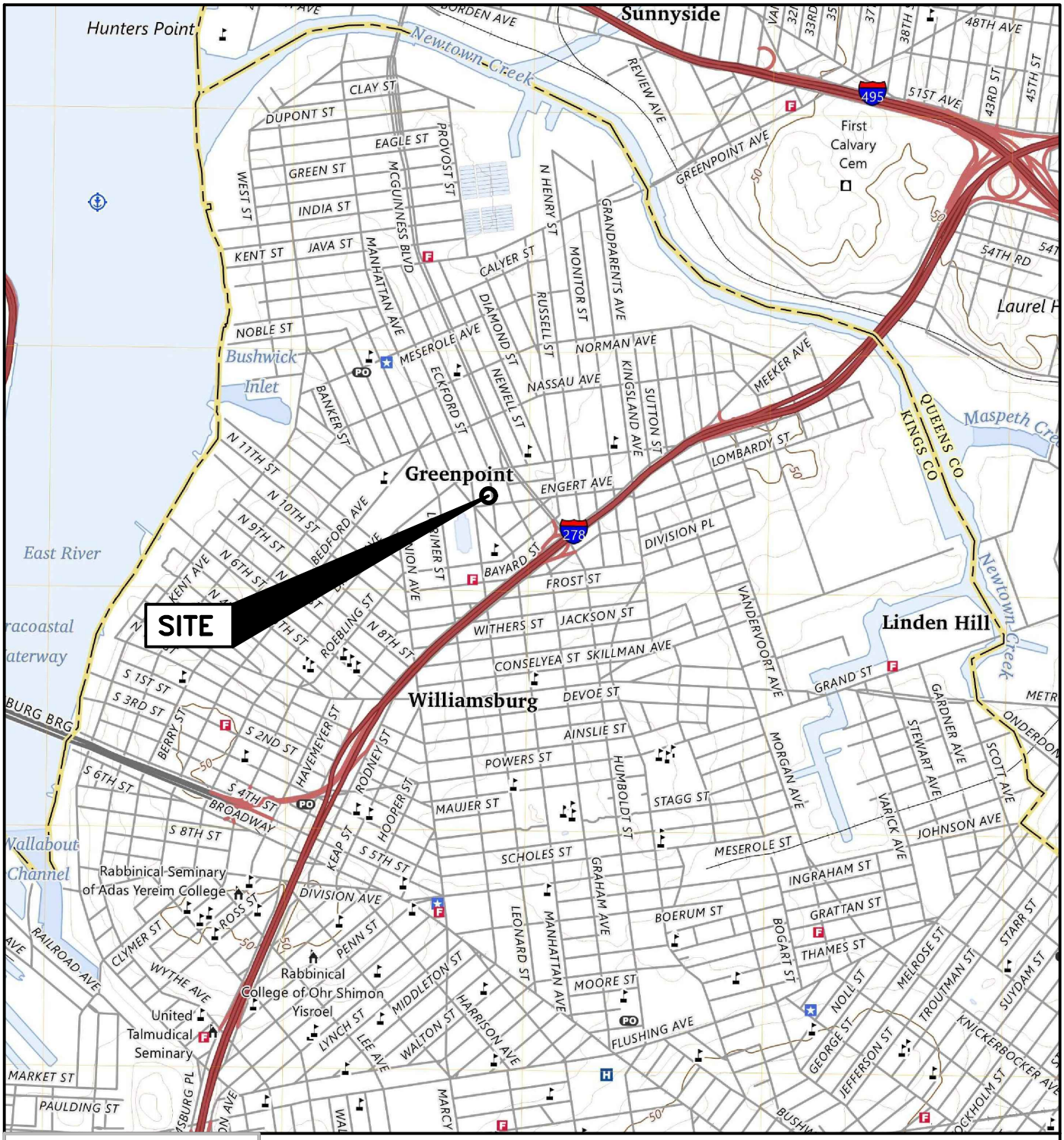
The analyst may identify the need for corrective action. The Laboratory Section Leader, in consultation with the staff, will approve the required corrective action to be implemented by the laboratory staff. The Laboratory QA Manager will ensure implementation and documentation of the corrective action. If the nonconformance causes project objectives not to be achieved, the QEP will be notified. The QEP will notify the Program Manager, who in turn will contact all levels of project management for concurrence with the proposed corrective action.

These corrective actions are performed prior to release of the data from the laboratory. The corrective action will be documented in both the laboratory's corrective action files, and the narrative data report sent from the laboratory to the Program Manager. If the corrective action does not rectify the situation,

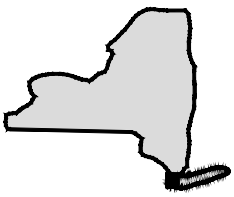
the laboratory will contact the Program Manager, who will determine the action to be taken and inform the appropriate personnel.

If potential problems are not solved as an immediate corrective action, the contractor will apply formalized long-term corrective action, if necessary.

FIGURES



NEW YORK



QUADRANGLE LOCATION

SOURCE:

USGS TOPOGRAPHIC MAPS: BROOKLYN, NY (2023). CONTOUR INTERVAL 10FT., NAVD-1988, ORIGINAL SCALE 1:24,000 (1IN.=2,000FT.).

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55 ECKFORD STREET, BROOKLYN, NY 11222

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PREPARED FOR:
55 ECKFORD ST LLC

SITE LOCATION MAP

PROJ MGR: RM	REVIEWED BY: RM	CHECKED BY: VW	FIGURE 1
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1"=2000'	
DATE: MAY 2025	PROJECT NO. 41.0163263.20	REVISION NO. -	SHEET NO.

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GZA–J:\Active 163200 to 163299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\55 Eckford RAWP.dwg [FIG 1 8.5x11] April 22, 2025 – 2:31pm Selia.Gupta

TABLES

Table 1A
Soil Criteria Table

55 Eckford St
Brooklyn, New York
BCP Site No. C224168
QAPP/FSP

Contaminant	Protection of Public Health					Protection of Ecological Resources[n]	Protection of Groundwater
	Unrestricted Use	Residential	Restricted-Residential	Commercial	Industrial		
All soil cleanup objectives (SCOs) are in parts per million (ppm); approximately equivalent to mg/kg.							
Metals							
Arsenic	13 [m]	16 [f]	17 [f]	18 [f]	19 [f]	13 [f]	16 [f]
Barium	350 [m]	350 [f]	400	400	10,000 [d]	433	820
Beryllium	7.2	14	72	590	2,700	10	47
Cadmium	2.5 [m]	2.5 [f]	4.3	9.3	60	4	7.5
Chromium, hexavalent [h]	1 [l]	22	110	400	800	1 [e]	19
Chromium, trivalent [h]	30 [m]	36	180	1,500	6,800	41	NS
Copper	50	270	270	270	10,000 [d]	50	1,720
Total Cyanide [h]	27	27	27	27	10,000 [d]	NS	40
Lead	63 [m]	400	400	1,000	3,900	63 [f]	450
Manganese	1600 [m]	2,000 [f]	2,000 [f]	10,000 [d]	10,000 [d]	1600 [f]	2,000 [f]
Total Mercury	0.18 [m]	0.81 [j]	0.81 [j]	2.8 [j]	5.7 [j]	0.18 [f]	0.73
Nickel	30	140	310	310	10,000 [d]	30	130
Selenium	3.9 [m]	36	180	1,500	6,800	3.9 [f]	4 [f]
Silver	2	36	180	1,500	6,800	2	8.3
Zinc	109 [m]	2200	10,000 [d]	10,000 [d]	10,000 [d]	109 [f]	2,480
PCBs/Pesticides							
2,4,5-TP Acid (Silvex)	3.8	58	100 [a]	500 [b]	1,000 [c]	NS	3.8
4,4'-DDE	0.0033 [l]	1.8	8.9	62	120	0.0033 [e]	17
4,4'-DDT	0.0033 [l]	1.7	7.9	47	94	0.0033 [e]	136
4,4'-DDD	0.0033 [l]	2.6	13	92	180	0.0033 [e]	14
Aldrin	0.005 [m]	0.019	0.097	0.68	1.4	0.14	0.19
alpha-BHC	0.02	0.097	0.48	3.4	6.8	0.04 [g]	0.02
beta-BHC	0.036	0.072	0.36	3	14	0.6	0.09
Chlordane (alpha)	0.094	0.91	4.2	24	47	1.3	2.9
delta-BHC	0.04	100 [a]	100 [a]	500 [b]	1,000 [c]	0.04 [g]	0.25
Dibenzofuran	7	14	59	350	1,000 [c]	NS	210
Dieldrin	0.005 [m]	0.039	0.2	1.4	2.8	0.006	0.1
Endosulfan I	2.4	4.8 [i]	24 [i]	200 [i]	920 [i]	NS	102
Endosulfan II	2.4	4.8 [i]	24 [i]	200 [i]	920 [i]	NS	102
Endosulfan sulfate	2.4	4.8 [i]	24 [i]	200 [i]	920 [i]	NS	1,000 [c]
Endrin	0.014	2.2	11	89	410	0.014	0.06
Heptachlor	0.042	0.42	2.1	15	29	0.14	0.38
Lindane	0.1	0.28	1.3	9.2	23	6	0.1
Polychlorinated biphenyls	0.1	1	1	1	25	1	3.2
Semivolatiles							
Acenaphthene	20	100 [a]	100 [a]	500 [b]	1,000 [c]	20	98
Acenapthylene	100 [k]	100 [a]	100 [a]	501 [b]	1,000 [c]	NS	107
Anthracene	100 [k]	100 [a]	100 [a]	502 [b]	1,000 [c]	NS	1,000 [c]
Benz(a)anthracene	1 [m]	1 [f]	1 [f]	5.6	11	NS	1 [f]
Benzo(a)pyrene	1 [m]	1 [f]	1 [f]	1 [f]	1.1	2.6	22
Benzo(b)fluoranthene	1 [m]	1 [f]	1 [f]	5.6	11	NS	1.7
Benzo(g,h,i)perylene	100	100 [a]	100 [a]	500 [b]	1,000 [c]	NS	1,000 [c]
Benzo(k)fluoranthene	0.8 [m]	1	3.9	56	110	NS	1.7
Chrysene	1 [m]	1 [f]	3.9	56	110	NS	1 [f]
Dibenz(a,h)anthracene	0.33 [l]	0.33 [e]	0.33 [e]	0.56	1.1	NS	1,000 [c]
Fluoranthene	100 [k]	100 [a]	100 [a]	500 [b]	1,000 [c]	NS	1,000 [c]
Fluorene	30	100 [a]	100 [a]	500 [b]	1,000 [c]	30	386
Indeno(1,2,3-cd)pyrene	0.5 [m]	0.5 [f]	0.5 [f]	5.6	11	NS	8.2
m-Cresol	0.33 [l]	100 [a]	100 [a]	500 [b]	1,000 [c]	NS	0.33 [e]
Naphthalene	12	100 [a]	100 [a]	500 [b]	1,000 [c]	NS	12
o-Cresol	0.33 [l]	100 [a]	100 [a]	500 [b]	1,000 [c]	NS	0.33 [e]
p-Cresol	0.33 [l]	34	100 [a]	500 [b]	1,000 [c]	NS	0.33 [e]
Pentachlorophenol	0.8 [l]	2.4	6.7	6.7	55	0.8 [e]	0.8 [e]
Phenanthrene	100	100 [a]	100 [a]	500 [b]	1,000 [c]	NS	1,000 [c]
Phenol	0.33 [l]	100 [a]	100 [a]	500 [b]	1,000 [c]	30	0.33 [e]
Pyrene	100	100 [a]	100 [a]	500 [b]	1,000 [c]	NS	1,000 [c]

Table 1A
Soil Criteria Table

55 Eckford St
Brooklyn, New York
BCP Site No. C224168
QAPP/FSP

Contaminant	Protection of Public Health					Protection of Ecological Resources[n]	Protection of Groundwater
	Unrestricted Use	Residential	Restricted-Residential	Commercial	Industrial		
All soil cleanup objectives (SCOs) are in parts per million (ppm); approximately equivalent to mg/kg.							
Volatiles							
1,1,1-Trichloroethane	0.68	100 [a]	100 [a]	500 [b]	1,000 [c]	NS	0.68
1,1-Dichloroethane	0.27	19	26	240	480	NS	0.27
1,1-Dichloroethene	0.33	100 [a]	100 [a]	500 [b]	1,000 [c]	NS	0.33
1,2-Dichlorobenzene	1.1	100 [a]	100 [a]	500 [b]	1,000 [c]	NS	1.1
1,2-Dichloroethane	0.02 [m]	2.3	3.1	30	60	10	0.02 [f]
cis-1,2-Dichloroethene	0.25	59	100 [a]	500 [b]	1,000 [c]	NS	0.25
trans-1,2-Dichloroethene	0.19	100 [a]	100 [a]	500 [b]	1,000 [c]	NS	0.19
1,3-Dichlorobenzene	2.4	17	49	280	560	NS	2.4
1,4-Dichlorobenzene	1.8	9.8	13	130	250	20	1.8
1,4-Dioxane	0.1 [l]	9.8	13	130	250	0.1 [e]	0.1 [e]
Acetone	0.05	100[a]	100[b]	500 [b]	1,000 [c]	2.2	0.05
Benzene	0.06	2.9	4.8	44	89	70	0.06
Butylbenzene	12	100[a]	100[a]	500 [b]	1,000 [c]	NS	12
Carbon tetrachloride	0.76	1.4	2.4	22	44	NS	0.76
Chlorobenzene	1.1	100[a]	100[a]	500 [b]	1,000 [c]	40	1.1
Chloroform	0.37	10	49	350	700	12	0.37
Ethylbenzene	1	30	41	390	780	NS	1
Hexachlorobenzene	0.33 [l]	0.33[e]	1.2	6	12	NS	3.2
Methyl ethyl ketone	0.12	100 [a]	100 [a]	500 [b]	1,000 [c]	100 [a]	0.12
Methyl tert-butyl ether	0.93	62	100 [a]	500 [b]	1,000 [c]	NS	0.93
Methylene chloride	0.05	51	100 [a]	500 [b]	1,000 [c]	12	0.05
n-Propylbenzene	3.9	100 [a]	100 [a]	500 [b]	1,000 [c]	NS	3.9
sec-Butylbenzene	11	100 [a]	100 [a]	500 [b]	1,000 [c]	NS	11
tert-Butylbenzene	5.9	100 [a]	100 [a]	500 [b]	1,000 [c]	NS	5.9
Tetrachloroethene	1.3	5.5	19	150	300	2	1.3
Toluene	0.7	100 [a]	100 [a]	500 [b]	1,000 [c]	36	0.7
Trichloroethene	0.47	10	21	200	400	2	0.47
1,2,4-Trimethylbenzene	3.6	47	52	190	380	NS	3.6
1,3,5- Trimethylbenzene	8.4	47	52	190	380	NS	8.4
Vinyl chloride	0.02	0.21	0.9	13	27	NS	0.02
Xylene (mixed)	0.26	100 [a]	100 [a]	500 [b]	1,000 [c]	0.26	1.6
Per-and Polyfluoroalkyl Substances (PFAs)[o]							
PFOA	0.00066	0.0066	0.033	0.5	0.6	NS	0.0011
PFOS	0.00088	0.0088	0.044	0.44	0.44	NS	0.0037

Notes:

[a] The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm.

[b] The SCOs for commercial use were capped at a maximum value of 500 ppm.

[c] The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm.

[d] The SCOs for metals were capped at a maximum value of 10,000 ppm.

[e] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the SCO value.

[f] For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

[g] This SCO is derived from data on mixed isomers of BHC.

[h] The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

[i] This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.

[j] This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts).

[k] The SCOs for unrestricted use were capped at a maximum value of 100 ppm.

[l] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.

[m] For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.

[n] Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8(b) with "NS". Where such contaminants appear in Table 375-6.8(a), the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.

[o] SCOs for PFAs are taken from the NYSDEC Sampling, Analysis, and Assessment of Per-and-Polyfluoroalkyl Substances (PFAS) under NYSDEC's Part 375 Remedial Programs, dated April 2023.

Table 1B
Groundwater Criteria Table

55 Eckford St
Brooklyn, New York
BCP Site No. C224168
QAPP/FSP

Contaminant	Aqueous Water Quality Standards[1], ug/L
Metals	
Antimony	3
Arsenic	---
Arsenic	25
Barium	1,000
Beryllium	3
Cadmium	5
Chromium, hexavalent	---
Chromium, trivalent	50
Copper	200
Cyanide	---
Iron	300
Lead	25
Magnesium	35,000
Manganese	300
Mercury	0.7
Nickel	100
Selenium	10
Silver	50
Sodium	20,000
Thallium	0.5
Zinc	2000
PCBs/Pesticides	
alpha-BHC	0.01
2,4,5-TP Acid (Silvex)	---
4,4'-DDD	0.3
4,4'-DDE	0.2
4,4'-DDT	0.2
Aldrin	---
beta-BHC	0.04
Chlordane (alpha)	---
Dibenzofuran	---
Dieldrin	0.004
Endosulfan I	0.12
Endosulfan II	0.12
Endosulfan sulfate	0.12
Endrin	---
Endrin aldehyde	5
Endrin ketone	5
gamma-BHC (Lindane)	0.05

Table 1B
Groundwater Criteria Table

55 Eckford St
Brooklyn, New York
BCP Site No. C224168
QAPP/FSP

Contaminant	Aqueous Water Quality Standards[1], ug/L
PCBs/Pesticides, Con't.	
gamma-Chlordane	0.12
Heptachlor	0.04
Heptachlor epoxide	0.03
Lindane	---
Methoxychlor	35
Polychlorinated biphenyls	---
Toxaphene	0.06
Semivolatiles	
1,1'-Biphenyl	5
2,2'-oxybis(1-Chloropropane)	5
2,4,5-Trichlorophenol	1
2,4-Dichlorophenol	1
2,4-Dimethylphenol	50
2,4-Dinitrophenol	10
2,4-Dinitrotoluene	5
2,6-Dinitrotoluene	5
2-Chloronaphthalene	10
2-Chlorophenol	1
2-Methylnaphthalene	502
2-Methylphenol	1
2-Nitroaniline	5
2-Nitrophenol	1
3,3'-Dichlorobenzidine	5
3-Nitroaniline	5
4-Chloro-3-methylphenol	1
4-Chloroaniline	5
4-Methylphenol	1
4-Nitroaniline	5
4-Nitrophenol	1
Acenaphthene	20
Acenapthylene	202
Anthracene	50
Atrazine	7.5
Benz(a)anthracene	0.002
Benzo(a)pyrene	---
Benzo(b)fluoranthene	0.002
Benzo(g,h,i)perylene	52
Benzo(k)fluoranthene	0.002
bis(2-Chloroethoxy)methane	5

Table 1B
Groundwater Criteria Table

55 Eckford St
Brooklyn, New York
BCP Site No. C224168
QAPP/FSP

Contaminant	Aqueous Water Quality Standards[1], ug/L
Semivolatiles, Con't.	
Bis(2-Chloroethyl)ether	1
bis(2-Ethylhexyl)phthalate	5
Butylbenzylphthalate	50
Chrysene	0.002
Dibenz(a,h)anthracene	502
Dibenzofuran	52
Diethylphthalate	50
Dimethylphthalate	50
Di-n-butylphthalate	50
Di-n-octylphthalate	50
Fluoranthene	50
Fluorene	50
Hexachlorobenzene	0.04
Hexachlorobutadiene	0.5
Hexachlorocyclopentadiene	5
Hexachloroethane	5
Indeno(1,2,3-cd)pyrene	0.002
Isophorone	50
m-Cresol	---
Naphthalene	10
Nitrobenzene	0.4
N-Nitrosodiphenylamine	50
o-Cresol	---
p-Cresol	---
Pentachlorophenol	1
Phenanthrene	50
Phenol	1
Pyrene	50
Volatiles	
1,1,1-Trichloroethane	5
1,1,2,2-Tetrachloroethane	5
1,1,2-Trichloro-1,2,2-trifluoroethane	5
1,1,2-Trichloroethane	1
1,1-Dichloroethane	5
1,1-Dichloroethene	5
1,1-Dichloroethylene	---
1,2,4-Trichlorobenzene	---

Table 1B
Groundwater Criteria Table

55 Eckford St
Brooklyn, New York
BCP Site No. C224168
QAPP/FSP

Contaminant	Aqueous Water Quality Standards[1], ug/L
Volatiles, Con't.	
1,2,4-Trimethylbenzene	5
1,2-Dibromo-3-chloropropane	0.04
1,2-Dibromoethane	0.0006
1,2-Dichlorobenzene	3
1,2-Dichloroethane	0.6
1,2-Dichloropropane	1
1,3,5- Trimethylbenzene	---
1,3-Butadiene	---
1,3-Dichlorobenzene	3
1,3-Dichlorobenzene	---
1,4-Dichlorobenzene	3
1,4-Dichlorobenzene	---
1,4-Dioxane	1[2]
2-Butanone	50
2-Hexanone	50
4-Methyl-2-pentanone	502
Acetone	50
Benzene	1
Bromodichloromethane	50
Bromoform	50
Bromomethane	5
Butylbenzene	---
Carbon Disulfide	60
Carbon tetrachloride	5
Chlorobenzene	5
Chloroethane	5
Chloroform	7
Chloromethane	5
Cis- 1,3-Dichloropropene	0.4
cis-1,2-Dichloroethene	5
cis-1,2-Dichloroethylene	---
Cyclohexane	---
Dibromochloromethane	50
Dichlorodifluoromethane	5
Ethyl Acetate	---
Ethylbenzene	5
Freon 113	---
Hexachlorobenzene	---

Table 1B
Groundwater Criteria Table

55 Eckford St
Brooklyn, New York
BCP Site No. C224168
QAPP/FSP

Contaminant	Aqueous Water Quality Standards[1], ug/L
Volatiles, Con't.	
Hexachlorobutadiene	---
Hexane	---
Isopropylbenzene	5
m,p-Xylene	---
m-Dichlorobenzene	---
Methyl Acetate	NS
Methyl ethyl ketone	---
Methyl Isobutyl Ketone	---
Methyl tert-butyl ether	10
Methylcyclohexane	---
Methylene chloride	5
n-Propylbenzene	---
o-Dichlorobenzene	---
o-Xylene	---
p-Dichlorobenzene	---
sec-Butylbenzene	---
Styrene	5
tert-Butylbenzene	---
Tertiary Butyl Alcohol	---
Tetrachloroethene	5
Toluene	5
trans-1,2-Dichloroethene	5
trans-l,3-Dichloropropene	0.4
Trichloroethene	5
Trichlorofluoromethane	5
Vinyl Acetate	---
Vinyl Chloride	2
Xylene (mixed)	5
Per- and Polyfluoroalkyl Substances (PFAS)	
PFOA	0.01[2]
PFOS	0.01[2]

Notes:

[1] - Division of Water Technical and Operational Guidance Values (TOGS) Ambient Water Quality Standards and Guidance Values (AWQS), ug/L

[2] - Guidance value for 1,4-Dioxane, PFOA, and PFOS is from the NYSDEC Guidance to Regulate PFOA, PFOS, and 1,4-Dioxane in State Waters, dated October 5, 2021

ug/L - micro gram per liter

Table 1C
Soil Vapor Criteria Table

55 Eckford St
Brooklyn, New York
BCP Site No. C224168
QAPP/FSP

Volatile Organics in Air	CAS No.	NYSDOH Soil Vapor Intrusion Guidance Criteria				Toxicity	Decision Matrix
		1	2	3	4		
1,1,1-Trichloroethane	71556	2.5	20.6	-	-	L	**B**
1,1,2,2-Tetrachloroethane	79345	0.4	-	-	-	M	TD
1,1,2-Trichloroethane	79005	0.4	<1.5	-	-	H	TD
1,1-Dichloroethane	75343	0.4	<0.7	-	-	L	TD
1,1-Dichloroethene	75354	0.4	<1.4	-	-	M	B
1,2,4-Trichlorobenzene	120821	0.5	<6.8	-	-	NA	TD
1,2,4-Trimethylbenzene	95636	9.8	9.5	-	-	NA	D
1,2-Dibromoethane	106934	0.4	<1.5	-	-	H	TD
1,2-Dichlorobenzene	95501	0.5	<1.2	-	-	M	TD
1,2-Dichloroethane	107062	0.4	<0.9	-	-	H	TD
1,2-Dichloropropane	78875	0.4	<1.6	-	-	M	TD
1,3,5-Trimethybenzene	108678	3.9	3.7	-	-	M	D
1,3-Butadiene	106990	-	<3.0	-	-	H	TD
1,3-Dichlorobenzene	541731	0.5	<2.4	-	-	M	TD
1,4-Dichlorobenzene	106467	1.2	5.5	344	-	M	TD
1,4-Dioxane	123911	-	-	-	-	M	TD
2,2,4-Trimethylpentane	540841	5	-	-	-	M	D
2-Butanone	78933	16	12	-	-	M	TD
2-Hexanone	591786	-	-	-	-	NA	TD
3-Chloropropene	107051	-	-	-	-	M	TD
4-Ethyltoluene	622968	-	3.6	-	-	NA	TD
4-Methyl-2-pentanone	108101	1.9	6	-	-	M	TD
Acetone	67641	115	98.9	45.8	-	L	TD
Benzene	71432	13	9.4	10	-	H	D
Benzyl chloride	100447	-	<6.8	-	-	H	TD
Bromodichloromethane	75274	-	-	-	-	M	TD
Bromoform	75252	-	-	-	-	M	TD
Bromomethane	74839	0.5	<1.7	-	-	M	TD
Carbon disulfide	75150	-	4.2	-	-	M	TD
Carbon tetrachloride	56235	1.3	<1.3	1.1	-	H	A
Chlorobenzene	108907	0.4	<0.9	-	-	M	TD
Chloroethane	75003	0.4	<1.1	-	-	L	TD
Chloroform	67663	1.2	1.1	6.34	-	H	TD
Chloromethane	74873	4.2	3.7	-	-	M	TD
cis-1,2-Dichloroethene	156592	0.4	<1.9	-	-	M	B
cis-1,3-Dichloropropene	10061015	0.4	<2.3	-	-	NA	TD
Cyclohexane	110827	6.3	-	-	-	L	D

Table 1C
Soil Vapor Criteria Table

55 Eckford St
Brooklyn, New York
BCP Site No. C224168
QAPP/FSP

Volatile Organics in Air	CAS No.	NYSDOH Soil Vapor Intrusion Guidance Criteria				Toxicity	Decision Matrix
		1	2	3	4		
Dibromochloromethane	124481	-	-	-	-	NA	TD
Dichlorodifluoromethane	75718	10	16.5	-	-	NA	TD
Ethanol	64175	1300	210	-	-	L	TD
Ethyl Acetate	141786	-	5.4	-	-	M	TD
Ethylbenzene	100414	6.4	5.7	7.62	-	M	D
Freon-113	76131	2.5	3.5	-	-	L	TD
Freon-114	76142	0.4	<6.8	-	-	NA	TD
Heptane	142825	18	-	-	-	M	E
Hexachlorobutadiene	87683	0.5	<6.8	-	-	M	TD
Isopropanol	67630	-	-	-	-	M	TD
Methyl tert butyl ether	1634044	14	11.5	36	-	M	TD
Methylene chloride	75092	16	10	7.5	60	NA	TD
n-Hexane	110543	14	10.2	-	-	M	E
o-Xylene	95476	7.1	7.9	7.24	-	M	D
p/m-Xylene	179601231	11	22.2	22.2	-	M	E
Styrene	100-42-5	1.4	1.9	5.13	-	M	TD
Tertiary butyl Alcohol	75-65-0	-	-	-	-	NA	TD
Tetrachloroethene (PCE)	127184	2.5	15.9	6.01	30	H	B
Tetrahydrofuran	109999	0.8	-	-	-	M	TD
Toluene	108883	57	43	39.8	-	L	F
trans-1,2-Dichloroethene	156605	-	-	-	-	NA	TD
trans-1,3-Dichloropropene	10061026	NC	<1.3	-	-	NA	TD
Trichloroethene	79016	0.5	4.2	1.36	2	H	A
Trichlorofluoromethane	75694	12	18.1	-	-	L	TD
Vinyl bromide	593602	-	-	-	-	H	TD
Vinyl chloride	75014	0.4	<1.9	-	-	H	A

Notes

Decision Criteria used:

Martix A: Sub-Slab >5, Indoor Air >5
Martix B: Sub-Slab >100, Indoor Air >30
Toxicities from DAR-1 Appendix C/SCG/ACG
(H) HIGH Toxicity Contaminant.
(M) MODERATE Toxicity Contaminant.
(L) LOW Toxicity Contaminant.

ND - Non-detect
NA - Not applicable
NFA - No further action
TD - To be determined based on the NYSDOH VI Decision
easonable - Take reasonable/practical actions to identify source/reduce exposure

NYSDOH Soil Vapor Intrusion Guidance Criteria

1 - Table C-1 2003 Upper Fence Study of Volatile Organic Chemicals in air of Fuel Oil Heated Homes for Indoor Air
2 - Table C-2 2001 USEPA BASE 90th Percentile for Indoor Air
3 -Table C-5 2005 Health Effects Institute 95th Percentile for Indoor Air
4 -NYSDOH Air Guidance Value
NYSDOH Specific Compounds for Matrix Eval

Table 2

Typical Analytical Parameters, Methods, Preservation, Holding Time and Container Requirements

55 Eckford St, Brooklyn, New York

BCP Site No. C224168

QAPP/FSP

Sample Matrix	Analytical Parameter	Numer of Samples[1]	EPA Analytical Method	Sample Preservation	Holding Time[2]	Sample Container[3]
Soil	VOCs (TCL)	45	SW-846 Method 8260C/5035	1 - Methanol, 2 - Water; Cool to 4° C; no headspace	14 days to analysis	(3) Vial
Soil	PCBs	45	SW-846 Method 8082A	Cool to 4^0 C	365 days to analysis	(1) 250 mL amber glass jar
Soil	Pesticides (TCL)	45	SW-846 Method 8081A	Cool to 4^0 C	14 days to extraction	(1) 250 mL amber glass jar
Soil	SVOCs (TCL)	45	SW-846 Method 8270D	Cool to 4° C	14 days to extraction	(1) 250 mL amber glass jar
Soil	1,4-Dioxane	45	SW-846 Method 8270D	Cool to 4° C	7 days to extraction	(2) 250 mL amber glass jars
Soil	Metals	45	SW-846 Method 6010DSeries	Cool to 4^0 C	180 days to analysis	(1) 60 mL glass jar
Soil	Mercury	45	SW-846 Method 7471B	Cool to 4^0 C	28 days to analysis	(1) 60 mL glass jar
Soil	Cyanide	45	SW-846 Method 9010C/9012B	Cool to 4^0 C	14 days to analysis	(1) 250 mL amber glass jar
Soil	Herbicides	45	SW-846 Method 8151A	Cool to 4^0 C	14 days to extraction	(1) 250 mL amber glass jar
Soil	PFAs	45	EPA Method 1633	Cool to 4^0 C	14 Days	(1) 250 mL plastic container
Groundwater	VOCs (TCL)	10	SW-846 Method 8260C	HCl; Cool to 4^0 C; no headspace	14 days to analysis	(3) Vial
Groundwater	VOCs with TICs, including 1,4-Dioxane (TCL)	10	SW-846 Method 8260C	HCl; Cool to 4^0 C; no headspace	14 days to analysis	(3) Vial
Groundwater	1,4-Dioxane	10	SW-846 Method 8270D	Cool to 4^0 C	7 days to analysis	(2) 250 mL amber glass jar
Groundwater	SVOCs (TCL)	10	SW-846 Method 8270D	Cool to 4^0 C	7 days to extraction	(2) 250 mL amber glass jar
Groundwater	SVOCs with TICs (TCL)	10	SW-846 Method 8270D	Cool to 4^0 C	7 days to extraction	(2) 250 mL amber glass jar
Groundwater	Metals- total (TAL)	10	SW-846 Method 6020B/7470A Series	HNO_3; Cool to 4° C	28 days to analysis for Hg; 180 days to analysis for other	(1) 500 mL plastic container
Groundwater	Metals-dissolved (TAL)	10	SW-846 Method 6020B/7470A Series	HNO3; Cool to 4° C	28 days to analysis for Hg; 180 days to analysis for other metals	(1) 500 mL plastic container
Groundwater	Pesticides (TCL)	10	SW-846 Method 8081B	Cool to 4^0 C	7 days to extraction	(2) 120 mL amber glass jar
Groundwater	Herbicides (TCL)	10	SW-846 Method 8151A	Cool to 4^0 C	7 days to extraction	(2) 1000 mL amber glass jar
Groundwater	PCBs	10	SW-846 Method 8082A	Cool to 4^0 C	365 days to analysis	(1) 250 mL amber glass jar
Groundwater	Cyanide	10	SW-846 Method 9012A	Cool to 4^0 C	14 days to analysis	(1) 250 mL amber glass jar
Groundwater	Mercury	10	SW-846 Method 7470 A	HNO3; Cool to 4° C	28 days to analysis	(1) 250 mL plastic container
Groundwater	PFAs	10	EPA Method 1633	Cool to 4^0 C	14 Days	(1) 250 mL plastic container
Soil Gas	VOCs	10	EPA Method TO-15	None	14 days to analysis	(1) Evacuated 6-Liter SUMMA® canister

Notes:

[1] Actual number of samples may vary depending on field conditions, sample material availability, and field observations. See RIWP for estimates.

[2] Holding times listed are method holding time calculated from time of collection and not NYSDEC ASP holding times.

[3] MS/MSDs require duplicate volume for all parameters for solid matrices; MS/MSDs require triplicate volume for organic parameters for aqueous matrices and duplicate volume for inorganic parameters for aqueous matrices

Table 3
Typical Laboratory Data Quality Objectives - Soil Samples
55 Eckford St, Brooklyn, New York
BCP Site No. C224168
QAPP/FSP

Parameter	Method	Matrix	Accuracy Control Limits	Accuracy Frequency Requirements	Precision (RPD) Control Limits	Precision Frequency Requirements
VOCs (TCL)	SW-846 Methods 8260B/5035	Soil	Surrogates % Rec. 1,2-Dichloroethane-d4 70-130 4-Bromofluorobenzene 70-130 Dibromofluoromethane 70-130 Toluene-d8 70-130 2-Chloroethoxyethane 70-130 Matrix Spikes 30-151% recovery	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 30 per matrix type	Field Duplicates RPD <30 MS/MSDs (RPD) RPD <30	Field Duplicates: One per 20 per soils MS/MSDs: One per 30 per matrix type
VOCs with Tentatively Identified Compounds (TICs)	SW-846 Method 8260C	Soil	Surrogates % Rec. 1,2-Dichloroethane-d4 70-130 4-Bromofluorobenzene 70-130 Dibromofluoromethane 70-130 Toluene-d8 70-130 Matrix Spikes 36-162 % recovery	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 20	Field Duplicates RPD <30 MS/MSDs RPD RPD<30	Field Duplicates: One per 20 MS/MSDs: One per 20
PCBs	SW-846 Method 8082A	Soil	Surrogates % Rec. 2,4,5,6-Tetrachloro-m-xylene 30-150 Decachlorobiphenyl 30-150 Matrix Spikes 40-140% recovery	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 20 per matrix type	Field Duplicates RPD <50 MS/MSDs (RPD) RPD<50	Field Duplicates: One per 20 per soils MS/MSDs: One per 20 per matrix type
SVOCs	SW-846 Method 8270D	Soil	Surrogates % Rec. Phenol-d6 10-120 2-Fluorophenol 25-120 2,4,6-Tribromophenol 10-136 Nitrobenzene-d5 23-120 2-Fluorobiphenyl 30-120 4-Terphenyl-d14 18-120 Matrix Spikes 14-144% recovery	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 50 per matrix type	Field Duplicates RPD <50 MS/MSDs (RPD)	Field Duplicates: One per 20 per soils MS/MSDs: One per 20 per matrix type
SVOCs with TICs	SW-846 Method 8270D	Soil	Surrogates % Rec. Phenol-d5 10-120 2-Fluorophenol 21-120 2,4,6-Tribromophenol 10-120 Nitrobenzene-d5 23-120 2-Fluorobiphenyl 15-120 4-Terphenyl-d14 41-149 Matrix Spikes 14-144%	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 20	Field Duplicates RPD <50 MS/MSDs RPD RPD<50	Field Duplicates: One per 20 MS/MSDs: One per 20
1,4-Dioxane	SW-846 Method 8270D	Soil	Surrogates % Rec. 1,4-Dioxane-d8 15-110 Matrix Spikes 40-140% recovery	Surrogates: All samples, standards, QC samples	Field Duplicates RPD <30 MS/MSDs (RPD) RPD<30	Field Duplicates: One per 20 per soils MS/MSDs: One per 20
Pesticides (TCL)	SW-846 Method 8081A	Soil	Surrogates % Rec. Decachlorobiphenyl 30-150 Tetrachloro-m-xylene 30-150 Matrix Spikes 30-150% Recovery	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 20 per matrix type	Field Duplicates RPD <50 MS/MSDs (RPD) RPD<50	Field Duplicates: One per 20 per soils MS/MSDs: One per 20 per matrix type
Total Petroleum Hydrocarbons	SW-846 Method 8015B	Soil	Surrogates % Rec. o-Terphenyl 27-153 Tetracosane-d50 28-148 5α-androstane 27-148 TPH-DRO 10-149	Surrogates: All samples, standards, QC samples One per 20 per matrix type	Field Duplicates RPD <50 TPH-DRO 44	Field Duplicates: One per 20 per soils One per 20 per matrix type
Herbicides	SW-846 Method 8151A	Soil	Surrogates % Rec. 2,4-DCAA 30-150 Matrix Spikes 30-150% Recovery	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 20 per matrix type	Field Duplicates RPD <50 MS/MSDs (RPD) RPD<50	Field Duplicates: One per 20 per soils MS/MSDs: One per 20 per matrix type
Metals (TAL)	SW-846 Method 6010D	Soil	Surrogates % Rec. Matrix Spikes 75-125% recovery	Surrogates: Matrix Spikes: One per 20 per matrix type	Field Duplicates RPD <20 MS/MSDs (RPD) RPD <20	Field Duplicates: One per 20 per soils MS/MSDs: One per 20 per matrix type

Table 3
Typical Laboratory Data Quality Objectives - Soil Samples
55 Eckford St, Brooklyn, New York
BCP Site No. C224168
QAPP/FSP

Parameter	Method	Matrix	Accuracy Control Limits	Accuracy Frequency Requirements	Precision (RPD) Control Limits	Precision Frequency Requirements
PFAs	LCMSMS- Isotope Dilution	Soil	Surrogates % Rec. Perfluoro[13C4]Butanoic Acid (MPFBA) 61-135 Perfluoro[13C4]Butanoic Acid (MPFBA) 58-132 Perfluoro[13C5]Pentanoic Acid (M5PFPEA) 62-163 Perfluoro[13C5]Pentanoic Acid (M5PFPEA) 58-150 Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS) 70-131 Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS) 74-139 Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA) 57-129 Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA) 66-128 Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA) 60-129 Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA) 71-129 Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS) 71-134 Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS) 78-139 Perfluoro[13C8]Octanoic Acid (M8PFOA) 62-129 Perfluoro[13C8]Octanoic Acid (M8PFOA) 75-130 1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS) 14-147 1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS) 20-154 Perfluoro[13C9]Nonanoic Acid (M9PFNA) 59-139 Perfluoro[13C9]Nonanoic Acid (M9PFNA) 72-140 Perfluoro[13C8]Octanesulfonic Acid (M8PFOS) 79-136 Perfluoro[13C8]Octanesulfonic Acid (M8PFOS) 69-131 Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA) 75-130 Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA) 62-124 1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS) 19-175 1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS) 10-162 N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA) 24-116 N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA) 31-134 Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA) 61-155 Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA) 55-137 Perfluoro[13C8]Octanesulfonamide (M8FOSA) 10-112 Perfluoro[13C8]Octanesulfonamide (M8FOSA) 10-117 N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA) 34-137 N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA) 27-126 Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA) 48-131 Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA) 54-150 Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA) 22-136 Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA) 24-159 Matrix Spikes 46-182% recovery	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 20 per matrix type	Field Duplicates RPD <30 MS/MSDs (RPD) RPD <30	Field Duplicates: One per 20 per soils MS/MSDs: One per 20 per matrix type
Mercury	SW-846 Method 7471B	Soil	Surrogates % Rec. Matrix Spikes 80-125% recovery	Surrogates: Matrix Spikes: One per 20 per matrix type	Field Duplicates RPD <20 MS/MSDs (RPD) RPD <20	Field Duplicates: One per 20 per soils MS/MSDs: One per 20 per matrix type
Cyanide	SW-846 Method 9012A	Soil	Surrogates % Rec. Matrix Spikes 75-125% Recovery	Surrogates: Matrix Spikes: One per 35 per matrix	Field Duplicates RPD <35 MS/MSDs (RPD)	Field Duplicates: One per 20 per soils MS/MSDs: One per 20 per matrix type

Table 3
Typical Laboratory Data Quality Objectives - Soil Samples
55 Eckford St, Brooklyn, New York
BCP Site No. C224168
QAPP/FSP

Parameter	Method	Matrix	Accuracy Control Limits	Accuracy Frequency Requirements	Precision (RPD) Control Limits	Precision Frequency Requirements
				type	RPD <35	
Recovery criteria for laboratory control samples must be at least as stringent as MS/MSD criteria.						
Laboratory control limits are periodically updated. The latest control limits will be utilized at the time of sample analysis.						

Table 4
Typical Laboratory Data Quality Objectives - Groundwater Samples
55 Eckford St, Brooklyn, New York
BCP Site No. C224168
QAPP/FSP

Parameter	Method	Matrix	Accuracy Control Limits	Accuracy Frequency Requirements	Precision (RPD) Control Limits	Precision Frequency Requirements
VOCs (TCL)	SW-846 Method 8260C	Groundwater	Surrogates % Rec. 1,2-Dichloroethane-d4 70-130 4-Bromofluorobenzene 70-130 Dibromofluoromethane 70-130 Toluene-d8 70-130 Matrix Spikes 36-162 % recovery	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 20	Field Duplicates RPD <20 MS/MSDs RPD RPD <20	Field Duplicates: One per 20 MS/MSDs: One per 20
VOCs with Tentatively Identified Compounds (TICs)	SW-846 Method 8260C	Groundwater	Surrogates % Rec. 1,2-Dichloroethane-d4 70-130 4-Bromofluorobenzene 70-130 Dibromofluoromethane 70-130 Toluene-d8 70-130 Matrix Spikes 36-162 % recovery	Surrogates: All samples, standards, QC Matrix Spikes: One per 20	Field Duplicates RPD <20 MS/MSDs RPD RPD <20	Field Duplicates: One per 20 MS/MSDs: One per 20
SVOCs TCL	SW-846 Method 8270D	Groundwater	Surrogates % Rec. Phenol-d5 10-120 2-Fluorophenol 21-120 2,4,6-Tribromophenol 10-120 Nitrobenzene-d5 23-120 2-Fluorobiphenyl 15-120 4-Terphenyl-d14 41-149 Matrix Spikes 14-144%	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 20	Field Duplicates RPD <50 MS/MSDs RPD RPD <50	Field Duplicates: One per 20 MS/MSDs: One per 20
SVOCs with TICs	SW-846 Method 8270D	Groundwater	Surrogates % Rec. Phenol-d5 10-120 2-Fluorophenol 21-120 2,4,6-Tribromophenol 10-120 Nitrobenzene-d5 23-120 2-Fluorobiphenyl 15-120 4-Terphenyl-d14 41-149 Matrix Spikes 14-144%	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 20	Field Duplicates: RPD <50 MS/MSDs RPD RPD <50	Field Duplicates: One per 20 MS/MSDs: One per 20
1,4-Dioxane	SW-846 Method 8270D	Groundwater	Surrogates % Rec. 1,4-Dioxane-d8 15-110 Matrix Spikes 40-140% recovery	Surrogates: All samples, standards, QC samples	Field Duplicates RPD <30 Matrix Duplicates RPD<30	Field Duplicates: One per 20 per soils MS/MSDs: One per 20
Metals (Total and Dissolved)	SW-846 Methods 6020B	Groundwater	Matrix Spikes 75-125% recovery	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 20	Field Duplicates RPD <20 Matrix Duplicates RPD <20	Field Duplicates: One per 20 MS/MSDs: One per 20
Mercury (Total and Dissolved)	SW-846 Methods 7470A	Groundwater	Matrix Spikes 75-125% recovery	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 20	Field Duplicates RPD <35 (dissolved) RPD<20 (Total) Matrix Duplicates RPD <35 (dissolved) RPD<20 (Total)	Field Duplicates: One per 20 MS/MSDs: One per 20
PCBs	SW-846 Method 8082A	Groundwater	Surrogates % Rec. 2,4,5,6-Tetrachloro-m-xylene 30-150 Decachlorobiphenyl 30-150 Matrix Spikes 40-140% recovery	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 20 per matrix type	Field Duplicates RPD <50 MS/MSDs (RPD) RPD<50	Field Duplicates: One per 20 MS/MSDs: One per 20 per matrix type
Herbicides	SW-846 Method 8151A	Groundwater	Surrogates % Rec. 2,4-DCAA 30-150 Matrix Spikes 30-150% Recovery	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 20 per matrix type	Field Duplicates: RPD <50 MS/MSDs (RPD) RPD<50	Field Duplicates: One per 20 MS/MSDs: One per 20 per matrix type

Table 4
Typical Laboratory Data Quality Objectives - Groundwater Samples
55 Eckford St, Brooklyn, New York
BCP Site No. C224168
QAPP/FSP

Parameter	Method	Matrix	Accuracy Control Limits	Accuracy Frequency Requirements	Precision (RPD) Control Limits	Precision Frequency Requirements
Pesticides (TCL)	SW-846 Method 8081B	Groundwater	Surrogates % Rec. Decachlorobiphenyl 15-142 2,4,5,6-Tetrachloro-m-xylene 36-126 Matrix Spikes 30-150% recovery	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 20	Field Duplicates RPD <30 MS/MSDs RPD RPD <30	Field Duplicates: One per 20 MS/MSDs: One per 20
PFAs	EPA Method 1633	Grounwater	Surrogates Perfluoro[13C4]Butanoic Acid (MPFBA) Perfluoro[13C4]Butanoic Acid (MPFBA) Perfluoro[13C5]Pentanoic Acid (M5PFPEA) Perfluoro[13C5]Pentanoic Acid (M5PFPEA) Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS) Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS) Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA) Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA) Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA) Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA) Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS) Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS) Perfluoro[13C8]Octanoic Acid (M8PFOA) Perfluoro[13C8]Octanoic Acid (M8PFOA) 1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2- 1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2- Perfluoro[13C9]Nonanoic Acid (M9PFNA) Perfluoro[13C9]Nonanoic Acid (M9PFNA) Perfluoro[13C8]Octanesulfonic Acid (M8PFOS) Perfluoro[13C8]Octanesulfonic Acid (M8PFOS) Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA) Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA) 1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2- 1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2- N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA) Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA) Perfluoro[13C8]Octanesulfonamide (M8FOSA) Perfluoro[13C8]Octanesulfonamide (M8FOSA) N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA) Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA) Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA) Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA) Matrix Spikes 46-182% recovery	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 20 per matrix type	Field Duplicates RPD <30 MS/MSDs (RPD) RPD <30	Field Duplicates: One per 20 MS/MSDs: One per 20 per matrix
Cyanide	EPA Method 9012B	Groundwater	 Matrix Spikes 75-125% recovery	Surrogates: All samples, standards, QC samples Matrix Spikes: One per 35	Field Duplicates RPD <35 Matrix Duplicates RPD <35	Field Duplicates: One per 20 Matrix Duplicates: One per 20
Recovery criteria for laboratory control samples must be at least as stringent as MS/MSD criteria. Laboratory control limits are periodically updated. The latest control limits will be utilized at the time of sample analysis.						

Table 5

Typical Laboratory Data Quality Objectives - Soil Gas Samples

55 Eckford St, Brooklyn, New York

BCP Site No. C224168

QAPP/FSP

Parameter	Method	Matrix	Accuracy Control Limits	Accuracy Frequency Requirements	Precision (RPD) Control Limits	Precision Frequency Requirements
VOCs	EPA Method TO-15	Soil Gas	Surrogates % Rec. 4-Bromofluorobenzene 78-124	Surrogates: All samples, standards, QC samples	Matrix Duplicates RPD £30	Matrix Duplicates One per 20

Table 6
QC Sample Preservation and Container Requirements
55 Eckford St, Brooklyn, New York
BCP Site No. C224168
QAPP/FSP

Sample Matrix	Analytical Parameter	No. of Samples	EPA Analytical Method	Sample Preservation	Holding Time[1]	Sample Container
Soil	VOCs (TCL)	2	SW-846 Method 8260C/5035	1 - Methanol, 2 - Water; Cool to 4° C; no headspace	14 days to analysis	(3) Vial Preserved
Soil	PCBs	2	SW-846 Method 8082A	Cool to 4^0 C	365 days to analysis	(1) 250 mL amber glass jar
Soil	SVOCs (TCL)	2	SW-846 Method 8270D	Cool to 4° C	14 days to extraction	(1) 250 mL amber glass jar
Soil	1,4-Dioxane	2	SW-846 Method 8270D	Cool to 4° C	7 days to extraction	(2) 250 mL amber glass jars
Soil	Metals (TAL)	2	SW-846 Method 6010DSeries	Cool to 4^0 C	180 days to analysis	(1) 60 mL glass jar
Soil	Mercury	2	SW-846 Method 7471B	Cool to 4^0 C	28 days to analysis	(1) 60 mL glass jar
Soil	Cyanide	2	SW-846 Method 9010C/9012B	Cool to 4^0 C	14 days to analysis	(1) 250 mL amber glass jar
Soil	Herbicides	2	SW-846 Method 8151A	Cool to 4^0 C	14 days to extraction	(1) 250 mL amber glass jar
Soil	Pesticides	2	SW-846 Method 8141A[6]	Cool to 4^0 C	14 days to extraction	(1) 300 mL amber glass jar
Soil	PFAs	2	EPA Method 1633	Cool to 4^0 C	14 Days	(1) 250 mL plastic container

Table 6
QC Sample Preservation and Container Requirements
55 Eckford St, Brooklyn, New York
BCP Site No. C224168
QAPP/FSP

Groundwater	VOCs (TCL)	1	SW-846 Method 8260C	HCl; Cool to 4^0 C; no headspace	14 days to analysis	(3) Vial
Groundwater	1,4-Dioxane	1	SW-846 Method 8270D	Cool to 4^0 C	7 days to analysis	(2) 250 mL amber glass jar
Groundwater	SVOCs (TCL)	1	SW-846 Method 8270D	Cool to 4^0 C	7 days to extraction	(2) 250 mL amber glass jar
Groundwater	Metals- total (TAL)	1	SW-846 Method 6020B/7470A Series	HNO_3; Cool to 4° C	28 days to analysis for Hg; 180 days to analysis for other metals	(1) 500 mL plastic container
Groundwater	Metals-dissolved (TAL)	1	SW-846 Method 6020B/7470A Series	HNO3; Cool to 4° C	28 days to analysis for Hg; 180 days to analysis for other metals	(1) 500 mL plastic container
Groundwater	Pesticides (TCL)	1	SW-846 Method 8081B	Cool to 4^0 C	7 days to extraction	(2) 120 mL amber glass jar
Groundwater	Herbicides (TCL)	1	SW-846 Method 8151A	Cool to 4^0 C	7 days to extraction	(2) 1000 mL amber glass jar
Groundwater	PCBs	1	SW-846 Method 8082A	Cool to 4^0 C	365 days to analysis	(1) 250 mL amber glass jar
Groundwater	Cyanide	1	SW-846 Method 9012A	Cool to 4^0 C	14 days to analysis	(1) 250 mL amber glass jar
Groundwater	Mercury	1	SW-846 Method 7470 A	HNO3; Cool to 4° C	28 days to analysis	(1) 250 mL plastic container
Groundwater	PFAs	1	EPA Method 1633	Cool to 4^0 C	14 Days	(1) 250 mL plastic container
Soil Gas	VOCs	1	EPA Method TO-15	None	14 days to analysis	(1) Evacuated 6-Liter SUMMA® canister

Notes:
1 Holding times listed are method holding time calculated from time of collection and not NYSDEC ASP holding times.

ATTACHMENTS



Chunhua Liu, PhD

Senior Technical Specialist

Summary of Experience

Dr. Liu is a senior chemist with more than 10 years of experience in analytical chemistry, data validation and management, and quality control and quality assurance for remedial investigations and remedial actions. Her experience includes laboratory chemical analysis, EPA Region I and Region II data validation and data usability evaluation, data usability evaluation for Massachusetts Contingency Plan (MCP), sampling and analysis plan development in accordance with the NYSDEC Analytical Service Protocol and Massachusetts Compendium of Quality Assurance and Quality Control Requirements (QA/QC) and Performance Standards for Selected Analytical Methods, and quality control and quality assurance for Superfund and MCP projects.

Dr. Liu majored in environmental chemistry and during her doctoral study at Harvard School of Public Health, she researched analytical methods for sediment and evaluated metal fate and transport in sediment. Dr. Liu worked at Parsons for over seven years and at Gradient for one year before joining GZA. At Parsons, Dr. Liu led the quality control and assurance and data management efforts from developing Quality Assurance Project Plan (QAPP) to assuring implementation of QA/QC requirements and from field sampling preparation and arrangement to chemical data management. Dr. Liu was responsible for the QA/QC and data validation and data usability evaluation for a 10,000-acre BRAC and Superfund NPL site in New York and assisted in the successful transfer of over 8,000 acres of land. Dr. Liu performed data usability evaluation for various Massachusetts Contingency Plan sites at Gradient and GZA.

Education

B.E., 1992, Environmental Engineering, Tsinghua University, Beijing, China
M.E., 1995, Environmental Engineering, Tsinghua University, Beijing, China
M.S., 1998, Environmental Health, Harvard School of Public Health
D.S., 2000, Environmental Chemistry, Harvard School of Public Health

Areas of Specialization

- Human Health Risk Assessment
- Ecological Risk Assessment
- Data Usability Evaluation
- Project Quality Control and Assurance
- Fate and Transport Modeling

Relevant Project Experience

Senior Technical Specialist. Leads GZA human health risk assessment efforts for federal and state level superfund and MCP projects. Dr. Liu is also responsible for data usability evaluation for various projects.

Technical Director. Directed preparation and submittal of the Site-Wide Sampling and Analysis Plan (SAP) and the Site-Wide Quality Assurance Project Plan (QAPP) for a 10,000-acre Superfund site in New York in accordance with the Department of Defense (DOD), NYSDEC ASP, EPA Region II and EPA guidance. Directed project field sampling and data management. Supervised data validation in accordance with EPA Region II SOPs and NYSDEC ASP based on the NYSDEC ASP Category B deliverables. Identified laboratories qualified for project chemical analyses and interfaced with various analytical laboratories to address analytical deficiencies. Submitted data summary report to EPA Region II on a quarterly basis.

Lead Chemist and Risk Assessor. Led data usability evaluation and supported the successful closure of a 125-acre Hingham Annex Guaranteed Fixed Price Remediation Project. Dr. Liu also led the risk assessment effort and the effort of evaluating pesticide fate and transport at the site and successfully demonstrated that the pesticide conditions at the site were related to the past normal use of pesticides and therefore were not associated with the release at the Site.

Technical Director. Directed preparation and submittal of the SAP and the QAPP for various Formerly Used Defense (FUD) Sites. Supervised field sampling and data

Chunhua Liu, PhD
Senior Technical Specialist

validation in accordance with guidance from various EPA regions. Reviewed data validation and data usability report.

Technical Director. Directed data validation for various Superfund sites in EPA Region I and Region II in accordance with the EPA regional and state SOPs and the EPA Functional Guidelines. Led data validation for numerous MCP sites for various analytical analyses including metal, VOC, SVOC, pesticide, PCB, EPH, VPH, and TPH analyses.

Project Chemist. Evaluated different analytical methods for hexavalent chromium analysis. Compared analytical methods developed by NJDEP and EPA and identified the appropriate method for a CERCLA site in New Jersey.

Project Chemist. Evaluated quantitatively potential impacts to metal data usability by interference caused by common metals in environmental samples for a CERCLA site in New York.

Project Chemist. Performed data validation for indoor air samples for various CERCLA and MCP Sites to assist evaluation of potential vapor intrusion pathway.

Project Chemist. Performed Level IV data validation for a Superfund site in New York for various analytical analyses including metal, VOC, SVOC, pesticide, and PCB analyses. Reviewed TIC identification and quantitation and assessed chromatograms and mass spectrums for VOCs and SVOCs.

Project Chemist. Provided technical support, prepared QAPPs, established proper data quality objectives (DQOs) for various projects, maintained project quality control, trained junior scientists, coordinated project field sampling and laboratory analyses, addressed non-conformance issues associated with the data produced by the laboratory, conducted statistical analysis, and prepared data validation reports on numerous RCRA/CERCLA and MCP projects.

ENVIRONMENTAL ASSESSMENT AND REMEDIATION PROJECTS

(Former Malden MGP) Senior Scientist - Lead Risk Assessor, Chemist, Site Assessment, Malden, Massachusetts. Leading ongoing risk assessment work at large, complex former MGP that encompasses more than 16 acres of land and more than 10 different properties. Work has included vapor intrusion pathway evaluation, imminent hazard evaluation, substantial hazard evaluation, data usability evaluation, and risk characterizations for evaluation of effectiveness of sub-slab depressurization systems and remediation, direction of Site remediation and investigations, and verification of the need for AULs. GZA was able to demonstrate that indoor air impacts in a residential area were not related to MGP residuals, allowing for closure of that portion of the Site. Risk characterizations also demonstrated that Site conditions did not pose substantial hazards, confirming the effectiveness of the Temporary Solution.

(Commercial Point LNG Facility) Senior Scientist - Lead Risk Assessor, Site Assessment and Closure, Dorchester Massachusetts. Directed risk characterization to support MCP closure of former MGP facility that was currently being used as a Liquefied Natural Gas (LNG) storage and distribution facility. Performed risk characterization to support supplemental Phase II – IV MCP investigations and Permanent Solution status while allowing for beneficial reuse of the facility for LNG operations and a solar power generating facility. Also performed focused risk characterizations in support of an AUL filing and potential reuse options for portions of the Site.

(Former Haverhill Holder Site) Senior Scientist - Lead Risk Assessor, Site Closure, Haverhill Massachusetts. Directed risk characterization to support MCP closure of former MGP gas holder facility where wastes had been disposed. Conducted risk characterization to facilitate development of cost-effective cleanup plan involving focused soil excavation and use restrictions that allowed for achievement of a Permanent Solution. Performed a Method 3 risk characterization to support the complex supplemental Phase II investigation. This complex site encompassed properties owned by seven different parties, including residential land and portions of a river/tributary system.

(Gloucester Former MGP) Senior Scientist - Lead Risk Assessor, Human Health Risk Assessment, North Shore, Massachusetts. Performed Method 3 Risk Characterization for multiple parcels to support the Supplemental Phase II Comprehensive Site Assessment initiated by other consultants under the Massachusetts Contingency Plan. This Site included MGP impacts to

Chunhua Liu, PhD
Senior Technical Specialist

approximately 45 acres of Gloucester Harbor sediment. GZA evaluated potential human health risks via exposure to soil, groundwater, sediment, surface water, homegrown produce, and consumption of fish. In addition, Risk Characterization was used in the early stages of the project to assist identification of data gaps and Site investigation.

(Salem Power Plant) Project Manager, Cost Recovery Negotiations, Salem, Massachusetts. Working through counsel, provided advice to a prior owner with respect to remedial obligations under the Massachusetts Contingency Plan (MCP) associated with impacts to soil at this power generating facility. Work included review of hot spot evaluation, risk characterization, and remediation performed at the Site. Given the Site use, we concluded that most of the claimed costs that had been incurred by the current owner were not necessary under the MCP and thus should not be subject to recovery from our client.

(Sawyer Passway) Senior Scientist - Lead Risk Assessor, Chemist, MGP Site Closure, Fitchburg, Massachusetts. Performed a Substantial Hazard Evaluation and a Method 3 Risk Characterization to support fast-track Massachusetts Contingency Plan (MCP) Phase II/III study of large, complex former MGP facility on the banks of a major New England river. The work had to be completed within two months to meet a key regulatory deadline. Work included a risk evaluation to support a streamlined supplemental field exploration program, a risk evaluation to direct the focused soil excavation, and a substantial hazard evaluation for the cost-effective temporary solution within the required regulatory deadlines. GZA's continuing work on this project has included technical support for an insurance cost-recovery claim, periodic evaluations of the temporary solution, completion of soil stabilization/solidification pilot studies, implementation of focused remedial programs during site building demolition work and development of remedial, plans directed at achieving a Permanent Solution (PS). Based on updated evaluations, a cost-effective approach to a PS was developed in 2014 and a Method 3 Risk Characterization was performed to support a PSS in 2015.

(Former Army Depot Activity Site), Technical Director, Syracuse, New York. Directed preparation and submittal of the Site-Wide Sampling and Analysis Plan (SAP) and the Site-Wide QAPP for a 10,000-acre Superfund site in New York in accordance with the Department of Defense (DOD), NYSDEC ASP, USEPA Region II and USEPA guidance. Directed project field sampling and data management. Supervised data validation in accordance with USEPA Region II SOPs and NYSDEC ASP based on the NYSDEC ASP Category B deliverables. Identified laboratories qualified for project chemical analyses and interfaced with various analytical laboratories to address analytical deficiencies. Submitted data summary report to USEPA Region II on a quarterly basis.

(Waverley Oaks Road), Senior Scientist - Lead Risk Assessor, Human Health Risk Assessment, Waltham, Massachusetts. This property has been impacted by improper storage of large quantities of waste oil that was to be used to heat on-site green houses, or to be processed and resold. This Site is regulated under the Massachusetts Contingency Plan; Massachusetts Department of Environmental Protection reviewed and approved all work plans and reports for the site investigation and risk assessment; it was downgraded from a Tier 1A to a Tier 1B Site following completion of the Phase II investigations.

Waste oil releases have impacted nearly 10-acres of an on-Site pond, stream and wetland, including 3 acres that have visible oil presented within surficial wetland soil and sediment. GZA conducted a Method 3 Risk Characterization to support the permanent solution of the Site. For the Vapor Intrusion pathway, GZA identified constituents not related to Site release and verified the conclusion based on the evaluation of Site-specific attenuation factors.

Publications and Presentations

Liu, C., J. Jay, T. Ford. Evaluation of Environmental Effects on Metal Transport from Capped Contaminated Sediment under Conditions of Submarine Groundwater Discharge. Env. Sci. Tech. 2001 35: 4549-4555.

Liu, C., J. Jay, R. Ika, S. James, and T. Ford. Capping efficiency for metal-contaminated marine sediment under conditions of groundwater inflow. Env. Sci. Tech. 2001 35: 2334-2340.

Blanchet, R., Liu, C., Bowers, T. Summary of Available Freshwater and Marine Sediment Quality Guidelines and Their Use in North America. Abstract accepted at SEATEC Conference, November, 2001

Blanchet, R., Liu, C., Bowers, T. Estimation of Average Exposure Point Concentrations for Pesticides Assuming Accumulation and Degradation in the Environment. Abstract accepted at SEATEC Conference, November, 2001

Chunhua Liu, PhD

Senior Technical Specialist

Seeley, M.R., Schettler, S., Liu, C., Blanchet, R.J., Bowers, T.S. Assessing Cancer Risks Due to Use of Insecticides to Control the Mosquito-borne West Nile Virus: Use of the Margin of Exposure Approach. Abstract accepted at Society of Toxicology, 41st Annual Meeting, March 17-21, 2002.

Chunhua Liu, Jennifer Jay, Ravi Ika, Shine James, Timothy Ford. Capping Efficiency for Metal-Contaminated Marine Sediment under Conditions of Submarine Groundwater Discharge. Poster presentation at Conference on Dredged Material Management: Options and Environmental Considerations. December 3-6, 2000

Chunhua Liu, Jennifer Jay, Timothy Ford. Evaluation of Environmental Effects on Metal Transport from Capped Contaminated Sediment Under Conditions of Submarine Groundwater Discharge. Poster presentation at Conference on Dredged Material Management: Options and Environmental Considerations. December 3-6, 2000

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Affiliations/Memberships

- Member, LSP Association
- Member, Society for Risk Analysis
- Certified EIT in Massachusetts

APPENDIX I CONSTRUCTION QUALITY ASSURANCE PLAN



Known for excellence.
Built on trust.

BROWNFIELD CLEANUP PROGRAM
CONSTRUCTION QUALITY ASSURANCE PLAN

55 Eckford Street
Block 2698, Lot 32
Brooklyn, New York, 11222
NYSDEC BCP Site No. C224168

February 2026
File No. 41.0163263.20

PREPARED FOR:
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LIST OF ACRONYMS

Acronym	Definition
ASTM	American Society for Testing and Materials
bgs	Below Ground Surface
CAMP	Community Air Monitoring Plan
CCR	Construction Completion Reports
COCs	Constituents Of Concern
CQA	Construction quality assurance
CQAPP	Construction Quality Assurance Project Plan
CQC	Construction quality control
DFCR	Daily Field Construction Report
EPA	United States Environmental Protection Agency
HASP	Health and Safety Plan
MMP	Materials Management Plan
NAPL	Non-Aqueous Phase Liquid
NYCDCP	New York City Department of City Planning
NYCDDC	New York City Department of Design and Construction
NYCDEP	New York City Department of Environmental Protection
NYCRR	New York Codes, Rules and Regulations
NYS S&S	New York State Standards and Specifications
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
PCBs	Polychlorinated Biphenyls
QA/QC	Quality Assurance/ Quality Control
SOE	Support of Excavation
SVOCs	Semi Volatile Organic Compounds
VOCs	Volatile Organic Compounds
WMP	Waste Management Plan

1.0 INTRODUCTION

This Construction Quality Assurance Plan (CQAP) has been prepared by GZA GeoEnvironmental, Inc. (GZA) on behalf of 55 Eckford St, LLC (Owner/Client) to support the remediation of 55 Eckford St, Brooklyn, NY (Site). Details related to the remediation activities are presented in this CQAP which is included as an appendix to the Remedial Action Workplan.

1.1 PURPOSE

The purpose of this CQAP is to detail the quality assurance and quality control (QA/QC) procedures that will be used to maintain data accuracy and completeness during implementation of the selected remedy. This CQAP describes the materials, procedures, and testing necessary for proper construction, evaluation, and documentation of construction activities.

1.2 DEFINITIONS AND TERMS

The following terms and abbreviations are used throughout this CQAP. The definition of each term or abbreviation is consistent throughout this CQAP:

- The Contractor – The person, persons, or firm retained by the Responsible Parties to perform the remedial activities, including the person or persons hired by the Contractor to install the components of the remedial work and the person or persons designated by the Contractor to perform work associated with the remedial activities.
- Responsible Parties – The person, persons, or firm identified by the NYSDEC as responsible for implementing the cleanup of the Site.
- CQA – Construction Quality Assurance.
- CQC – Construction Quality Control.
- Design Engineer – The Design Engineer was responsible for preparing the design.
- Engineer – For the purpose of this CQAP, the Engineer is the person or persons responsible for verifying that the Contractor completes the remedial construction activities in accordance with the design. The Engineer is responsible for oversight of the CAMP and HASP implementation, record keeping, and communication with the Environmental Monitor, the Responsible Parties, and/or NYSDEC. The Engineer's duties include reviewing proposed modifications to the design. In addition, the Engineer will be responsible for the QA/QC aspects of the project. Duties will include sampling, testing, determination of work limits, and measurement of work for payment and final acceptance.
- Environmental Monitor – The on-site person or persons designated by the Engineer as responsible for implementation of the CAMP and HASP.
- Manufacturer – The person or persons designated by the Contractor to provide construction material.

2.0 QUALITY MANAGEMENT ORGANIZATION

This section identifies the general CQA roles, qualifications, and responsibilities of the Engineer and the Contractor's personnel, as well as the Responsible Parties' role in the CQA process. Subject Property Location.

2.1 55 ECKFORD ST, LLC

Under the Brownfield Cleanup Program Agreement, it is the Volunteer who is responsible for the design of the selected remedy for the Site.

Responsible Parties

The Responsible Parties will have the final authority on all aspects of the remedial construction activities for the 55 Eckford Street project. The Responsible Parties are empowered to determine the amount, quality, acceptability, and fitness of all remedial construction completed in accordance with the design.

The Responsible Parties will be knowledgeable of the project requirements and objectives and familiar with the design. The Responsible Parties will be on-site, as required, during construction activities. The responsibility of the Responsible Parties is to review the quality of construction that meets or exceeds that defined by the design and identified in this CQAP.

The Responsible Parties will have the following responsibilities in the implementation of the procedures in the CQAPP:

- Attend the pre-mobilization site meeting.
- Attend project coordination meetings, as required; and
- Evaluate the construction activities and the Engineer's CQA efforts.

2.2 DESIGN ENGINEER

2.2.1 GZA GeoEnvironmental

GZA is primary consultant responsible for the design of the selected remedy. The GZA team organization is further described below.

2.3 ENGINEER

The Engineer will provide on-site and office-based assistance to the Responsible Parties throughout the duration of remedial activities. The Engineer will observe construction activities and document that the materials and workmanship delivered by the Contractor comply with the requirements of the design and are of sufficient quality to permit the development of construction completion certifications as may be required by NYSDEC. The observation, sampling, and/or documentation of construction activities and associated procedures will be performed by a person or persons familiar with construction procedures and materials, and the project requirements. The project personnel will be under the direct supervision of a Professional Engineer licensed in the

State of New York. The CQA personnel will be familiar with the use of equipment and methodology needed to sample and test soil, water, and other materials.

The Engineer will have experience in a position of significant responsibility for construction projects similar in magnitude and complexity to the project being undertaken. The Engineer must be knowledgeable of the project requirements and objectives and must be familiar with the design. The Engineer's on-site personnel must demonstrate knowledge of construction, excavation, and applicable test methods through a combination of formal education, training, and experience.

The Engineer will have the following responsibilities during the implementation of the procedures in this CQAPP:

- Coordinate the pre-construction site meeting.
- Schedule and coordinate CQA inspection activities.
- Coordinate periodic project meetings.
- Attend to routine daily topics related to the overall performance of the construction activities.
- Maintain responsibility for the implementation of the procedures in this CQAP.
- Provide the appropriate technical review (i.e., by qualified representatives of the Engineer) of the design.
- Review, approve (in conjunction with NYSDEC and Responsible Parties), and document proposed field modifications to the design.
- Maintain contact with NYSDEC, the Contractor, and any subcontractors regarding conformance with the requirements in this CQAP.
- Provide overall coordination of the remedial activities.
- As an agent for the Responsible Parties, prepare manifests for the transportation of non- hazardous waste and conditionally exempt materials (i.e., soil/sediment, water, debris).
- Provide analytical results for imported fill materials (provided by the Contractor) to NYSDEC for review and approval prior to material being brought on-site.
- Document that field and laboratory testing is conducted at the frequency established in this CQAPP, review field and laboratory QA/QC testing results for conformance with the design and aid in the review and interpretation of field and laboratory testing results.
- Provide assistance in the review of shop drawings, product data, and other submittals from the Contractor.
- Review the progress of the remedial activities and prepare Daily Field Construction Reports.
- Review the installed portion of work to allow further construction.
- Identify noted deficiencies during construction activities (based on QA/QC testing results) so corrective actions can be taken.

- Prepare the Construction Completion Reports to document the completion of phased remedial construction activities.
- Prepare the Final Remedial Action Report to document the completion of remedial activities; and
- Prepare a Site Management Plan or equivalent institutional control to detail the post-remedial construction operations, maintenance, and monitoring activities.

The Engineer's on-site personnel will also have the following responsibilities in the implementation of the procedures in this CQAPP:

- Oversee and coordinate the QA/QC sampling and testing.
- Record on-site activities that could result in damage to the Site and report these activities to the Contractor and NYSDEC.
- Review shop drawings, product data, and other submittals from the Contractor.
- Identify/determine areas that require rework and/or repair.
- Coordinate activities to establish proper sampling procedures.
- Perform regular Site walkthroughs to review progress and QA/QC procedures.
- Perform community air monitoring in accordance with the CAMP included as a supporting plan and appendix to the design.
- Provide community air monitoring results to NYSDEC, the Responsible Parties, and the New York State Department of Health (NYSDOH) on a weekly basis.
- Identify areas of non-conformance based upon the results of field and laboratory testing.
- Perform and document field sampling for QA/QC testing.
- Prepare weekly erosion and sediment control inspection reports.
- Observe construction materials, such as soils, capping materials, and geosynthetics, delivered to the Site to determine general conformance with material specifications; and
- Observe and record the procedures used for the following:
  - Pre-construction activities/mobilization.
  - In-situ characterization of soils to be excavated.
  - Installation of cut-off wall sheet piles
  - Groundwater treatment activities including drilling injection wells, adding treatment reagents, monitoring groundwater concentrations.

- Soil excavation activities.
- Noise, vapor/odor suppression, and dust control.
- Decontamination of equipment and personnel.
- Waste handling, stabilization, treatment, and disposal.
- Backfilling/restoration of excavated and disturbed areas.
- Site restoration/demobilization.

2.4 THE CONTRACTOR

The Contractor will be trained and experienced, and demonstrate that the superintendent, field crew foreman, and subcontractors have similar experience in the construction, installation, and performance of the various components outlined in the design, including (but not limited to) SOE/permanent bulkheads, removal of soil to a presumptive depth of 4 feet below grade surface (bgs) plus hotspot excavation to 8 feet bgs, water handling/management, groundwater treatment, and cut-off wall piling installation.

The Contractor will have the following responsibilities for implementing the procedures presented in this CQAPP:

- Review and be completely familiar with the design.
- Maintain lines of communication with the Responsible Parties and the Engineer to identify and discuss field issues as they arise:
- Coordinate with all equipment and material suppliers to document compliance with CQAPP requirements.
- Provide the Responsible Parties and/or the Engineer with at least five days written notice of any tests or inspections required by the design, timely notice of all other tests and inspections, and an additional 48 hours' notice prior to the actual performance of any test or inspection.
- Prepare and submit to the Engineer all shop drawings and other required submittals specified in the 1design, including copies of delivery ticket(s) for import material, copies of bills of lading or manifests for material transported off-site, and copies of operating records of water treatment system performance that adequately document the required treatment (and any related discharge monitoring per permit requirements).
- Identify any potential design and/or construction issues as early as possible to allow resolution in a manner that will not impact the quality of the construction or the schedule of construction.
- Maintain a continuous record of any approved changes or modifications to the design.
- Contract with a surveyor (all surveys necessary for the implementation of the remedial activities and for the collection of as-built information will be carried out by personnel practiced in land survey techniques and under the direction of a New York State-licensed Land Surveyor); and

3.0 DOCUMENTATION REQUIREMENTS

The documentation of CQA activities will support a determination of whether construction activities have been carried out in general accordance with the design.

3.1 DOCUMENTATION

The documentation process includes recognition of construction tasks that will be observed and documented; assignment of responsibilities for the observation, testing, and documentation of these tasks; and the completion of the required reports, data sheets, forms, and checklists to provide an accurate record of the work performed during the remedial activities.

3.1.1 Daily Field Construction Reports

The Engineer will complete a Daily Field Construction Report (DFCR) of each day's construction activities. The DFCRs will be submitted at the end of the week in an electronic format to the NYSDEC. The DFCRs will contain, at a minimum, the following information:

- Date, project name, location and description of the phase of work being performed (e.g., support of excavation, installation of bulkheads, bracing, vibration monitoring, community air monitoring, etc.).
- Time that work starts and ends, in addition to the time of work stoppages related to inclement weather, insufficient equipment, or personnel or other reasons.
- Data on weather conditions, including temperature, cloud cover, and precipitation.
- The Contractor's workforce, equipment, and materials (e.g., concrete, structural metals, etc.) delivered to or removed from the Site.
- A chronological description of work in progress, including notices to or requests from the Contractor and/or installer.
- A description of any health and safety or community air monitoring program issues.
- Results of testing performed by on-site personnel.
- Problem/deficiency identification and documentation describing corrective actions taken for field problems and non-conformance with this CQAP.
- A record of pertinent communications with other on-site parties, outside companies, regulatory agencies, or consultants regarding the day's construction activities.
- Erosion and sediment control inspection results, including date and time of inspection, a description of the weather and soil conditions at the time of inspection, a description of the condition of the runoff at all points of discharge from the site, and identification of all erosion and sediment control measures that need repair or maintenance and/or are not functioning as designed and need corrective action(s); and

- Documentation of problems and/or deficiencies noted during construction (e.g., when construction material or activity is observed or tested that does not meet the requirements set forth in the design), and corrective action employed by the Contractor to address the problems or deficiencies. Include approval or acceptance of the Contractor's corrective action in the subsequent DFCRs.

3.1.2 Health and Safety Accident Reports

In the event of any accident occurring on-site during the remedial project by any involved party, incident and accident reports will be completed by the affected personnel in addition to the requirements of the individual's Site-specific HASP. The Engineer and the Responsible Parties will be contacted in the event of an accident. The Responsible Parties' accident report sheets will be attached to the HASP and will be in the field project trailer.

3.1.3 Import Material Log

The Engineer will prepare an import material tracking log to record all loads of material transported on-site. A copy of all associated delivery tickets will be kept in conjunction with the tracking log. The import material tracking log will remain in the field office during remedial construction activities.

3.1.4 Transportation and Disposal Log

The Engineer will prepare a transportation log to record all loads of solid or liquid waste that are transported off-site and document the final disposition location. A copy of all associated bills of lading or manifests will be kept in conjunction with the transportation log. The transportation log will remain in the field office during remedial construction activities.

3.1.5 Photographic Documentation

The Engineer will document observations, problems, deficiencies, and work in progress using a digital format camera that records date and time. Digital photographs will be filed in chronological order in a permanent protective file and computer storage system.

The following information will be documented in the DFCR or a logbook for each photograph:

- Date and time.
- Location where photograph was taken; and
- Description of the subject matter and associated follow-up photographs.

3.1.2 Monthly Reports

Monthly reports will be submitted to NYSDEC and NYSDOH Project Managers by the 10th day of each month following the reporting period and will include:

- Activities relative to the Site during the previous reporting period and those anticipated for the next reporting period, including a quantitative presentation of work performed (i.e., tons/cubic yards of material exported and imported, etc.);
- Description of approved activity modifications, including changes of work scope and/or schedule;

- Sampling results received following internal data review and validation, as applicable; and,
- An update of the remedial schedule including the percentage of project completion, unresolved delays encountered or anticipated that may affect the future schedule, and efforts made to mitigate such delays.
- Tracking of Green Site Remediation (GSR) metrics determined during the design process should be included in monthly reports.

3.1.3 Construction Completion Reports

Upon completion of each phase of remedial construction, a Construction Completion Report (CCR) will be prepared by the Engineer for submittal to the Responsible Parties and NYSDEC. The CCR will present a description of the remedial activities and will follow the format of the Remedial Action Report from the EPA Superfund Remediation and Remedial Action Guidance (EPA 1986). The CCR will contain, at a minimum, the following information:

- A summary of all activities completed and any deviations from the design.
- A summary of soil and liquid waste characterization analytical data, transportation entity permits, and disposal documentation (bills of lading and/or finalized and executed waste manifests).
- A summary of all imported material, analytical testing data, and associated material documentation that demonstrates acceptability for use on the Site.
- Air monitoring data results (community air monitoring and applicable health and safety monitoring);
- Weekly reports that summarize the significant aspects of the DFCRs.
- A photo log documenting the remedial activities conducted during the remedial construction phase.
- Remediation-related permits pertinent to the phase of remedial construction activities; and
- Slope stability monitoring data, as pertinent.

3.1.4 Final Remedial Action Report

A Final Remedial Action Report will be prepared, signed, and sealed by the Engineer at the end of the project. The report will meet the requirements of the EPA Remedial Design/Remedial Action Handbook and Superfund Remedial Design and Remedial Action Guidance and, at a minimum, contain the following information:

- A summary of the Remedial Design Report.
- Record Drawings consisting of plans and details to depict the as-constructed conditions for the remedial activities.
- Correspondence with NYSDEC and others, as deemed relevant to the remedial activities.
- A summary of field observations and tests performed, laboratory samples collected, and test results reported.

- A summary of problems and deficiencies encountered during construction, including recurring problems and/or deficiencies discovered.
- Documentation of deviations from the design, including documentation of agency approval of such deviations, where applicable.
- Documentation indicating that acceptance criteria was met, including a comparison of documented procedure data with the design.
- Survey, metes, and bounds as surveyed by a New York State-licensed surveyor.
- A summary of the CCRs.
- Institutional controls, as necessary, established for the Site after remedial activities have been completed.
- Site management requirements.
- A summary and documentation of all waste streams generated as part of the project, including final treatment/disposal destination and volume.

3.1.5 Construction Submittals

The Contractor shall prepare and submit to the Engineer all submittals required in the design. Information contained in the Contractor's submittals that is not applicable to the specification should be clearly lined out or deleted. The Contractor's submittals must be easily legible, clean, and clearly reproduced.

All required submittals shall be reviewed by the Engineer for conformance with the requirements presented in the design. The Contractor will not be permitted to perform any activity that directly or indirectly involves the item or items covered by a submittal until approval is provided by the Engineer.

The Engineer's review shall in no way be construed as permitting departure from the % design, except where the written request by the Contractor and written acceptance by the Engineer and NYSDEC is provided. The Engineer's review does not relieve the Contractor of any responsibility to comply with applicable laws, rules, regulations, or agreements.

3.2 PROJECT MEETINGS

Daily, weekly, and/or monthly project safety inspections and/or progress and coordination meetings will be conducted for the duration of the construction activities. A brief description of the project meetings and inspections/reviews to be conducted is provided below.

3.2.1 Pre-Construction Meeting

Following award of the contract and prior to the Contractor's mobilization, a pre- construction meeting will be held at the Site to introduce project team members representing the Contractor, NYSDEC, the Engineer, and the Responsible Parties. The meeting will be scheduled by NYSDEC shortly after the award of the contract. The meeting will be conducted to review contract requirements, establish a detailed schedule of operations, and resolve issues (if any) raised by the attending parties.

The Engineer will prepare a summary of the pre-construction meeting. A copy of this summary will be provided to each of the parties in attendance. Failure by the Contractor to inform NYSDEC, within seven days of receiving this summary, of any discrepancies or inaccuracies contained therein indicates that the Contractor concurs with the Engineer's summary of the meeting.

3.2.2 Daily Site Safety and Coordination Meetings

Daily meetings will be administered by the Contractor's representative(s) and attended by the Engineer, NYSDEC (as necessary), and other parties to be on-site during the day to discuss day-to-day operations, daily schedule, health and safety issues, Contractor coordination issues, and general project status.

3.2.3 Periodic Progress and Coordination Meetings

Periodic progress and coordination meetings, administered by the Contractor, will be held on-site weekly, or as required, for the duration of the project. Participants in these meetings will include on-site representatives of the Contractor and the Engineer. NYSDEC and the Responsible Parties may also attend some or all of the weekly progress and coordination meetings. Progress and coordination meetings will be held to discuss issues, including, but not limited to, project status, schedule, scope of work and overall project implementation.

3.2.4 Project Close-Out Meeting

A project close-out meeting will be held at the end of the remedial construction activities. Participants in the meeting will include the Contractor, NYSDEC, the Engineer, and the Responsible Parties. The Engineer will administer the meeting. As part of the meeting, a final Site inspection will be conducted by NYSDEC, the Engineer, and the Responsible Parties.

4.0 PRECONSTRUCTION ACTIVITIES / MOBILIZATION

This section describes the construction and testing procedures for the activities that will take place prior to the start of the remedial construction activities. Remedial construction activities will be conducted in several phases throughout the duration of the construction, as described in the design.

4.1 PRE-CONSTRUCTION SURVEYS

The Contractor's surveyor will perform Initial Site surveys to document existing (pre- construction) Site conditions. During these activities, the surveyor will also establish survey control for the proper construction, documentation, and testing of subsequent work activities (e.g., excavation support system, excavation). Additional survey work will be conducted prior to the start of each phase of upland remedial action. The Engineer will visually observe and document that survey activities. The Engineer will also obtain photographic documentation of pre-construction conditions prior to the initiation of construction activities.

Prior to initiation of removal activities, the Contractor will develop topographic data of existing (pre-construction) conditions to establish a benchmark for comparison to post-removal and post- construction conditions. Following excavation activities, restoration measures will include the backfill of substrate (as necessary), as specified in the design.

4.2 EROSION AND SEDIMENT CONTROL MEASURES

Erosion and sediment control practices will be implemented by the Contractor for all construction activities where any excavation, staging, or loading activities are conducted. Since direct loadout of soil will be implemented following the dewatering and conditioning of excavated soils, the duration of on-site staging of soils will be limited. The general sequence of actions required within the erosion and sediment control plan is runoff control, stabilization, and then sediment control.

Prior to the start of the remedial activities, the Contractor shall construct/install erosion and sediment control measures in general accordance with the Construction Drawings and the NYS S&S for erosion and sediment control. The Engineer will document, through visual observations and inspection logs, that erosion and sediment control measures are constructed and maintained in accordance with the New York State Standards and Specifications (NYS S&S) for Erosion and Sediment Control (November 2016).

4.3 TEMPORARY SITE SECURITY MEASURES

Temporary Site features and Site security measures (e.g., fencing, signage) will be installed by the Contractor. The Engineer will visually observe and document that temporary Site security measures are installed, inspected, and maintained by the Contractor in accordance with the design.

4.4 REMEDIAL SUPPORT AREAS

Prior to the start of the remedial activities, the Contractor will construct and set-up remedial support areas (e.g., equipment/personnel decontamination area, field office trailers and other support facilities). The Contractor will be responsible for submitting to the Engineer a figure indicating the proposed locations of such areas for approval prior to mobilization (if different than indicated in the design). The Engineer will also confirm that the remedial support areas are constructed in acceptable locations.

4.5 UTILITY IDENTIFICATION

Prior to remedial construction activities, the Engineer will document that the following has occurred:

- The Contractor has contacted Dig Safely New York, and the utility clearance is completed prior to the initiation of any intrusive activities.
- A private utility mark-out is conducted by the Contractor; and
- Utility locations/alignments are marked out on the ground.

The locations, alignments, and construction of utilities shown on the Construction Drawings are approximate and based on information available to NYSDEC and the Design Engineer. Any differences identified by the Contractor between the utilities shown on the Construction Drawings and those encountered in the field will be brought to the immediate attention of NYSDEC and the Engineer prior to implementing any intrusive activities.

4.6 PROTECTION OF ADJACENT STRUCTURES

The Contractor must protect the adjacent properties from damage during construction in accordance with the New York City Building Code. A subsequent pre- condition survey of buildings and utilities within the established construction influence zone must be performed by the Contractor prior to the start of construction. Buildings and structures that are within a distance equal to or less than the maximum excavation depth must be monitored for movement during construction. The design includes requirements for movement and vibration monitoring, including threshold and limiting action levels for implementation during construction, monitoring frequency, and reporting criteria.

5.0 GROUNDWATER TREATMENT

The Contractor is responsible for the installation, operation, and maintenance of any temporary on-site dewatering, containment, and treatment systems in support of the remedial construction activities.

5.1 SITE DEWATERING

Dewatering of the site will only take place if the construction of the proposed elevator pit requires excavation into the water table. Based on the revised construction plans, excavation of Site soils will be removed to the water table and local dewatering will be performed, as needed.

5.2 CQA OBSERVATIONS

The Engineer will observe the limited dewatering and treatment for the construction of the elevator pit. The Engineer will provide assistance as required to obtain the necessary permits for dewatering from the New York City Department of Environmental Protection (DEP).

Contractor CQA Submittals

The Contractor will be responsible for providing the groundwater treatment system submittals, if appropriate to the work being conducted at the site. The Contractor shall maintain (throughout the course of the project) a written record of the operation, maintenance, and monitoring activities associated with the groundwater treatment system. Such information shall be tabulated, updated daily, and submitted on a weekly basis to the Engineer for review. At a minimum, the summary shall include the following information (for each day):

- Hours of operation.
- Volume of water extracted and treated.
- Volume of water discharged to the NYC Sewer System.
- Type and frequency of monitoring and maintenance activities (if any); and
- Other information relevant to the operation, monitoring, and maintenance of the water treatment system.

6.0 SOIL EXCAVATION

Excavation activities will be performed by the Contractor in accordance with the design. The Engineer will perform in-situ waste characterization prior to conducting any excavation activities. All removed soil, debris, and water will be handled by the Contractor.

6.1 IN-SITU CHARACTERIZATION OF SOILS TO BE EXCAVATED

The in-situ sampling and laboratory assessment of soil quality will be performed to pre-characterize the soil quality, allow for a review of soil quality analytical data, and the characterization of soils as hazardous or non-hazardous to determine the appropriate disposal facilities for excavated material in advance of excavation.

6.1.1 CQA Observations

In advance of excavation, the Engineer will observe the in-situ characterization activities employed by the Contractor and review the analytical testing data to and determine the appropriate disposal facilities for the excavated material.

6.1.2 Engineer CQA Submittals

The Contractor will be responsible for providing a work plan for in-situ characterization that details the gridding of the material to be excavated with respect to construction sequencing, as well as sampling frequencies and the analytical testing requirements of the potential waste disposal facilities.

6.2 EXCAVATION SUPPORT

SOE for the entire Site perimeter is proposed, which includes a combination or piles and secant wall. Site excavation is anticipated to the water table.

6.2.1 CQA Observations

During excavation support installation, if required, and excavation/backfilling activities, the Engineer will monitor the installation of the SOE for conformance with the design specifications.

6.2.2 Contractor CQA Submittals

Prior to implementation, the Contractor will be responsible for providing a work plan for SOE and excavation.

6.3 SOIL REMOVAL

Excavation activities will be performed in general accordance with the design.

6.3.1 CQA Observations

During excavation/backfilling activities, the Engineer will monitor the excavation of fill material for conformance with the design specifications.

6.3.2 Contractor CQA Submittals

The Contractor will be responsible for providing the associated submittals for SOE, excavation, and backfilling, as per the Technical Specification, prior to implementation.

The limits of each phase of soil excavation activities are shown on the Construction Drawings. The Engineer shall conduct community air monitoring (in accordance with the CAMP) during all intrusive activities. The Contractor shall confirm that community air monitoring (including vapor, dust, and odor) is being conducted prior to the start of any intrusive activities. Additionally, the Contractor shall have the ability to immediately implement corrective actions if necessary.

6.3.3 CQA Observations

The Engineer will observe excavation activities to 1) document that they are being performed in accordance with the design and 2) report non-conformances to the Contractor.

6.4 SOLID WASTE HANDLING AND DISPOSAL

The Engineer shall arrange for proper handling, treatment, and disposal of waste materials, including, but not limited to, soil, debris and miscellaneous wastes generated during the remedial activities and in accordance with all applicable Federal, State, and local regulations.

6.4.1 CQA Observations

The Engineer will observe the implementation of the remedial activities at the Site to document that waste materials are being handled/managed in accordance with all applicable Federal, State, and local regulations. The Engineer will visually inspect the loading area to confirm that the impacted material that collects on the polyethylene sheeting is either placed in the truck or delivered back into the excavation.

The Engineer will maintain the following documentation for waste handling, treatment, and disposal activities:

- Bills of Lading/Hazardous Waste Manifests.
- Chain of Custody records.
- Trucking logs.
- Waste profiles; and
- Counter-signed waste manifests and facility disposal receipts for waste material transported off-site for treatment/disposal.

6.5 LIQUID WASTE HANDLING, TREATMENT, AND DISPOSAL

The Contractor shall use appropriate means and methods to dewater/stabilize materials prior to excavation and transportation to the approved off-site treatment/disposal facility. The Contactor shall also be responsible for the set-up and operation of the temporary groundwater treatment system, as described in Section 5.0.

7.0 SUB-SLAB DEPRESSURIZATION SYSTEM INSTALLATION

Excavation activities will be performed by the Contractor in accordance with the design. The Contractor is required to perform *in-situ* characterization prior to conducting any excavation activities. All removed soil, debris, and water will be handled by the Contractor.

7.1 INSTALLATION OF SUB-SLAB DEPRESSURIZATION SYSTEM

A Sub-Slab Depressurization System (SSDS) is proposed at the Site under the proposed building. The system will consist of a subsurface extraction trench, vertical piping up through the roof and an exhaust fan to create vacuum. The system will have an alarm, vacuum gauge, and sampling port. The exhaust fan will be located in accordance with the requirements of the Vapor Intrusion Guidance from the New York State Department of Health. The plan view of the SSDS is shown on Figure 14A from the project RAWP.

7.1.1 CQA Observations

The Engineer will observe the installation and operation of the SSDS units onsite to document the materials are managed properly in accordance with the design. The Engineer will visually inspect the material to ensure it is the appropriate equipment upon arrival and where it is staged prior to installation. Weather sensitive equipment will be stored in a storage trailer or equivalent.

The Engineer will maintain the following documentation for the installation and operation of the SSDS units:

- Installation of the appropriate quantity of ¾-inch crushed stone for the bedding of the piping
- Installation of the perforated PVC piping and geotextile to wrap the piping.
- Installation of the cast iron or equivalent vertical risers from the building slab through the roof.
- Fire stop installation between interior floors of the building.
- Vacuum gauges, alarms, and sampling ports installed on the riser pipes.
- Installation of the subsurface monitoring points in the slab.
- Proper siting of the exhaust pipe and fans above the roof with supports as necessary.
- Start-up and testing of the units to determine the proper subsurface vacuum at the monitoring points.

8.0 DEMOBILIZATION

8.1 DECONTAMINATION

The Contractor will decontaminate (as necessary) all personnel and equipment that comes into contact with excavated materials. All construction vehicles leaving the Site shall be decontaminated (as necessary) by the Contractor to prevent the tracking of soil off-site. The Contractor will conduct decontamination activities within the constructed decontamination area.

8.2 POST-CONSTRUCTION SURVEYS

The Contractor will retain a New York State-licensed surveyor to conduct survey control during completion of the remedial actions, as required by the Technical Specifications. The Contractor will supply the survey information (including an as-built survey, signed and sealed by the Contractor's New York State-licensed surveyor) to the Engineer for inclusion in the Final Remedial Action Report (RAR), to be prepared upon completion of all remedial activities.

8.3 DEMOBILIZATION

The Contractor will demobilize from the Site following completion of all remedial activities. Demobilization activities will include, at a minimum, the following:

- Cleaning/decontaminating equipment and construction-related materials prior to removal from the Site.
- Dismantling of the work area(s), equipment/personnel decontamination area(s), and other remedial support areas.
- Disposing of water treatment system residuals and decontamination area construction materials.
- Removing all materials, equipment, and support structures from the Site.
- Providing final project record documentation in accordance with Technical Specification 01 78 00 – Contractor Closeout Submittals.

8.3.1 CQA Observations

The Engineer will observe the Contractor's demobilization activities to document that the following activities are completed in accordance with the design:

- Equipment and construction-related materials have been cleaned/decontaminated prior to demobilization from the Site.
- Work area(s), equipment/personnel decontamination area(s), and other remedial support areas have been dismantled.
    - All of the Contractor's materials, equipment, and support systems have been removed from the Site.

APPENDIX J SOIL / MATERIALS MANAGEMENT PLAN

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SOIL/MATERIALS MANAGEMENT PLAN

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55 Eckford Street
Brooklyn, NY 11222
Block 2698 Lot 32
NYSDEC BCP Site No. C224168

February 2026
File No. 41.0163263.20

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1.0 SOIL SCREENING METHODS

Visual, olfactory and PID soil screening and assessment will be performed under the supervision of a Qualified Environmental Professional (QEP) and will be reported in the Final Engineering Report (FER). Soil screening will be performed during invasive work performed during the remedy and development phases prior to issuance of the Notice of Completion.

2.0 STOCKPILE METHODS

Excavated soil from suspected areas of contamination (e.g., hot spots, USTs, drains, etc.) will be stockpiled separately and will be segregated from clean soil and construction materials. Stockpiles will be used only when necessary and will be removed as soon as practicable. While stockpiles are in place, they will be inspected daily, and before and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. Excavated soils will be stockpiled on, at minimum, double layers of 8-mil minimum sheeting, will be kept covered at all times with appropriately anchored plastic tarps, and will be routinely inspected. Broken or ripped tarps will be promptly replaced.

All stockpile activities will be compliant with applicable laws and regulations. Soil stockpile areas will be appropriately graded to control run-off in accordance with applicable laws and regulations. Stockpiles of excavated soils and other materials shall be located at least of 50 feet from the property boundaries, where possible. Silt fence or equivalent will surround soil stockpiles except for areas where access by equipment is required. Silt fencing and hay bales will be used as needed near catch basins, surface waters and other discharge points.

3.0 CHARACTERIZATION OF EXCAVATED MATERIALS

Soil/fill or other excavated media that is transported off-Site for disposal will be sampled in a manner required by the receiving facility, and in compliance with applicable laws and regulations. Soils proposed for reuse on-Site will be managed as defined in this plan.

4.0 MATERIALS EXCAVATION, LOAD-OUT, AND DEPARTURE

The PE/QEP overseeing the remedial action will:

- Oversee remedial work and the excavation and load-out of excavated material;
- Ensure that there is a party responsible for the safe execution of invasive and other work performed under this work plan;
- Ensure that Site development activities and development-related grading cuts will not interfere with, or otherwise impair or compromise the remedial activities proposed in this Interim Remedial Measure Work Plan;
- Ensure that the presence of utilities and easements on the Site has been investigated and that any identified risks from work proposed under this plan are properly addressed by appropriate parties;
- Ensure that all loaded outbound trucks are inspected and cleaned (if necessary) before leaving the Site;

- Ensure that all egress points for truck and equipment transport from the Site will be kept clean of Site-derived materials during Site remediation.

Locations where vehicles exit the Site shall be inspected daily for evidence of soil tracking off premises. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

Open and uncontrolled mechanical processing of historical fill and contaminated soil on-Site will not be performed without prior DEC approval.

5.0 OFF-SITE MATERIALS TRANSPORT

Loaded vehicles leaving the Site will comply with all applicable materials transportation requirements (including appropriate covering, manifests, and placards) in accordance with applicable laws and regulations, including use of licensed haulers in accordance with 6 NYCRR Part 364. If loads contain wet material capable of causing leakage from trucks, truck liners will be used. Queuing of trucks will be performed on-Site, when possible, in order to minimize off Site disturbance. Off-Site queuing will be minimized.

Outbound trucks will use Eckford Street, then turning east along Nassau Avenue, then south along McGuinness Boulevard, to access Brooklyn Queens Expressway. Inbound trucks from Brooklyn Queens Expressway will use McGuinness Boulevard then turning west along Driggs Avenue, then south along Leaonard Street. This routing takes into account the following factors: (a) limiting transport through residential areas and past sensitive sites; (b) use of mapped truck routes; (c) minimizing off-Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport. To the extent possible, all trucks loaded with Site materials will travel from the Site using these truck routes. Trucks will not stop or idle in the neighborhood after leaving the project Site.

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.

All trucks loaded with Site materials will exit the vicinity of the Site using only these approved truck routes. Proposed in-bound and out-bound truck routes to the Site. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off- Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; (f) overall safety in transport; and (g) community input.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site.

Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development.

Queuing of trucks will be performed on-Site in order to minimize off-Site disturbance. Off-Site queuing will be prohibited.

Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks will be washed prior to leaving the Site. Truck wash waters will be collected and disposed of off-Site in an appropriate manner.

6.0 MATERIALS DISPOSAL OFF-SITE

The following documentation will be established and reported by the PE/QEP for each disposal destination used in this project to document that the disposal of regulated material exported from the Site conforms with applicable laws and regulations: (1) a letter from the PE/QEP or Enrollee to each disposal facility describing the material to be disposed and requesting written acceptance of the material. This letter will state that material to be disposed is regulated material generated at an environmental remediation Site in New York City under a governmental remediation program. The letter will provide the project identity and the name and phone number of the PE/QEP or Enrollee. The letter will include as an attachment a summary of all chemical data for the material being transported; and (2) a letter from each disposal facility stating it is in receipt of the correspondence (1, above) and is approved to accept the material. These documents will be included in the FER.

The FER will include an itemized account of the destination of all material removed from the Site during this remedial action. Documentation associated with disposal of all material will include records and approvals for receipt of the material. This information will be presented in the FER.

All impacted soil/fill or other waste excavated and removed from the Site will be managed as regulated material and will be disposed in accordance with applicable laws and regulations. Historic fill and contaminated soils taken off-Site will be handled as solid waste and will not be disposed at a Part 360-16 Registration Facility (also known as a Soil Recycling Facility).

Waste characterization will be performed for off-Site disposal in a manner required by the receiving facility and in conformance with its applicable permits. Waste characterization sampling and analytical methods, sampling frequency, analytical results and QA/QC will be reported in the FER. A manifest system for off-Site transportation of exported materials will be employed. Manifest information will be reported in the final remedial report. Hazardous wastes derived from on-Site will be stored, transported, and disposed of in compliance with applicable laws and regulations.

If disposal of soil/fill from this Site is proposed for unregulated disposal (i.e., clean soil removed for development purposes), including transport to a Part 360-16 Registration Facility, a formal request will be made for approval by NYSDEC with an associated plan compliant with 6NYCRR Part 360-16. This request and plan will include the location, volume, and a description of the material to be recycled, including verification that the material is not impacted by site uses and that the material complies with receipt requirements for recycling under 6NYCRR Part 360. This material will be appropriately handled on-Site to prevent mixing with impacted material.

7.0 MATERIALS REUSE ON-SITE

Soil and fill that is derived from the property that meets the Soil Cleanup Objectives (SCOs) established in this plan may be reused on-Site. Building concrete may be reused on Site as fill. Concrete will be scraped clean and tested for reuse. 'Reuse On-Site' means material that is excavated during the remedy or development, does not leave the property, and is relocated within the same property and on land with comparable levels of contaminants in soil/fill material, compliant with applicable laws and regulations, and addressed pursuant to the NYC BCP agreement subject to Engineering and Institutional Controls. The PE/QEP will ensure that reused materials are segregated from other materials to be exported from the Site and that procedures defined for material reuse in this remedial plan are followed.

Organic matter (wood, roots, stumps, etc.) or other waste derived from clearing and grubbing of the Site will not be buried on-Site. Soil or fill excavated from the site for grading or other purposes will not be reused within a cover soil layer or within landscaping berms.

8.0 DEMARCATION

After completion of hotspot removal and any other invasive remedial activities, and prior to backfilling, the top of the residual soil/fill will be defined by one of three methods: (1) placement of a demarcation layer. The demarcation layer will consist of geosynthetic fencing or equivalent material to be placed on the surface of residual soil/fill to provide an observable reference layer. A description or map of the approximate depth of the demarcation layer will be provided in the SMP; or (2) a land survey of the top elevation of residual soil/fill before the placement of cover soils, pavement and associated sub-soils, or other materials or structures or, (3) all materials beneath the approved cover will be considered impacted and subject to site management after the remedy is complete. Demarcation may be established by one or any combination of these three methods. As appropriate, a map showing the method of demarcation for the Site and all associated documentation will be presented in the FER

This demarcation will constitute the top of the site management horizon. Materials within this horizon require adherence to special conditions during future invasive activities as defined in the Site Management Plan.

9.0 IMPORT OF BACKFILL SOIL FROM OFF-SITE SOURCES

This Section presents the requirements for imported fill materials to be used below the cover layer and within the clean soil cover layer. All imported soils will meet NYSDEC-approved backfill and cover soil quality objectives for this Site. Imported soils will not exceed lower of Protection of Groundwater or Restricted-Residential standards established in Part 375.

A process will be established to evaluate sources of backfill and cover soil to be imported to the Site, and will include an examination of source location, current and historical use(s), and any applicable documentation. Material from industrial sites, spill sites, environmental remediation sites or other potentially contaminated sites will not be imported to the Site.

The following potential sources may be used pending attainment of backfill and cover soil quality objectives:

- Clean soil from construction projects at non-industrial sites in compliance with applicable laws and regulations;

- Clean soil from roadway or other transportation-related projects in compliance with applicable laws and regulations;

- Clean recycled concrete aggregate (RCA) from facilities permitted or registered by the regulations of NYS DEC.

All materials received for import to the Site will be approved by a PE/QEP and will be in compliance with provisions in this remedial plan and a Request to Import / Soil Form will be submitted to NYSDEC for approval prior to import of materials to the Site . The FER will report the source of the fill, evidence that an inspection was performed on the source, chemical sampling results, frequency of testing, and a Site map indicating the locations where backfill or soil cover was placed.

All material will be subject to source screening and sampling with a minimum of one sample from every new source, at a frequency outlined in DER-10 Section 5.4. Inspection of imported fill material will include visual, olfactory and PID screening for evidence of contamination. Materials imported to the Site will be subject to inspection, as follows:

- Trucks with imported fill material will be in compliance with applicable laws and regulations and will enter the Site at designated locations;
- The PE/QEP is responsible to ensure that every truck load of imported material is inspected for evidence of contamination; and
- Fill material will be free of solid waste including pavement materials, debris, stumps, roots, and other organic matter, as well as ashes, oil, perishables, or foreign matter.

Sampling of imported material will be taken at a frequency outlined in DER 10 Section 5.4. Once it is determined that the fill material meets imported backfill or cover soil chemical requirements and is non-hazardous, and lacks petroleum contamination, the material will be loaded onto trucks for delivery to the Site.

Recycled concrete aggregate (RCA) will be imported from facilities permitted or registered by NYSDEC. Facilities will be identified in the FER. A PE/QEP is responsible to ensure that the facility is compliant with 6NYCRR Part 360 registration and permitting requirements for the period of acquisition of RCA. RCA imported from compliant facilities will not require additional testing, unless required by NYSDEC under its terms for operation of the facility. RCA imported to the Site must be derived from recognizable and uncontaminated concrete. RCA material is not acceptable for and will not be used as cover material.

10.0 FLUIDS MANAGEMENT

All liquids to be removed from the Site, including dewatering fluids, will be handled, transported, and disposed in accordance with applicable laws and regulations. Liquids discharged into the New York City sewer system will receive prior approval by New York City Department of Environmental Protection (NYC DEP) and any analytical results associated with the operation of the onsite dewatering system will be provided to DEC prior to any discharge to the NYC sewer system. The NYC DEP regulates discharges to the New York City sewers under Title 15,

Rules of the City of New York Chapter 19. Discharge to the New York City sewer system will require an authorization and sampling data demonstrating that the groundwater meets the City's discharge criteria. The dewatering fluid will be pretreated as necessary to meet the NYC DEP discharge criteria. If discharge to the city sewer system is not appropriate, the dewatering fluids will be managed by transportation and disposal at an off-Site treatment facility.

Discharge of water generated during remedial construction to surface waters (i.e., a stream or river) is prohibited without a State Pollutant Discharge Elimination System (SPDES) permit issued by New York State Department of Environmental Conservation.

11.0 STORMWATER POLLUTION PREVENTION

Applicable laws and regulations pertaining to stormwater pollution prevention will be addressed during the remedial program. Erosion and sediment control measures identified in this remedial plan (silt fences and barriers, and hay bale checks) will be installed around the entire perimeter of the remedial construction area and inspected once a week and after every storm event to ensure that they are operating appropriately. Discharge locations will be inspected to determine whether erosion control measures are effective in preventing significant impacts to receptors. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. All necessary repairs shall be made immediately. Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. Undercutting or erosion of the silt fence toe anchor will be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

12.0 CONTINGENCY PLAN FOR UNKNOWN CONTAMINATION SOURCES

This contingency plan is developed for the remedial construction to address the discovery of unknown structures or contaminated media during excavation. Identification of unknown contamination source areas during invasive Site work will be promptly communicated to NYSDEC's Project Manager. Petroleum spills will be reported to the NYS DEC Spill Hotline. These findings will be included in the daily report. If previously unidentified contaminant sources are found during on-Site remedial excavation or development-related excavation, sampling will be performed on contaminated source material and surrounding soils and reported to NYSDEC. Chemical analytical testing will be performed for target analyte list (TAL) metals, target compound list (TCL) volatiles and semi-volatiles, TCL pesticides and polychlorinated biphenyls (PCBs), as appropriate.

13.0 ODOR, DUST, AND NUISANCE CONTROL

Odor Control

This odor control plan is capable of controlling emissions of nuisance odors off-Site (note that there will not be residents or tenants on the property during the Remedial Action). Odor controls will be employed to prevent on- and off-Site odor nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) use of odor suppressants to cover exposed odorous soils. If nuisance odors develop and cannot otherwise be controlled, additional means to eliminate them will include: (d) direct load-out of soils to trucks for off-Site disposal; and (e) use of chemical odorant suppressants in spray or misting systems. The proposed odor suppressant for this Site is a soil equivalent foam concentrate,

Rusmar AC-645 Long-Duration Foam, or an approved equivalent. The contractor who uses Rusmar AC-645 Long-Duration Foam, or its approved equivalent, for odor suppression will fully understand the manufacturer's specifications prior to usage.

If nuisance odors are identified, work will be halted, and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of all other complaints about the project. Implementation of all odor controls, including the halt of work, will be the responsibility of the Volunteer's Remedial Engineer, who is responsible for certifying the Final Engineering Report.

All necessary means will be employed to prevent on- and off-Site nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; (e) use of chemical odorants in spray or misting systems; and (f) use of staff to monitor odors in surrounding neighborhoods.

Where odor nuisances have developed during remedial work and cannot be corrected, or where the release of nuisance odors cannot otherwise be avoided due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering excavation and handling areas under tented containment structures equipped with appropriate air venting/filtering systems.

Dust Control

Dust management during invasive on-Site work will include, at a minimum:

- Use of a dedicated water spray methodology for roads, excavation areas and stockpiles.
- Use of properly anchored tarps to cover stockpiles.
- Exercise extra care during dry and high-wind periods.
- Use of gravel or recycled concrete aggregate on egress and other roadways to provide a clean and dust-free road surface.

This dust control plan is capable of controlling emissions of dust. If nuisance dust emissions are identified, work will be halted, and the source of dusts will be identified and corrected. Work will not resume until all nuisance dust emissions have been abated. NYSDEC will be notified of all dust complaint events. Implementation of all dust controls, including halt of work, will be the responsibility of the PE/QEP's responsible for certifying this remedial plan.

Other Nuisances

Noise control will be exercised during the remedial program. All remedial work will conform, at a minimum, to NYC noise control standards.

Rodent control will be provided during Site clearing and grubbing and during the remedial program, as necessary, to prevent nuisances.



GZA GeoEnvironmental of New York.

APPENDIX K COMMUNITY AIR MONITORING PLAN (CAMP)

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COMMUNITY AIR MONITORING PLAN

55 ECKFORD ST LLC SITE
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Brooklyn, NY 11222
Block 2698 Lot 32
NYSDEC BCP Site No. C224168

February 2026
File No. 41.0163263.20

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1.0 INTRODUCTION

GZA GeoEnvironmental of New York (GZA) was retained by 55 Eckford St LLC (Client) to develop this Community Air Monitoring Plan (CAMP). The CAMP contains details for the design, implementation, and reporting of the air monitoring program for during remedial action activities for the development project at the Site located at 55 Eckford Street, Brooklyn, New York (the Site). The Remedial Action Work Plan (RAWP) includes the excavation and In-Situ Soil Stabilization (ISS) as part of the remedial plan.

1.1 SITE DESCRIPTION AND PROPOSED REDEVELOPMENT

The Site is located in an area zoned for residential (R6A, R6B), light manufacturing (M1-2). The 10,376 square feet (approximately 0.238 acres) Site is identified as Block 2698, Lot 32.

The proposed Site redevelopment includes a 5-story multi-family residential building with a cellar. The building will provide twenty-one residential units, an eight-car garage and a landscaped rear yard on-grade (at the western portion of the Site), and a cellar that will be used for bike parking and utility spaces.

1.2 OBJECTIVES

The principal purpose of the CAMP is to monitor air quality in the vicinity of work area during activities involving excavation and handling of soil. The CAMP consists of real-time air monitoring for particulate matter/dust and volatile organic compounds (VOCs), observations for visible emissions and odors, inspection and monitoring of the contractor's work practices, and associated recordkeeping. Continuous monitoring will be performed during all ground intrusive activities and loading out of excavated material conducted by a subcontractor as directed by the project General Contractor (GC).

Exceedances of action levels observed during performance of the CAMP included in the Daily Field Report.

Principal objectives of the program are as follows:

- Monitor dust as PM10 on a real-time or continuous basis such that dust associated with the soil excavation/handling is maintained below action levels.
- Monitor VOC vapors on a real-time or continuous basis such that vapors associated with the soil excavation/handling are maintained below action levels.
- Monitor for odors and visible emissions so that vapors and dust from the work area do not migrate beyond the Site perimeter.
- Notification of construction personnel in the event that dust, or VOC levels exceed action levels, so that all necessary corrective actions can be taken.

Any exceedances of CAMP action levels and corrective measures taken must be reported to New York State Department on Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) project managers, within 24 hours of occurring.

1.3 EXCAVATION AND DISPOSAL PROJECT TEAM

The GC will be the responsible party for transportation and disposal of contaminated soil. GZA will provide an environmental technician on site to perform the Community Air Monitoring during the remedial action activities. Contact information is summarized below:

Name	Project Title/Assigned Role	Phone Numbers
TBD	Site Supervisor	Work: Mobile:
TBD	General Contractor Project Manager	Mobile:
Victoria Whelan (GZA)	GZA Project Manager	Mobile: 631-793-8821

2.0 PROPOSED REMEDY AND ANTICIPATED CONDITIONS

2.1 SUMMARY OF SELECTED REMEDIAL ACTIONS

The CAMP addresses the proposed remedy in the RAWP which includes but not limited to the following:

- Removal and decommissioning of any encountered USTs and/or associated appurtenances (e.g., fill lines, vent line, and electrical conduit) and disposal off-site, in accordance with DER-10, 6 New York Codes, Rules, and Regulations (NYCRR) Part 613.9, NYSDEC Commissioner Policy 51 (CP-51), and other applicable NYSDEC UST closure requirements.
- Excavation, stockpiling, off-site transport, and disposal of the following:
    - 0-15 feet below ground surface (bgs) minimum across the entire Site (approximately 5,764 cubic yards [CY]), it should be noted that surface grade varies widely across the property due to a former cellar excavation. Four feet will be excavated across the site entirety from existing surface grade.
- Appropriate off-Site disposal of all material removed from the Site in accordance with all Federal, State, and local rules and regulations for handling, transport, and disposal.
- Import of materials to be used for backfill and cover in compliance with the of 6 NYCRR § 375-6.7(d), the established Restricted Residential SCOs, and Federal, State, and local rules and regulations for handling and transport of material.
- Chemical injections will be used to treat dissolved metals (i.e. arsenic) and contaminants below the excavation footprint within saturated soils. The injections will be performed to treat the vertical extent of contamination identified in the RI from depths of 15 ft bls to 30 ft bls across Site footprint. MetaFix® I-7A and GeoForm ER® will be injected into the subsurface to stabilize and degrade the targeted metals. After the implementation of the chemical injections, a groundwater monitoring program will be implemented to evaluate the effectiveness of the remedy..

In general, the GC will use standard excavation equipment such as a rubber-tired backhoe and/or a track-mounted excavator to remove soil from designated areas. The ISS contractor will use drilling equipment. For additional information on the selected remedy, refer to the RAWP.

2.2 ANTICIPATED SOIL CONDITIONS

Based on the results of our subsurface exploration program, the subsurface conditions at the Site generally consist of the following observed soil profile.

- SURFACE COVER: Surface cover on the Site consists of either exposed soil (fill) or concrete. Soil boring locations were advanced in areas without concrete.

- FILL: Fill, consisting of brown/dark brown fine to medium sand containing construction debris (such as brick and concrete), was encountered below the Surface Cover in the borings extending to depths of approximately between 12 to 17 ft bgs.

- CLAYEY SILT: A clayey silt layer was encountered interbedded with the peat stratum that extended to depths ranging from approximately 12 to 25 ft bgs. This stratum consists of gray/dark gray clayey silt, and trace fine to coarse sand.

- FIBROUS PEAT / FINE GRAINED PEAT: A peat stratum was encountered interbedded with clayey silt stratum to depths ranging from approximately 11 ft bgs to 33 ft bgs. This peat stratum consisted of fibrous peat that transitioned into fine grained peat. Fibrous peat is identified as a coarse, organic, fibrous dark gray to black colored material while organic peat is identified as a more decomposed, colloidal organic material.

- SAND: A sand stratum was encountered underlying the peat and clayey silt layers ranging from approximately 25 ft bgs to deepest boring termination depth of 35 ft bgs. The sand stratum is comprised of gray to brown fine to medium Sand, little Silt.

The subsurface condition at the Site is typical of a subsurface tidal waterbody. The Site was historically part of a salt marsh adjacent to an East River tributary which received an intermittent inflow and outflow of discharges.

A conceptual site model has been developed based on the findings of the Site subsurface investigations described above and from the anticipated future use of the Site.

Potential Sources of Constituent of Potential Concern

Soil - Constituents of potential concern (COPCs) identified in Site shallow soils above RRUSCOs include:

- Semivolatile organic compounds (SVOCs)
  - Acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, dibenzofuran, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene and pyrene
- Metals
  - Arsenic, barium, cadmium, copper, lead, mercury, nickel, and zinc

2.3 ANTICIPATED GROUNDWATER CONDITIONS

During the Remedial Investigation groundwater gauging event, depth to groundwater (i.e., below top of casing [BTOC]) ranges from 11.90 to 13.97 ft. Although the proposed development does not anticipate dewatering, below is a list of COPCs identified.

Potential Sources of Constituent of Potential Concern

Groundwater - COPCs identified in groundwater above TOGS 1.1.1 AWQS include:

- Volatile organic compounds (VOCs)
  - tert-Butylbenzene
- SVOCs
  - PAHs – benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene and chrysene
- Metals
  - Antimony, arsenic, lead, manganese and sodium

2.4 ANTICIPATED SOIL VAPOR CONDITIONS

Several VOCs were detected in the soil vapor samples taken at the Site that exceeded the New York State Department of Health Air Guidance Values. The VOCs that exceeded the NYSDOH AGVs are as follows: Cis-1,2-Dichloroethylene, n-Heptane, n-Hexane, tetrachloroethylene, trichloroethylene and vinyl chloride.

3.0 COMMUNITY AIR MONITORING PLAN

This CAMP requires real-time monitoring for VOCs and particulates (i.e., dust) at the upwind and downwind perimeter of each designated work area when certain activities are in progress at the Site. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for downwind receptors from airborne contaminant releases as a direct result of excavation and related construction work. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shut down. Additionally, the CAMP helps to confirm that work activities do not spread contamination off-Site through the air. This CAMP program is designed for monitoring during work activities during a normal 8-hour construction day unless otherwise directed.

Ambient air monitoring shall be conducted at one upwind station and one downwind stations of the excavation area at the property perimeter for fugitive dust emissions and organic vapors during all intrusive activities including, but not limited to, periods of excavation, placement of excavated materials in the storage piles, loading of the transporting vehicles, remediation system alterations, and any activities that generate dust. Each station will consist of air monitoring instrumentation mounted to a fixed tripod. In addition to the CAMP stations, there will be one GZA Technician performing as a roving monitor utilizing hand-held instruments similar to the instruments used in the fixed station. The roving monitor will observe and monitor CAMP parameters along the perimeter of the Site and in the work zone, as well as monitor the real-time readings from the fixed stations. Continuous monitoring will be required during all ground intrusive activities and during the loading of non-hazardous excavated materials into trucks for off-Site disposal.

3.1 AIR MONITORING EQUIPMENT

Fixed air monitoring stations will be established in three locations (one upwind and one downwind) utilizing tripod-mounted, dedicated sampling instruments to monitor the air at the downwind Site property boundary. **Figure 1** is an air monitoring station plan showing typical wind direction and fixed air monitoring station locations. In addition to the fixed locations the roving monitor will move throughout the excavation areas.

The air monitoring equipment will be operated by trained and qualified personnel. Personnel who perform air-monitoring functions described in this section shall be experienced in the use of field air monitoring equipment, as well as the air monitoring procedures described below. There must also be appropriate staff for assessing the results of air monitoring and advising field personnel and the construction manager of air quality considerations.

All the monitoring equipment shall be calibrated on a daily basis in accordance with the manufacturer's operating instructions. A dedicated logbook for each monitoring unit will be maintained that details the date, time, pump rates, or other standard, and name of person performing calibration. **Attachment 1** includes manufacturer's information regarding the air monitoring equipment.

3.2 VOLATILE ORGANIC COMPOUND MONITORING

Prior to the start of excavation, baseline air monitoring will be performed and recorded by dataloggers integrated with the MiniRae photoionization detector (PID) by hand-held PID by the roving air monitoring technician at 15-minute intervals. The air monitoring technician will also record the measurements in the field notebook.

Continuous monitoring during ground intrusive activities will be performed and recorded by dataloggers integrated with the MiniRae PID at the fixed stations, and by hand-held PID by the roving air monitoring technician. If the action levels are reached, text message and email alerts will automatically be sent to the GZA air monitoring technician. The GZA air monitoring technician will review any alert conditions and recommend the appropriate responses based on the decision matrix presented below.

The air monitoring technician will obtain discrete measurements from the instrument displays at fifteen-minute intervals (in the case of the PID, these will be instantaneous readings, and in the case of the particulate meter, these will be 15-minute, time-weighted average readings) and will record these measurements in the project field book. Using these measurements, average PID and airborne particle readings will be calculated at 15-minute intervals (by the machines datalogging) at the fixed air monitoring points located downwind of the ground intrusive activities while these activities are taking place. The 15-minute average readings will be recorded in the Air Monitoring Summary Sheet. Background/upwind measurements will also be obtained continuously during all ground-intrusive activities.

The air monitoring technician will review the discrete measurements collected by the instrument's datalogger at five-minute intervals (in the case of the PID, these will be instantaneous readings, and in the case of the particulate meter, these will be 5-minute, time-weighted average readings). The air monitoring technician will download these measurements, tabulate the data, and present the data in daily field reports. The air monitoring work will be conducted using a PID calibrated daily. The PID values recorded will be compared to the action levels specified below:

- If the ambient air concentration of total VOCs at the downwind perimeter of the work area exceeds 5 parts per million (ppm) above the background for the 5-minute average, work activities must be temporarily halted

and monitoring continued. If the total VOC level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If total VOC levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of the vapor identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total VOC level downwind of the work zone is below 5 ppm over background for the 5-minute average.

- If the VOC level is above 25 ppm at the perimeter of the work area, activities must be shut down and alternate suppression techniques may be used.

All 5-minute readings must be recorded and be available for review. Instantaneous readings, if any, used for decision purposes should also are recorded. Should readings be above 25 ppm, the Client will be notified of such conditions, and a controlled investigation, excavation and disposal of such soils would be implemented as a contingency measure.

3.3 PARTICULATE MONITORING

Prior to the start of excavation, baseline particulate monitoring will be performed simultaneously with VOC monitoring and recorded by dataloggers integrated with the hand-held dust meter by the roving air monitoring technician at 15-minute intervals. The air monitoring technician will also record the measurements in the field notebook.

During ground intrusive activities, particulate levels will be monitored simultaneously with VOC monitoring and readings will be collected on a datalogger at the fixed stations, and instantaneously on the hand-held equipment used by the roving air monitoring technician. Upwind VOC and particulate concentrations will be measured before the initiation of ground intrusive activities, and in between periods when ground intrusive activities take place. The particulate air monitoring work will be conducted using an omni directional inlet airborne particulate monitor calibrated daily.

The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers (µm) in size (PM-10) and capable of integrating over a period of 15-minutes or less for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate excess of the action level.

- Dust migration will be visually assessed during all work activities and may only continue/resume if no visible dust is migrating from the work area.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (µg/m3) greater than the background (upwind perimeter) for a 15-minute period, or if airborne dust is observed leaving the work area, then spraying of water will be used as a dust suppression measure. Therefore, this equipment and materials for this measure will be available on Site at all times. Work may continue with dust suppression measures provided the downwind PM-10 particulate levels do not exceed 150 µg/m3 above the upwind level and no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 µg/m3 above the upwind level, work must be stopped, and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentrations to within 150 µg/m3 of the upwind level and in preventing visible dust migration.

3.4 SPECIAL REQUIREMENTS CAMP

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels (response actions should also be predetermined). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.

- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m3 or less at the monitoring point.

- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

3.5 VOC AND PARTICULATE MONITORING / RESPONSE ACTIONS

The following table summarizes the CAMP and response action levels.

Parameter	**Monitoring Instrument**	**Response Levels (above background levels)**	**Actions**	**Conditions for Continuing Work Activities**
Total VOCs	PID	>5ppm but <25ppm	1. temporarily halt activity 2. continue monitoring	levels readily decrease below 5ppm above background levels
		Persistent levels between 5 and 25 ppm	1. temporarily halt activity 2. identify vapor source 3. vapor abatement action 4. continue monitoring	levels exist below 5ppm above background levels in areas 200 ft from exclusion zone or half the distance to the nearest receptor (but no less than 20 ft)

Parameter	Monitoring Instrument	Response Levels (above background levels)	Actions	Conditions for Continuing Work Activities
		>25ppm	1. shut down activity 2. vapor mitigation and control action	to be determined
Particulates < 10 µm (PM-10)	Dust Meter	Fugitive dust migration	1. implement dust suppression techniques	dust suppression techniques are in place
		>100µg/m^3 but <150µg/m^3	1. implement dust suppression techniques	levels must not exceed 150 µg/m^3 with dust suppression techniques in place
		>150 µg/m^3	1. halt activity 2. re-evaluate activities	levels decrease below 150 µg/m^3 and fugitive dust migration is prevented

The Client will be responsible for implementing dust and VOC controls based on the air monitoring results and required Action Levels described above. Control of dust and VOCs during excavation work or other soil disturbance activities will consist of the Client implementing one or more of the following methods or measures:

- Wetting equipment, excavation areas, and soil stockpiles (when not covered by tarps);
- Spraying water on buckets during excavation and dumping;
- Restricting vehicle speeds on unpaved areas; and
- Covering or backfilling excavated areas and materials after excavation activity ceases

3.6 AIR MONITORING PROCEDURES AND RECORDS

All records and forms associated with air monitoring for this project will be maintained on site until all ground-intrusive activities are complete to allow audit of the project by the NYCDEC and the GC. **Attachment 2** includes typical air monitoring forms that GZA personnel will utilize (or their equivalent) during the CAMP. These include:

- Daily Instrument Calibration Log;
- Daily excel spreadsheets of the downloaded datalogger files; and
- Air Monitoring Summary Sheet of alerts and corrective actions.

These forms, when completed, will become part of the project file. The qualified safety officer or technician will ensure that all air-monitoring data is logged in a dedicated project binder. Documentation shall be made clear, concise and provide the data, time of entry, location, personnel, weather conditions, and background concentrations for each morning station. Documentation will also include all observational data that has potential for impacting results such as potential off-site interferences, damage to instruments, site equipment problems or weather-related interferences.

All pages will be numbered and recorded in ink. The last entry page for the shift or day that has blank space left at the bottom shall have a line drawn diagonally across it and signed at the bottom of the page. All corrections must be made with a single line, initialed, and dated. The weather data shall be recorded on a daily basis while work is progressing and documented in the dedicated field log.

Real time data (e.g., PM10) will be downloaded from the data loggers at the end of each day. The downloaded data will be electronically transmitted to the Client on a daily basis. Fifteen-minute averages from each station and instantaneous readings, if any, used for decision purposes will be recorded. Daily plots of real-time data can be generated, if requested.

The on-site representatives from the Client will be notified promptly of any exceedance of an Action Level and of the corrective actions taken in connection with the exceedance.

In addition, CAMP exceedances will be included Daily Reports with CAMP data summary tables, to be sent daily to NYSDEC.

Any exceedances of CAMP action levels and corrective measures taken must be reported to New York State Department on Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) project managers, within 24 hours of occurring.

CAMP air monitoring results and records will be maintained by the contractor for a minimum period of 5 years following completion of the project and made available to the officials of the NYCDEP, upon request.

3.7 ODOR CONTROL

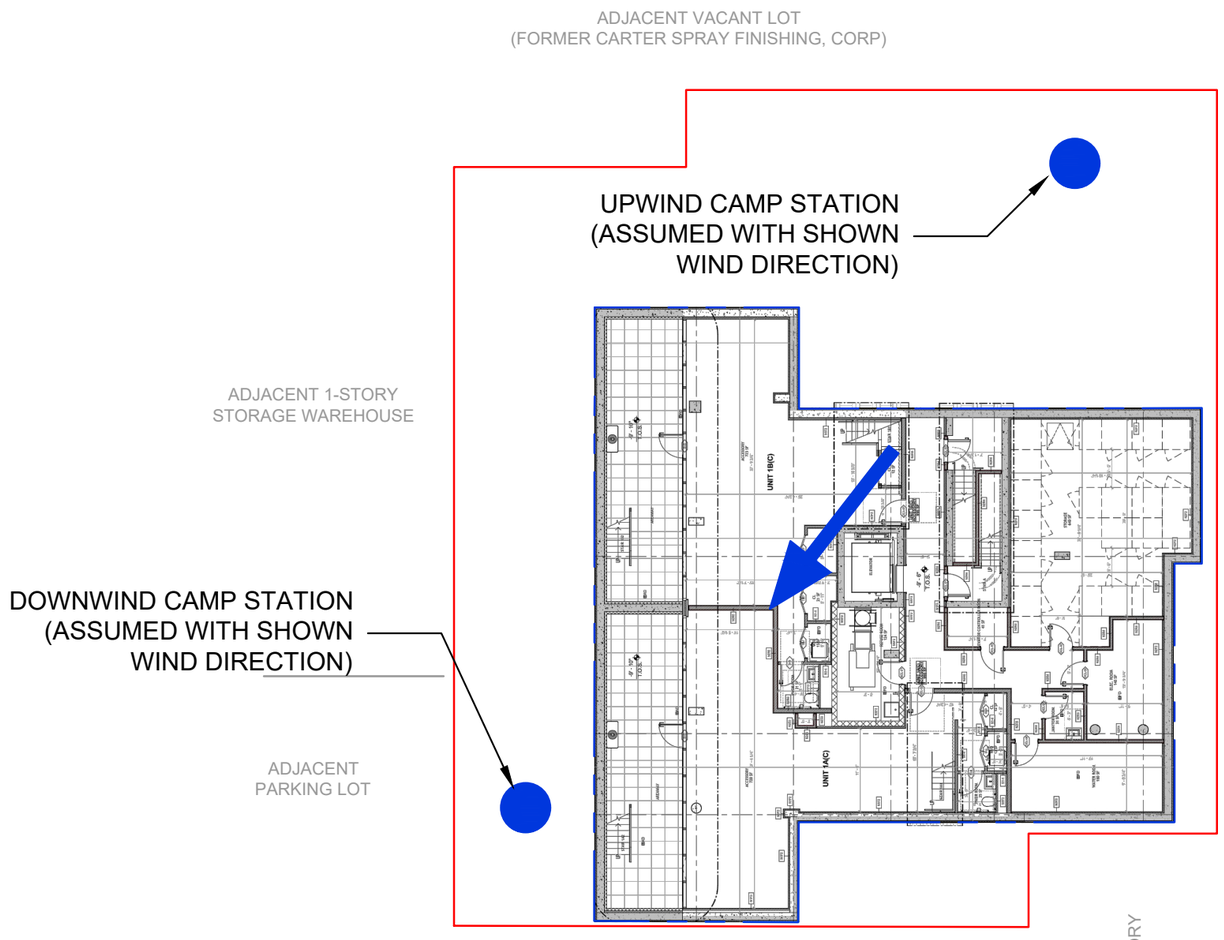
If nuisance odors are encountered during the RAWP, a soil equivalent foam concentrate, Rusmar AC-645 Long-Duration Foam (or approved equivalent) will be applied to the soil surface.

If nuisance odors are identified, work will be halted, and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of all other complaints about the project. Implementation of all odor controls, including the halt of work, will be the responsibility of the Volunteer's Remedial Engineer, who is responsible for certifying the Final Engineering Report.

All necessary means will be employed to prevent on- and off-Site nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; (e) use of chemical odorants in spray or misting systems; and (f) use of staff to monitor odors in surrounding neighborhoods.

Where odor nuisances have developed during remedial work and cannot be corrected, or where the release of nuisance odors cannot otherwise be avoided due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering excavation and handling areas under tented containment structures equipped with appropriate air venting/filtering systems.

FIGURE



GENERAL NOTES

1. BASE MAP DEVELOPED FROM DRAWING TITLED "CONSTRUCTION PLAN LEVEL 1", PREPARED BY "INOA ARCHITECTURE", ORIGINAL SCALE $\frac{3}{16}$"=1'–0", DATED FEBRUARY 21, 2025.

LEGEND

- APPROXIMATE SITE BOUNDARY
- APPROXIMATE LOCATION OF COMMUNITY AIR MONITORING STATIONS
- ASSUMED WIND DIRECTION
- APPROXIMATE CELLAR EXTENT

N W E S

0 10 20 40

SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

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55 ECKFORD STREET
BROOKLYN, NY, 11222

COMMUNITY AIR MONITORING PLAN

PREPARED BY: GZA GeoEnvironmental of NY Engineers and Scientists www.gza.com		PREPARED FOR: 55 ECKFORD ST LLC	
PROJ MGR: RM	REVIEWED BY: RM	CHECKED BY: VW	FIGURE 1
DESIGNED BY: SG	DRAWN BY: SG	SCALE: 1"=20'	
DATE: APRIL 2025	PROJECT NO. 41.0163263.20	REVISION NO. -	SHEET NO.

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GZA–J:\Active 165200 to 165299\163263.00 – 55 Eckford St BCP\Drawings\GZA CAD\55 Eckford RAWP – figures 14 and on.dwg [F17 – CAMP] May 29, 2025 – 2:41pm kevin.patel

ATTACHMENT 1

MiniRAE 3000
User's Guide



RAE SYSTEMS by Honeywell

Rev. F
February 2016
P/N 059-4020-000

FCC Information

Contains FCC ID: PI4411B or SU3RM900

The enclosed device complies with part 15 of the FCC rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Wireless Approval For UAE In Middle East

TRA REGISTERED No: ER36153/14 or ER36153/15
DEALER No.: HONEYWELL INTERNATIONAL MIDDLE EAST – LTD – DUBAI BR

Wireless Approval For QATAR In Middle East

ictQATAR
Type Approval Reg. No.: R-4466 or R-4635



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Read Before Operating

This manual must be carefully read by all individuals who have or will have the responsibility of using, maintaining, or servicing this product. The product will perform as designed only if it is used, maintained, and serviced in accordance with the manufacturer's instructions. The user should understand how to set the correct parameters and interpret the obtained results.

CAUTION!

To reduce the risk of electric shock, turn the power off before removing the instrument cover. Disconnect the battery before removing sensor module for service. Never operate the instrument when the cover is removed. Remove instrument cover and sensor module only in an area known to be non-hazardous.

Special Notes



When the instrument is taken out of the transport case and turned on for the first time, there may be some residual organic or inorganic vapor trapped inside the detector chamber. The initial PID sensor reading may indicate a few ppm. Enter an area known to be free of any organic vapor and turn on the instrument. After running for several minutes, the residual vapor in the detector chamber will be cleared and the reading should return to zero.



The battery of the instrument discharges slowly even if it is turned off. If the instrument has not been charged for 5 to 7 days, the battery voltage will be low. Therefore, it is a good practice to always charge the instrument before using it. It is also recommended to fully charge the instrument for *at least 10 hours* before first use. Refer to this User Guide's section on battery charging for more information on battery charging and replacement.

WARNINGS

STATIC HAZARD: Clean only with damp cloth.

For safety reasons, this equipment must be operated and serviced by qualified personnel only. Read and understand instruction manual completely before operating or servicing.

Use only RAE Systems battery packs, part numbers 059-3051-000, 059-3052-000, and 059-3054-000. This instrument has not been tested in an explosive gas/air atmosphere having an oxygen concentration greater than 21%. Substitution of components may impair intrinsic safety. Recharge batteries only in non-hazardous locations.

Do not mix old and new batteries or batteries from different manufacturers.

The calibration of all newly purchased RAE Systems instruments should be tested by exposing the sensor(s) to known concentration calibration gas before the instrument is put into service.

For maximum safety, the accuracy of the instrument should be checked by exposing it to a known concentration calibration gas before each day's use.

Do not use USB/PC communication in hazardous locations.

AVERTISSEMENT

DANGER RISQUE D'ORIGINE ELECTROSTATIQUE: Nettoyer uniquement avec un chiffon humide.

Pour des raisons de sécurité, cet équipment doit être utilisé, entretenu et réparé uniquement par un personnel qualifié. Étudier le manuel d'instructions en entier avant d'utiliser, d'entretenir ou de réparer l'équipement.

Utiliser seulement l'ensemble de batterie RAE Systems, la reference 059-3051-000 au 059-3052-000 au 059-3054-000. Cet instrument n'a pas été essayé dans une atmosphère de gaz/air explosive ayant une concentration d'oxygène plus élevée que 21%. La substitution de composants peut compromettre la sécurité intrinsique. Ne charger les batteries que dans emplacements désignés non-dangereuse.

Ne pas melanger les anciennes et les nouvelles batteries, ou bien encore les batteries de differents fabriquants.

La calibration de toute instruments de RAE Systems doivent être testé en exposant l'instrument a une concentration de gaz connue par une procédure diétalonnage avant de mettre en service l'instrument pour la première fois.

Pour une securite maximale, la sensibilité du l'instrument doit être verifier en exposant l'instrument a une concentration de gaz connue par une procédure diétalonnage avant chaque utilisation journalière.

Ne pas utiliser de connection USB/PC en zone dangereuse.

Standard Contents

Instrument
Calibration Kit
Charging Cradle
AC/DC Adapter
Alkaline Battery Adapter
Data Cable
CD-ROM With User's Guide, Quick Start Guide, and related materials

General Information

The compact instrument is designed as a broadband VOC gas monitor and datalogger for work in hazardous environments. It monitors Volatile Organic Compounds (VOC) using a photoionization detector (PID) with a 9.8 eV, 10.6 eV, or 11.7 eV gas-discharge lamp. Features are:

Lightweight and Compact

- Compact, lightweight, rugged design
- Built-in sample draw pump

Dependable and Accurate

- Up to 16 hours of continuous monitoring with rechargeable battery pack
- Designed to continuously monitor VOC vapor at parts-per-million (ppm) levels

User-friendly

- Preset alarm thresholds for STEL, TWA, low- and high-level peak values.
- Audio buzzer and flashing LED display are activated when the limits are exceeded.

Datalogging Capabilities

- 260,000-point datalogging storage capacity for data download to PC

The instrument consists of a PID with associated microcomputer and electronic circuit. The unit is housed in a rugged case with a backlit LCD and 3 keys to provide easy user interface. It also has a built-in flashlight for operational ease in dark locations.

Physical Description

The main components of the portable VOC monitoring instrument include:

- Three keys for user to interact with the instrument: 3 operation/programming keys for normal operation or programming
- LCD display with back light for direct readout and calculated measurements
- Built-in flashlight for illuminating testing points in dark environments
- Buzzer and red LEDs for alarm signaling whenever exposures exceed preset limits
- Charge contacts for plugging directly to its charging station
- Gas entry and exit ports
- USB communication port for PC interface
- Protective rubber cover

Specifications

Size:	9.25" L x 3.6" W x 2.9" H
Weight:	28 oz with battery pack
Detector:	Photoionization sensor with 9.8, 10.6, or 11.7 eV UV lamp
Battery:	A 3.7V rechargeable Lithium-Ion battery pack (snap in, field replaceable, at non-hazardous location only)
	Alkaline battery holder (for 4 AA batteries)
Battery Charging:	Less than 8 hours to full charge
Operating Hours:	Up to16 hours continuous operation
Display:	Large dot matrix screen with backlight

Measurement range & resolution

Lamp	Range	Resolution
10.6 eV	0.1 ppm to 15,000 ppm	0.1 ppm
9.8 eV	0.1 ppm to 5,000 ppm	0.1 ppm
11.7 eV	0.1 ppm to 2,000 ppm	0.1 ppm

Response time (T_{90}): 2 seconds

Accuracy (Isobutylene): 10 to 2000 ppm: ±3% at calibration point.

PID Detector: Easy access to lamp and sensor for cleaning and replacement

Correction Factors: Over 200 VOC gases built in (based on RAE Systems Technical Note TN-106)

Calibration: Two-point field calibration of zero and standard reference gases

Calibration Reference: Store up to 8 sets of calibration data, alarm limits and span values

Inlet Probe: Flexible 5" tubing

Radio module: Bluetooth (2.4GHz) or RF module (433MHz, 868MHz , 915MHz, or 2.4GHz)

Keypad: 1 operation key and 2 programming keys; 1 flashlight switch

Direct Readout: Instantaneous, average, STEL, TWA and peak value, and battery voltage

Intrinsic Safety: US and Canada: Class I, Division 1, Groups A, B, C, D

Europe: ATEX (0575 Ex II 2G Ex ia IIC/IIB T4 Gb)
KEMA 07 ATEX 0127
Complies with EN60079-0:2009, EN60079-11:2007

	IECEx CSA 10.0005 Ex ia IIC/IIB T4 Gb Complies with IEC 60079-0:2007, IEC 60079-11:2006 (IIC: 059-3051-000 Li-ion bat pack or 059-3054-000 NiMH bat pack; IIB: 059-3052-000 alkaline bat pack)
EM Interference:	Highly resistant to EMI/RFI. Compliant with EMC R&TTE (RF Modules)
Alarm Setting:	Separate alarm limit settings for Low, High, STEL and TWA alarm
Operating Mode:	Hygiene or Search mode
Alarm:	Buzzer 95dB at 30cm and flashing red LEDs to indicate exceeded preset limits, low battery voltage, or sensor failure
Alarm Type:	Latching or automatic reset
Real-time Clock:	Automatic date and time stamps on datalogged information
Datalogging:	260,000 points with time stamp, serial number, user ID, site ID, etc.
Communication:	Upload data to PC and download instrument setup from PC via USB on charging station.
Sampling Pump:	Internally integrated. Flow rate: 450 to 550 cc/min.
Wireless Network:	Mesh RAE Systems Dedicated Wireless Network (or WiFi network for WiFi-equipped instruments)
Wireless Frequency:	ISM license-free band, 902 to 907.5 MHz and 915 to 928 MHz, FCC Part 15, CE R&TTE, IEEE 802.11 b/g bands (2.4 GHz)
Modulation:	802.15.4 DSSS BPSK
RF Power (Tx):	10dBm
Temperature:	-20º C to 50º C (-4º to 122º F)

Humidity:	0% to 95% relative humidity (non-condensing)
Housing (including rubber boot):	Polycarbonate, splashproof and dustproof Battery can be changed without removing rubber boot.

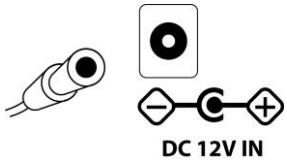
Charging The Battery

Always fully charge the battery before using the instrument. The instrument's Li-ion battery is charged by placing the instrument in its cradle. (The battery can also be charged by placing the instrument in an AutoRAE 2 Cradle.) Contacts on the bottom of the instrument meet the cradle's contacts, transferring power without other connections.

Note: Before setting the instrument into its charging cradle, visually inspect the contacts to make sure they are clean. If they are not, wipe them with a soft cloth. Do not use solvents or cleaners.

Follow this procedure to charge the instrument:

1. Plug the AC/DC adapter's barrel connector into the instrument's cradle.



2. Plug the AC/DC adapter into the wall outlet.
3. Place the instrument into the cradle, press down, and lean it back. It locks in place and the LED in the cradle glow

The instrument begins charging automatically. The "Primary" LED in the cradle blinks green to indicate charging. During charging, the diagonal lines in the battery icon on the instrument's display are animated and you see the message "Charging..."

When the instrument's battery is fully charged, the battery icon is no longer animated and shows a full battery. The message "Fully charged!" is shown. The cradle's LED glows continuously green.



Note: If you see the "Battery Charging Error" icon (a battery outline with an exclamation mark inside), check that the



instrument or rechargeable battery has been set into the cradle properly. If you still receive the message, check the Troubleshooting section of this guide.

Note: If the instrument or battery has been in the cradle for more than 10 hours and you see the "Battery Charging Error" icon and a message that says, "Charging Too Long," this indicates that the battery is not reaching a full charge. Try changing the battery and make sure the contacts between the instrument (or battery) are meeting the cradle. If the message is still shown, consult your distributor or RAE Systems Technical Services.

Charging A Spare Rechargeable Battery

A rechargeable Li-ion battery can be charged when it is not inside the monitor. The charging cradle is designed to accommodate both types of charging. Contacts on the bottom of the battery meet the contacts on the cradle, transferring power without other connections, and a spring-loaded capture holds the battery in place during charging.

1. Plug the AC/DC adapter into the monitor's cradle.
2. Place the battery into the cradle, with the gold-plated contacts on top of the six matching charging pins.
3. Plug the AC/DC adapter into the wall outlet.

The battery begins charging automatically. During charging, the Secondary LED in the cradle blinks green. When charging is complete, it glows steady green.

Release the battery from the cradle by pulling it back toward the rear of the cradle and tilting it out of its slot.

Note: If you need to replace the Li-ion battery pack, replacements are available from RAE Systems. The part number is 059-3051-000.

Note: An Alkaline Battery Adapter (part number 059-3052-000), which uses four AA alkaline batteries (Duracell MN1500), may be substituted for the Li-Ion battery.

WARNING!

To reduce the risk of ignition of hazardous atmospheres, recharge and replace batteries only in areas known to be non-hazardous. **Remove and replace batteries only in areas known to be non-hazardous.**

Low Voltage Warning



When the battery's charge falls below a preset voltage, the instrument warns you by beeping once and flashing once every minute, and the "empty battery" icon blinks on and off once per second. You should turn off the instrument within 10 minutes and either recharge the battery by placing the instrument in its cradle, or replace the battery with a fresh one with a full charge.

Clock Battery

An internal clock battery is mounted on one of the instrument's printed circuit boards. This long-life battery keeps settings in memory from being lost whenever the Li-ion battery or alkaline batteries are removed. This backup battery should last approximately five years, and must be replaced by an authorized RAE Systems service technician. It is not user-replaceable.

Data Protection While Power Is Off

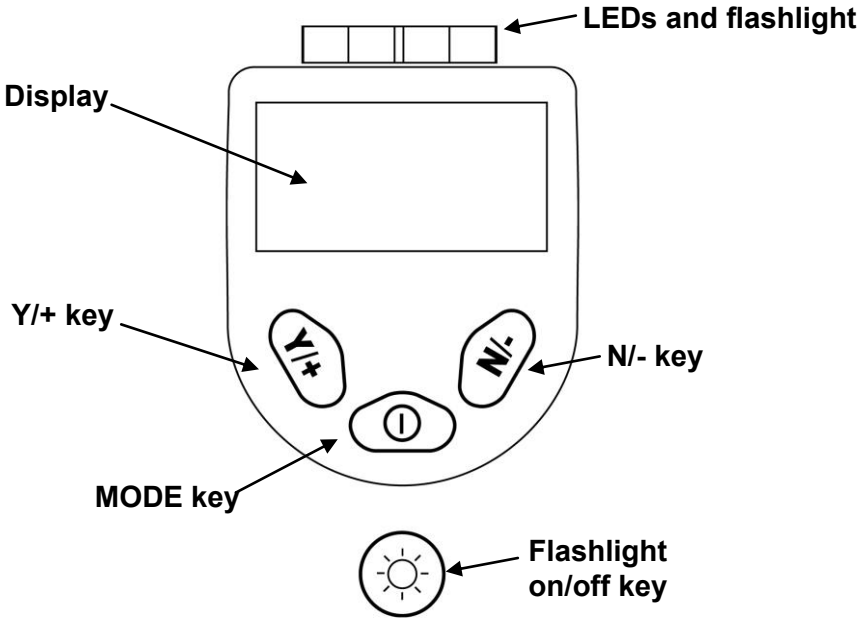
When the instrument is turned off, all the current real-time data including last measured values are erased. However, the datalog data is preserved in non-volatile memory. Even if the battery is disconnected, the datalog data will not be lost.

User Interface

The instrument's user interface consists of the display, LEDs, an alarm transducer, and four keys. The keys are:

Y/+
MODE
N/-
Flashlight on/off

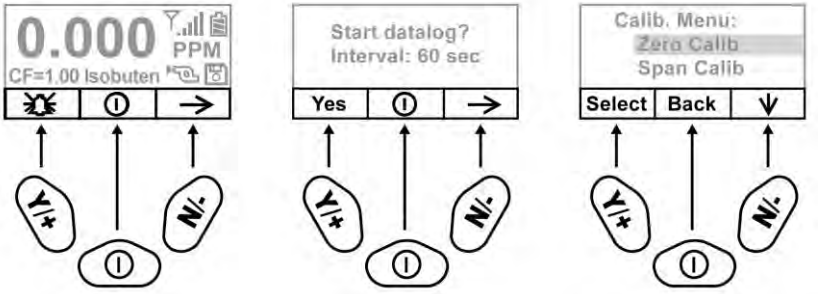
The LCD display provides visual feedback that includes the reading, time, battery condition, and other functions.



In addition to their labeled functions, the keys labeled Y/+, MODE, and N/- act as "soft keys" that control different parameters and make different selections within the instrument's menus. From menu to menu, each key controls a different parameter or makes a different selection.

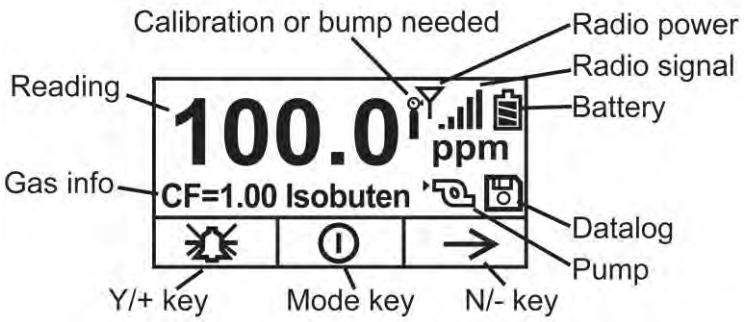
Three panes along the bottom of the display are "mapped" to the keys. These change as menus change, but at all times the left pane corresponds to the [Y/+] key, the center pane corresponds to the [MODE] key, and the right pane corresponds to the [N/-] key. Here are three examples of different menus with the relationships of the keys clearly shown:

RELATIONSHIP OF BUTTONS TO CONTROL FUNCTIONS



Display

The display shows the following information:



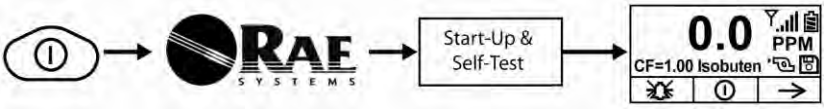
Gas info	Tells the Correction Factor and type of calibration gas
Reading	Concentration of gas as measured by the instrument
Calibration or bump needed	Dark icon indicates that calibration should be performed; light icon indicates bump should be performed
Radio power	Indicates whether radio (Mesh wireless or Bluetooth) connection is on or off
Radio signal	Indicates signal strength in 5-bar bargraph
Battery	Indicates battery level in 3 bars
Pump	Indicates that pump is working
Datalog	Indicates whether datalog is on or off
Y/+	Y/+ key's function for this screen
MODE	MODE key's function for this screen
N/-	N/- key's function for this screen

Operating The Instrument

The instrument is designed as a broadband VOC gas monitor and datalogger for work in hazardous environments. It gives real-time measurements and activates alarm signals whenever the exposure exceeds preset limits. Prior to factory shipment, the instrument is preset with default alarm limits and the sensor is pre-calibrated with standard calibration gas. However, you should test the instrument and verify the calibration before the first use. After the instrument is fully charged and calibrated, it is ready for immediate operation.

Turning The Instrument On

1. With the instrument turned off, press and hold [MODE].
2. When the display turns on, release the [MODE] key.



The RAE Systems logo should appear first. (If the logo does not appear, there is likely a problem and you should contact your distributor or RAE Systems Technical Support.) The instrument is now operating and performs self tests. If any tests (including sensor and memory tests fail), refer to the Troubleshooting section of this guide.

Once the startup procedure is complete, the instrument shows a numerical reading screen with icons. This indicates that the instrument is fully functional and ready to use.

Turning The Instrument Off

1. Press and hold the Mode key for 3 seconds. A 5-second countdown to shutoff begins.
2. Once the countdown stops, the instrument is off. Release the Mode key.
3. When you see "Unit off..." release your finger from the [MODE] key. The instrument is now off.

Note: You must hold your finger on the key for the entire shutoff process. If you remove your finger from the key during the countdown, the shutoff operation is canceled and the instrument continues normal operation.

Operating The Built-In Flashlight

The instrument has a built-in flashlight that helps you point the probe in dark places. Press the flashlight key to turn it on. Press it again to turn it off.

Note: Using the flashlight for extended periods shortens the battery's operating time before it needs recharging.

Pump Status

IMPORTANT!

During operation, make sure the probe inlet and the gas outlet are free of obstructions. Obstructions can cause premature wear on the pump, false readings, or pump stalling. During normal operation, the pump icon alternately shows inflow and outflow as shown here:



During duty cycling (PID lamp cleaning), the display shows these icons in alternation:



If there is a pump failure or obstruction that disrupts the pump, you will see this icon blinking on and off:



If you see this blinking icon, consult the Troubleshooting section of this guide.

Calibration Status

The instrument displays this icon if it requires calibration:



Calibration is required (and indicated by this icon) if:

- The lamp type has been changed (for example, from 10.6 eV to 9.8 eV).
- The sensor has been replaced.
- It has been 30 days or more since the instrument was last calibrated.
- If you have changed the calibration gas type without recalibrating the instrument.

Bump Status

The instrument displays this icon if it requires a bump test:



A bump test is required (and indicated by this icon) if:

- The defined period of time between bump tests has been exceeded (bump test overdue).
- The sensor has failed a previous bump test.
- The sensor(s) should be challenged on a periodic basis.

Policy Enforcement

The MiniRAE 3000 can be configured to enforce a facility/company's requirements that calibration and/or bump testing be performed at specified intervals, and to explicitly prompt the user that calibration/bump testing is required. Depending on how Policy Enforcement features are configured, the user may be required to perform a bump test or calibration prior to being able to use the instrument. That is, it can be set to not allow normal operation of the instrument unless calibration or bump testing is performed.

If the instrument has been bump tested and calibrated in compliance with the policy settings, a check-mark icon is included along the top of the MiniRAE 3000 screen:



If Policy Enforcement is enabled, then after startup the MiniRAE 3000 displays a screen that informs the user that the instrument requires either a bump test or a calibration. If both are required, then they are shown in sequence.

Note: Policy enforcement features are disabled by default.

Setting Policy Enforcement

You must use ProRAE Studio II to make changes to Policy Enforcement settings. You must use an AutoRAE 2 Cradle, a MiniRAE 3000 Travel Charger, or a MiniRAE 3000 Desktop Cradle. Policy violations are captured in the datalog.

Using The Travel Charger, Desktop Charger, or AutoRAE 2 Automatic Test And Calibration System

To program a MiniRAE 3000 via an AutoRAE 2, you need ProRAE Studio II Instrument Configuration and Data Management Software, the AutoRAE 2 connected to a power source, and a USB PC communications cable.

1. Connect a USB cable between a PC with ProRAE Studio II and the AutoRAE 2 Cradle, Travel Charger, or Desktop Cradle.
2. Apply power to the AutoRAE 2 Cradle, Travel Charger, or Desktop Cradle.
3. Turn off the MiniRAE 3000 (or put the MiniRAE 3000 into AutoRAE 2 Mode or Communication Mode) and set it in the cradle.
4. Start ProRAE Studio II software on the PC.
5. Select "Administrator" and input the password (the default is "rae").
6. Click "Detect the instruments automatically" (the magnifying glass icon with the letter "A" in it). After a few seconds, the AutoRAE 2 Cradle is found and it is shown, along with its serial number.
7. Click on the icon to highlight it, and then click "Select."
8. In ProRAE Studio II, the instrument or AutoRAE 2 Cradle is shown, including its Serial Number, under "Online."
9. Expand the view to show the instrument or to show the instrument in the AutoRAE 2 Cradle by clicking the "+" to the left of the image of the AutoRAE 2 Cradle.
10. Double-click on the icon representing the MiniRAE 3000.
11. Click "Setup."
12. In the menu that now appears on the left side, click "Policy Enforcement." It is highlighted, and the Policy Enforcement pane is shown. For "Must Calibrate" and "Must Bump," you have the options of no enforcement or enforcement (including "Can't Bypass," and "Can Bypass").

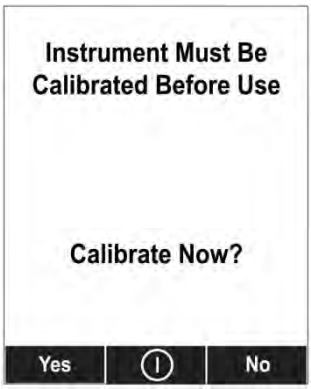
Must Calibrate. The user is prompted to calibrate the instrument when calibration is due (as set by the calibration interval). There are two programmable options:

- **Can't Bypass.** Unless calibration is performed, the instrument cannot be used, and the only option is to turn off the instrument.
- **Can Bypass.** If calibration is due but the user does not want to perform a calibration, the instrument can still be used. In this case, the instrument records that the user has bypassed the calibration requirement in a Policy Violation report.

Must Bump. The user is prompted to bump test the instrument when a bump test is due (as set by the bump test interval). There are two programmable options:

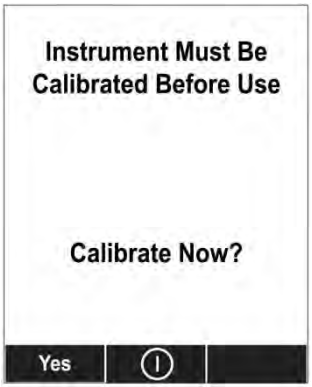
- **Can't Bypass.** Unless a bump test is performed, the instrument cannot be used, and the only option is to turn off the instrument.
- **Can Bypass.** If a bump test is due but the user does not want to perform one, the instrument can still be used. In this case, the instrument records that the user has bypassed the bump testing requirement in a Policy Violation report.

These are the screens that are shown on a MiniRAE 3000 after startup if "Can Bypass" is selected:





If "Can't Bypass" is selected, the display looks like this, and only allows the options of performing the test or shutting down:





16. Once you have made your selections in ProRAE Studio II, you must upload the changes to the instrument. Click the icon labeled "Upload all settings to the instrument."

17. A confirmation screen is shown. Click "Yes" to perform the upload, or "No" to abort.
    Uploading takes a few seconds, and a progress bar is shown. You can abort the upload by clicking "Cancel."

18. Exit ProRAE Studio II.

19. Press [Y/+] on the MiniRAE 3000 to exit Communication Mode.

Operating Modes

Your instrument operates in different modes, depending on the model and its factory default settings. In some cases, you can change modes using a password and using the instrument's navigation. In other cases, you must use ProRAE Studio software.

The default setting for your instrument is:

User Mode: Basic
Operation Mode: Hygiene

This is outlined in detail on page 83.

The other options, covered later in this guide, are:

User Mode: Advanced (page 86)
Operation Mode: Hygiene

User Mode: Advanced (page 90)
Operation Mode: Search

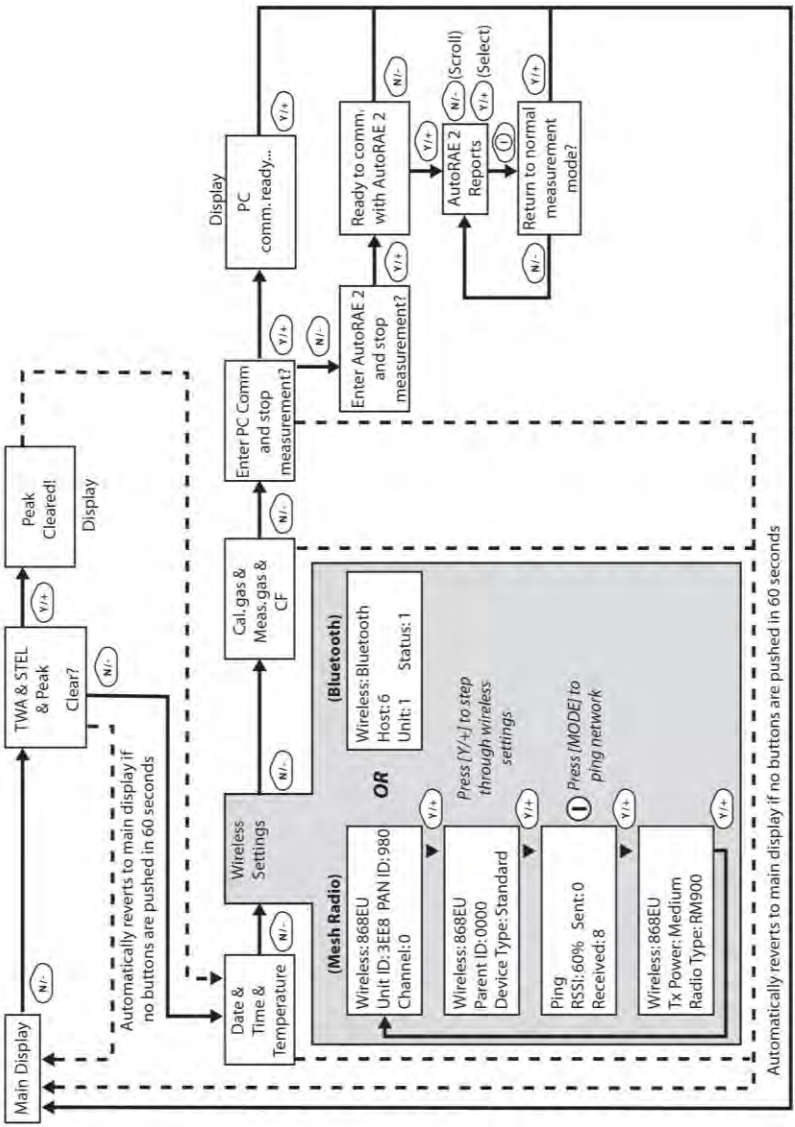
Using ProRAE Studio allows access to other options. In addition, Diagnostic Mode (page 91) is available for service technicians.

Basic User Level/Hygiene Mode (Default Settings)

The instrument is programmed to operate in Basic User Level/Hygiene Mode as its default. This gives you the most commonly needed features while requiring the fewest parameter adjustments.

Pressing [N/-] steps you from one screen to the next, and eventually return to the main display. If you do not press a key within 60 seconds after entering a display, the instrument reverts to its main display.

Note: While viewing any of these screens, you can shut off your instrument by pressing [MODE].



Note: Dashed line indicates automatic progression.

After the instrument is turned on, it runs through the start-up menu. Then the message "**Please apply zero gas…**" is displayed.

At this point, you can perform a zero air (fresh air) calibration. If the ambient air is clean, you can use that. Otherwise, use a cylinder of zero air. Refer to Zero Calibration on page 44 for a more detailed description of zero calibration.

Start zero calibration by pressing Start. You see the message "Zeroing…" followed by a 30-second countdown.

Note: You can press [MODE] to quit, bypassing the zero air calibration.

When zero calibration is complete, you see the message:

Zeroing is done!

Reading = 0.0 ppm

The instrument is now sampling and collecting data.

Note: At the Average & Peak, Date & Time & Temperature, Calibration Gas & Measurement Gas & Correction Factor, and PC Communications screens, the instrument automatically goes to the main display after 60 seconds if you do not push a key to make a selection.

Alarm Signals

During each measurement period, the gas concentration is compared with the programmed alarm limits (gas concentration alarm limit settings). If the concentration exceeds any of the preset limits, the loud buzzer and red flashing LED are activated immediately to warn you of the alarm condition.

In addition, the instrument alarms if one of the following conditions occurs: battery voltage falls below a preset voltage level, failure of the UV lamp, or pump stall.

Alarm Signal Summary

Message	Condition	Alarm Signal
HIGH	Gas exceeds "High Alarm" limit	3 beeps/flashes per second*
OVR	Gas exceeds measurement range	3 beeps/flashes per second*
MAX	Gas exceeds electronics' maximum range	3 beeps/flashes per second*
LOW	Gas exceeds "Low Alarm" limit	2 beeps/flashes per second*
TWA	Gas exceeds "TWA" limit	1 Beep/flash per second*
STEL	Gas exceeds "STEL" limit	1 Beep/flash per second*
Pump icon flashes	Pump failure	3 beeps/flashes per second
Lamp	PID lamp failure	3 beeps/flashes per second plus "Lamp" message on display
Battery icon flashes	Low battery	1 flash, 1 beep per minute plus battery icon flashes on display
CAL	Calibration failed, or needs calibration	1 beep/flash per second
NEG	Gas reading measures less than number stored in calibration	1 beep/flash per second

* Hygiene mode only. In Search mode, the number of beeps per second (1 to 7) depends upon the concentration of the sampled gas. Faster rates indicate higher concentrations.

Preset Alarm Limits & Calibration

The instrument is factory calibrated with standard calibration gas, and is programmed with default alarm limits.

Cal Gas (Isobutylene)	Cal Span	unit	Low	High	TWA	STEL
MiniRAE 3000	100	ppm	50	100	10	25

Testing The Alarm

You can test the alarm whenever the main (Reading) display is shown. Press [Y/+], and the audible and visible alarms are tested.

Integrated Sampling Pump

The instrument includes an integrated sampling pump. This diaphragm-type pump that provides a 450 to 550 cc per minute flow rate. Connecting a Teflon or metal tubing with 1/8" inside diameter to the gas inlet port of the instrument, this pump can pull in air samples from 100' (30 m) away horizontally or vertically.

Note: In Search Mode, the pump turns on when a sample measurement is started, and turns off when the sample is manually stopped.

If liquid or other objects are pulled into the inlet port filter, the instrument detects the obstruction and immediately shuts down the pump. The alarm is activated and a flashing pump icon is displayed.

You should acknowledge the pump shutoff condition by clearing the obstruction and pressing the [Y/+] key while in the main reading display to restart the pump.

Backlight

The LCD display is equipped with an LED backlight to assist in reading the display under poor lighting conditions.

Datalogging

During datalogging, the instrument displays a disk icon to indicate that datalogging is enabled. The instrument stores the measured gas concentration at the end of every sample period (when data logging is enabled). In addition, the following information is stored: user ID, site ID, serial number, last calibration date, and alarm limits. All data are retained (even after the unit is turned off) in non-volatile memory so that it can be down- loaded at a later time to a PC.

Datalogging event

When Datalogging is enabled, measurement readings are being saved. These data are stored in "groups" or "events." A new event is created and stored each time the instrument is turned on and is set to automatic datalogging, or a configuration parameter is changed, or datalogging is interrupted. The maximum time for one event is 24 hours or 28,800 points. If an event exceeds 24 hours, a new event is automatically created. Information, such as start time, user ID, site ID, gas name, serial number, last calibration date, and alarm limits are recorded.

Datalogging sample

After an event is recorded, the unit records a shorter form of the data. When transferred to a PC running ProRAE Studio, this data is arranged with a sample number, time, date, gas concentration, and other related information.

Auto/Manual/Snapshot Datalogging

The instrument has three datalog types:

Auto	Default mode. Collects datalog information when the instrument is sampling.
Manual	Datalogging occurs only when the instrument's datalogging is manually started (see page 63 for details).
Snapshot	Datalogs only during snapshot (single-event capture, initiated by pressing [MODE]) sampling. See page 65 for details.

Note: You can only choose one datalog type to be active at a time.

Accessories

The following accessories are included with the instrument:

- An AC Adapter (Battery Charger)
- Alkaline battery adapter
- External Filter
- Organic Vapor Zeroing kit

Hard-case kits also include these accessories:

- Calibration adapter
- Calibration regulator and Flow controller

Standard Kit & Accessories

AC Adapter (Battery Charger)

WARNING

To reduce the risk of ignition of hazardous atmospheres, recharge battery only in area known to be non-hazardous. Remove and replace battery only in area known to be non-hazardous.

Ne charger les batteries que dans emplacements designés non-dangereuses.

A battery charging circuit is built into the instrument cradle. It only needs a regular AC to 12 VDC adapter (wall-mount transformer, part number 500-0114-000) to charge the instrument.

To charge the battery inside the instrument:

1. Power off the instrument.
2. Connect the AC adapter to the DC jack on the instrument's cradle. If the instrument is off, it automatically turns on.
3. While charging, the display message shows "Charging." The Primary LED on the cradle flashes green when charging.
4. When the battery is fully charged, the LED changes to glowing green continuously, and the message "Fully charged" appears on the

display. If there is a charging error, the LED glows red continuously.

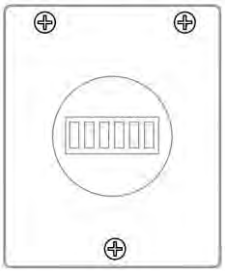
A completely discharged instrument can be charged to full capacity within 8 hours. Batteries drain slowly even if an instrument is off. Therefore, if the instrument has been in storage or has not been charged for several days or longer, check the charge before using it.

The factory-supplied battery is designed to last for 16 hours of normal operation (no alarm), for a new battery under the optimum circumstances. As the battery becomes older or is subject to adverse conditions (such as cold ambient temperature), its capacity will be significantly reduced.

Alkaline Battery Adapter

An alkaline battery adapter is supplied with each instrument. The adapter (part number 059-3052-000) accepts four AA alkaline batteries (use only Duracell MN1500) and provides approximately 12 hours of operation. The adapter is intended to be used in emergency situations when there is no time to charge the Li-ion battery pack.

To insert batteries into the adapter:



1. Remove the three Philips-head screws to open the compartment in the adapter.
2. Insert four fresh AA batteries as indicated by the polarity (+/-) markings.
3. Replace the cover. Replace the three screws.

To install the adapter in the instrument:

1. Remove the Li-ion battery pack from the instrument by sliding the tab and tilting out the battery.
2. Replace it with the alkaline battery adapter
3. Slide the tab back into place to secure the battery adapter.

IMPORTANT!

Alkaline batteries cannot be recharged. The instrument's internal circuit detects alkaline batteries and will not allow recharging. If you place the instrument in its cradle, the alkaline battery will not be recharged. The

internal charging circuit is designed to prevent damage to alkaline batteries and the charging circuit when alkaline batteries are installed inside the instrument. If you try to charge an alkaline batteries installed in the instrument, the instrument's display will say, "Alkaline Battery," indicating that it will not charge the alkaline batteries.

Note: When replacing alkaline batteries, dispose of old ones properly.

WARNING!

To reduce the risk of ignition of hazardous atmospheres, recharge the battery only in areas known to be non-hazardous. Remove and replace the battery only in areas known to be non-hazardous.

External Filter

The external filter is made of PTFE (Teflon®) membrane with a 0.45 micron pore size to prevent dust or other particles from being sucked into the sensor manifold, which would cause extensive damage to the instrument. It prolongs the operating life of the sensor. To install the external filter, simply connect it to the instrument's inlet tube.

Optional Accessories

Calibration Adapter

The calibration adapter for the instrument is a simple 6-inch Tygon tubing with a metal adapter on one end. During calibration, simply insert the metal adapter into the regular gas inlet probe of the instrument and the tubing to the gas regulator on the gas bottle.

Calibration Regulator

The Calibration Regulator is used in the calibration process. It regulates the gas flow rate from the Span gas cylinder into the gas inlet of the instrument during calibration process. The maximum flow rate allowed by the flow controller is about 0.5L/min (500 cc per min.). Alternatively, a demand-flow regulator or a Tedlar gas bag may be used to match the pump flow precisely.

Organic Vapor Zeroing Kit

The Organic Vapor Zeroing Kit is used for filtering organic air contaminants that may affect the zero calibration reading. To use the Organic Vapor Zeroing Kit, simply connect the filter to the inlet port of the instrument.

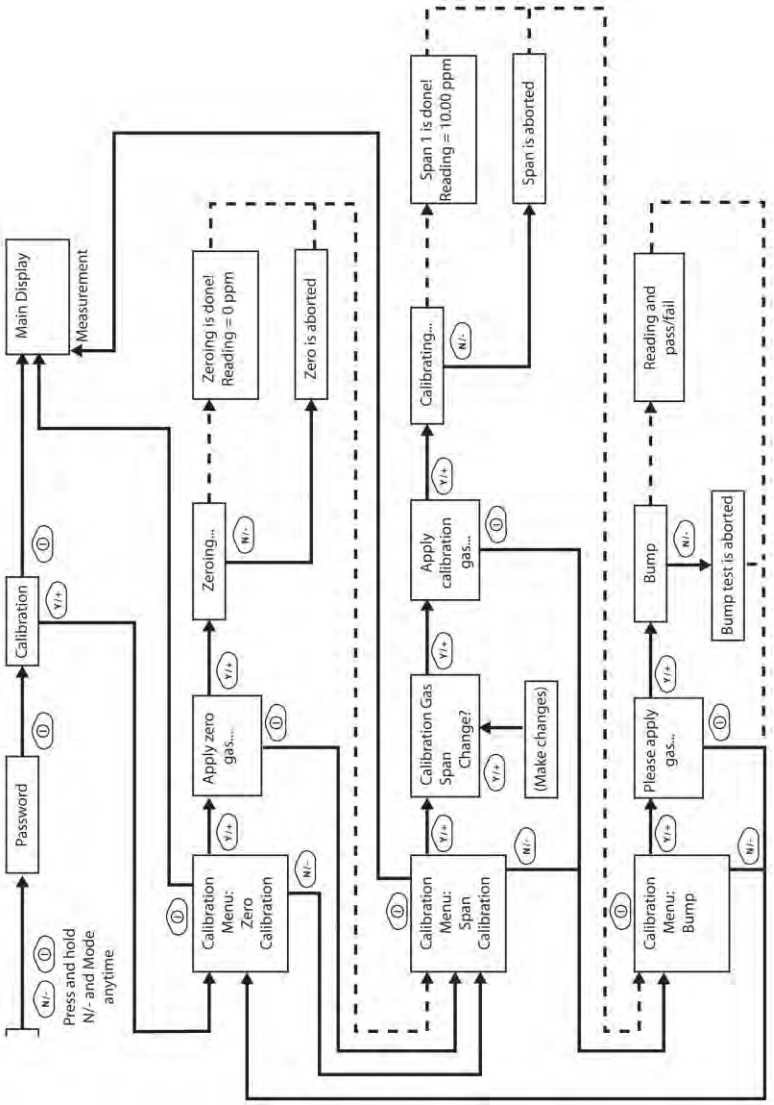
AutoRAE 2 Automatic Test & Calibration System

The AutoRAE 2 Automatic Test and Calibration System for RAE Systems portable gas monitors makes compliance with monitor test and calibration requirements as easy as pressing a button. Simply cradle the monitor and the system will take care of all calibration, testing, and recharging.

The AutoRAE 2 is a flexible, modular system that can be configured to meet your calibration requirements effectively and efficiently. An AutoRAE 2 system can be as simple as a single cradle deployed in standalone mode to calibrate one instrument at a time, or as powerful as a networked, controller-based system supporting ten monitors and five distinct calibration gas cylinders.

Standard Two-Point Calibration (Zero & Span, Optional Bump)

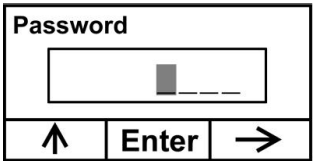
The following diagram shows the instrument's calibrations in Basic/Hygiene mode.



Note: Dashed line indicates automatic progression.

Entering Calibration

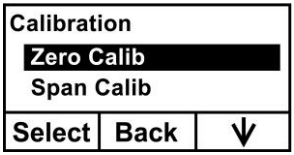
1. Press and hold [MODE] and [N/-] until you see the Password screen.



2. In Basic User Level, you do not need a password to perform calibrations. Instead of inputting a password, enter calibration by pressing [MODE].

   Note: If you inadvertently press [Y/+] and change any of the numbers, simply press [MODE] and you will be directed to the calibration menu.

The Calibration screen is now visible with Zero Calibration highlighted.



These are your options:

- Press [Y/+] to select the highlighted calibration (Zero Calib or Span Calib).
- Press [MODE] to exit calibration and return to the main display and resume measurement.
- Press [N/-] to toggle the highlighted calibration type.

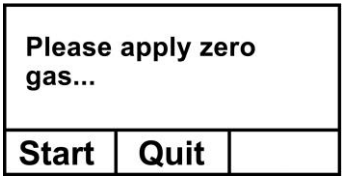
Zero (Fresh Air) Calibration

This procedure determines the zero point of the sensor calibration curve. To perform a fresh air calibration, use the calibration adapter to connect the instrument to a "fresh" air source such as from a cylinder or Tedlar bag (optional accessory). The "fresh" air is clean, dry air without organic impurities and an oxygen value of 20.9%. If such an air cylinder is not available, any clean ambient air without detectable contaminants or a charcoal filter can be used.

At the Zero Calibration menu, you can proceed to perform a Zero calibration or bypass Zero calibration and perform a Span calibration. You may also go back to the initial Calibration menu if you want to exit calibration.

- Press [Y/+] to start calibration.
- Press [MODE] to quit and return to the main calibration display.

If you have pressed [Y/+] to enter Zero calibration, then you will see this message:



1. Turn on your Zero calibration gas.
2. Press [Y/+] to start calibration.

   Note: At this point, you may press [MODE] if you decide that you do not want to initiate calibration. This will take you directly to the Calibration menu, highlighted for Span calibration.

3. Zero calibration starts a 30-second countdown and displays this message:

   Zeroing...

During the zeroing process, the instrument performs the Zero calibration automatically and does not require any action on your part.

Note: To abort the zeroing process at any time and proceed to Span calibration, press [N/-] at any time while zeroing is being performed. You will see a confirmation message that says "Zero aborted!" and then the Span calibration menu appears.

When Zero calibration is complete, you see this message:

Zeroing is done!
Reading = 0.0 ppm

The instrument will then show the Calibration menu on its display, with Span Calib highlighted.

Span Calibration

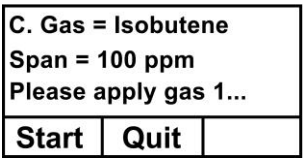
This procedure determines the second point of the sensor calibration curve for the sensor. A cylinder of standard reference gas (span gas) fitted with a 500 cc/min. flow-limiting regulator or a flow-matching regulator is the simplest way to perform this procedure. Choose the 500 cc/min. regulator only if the flow rate matches or slightly exceeds the flow rate of the instrument pump. Alternatively, the span gas can first be filled into a Tedlar bag or delivered through a demand-flow regulator. Connect the calibration adapter to the inlet port of the instrument, and connect the tubing to the regulator or Tedlar bag.

Another alternative is to use a regulator with >500 cc/min flow but allow the excess flow to escape through a T or an open tube. In the latter method, the span gas flows out through an open tube slightly wider than the probe, and the probe is inserted into the calibration tube.

At the Span Calibration menu, you perform a Span calibration. You may also go back to the Zero calibration menu or to the initial Calibration menu if you want to exit calibration.

- Press [Y/+] to enter Span calibration.
- Press [N/-] to skip Span calibration and return to Zero calibration.
- Press [MODE] to exit Span calibration and return to the top calibration menu.

If you have pressed [Y/+] to enter Span calibration, then you will see the name of your Span gas (the default is isobutylene) and the span value in parts per million (ppm). You will also see this message that prompts you:



1. Turn on your span calibration gas.
2. Press [Y/+] to initiate calibration.

Note: You may press [MODE] if you decide that you do not want to initiate calibration. This will abort the span calibration and take you directly to the Calibration menu for Zero calibration.

3. Span calibration starts and displays this message:

   Calibrating...

During the Span calibration process, there is a 30-second countdown and the instrument performs the Span calibration automatically. It requires no actions on your part.

Note: If you want to abort the Span calibration process, press [N/-] at any time during the process. You will see a confirmation message that says "Span is aborted!" and then the Zero calibration menu appears. You can then proceed to perform a Zero calibration, perform a Span calibration, or exit to the topmost Calibration menu.

When Span calibration is complete, you see a message similar to this (the value is an example only):

Span 1 is done!
Reading = 100.0 ppm

The instrument then exits Span calibration and shows the Zero calibration menu on its display.

Note: The reading should be very close to the span gas value.

Exiting Two-Point Calibration In Basic User Level

When you are done performing calibrations, press [MODE], which corresponds with "Back" on the display. You will see the following message:

Updating settings…

The instrument updates its settings and then returns to the main display. It begins or resumes monitoring.

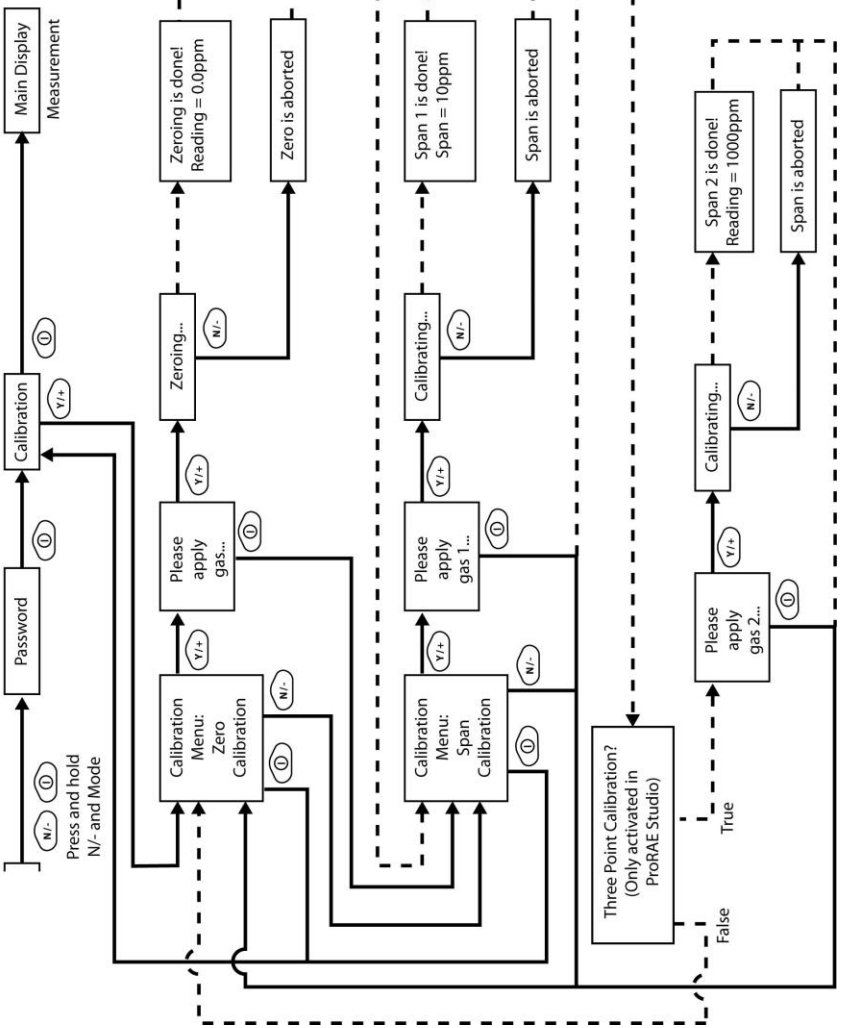
Three-Point Calibration

For enhanced accuracy, it is possible to perform a second Span calibration in addition to the Zero and Span calibrations outlined in the previous section. Your instrument first must be set to allow this third calibration. This requires using ProRAE Studio software and a PC, as well as a higher concentration of calibration gas.

Note: Once the third calibration is set, you do not need to use ProRAE Studio to allow future 3-point calibrations. Also, you can only disable 3-point calibration capability by using ProRAE Studio again.

Perform the Zero and Span calibrations. After the first Span calibration (Span 1) is completed, the display a second Span calibration (Span 2) can be performed. The process is identical to the first calibration. As in the Span 1 calibration, you may exit and return to the Zero calibration screen if you choose not to perform this calibration or to abort it.

Note: If a bump test is available, it appears after the last calibration in the menu. See "Two-Point Calibration," page 38, for details. Also, refer to page 53 for details on how to perform a bump test.



Note: Dashed line indicates automatic progression.

Span 2 Calibration

A cylinder of standard reference gas (span gas) fitted with a 500 cc/min. flow-limiting regulator or a flow-matching regulator is the simplest way to perform this procedure.

Note: This gas should be of a higher concentration than the gas used for Span 1 calibration.

Choose the 500 cc/min. regulator only if the flow rate matches or slightly exceeds the flow rate of the instrument pump. Alternatively, the span gas can first be filled into a Tedlar bag or delivered through a demand-flow regulator. Connect the calibration adapter to the inlet port of the instrument, and connect the tubing to the regulator or Tedlar bag.

Another alternative is to use a regulator with >500 cc/min flow but allow the excess flow to escape through a T or an open tube. In the latter method, the span gas flows out through an open tube slightly wider than the probe, and the probe is inserted into the calibration tube.

At the Span Calibration menu, you perform a Span calibration. You may also go back to the Zero calibration menu or to the initial Calibration menu if you want to exit calibration.

- Press [Y/+] to enter Span 2 calibration.
- Press [N/-] to skip Span calibration and return to Zero calibration.
- Press [MODE] to exit Span calibration and return to the top calibration menu.

If you have pressed [Y/+] to enter Span calibration, then you will see the name of your Span gas (the default is isobutylene) and the span value in parts per million (ppm). You will also see this message that prompts you:

Please apply gas...

4. Turn on your span calibration gas.
5. Press [Y/+] to initiate calibration.

Note: You may press [MODE] if you decide that you do not want to initiate calibration. This will take you directly to the Calibration menu for Zero calibration.

6. Span calibration starts a 30-second countdown and displays this message:

   Calibrating...

During the Span calibration process, the instrument performs the Span calibration automatically and does not require any action on your part.

Note: If you want to abort the Span calibration process, press [N/-] at any time during the process. You will see a confirmation message that says "Span is aborted!" and then the Zero calibration menu will appear. You can then proceed to perform a Zero calibration, perform a Span calibration, or exit to the topmost Calibration menu.

When Span calibration is complete, you will see a message similar to this (the value shown here is for example only):

Span 2 is done!
Reading = 1000 ppm

The instrument then exits Span calibration and shows the Zero calibration menu on its display.

Note: The reading should be very close to the span gas value.

Exiting Three-Point Calibration

When you are done performing calibrations, press [MODE], which corresponds with "Back" on the display. You will see the following message:

Updating settings…

The instrument updates its settings and then returns to the main display. It begins or resumes monitoring.

Bump Test

RAE Systems recommends that a bump test be conducted prior to each day's use. The purpose of a bump test is to ensure that the instrument's sensors respond to gas and all the alarms are enabled and functional.

- The MiniRAE 3000 must be calibrated if it does not pass a bump test when a new sensor is installed, after sensor maintenance has been performed, or at least once every 180 days, depending on use and sensor exposure to poisons and contaminants.
- Calibration and bump test intervals and procedures may vary due to national legislation and company policy.

To perform a bump test (functional challenge), follow these steps:

1. Select "Bump."
2. Install the calibration adapter and connect it to a source of calibration gas.
3. Verify that the displayed calibration value meets the concentration specified on the gas cylinder.
4. Start the flow of calibration gas.
5. Press [Y/+] to start the bump test.
6. You can abort the calibration at any time during the countdown by pressing [N/-].

7. If the calibration is not aborted, the display shows reading and then tells you whether the bump test passed or failed. If the bump test failed, then it automatically advances to the Calibration screen.

Important!

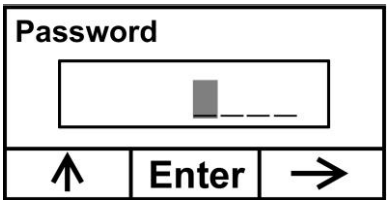
Anytime a bump test fails, you should perform a full calibration of the instrument.

Programming Mode

Programming Mode can be entered from either Hygiene Mode or Search Mode. If the current user mode is Basic, you must provide a 4-digit password to enter.

Entering Programming Mode

1. Press and hold [MODE] and [N/-] until you see the Password screen.



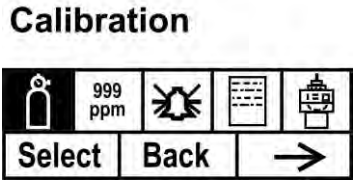
2. Input the 4-digit password:

- Increase the number from 0 through 9 by pressing [Y/+].
- Step from digit to digit using [N/-].
- Press [MODE] when you are done.

If you make a mistake, you can cycle through the digits by pressing [N/-] and then using [Y/+] to change the number in each position.

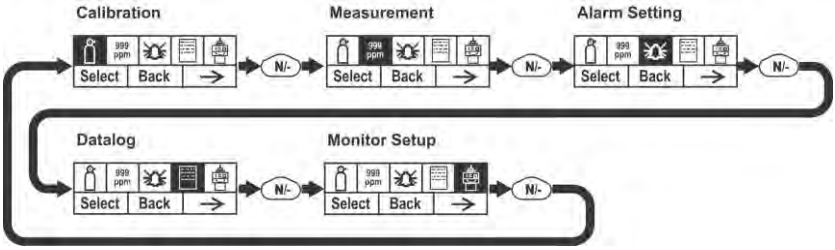
Note: The default password is 0000.

When you have successfully entered Programming Mode, you see this screen:



Note: The password can only be changed by connecting the instrument to a PC running ProRAE Studio software. Follow the instructions in ProRAE Studio to change it.

The Calibration label is shown and its icon is highlighted, but you can press [N/-] to step from one programming menu to the next, with the name of the menu shown at the top of the display and the corresponding icon highlighted. As you repeatedly press [N/-], the selection moves from left to right, and you see these screens:



Note: When you reach Monitor Setup and press [N/-], the menu cycles back to Calibration.

Programming Mode Menus

The Programming Mode allows anyone with the password to change the instrument's settings, calibrate the instrument, modify the sensor configuration, enter user information, etc. Programming Mode has five menus. Each menu includes several sub-menus to perform additional programming functions.

This table shows the menus and sub-menus:

				
Calibration	**Measurement**	**Alarm Setting**	**Datalog**	**Monitor Setup**
Zero Calibration	Meas. Gas	High Alarm	Clear Datalog	Radio Power
Span Calibration	Meas. Unit	Low Alarm	Interval	Op Mode
Bump		STEL Alarm	Data Selection	Site ID
		TWA Alarm	Datalog Type	User ID
		Alarm Mode		User Mode
		Buzzer & Light		Date
				Time
				Pump Duty Cycle
				Pump Speed
				Temperature Unit
				Language
				Real Time Protocol
				Power On Zero
				Unit ID
				LCD Contrast
				Lamp ID
				PAN ID
				Mesh Channel
				Mesh Interval

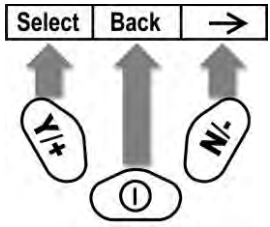
Once you enter Programming Mode, the LCD displays the first menu, Calibration. Each subsequent menu is accessed by pressing [N/-] repeatedly until the desired menu is displayed. To enter a sub-menu of a menu, press [Y/+].

Exiting Programming Mode

To exit Programming Mode and return to normal operation, press [MODE] once at any of the programming menu displays. You will see "Updating Settings…" as changes are registered and the mode changes.

Navigating Programming Mode Menus

Navigating through the Programming Mode menus is easy and consistent, using a single interface format of "Select," "Back" and "Next" at the top level. The three control buttons correspond to these choices as shown:



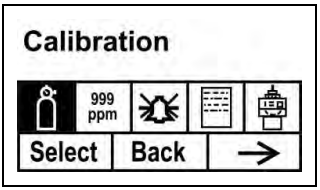
Note: Pressing [MODE] in the Programming Mode's top level causes the instrument to exit Programming Mode and return to monitoring.

The three keys perform the following functions in Programming Mode:

Key	Function in Programming Mode
[MODE]:	Exit menu when pressed momentarily or exit data entry mode
[Y/+]:	Increase alphanumerical value for data entry or confirm (yes) for a question
[N/-]:	Provides a "no" response to a question

Calibration

Two types of calibration are available: Zero (fresh air) and Span.



Select Zero or Span Calibration by pressing [N/+]. Once your choice is highlighted, press [Y/+].

Zero Calibration

The procedure for performing a zero calibration is covered on page 41.

Span Calibration

The procedure for performing a basic span calibration is covered on page 41.

Bump

The procedure for performing a bump calibration is covered on page 53.

A bump test can be performed either manually or using the AutoRAE 2 Automatic Test and Calibration System. When a bump test is done manually, the instrument makes a pass/fail decision based on sensor performance, but the user still has the responsibility to make sure all the alarms are enabled and functional.

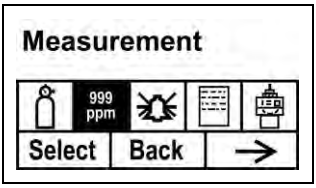
Note: Bump testing and calibration can be performed using an AutoRAE 2 Automatic Test & Calibration System. An AutoRAE 2 bump test takes care of both the sensor and alarm tests. Consult the AutoRAE 2 User's guide for details.

IMPORTANT!

If the instrument does not pass a bump test, perform a full calibration. If calibration also fails, the PID sensor or lamp may require cleaning or replacement. If the instrument repeatedly fails to calibrate, turn it off and refer it for servicing.

Measurement

The sub-menus for Measurement are Measurement Gas and Measurement Unit.



Meas. Gas

Measurement gases are organized in four lists:

- My List is a customized list of gases that you create. It contains a maximum of 10 gases and can only be built in ProRAE Studio on a PC and transferred to the instrument. **Note:** The first gas in the list is always isobutylene (it cannot be removed from the list).
- Last Ten is a list of the last ten gases used by your instrument. The list is built automatically and is only updated if the gas selected from Custom Gases or Library is not already in the Last Ten. This ensures that there is no repetition.
- Gas Library is a library that consists of all the gases found in RAE Systems' Technical Note TN-106 (available online at www.raesystems.com).
- Custom Gases are gases with user-modified parameters. Using ProRAE Studio, all parameters defining a gas can be modified,

including the name, span value(s), correction factor, and default alarm limits.

1. Scroll through each list by pressing [N/-].
2. Press [Y/+] to select one (My List, Last Ten, Gas Library, or Custom Gases).
3. Once you are in one of the categories, press [N/-] to scroll through its list of options and [Y/+] to select one. (If you press [MODE], you exit to the next submenu.)
4. Press [Y/+] to save your choice or [N/-] to undo your selection.

Leave the sub-menu and return to the Programming Mode menus by pressing [MODE].

Meas. Unit

Standard available measurement units include:

Abbreviation	Unit	MiniRAE 3000
ppm	parts per million	Yes
ppb	parts per billion	
mg/m3	milligrams per cubic meter	Yes
ug/m3	micrograms per cubic meter	

- Scroll through the list by pressing [N/-].
- Select by pressing [Y/+].
- Save your selection by pressing [Y/+] or undo your selection by pressing [N/-].

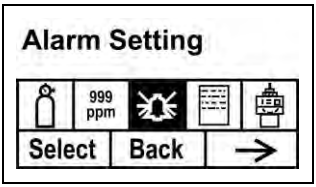
Leave the sub-menu and return to the Programming Mode menus by pressing [MODE].

Alarm Setting

During each measurement period, the gas concentration is compared with the programmed alarm limits (gas concentration alarm limit settings: Low, High, TWA and STEL). If the concentration exceeds any of the preset limits, the loud buzzer and red flashing LED are activated immediately to warn of the alarm condition.

An alarm signal summary is shown on page 33.

In this menu, you can change the High and Low alarm limits, the STEL limit, and the TWA. Press [Y/+] to to enter the Alarm Setting menu. **Note:** All settings are shown in ppb (parts per billion), or µg/m^3 (micrograms per cubic meter), depending on your setting.



1. Scroll through the Alarm Limit sub-menu using the [N/-] key until the display shows the desired limit to be changed (High Alarm, Low Alarm, STEL Alarm, and TWA Alarm)
2. Press [Y/+] to select one of the alarm types. The display shows a flashing cursor on the left-most digit of the previously stored alarm limit.
3. Press [Y/+] to increase each digit's value.
4. Press [N/-] to advance to the next digit.
5. Again, use [Y/+] to increase the number.

Repeat this process until all numbers are entered.

Press [MODE] when you are done.

- Press [Y/+] to save the changes.
- Press [N/-] to undo the changes and revert to the previous settings.

When all alarm types have been changed or bypassed, press [MODE] to exit to the Programming Menu.

High Alarm

You can change the High Alarm limit value. The value is typically set by the instrument to match the value for the current calibration gas. It is expressed in parts per billion (ppb). **Note:** The default value depends on the measurement gas.

To change the High Alarm value:

1. Press [Y/+] to increase each digit's value.
2. Press [N/-] to advance to the next digit.
3. Again, use [Y/+] to increase the number.

Repeat this process until all numbers are entered.
When you have completed your selections, press [MODE]. You will see two choices: Save and Undo. You have the opportunity to register the new settings or to change your mind and revert to your previous settings.

Press [Y/+] to save the changes.
Press [N/-] to undo the changes and revert to the previous settings.

Low Alarm

You can change the Low Alarm limit value. The value is typically set by the instrument to match the value for the current calibration gas. It is expressed in parts per billion (ppb). **Note:** The default value depends on the measurement gas.

To change the Low Alarm value:

1. Press [Y/+] to increase each digit's value.
2. Press [N/-] to advance to the next digit.
3. Again, use [Y/+] to increase the number.

Repeat this process until all numbers are entered.

When you have completed your selections, press [MODE]. You will see two choices: Save and Undo. You have the opportunity to register the new settings or to change your mind and revert to your previous settings.

- Press [Y/+] to save the changes.
- Press [N/-] to undo the changes and revert to the previous settings.

STEL Alarm

You can change the STEL Alarm limit value. The value is typically set by the instrument to match the value for the calibration gas. It is expressed in parts per billion (ppb). **Note:** The default value depends on the measurement gas.

To change the STEL Alarm value:

1. Press [Y/+] to increase each digit's value.
2. Press [N/-] to advance to the next digit.
3. Again, use [Y/+] to increase the number.

Repeat this process until all numbers are entered.

When you have completed your selections, press [MODE]. You will see two choices: Save and Undo. You have the opportunity to register the new settings or to change your mind and revert to your previous settings.

- Press [Y/+] to save the changes.
- Press [N/-] to undo the changes and revert to the previous settings.

TWA Alarm

You can change the TWA (time-weighted average) Alarm limit value. The value is typically set by the instrument to match the value for the calibration gas. It is expressed in parts per billion (ppb). **Note:** The default value depends on the measurement gas.

To change the TWA Alarm value:

1. Press [Y/+] to increase each digit's value.
2. Press [N/-] to advance to the next digit.
3. Again, use [Y/+] to increase the number.

Repeat this process until all numbers are entered.

When you have completed your selections, press [MODE]. You will see two choices:

- Save
- Undo

You have the opportunity to register the new settings or to change your mind and revert to your previous settings.

- Press [Y/+] to save the changes.
- Press [N/-] to undo the changes and revert to the previous settings.

Alarm Mode

There are two selectable alarm modes:

Auto Reset	When the alarm condition is no longer present, the alarm stops and automatically resets itself.
Latch	When the alarm is triggered, you can manually stop the alarm. The latched setting only controls alarms for High Alarm, Low Alarm, STEL Alarm, and TWA alarm. **Note:** To clear an alarm when the instrument is set to "Latched," press [Y/+] when the main (Reading) display is shown.

1. Press **[N/-]** to step from one alarm type to the other.
2. Press **[Y/+]** to select an alarm type.

When you have completed your selections, press [MODE].

You will see two choices: Save and Undo. You have the opportunity to register the new settings or to change your mind and revert to your previous settings.

- Press [Y/+] to save the changes.
- Press [N/-] to undo the changes and revert to the previous settings.

Buzzer & Light

The buzzer and light alarms can be programmed to be on or off individually or in combination. Your choices are:

- Both on
- Light only
- Buzzer only
- Both off

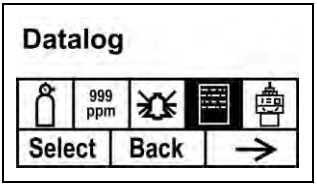
1. Press [N/-] to step from one option to the next.
2. Press [Y/+] to make your selection (the dark circle in the "radio button" indicates your selection).
3. When you have completed your selections, press [MODE].

   You will see two choices: Save and Undo. You have the opportunity to register the new settings or to change your mind and revert to your previous settings.

   - Press [Y/+] to save the changes.
   - Press [N/-] to undo the changes and revert to the previous settings.

Datalog

The instrument calculates and stores the concentration and ID of each sample taken. In the datalog sub-menu, a user can perform the tasks and functions shown below.



1. Scroll through the Datalog sub-menu using the [N/-] key until the display shows the desired parameter to be changed:

   Clear Datalog
   Interval
   Data Selection
   Datalog Type

2. Press [Y/+] to make your selection. Exit by pressing [MODE] for Back.

Clear Datalog

This erases all the data stored in the datalog.

Note: Once the datalog is cleared, the data cannot be recovered.

Press [Y/+] to clear the datalog. The display asks, "Are you sure?"

- Press [Y/+] if you want to clear the datalog. When it has been cleared, the display shows "Datalog Cleared!"
- Press [N/-] if you do not want to clear the datalog.

The display changes, and you are taken to the next sub-menu, Interval.

Interval

Intervals are shown in seconds. The default value is 60 seconds. The maximum interval is 3600 seconds.

1. Press [Y/+] to increase each digit's value.
2. Press [N/-] to advance to the next digit.
3. Again, use [Y/+] to increase the number.

Repeat this process until all numbers are entered.

When you have completed your selections, press [MODE].

You will see two choices: Save and Undo. You have the opportunity to register the new settings or to change your mind and revert to your previous settings.

- Press [Y/+] to save the changes.
- Press [N/-] to undo the changes and revert to the previous settings.

Data Selection

Data Selection allows you to select which types of data are stored and made available when you offload your datalog to a computer via ProRAE Studio software.

You can choose any or all of three types of data (you must choose at least one):

- Average
- Maximum
- Minimum

1. Press [N/-] to step from one option to the next. The highlighter indicates your choice.
2. Press [Y/+] to toggle your selection on or off (the check box indicates "on" with an "X").
3. When you have completed your selections, press [MODE].

You will see two choices: Save and Undo. You have the opportunity to register the new settings or to change your mind and revert to your previous settings.

- Press [Y/+] to save the changes.
- Press [N/-] to undo the changes and revert to the previous settings.

Datalog Type

The instrument has three datalog types:

Auto	Default mode. Collects datalog information when the instrument is sampling.
Manual	Datalogging occurs only when the instrument's datalogging is manually started (see below for details).
Snapshot	Datalogs only during single-event capture sampling.

Note: You can only choose one datalog type to be active at a time.

1. Press [N/-] to step from one option to the next.
2. Press [Y/+] to make your selection (the dark circle in the "radio button" indicates "on").
3. When you have completed your selection, press [MODE].

You will see two choices: Save and Undo. You have the opportunity to register the new settings or to change your mind and revert to your previous settings.

- Press [Y/+] to save the changes.

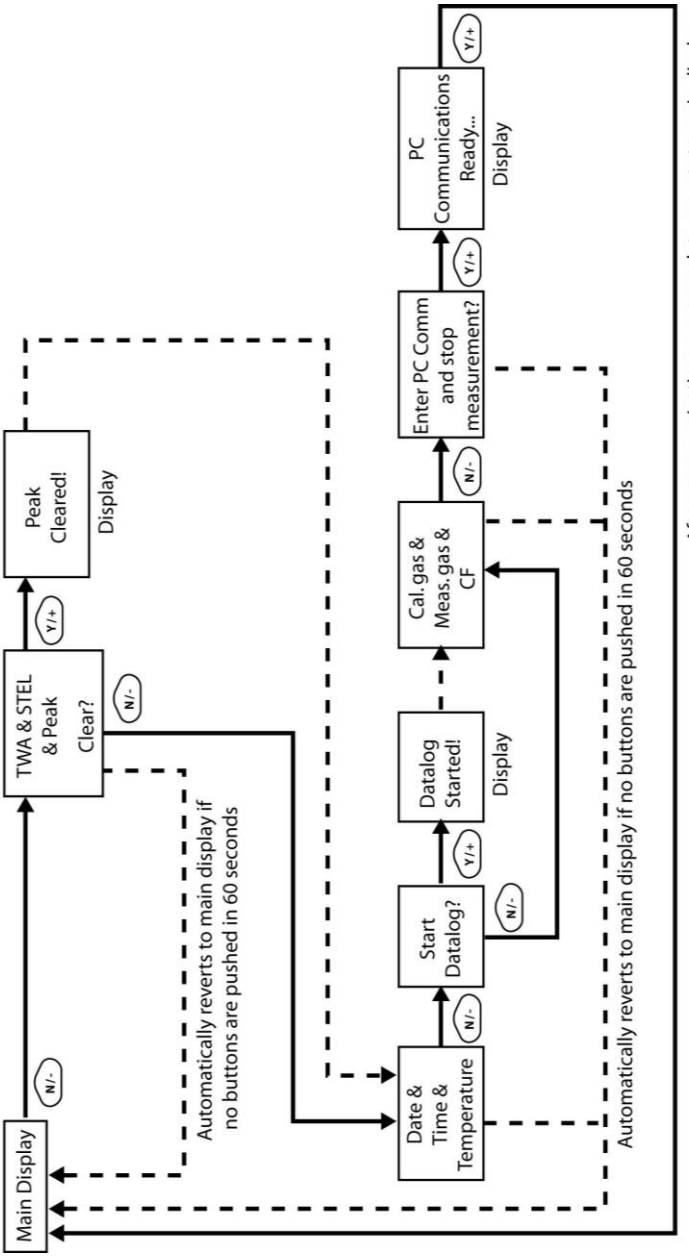
Press [N/-] to undo the changes and revert to the previous settings.

Manual Datalog

When the instrument is set to Manual Datalog, you turn datalogging on and off by stepping through the displays from the Main Display, and then pressing the keys to select datalog on/off functions.

- When you reach the screen that says "Start Datalog?" press [Y/+] to start it. You see "Datalog Started," confirming that datalogging is now on.

When you reach the screen that says "Stop Datalog?" press [Y/+] to stop it. You see "Datalog Stopped," confirming that datalogging is now off.



Note: Dashed line indicates automatic progression.

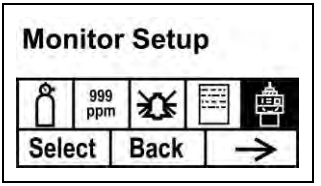
Snapshot Datalog

When the instrument is in Snapshot datalogging mode, it captures a single "snapshot" of the data at the moment of your choosing. Whenever the instrument is on and it is set to Snapshot, all you have to do is press [MODE] each time you want to capture a snapshot of the data at that instant.

When you send the data to a computer using ProRAE Studio, the data snapshots are uniquely identified by time and other parameters.

Monitor Setup

Many settings can be accessed in this menu, including setting the date and time and adjusting the pump's on/off duty cycle.



Radio Power

The radio connection can be turned on or off.

1. Press [N/-] to step from one option to the next (on or off).
2. Press [Y/+] to make your selection (the dark circle in the "radio button" indicates that the option is selected).
3. When you have completed your selection, press [MODE].

    - Press [Y/+] to accept the new radio setting (on or off).
    - Press [N/-] to discard the change and move to the next sub-menu.

Op Mode

Under Monitor Setup is "Op Mode."

Press [Y/+] to select.

You see two options (one is highlighted):

Hygiene
Search

The current mode is indicated by a dark circle within the circle in front of either Hygiene or Search.

1. Select Hygiene or Search by pressing [N/-]. The highlighting changes from one to the other each time you press [N/-].
2. Press [Y/+] to select that mode for the instrument.
3. Press [MODE] when you want to register your selection to place the instrument in the selected mode.
4. Press [Y/+] to commit the change and exit to the Monitor Setup screen, or press [N/-] to Undo (exit to the Monitor Setup screen without changing the Mode).

Site ID

Enter an 8-digit alphanumeric/character Site ID in the programming mode. This Site ID is included in the datalog report.

1. Press [Y/+] and the display shows the current site ID. Example: "RAE00001." Note that the left-most digit flashes to indicate it is the selected one.
2. Press [Y/+] to step through all 26 letters (A to Z) and 10 numerals (0 to 9).
   Note: The last four digits must be numerals.
3. Press [N/-] to advance to the next digit. The next digit to the right flashes.

Repeat this process until all eight digits of the new site ID are entered.

Press [MODE] to exit.

If there is any change to the existing site ID, the display shows "Save?" Press [Y/+] to accept the new site ID. Press [N/-] to discard the change and move to the next sub-menu.

User ID

Enter an 8-digit alphanumeric User ID in the programming mode. This User ID is included in the datalog report.

1. Press [Y/+] and the display shows the current User ID. Example: "RAE00001." Note that the left-most digit flashes to indicate it is the selected one.
2. Press [Y/+] to step through all 26 letters (A to Z) and 10 numerals (0 to 9).
3. Press [N/-] to advance to the next digit. The next digit to the right flashes.

   Repeat this process until all eight digits of the new User ID are entered.

Press [MODE] to exit.

If there is any change to the existing User ID, the display shows "Save" Press [Y/+] to accept the new site ID. Press [N/-] to discard (undo) the change and move to the next sub-menu.

User Mode

The instrument has two user modes:

Basic Basic users can only see and use a basic set of functions.
Advanced Advanced users can see all screens and perform all available functions.

Note: The default value for User Mode is Basic.

To change the User Mode:

1. Press [N/-] to step from one option to the next. The highlighting changes each time you press [N/-].
2. Press [Y/+] to make your selection (the dark circle in the "radio button" indicates "on").
3. When you have completed your selection, press [MODE].
4. Press [Y/+] to accept the new User Mode. Press [N/-] to discard the change and move to the next sub-menu.

Date

The Date is expressed as Month/Day/Year, with two digits for each.

1. Press [Y/+] and the display shows the current date. Note that the left-most digit flashes to indicate it is selected.
2. Press [Y/+] to step through all 10 numerals (0 to 9).
3. Press [N/-] to advance to the next digit. The next digit to the right flashes.

   Repeat this process until all six digits of the new date are entered.

Press [MODE] to exit.

- Press [Y/+] to save the new date.
- Press [N/-] to undo the change and move to the next sub-menu.

Time

The Time is expressed as Hours/Minutes/Seconds, with two digits for each. The time is in 24-hour (military) format.

1. Press [Y/+] and the display shows the current time. Note that the left-most digit flashes to indicate it is selected.
2. Press [Y/+] to step through all 10 numerals (0 to 9).
3. Press [N/-] to advance to the next digit. The next digit to the right flashes.

   Repeat this process until all six digits of the new time are entered.

Press [MODE] to exit.

- Press [Y/+] to save the new date.
- Press [N/-] to undo the change and move to the next sub-menu.

Pump Duty Cycle

The pump's duty cycle is the ratio of its on time to off time. The duty cycle ranges from 50% to 100% (always on), and the period is 10 seconds. Therefore, a duty cycle of 60% means that the pump is on for 6 seconds and off for four seconds. Duty cycling is employed by the instrument to clean the PID. A lower duty cycle has a greater effect on keeping the PID clean than a higher duty cycle.

Important! Pump duty cycling is interrupted when the instrument senses a gas. The pump's duty cycle is disabled when the measurement is greater than the 2ppm threshold and is re-enabled when the reading falls below 90% of the threshold (1.8 ppm).

1. Press [Y/+] to increase the value.
2. When you have completed your selection, press [MODE].
   - Press [Y/+] to save the new duty cycle value.
   - Press [N/-] to undo the change and move to the next sub-menu.

Pump Speed

The pump can operate at two speeds, high and low. Running at low speed is quieter and conserves a small amount of power. There is almost no difference in sampling accuracy.

1. Press [N/-] to step from one option to the next.
2. Press [Y/+] to make your selection (the dark circle in the "radio button" indicates "on").
3. When you have completed your selection, press [MODE].
   - Press [Y/+] to save the new temperature unit.
   - Press [N/-] to undo the change and move to the next sub-menu.

Temperature Unit

The temperature display can be switched between Fahrenheit and Celsius units.

1. Press [N/-] to step from one option to the next.
2. Press [Y/+] to make your selection (the dark circle in the "radio button" indicates "on").
3. When you have completed your selection, press [MODE].
   - Press [Y/+] to save the new temperature unit.
   - Press [N/-] to undo the change and move to the next sub-menu.

Language

English is the default language, but other languages can be selected for the instrument.

1. Press [N/-] to step from one option to the next.
2. Press [Y/+] to make your selection (the dark circle in the "radio button" indicates "on").
3. When you have completed your selection, press [MODE].
   - Press [Y/+] to save your new language choice.
   - Press [N/-] to undo it and return to the previous language selection.

Real Time Protocol

Real Time Protocol is the setting for data transmission.

The choices are:

P2M (cable)	Point to multipoint. Data is transferred from the instrument to multiple locations using a wired connection. Default data rate: 19200 bps.
P2P (cable)	Point to point. Data is transferred only between the instrument and one other location, such as a computer. Default data rate: 9600 bps.
P2M (wireless)	Point to multipoint, wireless. Data is transferred wirelessly and can be received by multiple receivers.

1. Press [N/-] to step from one option to the next.
2. Press [Y/+] to make your selection (the dark circle in the "radio button" indicates "on").
3. When you have completed your selection, press [MODE].
   - Press [Y/+] to save the new real-time communications protocol.
   - Press [N/-] to undo the change and move to the next sub-menu.

Power On Zero

When Power On Zero is on, the instrument performs a zero calibration when it is turned on.

1. Press [N/-] to step from one option to the next.
2. Press [Y/+] to make your selection (the dark circle in the "radio button" indicates your selection).
3. When you have completed your selection, press [MODE].
   - Press [Y/+] to save the change.
   - Press [N/-] to discard the change and move to the next sub-menu.

Unit ID

This three-digit number keeps data separated by instrument when more than one instrument is used in a network. If multiple sensing units are attempting to communicate with the same Host, then the units must all have a different Unit ID.

1. Press [Y/+] to step through all 10 numerals (0 to 9). If you pass the numeral you want, keep pressing [Y/+]. After it counts up to 9, it starts counting up from 0 again.
2. Press [N/-] to advance to the next digit. The next digit to the right flashes.

Repeat this process until all three digits of the Unit ID are entered.

3. Press [MODE] when you are done.
   - Press [Y/+] to save the change.
   - Press [N/-] to discard the change and move to the next sub-menu.

LCD Contrast

The display's contrast can be increased or decreased from its default setting. You may not need to ever change the default setting, but sometimes you can optimize the display to suit extreme temperature and ambient brightness/darkness conditions.

- The minimum value is 20.
- The maximum value is 60.

1. Press [Y/+] to increase the value or [N/-] to decrease the value.
2. Press [MODE] to save your selection.
   - Press [Y/+] to save your new contrast value.
   - Press [N/-] to undo it and return to the previous value.

Lamp ID

The instrument must be set to the correct lamp value in order to function correctly. Always match the value that was installed in your instrument from the factory or the value of the PID lamp you are replacing.

1. Press [N/-] to step from one option to the next.
2. Press [Y/+] to make your selection (the dark circle in the "radio button" indicates "on").
3. When you have completed your selection, press [MODE].

PAN ID

The MiniRAE 3000 and any other devices that you want to interconnect wirelessly must have the same PAN ID. You can set the PAN ID in the instrument or through ProRAE Studio II.

1. Press [N/-] to advance through the digits from left to right.
2. Press [Y/+] to] to advance through the numbers (1, 2, 3, etc.).
3. Press [MODE] to register your choice when you are done.

Mesh Channel

Note: For mesh radio modems operating at 868MHz, only channel 0 is available. For other frequencies, channels 1 through 10 are allowed.

1. Press [Y/+] to increase the number and [N/-] to advance to the next digit.
2. After moving to the last digit and making changes, press [MODE].
    - Press [Y/+] to save the change.
    - Press [N/-] to undo the change.

Mesh Interval

Set the time interval at which the instrument's mesh radio sends out a signal. This can range from once every 10 seconds to once every four minutes (240 seconds). The transmission frequency is user-adjustable, but a rate of at least once every 30 seconds is recommended. **Note:** Shorter intervals reduce battery life.

1. Press [N/-] to step from one option to the next.
2. Press [Y/+] to make a selection.
3. When you are done, press [MODE].

Hygiene Mode

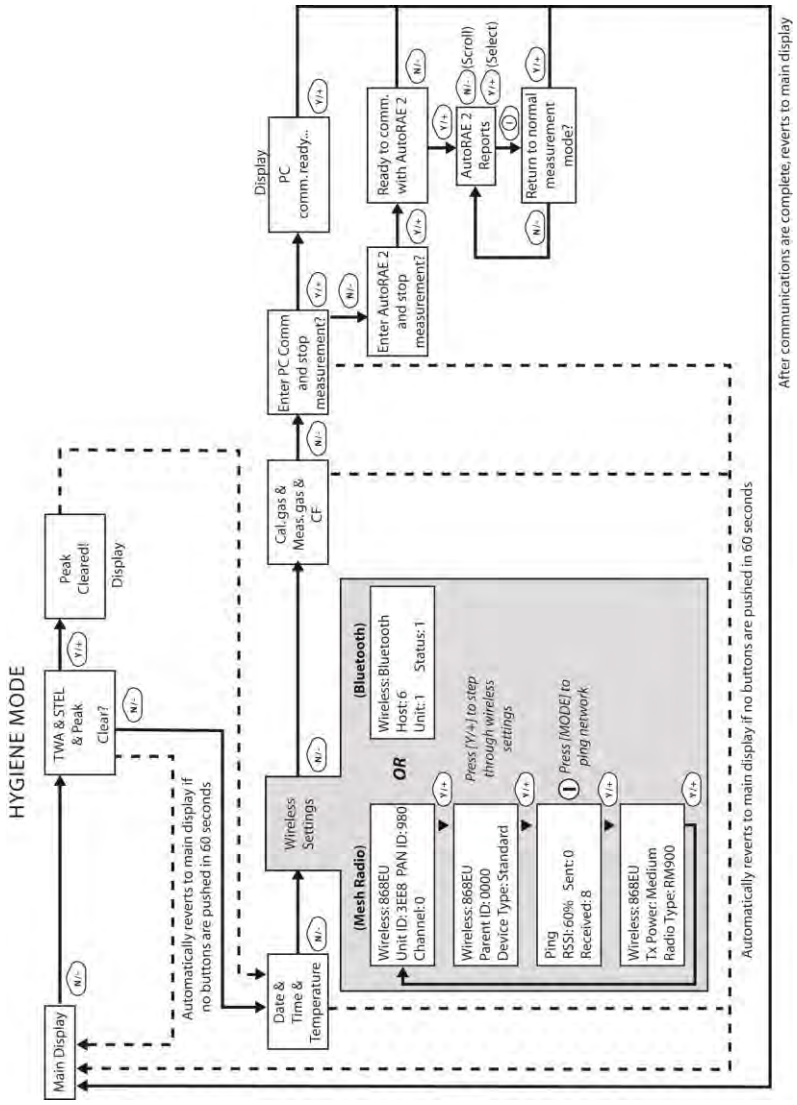
The instrument usually operates in Hygiene Mode, which provides basic functionality. However, it is possible to operate it in a second mode called Search Mode. Here are the primary differences:

Hygiene Mode: Automatic measurements, continuously running and datalogging, and calculates additional exposure values.

Search Mode: Manual start/stop of measurements and display of certain exposure values.

Basic User Level & Hygiene Mode

The default setting is navigated in the following way:



Note: Dashed line indicates automatic progression.

Pressing [N/-] steps you from screen to screen. Options include clearing the Peak value and turning on the instrument's PC Communications for data transfer to a PC.

Entering Search Mode From Hygiene Mode

In order to change the instrument's operational mode from Hygiene Mode to Search Mode, you must enter the password-protected Programming Mode:

1. Hold [MODE] and [N/-] until you see the password screen.
2. Use [Y/+] to increment to the number you want for the first digit. (If you pass by the desired number, press [Y/+] until it cycles through to 0 again. Then press [Y/+] until you reach the desired number.)
3. Press [N/-] to advance to the next digit.
4. Again press [Y/+] to increment the number.
5. Press [N/-] to advance to the next digit.

Continue the process until all four numbers of the password have been input. Then press [MODE] to proceed.

The screen changes to icons with the label "Calibration."

1. Press [N/-] to advance to "Monitor Setup."
2. Press [Y/+] to select Monitor Setup.

Under Monitor Setup, you will see "Op Mode."

Press [Y/+] to select.

You will see:

Hygiene
Search

The current mode is indicated by a dark circle within the circle in front of either Hygiene or Search.

1. Select Hygiene or Search by pressing [N/-].
2. Press [Y/+] to place the instrument into the selected mode.

3. Press [MODE] when you want to register your selection to place the instrument in the selected mode.
4. Press [Y/+] to commit the change and exit to the Monitor Setup screen, or press [N/-] to Undo (exit to the Monitor Setup screen without changing the Mode).

Advanced User Level (Hygiene Mode Or Search Mode)

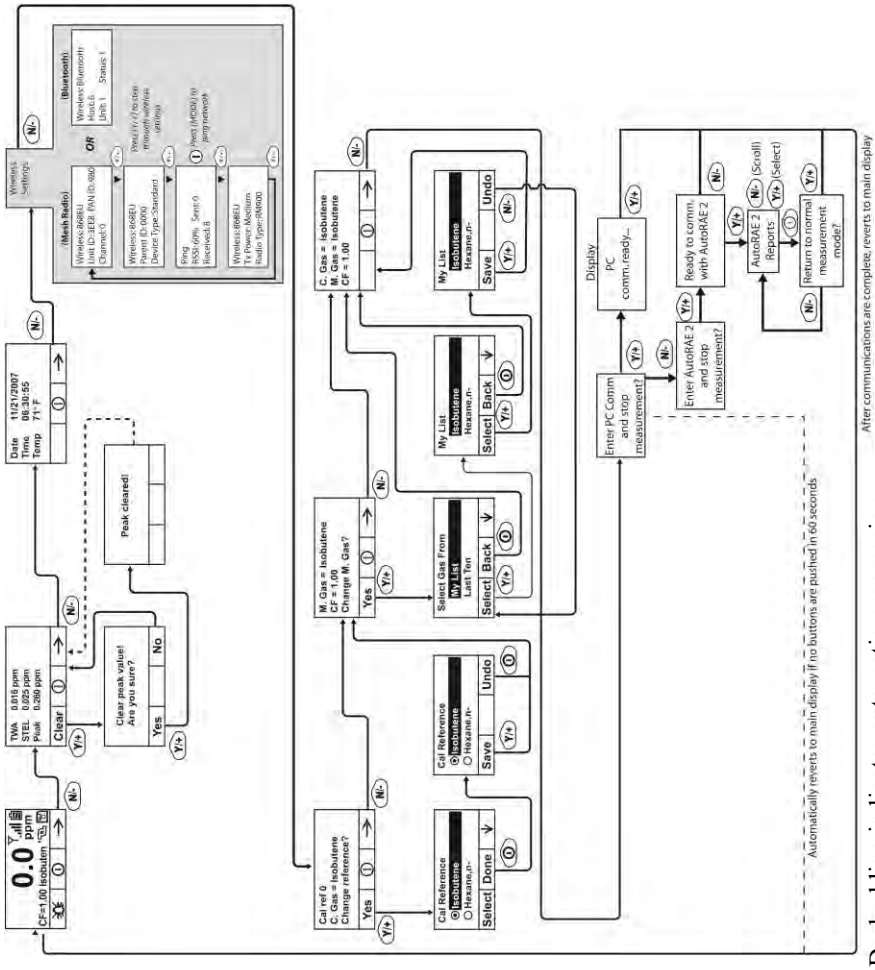
The User Mode called Advanced User Level allows a greater number of parameters to be changed than Basic User Level. It can be used with either of the Operation Modes, Hygiene Mode or Search Mode.

Advanced User Level & Hygiene Mode

With the instrument in Operation Mode: Hygiene Mode, enter User Mode: Advanced User Level (refer to the section called Monitor Mode for instructions).

Once you are in Advanced User Level and Hygiene Mode together, you can change the calibration reference and measurement gas, in addition to performing normal monitoring functions.

Pressing [N/-] progresses through the screens, while pressing [Y/+] selects options. Pressing [MODE] makes menu choices when it is shown for "Done" or "Back." Pressing and holding [Mode] whenever the circle with a vertical line in the middle is shown activates the countdown to shutoff.

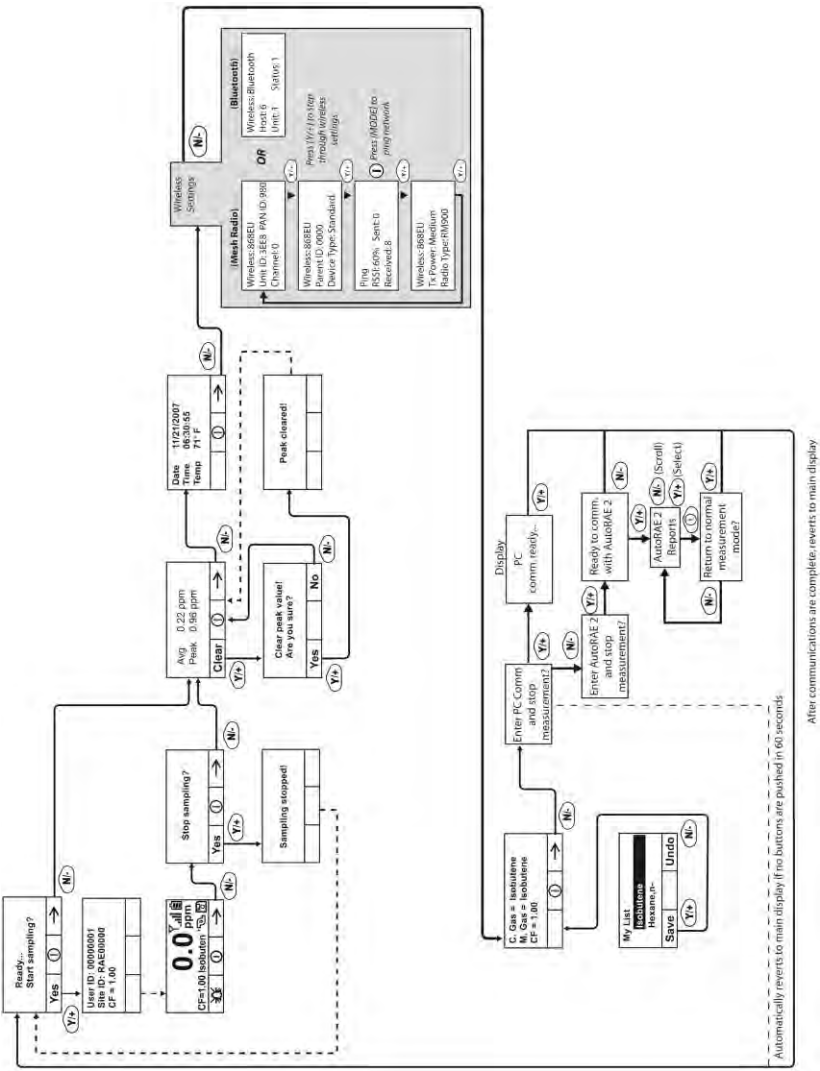


Note: Dashed line indicates automatic progression.

Basic User Level & Search Mode

With the instrument in Operation Mode: Search Mode, enter User Mode and select Basic User Level (refer to the section called User Mode for instructions).

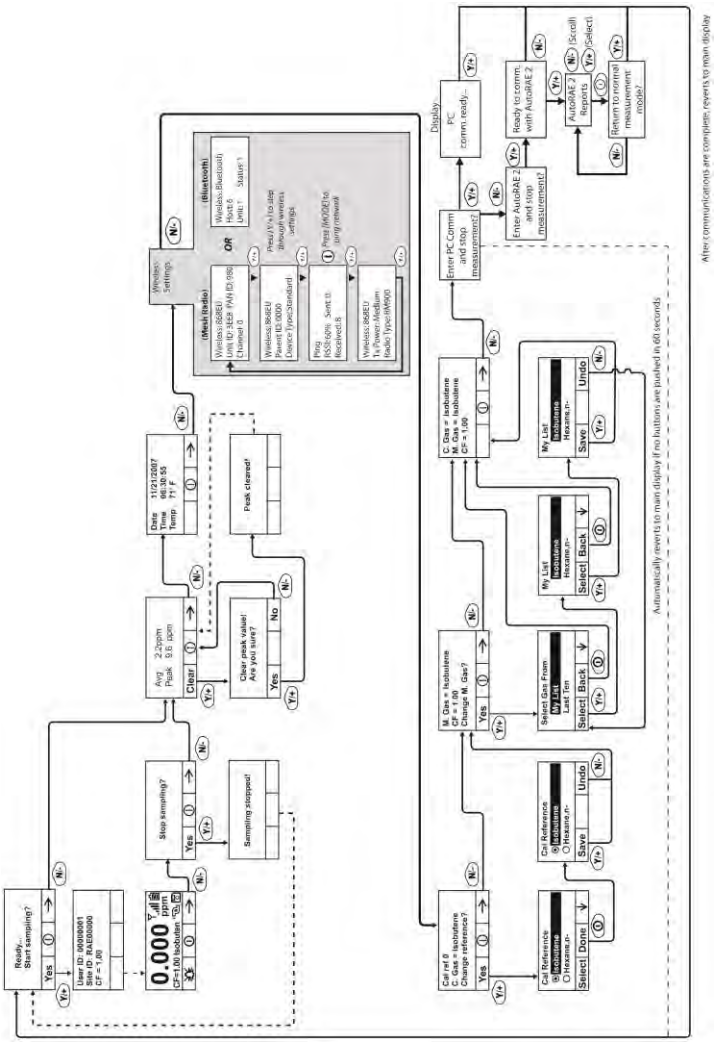
When the instrument is in Search Mode, it only samples when you activate sampling. When you see the display that says, "Ready…Start sampling?" press [Y/+] to start. The pump turns on and the instrument begins collecting data. To stop sampling, press [N/-] while the main display is showing. You will see a new screen that says, "Stop sampling?" Press [Y/+] to stop sampling. Press [N/-] if you want sampling to continue.



Note: Dashed line indicates automatic progression.

Advanced User Level & Search Mode

With the instrument in Operation Mode: Search Mode, enter User Mode and select Advanced User Level (refer to the section called Monitor Mode for instructions). Operation is similar to Basic User Level & Sampling Mode, but now allows you to change calibration and measurement reference gases. Refer to the section on measurement gases on page 60 for more details.



Note: Dashed line indicates automatic progression.

Diagnostic Mode

IMPORTANT! Diagnostic Mode is designed for servicing and manufacturing, and therefore is not intended for everyday use, even by advanced users. It provides raw data from sensors and about settings, but only allows adjustment of pump stall parameters, which should only be changed by qualified personnel.

Note: If the instrument is turned on in Diagnostic Mode and you switch to User Mode, datalog data remains in raw count form. To change to standard readings, you must restart the instrument.

Entering Diagnostic Mode

Note: To enter Diagnostic Mode, you must begin with the instrument turned off.

Press and hold [Y/+] and [MODE] until the instrument starts.

The instrument goes through a brief startup, and then displays raw data for the PID sensor. These numbers are raw sensor readings without calibration. The instrument is now in Diagnostic Mode.

Note: In Diagnostic Mode, the pump and lamp are normally on.

You can enter Programming Mode and calibrate the instrument as usual by pressing both [MODE] and [N/-] for three seconds.

You can enter Monitoring Mode by pressing [MODE] and [Y/+] together for three seconds.

Once the instrument is started up in Diagnostic Mode, you can switch between Diagnostic Mode and Monitoring Mode by pressing and holding [MODE] and [Y/+] simultaneously for two seconds.

In Diagnostic mode, you can step through parameter screens by pressing [MODE].

Adjusting The Pump Stall Threshold

If the gas inlet is blocked but the pump does not shut down, or the pump shuts down too easily with a slight blockage, the pump stall threshold value may be set too high or too low.

Use the following steps to adjust the pump stall threshold:

Pump High

In Diagnostic Mode, press the [MODE] key until "Pump High" is displayed. The display shows the maximum, minimum, and stall values for the pump at its high speed. Write down the "Max" reading.

Block the gas inlet and watch the pump current reading (labeled "I") increase. Write down its blocked reading. **Note:** If the pump current reading does not increase significantly (less than 10 counts), then there may be a leak in the gas inlet or the pump is weak or defective.

Add the two readings you wrote down. This is the average of the maximum block count and the maximum idle count. Divide that number by 2. Use the [Y/+] or [N/-] key to increase or decrease the stall value to equal that number.

Press the [MODE] key to exit this display.

Pump Low

In Diagnostic Mode, press the [MODE] key until "Pump Low" is displayed. The display shows the maximum, minimum, and stall values for the pump at its low speed. Write down the "Max" reading.

Block the gas inlet and watch the pump current reading (labeled "I") increase. Write down its blocked reading. **Note:** If the pump current reading does not increase significantly (less than 10 counts), then there may be a leak in the gas inlet or the pump is weak or defective.

Add the two readings you wrote down. This is the average of the maximum block count and the maximum idle count. Divide that

number by 2. Use the [Y/+] or [N/-] key to increase or decrease the stall value to equal that number.

Press the [MODE] key to exit this display.

Exiting Diagnostic Mode

You can exit Diagnostic Mode and go directly to Programming Mode or Monitor Mode as outlined above, or you can exit Diagnostic Mode completely.

To exit Diagnostic Mode so that it cannot be re-entered without a restart:

Shut down the instrument. When it is off, restart it by holding the [MODE] key. Diagnostic Mode cannot be entered until the instrument is restarted as outlined in "Entering Diagnostic Mode."

Transferring Data To & From A Computer

Once you have connected your instrument cradle to the PC, you can can transfer data, including a download of the datalog to the computer and updates of firmware to the instrument (should this ever be necessary).

Downloading The Datalog To A PC

1. Connect the data cable to the PC and the cradle.
2. Place the instrument into its cradle. The charging LED should be illuminated.
3. Start ProRAE Studio on your PC.
4. From ProRAE Studio, select "Operation" and select Setup Connection.
5. Select the COM port to establish a communication link between the PC and the instrument.
6. To receive the datalog in the PC, select "Downlog Datalog."
7. When you see "Unit Information," click OK.

During the data transfer, the display shows a progress bar.

When the transfer is done, you will see a screen with the datalog information. You can now export this datalog for other use or printing.

Uploading Firmware To The instrument From A PC

Uploading new firmware to your instrument requires connecting the instrument and PC. Follow these steps to make the connection:

1. Connect the data cable to the PC and the cradle.
2. Place the instrument into its cradle. The charging LED should be illuminated.
3. Start RAEProgrammer 7000 on your PC.
4. From RAEProgrammer 7000, select "Operation" and select Setup Connection.
5. Select the COM port to establish a communication link between the PC and the instrument.
6. Select Operation → Download Firmware.

Once communication is established, follow the instructions that accompany RAEProgrammer 7000 and the firmware to upload the new firmware to your instrument.

Note: Check for the latest updates to ProRAEProgrammer 7000 at www.raesystems.com.

Maintenance

The major maintenance items of the instrument are:

- Battery pack
- Sensor module
- PID lamp
- Sampling pump
- Inlet connectors and filters

Note: Maintenance should be performed by qualified personnel only.

NOTE: The printed circuit board of the instrument is connected to the battery pack even if the power is turned off. **Therefore, it is very important to disconnect the battery pack before servicing or replacing any components inside the instrument**. **Severe damage to the printed circuit board or battery may occur if the battery pack is not disconnected before servicing the unit.**

Battery Charging & Replacement

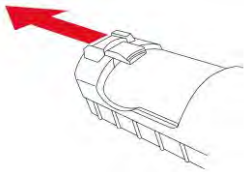
When the display shows a flashing empty battery icon, the battery requires recharging. It is recommended to recharge the instrument upon returning from fieldwork. A fully charged battery runs a instrument for 16 hours continuously. The charging time is less than 8 hours for a fully discharged battery. The battery may be replaced in the field (in areas known to be non-hazardous), if required.

WARNING!

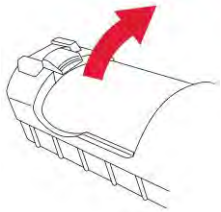
To reduce the risk of ignition of hazardous atmospheres, recharge battery only in area known to be non-hazardous. **Remove and replace battery only in areas known to be non-hazardous.**

Replacing The Li-ion Battery

1. Turn off the instrument.
2. Located on the rear of the instrument is a battery tab. Slide it down to unlock the battery.



3. Remove the battery pack from the battery compartment by tilting it out.



4. Replace a fully charged spare battery pack inside the battery compartment. Make sure the battery pack is oriented properly inside the compartment.
5. Slide the capture tab back up to its locked position.

Replacing The Alkaline Battery Adapter

An alkaline battery adapter is supplied with each instrument. The adapter (part number 059-3052-000) accepts four AA alkaline batteries (use only Duracell MN1500) and provides approximately 12 hours of operation. The adapter is intended to be used in emergency situations when there is no time to charge the Li-ion battery pack.

To insert batteries into the adapter:

1. Remove the three Philips-head screws to open the compartment.
2. Insert four fresh AA batteries as indicated by the polarity (+/-) markings.
3. Replace the cover. Replace the three screws.

To install the adapter in the instrument:

1. Remove the Li-ion battery pack from the battery compartment by sliding the tab and tilting out the battery.
2. Replace it with the alkaline battery adapter
3. Slide the tab back into place to secure the battery adapter.

IMPORTANT!

Alkaline batteries cannot be recharged. The instrument's internal circuit detects alkaline batteries and will not allow recharging. If you place the instrument in its cradle, the alkaline battery will not be recharged. The internal charging circuit is designed to prevent damage to alkaline batteries and the charging circuit when alkaline batteries are installed inside the instrument.

Note: When replacing alkaline batteries, dispose of old ones properly.

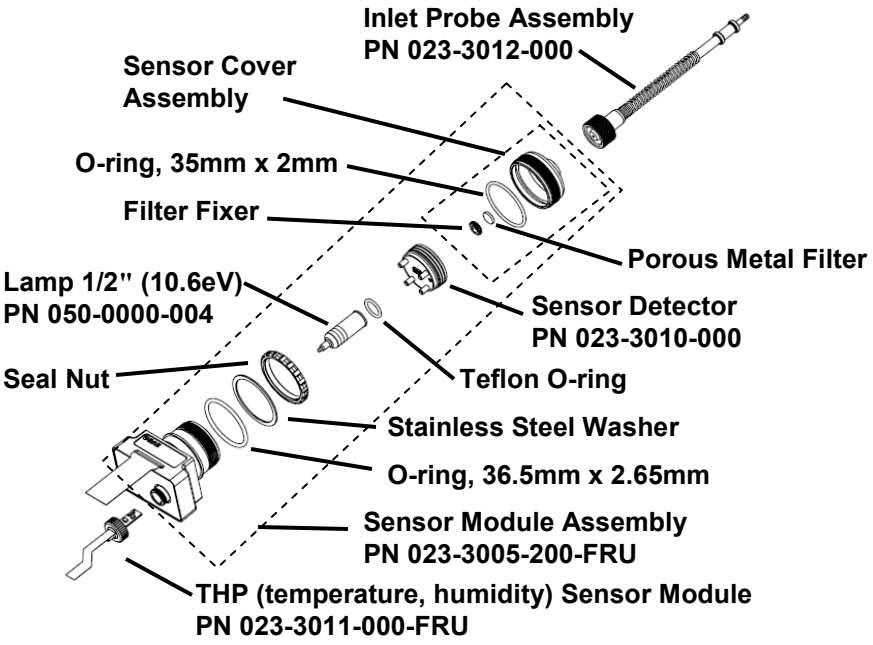
WARNING!

To reduce the risk of ignition of hazardous atmospheres, recharge the battery only in areas known to be non-hazardous. Remove and replace the battery only in areas known to be non-hazardous.

Note: The internal charging circuit is designed to prevent charging to alkaline batteries.

PID Sensor & Lamp Cleaning/Replacement

The sensor module is made of several components and is attached to the lamp-housing unit as shown below.



Sensor Components

Note: The cleaning procedure is not normally needed. Clean the PID sensor module, the lamp and the lamp housing only if:

1. The reading is inaccurate even after calibration.
2. The reading is very sensitive to air moisture.
3. A liquid has been sucked into the unit and damaged the unit.

Use of the external filter helps to prevent contamination of the sensor.

To access the sensor components and lamp, gently unscrew the lamp-housing cap, remove the sensor adapter with the gas inlet probe and the metal filter all together. Then hold the PID sensor and pull it straight out. A slight, gentle rocking motion helps release the sensor.

Cleaning The PID Sensor

Place the entire PID sensor module into GC grade methanol. It is highly recommended that an ultrasound bath to be used to clean the sensor for at least 15 minutes. Then dry the sensor thoroughly. Never touch the electrodes of the sensor by hand.
Also use a methanol-soaked cotton swab to wipe off the lamp housing where it contacts the sensor when the sensor is installed.

Turn over the sensor so that the pins point up and the sensor cavity is visible. Examine the sensor electrodes for any corrosion, damage, or bending out of alignment. The metal sensor electrode "fingers" should be flat and straight. If necessary, carefully bend the sensor fingers to ensure that they do not touch the Teflon portions and that they are parallel to each other. Make sure that the nuts on the sensor pins are snug but not overtight. If the sensor is corroded or otherwise damaged, it should be replaced.

Cleaning The Lamp Housing Or Changing The Lamp

If the lamp does not turn on, the instrument will display an error message to indicate replacement of the lamp may be required.

1. If the lamp is operational, clean the lamp window surface and the lamp housing by wiping it with GC grade methanol using a cotton swab using moderate pressure. After cleaning, hold the lamp up to the light at an angle to detect any remaining film. Repeat the process until the lamp window is clean. Never use water solutions to clean the lamp. Dry the lamp and the lamp housing thoroughly after cleaning.

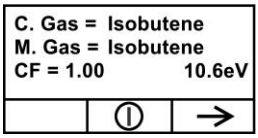
   CAUTION: Never touch the window surface with the fingers or anything else that may leave a film. Never use acetone or aqueous solutions.

2. If the lamp does not turn on, remove the lamp from the lamp housing. Place the lamp O-ring onto the new lamp. Insert the new lamp, avoiding contact with the flat window surface.
3. Reinstall the PID sensor module.
4. Tighten the Lamp Housing Cap.

Determining The Lamp Type

The monitor can accommodate three lamp values: 10.6eV (standard), 9.8eV, and 11.7eV. Always make sure you are using the correct lamp value and that the instrument is set to use that lamp.

Also, when the monitor is running, the lamp type is shown along with the calibration and measurement gas and Correction Factor:



Note: This screen can be accessed from the reading screen by pressing [N/-] four times.

You can manually determine the lamp type, too:

1. Turn off the instrument and remove the lamp. Now look at the serial number. The following identify the lamp type:

    - 10.6eV SN: 106 2Nxxxxx
    - 9.8eV SN: 098 2Nxxxxx
    - 11.7eV SN: 117 2Nxxxxx

Programming The Lamp ID

The correct measurement gas library is used by the instrument when you ensure that the right lamp value is programmed.

To manually select the Lamp ID:

1. Enter the Programming menu.
2. Select Monitor Setup.
3. Scroll down and select the Lamp ID sub-menu.
4. Press [N/-] to scroll down to the desired Lamp ID.
5. Press [Y/+] to select.
6. Press [MODE] to select Done.
7. Select "Save."
8. Return to the main menu.

Recalibrate the instrument before returning it to service.

Sampling Pump

When approaching the end of the specified lifetime of the pump, it will consume higher amount of energy and reduce its sample draw capability significantly. When this occurs, it is necessary to replace or rebuild the pump. When checking the pump flow, make sure that the inlet connector is tight and the inlet tubing is in good condition. Connect a flow meter to the gas inlet probe. The flow rate should be above 450 cc/min when there is no air leakage.

If the pump is not working properly, refer the instrument to qualified service personnel for further testing and, if necessary, pump repair or replacement.

Cleaning The Instrument

Occasional cleaning with a soft cloth is recommended. Do not use detergents or chemicals.

Visually inspect the contacts at the base of the instrument, on the battery, and on the charging cradle to make sure they are clean. If they are not, wipe them with a soft, dry cloth. Never use solvents or cleaners.

Ordering Replacement Parts

If you need replacement parts, contact your local RAE Systems distributor. A list is available online:

http://www.raesystems.com

In the U.S., you can order sensors, replacement batteries, and other accessories online at:

http://istore.raesystems.com/

Special Servicing Note

If the instrument needs to be serviced, contact either:

1. The RAE Systems distributor from whom the instrument was purchased; they will return the instrument on your behalf.

   or

2. The RAE Systems Technical Service Department. Before returning the instrument for service or repair, obtain a Returned Material Authorization (RMA) number for proper tracking of your equipment. This number needs to be on all documentation and posted on the outside of the box in which the instrument is returned for service or upgrade. Packages without RMA Numbers will be refused at the factory.

Troubleshooting

Problem	Possible Reasons & Solutions	
Cannot turn on power after charging the battery	**Reasons:**	Discharged battery. Defective battery.
	Solutions:	Charge or replace battery.
Lost password	**Solutions:**	Call Technical Support at +1 408-752-0723 or toll-free at +1 888-723-4800
Reading abnormally High	**Reasons:**	Dirty filter. Dirty sensor module. Excessive moisture and water condensation. Incorrect calibration.
	Solutions:	Replace filter. Blow-dry the sensor module. Calibrate the unit.
Reading abnormally Low	**Reasons:**	Dirty filter. Dirty sensor module. Weak or dirty lamp. Incorrect calibration.
	Solutions:	Replace filter. Remove Calibration Adapter. Calibrate the unit. Check for air leakage.
Buzzer Inoperative	**Reasons:**	Bad buzzer.
	Solutions:	Check that buzzer is not turned off. Call authorized service center.

Inlet flow too low	**Reasons:**	Pump diaphragm damaged or has debris. Flow path leaks.
	Solutions:	Check flow path for leaks; sensor module O-ring, tube connectors, Teflon tube compression fitting. Call Technical Support at +1 408-752-0723 or toll-free at +1 888-723-4800
"Lamp" message during operation	**Reasons:**	Lamp drive circuit. Weak or defective PID lamp, defective.
	Solutions:	Turn the unit off and back on. Replace UV lamp

Technical Support

To contact RAE Systems Technical Support Team:

Monday through Friday, 7:00AM to 5:00PM Pacific (US) Time
Phone (toll-free): +1 888-723-4800
Phone: +1 408-952-8461
Email: tech@raesystems.com

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Phone: 408.952.8200
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Fax: 408.952.8480

E-mail (technical support): RAE-tech@honeywell.com
Web Site: www.raesystems.com

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Controlled Part of Manual

Intrinsic Safety:
US and Canada: Class I, Division 1, Groups A,B,C,D T4

Europe: ATEX (0575 Ex II 2G Ex ia IIC/IIB T4 Gb)
KEMA 07 ATEX 0127
Complies with EN60079-0:2009, EN60079-11:2007
IECEx CSA 10.0005 Ex ia IIC/IIB T4 Gb
Complies with IEC 60079-0:2007, IEC 60079-11:2006

Temperature: -20º C to 50º C (-4º to 122º F)

Humidity: 0% to 95% relative humidity (non-condensing)

Basic Operation

Turning The Instrument On

1. With the instrument turned off, press and hold [MODE].
2. When the display turns on, release the [MODE] key.

The instrument is now operating and performs self tests. Once the self tests are complete, the display shows a graph or numerical gas reading. This indicates that the instrument is fully functional and ready to use.

Turning The Instrument Off

1. Press and hold the Mode key for 3 seconds. A 5-second countdown to shutoff begins.
2. When you see "Unit off..." release your finger from the [MODE] key. The instrument is now off.

Note: You must hold your finger on the key for the entire shutoff process. If you remove your finger from the key during the countdown, the shutoff operation is canceled and the instrument continues normal operation.

Alarm Signals

During each measurement period, the gas concentration is compared with the programmed alarm limits (gas concentration alarm limit settings). If the concentration exceeds any of the preset limits, the loud buzzer and red flashing LED are activated immediately to warn you of the alarm condition.

In addition, the instrument alarms if one of the following conditions occurs: battery voltage falls below a preset voltage level, failure of the UV lamp, pump stall, or when the datalog memory is full.

Alarm Signal Summary

Message	Condition	Alarm Signal
HIGH	Gas exceeds "High Alarm" limit	3 beeps/flashes per second*
OVR	Gas exceeds measurement range	3 beeps/flashes per second*
MAX	Gas exceeds electronics' maximum range	3 beeps/flashes per second*
LOW	Gas exceeds "Low Alarm" limit	2 beeps/flashes per second*
TWA	Gas exceeds "TWA" limit	1 Beep/flash per second*
STEL	Gas exceeds "STEL" limit	1 Beep/flash per second*
Pump icon flashes	Pump failure	3 beeps/flashes per second
Lamp	PID lamp failure	3 beeps/flashes per second plus "Lamp" message on display

Battery icon flashes	Low battery	1 flash, 1 beep per minute plus battery icon flashes on display
CAL	Calibration failed, or needs calibration	1 beep/flash per second
NEG	Gas reading measures less than number stored in calibration	1 beep/flash per second

Preset Alarm Limits & Calibration

The instrument is factory calibrated with standard calibration gas, and is programmed with default alarm limits.

Cal Gas (Isobutylene)	Cal Span	unit	Low	High	TWA	STEL
ppbRAE 3000	10	ppm	10	25	10	25
MiniRAE 3000	100	ppm	50	100	10	25
MiniRAE Lite	100	ppm	50	100	10	25
UltraRAE 3000	100	ppm	50	100	10	25

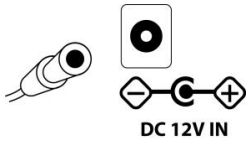
Charging The Battery

Always fully charge the battery before using the instrument. The instrument's Li-ion/NiMH battery is charged by placing the instrument in its cradle. Contacts on the bottom of the instrument meet the cradle's contacts, transferring power without other connections.

Note: Before setting the instrument into its charging cradle, visually inspect the contacts to make sure they are clean. If they are not, wipe them with a soft cloth. Do not use solvents or cleaners.

Follow this procedure to charge the instrument:

1. Plug the AC/DC adapter's barrel connector into the instrument's cradle.



2. Plug the AC/DC adapter into the wall outlet.
3. Place the instrument into the cradle, press down, and lean it back. It locks in place and the LED in the cradle glows.

Note: To release the instrument, press down and tilt the top out of the cradle and lift up.

The instrument begins charging automatically. The LED on the front of the cradle marked "Primary" blinks during charging. During charging, the diagonal lines in the battery icon on the instrument's display are animated and you see the message "Charging..."

When the instrument's battery is fully charged, the battery icon is no longer animated and shows a full battery. The message "Fully charged!" is shown and the Primary LED on the cradle glows continuously green.

Note: A spare Li-ion battery (059-3051-000) or NiMH(059-3054-000) can be charged by placing it directly in the charging port on the back of the cradle. It can be charged at the same time as the instrument. Press the battery in place, sliding it slightly toward the front of the cradle. This locks it in the cradle. To release the battery, slide it forward again and tilt it up.

Note: An Alkaline Battery Adapter (part number 059-3052-000), which uses four AA alkaline batteries (Duracell MN1500), may be substituted for the Li-Ion battery.

WARNING!

To reduce the risk of ignition of hazardous atmospheres, recharge and replace batteries only in areas known to be non-hazardous. **Remove and replace batteries only in areas known to be non-hazardous.**

Low Voltage Warning

When the battery's charge falls below a preset voltage, the instrument warns you by beeping once and flashing once every minute, and the battery icon blinks once per second. You should turn off the instrument within 10 minutes and either recharge the battery by placing the instrument in its cradle, or replace the battery with a fresh one with a full charge.

Clock Battery

An internal clock battery is mounted on one of the instrument's printed circuit boards. This long-life battery keeps settings in memory from being lost whenever the Li-ion, NiMH, or alkaline batteries are removed. This backup battery should last approximately five years, and must be replaced by an authorized RAE Systems service technician. It is not user-replaceable.

WARNING

To reduce the risk of ignition of hazardous atmospheres, recharge battery only in area known to be non-hazardous. Remove and replace battery only in an area known to be non-hazardous.

Replacing Rechargeable Li-Ion or NiMH Battery

Caution: Turn off the instrument before removing or replacing the battery.

Alkaline Battery Adapter

An alkaline battery adapter is supplied with each instrument. The adapter (part number 059-3052-000) accepts four AA alkaline batteries (use only Duracell MN1500).

Do not mix old and new batteries or different type batteries.

Troubleshooting

Problem	Possible Reasons & Solutions	
Cannot turn on power after charging the battery	**Reasons:**	Discharged battery. Defective battery.
	Solutions:	Charge or replace battery.
Lost password	**Solutions:**	Call Technical Support at +1 408-752-0723 or toll-free at +1 888-723-4800
Reading abnormally High	**Reasons:**	Dirty filter. Dirty sensor module. Excessive moisture and water condensation. Incorrect calibration.
	Solutions:	Replace filter. Blow-dry the sensor module. Calibrate the unit.
Reading abnormally Low	**Reasons:**	Dirty filter. Dirty sensor module. Weak or dirty lamp. Incorrect calibration.
	Solutions:	Replace filter. Remove Calibration Adapter. Calibrate the unit. Check for air leakage.
Buzzer Inoperative	**Reasons:**	Bad buzzer.
	Solutions:	Check that buzzer is not turned off. Call authorized service center.

Inlet flow too low	**Reasons:**	Pump diaphragm damaged or has debris. Flow path leaks.
	Solutions:	Check flow path for leaks; sensor module O-ring, tube connectors, Teflon tube compression fitting. Call Technical Support at +1 408-752-0723 or toll-free at +1 888-723-4800
"Lamp" message during operation	**Reasons:**	Lamp drive circuit. Weak or defective PID lamp, defective.
	Solutions:	Turn the unit off and back on. Replace UV lamp



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DUSTTRAK™ II AEROSOL MONITOR MODEL 8530/8530EP/8532

OPERATION AND SERVICE MANUAL

P/N 6001893, REVISION S
JANUARY 2019



DustTrak II 8530 Desktop and 8532 Handheld



DustTrak II 8530EP Monitor

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As part of the registration process, you will be asked for your comments on TSI products and services. TSI's customer feedback program gives customers like you a way to tell us how we are doing.

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(651) 490-3824

Limitation of Warranty and Liability (effective April 2014)

(For country-specific terms and conditions outside of the USA, please visit www.tsi.com.)

Seller warrants the goods, excluding software sold hereunder, under normal use and service as described in the operator's manual, shall be free from defects in workmanship and material for twenty-four (24) months, or if less, the length of time specified in the operator's manual, from the date of shipment to the customer. This warranty period is inclusive of any statutory warranty. This limited warranty is subject to the following exclusions and exceptions:

a. Hot-wire or hot-film sensors used with research anemometers, and certain other components when indicated in specifications, are warranted for 90 days from the date of shipment;
b. DustTrak internal pump for Models 8530 and 8533 is warranted for two (2) years or 4000 hours, whichever comes first;
c. DustTrak external pump for Models 8530EP and 8533EP is warranted for two (2) years or 8760 hours, whichever comes first;
d. DustTrak internal pump for Models 8530 and 8533 is warranted for operation within ambient temperatures between 5–45°C. Warranty is void when the internal pump is operating outside of this temperature range;
e. Parts repaired or replaced as a result of repair services are warranted to be free from defects in workmanship and material, under normal use, for 90 days from the date of shipment;
f. Seller does not provide any warranty on finished goods manufactured by others or on any fuses, batteries or other consumable materials. Only the original manufacturer's warranty applies;
g. This warranty does not cover calibration requirements, and seller warrants only that the instrument or product is properly calibrated at the time of its manufacture. Instruments returned for calibration are not covered by this warranty;
h. This warranty is **VOID** if the instrument is opened by anyone other than a factory authorized service center with the one exception where requirements set forth in the manual allow an operator to replace consumables or perform recommended cleaning;
i. This warranty is **VOID** if the product has been misused, neglected, subjected to accidental or intentional damage, or is not properly installed, maintained, or cleaned according to the requirements of the manual. Unless specifically authorized in a separate writing by Seller, Seller makes no warranty with respect to, and shall have no liability in connection with, goods which are incorporated into other products or equipment, or which are modified by any person other than Seller.

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Buyer and all users are deemed to have accepted this LIMITATION OF WARRANTY AND LIABILITY, which contains the complete and exclusive limited warranty of Seller. This LIMITATION OF WARRANTY AND LIABILITY may not be amended, modified or its terms waived, except by writing signed by an Officer of Seller.

Service Policy

Knowing that inoperative or defective instruments are as detrimental to TSI as they are to our customers, our service policy is designed to give prompt attention to any problems. If any malfunction is discovered, please contact your nearest sales office or representative, or call TSI's Customer Service department at (800) 680-1220 (USA) or (001 651) 490-2860 (International) or visit www.tsi.com.

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These Application Notes can also be found on TSI's web site:
http://www.tsi.com

EXPMN-001 DustTrak II Theory of Operation.pdf
EXPMN-003 DustTrak II Impactor.pdf

Safety Information

IMPORTANT

There are no user serviceable parts inside the instrument. Refer all repair and maintenance to a qualified factory-authorized technician. All maintenance and repair information in this manual is included for use by a qualified factory-authorized technician.

Laser Safety

- The Model 8530/8532 DustTrak II monitor is a Class I laser-based instrument.
- During normal operation, you will ***not*** be exposed to laser radiation.
- Precaution should be taken to avoid exposure to hazardous radiation in the form of intense, focused, visible light.
- Exposure to this light may cause blindness.

Take these precautions:

- ***DO NOT*** remove any parts from the DustTrak II monitor unless you are specifically told to do so in this manual
- ***DO NOT*** remove the housing or covers. There are no serviceable components inside the housing.



WARNING

The use of controls, adjustments, or procedures other than those specified in this manual may result in exposure to hazardous optical radiation.



WARNING

There are no user-serviceable parts inside this instrument. The instrument should only be opened by TSI or a TSI approved service technician.



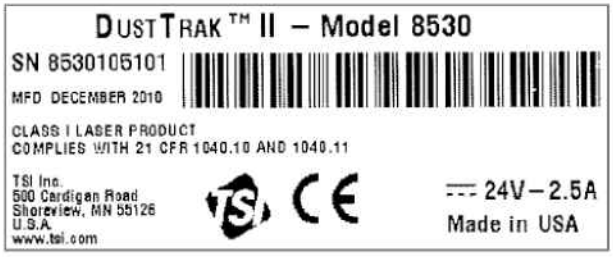
WARNING

If the DustTrak monitor is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

When operated according to the manufacturer's instruction, this device is a Class I laser product as defined by U.S. Department of Health and Human Services standards under the Radiation Control for Health and Safety Act of 1968. A certification and identification label like the one shown below is affixed to each instrument.

Labels

Advisory labels and identification labels are attached to the instrument.

1. Serial Number Label (bottom)	
2. Laser Radiation Label (internal)	**DANGER!** VISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM WARNING: NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL
3. Battery label	**!!WARNING!!** THIS INSTRUMENT WAS DESIGNED TO USE ONLY TSI SUPPLIED BATTERIES, PN 801680 or **!!WARNING!!** THIS INSTRUMENT WAS DESIGNED TO USE ONLY TSI SUPPLIED BATTERY, PN 801681
4. European symbol for non-disposable item. Item must be recycled.	

Description of Caution/Warning Symbols

Appropriate caution/warning statements are used throughout the manual and on the instrument that require you to take cautionary measures when working with the instrument.

Caution



Caution
Failure to follow the procedures prescribed in this manual might result in irreparable equipment damage. Important information about the operation and maintenance of this instrument is included in this manual.

Warning



WARNING
Warning means that unsafe use of the instrument could result in serious injury to you or cause damage to the instrument. Follow the procedures prescribed.

Caution and Warning Symbols

The following symbols may accompany cautions and warnings to indicate the nature and consequences of hazards:

	Warns that the instrument contains a laser and that important information about its safe operation and maintenance is included in the manual.
	Warns that the instrument is susceptible to electro-static discharge (ESD) and ESD protection should be followed to avoid damage.
	Indicates the connector is connected to earth ground and cabinet ground.

Reusing and Recycling



As part of TSI Incorporated's effort to have a minimal negative impact on the communities in which its products are manufactured and used:

- Do ***not*** dispose of used batteries in the trash. Follow local environmental requirements for battery recycling.
- If instrument becomes obsolete, return to TSI for disassembly and recycling.

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Chapter 1

Unpacking and Parts Identification

Carefully unpack the Model 8530/8532 DustTrak™ II Aerosol Monitor from the shipping container. Use the tables and illustrations below to make certain that there are no missing components. Contact TSI immediately if anything is missing or damaged.

Note

If you purchased a DustTrak II Model 8530-NA (no accessories) Aerosol Monitor, it only comes with the following items:

- DustTrak II Model 8530 Aerosol Monitor
- Operations manual
- TrakPro™ Data Analysis Software CD
- One-year calibration certificate
- Service paperwork
- 2-year warranty

All accessories for the DustTrak II Model 8530 Aerosol Monitor are sold separately. Contact TSI at (800) 680-1220 for information on accessories and how to purchase them through a TSI sales representative.

(continued on next page)

Unpacking the DustTrak II Aerosol Monitor

Compare all the components you received with those listed in the table below. If any parts are missing, contact TSI.

Item	Qty	Part Number	Description
 *or*	1	8530	Desktop II
		8532	Handheld II
	1	801670	Desktop II Carrying Case
		801669	Handheld II Carrying Case
	1	1090014	Data Analysis Software CD-ROM
	1	800663	Zero Filter

Item	Qty	Part Number	Description
 *or*	1	801680	7800 mAH Lithium Ion Rechargeable Battery (Desktop)
		801681	Rechargeable lithium ion battery (Handheld)
	1	1303740	USB cable
	1	801652	Analog/alarm output cable (Desktop models only)
	1	6001893	Operation and Service Manual
	1	N/A	Calibration Certificate

Item	Qty	Part Number	Description
	1	801688	Conductive Tubing
	1	801668	Filter removal tool (Spanner Driver)
	4	801673	Spare Internal Filter Elements Desktop Model Only
	2		37-mm filter includes: Filter body top Filter body bottom Mesh screen
	1		Comes with 37-mm cartridge opening tool
	8	801666	Spare Internal Filters Handheld Model Only
	1	801667	Impactor Kit
		$PM_{2.5}$ assembled Top Bottom Impaction Plate $PM_{1.0}$ Top $PM_{4.0}$ Top PM_{10} Top Extra Impaction Plate	
	1	801691	Dorr-Oliver Cyclone

Item	Qty	Part Number	Description
	1	801684	Power Supply – Desktop
		801694	Power Supply – Handheld
	2	N/A	Stylus
		When shipped, one stylus will be in the accessory bag, the second stylus attached to instrument.	
	1	3012094	Screwdriver, dual ended. (For Handheld Models only)
	1	801674	Impactor Oil
	2	801698	Inlet cap
		When shipped, one inlet will be in the accessory bag, the second inlet attached to instrument.	
	1	801675	External Pump Kit *for 8530EP only*

Item	Qty	Part Number	Description
	1	801797	External Pump Power Cable (to DustTrak monitor) *for 8530EP only*
	1	801798	External Pump Flow Tube (to DustTrak monitor) *for 8530EP only*
	1		Exhaust Adapter, DustTrak monitor *for 8530EP only*

Optional Accessories

The following photos and table list optional accessories. If you ordered optional accessories, make certain they have been received and are in working order.

Accessories	Qty	Part Number	Description
	1	801675	External Pump Kit
	2	801795	DustTrak II/DRX External Pump Service Kit for 8530EP only. Contains two filters for External Pump
	1	801685	Battery Charger, 2-Bay, Battery 801680 for Desktop DustTrak monitor
	1	801686	Battery Charger, Battery 801681 for Handheld DustTrak monitor

Parts Identification for the DustTrak II Desktop Aerosol Monitor Models 8530

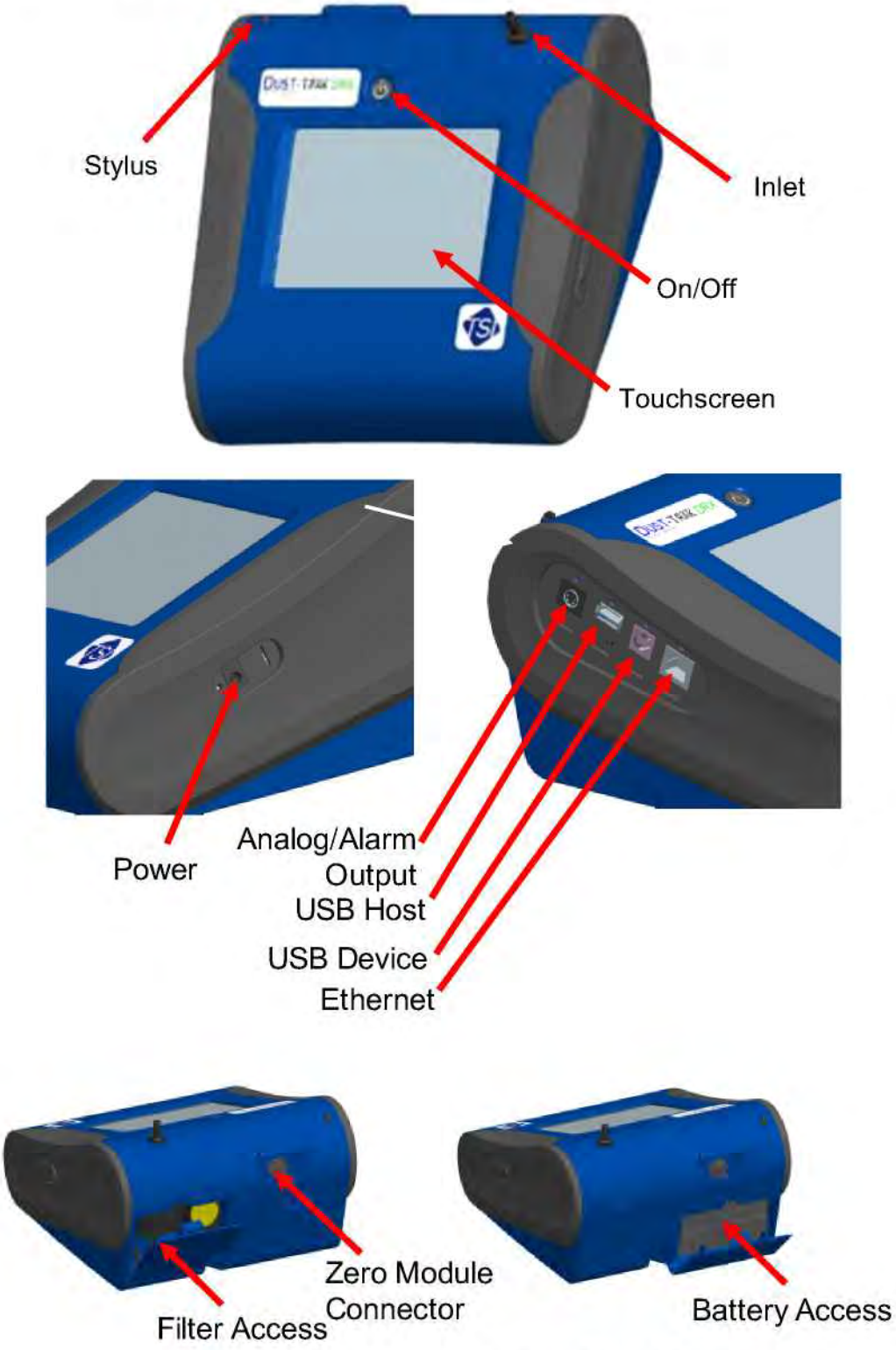
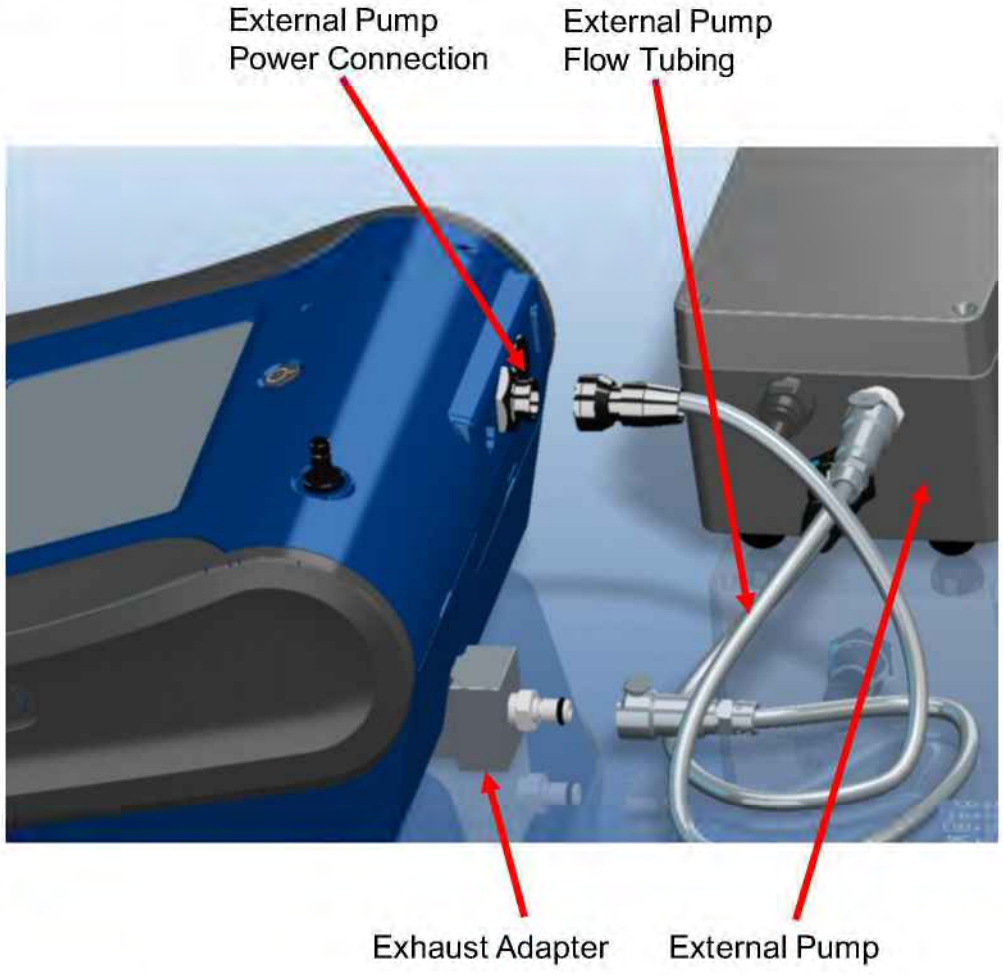


Figure 1-1: Features on Desktop Model 8530

Parts Identification for the DustTrak II Desktop Aerosol Monitor Model 8530EP



External Pump Module (8530EP only)

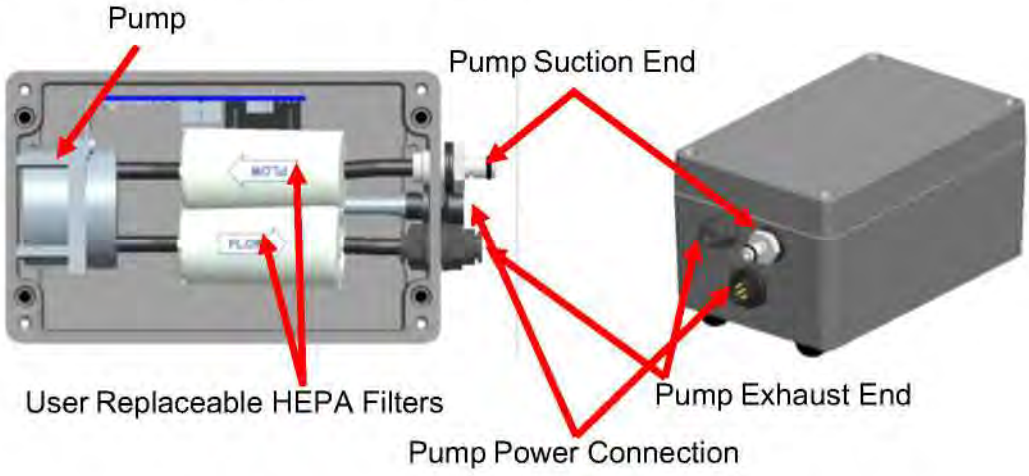


Figure 1-2: Features on Desktop Model 8530EP

Parts Identification for the DustTrak II Handheld Aerosol Monitor Model 8532

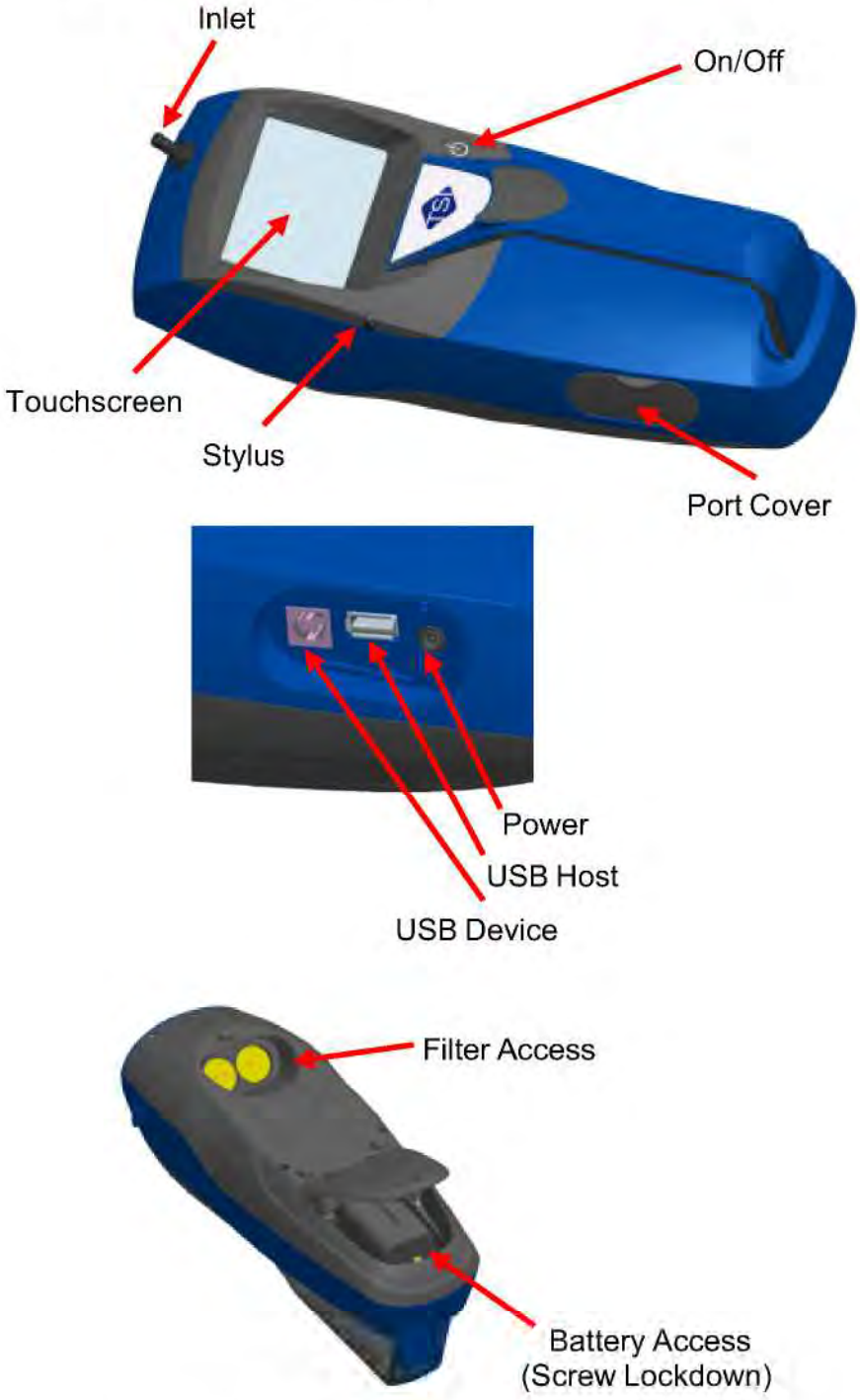


Figure 1-3: Features on Handheld Model

Chapter 2

Setting Up

Supplying Power to the DustTrak II Aerosol Monitor

The DustTrak II Aerosol Monitor must be powered by either batteries or using the external AC adapter.

WARNING

The instrument has been design to be used with batteries supplied by TSI. **DO NOT** use a substitute.

Disposing of old batteries must be recycled in accordance with the local environmental regulations.

WARNING

DO NOT use non-rechargeable batteries in this instrument. Fire, explosions, or other hazards may result.

Installing the Batteries in Model 8530/8530EP Desktop

Remove the battery cover and slide one or two batteries into the battery slots. A single battery can be put into either slot. Orient the batteries with the label side facing up (see Figure 2-1).



Figure 2-1: Batteries into Desktop Unit

Installing the Batteries in Model 8532 Handheld

Remove the battery cover by loosening captured screw on the bottom of the unit. Orient battery with brass connectors facing forward. Insert battery into cavity and slide forward to engage into pins. Replace the battery cover and secure by tightening screw (see Figure 2-2).



Figure 2-2: Batteries into Handheld Unit

Connecting the External Pump to DustTrak Model 8530EP

The Model 8530EP is a Desktop DustTrak monitor with an external pump. This DustTrak has no internal pump and will not work with any other external pump other than the one provided by TSI (P/N 801675). The Model 8530EP is intended for applications where the DustTrak is operated continuously over extended periods (several days to months) under wide temperature fluctuations (0 to 50°C). The external pump is designed to be more robust for 24/7 operation of the DustTrak monitor and is warranted to operate continuously for one full year or 8760 hours. The Model 8530EP is ideal for fugitive dust monitoring.

The pump and the DustTrak monitor come separately and require assembly. Follow the steps below to connect the pump with the Model 8530EP DustTrak monitor.



WARNING

Turn the DustTrak monitor OFF before connecting the external pump. Turn the DustTrak monitor ON only after connecting the External Module.

1. Connect the pump end of the quick connect to the pump module (see Figure 2-3).



Figure 2-3: Connect Pump End of Quick Connect to Pump Module

2. Likewise, plug one end of the power connector to the pump module as shown above. Turn the power connector until it clicks and locks in place. This prevents the connector from disconnecting due to vibration or movement.



Figure 2-4: Connect Exhaust Adapter to Exhaust of DustTrak Monitor

3. Connect the exhaust adapter to the exhaust of the DustTrak monitor (see Figure 2-4).
4. Connect the other end of the flow tubing to the exhaust adapter of the DustTrak monitor.
5. Connect the other end of the power connector to the DustTrak monitor (see Figure 2-5).



Figure 2-5: Connect Power Connector to DustTrak Monitor



WARNING

The Pump module design does not allow for installation outdoors without any protection from the elements. Always operate it within an enclosure.

The DustTrak external pump module does not require an A/C adapter. It is always powered off the DustTrak monitor.

Notes

1. The power connector and the flow quick connect "click" when securely connected. The power connector must be rotated clockwise past the locking pin.
2. Do ***not*** hot-plug the External Pump Module when the DustTrak monitor is turned ON. Always connect the External Pump module first and then turn the DustTrak monitor ON.
3. TSI recommends that the DustTrak monitor with the external pump be operated in the Model 8535 Environmental Enclosure.
4. TSI recommends that the pump module be operated when mounted on its feet and avoid operating at other orientations as much as possible.
5. Pump module and the DustTrak monitor should be at the same electrical potential.
6. The additional port on the external pump module is where the pump exhausts the flow. For applications where the DustTrak monitor is sampling from a chamber or a duct at pressures significantly different from the ambient, TSI recommends plumbing the exhaust of the external pump back in to the chamber/duct.

Using the AC Adapter to Run Instrument

The AC adapter allows you to power the DustTrak monitor from an AC wall outlet. When using the AC adapter, the batteries (if installed) are bypassed.

Battery Charging

This instrument will charge the Lithium Ion battery packs. Insert the batteries into the battery compartment, plug the instrument into AC power, and turn the instrument on. Batteries will charge only when the instrument is on and in stand-by mode. Batteries will not charge if the instrument is turned off or is actively taken measurements. Charging will stop when the batteries are fully charged.



WARNING

When Charging Battery the ambient temp **MUST NOT** exceed 42°C.

Inlet Cap

When using the DustTrak monitor to sample environmental air, the inlet cap should be put over the instrument. This cap will keep large objects from dropping into and plugging the inlet. The cap will also keep direct light from shinning into the chamber and skewing the results.

The inlet cap can simply be pressed onto the instruments inlet.



Figure 2-6: Putting on Inlet Cap

Size-Selective Impactors

Size-selective impactors can be attached to the inlet of the DustTrak II instruments. Size-selective impactors can be used to pre-condition the size range of the particles entering the instrument. PM_1, $PM_{2.5}$, PM_4 (Respirable) and PM_{10} impactors are available. **The instrument must run at the factory default setting of 3.0 L/min for the impactors to achieve the correct cut points.**

The size-selective impactor is composed of three parts; the cap, impaction plate and bottom. Selection of the cap will determine cut size of the impactor. Each cap is labeled with the particle cut size (1 µm, 2.5 µm, 4.0 µm or 10 µm). The same impaction plate and bottom are used on all impactor sizes.



Figure 2-7: Size-Selective Impactor

The impactor assembly is attached to the instrument in place of the inlet cap. The inlet cap does not need to be used if an impactor is being used. See Chapter 4, "Maintenance," for instructions on how to add oil to the impaction plate.

Dorr-Oliver Cyclone

A Dorr-Oliver cyclone is shipped with the instrument. The Dorr-Oliver cyclone removes particles over 4.0 µm in size. The Dorr-Oliver cyclone is attached to the instrument by sliding the cyclone clip over the protruding catch. The tube from the Dorr-Oliver cyclone needs to be routed to the inlet of the instrument.



Figure 2-8: Installing Door-Oliver Cyclone

Do not use Inlet attachments (impactors or inlet cap) when using the Dorr-Oliver Cyclone. **The instrument flow rate must be changed to 1.7 L/min when using the Dorr-Oliver Cyclone in order to achieve a 4 µm (respirable) cut-point.** See the Flow Cal instructions in the Operations chapter for instructions on how to change the instruments flow rate.

Instrument Setup

The DustTrak II monitor can be connected to a computer to download data and upload sampling programs.

Connecting to the Computer

Connect the USB host port of a Microsoft Windows®-based computer to the USB device port on the side of the DustTrak monitor.

Installing TrakPro™ Data Analysis Software

TrakPro software can preprogram the DustTrak monitor, download data, view and create raw data and statistical reports, create graphs, and combine graphs with data from other TSI instruments that use TrakPro software. The following sections describe how to install the software and set up the computer.

Note
To use TrakPro software with the DustTrak Aerosol Monitor, the PC must be running Microsoft Windows® and the computer must have an available Universal Serial Bus (USB) port.

®Windows is a registered trademark of Microsoft Corporation.
®Microsoft and Windows are registered trademarks of Microsoft Corporation.

1. Insert the TrakPro Data Analysis Software CD into the CD-ROM drive. The install screen starts automatically.

Note
If the software does not start automatically after a few minutes, manually run the program listed on the label of the CD using the **Run** command on the Windows Start Menu.

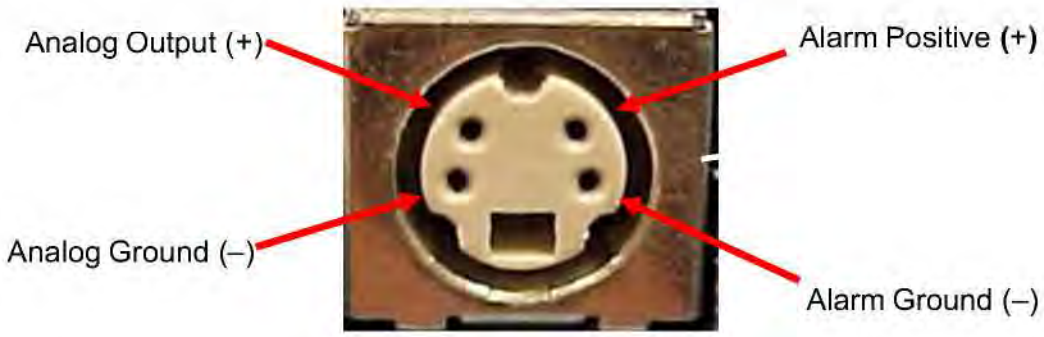
2. Follow the directions to install TrakPro software.

TrakPro software contains a comprehensive installation guide. TSI recommends printing out this guide prior to starting the TrakPro software installation on your computer, so it may be consulted during the installation. The TrakPro Software manual is located in the "Help" file in TrakPro software. There is no separately printed TrakPro Data Analysis software manual.

Connecting Analog/Alarm Output

The Analog/Alarm Output Cable plugs into the alarm connection on the side of the instrument. This feature is on the desktop model 8530 only.

The cable contains a 4-pin, mini-DIN connector. The pin-outs for the connector and the wiring for the cable are shown below.



4-pin miniDIN connector

Cable Wiring Diagram	
Brown Wire	Analog Ground
Orange Wire	Analog Out
Red Wire	Alarm (+)
White Wire	Alarm (-)
Black Wire	Shield

Figure 2-9: Cable Wiring Diagram

Wiring the Analog Output

System specifications:

- Output voltage: 0 to 5 VDC. With a maximum output of 15 mA.
- Output Current 4 mA to 20 mA with a maximum load impendence of 250 ohms.
- Correct polarity must be observed (see pin-outs above).

The output cable supplied by TSI (P/N 801652) is labeled with the pin-out wiring diagram. Additional equipment may be needed for making connections to the system that TSI does not supply. It is your responsibility to specify and supply all additional equipment.

Wiring the Alarm

System specifications:

- Maximum voltage: 15 VDC (**DO NOT USE AC POWER**)
- Maximum current: 1 Amp
- Correct polarity must be observed (see pin-outs above)
- The alarm switch, located inside the DustTrak monitor must be located on the ground side of the alarm system.



WARNING

The DustTrak monitor Alarm Output function **SHOULD NOT** be used to detect hazardous conditions or to provide an alarm for protecting human life, health or safety.



Caution

The alarm switch **MUST NOT** be wired to AC power! Failure to install the user alarm properly could damage the DustTrak instrument and/or void the instrument warranty! Please read and follow all instructions before wiring or operating the user alarm.



WARNING

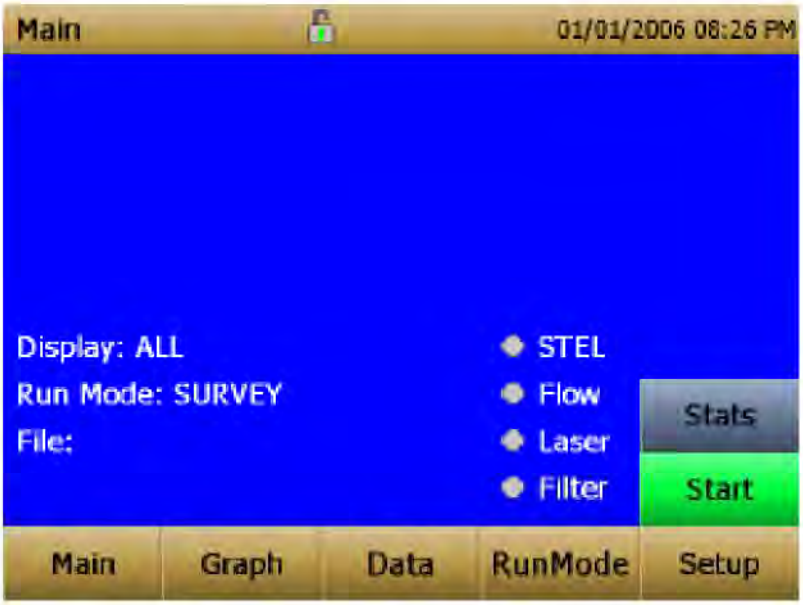
When connected to the analog out and alarm out connector, you **MUST** use safety certified equipment and/or power sources.

Chapter 3

Operation

Getting Started

The **START UP** screen is displayed initially when the instrument is turned on, following the initial TSI logo splash screen.



Use a stylus or fingertip, touch the “buttons” on the screen to activate different menus.

For Model DustTrak 8530EP only



W A R N I N G

Always setup and operate the DustTrak monitor with External Pump Module with the External Pump Module connected to the DustTrak monitor. Failure to do so will result in communication errors.

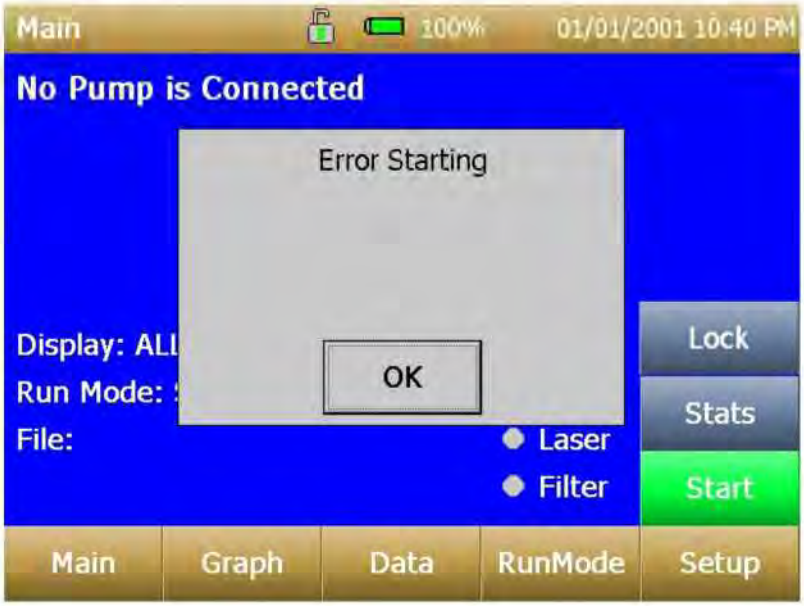
Communication errors take place under four different scenarios as follows:

1. When the unit is idle and is ***not*** connected to the External Pump Module, a warning displays on the Main screen.

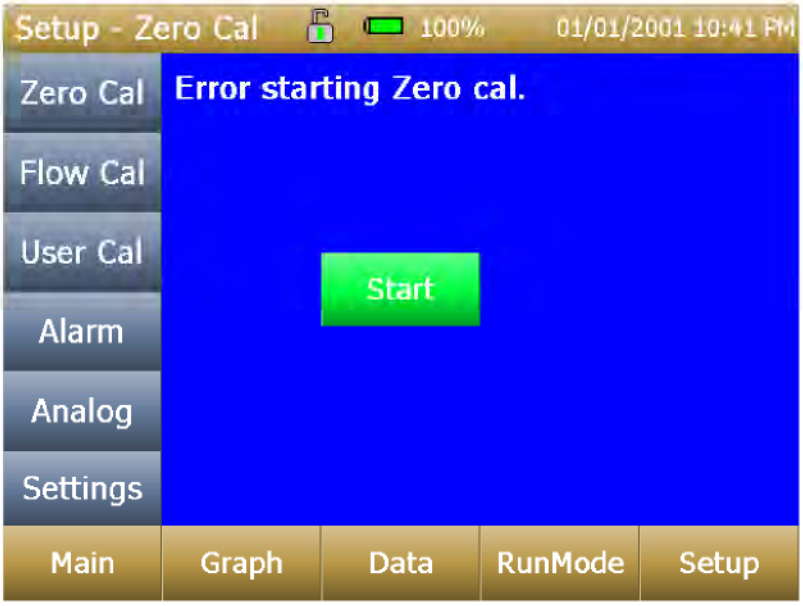


Note
"No Pump is Connected" is a sticky error. Even after the warning message, if the External Pump Module is connected to the DustTrak, the error will not disappear until the screen is refreshed. Refresh the screen by going into a different menu and returning to the Main menu.

2. When the unit is ***not*** connected to the External Pump Module and an attempt is made to start a run by selecting "Start", an error appears on the Main screen.



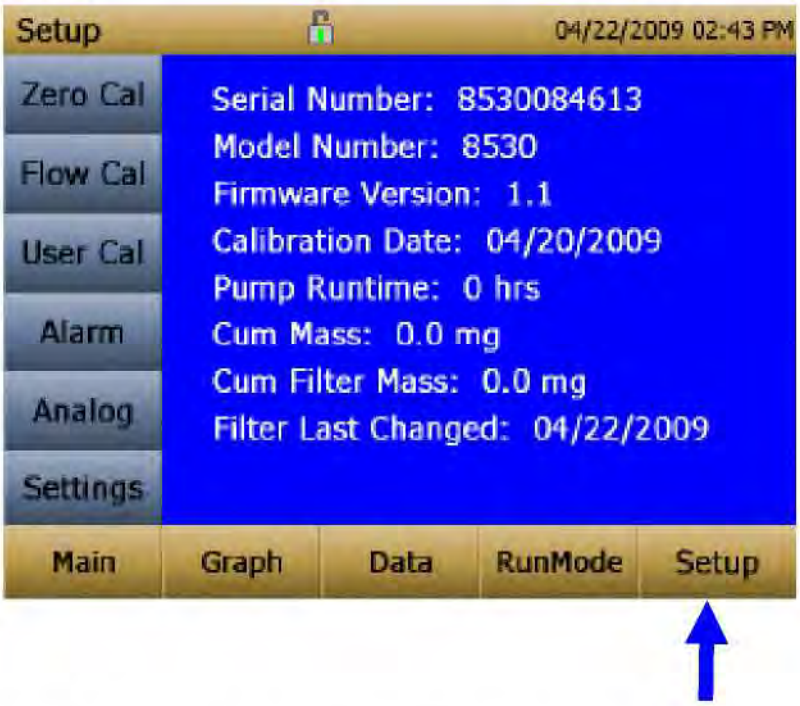
3. If the pump is ***not*** connected while attempting to perform a Zero Cal, an error appears on the Setup screen.



4. If the pump is ***not*** connected while attempting to perform a Flow Cal, an error appears on the Setup screen.



Setup Menu

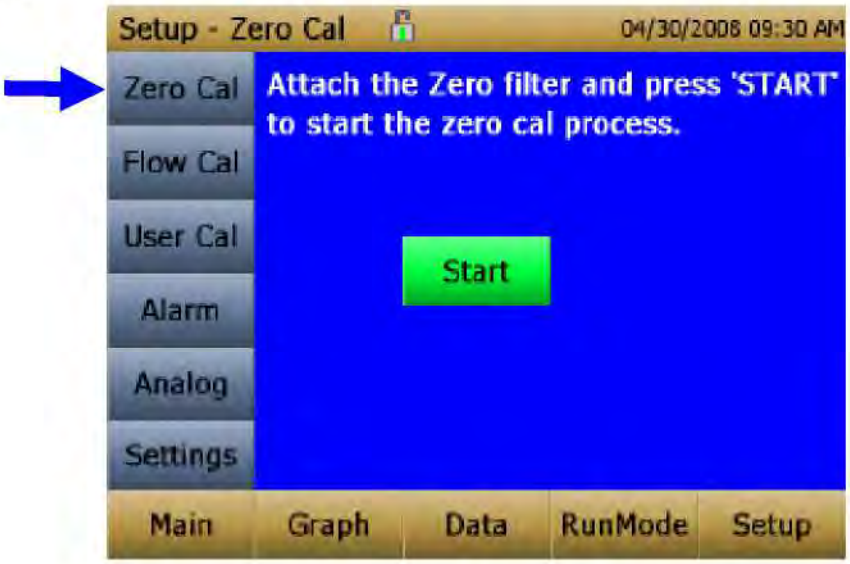


Pressing **Setup** activates the Setup Menu touchscreen buttons along the left edge of the screen. Setup is not accessible when the instrument is sampling.

The main screen of the **Setup** screen displays the following information:

Serial Number	The instruments serial number.
Model Number	The instruments model number.
Firmware Version	Instruments current version of firmware.
Calibration Date	Date of the last factory calibration.
Pump Run Time	Pump running time in hours.
Cum Mass Conc	Amount of mass run through instrument over life.
Cum Filter Conc	Amount of mass run through instrument since last filter change.
Filter Time	Date of last filter change.

Zero Cal



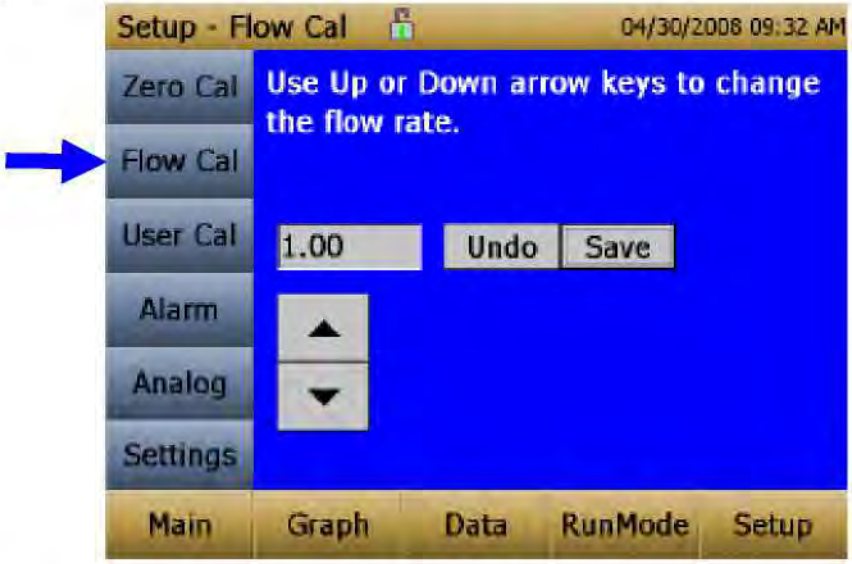
Run **Zero Cal** the first time the instrument is used and repeat prior to every use. Zero Cal requires that the zero filter be attached prior to running. Zero Cal must also be performed if the unit is reading negative concentrations. It is not possible for the DustTrak to read negative concentrations. Negative concentrations are a symptom of zero drift.

NEVER perform a zero cal without attaching a zero filter.

1. Press **Zero Cal** Button
2. Attach Zero Filter
3. Press the **Start** button to start Zeroing process.
4. A count-down clock will appear indicating the time remaining. The screen with indicate “Zero Cal Complete” when done.

Remove filter after zeroing has been completed. The instrument is now zero calibrated and ready for use.

Flow Cal



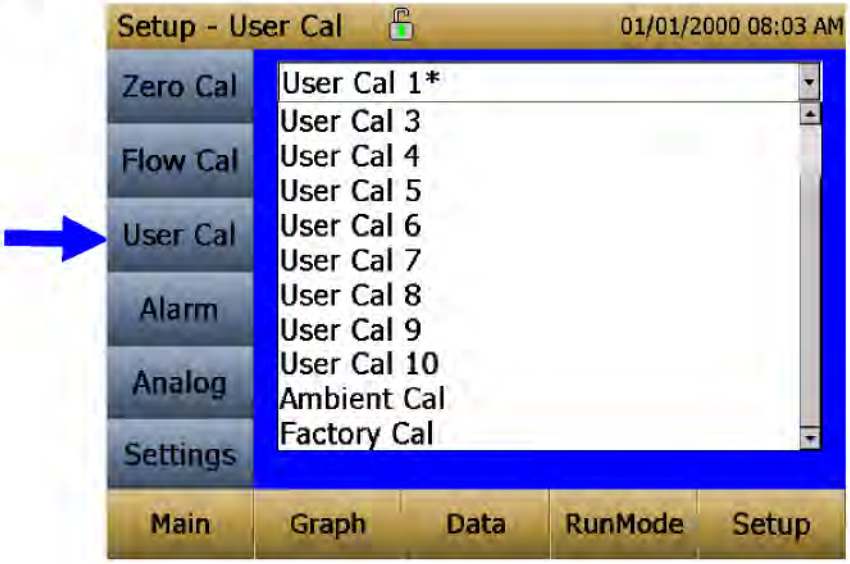
Run **Flow Cal** to change the flow set point. The flow set point is factory set to 3 L/min total flow. 2 L/min of the total flow is measured aerosol flow. 1 L/min of total flow is split off, filtered, and used for sheath flow. There is an internal ΔP flowmeter in the DustTrak II instrument that controls flow rate to ±5% of the factory setpoint. TSI recommends checking the flow with an external flow reference meter, especially when collecting data. The pump will automatically start when entering the Flow Cal screen.

1. Attach a flow calibrator (reference flow meter) to inlet port. You may use a bubble buret, mass flow meter, dry piston or rotameter as flow measurement devices.
2. Move the arrows up or down to achieve desired flow rate on the reference flowmeter. Each up or down arrow will change the flow about 1%. Allow time between button presses to let pump change to the new flow rate.

   Select **Save** once the desired flow rate is achieved. Select **Undo** to return to the factory set point.

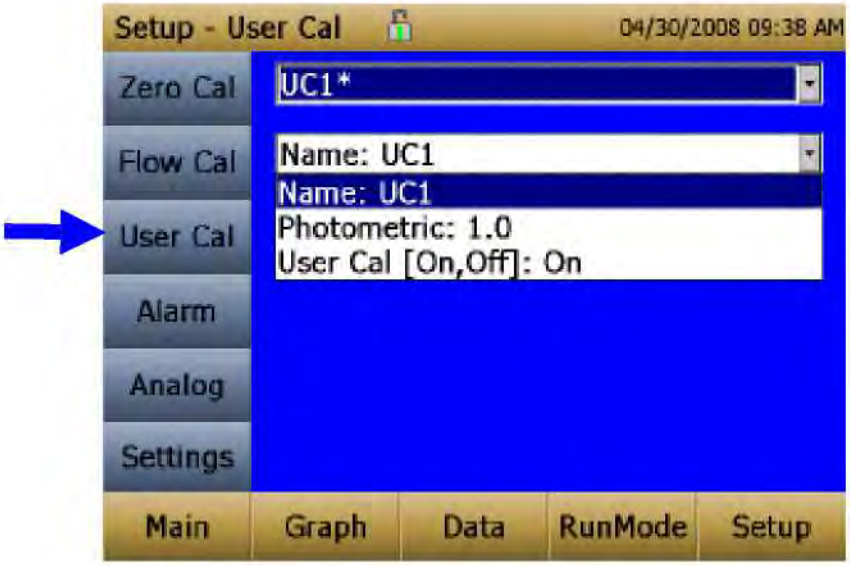
Note
The flow rate can be adjusted from approximately 1.5 to 4.0 L/min. If needed, this feature can be used to adjust the flow rate to a value other than the factory set point, allowing for the use with the provided Dorr-Oliver Cyclone (1.7 L/min required) or 3rd party size selective inlets (cyclones or impactors) that may require a different flow rate.

User Cal



User Cal allows you to store and use 10 different calibration factors. In addition, there are two factory defaults, one is the "Ambient Cal" and the other is the "Factory Cal". The "Ambient Cal" is appropriate for outdoor ambient dust or fugitive dust monitoring. The "Factory Cal" is the calibration to ISO 12103-1, A1 Arizona test dust for which a calibration certificate is provided with the instrument. The "Factory Cal" is appropriate for most workplace aerosol monitoring. The currently active user calibration is highlighted with an asterisk "*".

Four variables can be set for each user calibration.



Name	User can rename calibration to a description name.
Photometric	Changes the factory calibration of particle signal, based on Arizona Road Dust, to actual aerosol being measured. See below for sets to set this calibration.
User Cal [on,off]	Selecting **On** will activate current user calibration and deactivate the previously selected user calibration.

Taking a Gravimetric Sample Using the DustTrak Monitor

When sampling with the DustTrak monitor, you can simultaneously take a gravimetric sample either for custom calibration of the DustTrak monitor or for collecting the sample on to the gravimetric filter downstream of the DustTrak monitor without a need for additional gravimetric sampling pump and filter assembly. To accomplish this, follow the instructions given below:

1. Setup the DustTrak monitor to sample how long you want the sample run time to be. The following example shows a sample for 8 hours.
2. Under RunMode menu, put the instrument in Manual Log (Manual Logging is reviewed later in this section), which will enable you to start and stop the pump at any time you choose.
3. Set the logging interval. One minute (i.e., “01:00”) is a good choice.
4. Make sure you have a preweighed 37-mm gravimetric filter cassette loaded into the DustTrak monitor. See Chapter 4, “Replacing the Internal Filters” on how to access the filter (see figure 4-8) and replace it.

> **Note**
>
> Use only the conductive plastic filter cassette holder (SKC Part# 225-308).

5. Under the Setup Menu, make sure the DustTrak monitor is set to the desired flow rate. For DustTrak II Model 8530, the flow can be varied from 1.7 to 4 L/min for use with various inlet conditioners. For DustTrak DRX Model 8533, ***the flow cannot be changed.*** The flows for DustTrak II monitor can be changed by changing the default flow calibration setpoint from 1.0 to any value between 0.5 to 1.5 in the span adjustment. An external flowmeter is needed to measure the total flow. Flow can be changed by clicking on the UP or DOWN arrow keys shown below:



6. Conduct a preflow calibration on the DustTrak monitor using the same kind of sample media you will sample with. Now, attach the sample media you intend to sample with and start sampling aerosol for the desired time. After the desired run time, stop the sampling. Remove the filter from the DustTrak monitor and follow your laboratory's criteria for filter post weight. Conduct a post-flow calibration with the same sample media done with the pre-flow calibration and determine if these flow calibrations are within ±5% of each other. If they are, use the following to calculate the actual flow rate for the DustTrak monitor. The laboratory will need the following information to calculate mass concentration in mg/m^3:

   - Total sample time in minutes.
   - Flow rate—flow rate of the DustTrak monitor used for gravimetric analysis is only $^2/_3$ the total flow since $^1/_3$ of the flow is used as sheath flow.
   - Total liters of air sampled = total sample time x flow rate.

7. Using this information the laboratory can determine the concentration using the following formula:

$$concentration, \frac{mg}{m^3} = \frac{Filter\ Post\ Weight\ (mg) - Filter\ Pre\ Weight\ (mg)}{\frac{2}{3} * \frac{DustTrak^{TM}\ Monitor\ Flow\ Rate\ (\frac{L}{min})}{1000} * Total\ Sample\ Time\ (\text{min})}$$

Note

The flow rate used for gravimetric analysis is only $^2/_3$ the total flow since $^1/_3$ of the flow is used as sheath flow.

8. For instructions on how to calibrate the DustTrak monitor using this data, see section below on "Determining the Calibration Factor for a Specific Aerosol".

Photometric Calibration Factor

In most situations, the DustTrak monitor with its built-in data logging capability can provide very good information on how the concentration of an aerosol changes for different processes over time. Factory calibration to the respirable fraction of standard ISO 12103-1, A1 test dust is fairly representative of a wide variety of workplace aerosols. Because optical mass measurements are dependent upon particle size and material properties, there may be times in which a custom calibration would improve your accuracy for a specific aerosol.

Determining an aerosol specific photometric calibration requires that you determine a true mass concentration (e.g., gravimetric analysis) for the aerosol you want to measure. The true mass concentration is used to calculate the custom calibration factor for that aerosol. Once you have a custom calibration factor, you can reuse it each time you make measurements in the same aerosol environment.

Determining the Calibration Factor for a Specific Aerosol

The DustTrak II monitor is factory calibrated to the respirable fraction of standard ISO 12103-1, A1 test dust. The DustTrak monitor can be easily calibrated to any arbitrary aerosol by adjusting the custom calibration factor. The DustTrak monitor's custom calibration factor is assigned the value of 1.00 for the factory calibration to standard ISO test dust. This procedure describes how to determine the calibration factor for a specific aerosol. Using the value of 1.00 will always revert back to the factory calibration.

To determine a new calibration factor you need some way of accurately measuring the concentration of aerosol, hereafter referred to as the reference instrument. A gravimetric analysis is often the best choice, though it is limited to nonvolatile aerosols. The internal 37 mm filter cartridge, in the desktop units, can be used to collect the reference gravimetric reference sample.

To make an accurate calibration you must simultaneously measure the aerosol concentration with the DustTrak monitor and your reference instrument.

1. Zero the DustTrak II monitor.
2. Put the instrument in Manual Log (Manual Logging is reviewed later in this section).
3. Set the logging interval. One minute (i.e., "01:00") is often a good choice.
4. Co-locate the DustTrak II monitor and the reference sampler together so that they are measuring from the same area. The 37-mm filter cartridge in the desktop unit can be used to collect the particles to be weighed for the gravimetric reference.
5. Start sampling aerosol with both instruments at the same time.

Note

Greater accuracy will be obtained with longer samples. The time you permit for sampling often depends on the reference instrument and characteristics of the measured aerosol. It may take some time to collect sufficient aerosol onto a filter cassette for accurate gravimetric analysis. Refer to instructions of your reference instrument for sampling times.

6. Stop sampling with both instruments at the same time.
7. Record the DustTrak monitor average concentration by viewing the sample average in the Data screen. (Data Screen is reviewed later in this chapter.)
8. Determine the mass concentration in mg/m^3 from your reference instrument. For gravimetric sampling this means weighing the gravimetric sample.

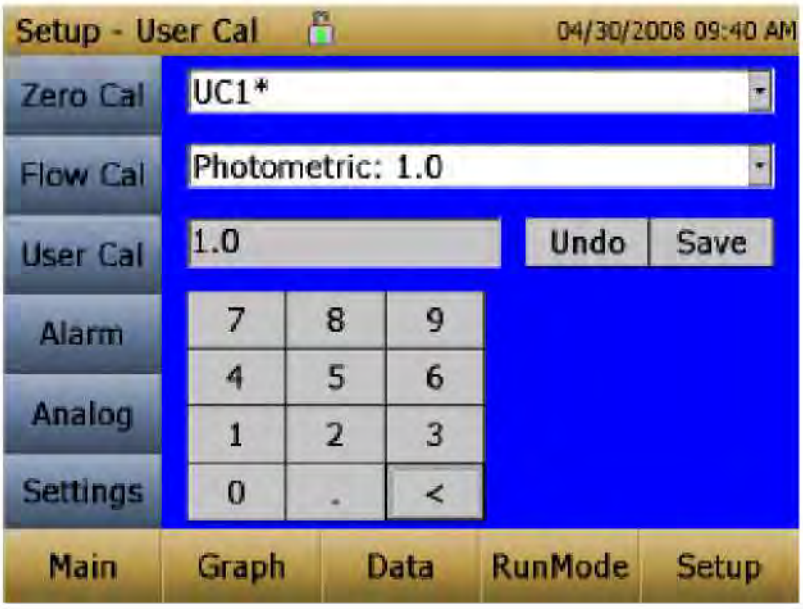
Note

If you used the internal gravimetric filter in the DustTrak Model 8530, the flow rate used to compute the concentration should be 2 L/min, not 3 L/min since only 2 L/min of aerosol flow reaches the filter.

9. Compute the new calibration constant, NewCal, using the following formula:

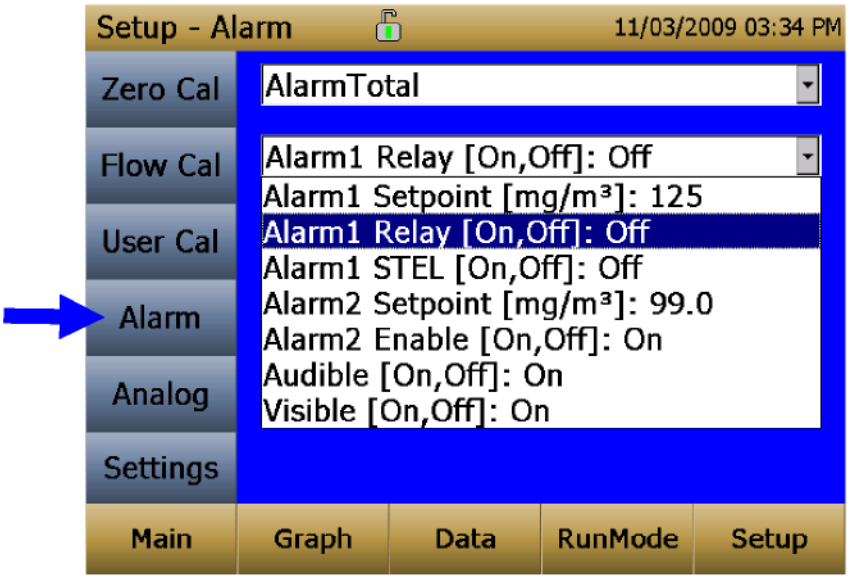
$$NewCal = \left(\frac{Reference\ Concentration}{DustTrak\ Concentration} \right) \cdot CurrentCal$$

10. Select **Photometric** from the User Cal drop down selection and enter the NewCal factor using the onscreen controls.



Alarm

Alarm allows you to set an alarm level that will be triggered if the instrument's reading goes above the setpoint. However, the alarm functioning is determined by the logging interval. The alarm will turn ON only if the average concentration over the logging interval exceeds the set point. If the logging interval is too long and the concentration exceeds the set point and stays at that level, the alarm will not turn ON until after the logging interval has passed. Likewise, the alarm will not stop until after the concentration has dropped below 5% of the threshold and after the logging interval has passed.



Note

The Alarm is dependent on the logging interval. For the DustTrak to alarm as soon as the Alarm Setpoint is exceeded, the logging interval must be set as low as possible (i.e., 1 second or 2 seconds). If a long test duration does not permit setting such a short logging interval, use the STEL alarm instead. The STEL is always based on 1 second concentrations and is independent of the logging interval. For more details on the STEL alarm, see section below on STEL.

In Survey mode, the alarm is dependent on the time constant.

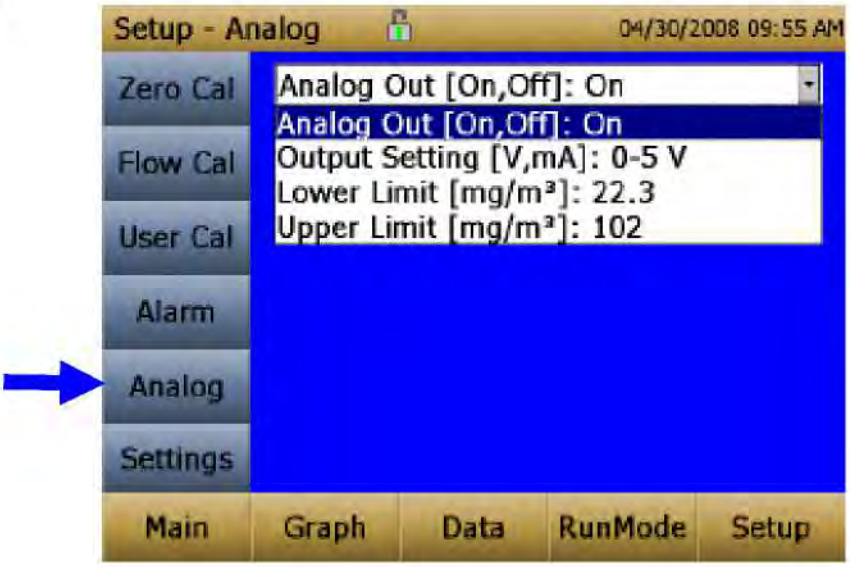
Alarm1 Setpoint [mg/m^3]	The alarm1 setpoint is the mass concentration level upon which the alarm1 is triggered. Alarm will trigger if the mass concentration, taken at the logging interval, rises above the setpoint. **Note** Alarm 2 must be lower than Alarm 1 when both alarms are enabled.
Alarm1 Relay [On, Off]	When the relay alarm is turned on, unit will close relay switch when Alarm1 level is surpassed. Relay selection is available on the 8530 desktop model only.
Alarm1 STEL [On, Off]	When the STEL alarm is turned on, STEL data will be collected when Alarm1 level is surpassed. STEL selection is available on the 8530 desktop model only. See STEL Note below.
Alarm2 Setpoint [mg/m^3]	The alarm2 setpoint is the mass concentration level upon which the alarm2 triggers. Alarm triggers if the mass concentration, taken at the logging interval, rises above the setpoint. **Note** Alarm 2 must be lower than Alarm 1 when both alarms are enabled.
Alarm2 Enable [On, Off]	Enables Alarm2 to be logged and will activate the Audible or Visible alarms if they are enabled.
Alarm Audible [On, Off]	When the audible alarm is turned on, the instrument will activate internal beeper when Alarm1 or Alarm2 level is surpassed.
Alarm1 Visible [On, Off]	When the visible alarm is turned on, unit will show the alarm icon (Alarm1  , Alarm 2 ) in title bar when Alarm1 or Alarm2 level is surpassed.

STEL Alarm

STEL stands for **S**hort **T**erm **E**xposure **L**imit. When a STEL alarm is selected, the instrument will inspect the data on a second by second basis, independent from the selected logging interval. If the mass exceeds the STEL limit, then a STEL event triggers and the following actions will be taken.

STEL indicator	The STEL indicator  will show Red on the main screen.
Data	Data will be taken of the STEL alarm channel at a 1 minute logging interval for **15 minutes**. This data will be stored in a separate file named STEL_XXX, where XXX will be matched to the logged data file. The instrument will also continue to log the mass concentration data at the logging interval selected.
STEL Alarm repeat	If the instrument remains over the STEL limit after the 15 minute interval, or if the instrument exceeds the STEL limit later during the sample period, additional STEL files will be generated.

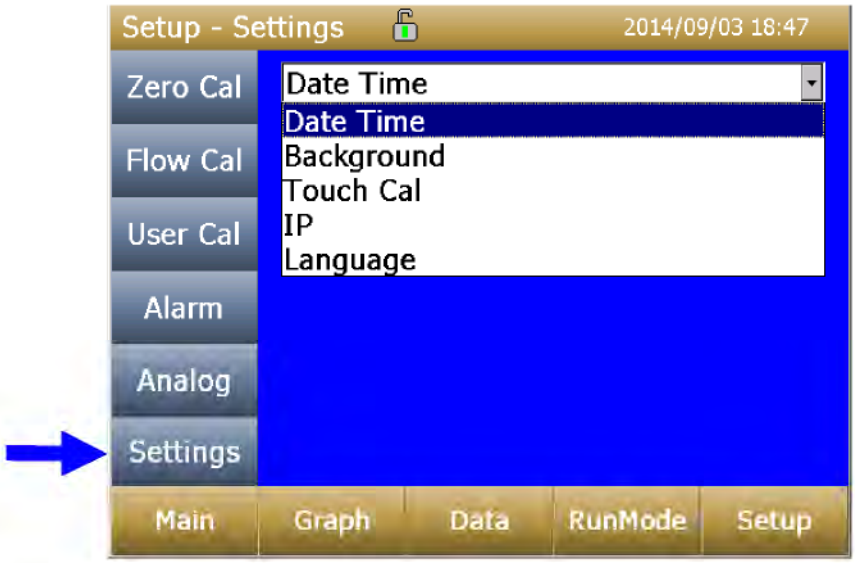
Analog



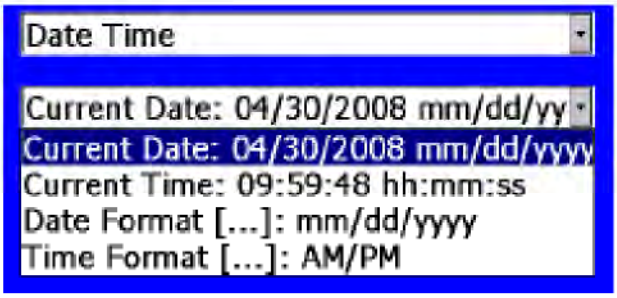
Analog setup screen sets the parameters that will drive the analog out port. Applies to the 8530 Desktop model only.

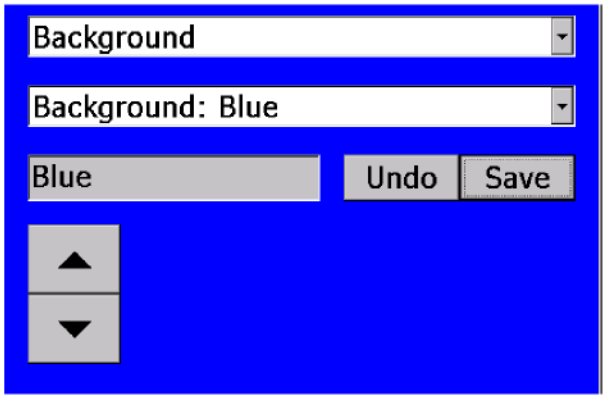
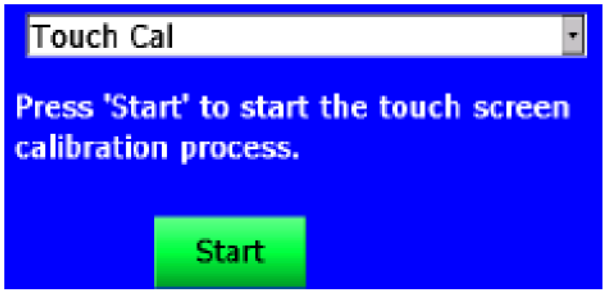
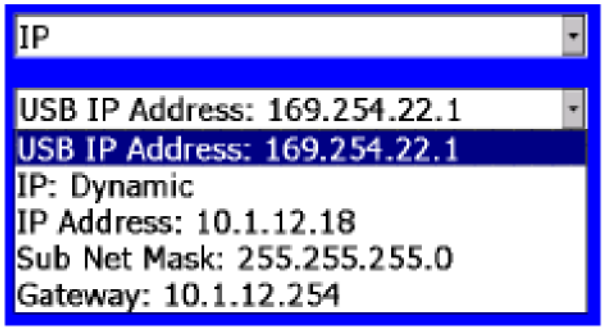
Analog out [On, Off]	Turns analog out port on.
Size Fraction	Selects the size channel that will drive the analog out.
Output Setting [V, mA]	Select between 0 to 5 V and 4 to 20 mA.
Lower Limit [mg/m^3]	Mass concentration reading of the selected channel that will correspond to 0 V or 4 mA.
Upper Limit [mg/m^3]	Mass concentration reading of the selected channel that will correspond to 5 V or 20 mA.

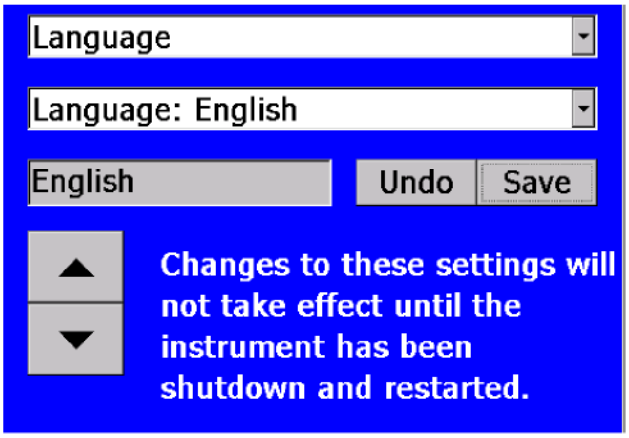
Settings



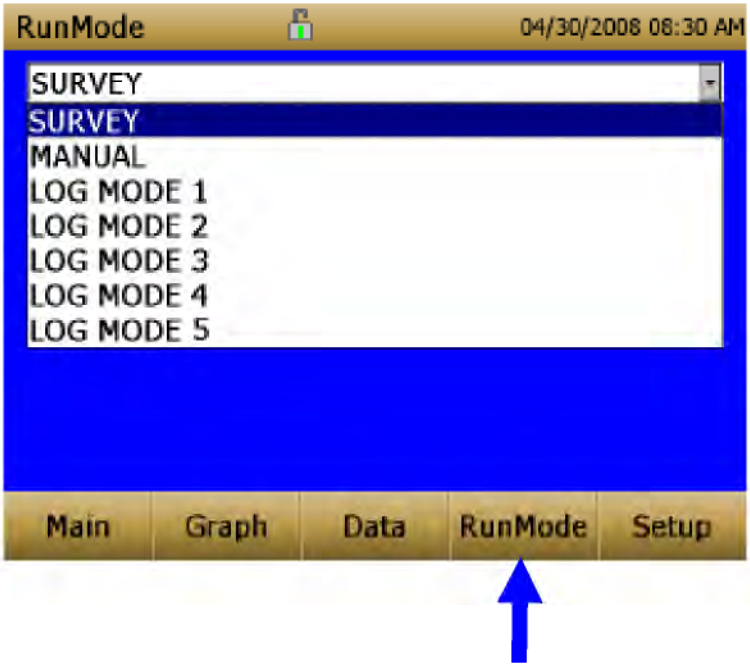
Settings screen sets basic unit parameters.

Date Time	 Sets current date, current time and date/time format. Time can be set in 12 or 24 hour format. Date can be set in yyyy/dd/mm, yyyy/mm/dd or yyyy/dd/mm.

Background	 Switches between blue and white backgrounds.
Touch Cal	 Calibrates the touch cal screen.
IP	 **USB PORT IP Address**: USB IP is the address assigned to the instrument by the NDIS driver. It is shown but cannot be changed. **Ethernet Port IP parameters**: (Model 8530 Desktop only.) IP method can be set to static or dynamic. For static IP, IP address, default gateway, and subnet mask can be set. For Dynamic, The IP assigned by the network is shown. This cannot be changed. See Note below.

	IP Note
	After changing the instrument to Dynamic or Static, reboot the instrument. In Dynamic Mode, the unit will show the IP to which is assigned (after being rebooted).
Language	 Switches between display languages. After changing the display language, reboot the instrument.

Run Mode

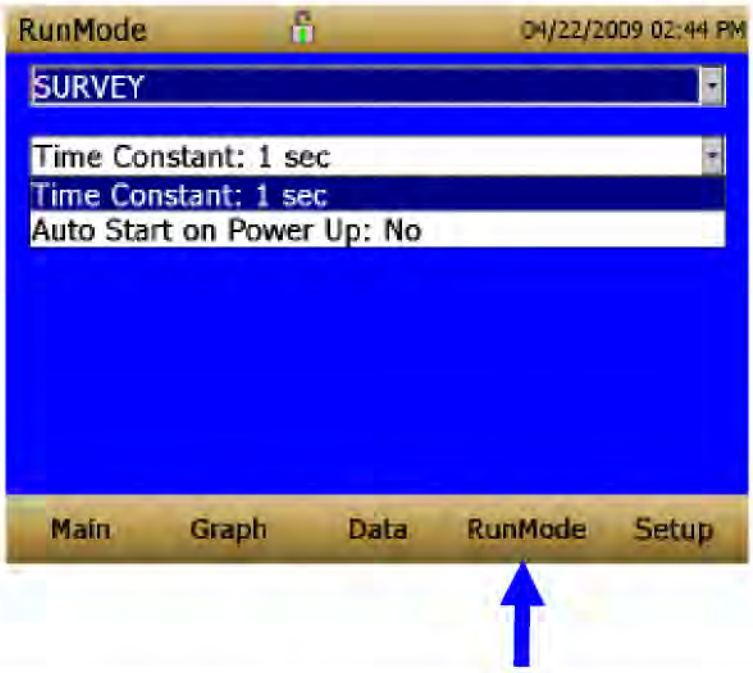


The **RunMode** tab brings up sampling mode options.

Sampling mode options include **Survey Mode**, **Manual Log**, and **Log Mode 1-5**.

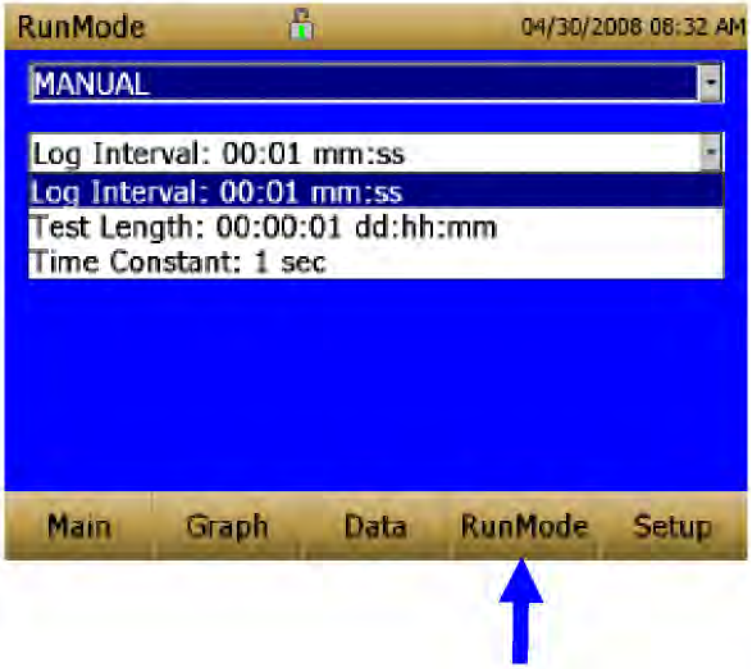
Survey	Survey Mode runs a real time, continuous active sample, but does not log data.
Manual	Manual Log sets the instrument to log data for a specified run time.
Log Modes	Log Mode starts and stops the instrument at specified times, run for a specified test length, and perform multiple tests of the same length with a specified time period between tests.

Survey Mode



Time Constant	Time Constant can be set from 1 to 60 seconds. This will control the update rate of the main screen. It is the rolling average of data displayed on the main screen and is not linked to logged data in either Manual or Program Log modes.
Auto Start on Power Up	When set to “Yes”, unit will start a measurement upon being powered on, if the unit was set to “Survey” when it was turned off. When set to “No”, the unit will be in idle when it is powered on.

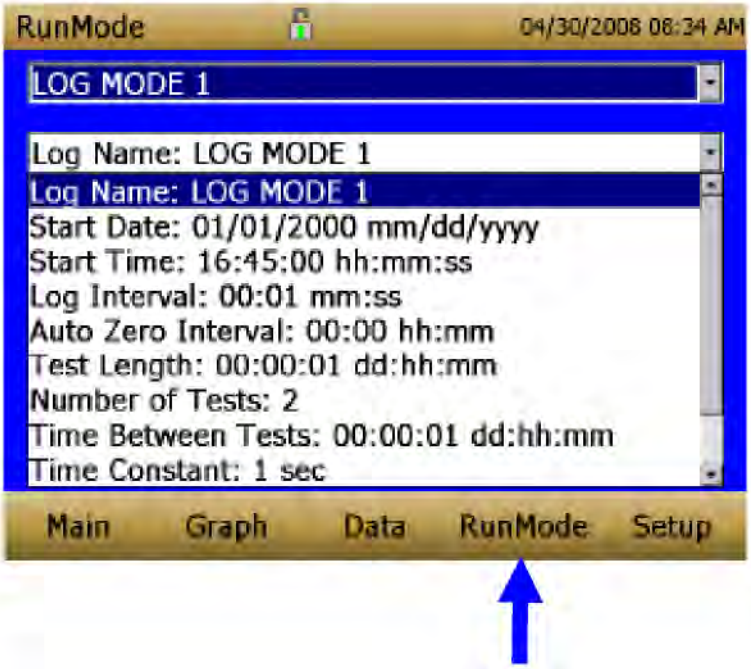
Manual Mode



Log Interval	The log interval can be set from 1 second to 60 minutes. It is the amount of time between logged data points.
Test Length	Test length can be set from 1 minute to the limit of the data storage.
Time Constant	Time Constant can be set from 1 to 60 seconds. This will control the update rate of the main screen. It is the rolling average of data displayed on the main screen and is not linked to logged data in either Manual or Program Log modes.

In Manual mode, data will be stored to a file named "*Manual_XYZ*" where *XYZ* is an incrementing integer.

Log Mode (1–5)



Log Name	Log Name, brings up a virtual keypad to name the Logged Data file.
Start Date	Start Date, select the date the test will start.
Start Time	Start Time, select the time the test will start.
Log Interval	The log interval can be set from 1 second to 60 minutes. It is the amount of time between logged data points.
Auto Zero Interval	Interval between re-zeroing the instrument using the Auto-Zero accessory. Model 8530 desktop only.
Test Length	From 1 minute to the limit of the data storage.
Number of Tests	Number of tests, 1 to 999.
Time between Tests	Time between tests, 1 minute to 30 days.
Time Constant	Time Constant can be set from 1 to 60 seconds. This will control the update rate of the main screen. It is the rolling average of data displayed on the main screen and is not linked to logged data in either Manual or Program Log modes.
Use Start Date	Use Start Date, option to use programmed start date or by pass programmed start date.
Use Start Time	Use Start Time, option to use programmed start time or bypass programmed start time.

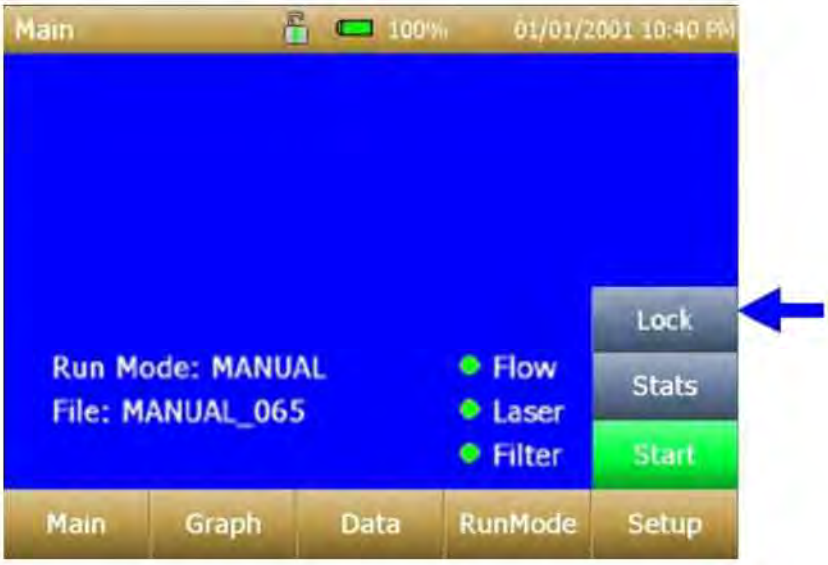
In Log mode, data will be stored to a file named "*LogName_XYZ*" where *LogName* is the user entered log name and *XYZ* is an incrementing integer.

Locking Feature

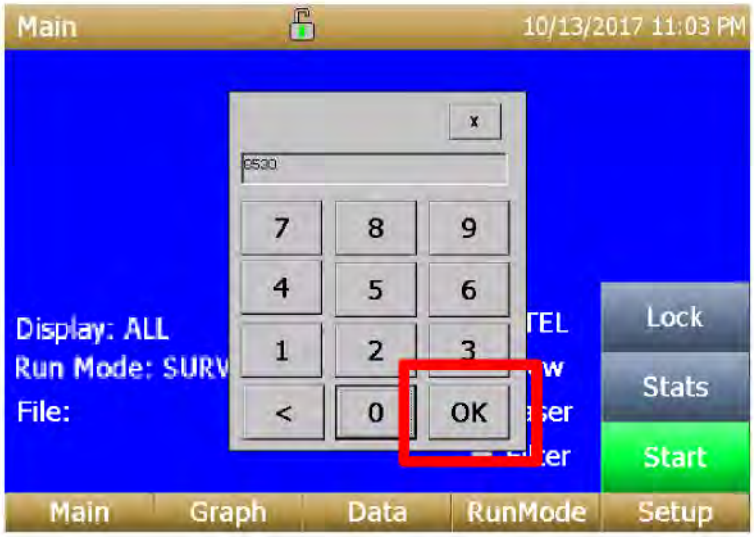
The locking feature allows you to lock the screen at any time. This can be done during mass concentration measurements and while the instrument is idle.

Note
This feature is only available on Desktop models. It is not available on Handheld models.

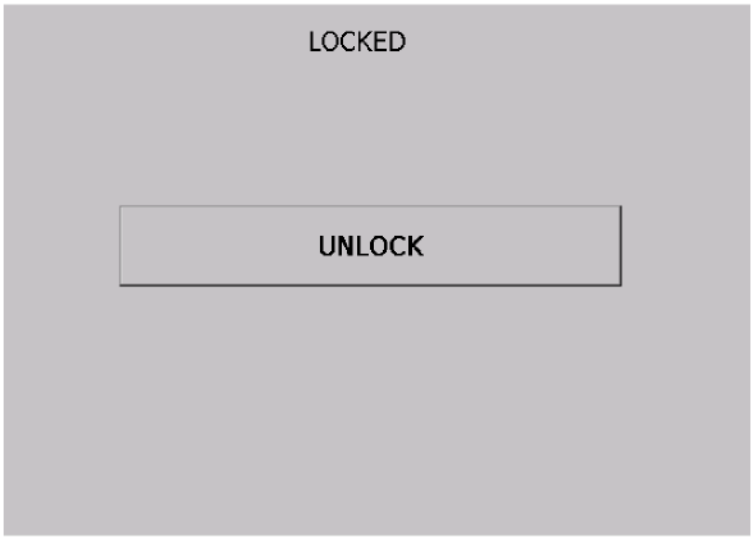
To enable this feature, touch the **Lock** button on the main screen.



Next enter the model of the instrument. For 8530EP models, 8530 should be used. After entering the model number, touch **OK**.



The screen is now locked.



To unlock, touch **UNLOCK** and re-enter the model number. For 8530EP models, 8530 should be used. After entering the model number, touch **OK**.

Note

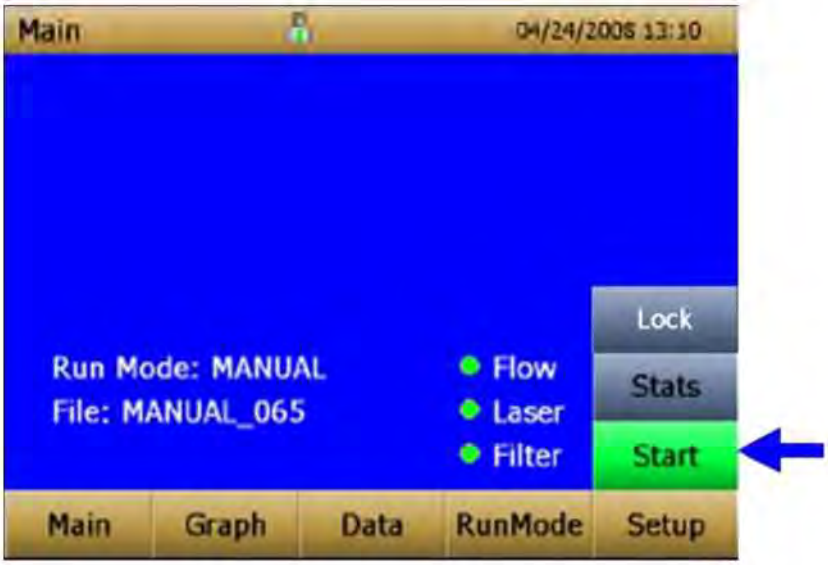
If you happen to enter the model number incorrectly and touch **OK**, you will be given another chance to enter it correctly. There is no limit to number of chances.



Taking Mass Concentration Measurements

Measurements are started and controlled from the main screen.

Prior to starting a measurement the instrument should be zeroed from the **Setup** screen and the run mode should be configured and selected from the **RunMode** screen.



When the instrument is on, but not taking any mass measurements the start button will be green and instruments pump will not be running. To start taking a measurement, press the green start button.

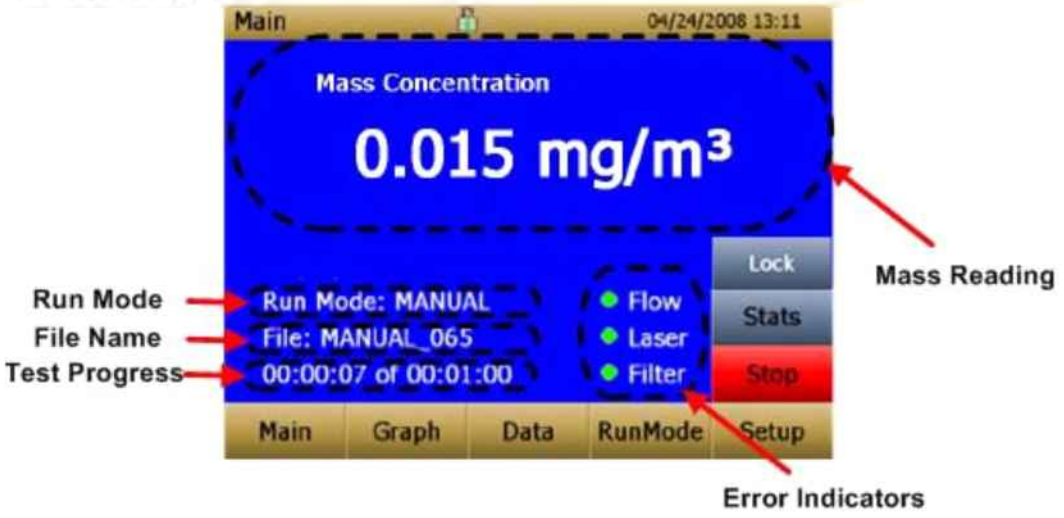
For the Model 8530EP DustTrak monitor with external pump, make sure the external pump is connected to the DustTrak monitor as described in Chapter 2. If the pump is not connected and the green start button is pressed, the DustTrak monitor will identify that the pump is not connected and a warning will be displayed as shown below:



Connect the External Pump Module to the DustTrak monitor and then try again. TSI recommends powering down the DustTrak monitor before connecting the External Pump Module to the DustTrak monitor. Connect the power cable and the flow tubing between the DustTrak monitor and the External pump module, as applicable.

While taking a measurement the screen will display the current measured mass concentration. The various regions of the screen are shown below.

Screen Regions



Mass Reading	Shows the instruments mass measurements.
Run Mode Region	Shows the run mode selected from the RunMode screen.
File Name Region	Displays the file name to which the data is currently being saved.
Test Progress Region	Shows the time-based progress of the test.
Error Indicator Region	Shows the current stats of the instrument STEL: Shows if STEL is in progress (desktop instruments only) Flow: Status of the flow control Laser: Status of the Laser Filter: Status of the Filter See Chapter 5, "Troubleshooting," to resolve any of these error conditions.

Stats

The Stats button shows the statistics of the mass measurement. When the Stats button is pressed, the main mass reading will reduce in font size, and the measurement statistics will show on the right side of the screen.



Graphing

During sampling, pressing the **Graph** button displays current readings in graphical form.

- During Survey Mode, five (5) minutes of running real-time data is displayed graphically.
- During Logging Mode, the entire log test time is displayed on the graph.

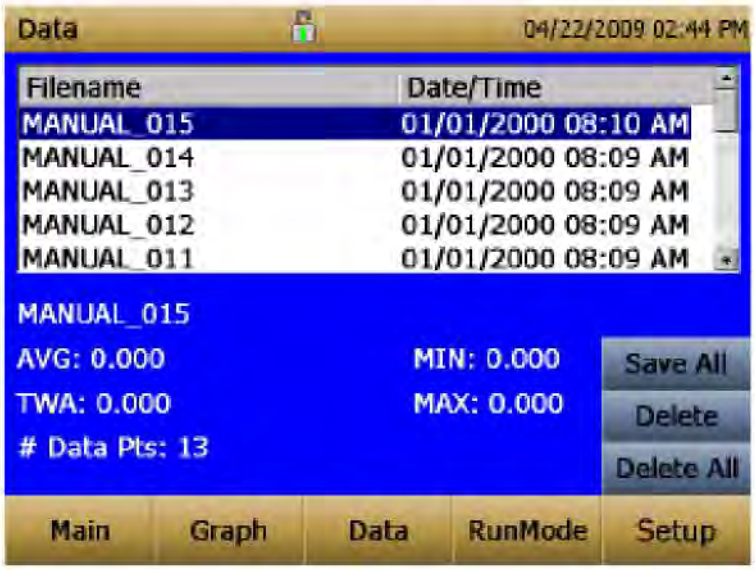


Time Display	Pressing the **Time** x-axis label on the graph screen switches between **Time (s)**, **Time (abs)**, and **Time (rel)**. **Time (s):** Elapsed time from first logged point (log interval) to the last logged point (test length). **Time (rel):** Relative time from zero to last logged point (test length – log interval). **Time (abs):** Absolute time from first logged point (test start + log interval) to last logged point (test stop).
Scale Display	Pressing in the Scale Display area will bring up a dialog that will allow changing between auto scaling and user scaling of the Y-axis. 
Data Region	Pressing the data region will bring up a dialog to show TWA or Average lines. **TWA:** Will show a secondary line on the graph showing the time weighted average of the data. This line will not show if test time is less than 15 minutes. **Average:** Show a secondary line on the graph of the running average of the data. 

In Graphing Mode, pressing **Main** returns the instrument to the Main Screen display.

Viewing Data

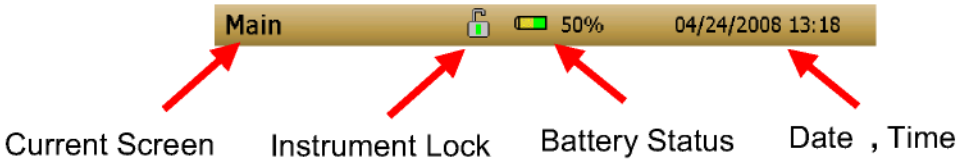
The **Data** button opens a list of data files for viewing.



Select File	Press the arrows on the right side of the screen to scroll up or down to the data file to be viewed.
Data Statistics	Statistics on the selected file ○ File Name ○ Sample Average ○ Sample TWA ○ Sample Maximum Reading ○ Sample Minimum Reading ○ Number of Data Points in the File
Save All Button	Downloads data to a USB thumb drive. The USB thumb drive must be attached to the USB host port. Data is saved as a .csv file that can be viewed in Microsoft® Excel® spreadsheet software.
Delete Button	Deletes the currently highlighted file.
Delete All Button	Deletes all the files stored on the instrument.
Graph Button	Data can also be viewed in graphical form by pressing the **Graph** button while the data file is highlighted.

Title Bar

The Title Bar shows common instrument information.



Current Screen	Title of the current screen that is being displayed.
Instrument Lock	Icon shows if the instrument touchscreen is in an unlocked or locked condition. Unlocked:  Locked:  To lock the touchscreen controls, touch the "lock" icon, immediately followed by three (3) quick touches on the current screen (**Main)** word along the top tool bar. Repeat the process to unlock the screen.
Battery Status	Show the current % life of the battery and show if the battery is currently being charged: Charging:  (unfilled portion of the icon is filled yellow as well as animated to indicate that the charging is in progress) Not Charging:  (unfilled portion of the icon transparent)
Date and Time	Indicates the instruments current date and time.
Alarm	If the instrument is in an alarm status, an alarm icon  will appear in the title bar.

Chapter 4

Maintenance

The DustTrak II aerosol monitor can be maintained in the field using the instructions below. Additionally, TSI recommends that you return your DustTrak II monitor to the factory for annual calibration. For a reasonable fee, we will quickly clean and calibrate the unit and return it to you in "as new" working condition, along with a Certificate of Calibration. This "annual checkup" helps ensure that the DustTrak II monitor is always in good operating condition.



WARNING

There are no user-serviceable parts inside this instrument. The instrument should only be opened by TSI or a TSI approved service technician.

Maintenance Schedule

The DustTrak II Aerosol Monitor requires maintenance on a regular basis. Table 4–1 lists the factory recommended maintenance schedule.

Some maintenance items are required each time the DustTrak monitor is used or on an annual basis. Other items are scheduled according to how much aerosol is drawn through the instrument. For example, TSI recommends cleaning the inlet sample tube after 350 hours of sampling a 1 mg/m^3 concentration of aerosol. This recommendation should be pro-rated according to how the instrument is used. 350 hours at 1 mg/m^3 is the same amount of aerosol as 700 hours at 0.5 mg/m^3 or 175 hours at 2 mg/m^3, etc.

Table 4–1. Recommended Maintenance Schedule

Item	Frequency
Perform zero check	Before each use.
Clean inlet	350 hr. at 1 mg/m^3*
Clean 2.5 µm calibration impactor	Before every use.
Replace internal filters	350 hr. at 1 mg/m^3* or when indicated by the main screen filter error indicator.
Return to factory for cleaning and calibration (For 8530EP, TSI recommends that both the DustTrak and the External Pump Module be returned to TSI)	Annually
Replace the internal HEPA filters in the External Pump module	Annually

*Pro-rated, see discussion above.

The DustTrak monitor keeps track of the accumulated amount of aerosol drawn through it since its last cleaning. When the internal filter replacement is due, the filter error indicator will turn from green to red.

TSI recommends you perform a zero check prior to each use for the DustTrak monitor and certainly before running any extended tests, and after the instrument experiences a significant environmental change. Examples of significant environmental changes would be ambient temperature changes that exceed 15 °F (8 °C) or moving from locations with high aerosol concentrations to low concentrations.

Zeroing Instrument

1. Attach the zero filter to the inlet of the instrument.



Figure 4-1: Attach Zero Filter to Inlet

2. Follow zero calibration instructions detailed in the operations section of this manual.

Cleaning the Inlet

The inlet should be cleaned based on the schedule in Table 4–1.

1. Turn the DustTrak monitor off.
2. Unscrew the inlet nozzle from the instrument (Figure 4-2).



Figure 4-2: Unscrew Inlet Nozzle

3. Clean the inlet port. Use a cotton swab to clean the outside of the inlet port. You may dampen the swabs with water or a light solvent (e.g., isopropanol). Clean the inside of the sample tube by using a small brush, along with a light solvent. Dry the tube by blowing it out with compressed air, or let it air-dry thoroughly.

Note
Be *careful* not to blow particles into the DustTrak monitor inlet port.



Figure 4-3: Do NOT Blow into Instrument

4. Screw (hand-tighten) inlet back into instrument.

Cleaning and Oiling Impactors

The calibration impactor should be cleaned prior to every use, using it to perform a Standard Calibration (size correction) on the instrument, as described in the Operations section.

1. Unscrew Impactor. Check O-ring on the impactor base.
2. Clean outside and inside of Impactor and the impactor plate using a clean brush and a light solvent. Dry impactor parts by blowing it out with compressed air, or let it air-dry thoroughly.
3. Apply 2 drops of oil (included) to the impactor plate. **DO NOT** over-fill impaction plate.
4. Screw (hand-tighten) impactor back together.



Figure 4-4: Apply 2 Drops of Oil to Impactor Plate

Replacing the Internal Filters

Replace the internal filters based on the schedule in Table 4–1 or when the filter indicator on the main screen changes to red.

1. Turn the instrument off.
2. Remove old filters from the instrument.

Handheld Model

a. Use the enclosed filter removal tool (PN 801668) tool to unscrew the two filter caps located on the bottom of the instrument.

b. Pull the old filters out of the two filter wells. If filter wells are visibly dirty, blow out with compressed air.



Figure 4-5: Pull Filters Out of Two Filter Wells (Handheld Model)

c. Put two (2) new filters (P/N 801666) into the filter wells and screw filter caps back into place.

Note
Replacement filters were shipped with the new instrument. Order additional filters from TSI under PN 801666.

Desktop Model

a. Open filter access door on the back of the instrument.

b. Use the enclosed filter removal tool (PN 801668) to unscrew filter cap.

c. Pull out single cylindrical filter from filter well. If filter well is visibly dirty, blow out with compressed air.



Figure 4-6: Pull out Single Cylindrical Filter from Filter Well (Desktop Model)

d. Put new filer (P/N 801673) back into filter well and screw filter cap back into place.

e. Open blue retention clip by pinching ends inward and pushing down.



Figure 4-7: Open Blue Retention Clip

f. Remove 37-mm filter cassette by pulling downward and outward.



Figure 4-8: Remove 37-mm Filter Cassette

g. Open filter cassette using enclosed tool PN 7001303.



Figure 4-9: Open Filter using Enclosed Tool

h. Remove screen mesh from filter cassette and blow out using compressed air. Blow in reverse direction to remove captured particulate.

i. Replace mesh in filter cassette and press halves together. Make sure filter has been fully closed. The filter tool PN 7001303 can be used to ensure the filter is fully closed.



Figure 4-10: Replace Mesh in Filter Holder

j. Place filter cassette back into position and close blue retaining clip. Make sure retaining clip snaps back into place.

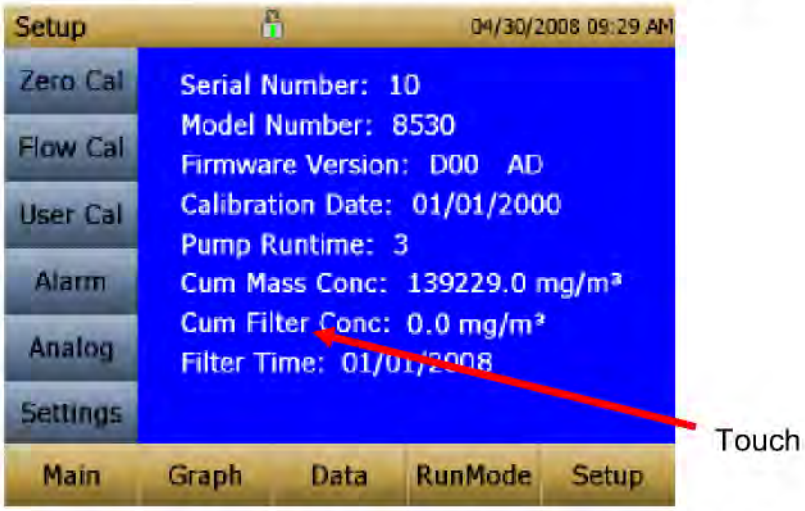
Notes
Replacement filters (HEPA and 37-mm Filter Cassette with mesh filter) were shipped with the new instrument. Order additional filters from TSI under PN 801673. TSI ***does not*** supply any filter media for the filter cassette. Any commercially available 37-mm filter media may be used with the DustTrak II or DRX desktop instruments to collect gravimetric reference samples.

3. **It is important to reset the instruments filter counter after replacing filters. Resetting the counter will clear the filter error condition shown on the main screen.** Reset the counters by the following:

   a. Turn on the instrument.

   b. Press the **Setup** button to go into the setup screen.

   c. Touch the **Cum Filter Conc:** (live key) to reset the aerosol mass.



   d. *Replace user serviceable filters?* Dialog will appear. Press **OK**.

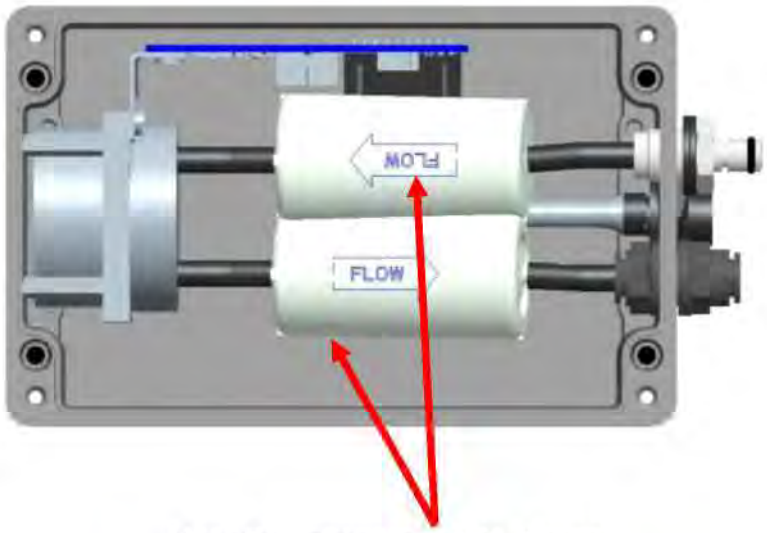
   e. *Reset filter concentration?* Dialog will appear. Press **Yes** to reset the cumulative filter concentration to zero.

   f. The Setup screen will now show zero for the **Cum Filter Concentration and** the current date for the **Filter Time**.

Replacing the Filters in the External Pump Module

The external pump module provided with Model 8530EP is designed to run continuously for about a year (8760 hours). There are two HEPA filters that protect the pump from contamination—one on the suction side of the pump and the other on the discharge side of the pump. The discharge side of the pump collects particles shedding from the vanes of the pump and will turn black over time. The HEPA filters will have to be replaced once a year.

To access the filters open the top cover of the pump module. The two HEPA filters are identified in the figure below. The two filters can be replaced by disconnecting the soft tubing between the filters, pump, and the casing connectors.



User Replaceable HEPA Filters

Caution

When replacing the HEPA filters, make sure they are oriented in the correction direction as shown in the picture above.

Storage Precautions

When storing the DustTrak monitor for more than 30 days, you should charge and remove the batteries. This prevents damage due to battery leakage.

This instrument must be stored in a location where the temperature remains between –20 and 60°C (–4 and 140°F).

Chapter 5

Troubleshooting

The table below lists the symptoms, possible causes, and recommended solutions for common problems encountered with the DustTrak II monitor.

Symptom	Possible Cause	Corrective Action
Erratic zero reading.	Leak	Check connections for leaks Replace zero filter
	Dirty inlet port and/or sample tube	Clean inlet port. Clean or replace tubing
	Internal filter(s) not installed properly (leaking)	Inspect internal filter wells to make certain the filters and O-rings are seated properly. Replace internal filters if necessary
DustTrak reading negative concentrations	Zero Drift	Perform Zero Cal
	Zero Cal was performed without the Zero Filter in-line	Perform Zero Cal again and make sure the Zero Filter is attached to the DustTrak inlet
Error completing Zero Cal	Too much light scatter in the optics chamber due to dust deposits	Clean the inlet nozzle. Attach the zero filter and sample for about 2 minutes. During sampling, pulse the flow going into the DustTrak monitor by intermittently plugging the zero filter. Any dust in the optics chamber will break loose during flow pulsations and will be cleared out by the pump Perform Zero Cal again. If the Zero Cal still cannot be performed, factory service may be required
Run Mode Error: The start time has passed	The selected Run Mode program has “Use Start Date” selected, but the start date is prior to the current date	Correct or change the run mode program

Symptom	Possible Cause	Corrective Action
Run Mode Error: The selected log mode will exceed the allowed number of samples	The selected Run Mode program is programmed to save more samples then is room in memory	Reduce the number of samples by reducing the test length or increasing the logging interval
Instrument runs slow	Large amount of data in memory	Large data files or many small data files will cause instrument to slow, due to need to read and display large amounts of data
No display	Unit not switched on	Switch unit on
	Low or dead batteries	Recharge the batteries or plug in the AC adapter
No touch - screen response	Instrument currently busy	The instrument will take time to open large data files and save configuration information. During this time, the instrument will not respond to additional touchscreen touches
	Instrument Touchscreen is locked	If the lock in the title bar is red, unlock the instrument following the instructions in the Chapter 3, Operation: Title Bar section of this manual
Analog output does not work	Cable/connector not correctly installed	Make sure cable connector is fully seated
	Output wired with reverse polarity	Make sure analog out (+) and analog ground (-) are wired correctly to data-logger
Analog output is not in proportion to display	Analog output range in DustTrak monitor may be set incorrectly	Check analog output setting in the Setup->Analog screen. Make sure the channel of interest is selected. Make sure that the correct output (0 to 5V, 4 to 20 mA) is selected
	Data logger scaling factor may be set incorrectly	Review the scaling factor set in the Setup-Analog screen
Alarm output does not work	Alarm function not turned on	Turn the alarm function on in the Settings->Alarm screen

Symptom	Possible Cause	Corrective Action
Alarm does not turn on correctly	Alarm setting incorrect	Check the alarm settings in the Settings->Alarm screen Make sure the logging interval and time constant are set as short as possible (30 seconds or lower)
	Alarm output wired with reverse polarity	Alarm wires are polarized. Voltage input must be wired to alarm input (+)
Instrument does not store new data	Memory is full	Delete or transfer historic data
	Instrument is in Survey mode	The instrument does not store data in survey mode. Can to manual or program log mode
Flow Error is indicated on front screen	If sampling from a duct, instrument may have problems overcoming pressure differences	Attach both the input and the exhaust port into the duct
	Flow obstruction	Remove obstruction if still present. Press any key to bypass
	Internal pump failing, indicated by inability to adjust flow rate to full range	Factory service may be required
	Filter Cassette clogged or has mass loading	Replace the filter cassette. See the maintenance section of the manual

Symptom	Possible Cause	Corrective Action
Flow Error is indicated on front screen	External pump module (for Model 8530EP only) is not connected to the DustTrak monitor	Make sure both the External Pump cable and the flow tubing connector are connected to the DustTrak monitor and the External pump module. Lock the External Pump Cable in place by rotating the connector clockwise until you hear it snap in place Make sure the tubing between the DustTrak monitor and the External pump module is not kinked and is free of any sharp bends Make sure the exhaust adapter is connected to the exhaust of the DustTrak monitor Make sure the External Pump module filters are not clogged. If found dirty, replace the two HEPA filters
Laser Error indicated on front screen	Laser background is too high	Remove and clean inlet nozzle. Pay close attention to the tip of the nozzle that is inserted into the instrument to ensure it is clear of any contamination
	Laser is failing	Factory service may be required
Filter Error indicated on front screen	Filters need to be replaced	Replaced the filters per instructions in the maintenance section of this manual. Make sure to reset the filter mass and date once the filters have been changed **Note** This is only a warning. The unit will continue to operate normally until the increase in pressure drop across the filter is so high that the pump can no longer maintain the set flow rate.

Symptom	Possible Cause	Corrective Action
System Error has Occurred!	The processor did not receive the input it expected. This can also happen if the optics chamber is saturated with light, or the External Pump Cable is accidentally disconnected during the middle of sampling	Reboot the instrument. If the error does not go away, factory service is required

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Appendix A

Specifications

Specifications are subject to change without notice.

Sensor Type	90° light scattering
Range	8530 Desktop 0.001 to 400 mg/m^3 8532 Handheld 0.001 to 150 mg/m^3
Resolution	±0.1% of reading or 0.001 mg/m^3, whichever is greater
Zero Stability	±0.002 mg/m^3 24 hours at 10 sec time constant
Particle Size Range	Approximately 0.1 to 10 µm
Flow Rate	3.0 L/min set at factory 1.4 to 3.0 L/min adjustable
Flow Accuracy	±5% of factory set point Internal flow controlled
Temperature Coefficient	+0.001 mg/m^3 per °C
Operational Temp	0 to 50°C
Storage Temp	-20 to 60°C
Operational Humidity	0-95% RH, non-condensing
Time Constant	Adjustable 1 to 60 seconds
Data Logging	45 days at 1 minute samples
Log Interval	1 second to 1 hour
Physical Size (HWD)	Handheld: 4.9 x 4.75 x 12.45 in. Desktop: 5.3 x 8.5 x 8.8 in. External Pump: 4.0 x 7.5 x 3.5 in.
Weight	Handheld: 2.9 lb, 3.3 lb with battery Desktop: 3.45 lb, 4.45 lb – 1 battery, 5.45 lb – 2 batteries External Pump: 3.0 lb
Communications	8530: USB (Host and Device) and Ethernet. Stored data accessible using thumb drive 8532: USB (Host and Device). Stored dada accessible using thumb drive.
Power—DC	Handheld 12 VDC at 2A Desktop 24 VDC at 2.5A

Battery	8530: Up to 2 Removable Li-Ion External and Internal charging Life, 1 battery: >6.5 hours (9 hours typical for a new battery) for both internal and external pump Desktop DustTrak monitors Life, 2 battery: >13 hours 8532: 1 Removable Li-Ion External and Internal charging Life: 5 hours typical
Analog out	8530: User selectable output 0 to 5 V or 4 to 20 mA User selectable scaling
Alarm Out	8530: Relay or sound buzzer Relay No latching MOSFET User selectable set point 5% deadband Connector 4-pin, Mini-DIN connectors 8532: Sound buzzer
Screen	8530: 5.7” color touchscreen 8532: 3.5” color touchscreen
Gravimetric Sampling	8530: Removable 37-mm Cartridge
EMI/RF Immunity:	Complies with Emissions Directive Standard: EN50081-1:1992 Complies with Immunity Directive Standard: EN50082-1:1992*

*ESD Shock may require instrument reboot

Appendix B

Zero Module

The Zero Module (PN 801690) allows for automatic re-zeroing of the DustTrak Instrument during long sampling runs. The Zero Module works only with the 8530 desktop models.

Attach the AutoZero module to the main instrument in two steps.

1. Place the Zero module over the instrument's inlet and press down. The Zero module has an O-ring seal that will engage with the instrument's inlet.

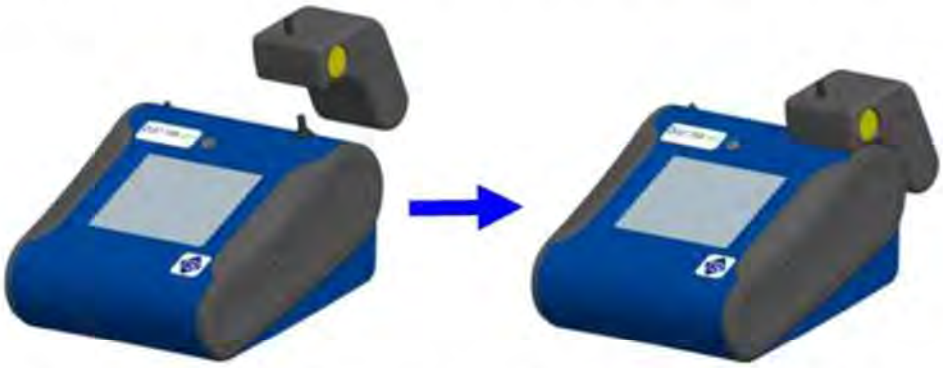


Figure B-1: Place Zero Module Over Inlet and Press Down

2. Attach the cable from the Zero module to the Zero module connector located on the back of the instrument.



Figure B-2: Zero Module Connector

The Zero Module can only be used in a program log mode. The Zero module function is controlled through these two program mode options:

Auto Zero Interval	Interval between re-zeroing the instrument using the Auto-Zero accessory.
Use Auto Zero	Select **Yes** to use the Zero Module. Select **No** to not use the Zero Module.

Important points on Zero Module operation:

- The Zero module will take one (1) minute to take a zero reading. The first 45 seconds of that period is used to clear the chamber of particles. Readings from last 15 second of the period, when the chamber is cleared of particles, will be averaged to determine the Zero offset.
- The log interval, when the Zero module is activated, must be two (2) minutes or greater. Data will not be recorded to the log file when the Zero module is activated.

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ATTACHMENT 2

Air Monitoring Summary Sheet

Job:

Sampling Technician: Job #:

Weather: Date:

Time Start	Time End	Location	Wind Direction	Activity/Operation	Results				Notes/Additional Monitoring
					Background Readings	PID (ppm)	Background Readings	DUST (ug/m3)	

Additional Notes:

Action Levels Exceeded: ☐ YES ☒ NO

If YES, explain:

Daily Instrument Calibration Log

Date:	Sampling Technician:
Project #:	Project Name:

Instruments Used:

Station 1	PID 1	SN:
	Data Ram 1	SN:
Station 2	PID 2	SN:
	Data Ram 2	SN:
Station 3	PID 3	SN:
	Data Ram 3	SN:
Hand Held	PID Model 580	SN:
	Data Ram	SN:

Inspection Notes:

Pre-Calibration/Standardization:

PIDs: **Zero**

1	☐ YES	☐ NO
2	☐ YES	☐ NO
3	☐ YES	☐ NO
Hand Held	☐ YES	☐ NO

Data Rams: **Zero**

1	☐ YES	☐ NO
2	☐ YES	☐ NO
3	☐ YES	☐ NO
Hand Held	☐ YES	☐ NO

Repair Needed:

Gas - 100 ppm

1	☐ YES	☐ NO
2	☐ YES	☐ NO
3	☐ YES	☐ NO
Hand Held	☐ YES	☐ NO

Post-Shift Download:

PIDs: Instrument:				Results/Comments:
1	☐ Data	☐ Avg	☐ Summary	
2	☐ Data	☐ Avg	☐ Summary	
3	☐ Data	☐ Avg	☐ Summary	

Data Rams:

1	☐ Data	
2	☐ Data	
3	☐ Data	

Weather Station: ☐ YES

Background Readings:

PID 1:		Data Ram 1:	
PID 2:		Data Ram 2:	
PID 3:		Data Ram 3:	

Note: "NA" indicates when an item or section is "Not Applicable".



GZA GeoEnvironmental of New York.

APPENDIX L CITIZEN PARTICIPATION PLAN (CPP)

NEW YORK STATE | Department of Environmental Conservation

Brownfield Cleanup Program

Citizen Participation Plan
for
55 Eckford St LLC

November 2024

C224168
55 Eckford St LLC
Kings County
Brooklyn, New York 11222

Contents

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5. Investigation and Cleanup Process 10

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Appendix C - Site Location Map..... 20

Appendix D - Brownfield Cleanup Program Process..... 21

* * * * *

Note: The information presented in this Citizen Participation Plan was current as of the date of its approval by the New York State Department of Environmental Conservation. Portions of this Citizen Participation Plan may be revised during the site's investigation and cleanup process.

Applicant: **55 Eckford St LLC ("Applicant")**
Site Name: **55 Eckford St LLC ("Site")**
Site Address: **55 Eckford Street, Brooklyn NY 11222**
Site County: **Kings County**
Site Number: **C224168**

1. What is New York's Brownfield Cleanup Program?

New York's Brownfield Cleanup Program (BCP) works with private developers to encourage the voluntary cleanup of contaminated properties known as "brownfields" so that they can be reused and developed. These uses include recreation, housing, and business.

A *brownfield* is any real property that is difficult to reuse or redevelop because of the presence or potential presence of contamination. A brownfield typically is a former industrial or commercial property where operations may have resulted in environmental contamination. A brownfield can pose environmental, legal, and financial burdens on a community. If a brownfield is not addressed, it can reduce property values in the area and affect economic development of nearby properties.

The BCP is administered by the New York State Department of Environmental Conservation (NYSDEC) which oversees Applicants who conduct brownfield site investigation and cleanup activities. An Applicant is a person who has requested to participate in the BCP and has been accepted by NYSDEC. The BCP contains investigation and cleanup requirements, ensuring that cleanups protect public health and the environment. When NYSDEC certifies that these requirements have been met, the property can be reused or redeveloped for the intended use.

For more information about the BCP, go online at:
http://www.dec.ny.gov/chemical/8450.html .

2. Citizen Participation Activities

Why NYSDEC Involves the Public and Why It Is Important

NYSDEC involves the public to improve the process of investigating and cleaning up contaminated sites, and to enable citizens to participate more fully in decisions that affect their health, environment, and social well-being. NYSDEC provides opportunities for citizen involvement and encourages early two-way communication with citizens before decision makers form or adopt final positions.

Involving citizens affected and interested in site investigation and cleanup programs is important for many reasons. These include:

- Promoting the development of timely, effective site investigation and cleanup programs that protect public health and the environment

- Improving public access to, and understanding of, issues and information related to a particular site and that site's investigation and cleanup process

- Providing citizens with early and continuing opportunities to participate in NYSDEC's site investigation and cleanup process

- Ensuring that NYSDEC makes site investigation and cleanup decisions that benefit from input that reflects the interests and perspectives found within the affected community

- Encouraging dialogue to promote the exchange of information among the affected/interested public, State agencies, and other interested parties that strengthens trust among the parties, increases understanding of site and community issues and concerns, and improves decision making.

This Citizen Participation (CP) Plan provides information about how NYSDEC will inform and involve the public during the investigation and cleanup of the site identified above. The public information and involvement program will be carried out with assistance, as appropriate, from the Applicant.

Project Contacts

Appendix A identifies NYSDEC project contact(s) to whom the public should address questions or request information about the site's investigation and cleanup program. The public's suggestions about this CP Plan and the CP program for the site are always welcome. Interested people are encouraged to share their ideas and suggestions with the project contacts at any time.

Locations of Reports and Information

The locations of the reports and information related to the site's investigation and cleanup program also are identified in **Appendix A**. These locations provide convenient access to important project documents for public review and comment. Some documents may be placed on the NYSDEC web site. If this occurs, NYSDEC will inform the public in fact sheets distributed about the site and by other means, as appropriate.

Site Contact List

Appendix B contains the site contact list. This list has been developed to keep the community informed about, and involved in, the site's investigation and cleanup process. The site contact list will be used periodically to distribute fact sheets that provide updates about the status of the project. These will include notifications of upcoming activities at

the site (such as fieldwork), as well as availability of project documents and announcements about public comment periods.
The site contact list includes, at a minimum:

- Chief executive officer and planning board chairperson of each county, city, town and village in which the site is located;
- Residents, owners, and occupants of the site and properties adjacent to the site;
- The public water supplier which services the area in which the site is located;
- Any person who has requested to be placed on the site contact list;
- The administrator of any school or day care facility located on or near the site for purposes of posting and/or dissemination of information at the facility;
- Location(s) of reports and information.

The site contact list will be reviewed periodically and updated as appropriate. Individuals and organizations will be added to the site contact list upon request. Such requests should be submitted to the NYSDEC project contact(s) identified in Appendix A. Other additions to the site contact list may be made at the discretion of the NYSDEC project manager, in consultation with other NYSDEC staff as appropriate.

Note: The first site fact sheet (usually related to the draft Remedial Investigation Work Plan) is distributed both by paper mailing through the postal service and through DEC Delivers, its email listserv service. The fact sheet includes instructions for signing up with the appropriate county listserv to receive future notifications about the site. See http://www.dec.ny.gov/chemical/61092.html .

Subsequent fact sheets about the site will be distributed exclusively through the listserv, except for households without internet access that have indicated the need to continue to receive site information in paper form. Please advise the NYSDEC site project manager identified in Appendix A if that is the case. Paper mailings may continue during the investigation and cleanup process for some sites, based on public interest and need.

CP Activities

The table at the end of this section identifies the CP activities, at a minimum, that have been and will be conducted during the site's investigation and cleanup program. The flowchart in Appendix D shows how these CP activities integrate with the site investigation and cleanup process. The public is informed about these CP activities through fact sheets and notices distributed at significant points during the program. Elements of the investigation and cleanup process that match up with the CP activities are explained briefly in Section 5.

- **Notices and fact sheets** help the interested and affected public to understand contamination issues related to a site, and the nature and progress of efforts to investigate and clean up a site.

- **Public forums, comment periods and contact with project managers** provide opportunities for the public to contribute information, opinions and perspectives that have potential to influence decisions about a site's investigation and cleanup.

The public is encouraged to contact project staff at any time during the site's investigation and cleanup process with questions, comments, or requests for information.

This CP Plan may be revised due to changes in major issues of public concern identified in Section 3 or in the nature and scope of investigation and cleanup activities. Modifications may include additions to the site contact list and changes in planned citizen participation activities.

Technical Assistance Grant

NYSDEC must determine if the site poses a significant threat to public health or the environment. This determination generally is made using information developed during the investigation of the site, as described in Section 5.

If the site is determined to be a significant threat, a qualifying community group may apply for a Technical Assistance Grant (TAG). The purpose of a TAG is to provide funds to the qualifying group to obtain independent technical assistance. This assistance helps the TAG recipient to interpret and understand existing environmental information about the nature and extent of contamination related to the site and the development/implementation of a remedy.

An eligible community group must certify that its membership represents the interests of the community affected by the site, and that its members' health, economic well-being or enjoyment of the environment may be affected by a release or threatened release of contamination at the site.

As of the date the declaration (page 2) was signed by the NYSDEC project manager, the significant threat determination for the site had not yet been made.

To verify the significant threat status of the site, the interested public may contact the NYSDEC project manager identified in **Appendix A**.

For more information about TAGs, go online at :
https://dec.ny.gov/regulatory/regulations/technical-assistance-grant-tag-guidance-handbook-der-14

Note: The table identifying the citizen participation activities related to the site's investigation and cleanup program follows on the next page:

Citizen Participation Activities	Timing of CP Activities
Application Process:	
• Prepare site contact list • Establish document repository(ies)	At time of preparation of application to participate in the BCP.
• Publish notice in Environmental Notice Bulletin (ENB) announcing receipt of application and 30-day public comment period • Publish above ENB content in local newspaper • Mail above ENB content to site contact list • Conduct 30-day public comment period	When NYSDEC determines that BCP application is complete. The 30-day public comment period begins on date of publication of notice in ENB. End date of public comment period is as stated in ENB notice. Therefore, ENB notice, newspaper notice, and notice to the site contact list should be provided to the public at the same time.
After Execution of Brownfield Site Cleanup Agreement (BCA):	
• Prepare Citizen Participation (CP) Plan	Before start of Remedial Investigation **Note:** Applicant must submit CP Plan to NYSDEC for review and approval within 20 days of the effective date of the BCA.
Before NYSDEC Approves Remedial Investigation (RI) Work Plan:	
• Distribute fact sheet to site contact list about proposed RI activities and announcing 30-day public comment period about draft RI Work Plan • Conduct 30-day public comment period	Before NYSDEC approves RI Work Plan. If RI Work Plan is submitted with application, public comment periods will be combined and public notice will include fact sheet. Thirty-day public comment period begins/ends as per dates identified in fact sheet.
After Applicant Completes Remedial Investigation:	
• Distribute fact sheet to site contact list that describes RI results	Before NYSDEC approves RI Report
Before NYSDEC Approves Remedial Work Plan (RWP):	
• Distribute fact sheet to site contact list about draft RWP and announcing 45-day public comment period • Public meeting by NYSDEC about proposed RWP (if requested by affected community or at discretion of NYSDEC project manager) • Conduct 45-day public comment period	Before NYSDEC approves RWP. Forty-five day public comment period begins/ends as per dates identified in fact sheet. Public meeting would be held within the 45-day public comment period.
Before Applicant Starts Cleanup Action:	
• Distribute fact sheet to site contact list that describes upcoming cleanup action	Before the start of cleanup action.
After Applicant Completes Cleanup Action:	
• Distribute fact sheet to site contact list that announces that cleanup action has been completed and that NYSDEC is reviewing the Final Engineering Report • Distribute fact sheet to site contact list announcing NYSDEC approval of Final Engineering Report and issuance of Certificate of Completion (COC)	At the time the cleanup action has been completed. **Note:** The two fact sheets are combined when possible if there is not a delay in issuing the COC.

3. Major Issues of Public Concern

This section of the CP Plan identifies major issues of public concern that relate to the site. Additional major issues of public concern may be identified during the course of the site's investigation and cleanup process.

The Site is located in an Environmental Justice Area. Environmental justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Environmental justice efforts focus on improving the environment in communities, specifically minority and low-income communities, and addressing disproportionate adverse environmental impacts that may exist in those communities. Since the Site is not located in an Environmental Justice Area, there is no need to translate future fact sheets into another language.

The Site is located in an area with a sizable Hispanic-American and Polish population near the Site. Therefore, all future fact sheets will be translated into both Polish and Spanish.

For additional information, visit:
https://statisticalatlas.com/tract/New-York/Kings-County/056300/Race-and-Ethnicity

The information on this Site will be made available at two document repositories, the local library and at the community board.

Based on the results of previous environmental investigations contamination exists at the property. Contamination identified from the previous investigations include Volatile Organic Compounds (VOCs), Semi-VOCs, and metals in groundwater and VOCs in soil vapor. VOCs are compounds that are emitted as gases from solids or liquids. VOCs include a variety of chemicals that may have short- and long-term adverse health effects. Some examples of VOCs include paints, lacquers, and some cleaning supplies.

The contaminants represent a possible public concern at the Site. However, the Site is not near any public water supply or private water wells and the area is served municipal water for drinking water. The future on-Site use and remediation will not create any restriction on community activities but will render the Site protective of public health and the environmental.

This work will be performed in accordance with procedures which will be specified under a detailed Remedial Program which considers and takes preventative measures for exposures to future residents of the property and those on adjacent properties during construction. It should be noted that during the future completion of remedial activities at the Site potential contaminants known to be present in the soil, may become airborne and pose a potential health risk to the Site visitors and workers during remedial construction, workers and occupants on adjacent properties. However, a Health and Safety Plan (HASP) and a NYSDEC Community Air Monitoring Plan (CAMP) will be in place for the

proposed remedial activities and will be followed to safeguard the workers, the public and other adjacent occupants against any potential exposures. Implementation of these plans will be under the direct oversight of the NYSDEC and New York State Department of Health (NYSDOH).

These plans will specify the following worker and community health and safety activities during remedial activity at the Site:

- Onsite air monitoring for worker protection;
- Perimeter air monitoring for community protection;
- The use of odor, vapor, and dust controls, such as water or foam sprays, as needed;
- Monitoring and control of soil, sediments, and water generated during remediation; and
- Truck routes which avoid residential streets (as feasible).

The HASP and CAMP will be prepared as part of the Remedial Action Work Plan (RAWP) and will be available for public review at the document repositories as identified in Appendix A.

4. Site Information

Site Description

The Site is in an urban neighborhood, located at 55 Eckford Street, Brooklyn, NY 11222. The Site is comprised of one New York City Tax Lot (County: Brooklyn; Block 2698; Lot 32. The total area of the Site is 10,376 square feet (sq ft). The Site has frontage along Eckford Street. The Site contains a 6-story steel structure for an unfinished building and the property is surrounded by a construction fence.

The Site is located in the Greenpoint-Williamsburg Special Mixed-Use district (MX-8) in an area primarily zoned for light manufacturing and dense residential properties (M1-2/R6B). The Site bound to the north by a 5-story hotel building (65 Eckford Street, BCP Site No. C224218), to the east by Eckford Street, to the south by a 3-story residential building (67 Engert Avenue) and eight interconnected 5-story residential buildings (49 Engert Avenue), and to the west by 1-story warehouse building (488 Leonard Street) and a parking garage (482 Leonard Street).

Appendix C contains a map identifying the location of the Site.

History of Site Use, Investigation, and Cleanup

Records from 1887 show the Site as four abutting vacant undeveloped lots. By 1905, the Site is shown as being part of Meisel Danowitz & Co. woodworking operation and contained four 1- to 2-story buildings identified as “moulding shed”, “planning & moulding lumber racks”, “kiln house”, and an office. By 1916, the structures remain but were identified as “vacant and dilapidated”; by 1942 identified as “wool & rags sorting and baling”; and from 1951 until 1992 identified as “electric plating, storage, lacquer spraying”.

The following investigations and the findings are summarized below:

PHASE I ENVIRONMENTAL SITE ASSESSMENT – OCTOBER 2011

In October 2011, Hydro Tech Environmental, Corp. (HTE) of Hauppauge, NY performed a Phase I Environmental Site Assessment (ESA) for 55 Eckford Street Brooklyn LLC (former Owner) and found two Recognized Environmental Conditions (RECs) related to the Site. The RECs identified include the historical use of the Site as manufacturing facility and the undocumented removal of an aboveground fuel oil storage tank.

DRAFT PHASE II ENVIRONMENTAL SUBSURFACE INVESTIGATION – DECEMBER 2011

In December 2011, EEA Inc. of Garden City, NY, performed a Phase II Environmental Subsurface Investigation for Madison Realty Capital, which included the advancement of six (6) soil borings and the installation of four (4) monitoring wells. This investigation found the Site soils and groundwater are contaminated with chemicals possibly related to the former use of the site for lacquer spraying, volatile organic compounds (VOCs) and semi-VOCs. Also, the Site soils and groundwater are contaminated with Metals, which are potentially due to the former electroplating facility once present on the Site. Furthermore, such metals as mercury and arsenic were listed as past hazardous wastes produced at the Site and were detected above regulatory guidelines in soil and groundwater.

PHASE II ENVIRONMENTAL SITE ASSESSMENT – APRIL 2012

In April 2012, HTE performed a Phase II ESA for Madison Realty Capital of New York, NY which included the advancement of nine (9) soil borings and the installation seven (7) monitoring wells and seven (7) soil vapor implants to collect soil, groundwater, and soil vapor samples for laboratory analyses.

The laboratory results reported samples containing SVOCs and metals (specifically arsenic, barium, cadmium, trivalent chromium, copper, lead, nickel, and mercury) at concentrations that exceeded regulatory standards.

The laboratory analytical results revealed VOCs and metals (specifically arsenic, iron, manganese, silver and sodium) were detected in several groundwater samples at concentrations that exceeded regulatory standards.

The laboratory analytical results revealed VOCs associated with petroleum and chlorinated solvents were detected in the soil vapor samples collected from the perimeter of the property. Chlorinated solvents are typically used in metal cleaning operations.

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORTS – JUNE 2013, JULY 2016, OCTOBER 2019, AND OCTOBER 2023

Several Phase I ESAs were performed at the Site by various consultants (HTE and Touchstone Environmental Geology, P.C.) for various entities (Olden Equities, Madison

Realty Capital, Avo Construction, and Daniel Kaykov) in 2013, 2016, 2019, and 2023, which identified the following RECs in connection with the Site:

- The historic use of the Site as a manufacturing facility;
- The presence of SVOC and metal-impacted soil at the Site;
- The presence of VOC and metal impacted groundwater at the Site;
- The presence of both petroleum and chlorinated solvent-impacted soil vapors at the Site; and
- The undocumented removal of an aboveground fuel oil storage tank.
- The presence of NYS BCP Site No. C224218 in the northern adjacent property;
- The presence of a petroleum and chlorinated potential vapor encroachment condition (PVEC) at the Site; and
- The presence of mold at the Site.
- The listing of the Site under BCP Site No. C224168.

Note that two previous applications were accepted into the BCP, the first was in 2018 which listed the applicant as TCJ Construction Inc. (TCJ) & Eckford Greenpoint LLC and the second was in 2020 which listed the applicant as 55 Eckford Acquisition. However in 2021, the Site was removed from the BCP prior to the start of any Remedial Action work.

5. Investigation and Cleanup Process

Application

The Applicant has applied for and been accepted into New York's Brownfield Cleanup Program as a Volunteer This means that the Applicant was not responsible for the disposal or discharge of the contaminants or whose ownership or operation of the site took place after the discharge or disposal of contaminants. The Volunteer must fully characterize the nature and extent of contamination onsite, and must conduct a "qualitative exposure assessment," a process that characterizes the actual or potential exposures of people, fish and wildlife to contaminants on the site and to contamination that has migrated from the site.

The Applicant in its Application proposes that the site will be used for restricted residential purposes.

To achieve this goal, the Applicant will conduct investigation and cleanup activities at the site with oversight provided by NYSDEC. The Brownfield Cleanup Agreement executed by NYSDEC and the Applicant sets forth the responsibilities of each party in conducting

these activities at the site.

Investigation

The Applicant will conduct an investigation of the site officially called a “remedial investigation” (RI). This investigation will be performed with NYSDEC oversight. The Applicant must develop a remedial investigation workplan, which is subject to public comment.

The site investigation has several goals:

1) Define the nature and extent of contamination in soil, surface water, groundwater and any other parts of the environment that may be affected;
2) Identify the source(s) of the contamination;
3) Assess the impact of the contamination on public health and the environment; and
4) Provide information to support the development of a proposed remedy to address the contamination or the determination that cleanup is not necessary.

The Applicant submits a draft “Remedial Investigation Work Plan” to NYSDEC for review and approval. NYSDEC makes the draft plan available to the public review during a 30-day public comment period.

When the investigation is complete, the Applicant will prepare and submit a report that summarizes the results. This report also will recommend whether cleanup action is needed to address site-related contamination. The investigation report is subject to review and approval by NYSDEC.

NYSDEC will use the information in the investigation report to determine if the site poses a significant threat to public health or the environment. If the site is a “significant threat,” it must be cleaned up using a remedy selected by NYSDEC from an analysis of alternatives prepared by the Applicant and approved by NYSDEC. If the site does not pose a significant threat, the Applicant may select the remedy from the approved analysis of alternatives.

Interim Remedial Measures

An Interim Remedial Measure (IRM) is an action that can be undertaken at a site when a source of contamination or exposure pathway can be effectively addressed before the site investigation and analysis of alternatives are completed. If an IRM is likely to represent all or a significant part of the final remedy, NYSDEC will require a 30-day public comment period.

Remedy Selection

When the investigation of the site has been determined to be complete, the project likely would proceed in one of two directions:

1. The Applicant may recommend in its investigation report that no action is necessary at the site. In this case, NYSDEC would make the investigation report available for public comment for 45 days. NYSDEC then would complete its review, make any necessary revisions, and, if appropriate, approve the investigation report. NYSDEC would then issue a “Certificate of Completion” (described below) to the Applicant.

or

2. The Applicant may recommend in its investigation report that action needs to be taken to address site contamination. After NYSDEC approves the investigation report, the Applicant may then develop a cleanup plan, officially called a “Remedial Work Plan”. The Remedial Work Plan describes the Applicant’s proposed remedy for addressing contamination related to the site.

When the Applicant submits a draft Remedial Work Plan for approval, NYSDEC would announce the availability of the draft plan for public review during a 45-day public comment period.

Cleanup Action

NYSDEC will consider public comments, and revise the draft cleanup plan if necessary, before approving the proposed remedy. The New York State Department of Health (NYSDOH) must concur with the proposed remedy. After approval, the proposed remedy becomes the selected remedy. The selected remedy is formalized in the site Decision Document.

The Applicant may then design and perform the cleanup action to address the site contamination. NYSDEC and NYSDOH oversee the activities. When the Applicant completes cleanup activities, it will prepare a Final Engineering Report (FER) that certifies that cleanup requirements have been achieved or will be achieved within a specific time frame. NYSDEC will review the report to be certain that the cleanup is protective of public health and the environment for the intended use of the site.

Certificate of Completion

When NYSDEC is satisfied that cleanup requirements have been achieved or will be achieved for the site, it will approve the FER. NYSDEC then will issue a Certificate of Completion (COC) to the Applicant. The COC states that cleanup goals have been achieved, and relieves the Applicant from future liability for site-related contamination, subject to certain conditions. The Applicant would be eligible to redevelop the site after it receives a COC.

Site Management

The purpose of site management is to ensure the safe reuse of the property if contamination will remain in place. Site management is the last phase of the site cleanup

program. This phase begins when the COC is issued. Site management incorporates any institutional and engineering controls required to ensure that the remedy implemented for the site remains protective of public health and the environment. All significant activities are detailed in a Site Management Plan.

An *institutional control* is a non-physical restriction on use of the site, such as a deed restriction that would prevent or restrict certain uses of the property. An institutional control may be used when the cleanup action leaves some contamination that makes the site suitable for some, but not all uses.

An *engineering control* is a physical barrier or method to manage contamination. Examples include caps, covers, barriers, fences, and treatment of water supplies.

Site management also may include the operation and maintenance of a component of the remedy, such as a system that pumps and treats groundwater. Site management continues until NYSDEC determines that it is no longer needed.

Appendix A -
Project Contacts and Locations of Reports and Information

Project Contacts

For information about the site's investigation and cleanup program, the public may contact any of the following project staff:

New York State Department of Environmental Conservation (NYSDEC):

Jolene Lozewski
Project Manager
NYSDEC
Division of Environmental Remediation
625 Broadway
Albany NY 12233
518-402-8805
Jolene.Lozewski@dec.ny.gov

Thomas Panzone
Public Participation Specialist
NYSDEC, Region 2
Division of Communications Education and Engagement
47-40 21st Street
Long Island City, NY 11101
718-482-4953
Thomas.panzone@dec.ny.gov

New York State Department of Health (NYSDOH):

Josephine McCarthy
Project Manager
NYSDOH
Empire State Plaza, Corning Tower
Room 1787
Albany, NY 12237
518-402-7860
Josephine.mccarthy@doh.ny.gov

Locations of Reports and Information

The facilities identified below are being used to provide the public with convenient access to important project documents:

https://extapps.dec.ny.gov/data/DecDocs/C224168/

Brooklyn Public Library

Greenpoint Branch
107 Norman Avenue
Brooklyn NY 11222
Phone: 718-389-4394
Hours: M W F -10am -6pm, T, 1-8PM,
TH 10-8PM, Sat 10-5pm

Brooklyn Community Board 1

Dealice Fuller – Chairperson
Johanna Pulgarin – District Manager
Stephen Chesler – Chairperson,
Environmental Protection Committee
435 Graham Avenue
Brooklyn NY 11222
Phone: 718-389-0009
Email: bk01@cb.nyc.gov

Appendix B - Site Contact List

Local Government Offices

1. Hon. Eric Adams
   New York City Mayor
   City Hall
   New York, NY 10007

2. Hon. Brad Lander
   New York City Comptroller
   1 Centre Street, New York, NY 10007

3. Hon. Jumaane D. Williams
   Public Advocate
   1 Centre Street 15th Floor North, New York, NY 10007

4. David Gold, Esq.
   Commissioner, NYC Dept. of City Planning
   120 Broadway, 31st Floor, New York, NY 10271

5. Hon. Antonio Reynoso
   Brooklyn Borough President
   209 Joralemon Street, Brooklyn, NY 11201

6. Shaminder Chawla
   Acting Director
   NYC Office of Environmental Protection
   100 Gold Street – 2nd Floor, New York NY, 10038

7. Jane H. O'Connell, P.G.
   New York State Department of Environmental Conservation\
   Regional Remediation Engineer, Division of Environmental Remediation
   47-40 1st Street, Long Island City, NY 11101

8. Josephine McCarthy
   New York State Department of Health
   Empire Plaza
   Corning Tower, Room 178, Albany, NY 12233

9. Hon Charles Schumer
   U.S. Senator
   780 Third Avenue, Suite 2301, New York, NY 10017

10. Hon Kirsten Gillibrand
    U.S. Senator
    780 Third Avenue, Suite 2301, New York, NY 10017

11. Hon. Kristen Gonzalez
    NY Senate -District 59
    801 2nd Avenue, Suite 303, New York, NY 10017

12. Hon. Lincoln Restler
    New York City Council – District 33
    410 Atlantic Avenue, Brooklyn NY 11217

13. Hon. Emily Gallagher
    NYS Assemblymember – District 50
    685A Manhattan Avenue, Brooklyn NY 11222

14. Rohit Aggarwala (Public Water Supplier)
    Commissioner, NYC Dept. of Environmental Protection
    59-17 Junction Boulevard, Flushing, NY 11373

15. Hon. Nancy T. Sunshine
    Kings County Clerk's Office
    360 Adams Street, Room 189, Brooklyn, NY 11201

16. Hon. Nydia Velazquez
    US House of Representatives
    Brooklyn District Office
    266 Broadway Suite 201, Brooklyn, NY 11211

Local Media Outlets

1. New York Daily News
   PO Box 7180, New York, NY 10008

2. Spectrum News 1
   75 Ninth Avenue, New York, NY 11211

3. Greenpoint Gazette
   597 Manhattan Ave, Brooklyn, NY 11201

4. The Brooklyn Eagle
   195 Montague Street, Suite 1414, Brooklyn, NY 11222

5. Hoy Nueva York
   Impremedia, 41 Flatbush Avenue 1st Floor, Brooklyn, NY 11217

6. El Diario NY
   Impremedia, 41 Flatbush Avenue 1st Floor, Brooklyn, NY 11217

7. The Greenline (North Brooklyn)
   Lori Ann Doyon
   718-388-5454 ext. 167
   Ldoyon@stnicksalliance.org
   https://northbrooklynnews.com/

8. Nowy Dziennik (Polish Daily News)
   Outwater Media Group LLC
   10 Schindler Road, Clark, NJ 07066

9. The Brooklyn Papers
   1 Metrotech Center, Brooklyn, NY 11201

10. Greenpointers
    c/o PencilWorks
    61 Greenpoint Ave, 6th Fl, Brooklyn, NY 11222
    https://greenpointers.com/contact-us/
    editor@greenpointers.com

School and Daycare Facilities

1. John Ericsson Middle School 126
   President/Executive Director/Principal
   https://ms126.org/
   424 Leonard Street, Brooklyn, NY 11222
   (718) 782-2527

2. Northside Charter High School
   President/Executive Director/Principal
   424 Leonard Street, Brooklyn, NY 11222
   https://0jb.efa.myftpupload.com/
   (347) 390-1273

3. A-Tech High School (Automotive High School)
   President/Executive Director/Principal
   https://atechhs.com/contact-2/
   50 Bedford Avenue, Brooklyn, New York 11222
   (718) 218-9301, (718) 218-2100

4. ABC Child Center
   President/Executive Director/Principal
   109 Nassau Avenue, Brooklyn, NY 11222
   (718) 389-9004

5. P.S. 031 Samuel F. Dupont
   President/Executive Director/Principal
   https://insideschools.org/school/14K031
   75 Meserole Ave, Brooklyn, NY 11222
   (718) 383-8998

6. Ardor School
   President/Executive Director/Principal
   https://www.ardorschool.com/
   29 Nassau Avenue, Brooklyn, NY 11222
   (718) 576-3726

7. P.S. 132 The Conselyea School
   President/Executive Director/Principal
   https://www.usnews.com/education/k12/new-york/the-ps-132-conselyea-school-221476
   320 Manhattan Ave, Brooklyn, NY 11211
   (718) 599-7301

8. Preschool atelier de la Casa Montessori French Spanish
   President/Executive Director/Principal
   https://atelierdelacasa.com/greenpoint
   66 Nassau Ave, Brooklyn, NY 11222
   (646)945-4969

9. Learning Steps Daycare and Preschool
   President/Executive Director/Principal
   https://learningstepswilliamsburg.com/
   544 Union Avenue, Williamsburg, NY 11211
   (718) 388-9134

10. French for Little Ones
    President/Executive Director/Principal
    https://www.frenchforlittleones.com/
    33 Nassau Ave, Brooklyn, NY 11222
    (347) 830-0114

11. The Learning Experience - Brooklyn- Greenpoint
    President/Executive Director/Principal
    https://thelearningexperience.com/centers/brooklyn-greenpoint/
    1000 Lorimer St, Brooklyn, NY 11222
    (888) 290-6366

12. The Mount Carmel Early Childhood Center
    President/Executive Director/Principal
    https://themountcarmelecc.org/
    10 Withers Street, Brooklyn, NY 11211
    (917) 993-1330

13. St. Stanislaus Kostka School
    President/Executive Director/Principal
    https://ststansacademy.org/contact
    12 Newel Street, Brooklyn NY 11222
    (929) 205-1240

Community, Civic, Religious and Other Environmental Organizations

1. Consolidated Edison Corporate Affairs
   Johari Jenkins-Taylor
   Brooklyn Regional & Community Affairs Manager
   30 Flatbush Avenue, Brooklyn, NY 11217

2. 94th NYPD Police Precinct
   Elizabeth Hulsen
   President
   100 Meserole Avenue, Brooklyn, NY, 11222

3. FDNY – Engine 229/Ladder 146
   75 Richardson Street, Brooklyn, NY 11211

4. St. Stanislaus Kostka Church
   https://ststanskostka.org/
   607 Humboldt St, Brooklyn, NY 11222

5. St. Cecilia's Roman Catholic Church
   84 Herbert St, Brooklyn, NY 11222

6. Shrine Church of Our Lady of Mount Carmel
   275 N 8th St, Brooklyn, NY 11211

7. San Damiano Mission
   85 N 15th St, Brooklyn, NY 11222

8. First Polish Baptist Church
   55 Sutton St, Brooklyn, NY 11222

9. Polish National Catholic Church Of the Resurrection
   https://www.resurrectionpncc.com/
   678 Leonard St, Brooklyn, NY 11222

10. The River Revival NYC
    112 Meserole Ave, Brooklyn, NY 11222

11. Kingdom Hall of Jehovah's Witnesses
    278 Driggs Ave, Brooklyn, NY 11222

12. Transfiguration of Our Lord Russian Orthodox Cathedral
    228 N 12th St, Brooklyn, NY 11211

13. Our Lady of the Snow
    410 Graham Ave, Brooklyn, NY 11211

14. Greenpoint Islamic Center
    602 Leonard St, Brooklyn, NY 11222

15. North Brooklyn Development Corp
    148 Huron St # Mgmt, Brooklyn, NY 11222

16. North Brooklyn Parks Alliance
    Katie Denny Horowitz – Executive Director
    katie@nbkparks.org
    Bushwick Inlet Park Building
    86 Kent Avenue, Brooklyn, NY 11249
    https://nbkparks.org/

17. Williamsburg Greenpoint Preservation Alliance
    http://www.wgpa.us/
    wpa@wgpa.us
    302 Bedford Avenue, #113, Brooklyn, NY 11211

18. North Brooklyn Neighbors
    Lael Goodman
    Director of Environmental Programs
    contact@northbrooklynneighbors.org
    240 Kent Avenue, Brooklyn, NY 11249
    https://northbrooklynneighbors.org/
    (718) 384-2248

19. Town Square
    Susan Anderson
    Executive Director
    https://www.townsquarebk.org/
    hello@townsquarebk.org
    (347)559-1410

Appendix C - Site Location Map



GENERAL NOTES

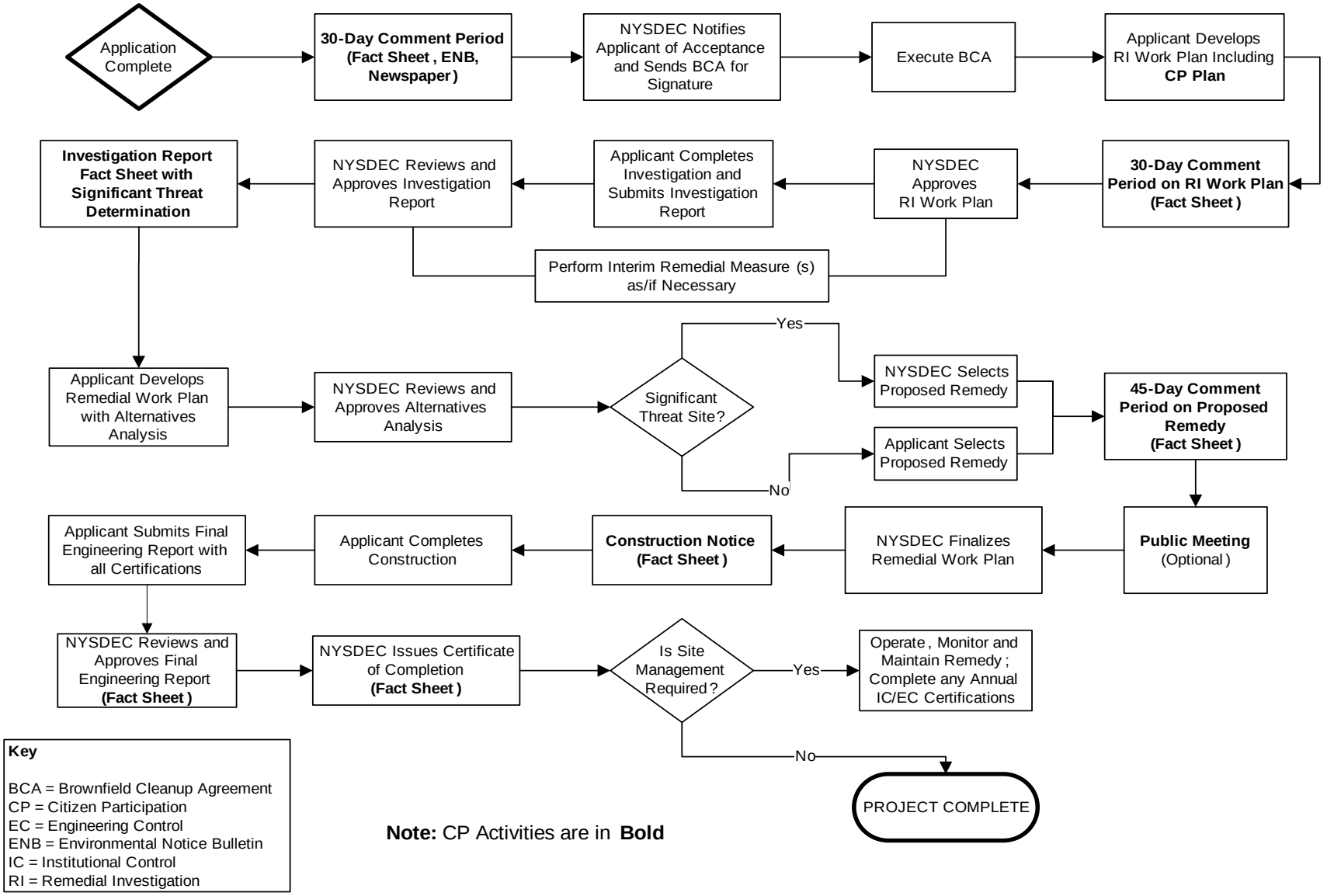
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LEGEND

APPROXIMATE SITE BOUNDARY

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Appendix D– Brownfield Cleanup Program Process



Note: CP Activities are in **Bold**

Division of Environmental Remediation

Remedial Programs
Scoping Sheet for Major Issues of Public Concern

Instructions

This Scoping Sheet assesses major issues of public concern; impacts of the site and its remedial program on the community; community interest in the site; information the public needs; and information needed from the public.

The information generated helps to plan and conduct required citizen participation (CP) activities, and to choose and conduct additional CP activities, if appropriate. The scoping sheet can be revisited and updated as appropriate during the site's remedial process to more effectively implement the site's CP program.

Note: Use the information as an aid to prepare and update the Major Issues of Public Concern section of the site CP Plan.

General Instructions

- When to prepare: During preparation of the CP Plan for the site. It can be revisited and updated anytime during the site remedial process.
- Fill in site name and other information as appropriate.
- The Scoping Sheet may be prepared by DEC or a remedial party, but must be reviewed and approved by the DER site project manager or his/her designee.

Instructions for Numbered Parts

Consider the bulleted issues and questions below and any others that may be unique or appropriate to the site and the community to help complete the five Parts of this Scoping Sheet. Identify the issue stakeholders in Parts 1 through 3 and adjust the site's contact list accordingly.

Part 1. List Major Issues of Public Concern and Information the Community Wants.

- Is our health being impacted? (e.g. Are there problems with our drinking water or air? Are you going to test our water, yards, sumps, basements? Have health studies been done?)
- There are odors in the neighborhood. Do they come from the site and are they hazardous?
- Are there restrictions on what we may do (e.g. Can our children play outside? Can we garden? Must we avoid certain areas? Can we recreate (fish, hunt, hike, etc. on/around the site?)
- How and when were the site's contamination problems created?
- What contaminants are of concern and why? How will you look for contamination and find out where it is going? What is the schedule for doing that?
- The site is affecting our property values!
- How can we get more information (e.g. who are the project contacts?)
- How will we be kept informed and involved during the site remedial process?
- Who has been contacted in the community about site remedial activities?
- What has been done to this point? What happens next and when?
- The site is going to be cleaned up for restricted use. What does that mean? We don't want redevelopment on a "dirty" site.

Part 2. List Important Information Needed From the Community, if Applicable.

- Can the community supplement knowledge about past/current uses of the site?
- Does the community have knowledge that the site may be significantly impacting nearby people, properties, natural resources, etc.?
- Are activities currently taking place at the site or at nearby properties that may need to be restricted?
- Who may be interested or affected by the site that has not yet been identified?
- Are there unique community characteristics that could affect how information is exchanged?
- Does the community and/or individuals have any concerns they want monitored?
- Does the community have information about other sources in the area for the contamination?

Part 3. List Major Issues and Information That Need to be Communicated to the Community.

- Specific site investigation or remediation activities currently underway, or that will begin in the near future.
- The process and general schedule to investigate, remediate and, if applicable, redevelop the site.
- Current understanding about the site contamination and effects, if any, on public health and the environment.
- Site impacts on the community and any restrictions on the public's use of the site and/or nearby properties.
- Planned CP activities, their schedule, and how they relate to the site's remedial process.
- Ways for the community to obtain/provide information (document repositories, contacts, etc.).

Part 4. Community Characteristics

a. - e. Obtain information from local officials, property owners and residents, site reports, site visits, "windshield surveys," other staff, etc.

f. Has the affected community experienced other **significant** present or past environmental problems unrelated to this site? Such experiences could significantly affect public concerns and perspectives about the site; how the community will relate to project staff; the image and credibility of project staff within the community; and the ways in which project staff communicate with the community.

g. In its remedial programs, DER seeks to integrate, and be consistent with, environmental justice principles set forth in *DEC Commissioner Policy 29 on Environmental Justice* and *DER 23 – Citizen Participation Handbook for Remedial Programs*. Is the site and/or affected community wholly or partly in an Environmental Justice (EJ) Area? Use the Search feature on DEC's public web site for "environmental justice". DEC's EJ pages define an EJ area, and link to county maps to help determine if the site and/or community are in an EJ area.

h. Consider factors such as:

- Is English the primary language of the affected community? If not, provisions should be considered regarding public outreach activities such as fact sheets, meetings, door-to-door visits and other activities to ensure their effectiveness.
- The age demographics of the community. For example, is there a significant number of senior citizens in the community? It may be difficult for some to attend public meetings and use document repositories. This may suggest adopting more direct interaction with the community with activities such as door-to-door visits, additional fact sheets, visits to community and church centers, nursing homes, etc.
- How do people travel about the community? Would most people drive to a public meeting or document repository? Is there adequate public transportation?

Part 5. Affected/Interested Public.

Individuals and organizations who need or want information and input can change during the site's remedial process. This need is influenced by real, potential, or perceived impacts of the site or the remedial process. Some people may want information and input throughout the remedial process. Others may participate only during specific remedial stages, or may only be interested in particular issues.

It is important to revisit this question when reviewing this scoping sheet. Knowing who is interested in the site – and the issues that are important to them – will help to select and conduct appropriate outreach activities, and to identify their timing and the information to be exchanged.

Check all affected/interested parties that apply to the site. **Note: Adjust the site's contact list appropriately.** The following are some ways to identify affected/interested parties:

- Tax maps of adjacent property owners
- Attendees at public meetings
- Telephone discussions
- Letters and e-mails to DER, the remedial party, and other agencies
- Political jurisdictions and boundaries
- Media coverage
- Current/proposed uses of site and/or nearby properties (recreational, commercial, industrial)
- Discussions with community organizations: grass roots organizations, local environmental groups, environmental justice groups, churches, and neighborhood advisory groups

Division of Environmental Remediation

Remedial Programs
Scoping Sheet for Major Issues of Public Concern (see instructions)

Site Name: 55 Eckford St LLC

Site Number: C224168

Site Address and County: 55 Eckford Street, Brooklyn NY, 11222

Remedial Party(ies): 55 Eckford St, LLC

Note: For Parts 1. – 3. the individuals, groups, organizations, businesses and units of government identified should be added to the site contact list as appropriate.

Part 1. List major issues of public concern and information the community wants. Identify individuals, groups, organizations, businesses and/or units of government related to the issue(s) and information needs. **Use this information as an aid to prepare or update the Major Issues of Public Concern section of the site Citizen Participation Plan.**

Contamination identified from the previous investigations include Volatile Organic Compounds (VOCs), Semi-VOCs, and metals in groundwater and VOCs in soil vapor.

How were these issues and/or information needs identified?

NYSDEC Community Air Monitoring
Plan (CAMP) will be in place for the proposal remedial activities

Part 2. List important information needed **from** the community, if applicable. Identify individuals, groups, organizations, businesses and/or units of government related to the information needed.

Help to identify interested parties

How were these information needs identified?

Reaching out to neighbors to find interested parties

Part 3. List major issues and information that need to be communicated **to** the community. Identify individuals, groups, organizations, businesses and/or units of government related to the issue(s) and/or information.

List of organizations included in outreach list will be notified of all work, schedule, etc.

How were these issues and/or information needs identified?

Will send out fact sheets and keep the community board and library up to date.

Part 4. Identify the following characteristics of the affected/interested community. This knowledge will help to identify and understand issues and information important to the community, and ways to effectively develop and implement the site citizen participation plan (mark all that apply):

a. Land use/zoning at and around site:
☒ **Residential** ☐ **Agricultural** ☐ **Recreational** ☒ **Commercial** ☐ **Industrial**

b. Residential type around site:
☒ **Urban** ☐ **Suburban** ☐ **Rural**

c. Population density around site:
☒ **High** ☐ **Medium** ☐ **Low**

d. Water supply of nearby residences:
☒ **Public** ☐ **Private Wells** ☐ **Mixed**

e. Is part or all of the water supply of the affected/interested community currently impacted by the site?
☐ **Yes** ☒ **No**

Provide details if appropriate:
Click here to enter text.

f. Other environmental issues significantly impacted/impacting the affected community?
☐ **Yes** ☒ **No**

Provide details if appropriate:
Click here to enter text.

g. Is the site and/or the affected/interested community wholly or partly in an Environmental Justice Area?
☐ **Yes** ☒ **No**

h. Special considerations:
☒ **Language** ☐ **Age** ☐ **Transportation** ☐ **Other**

Explain any marked categories in **h:**
Spanish and polish translations will be available

Part 5. The site contact list must include, at a minimum, the individuals, groups, and organizations identified in Part 2. of the Citizen Participation Plan under 'Site Contact List'. Are *other* individuals, groups, organizations, and units of government affected by, or interested in, the site, or its remedial program? (Mark and identify all that apply, then adjust the site contact list as appropriate.)

☒ **Non-Adjacent Residents/Property Owners:** Click here to enter text.

☒ **Local Officials:** Click here to enter text.

☒ **Media:** Click here to enter text.

☒ **Business/Commercial Interests:** Click here to enter text.

☒ **Labor Group(s)/Employees:** Click here to enter text.

☒ **Indian Nation:** Click here to enter text.

☒ **Citizens/Community Group(s):** Click here to enter text.

☒ **Environmental Justice Group(s):** Click here to enter text.

☒ **Environmental Group(s):** Click here to enter text.

☒ **Civic Group(s):** Click here to enter text.

☒ **Recreational Group(s):** Click here to enter text.

☒ **Other(s):** Click here to enter text.

Prepared/Updated By: Victoria Whelan **Date:** 11.20.24

Reviewed/Approved By: Thomas V. Panzone **Date:** 9-12-24

APPENDIX M RESUMES OF KEY PERSONNEL

Karen G. Tyll, P.E.

President

Fields of Competence

Ms. Tyll applies her knowledge of civil and environmental engineering to remediation design, stormwater management, forensic investigations, environmental compliance, and environmental permitting/complaince. Ms. Tyll's background is an interesting mix of remedial design, site grading, drainage and utility design, environmental investigations, forensic engineering, and permitting/ regulatory compliance.

Experience Summary

Twenty five years of experience: President with Tyll Engineering and Consulting PC, Senior Engineer with J.R. Holzmacher, PE LLC, Senior Engineer with Roux Associates, Inc./Remedial Engineering, P.C.; Senior and Project Engineer at P.W. Grosser Consulting; Project Engineer at Vollmuth & Brush; Project Engineer at Anderson & Associates.

Credentials

B.S.C.E., Civil Engineering with Environmental Option, Virginia Tech
Professional Engineer: New York (079520), North Carolina (044315), Florida (81892)
OSHA Health & Safety 40 Hour Training and 8 hour annual refresher.
NYC OER Turbo Training Gold/Bronze Certification
NYC OER Brownfield Incentive Grant Qualified Vendor

Professional Affiliations

American Society of Civil Engineers
National Society of Professional Engineers
Society of Women Engineers, Section Treasurer 1999-2002
Society of Women Engineers, Section President, 2002-2005
Engineers Joint Committee of Long Island, Rube Goldberg Contest Chair

Key Projects

Remediation:

- Providing professional engineering services to assist other environmental consulting firms' clients and directly to land owners to fulfill needs for PE involvement with NYSDEC, NYCOER, and NYCDEP driven projects.
- Completed inspection of Vapor Barrier system (VBS) design and inspection of the installation and Sub-slab Depressurization System (SSDS) design and inspection. Train and troubleshoot the installation of VBS with Contractors.
- Completed outdoor, ambient, and sub-slab air sampling for office building with passive SSDS in Melville, NY. Completed design to turn passive system to active system, completed necessary reports, and supported consent order issues.
- Project Manager to complete investigation and remediation at historic aircraft part facility in New Jersey. Oversaw staff that completed multiple, large sampling events, test pits, and reporting to the NJDEP.
- Project Manager on multiple remediation sites requiring investigations, tank removals, remedial action activities, compliance reporting, and monitoring.

Stormwater Experience:

- Senior Engineer to design stormwater collection structures during design upgrades to 10 acres of an existing storm drain system at a former fuel terminal in Buffalo, New York. Responsible for laying out system, selecting sizes based upon angles and minimum distances between pipes.
- Senior Engineer to design an alternative Part 360 cap for an industrial landfill near Albany, New York. The cap incorporated lined swales and ponds, trees planted for phytoremediation purposes. An education center was also designed for the Site and was responsible for designing a cistern system that would capture both rainwater and treated effluent from a groundwater treatment system.
- Project Engineer to complete a computer hydraulic model and evaluation of a stormwater collection system at a national laboratory facility in Upton, NY. The storm drain study included multiple modeling and design scenarios to evaluate flood reduction. Potential solutions included the installation of additional dry wells and the removal of paved parking areas to increase infiltration.
- Senior Engineer to design a second overflow weir which would help to regulate the height of water in a stormwater wetland, to provide an additional outfall to prevent flooding, and to revegetate a wetlands area in the receiving creek. This project involved the evaluation of the 12 square mile watershed area that contributed to the stormwater wetland, the design of the weir structure, apron, and spillway to route the water between two bridge abutments, and the

analysis to determine the height of water over each of the weirs during various storm events.

- Senior Engineer to complete multiple smaller investigations regarding stormwater management at residential, commercial, and industrial facilities.
- Senior Engineer to complete multiple Stormwater Pollution Prevention Plans (SWPPP) and their required inspections. Completed multiple State Pollution Discharge Elimination System (SPDES) permit packages for new systems and modifications.

Forensic Engineering/Expert Witness:

- Engineer to complete over two hundred post-storm forensic investigations from 2011 to the present to assist insurance companies in assigning coverage to Insureds. Responsible for determining cause and origin of damage and wind vs. water determinations in flooding situations.
- Engineer to complete multiple residential and commercial forensic investigations not related to storms. Claim matters included stormwater drainage from off-site sources causing flooding, wood floor damage, pipe breaks, and pool failure (both gunite and vinyl lined).
- Have been involved with multiple cases as expert witness where the subject of the claims are SuperStorm Sandy, environmental contamination, or personal injury related.

Permitting/Compliance:

- Project Manager for providing engineering and environmental services to four machining facilities that specialize in the manufacturing of parts for aircraft. Responsible for completing Suffolk County Department of Health Services toxic and hazardous waste storage permits, assisting with RCRA Hazardous Material storage issues and reporting, preparing and participating in SCDHS variance hearing, strategizing with client to come up with best solutions for the facility permits, completing Emergency Action Plan and SPCC Plans, providing training for employees as required by the SPCC Plan, revising the SPCC plans when required due to facility changes or ownership changes, assisting in with follow up tasks from in house third party audits, and assisting facility environmental personnel with day-to-day issues.
- Interim Environmental Health and Safety (EHS) Officer for large laboratory/R&D facility undergoing large construction project. Acted as EHS Officer by being onsite two days a week and being available by phone and email, when not on-site. Was responsible for maintaining compliance with local, state and federal compliance and reporting requirements, reviewing chemicals, attending construction meetings, completing Stormwater Pollution Prevention Plan (SWPPP) inspections, completing a State Pollution Discharge Elimination System (SPDES) modification, participating in an ISO 14001 audit, interfaced with laboratory and facility personnel to complete internal projects, completed bi-weekly construction safety inspections, and provided facility with strategy regarding compliance needs for both long term and short term. Completed SPCC Plan revisions and training for facility.
- Senior Engineer to complete the facility's air facility registration form and accompanying data for their Hauppauge, NY location. Responsibilities included completing a site visit, preparing a spreadsheet to compute the facility emissions, preparing a site plan of the facility including the emissions points, interfacing with the client, facility contact, and regulator.
- Senior Engineer to complete state facility permit modification for bulk fuel supplier in Westchester, NY. Responsibilities included devising methodology for determining VOC emissions previously used in permit due to former gasoline operations, preparing complex spreadsheet for multiple alternatives, reviewing the current permit to verify that all current conditions are beneficial to the Client, provided professional engineering requirements for the submittal, coordinating with NYSDEC case manager and prepare responses to comments from NYSDEC.
- Environmental Compliance Audit team member for numerous healthcare facilities in New York. Coordinated with the facilities' environmental staff to develop audit scope of work and reporting format. Assessed facilities' compliance with federal, state and local regulations including CAA, CWA, EPCRA, RCRA, SARA Title III, and TSCA. A specialized software tool, Dakota Auditor, was utilized to help complete the audits and to stay abreast of the changing regulations.
- Project Manager for the completion of the Emergency Planning and Community Right-to-Know Act's (EPCRA) Toxic Release Inventory (TRI) reporting for nine, airport-based, aviation-

fueling facilities as required by the USEPA for the reporting years 1998 - 2001. The project included the identification and quantification of chemical and petroleum usage at each facility, a review of the facility's MSDS sheets, and the determination of the threshold levels of each of the EPCRA Section 313-listed chemicals found in the fuel. Tank and fugitive emissions were calculated using the tank and fueling system information supplied by the client. Stormwater discharge quantities were calculated and reported using analytical data. The resulting information was compiled, and the necessary forms were completed.

- Project Manager to complete SPCC Plan for individual Manhasset hospital in major healthcare system on Long Island. Completed original SPCC plan in 2006 and then was asked to complete revision in 2018.
- Project Engineer to complete a Facility Response Plan (FRP) to be submitted and approved by the USEPA for an aviation fueling facility in San Juan, Puerto Rico. The FRP preparation included a site visit to collect site data, review of the applicable regulations, and preparation of site, evacuation, and drainage drawings.
- Senior Engineer to complete the joint permit application and associated documents for a maintenance dredging project in a small incorporated village on the north fork of Long Island. Tasks included digitally determining dredging volumes, preparing sediment sampling plan, preparing site drawings, preparation of application and associated documents, and coordination with agencies, Owners, and contractors.

Project Management

- Project Manager for a comprehensive audit program for an airport services company with locations in the United States and Canada. The audits covered environmental, health and safety aspects of the operations (fueling, maintenance, food services). Responsibilities included interfacing with the client and attorneys, devising an audit report template, coordinating team deployments, review audit findings and audit reports, and supported follow up work to resolve findings.
- Senior Engineer to oversee installation of a sub-slab depressurization system on a former manufacturing facility in Hicksville, New York. Responsible for overseeing the survey completed before the initial indoor, outdoor and sub-slab testing.
- Project Manager for the design and construction management of a new filtration system for the jet fuel to be stored at the bulk fuel storage facility at a NYC airport. The project included preparation of detailed design drawings and specifications, which included piping schematics, system layout plans, concrete design, and system details in accordance with NYC building code and the Port Authority of New York and New Jersey's requirements.

Design Experience:

- Senior Engineer responsible for the design of retention pond to be constructed inside former industrial lagoons to store stormwater from the former industrial facility near Albany, New York. The project included the optimization of the design (varying shape, slopes, and depths) to provide the necessary volume of storage for a 25 year 24 hour storm, overseeing the preparation of the specifications, coordinating with the landscape architects, and completing volume calculations to determine the different quantities of soil needed for the bid documents.
- Senior Engineer for the design of stormwater and sanitary sewers at and around a former fuel terminal in Brooklyn, New York. Responsible for laying out the existing utilities confirming their locations using over a hundred paper maps and laying out the proposed piping as per New York City Department of Environmental Protection
- Project Engineer responsible for completing the site and utility design for the first phase of athletic fields, the associated parking lots, and access road for a private school being built on the East End of Long Island. The project included the coordination with the architects, contractors, the owner's representatives, and local governmental agencies. Responsibilities also included the design and planning of the associated traffic controls, water supply, drainage, and sanitary systems.



Victoria Whelan, PG, QEP

Associate Principal

Summary of Experience

Ms. Whelan is a Certified Professional Geologist and Qualified Environmental Professional with nearly 20 years of experience in environmental assessment. She has performed and managed field investigations and remedial activities at numerous sites on Long Island and throughout the Metro New York area. She has skillfully conducted all aspects of environmental investigations and remediation. Her primary focus is to accurately assess, investigate, remediate, and maintain environmental integrity for real estate transactions and the redevelopment of brownfield or similarly environmental impaired properties.

She manages all aspects of projects with the New York State Department of Environmental Conservation (NYSDEC) Brownfield (BCP) and Voluntary Cleanup Program (VCP), the New York City Office of Environmental Remediation (NYC OER), the New York City Department of Environmental Protection (NYCDEP) and the United States Environmental Protection Agency (USEPA).

Education

B.S., Geology, State University of New York at Oswego, 2001-2005; James Cook University 2004-2005

Licenses & Registrations

Registered Professional Geologist – 2017, New York, # 000318

Certified Professional Geologist, New York State

Qualified Environmental Professional, Institute of Professional Environmental Practice

Areas of Specialization

- Geology
- NYCOER VCP
- NYSBCP
- Environmental Assessments
- Environmental Site Investigation and Remediation
- UST Closures/Assessments
- Regulatory Compliance Planning and Permitting

Relevant Project Experience

NYCOER PROJECTS

Project Manager, Chester Street Brooklyn Supportive Housing Project, Brooklyn, New York. Managed all aspects of environmental project from due diligence investigation services, Phase I Environmental Site Assessment, and Phase II Environmental Site Investigation services to assisting client through NYCOER Voluntary Cleanup Program (VCP). Submitted and received approval for remedial investigation work plan, remedial investigation report, remedial action work plan, and construction health and safety plan, including a community air monitoring program. Managed removal of 12 buried aboveground storage tanks (ASTs). Managed waste characterization study to evaluate various soil types for disposal. Cost effectively utilized the NYC Clean Soil Bank as a disposal site and backfill source. Secured grant funding after receiving Notice of Satisfaction (NOS) for a Track 1 Cleanup.

Environmental Project Manager, Manhattan Avenue, Affordable Housing Project, Brookyn, New York. Member of team that helped Ownership develop a new seven-story residential building on former factory site. Proposed development covered nearly 8,000 square feet of the property, including affordable housing with amenities such as a rear yard, recreation space, and children's play place. Site's contaminants included heavy metals and semi-volatile organic compounds. Hazardous and non-hazardous waste and non-hazardous was removed from the property as part of remediation efforts to address source material. Goal Soil Cleanup Objectives (SCOs) could not be achieved after remediation due to shallow groundwater. A track 4 Cleanup was achieved on this site by installing a composite cover inclusive of a vapor barrier. The project was completed on-time and on budget for the client to receive a NOS.

Project Manager, Bronx Community Development Project, Bronx, New York. Provided environmental services as client purchased, investigated, and remediated site for 81-unit community development, parking area and recreational area. The project is enrolled in NYC OER's VCP. Completed a Phase I ESA, VEA, Phase II ESI, RAWP and RAR.

Victoria Whelan, PG, QEP

Associate Principal

During remediation perimeter air monitoring was performed as per the CAMP. Designed oversaw removal of contaminated soil and installation of chemical vapor barrier during redevelopment.

NYSDEC BROWNFIELD PROJECTS

Principal-in-Charge, Former Auto Wreckers Site, Bronx, New York. Project is in the NYSDEC BCP with a planned Track 1 Cleanup. The site was successfully rezoned, and the proposed project will include 212 affordable housing apartments, 22,000 square feet (sf) of retail space, and parking. As remedial excavation was conducted it was quickly determined that the initial remedial plan would not satisfy the requirements for the project. As PIC, worked with the ownership, architect, accountant and construction team to steer the project towards new remedial goals without impacting project schedule. Remedial elements include a large-scale groundwater treatment system to address petroleum impacted groundwater and excavation of all source material ranging from depths of 2 to 15 feet below grade.

Environmental Project Manager, Confidential Residential Development, Bronx, New York. The 1.5-acre property was enrolled in the NYSDEC Brownfield Cleanup Program. Remedial components included excavation of soil exceeding the Site-specific Track 4 SCOs ranging from 2-22 feet, construction and maintenance of a composite cover system, removal of multiple underground storage tanks (USTs) and injection of Regenox and ORC Advanced (ISCO treatment) into the groundwater. Remediation also involved implementation of a CAMP. The site building was equipped with a vapor barrier and an active sub-slab depressurization system (SSDS). Throughout the process, assisted with design, maintaining a schedule and development of a Site Management Plan (SMP) and Final Engineering Report (FER).

Principal-in-Charge, Clay Street, NYCOER to NYSBCP Site, Brooklyn New York. Project consists of three parcels that share a property boundary and is in an area known to have heavy contamination. As the Principal-in-Charge, guided a team including ownership, developer and architect from the NYCOER VCP to the NYSDEC BCP based on contamination identified during the initial Remedial Investigation. Strategically conducted additional investigation to get multiple parts of the project eligible for the program and to maximize the tax credits available. Development will include a much-needed community facility in the way of a medical center, an indoor children's play center, and residential house.

USEPA PROJECTS

Project Manager, Remediation System, Confidential Client, Hicksville, New York. Managed this USEPA Superfund site for nearly 15 years through the operations and maintenance phase including a long-term groundwater treatment program, off-site soil vapor intrusion evaluations, and a large-scale groundwater sampling program. Contaminants of concern included PCBs and volatile organic compounds (VOCs). The site was complicated by multiple overlapping plumes of groundwater contamination. Collaborated with multiple property owners and their consultants to successfully drive the remediation.

NYS SPILLS PROJECTS

Project Manager, Spill Investigation and Remediation Services, Hempstead, New York. Performed a Phase I Environmental Site Assessment (ESA) that identified a gas station on the Site from 1940 through 1962, until redevelopment in the 1970s as a current commercial building. A subsequent Phase II Environmental Site Investigation (ESI) identified petroleum impacted soils, groundwater, and the presence of light non-aqueous phase liquids (LNAPL). A NYSDEC Spill Case was opened, and a Spill Investigation Work Plan was approved. Managed the spill investigation activities which included a work plan of Vacuum Enhanced Fluid Recovery (VEFR) events to evaluate feasibility of collecting residual petroleum contamination from beneath the Site building using VEFR. As part of long-term remedial plan, Monitored Natural Attenuation (MNA) and biodegradation to assess MNA is viable remedial strategy for the Site after the remediation of the LNAPL.

Victoria Whelan, PG, QEP

Associate Principal

Certifications/Training

- 40-Hour OSHA HAZWOPER Training and 8-Hour Refreshers
- 10-Hour OSHA Construction Safety Course
- First Aid/CPR Training
- LIRR Roadway Worker Training required by 49 CFR Part 214 Subpart C
- ARC Flash Training
- Confined Space Entry

Affiliations/Memberships

- Board Member - New York City Brownfield Partnership (NYCBP) 2022- present
- Committee Chair - Small Business Committee (NYCBP) 2022- present
- Member, New York State Council of Professional Geologists (NYSCPG)
- Member, American Council of Engineering Companies
- Member, Long Island Association of Professional Geologist

Honors & Awards

- Big Apple Brownfield Award - Hour Apartment House III
- Supportive Living Affordable Housing Award - Putnam Court
- Who's Who in Green Award - Atlantic Terrace



Ronald A. Lombino II

Project Manager

Summary of Experience

Mr. Lombino is a Project Manager with more than 13 years of experience in the professional environmental management and consulting field. His expertise includes designing and conducting remedial investigations and environmental site assessments, managing remedial and corrective actions at various sites throughout New York, and supervising field programs that involve geologic and hydrogeologic testing, geophysical investigations, remediation, and demolition oversight.

Relevant Project Experience

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) BROWNFIELD CLEANUP PROGRAM (BCP)

Project Manager, BCP Site, Roslyn, New York. Project Manager for this former dry cleaner site, through the NYSDEC BCP, due to elevated levels of chlorinated solvents in soil and soil vapor. Managed all aspects of the project from inception (Due Diligence), entry into the BCP, and through receiving the Certificate of Completion (COC).

Project Manager, BCP Site, Bay Shore, New York. Project Manager for this former dry cleaner site, through the NYSDEC BCP, due to elevated levels of chlorinated solvents in groundwater and soil vapor. Managed all aspects of the project from entry into the BCP through development of the Remedial Action Work Plan (RAWP).

Project Manager, BCP Site, Mt. Vernon, New York. Project Manager for this former commercial site, through the BCP, due to historic fill impacts in soil. Managed all aspects of the project from inception (Due Diligence), entry into the BCP and through development of the RAWP.

Project Manager, BCP Site, Bronx, New York. Project Manager for this former commercial and industrial site, through the BCP, due to historic fill impacts and petroleum impacts in soil and groundwater. Managed all aspects of the project from inception (Due Diligence), entry into the BCP and through implementation of the Remedial Investigation Work Plan (RIWP).

Project Manager, BCP Site, Cortlandt, New York. Project Manager for this former commercial site, through the BCP, due to historic fill impacts and petroleum impacts in soil and groundwater. Managed all aspects of the project from inception (Due Diligence) and entry into the BCP.

Project Manager, BCP Site, White Plains, New York. Project Manager for this former golf course and country club site, through the BCP, due to metals and pesticide impacts in soil. Managed all aspects of the project from entry into the BCP through implementation of the RIWP.

Field Manager, Multiple BCP Sites, New York. Field Manager for multiple BCP sites across NYC and Long Island. Conducted complex Remedial Investigations and oversaw complex remedial actions.

Education

B.S., Geology, Hofstra University, 2012

Licenses & Registrations

Transportation Worker Identification Credential (TWIC)

Certifications/Training

- First Aid and CPR
- USDOT/IATA Training for the Shipping and Transportation of Hazardous Materials
- OSHA 10-hr Construction Safety & Health
- OSHA 30-hr Construction Safety & Health
- OSHA 40-hr Hazardous Waste Operations
- OSHA 8-hr Fall Protection
- OSHA 2-hour Drug & Alcohol Awareness

Areas of Specialization

- Environmental Site Investigation and Remediation
- Phase I/ Phase II Environmental Site Assessments
- Soil/ Groundwater Monitoring & Sampling
- UST Closures/Assessments
- Drilling Oversight
- NYCOER E-designation/VCP
- NYSDEC BCP
- Management of Remedial Action
- Operation Monitoring & Maintenance (OM&M) of Remedial Systems.
- Site Characterization and Remediation

Ronald A. Lombino II

Project Manager

NEW YORK CITY OFFICE OF ENVIRONMENTAL REMEDIATION (NYCOER) E-DESIGNATION/VOLUNTARY CLEANUP PROGRAM (VCP)

Project Manager, Halletts Point, Queens. Project Manager for the development of an affordable housing building. The project involved managing the construction through NYCOER VCP.

Project Manager, The Jane Hotel, Queens. Project Manager for the development of a hotel building. The project involved managing the development through NYCOER E-Designation and implementing a Soil/Materials Management Plan through receiving a Notice of No Objection.

Project Manager, Greenpoint Hospital Shelter, Brooklyn. Project Manager for the redevelopment of a vacant city-owned building into a 200-bed shelter project through the NYCOER VCP. The project involved managing the construction and soil disposal during redevelopment activities.

DUE DILIGENCE SUPPORT

Phase I Environmental Site Assessments (Multiple Sites). Oversaw the preparation of numerous ASTM compliant Phase I Environmental Site Assessments including due diligence evaluations for private developers on sites ranging in size from residential properties to large warehouses and former manufacturing facilities throughout New York City and Long Island.

Phase II Environmental Site Assessments (Multiple Sites). Performed and managed numerous ASTM compliant Phase II Environmental Site Assessments for due diligence purposes. The Phase II Environmental Site Assessments included the sampling, analysis and reporting of soil, groundwater, and soil vapor to assess potential contamination and develop conceptual site models prior to client acquisition, divesture, or remediation.

ENVIRONMENTAL SITE CHARACTERIZATION, INVESTIGATION, AND REMEDIAL ACTION

Project Manager, Former Fuel Terminal, Brooklyn. Project Manager for a 7.3-acre former fuel terminal site in Brooklyn, New York. The project included a large-scale environmental site characterization of soil and groundwater across the site as well as litigation support.

Project Manager, Former Refinery, Brooklyn. Project Manager for the closure of a large in-ground oil-water separator at a site in Brooklyn, New York. The project included work plan development, bid preparation, subcontractor management, soil disposal tracking and coordination, weekly client updates, and budget tracking. A closure report was prepared and submitted to NYSDEC for approval.

Field Manager, Former Refinery, Brooklyn. Field Manager addressing the largest subsurface free-product plume in North America at a former petroleum refinery and terminal in Brooklyn, New York. Responsibilities include construction oversight of subcontractors, implementation of site-specific health and safety plan. Tasks include implementation of cone penetrometer testing (CPT) soil boring programs, installation of single and double cased monitoring wells using Sonic and Hollow Stem Auger drilling methods, classification of soil lithology, collection and screening of soil samples, and the collection of groundwater samples.

Field Manager, Former Refinery, Brooklyn. Responsible for the design of four dual phase recovery wells at a former petroleum refinery and terminal in Brooklyn, New York. Field manager for the installation of the new recovery wells.

Field Manager, Former Refinery, Brooklyn. Field Manager for an Aquifer Pump Test of newly installed recovery wells at a former petroleum refinery and terminal in Brooklyn, New York. Field activities associated with the pump test included testing the hydraulic conductivity of the surrounding well network to determine radius of influence by gauging and collecting LevelTroll Data.



Jackson Bogach, P.E.

Assistant Project Manager

Summary of Experience

Mr. Bogach has experience working on a variety of environmental site investigation and remediation projects, including Phase I and Phase II ESA's, substation decommissioning, Brownfields redevelopment, UST and AST sites, and soil and groundwater monitoring. His experience on construction sites includes contaminated soil monitoring and truck manifesting. He also has experience in soil sampling, groundwater sampling, surface water sampling, soil-vapor intrusion sampling, hazardous metals sampling, wastewater permit renewals, and logging soil data for test borings. Further technical skills include ArcGIS, hydraulic modeling, hydrological modeling, large data analysis, and drafting reports.

Relevant Project Experience

Assistant Project Manager, 14th Street ADA Complex – MTA Contract A-37129, New York, New York. GZA was retained as the Environmental Manager for the ADA upgrades along the 14th Street Subway Line in New York, New York. The role of Environmental Manager is to oversee all activities in the environmental specifications in the Project Requirements and Design Criteria for the General Contractor. Citnalta-Forte Joint Venture is the General Contractor for the project. Mr. Bogach's role included drafting plans such as a Waste Management Plan, Stormwater Pollution Prevention Plan, and Environmental Management Plan. Mr. Bogach drafted bi-weekly and monthly reports related to all environmental activities, tracked waste management for the project, performed National Environmental Policy Act Re-Evaluations, and completed NYCDEP sewer discharge permits.

Assistant Project Manager, 101 East 150th Street, Bronx, New York. 101 East 150th Street is a large former commercial/industrial lot in the Bronx that is being redeveloped into a 6-story charter school by the client. Elevated levels of chlorinated and petroleum-related VOCs in soil and soil vapor were found during Phase II ESI sampling. The Site is anticipated to enter the State Brownfield Cleanup Program as a volunteer. Mr. Bogach performed Remedial Investigation sampling at the Site. He also drafted the BCP application and its exhibits, the Remedial Investigation Report, Remedial Action Work Plan, Interim Remedial Measure Plan, and the Waste Characterization Report.

Assistant Project Manager, Grand Central Terminal Upgrades – MTA Contract A-37679, New York, New York. GZA was retained as the Environmental Manager for the Grand Central Terminal Upgrades in New York, New York. The role of Environmental Manager is to oversee all activities in the environmental specifications in the Project Requirements and Design Criteria for the General Contractor. Citnalta-Forte Joint Venture is the General Contractor for the project. Mr. Bogach's role included drafting plans such as a Spill Prevention and Response Plan, Waste Management Plan, and environmental specifications. Mr. Bogach drafted bi-weekly and monthly reports related to all environmental activities and tracked waste management for the project.

Assistant Project Manager, 807 Metropolitan Avenue, Brooklyn, New York. 807 Metropolitan Avenue is an auto repair shop in Brooklyn, NY. GZA's client was required by the NYSDEC to perform an environmental exploration at the Site. The site is located within 200 feet of an existing subway structure, which requires approval by NYC MTA to drill borings at the Site. Mr. Bogach managed this project which included

Education

M.S., Environmental Engineering, University of Tennessee, 2019
B.S., Civil Engineering, University of Tennessee, 2018

Licenses & Registrations

Engineer-in-Training (Civil), 2018 Tennessee, #1960663
OSHA 30-hr Construction – 2020
OSHA 10-hr Construction – 2020
USDOT/IATA Hazardous Materials Shipping and Transportation – 2020
NYS DEC Erosion & Sediment Control Qualified Inspector – 2020
OSHA 40-hr HAZWOPER – 2016

Areas of Specialization

- Environmental Engineering
- Water Resources Engineering
- Environmental Site Investigation
- Geographic Information Systems (GIS)
- AutoCAD

Jackson Bogach, P.E.

Assistant Project Manager

coordinating with the client and managing the budget. Mr. Bogach also drafted the MTA Adjacency drawings and coordinated with the MTA.

Assistant Project Manager, 68th Street Hunter College Station Elevator Installation – MTA Contract A-36164, New York, New York. 68th Street Hunter College Station is undergoing ADA-upgrade elevator installation. GZA was retained to complete an Environmental Anticipatory Boring Program to characterize site soils and groundwater. Mr. Bogach drafted the Environmental Anticipatory Boring Program Plan and performed soil sampling at the Site.

Assistant Project Manager, Kearny Train Yard, Kearny, New Jersey. GZA has an on-going contract to perform environmental and geotechnical engineering services for the Client at the Kearny, New Jersey Train yard. The client is exploring the installation of two manholes at the Site. GZA oversaw the installation of two permanent monitoring wells to analyze the hydraulic properties of the shallow groundwater. Mr. Bogach performed hydraulic calculations using slug test data and drafted the hydraulic properties report.

Engineer I, 187 Hegeman Avenue, Brooklyn, New York. 187 Hegeman Avenue is a proposed residential building in Brooklyn, New York. GZA was retained to perform the City Environmental Quality Review (CEQR) through the New York City Office of Environmental Coordination for the proposed construction. Mr. Bogach prepared the CEQR report and associated figures.

Engineer I, 586 River Avenue, Bronx, New York. 586 River Avenue is a large commercial property in the Bronx, New York undergoing site due diligence for property acquisition. Mr. Bogach performed soil, soil vapor, and groundwater sampling during the Phase II Environmental Site Investigation. He also created boring logs using gINT, drafted site figures for the Report using AutoCAD, analyzed the analytical data, and drafted the Phase II Environmental Site Investigation Report.

Engineer I, 601 Wales Avenue, Bronx, New York. 601 Wales Avenue is a commercial property in the Bronx, New York that contains a historical, unregistered UST. Mr. Bogach oversaw the closing-in-place of the UST and prepared the UST Closure Report.

Engineer I, 590 Wales Avenue, Bronx, New York. 590 Wales Avenue is a commercial property in the Bronx, New York going through potential sale and acquisition. Mr. Bogach assisted with Phase I Environmental Site Investigation reconnaissance, Phase II Environmental Site Investigation soil and soil vapor sampling, drafting the Phase I and II Environmental Site Investigation Reports, and drafting site figures using AutoCAD.

Engineer I, NYC DEP SPCC Plans, Various Locations, New York. Mr. Bogach has written multiple Spill Prevention, Control, and Countermeasure (SPCC) plans for Wastewater Treatment and Combined Sewer Overflow Facilities in New York. He conducted site investigations, drafted the SPCC plans, and create facility diagrams using AutoCAD.

Engineer I, 153-02 Hillside Avenue, Jamaica, New York. GZA was retained to perform an environmental site investigation for a commercial development along Hillside Avenue in Jamaica, New York. Mr. Bogach prepared New York City Transit drawings to be granted approval by the MTA to drill near a subway structure.

Engineer I, NYCHA – Jacob Riis Houses, Manhattan, New York. The Jacob Riis Houses are a New York City Housing Authority property undergoing capital improvements under the Hurricane Sandy Capital Improvement Program and is a former Manufactured Gas Plant Site. GZA was retained as the Qualified Environmental Professional for the project. Mr. Bogach had multiple roles for this project. He conducted waste characterization soil sampling of MGP waste, Underground Storage Tank endpoint sampling, drilling oversight, and Community Air Monitoring Plan oversight. He also drafted workplans, health and safety plans, and waste characterization reports for various phases of the project.

Engineer I, NYPD Modular Buildings – Rodman's Neck, Bronx, New York. The NYPD is constructing new modular buildings at their Rodman's Neck outdoor firing range. GZA was retained to conduct a waste characterization of the soil that will be excavated and hauled off-Site. Mr. Bogach was the field engineer during the waste characterization sampling event. This included overseeing test boring drilling, logging soil data, and soil sampling. He also analyzed the soil data and drafted the waste characterization report.

Jackson Bogach, P.E.

Assistant Project Manager

Engineer I, 910 E 172nd St, Bronx, New York. 910 E 172nd St is a petroleum contaminated Site in a largely residential area in Bronx, NY. Mr. Bogach conducted quarterly groundwater sampling using low-flow sampling techniques. He also installed and sampled from passive diffusion sampler bags in groundwater wells injected with Petrofix® for petroleum remediation. Mr. Bogach also gauged wells for groundwater depth and presence of LNAPL, and then created groundwater contour maps using ArcGIS and AutoCAD.

Engineer I, BJs Fuel Station, Newburgh, New York. BJs is a fuel station and commercial construction project in Newburgh, New York. Mr. Bogach performed a baseline environmental assessment prior to petroleum products being shipped to and stored on-site. The assessment included test boring drilling oversight, classifying soil, soil sampling, and groundwater sampling from temporary monitoring wells.

Engineer I, Fulton MGP, Brooklyn, New York. Mr. Bogach performed DNAPL recovery and air monitoring during site construction at a former manufactured gas plant located near the Gowanus Canal in Brooklyn, New York. Daily oversight included ensuring construction followed the site-specific Community Air Monitoring Plan.

Engineer I, 28 Windrose, Greenwich, Connecticut. 28 Windrose is a residential construction project on the Long Island Sound in Greenwich, Connecticut. Mr. Bogach oversaw the drilling of helical piles for the house's foundation, which included recording the appropriate data and ensuring the piles met all design requirements. He also was responsible for logging soil data of test borings during subsurface exploration.

Engineer I, 50 Nevins St, Brooklyn, New York. 50 Nevins St is an apartment building redevelopment project in the Boerum Hill section of Brooklyn, NY. The Site has an E-Designation under the New York City Office of Environmental Remediation. Mr. Bogach performed daily field monitoring of air under the Community Air Monitoring Plan and of potentially contaminated soil, including overseeing the haul-off of excavated soil. At the base of excavation, he took grab endpoint soil samples at various locations across the Site. He drafted daily field reports to send to the Office of Environmental Remediation. Mr. Bogach also created figures representing sample locations and construction drawings using AutoCAD and analyzed the end-point sampling data.

Engineer I, 512 W 143rd St, Manhattan New York. 512 W 143rd St is a residential construction project in Manhattan, NY. Contaminated soil was found during remedial investigation. Mr. Bogach monitored the soil during construction progress. He also oversaw the haul-off of excavated soil and drafted daily field reports.

Engineer I, 5011 Queens Blvd, Sunnyside, New York. At 5011 Queens Blvd, Mr. Bogach conducted monthly inspections at a construction site for a residential apartment building. The site is E-Designated by the New York City Office of Environmental Remediation. Monthly inspection included confirming construction was following E-Designation compliance.

Engineer I, 1232 Southern Blvd, Bronx, New York. 1232 Southern Blvd is an existing building that had experienced sub-slab water infiltration issues. Mr. Bogach assisted with hydraulic and hydrological calculations for the water infiltration source investigation.

Engineer I, 775 Washington St, Manhattan, New York. 775 Washington St. is a construction site located in Manhattan, New York. The site required a dewatering permit due to the shallow groundwater table at the site. Mr. Bogach performed groundwater sampling using low-flow sampling techniques to determine water quality that will be discharged during dewatering.

Engineer I, Elmwood Preserve, White Plains, New York. The Elmwood Preserve site is a former country club and golf course in White Plains, New York. The land is expected to be used as a future site for residential townhomes. Previous maintenance of the site included using heavy amounts of pesticides and fertilizers. In preparation of an Environmental Impact Statement, Mr. Bogach assisted with soil sampling using hand auger techniques at various locations within the site. He also revised the site Health and Safety Plan.

Experience Prior to GZA

Graduate Research Assistant, University of Tennessee, Knoxville, Tennessee. In this role, Mr. Bogach conducted preliminary design and assessment for an urban stream restoration project on Beaver Creek in Powell, Tennessee in conjunction with the

Jackson Bogach, P.E.

Assistant Project Manager

Tennessee Department of Transportation. He was tasked with topographically surveying the site, assessing the site using the Rosgen Method of stream classification, preparing an ecological inventory and assessment, creating a 1D hydraulic model using HEC-RAS and a 2D hydraulic model using River 2D, modeling the increase of flow rates due to the projected increase of impervious land in the area, delineating the watershed using ArcGIS, preliminary design, and drafting the preliminary design report. Mr. Bogach also managed the class that assisted on the project by overseeing other tasks and acting as a liaison to the managing professor.

Graduate Teaching Assistant, University of Tennessee, Knoxville, Tennessee. As a graduate teaching assistant, Mr. Bogach taught the lab section of the freshman Engineering Fundamentals course at the University of Tennessee for six classes a week. He also was responsible for tutoring students, grading papers and lab reports, and communicating class updates on a daily basis.

Staff Technician, Anchor QEA of North Carolina, Asheville, North Carolina. Mr. Bogach provided support for a variety of projects in the company's environmental site assessment and remediation service line. Tasks included groundwater sampling and data analysis for a Superfund site, hazardous metals sampling at a decommissioned power plant, monitoring soil haul-off and truck manifesting at a coal ash plant, predicting groundwater flow directions in ArcGIS, quantifying soil volume in a lake for a dam removal project, well construction oversight, and drafting numerous reports.

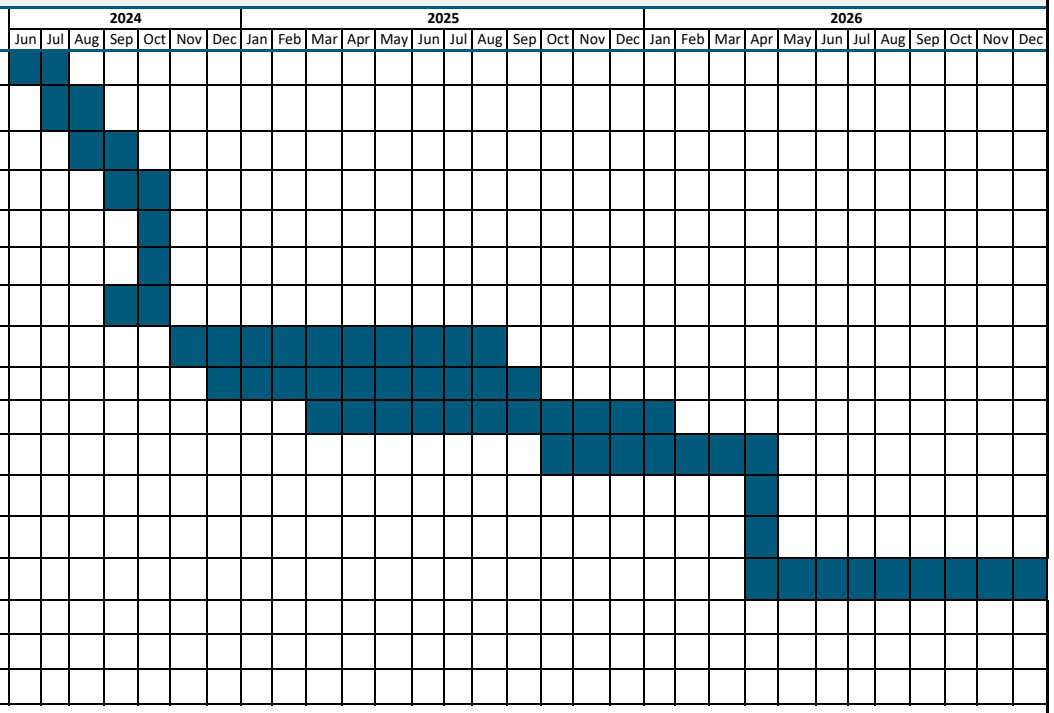
Co-op Student, Anchor QEA of North Carolina, Asheville, North Carolina. As a Co-op Student, Mr. Bogach assisted with projects in the company's environmental site assessment and remediation service line. His role included creating maps in ArcGIS, conducting Phase I and Phase II ESA's, soil sampling, groundwater sampling, soil-vapor intrusion sampling, data analysis, quality control, drafting monitoring reports, and creating boring logs using gINT.

APPENDIX N BCP PROJECT MILESTONES / SCHEDULE

BROWNFIELD CLEANUP PROGRAM

55 ECKFORD ST. LLC SITE

Project Milestones	Start	End
BCP Application and RIWP Submission to NYSDEC	6/21/2024	7/19/2024
NYSDEC BCP Application Review and Determination of Completeness	7/22/24	8/19/2024
Revisions to BCP Application and RIWP	8/20/2024	9/13/2024
30-Day Public Comment for BCP Application	9/16/2024	10/15/2024
BCA Execution	10/21/2024	10/21/2024
CPP Submission and Review	10/21/2024	10/25/2024
NYSDEC and NYSDOH Review of RIWP and Submission of Revisions	9/16/2024	10/31/2024
RIWP Implementation with Supplemental RI	11/1/2024	8/25/2025
RIR Preparation	12/16/2024	9/16/2025
RAWP Preparation	4/15/2025	2/5/2025
NYSDEC and NYSDOH Review of RIR and RAWP, Submission of Revisions and 45-Day Comment Period	10/15/2025	4/1/2026
Approval of the RIR and RAWP, Issuance of Decision Document	4/1/2026	4/1/2026
Pre-construction Meeting with NYSDEC	4/15/2026	4/30/2026
Construction and RAWP Implementation, Documentation of Engineering Controls	4/30/2026	3/30/2027
Preparation of FER and SMP	1/1/2027	3/30/2027
NYSDEC Review of FER and SMP	3/30/2027	6/1/2027
Issuance of COC	6/1/2027	6/1/2027



APPENDIX O REQUEST TO IMPORT/REUSE FILL MATERIAL FORM

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Request to Import/Reuse Fill or Soil

This form is based on the information required by DER-10, Section 5.4(e) and 6NYCRR Part 360.13. Use of this form is not a substitute for reading the applicable regulations and Technical Guidance document.

SECTION 1 – SITE BACKGROUND

The allowable site use is: Choose an item

Have Ecological Resources been identified? Choose an item

Is this soil originating from the site? Choose an item

How many cubic yards of soil will be imported/reused? Choose an item

If greater than 1000 cubic yards will be imported, enter volume to be imported:

SECTION 2 – MATERIAL OTHER THAN SOIL

Is the material to be imported gravel, rock or stone? Choose an item

Does it contain less than 10%, by weight, material that passes a size 100 sieve? Choose an item

Is this virgin material from a permitted mine or quarry? Choose an item

Is this material recycled concrete or brick from a DEC registered processing facility? Choose an item

SECTION 3 - SAMPLING

Provide a brief description of the number and type of samples collected in the space below:

Example Text: 5 discrete samples were collected and analyzed for VOCs. 2 composite samples were collected and analyzed for SVOCs, Inorganics & PCBs/Pesticides.

If the material meets requirements of DER-10 section 5.4(e)5 (other material), no chemical testing needed.

SECTION 3 CONT'D - SAMPLING

Provide a brief written summary of the sampling results or attach evaluation tables (compare to DER-10, Appendix 5):

Example Text: Arsenic was detected up to 17 ppm in 1 (of 5) samples; the allowable level is 16 ppm.

If Ecological Resources have been identified use the "If Ecological Resources are Present" column in Appendix 5.

SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

Location where fill was obtained:

Identification of any state or local approvals as a fill source:

If no approvals are available, provide a brief history of the use of the property that is the fill source:

Provide a list of supporting documentation included with this request:

The information provided on this form is accurate and complete.

_____ _____

Signature Date

_____

Print Name

_____

Firm

Revised April 2023

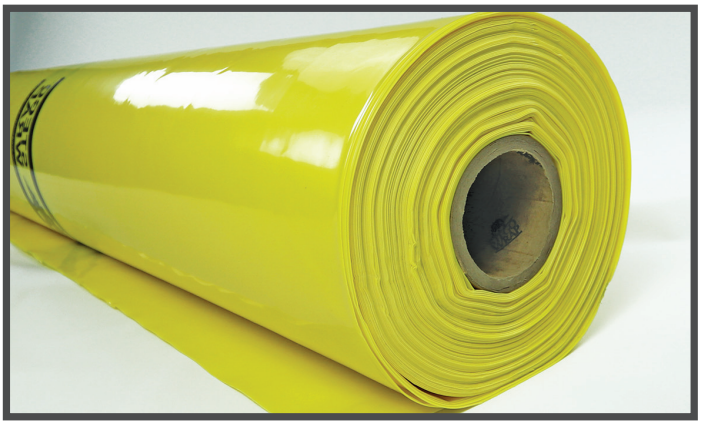
APPENDIX P VAPOR BARRIER SYSTEM DETAILS

STEGO® WRAP 20-MIL VAPOR BARRIER

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: JAN 28, 2025

1. PRODUCT NAME

STEGO WRAP 20-MIL VAPOR BARRIER



2. MANUFACTURER

Stego Industries, LLC
216 Avenida Fabricante, Suite 101
San Clemente, CA 92672 USA
Sales, Technical Assistance
Ph: (877) 464-7834
contact@stegoindustries.com
stegoindustries.com

3. PRODUCT DESCRIPTION

USES: Stego Wrap 20-Mil Vapor Barrier is used as a below-slab vapor barrier.

COMPOSITION: Stego Wrap 20-Mil Vapor Barrier is a multi-layer plastic extrusion manufactured with only the highest grade of prime, virgin, polyolefin resins.

ENVIRONMENTAL FACTORS: Stego Wrap 20-Mil Vapor Barrier can be used in systems for the control of soil gases (radon), and sulfates.

4. TECHNICAL DATA

TABLE 4.1: PHYSICAL PROPERTIES OF STEGO WRAP 20-MIL VAPOR BARRIER

PROPERTY	TEST	RESULTS
Under Slab Vapor Retarders	ASTM E1745 Class A, B & C – Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs	Exceeds Class A, B & C
Water Vapor Permeance	ASTM F1249 – Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor	0.0071 perms
Permeance After Conditioning (ASTM E1745 Sections 7.1.2 - 7.1.5)	ASTM E154 Section 8, F1249 – Permeance after wetting, drying, and soaking ASTM E154 Section 11, F1249 – Permeance after heat conditioning ASTM E154 Section 12, F1249 – Permeance after low temperature conditioning ASTM E154 Section 13, F1249 – Permeance after soil organism exposure	0.0088 perms 0.0081 perms 0.0084 perms 0.0077 perms
Methane Transmission Rate	ASTM D1434 - Standard Test Method for Determining Gas Permeability Characteristics of Plastic Film and Sheeting	152.2 GTR* (mL(STP)/m^2*day)
Radon Diffusion Coefficient	K124/02/95	9.9 x 10^{-12} m^2/second
Puncture Resistance	ASTM D1709 – Test Method for Impact Resistance of Plastic Film by Free-Falling Dart Method	3500+ grams**
Tensile Strength	ASTM D882 – Test Method for Tensile Properties of Thin Plastic Sheeting	97.7 lbf/in
Thickness		20 mil
Roll Dimensions	width x length: area:	14' x 105' 1470 ft^2
Roll Weight		152 lb

Note: perm unit = grains/(ft^2*hr*in-Hg)
*GTR = Gas Transmission Rate
**The material maxed out the testing equipment and did not fail at 3746 grams.

Continued...
Note – legal notice on page 2.

STEGO® WRAP 20-MIL VAPOR WRAP BARRIER

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: JAN 28, 2025

5. INSTALLATION

UNDER SLAB: Unroll Stego Wrap 20-Mil Vapor Barrier over an aggregate, sand, or tamped earth base. Overlap all seams a minimum of 6 inches and tape using Stego® Tape or Stego® Crete Claw® Tape. All penetrations must be sealed using a combination of Stego Wrap and Stego accessories.

Stego Wrap should be installed below 110°F. Do not exceed 7 days between Stego Wrap installation and concrete placement or full protection from UV and weather exposure. Please review technical data sheets for Stego accessory products for installation/application temperature ranges.

For additional information, please refer to Stego's complete installation instructions.

6. AVAILABILITY & COST

Stego Wrap 20-Mil Vapor Barrier is available through our network of building supply distributors. For current cost information, contact your local Stego® distributor or Stego Sales Representative.

7. WARRANTY

Stego believes to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions are not within its control, Stego does not guarantee results from the use of the information provided herein. Stego does offer a limited warranty on Stego Wrap 20-Mil Vapor Barrier. Please see **stegoindustries.com/legal**

8. MAINTENANCE AND STORAGE

Maintenance: Inspect after installation. Repair visible damage with Stego Tape or recommended accessories.
Storage and Handling: Store in original packaging in a cool, dry place. Handle with care to avoid damage.

Please refer to the Safety Data Sheet (SDS) for detailed safety, storage, and handling procedures.

9. TECHNICAL SERVICES

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego or by visiting the website.

Email: contact@stegoindustries.com
Contact Number: (877) 464-7834
Website: **stegoindustries.com**

10. FILING SYSTEMS: stegoindustries.com

DATA SHEETS ARE SUBJECT TO CHANGE. FOR MOST CURRENT VERSION, VISIT STEGOINDUSTRIES.COM

Stego Industries, LLC ("Stego") Intellectual Property, Installation, Warranty, and State Approval Information: stegoindustries.com/legal.
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STEGO® WRAP

VAPOR BARRIER AND RETARDER INSTALLATION INSTRUCTIONS



ENGINEERED PERFORMANCE
LIFE OF THE BUILDING™ PROTECTION




Additional Stego Wrap installation resources and videos are available on our website at:

stegoindustries.com/resources

CONTENTS

The installation recommendations set forth in these instructions are based on ASTM E1643 and specific applications of Stego products. Each section provides explanations and options for the varying conditions.

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On a Horizontal Plane Using Stego Crete Claw Tape or Stego Mastic 9

SECTION 5 **Sealing Damaged Areas** 10

SECTION 6 **Sealing Single Pipe Penetrations** 11

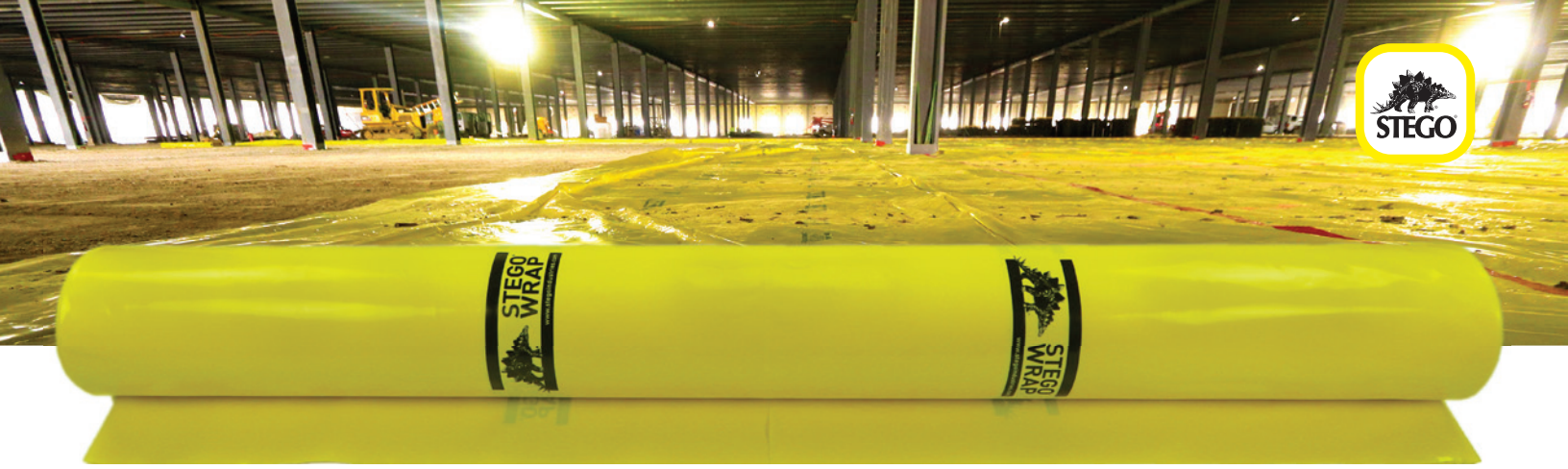
SECTION 7 **Sealing Multiple Pipe Penetrations** 12

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Stego Installation Support - A Free Service

When you choose **Stego® Barrier Solutions** and products, you gain access to a large nationwide network of full-time technical sales representatives providing unmatched local support and service. If you ever have a question or concern regarding the following installation scenarios please contact us and take advantage of our free Stego Installation Support.



Stego Wrap

Stego Wrap is made from a proprietary blend of prime virgin resins and additives, a combination lending to great value and effectiveness in protecting the concrete slab from moisture intrusion. All rolls of Stego Wrap are continuously printed with the Stego logo. This ensures no copycat or counterfeit products show up on a job site that could expose you to liability if an incorrectly identified product fails.

- **Stego® Wrap 20-Mil Vapor Barrier (Class A)**
- **Stego® Wrap 15-Mil Vapor Barrier (Class A)**
- **Stego® Wrap 10-Mil Vapor Retarder (Class A)**

Stego Accessories

At Stego, we know every project has its own unique challenges. To make a Stego Wrap installation easy and flexible, we offer an extensive line of accessory items that give you options to accomplish an effective perimeter seal that meets ASTM E1643. **Consult the project architect, owner's representative, and structural engineer of record before proceeding with any of these options.**



Stego® Tape

This low permeance and pressure-sensitive tape is engineered to bond specifically to Stego Wrap, making it ideal for sealing Stego Wrap seams and penetrations.



Stego® Mastic

A liquid vapor retardant membrane, designed to be used with Stego Wrap, for sealing utility and pipe penetrations.



Stego® Crete Claw® Tape 3"

This multi-layered tape utilizes a textured film that mechanically bonds to concrete cast against it. It is used to create a seal at Stego Wrap's terminating edges to subsequently placed slabs.



Stego® Term Bar

A semi-flexible plastic termination bar, optimal for mechanically securing Stego Wrap to concrete, wood, or masonry.



StegoTack® Tape

A double-sided adhesive strip used to bond and seal Stego Wrap to concrete, masonry, metal, and other surfaces.

Creating a Monolithic Membrane

The key to an effective Stego Wrap installation is to create a monolithic layer of protection between the concrete slab and moisture sources below. This can be accomplished by following the installation instructions outlined in ASTM E1643 - *Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs*.

ASTM E1643 discusses the selection of the vapor retarder and preparation of the subbase to minimize potential damage during installation and concrete placement.

ASTM E1643, Section 5.3.4.1 - *Select a vapor retarder material capable of withstanding potential construction site damage.*

ASTM E1643, Section 5.3.5.1 - *Select vapor retarder material capable of withstanding tear or puncture damage due to the type, gradation, and texture of the base material to be installed below the material. Prepare base material to minimize risk of puncture, for example, by rolling or compacting.*

ASTM E1643, Section 6.1 - *Level and compact base material.*

ASTM E1643 then states to create a monolithic membrane to protect the slab from adjacent moisture sources.

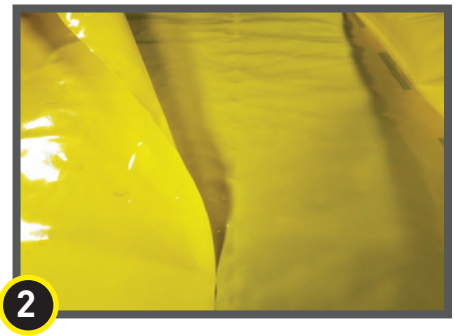
ASTM E1643, Section 6.4 - *. . . create a monolithic membrane between the surface of the slab and moisture sources below the slab as well as at the slab perimeter.*

ASTM E1643, Section 6.5 - *Lap joints minimum 6 in. (150 mm), or as instructed by the manufacturer, and seal laps in accordance with the manufacturer's recommendations.*

Stego Wrap can be installed over an aggregate, sand, or tamped earth base. It is not necessary to have a cushion layer or sand base, as Stego Wrap is tough enough to withstand rugged construction environments.



Unroll Stego Wrap over the area where the slab is to be placed.



Unless otherwise indicated by the design professional(s) of record, unfold Stego Wrap to completely cover the placement area.



All joints/seams should be overlapped a minimum of 6 inches.



Ensure Stego Wrap is clean and dry when applying Stego Tape.

Tip: Use a cloth or other means to remove dust, debris, and excess moisture from Stego Wrap prior to applying Stego Tape.



Seal the seams with Stego Tape.

Where to Terminate the Stego Wrap

Always consult the project design team for where to terminate the vapor barrier to strike the balance between the location of the vapor barrier on or around foundation constructions and any structural concerns before proceeding.

ASTM E1643 provides direction on where to terminate the vapor barrier as follows:

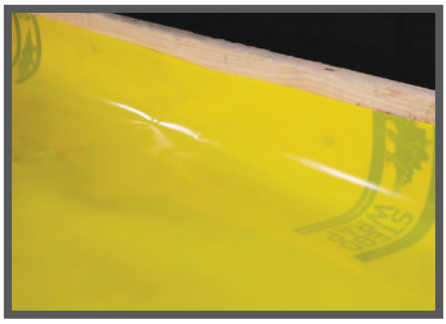
ASTM E1643, Section 6.4 - *Extend vapor retarder over footings and seal to foundation wall, grade beam, or slab at an elevation consistent with the top of the slab or terminate at impediments such as waterstops or dowels...*

ASTM E1643, Section 6.6 - *Extend vapor retarder over the tops of pile caps and grade beams to a distance acceptable to the structural engineer.*

In accordance with ASTM E1643, terminate the Stego Wrap as follows:

At an elevation (height) consistent with the top of the slab;

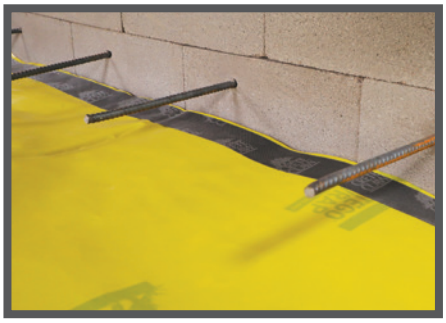




Note: Turn Stego Wrap up foundation walls or forms.

At Impediments; OR





Note: Impediments may include rebar, dowels, water stops, etc.

At a location of termination designated by the project design team.





Note: The distance to which the vapor barrier is extended adjacent to, onto, or completely over a footing or grade beam should be determined by the project design team.

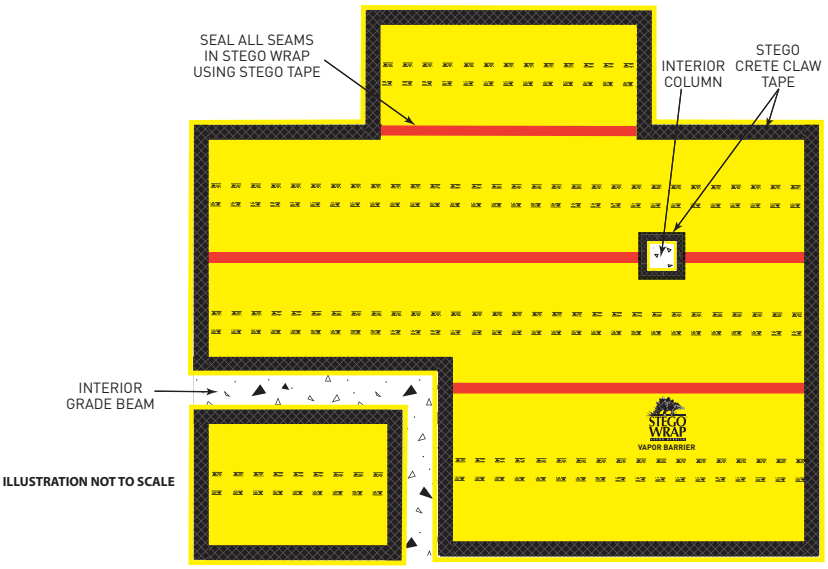
If the location of vapor barrier termination has not been clearly addressed in the construction documents, then clarification should be requested from the project design team. Should no direction be given, Stego recommends the project team follow the guidelines of ASTM E1643.

Regardless of where the vapor barrier is determined to be terminated, ASTM E1643 requires the terminating edges to be sealed. See Sealing Stego Wrap at Terminating Edges, next page.

Sealing Stego Wrap at Terminating Edges

Always consult the project design team for where to terminate the vapor barrier to strike the balance between the location of the vapor barrier on or around foundation constructions and any structural concerns before proceeding.

Seal Stego Wrap along all terminating edges as indicated by the project team. Stego provides several innovative options for creating a seal as required by ASTM E1643.





1

Ensure Stego Wrap is clean and dry when applying Stego Crete Claw Tape.

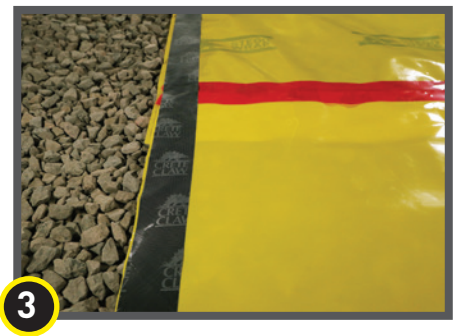
Tip: Use a cloth or other means to remove dust, debris, and excess moisture from the vapor barrier prior to applying Stego Crete Claw Tape.



2

Apply Stego Crete Claw Tape as close as possible to the terminating edge of Stego Wrap.

Tip: Applying Stego Crete Claw Tape within 2" of the terminating edge is almost always possible, even when the terminating edges are not cut perfectly straight.



3

Install Stego Crete Claw Tape last for a successful installation.

Tip: Install Stego Crete Claw Tape before rebar but after Stego Wrap has been overlapped and sealed at the seams with Stego Tape, sealed at penetrations, and terminated at the project's perimeter and/or other specified terminating location.

Stego Crete Claw Tape - Installation Tips



IMPORTANT:

Do not overlap Stego Crete Claw Tape over itself.

Tip: If placing multiple sections of Stego Crete Claw Tape, minimize gaps by abutting each adjacent section against one another.



Do not leave any open gaps between Stego Crete Claw Tape.

Tip: If a small gap exists between two pieces of Stego Crete Claw Tape, a supplementary piece of Stego Crete Claw Tape should be applied to run along the inside edges of the two original pieces and span the gap between them. The supplementary piece should run parallel and flush to the original pieces without overlap.



If protrusions or penetrations are determined to be impediments to applying Stego Crete Claw Tape along the perimeter terminating edges of Stego Wrap, route Stego Crete Claw Tape around the impediment, as close to the impediment as possible, and continue along the terminating edge of Stego Wrap on the opposite side of the impediment.

Stego Crete Claw Tape is often the preferred product because of its ease of application and versatility to accommodate most conditions. It has been engineered to create a seal between Stego Wrap and the concrete subsequently cast against it. See also StegoTack Tape and Stego Mastic options, detailed on the next few pages.

Sealing the Terminating Edges of Stego Wrap on Vertical Planes
Using Stego Crete Claw Tape

IMPORTANT: **Make sure the area of adhesion is free of dust, dirt, debris, moisture, and frost to allow maximum adhesion.**

Vertical Plane: Foundation Wall



1

Extend Stego Wrap up the vertical surface, likely to the height of the slab.

Note: See Where to Terminate the Stego Wrap, page 4.



2

Optional: Temporarily secure Stego Wrap to the foundation wall with a small piece of Stego Tape.

Note: Trim excess Stego Tape after concrete has been placed and before removal of any adjacent forms.



3

Apply the entire 3" width of Stego Crete Claw Tape on the perimeter edge of Stego Wrap.

Note: Clean surface of Stego Wrap to ensure that it is free of moisture and debris prior to the installation of Stego Crete Claw Tape.

Vertical Plane: Concrete Form



1

Extend Stego Wrap up the vertical surface, likely to the height of the forms.

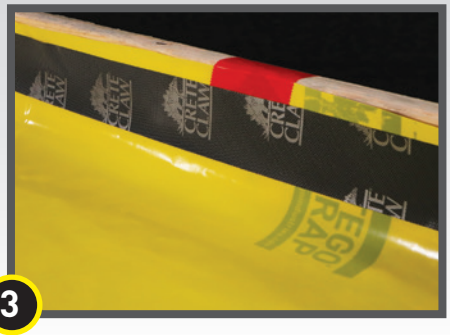
Note: See Where to Terminate the Stego Wrap page 4.



2

Optional: Temporarily secure Stego Wrap to the concrete form with a small piece of Stego Tape.

Note: Trim excess Stego Tape after concrete has been placed and before removal of any adjacent forms.



3

Apply the entire 3" width of Stego Crete Claw Tape on the perimeter edge of Stego Wrap.

Note: Clean surface of Stego Wrap to ensure that it is free of moisture and debris prior to the installation of Stego Crete Claw Tape.

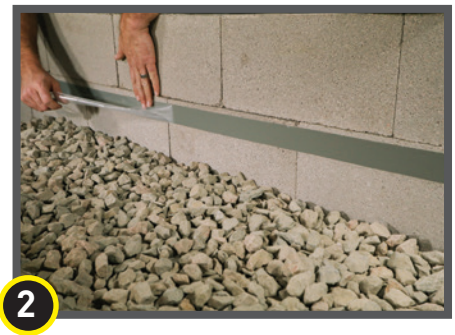
Sealing Stego Wrap Up Foundation Walls and Vertical Surfaces **Using StegoTack Tape**

StegoTack Tape can also be used to seal Stego Wrap to foundation walls, grade beams or other adjacent concrete constructions.

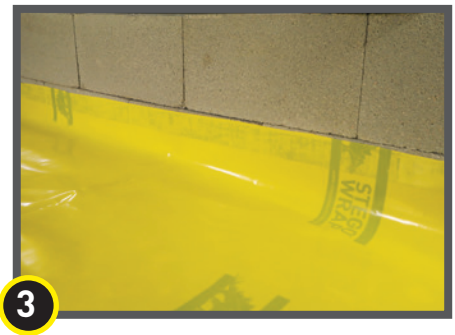
IMPORTANT: **Make sure area of adhesion is free of dust, dirt, debris, moisture, and frost to allow maximum adhesion.**



Remove the release liner on one side of StegoTack Tape and stick to foundation wall at the height of the slab or at impediments.



When ready to apply Stego Wrap, remove the exposed release liner from StegoTack Tape.



Press Stego Wrap firmly against StegoTack Tape to secure.

NOTE: If consistent, continuous pressure will not be applied (e.g. by a concrete slab), Stego Term Bar may be necessary.

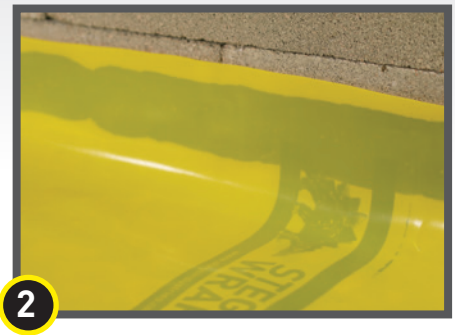
Sealing Stego Wrap Up Foundation Walls and Vertical Surfaces **Using Stego Mastic**

Stego Mastic can also be used to seal Stego Wrap to foundation walls, grade beams or other adjacent concrete constructions.

IMPORTANT: **Make sure area of adhesion is free of dust, dirt, debris, moisture, and frost to allow maximum adhesion.**



Apply Stego Mastic to the foundation wall at the anticipated edge of the subsequently applied Stego Wrap at the height of the slab or impediments.



Press Stego Wrap firmly against the applied Stego Mastic on the foundation wall.



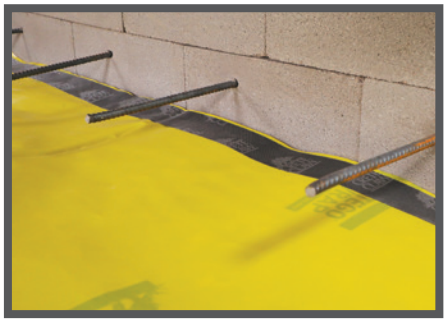
If consistent, continuous pressure will not be applied (e.g. by a concrete slab), Stego Term Bar may be necessary.

Sealing the Terminating Edges of Stego Wrap on a Horizontal Plane

Always consult the project design team for where to terminate the vapor barrier to strike the balance between the location of the vapor barrier on or around foundation constructions and any structural concerns before proceeding.

After the location of where to terminate the vapor barrier has been determined, seal Stego Wrap along all terminating edges as indicated by the project team.

With Stego Crete Claw Tape



At a Foundation Wall: Install Stego Crete Claw onto the terminating edge of Stego Wrap.

Tip: Install Stego Crete Claw onto Stego Wrap before sliding Stego Wrap into final termination location.



At Interior Grade Beam Impediments: Install Stego Crete Claw onto the terminating edge of Stego Wrap.

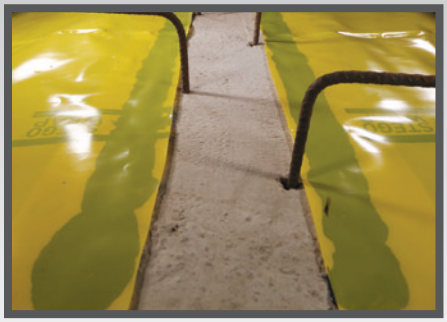


At a Location Designated by the Design Team: Install Stego Crete Claw onto the terminating edge of Stego Wrap.

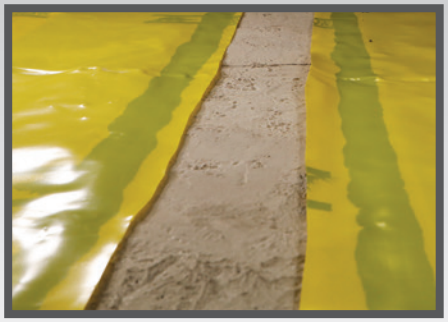
With Stego Mastic



Onto a Perimeter Footing at Impediments: Seal Stego Wrap to concrete with Stego Mastic.



Onto Interior Grade Beams at Impediments: Seal Stego Wrap to concrete with Stego Mastic.



At a Location Designated by the Design Team: Seal Stego Wrap to concrete with Stego Mastic.



If consistent, continuous pressure will not be applied (e.g. by a concrete slab), Stego Term Bar may be necessary.

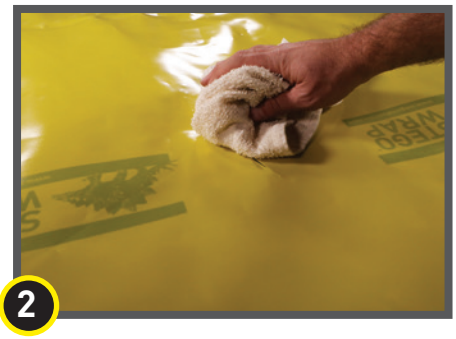
See "Where to Terminate the Vapor Barrier" on page 4 prior to choosing your terminating edge sealing accessory.

Sealing Damaged Areas: **Small Hole or Slice**

In the event that Stego Wrap is damaged during or after installation, repairs must be made. For smaller holes or slices in Stego Wrap, Stego Tape can be used as noted below.



Small hole or slice in Stego Wrap.



Clean area of adhesion.



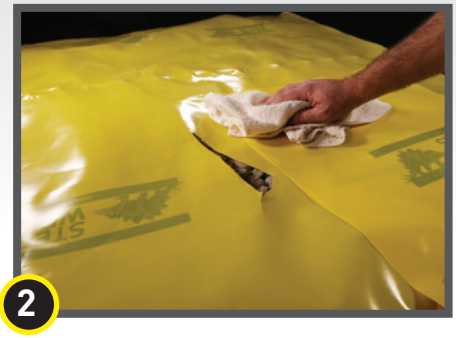
Center Stego Tape over small hole or slice in Stego Wrap.

Sealing Damaged Areas: **Larger Hole**

In the event that Stego Wrap is damaged during or after installation, repairs must be made. For larger holes, cut a piece of Stego Wrap to a size and shape that covers any damage by a minimum overlap of 6" in all directions. Clean all adhesion areas of dust, dirt, moisture, and frost. Tape down all edges using Stego Tape.



Occasionally there are larger holes in the vapor barrier that require a patch.



Clean area of adhesion.



Measure and cut a piece of Stego Wrap to cover damaged area 6" in all directions. Seal patch with Stego Tape.

Sealing Single Pipe Penetration: **Minimal Void Space**

All penetrations must be sealed. All pipe, ducting, rebar, wire penetrations and block outs should be sealed using Stego Wrap, Stego Tape and/or Stego Mastic. If penetrations are encased in other materials, such as expansive materials like foam, unless otherwise specified, Stego Wrap should be sealed to the underlying penetration directly.



1 Install Stego Wrap around pipe penetrations by slitting/cutting material as needed. Try to minimize the void space created.



2 Pull material over and flatten. Clean area of adhesion where Stego Tape will be applied.



3 If Stego Wrap is close to pipe and void space is minimized then seal around pipe penetration with Stego Tape and/or Stego Mastic.

Sealing Single Pipe Penetration: **Larger Void Space Requires Detail Patch**

To minimize void space around a larger penetration, a detail patch may be required. Stego Pre-Cut Pipe Boots are also available to speed up the installation.



1 Cut a detail patch to a size and shape that creates a 6" overlap on all edges around the void space at the base of the pipe.



2 Cut an "X" the size of the pipe diameter in the center of the pipe boot and slide tightly over pipe.



3 Seal all sides of the pipe boot with Stego Tape.



4a Seal around the base of the pipe using Stego Tape. **OR...**



4b Seal around the base of the pipe with Stego Mastic.
Note: apply using disposable glove, paint brush, or similar.

Sealing Multiple Pipe Penetrations: Using Stego Tape

Multiple pipe penetrations in close proximity and very small pipes may be sealed using Stego Tape and/or Stego Mastic for ease of installation.



1. Cut a slit the size to accommodate the width of the multiple pipes. Try to minimize the void space created.



2. Seal any void space around each pipe using Stego Tape.

Note: Subbase should not be visible from above.

Sealing Multiple Pipe Penetrations: Using Stego Mastic



1. Seal any void space around each pipe penetration with Stego Mastic.



2. Dab Stego Mastic with disposable glove, paint brush, or similar, making sure entire void space is sealed.

Note: If pipe penetrations are abutted against one another, minimize any void space first with Stego Wrap, then seal any remaining void space with Stego Tape and/or Mastic in the same manner represented above.

Avoid Punctures with Beast® Concrete Accessories

To help eliminate the use of non-permanent penetrations in Stego Wrap installation, Stego recommends the use of Beast vapor barrier-safe concrete accessories.

IMPORTANT: Avoid puncturing Stego Wrap with stakes while forming, bracing, and screeding.



BEAST® FORM STAKE can be used with **BEAST® FOOT** as part of the Stego vapor barrier-safe forming system which meets ASTM E1643 requirements.



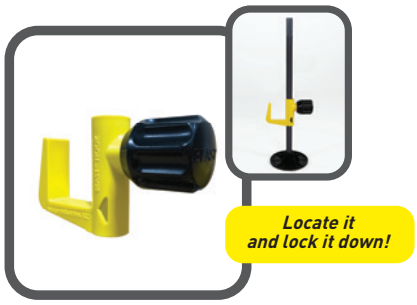
This concrete form stake takes the place of traditional nail stakes for interior forming applications, utilizing SpeedTrack™ Fastening Grooves for unlimited fastener placement.

Note: Refer to Beast Form Stake Installation Guide for detailed usage instructions.



Beast Form Stake is strong enough to withstand a beating during concrete placement while holding its shape. It is easy to remove and reusable for the next job.

Note: Beast Form Stake can be removed once concrete has set sufficiently to hold its shape. Fill and repair any voids in the concrete as necessary once the Beast Form Stake has been removed and strike Beast Form Stake against a hard surface to loosen the concrete buildup.



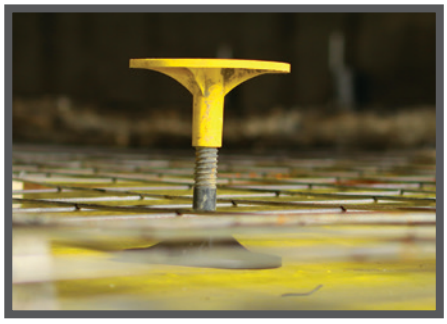
BEAST® HOOK is a **faster**, **easier** way to set 2x4 overhead screeds. Use Beast Foot and Beast Form Stake and make it a vapor barrier-safe screed system.

No tools are required, just grip the knob to loosen or tighten. Fast, easy, efficient.



BEAST® SCREED is a fixed-elevation, point-to-point guide screed system designed to replace common wet-screed methods.

Improve efficiency and maintain concrete floor levelness with the BEAST SCREED SYSTEM!



Set it and forget it. Beast Screed eliminates the need to frequently re-establish grade to ensure floor elevation has not changed during the screeding operation as is typical with traditional wet-screed methods.

Note: Refer to Beast Screed System Installation Instructions for detailed usage instructions.

NOTE: Stego Industries, LLC's ("Stego") installation instructions are based on ASTM E1643 - *Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.* These instructions are meant to be used as a guide, and do not take into account specific job site situations. Consult local building codes and regulations along with the building owner or owner's representative before proceeding. If you have any questions regarding the above mentioned installation instructions or Stego products, please call us at 877-464-7834 for technical assistance. While Stego employees and representatives may provide technical assistance regarding the utility of a specific installation practice or Stego product, they are not authorized to make final design decisions.

HAVE QUESTIONS? Give us a call to get in touch with your nearest Stego® Representative.

877-464-7834 | stegoindustries.com

INDUSTRY-LEADING BARRIERS AND UNRIVALED SUPPORT™

Stego Industries, LLC ("Stego") Intellectual Property, Installation, Warranty, and State Approval Information: stegoindustries.com/legal.
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APPENDIX Q DEWATERING PERMIT INFORMATION

NYC Environmental Protection

PERMIT

Permit Type:	DEWATERING PERMIT	**Permit No:**	C004688828
Customer's Name:	Cichetti Engineering PLLC	**Phone Number:**	845-598-5018
Customer's Service Address:		**Account Number:**	9002001955001
Customer's Mailing Address:	PO Box 196 Germantown, NY 12526-0196		
Issued By:	LJ	**Issue Date:**	12/04/2025
Permitted Activity:	291,046 gallons of discharge (10/30/2025 thru 10/30/2026) @ $8.02 per hundred cubic feet - $3,120.57 Permit Fee	**Expiration Date:**	10/30/2026
		Fee:	$3,120.57

Permittee: Cichetti Engineering PLLC
Dewatering Location: SC-1478, bbl 3/2698/32, 55 Eckford Street, Brooklyn, NY 11222
BBL:

Additional Requirements:

1. If the approval is revoked, the permit is no longer valid.

PERMIT ISSUED BY
THE CITY OF NEW YORK
BROOKLYN DEP/BCS

DEP/BCS
BROOKLYN OFFICE
2025 DEC -4 P 3:19

Special Indemnity Agreement
For Temporary Groundwater Discharge in the New York City Sewer System

October 27, 2025

New York City Department of Environmental Protection
59-17 Junction Boulevard
Flushing, NY 11373
Attn: Commissioner

Location:
55 Eckford Street
Brooklyn, New York 11222

Re: Dewatering Permit

Dear Commissioner:

Giron Contracting, Inc. (the "Operator") hereby agrees to indemnify, defend, and hold harmless, to the fullest extent permitted by law, the City of New York (the "City"), including its officials, employees, contractors, consultants, and representatives, from andagainst any and all claims, suits, actions, proceedings, losses, and costs and expenses of whateverkind (including but not limited to payment or reimbursement of attorneys' fees and disbursements) allegedly arising out of or in any way related to 1) the construction, maintenance,operation, or use of any direct or indirect connection to the City sewer system for the purpose ofdewatering; 2) the temporary discharge (direct or indirect) to the City sewer system for the purpose of dewatering; or 3) any side effects from the lowering of the water table such as, but not limited to, impact of drawdown on the perimeter of the site, salt water intrusion, movement of contaminated groundwater, backflow due to surcharge of outlet sewer, and effect on any wetlands.

Sincerely,

[Operator's Signature]
Daniel Kaykov, Authorized Signatory
Giron Contracting, Inc.
110-50 69th Avenue
Queens, New York 11375

To Be Notarized 10/30/2025

Gina Kotsar
Notary Public, State of New York
No. 01KO6194349
Qualified in Kings County
Commission expires 09/29/28