Remedial Action Work Plan

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Certifications

I, Paul Martorano, 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 DER Green Remediation (DER-31).

Paul Martorano, PE	July 24, 2026	
NYS Professional Engineer # 088403	Date	Signature

It is a violation of Article 130 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

Acronym List

Acronym	Definition
µg/kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
µg/m^3	Micrograms per Cubic Meter
AOCs	Areas of Concern
ASP	Analytical Services Protocol
AWQSGVs	Ambient Water Quality Standards and Guidance Values
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
BOA	Brownfield Opportunity Areas
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
CAMP	Community Air Monitoring Plan
CLP	Contract and Laboratory Protocol
COC	Contaminant of Concern
CPP	Community Participation Plan
CQAP	Construction Quality Assurance Plan
CSCO	Commercial Use Soil Cleanup Objective
CVOCs	Chlorinated Volatile Organic Compounds
CY	Cubic Yards
DER-10	NYSDEC Draft DER 10 Technical Guidance for Site Investigation and Remediation
DUSR	Data Usability Summary Report
EC	Engineering Control
ECL	Environmental Conservation Law
EDD	Electronic Data Deliverable
EDR	Environmental Data Resources, Inc.
EE	Environmental Easement
ELAP	Environmental Laboratory Approval Program
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FER	Final Engineering Report
FRDS	Federal Reporting Data System
FSP	Field Sampling Plan
ft bls	Feet Below Land Surface
GPR	Ground Penetrating Radar
HASP	Health and Safety Plan

Acronym	Definition
IC	Institutional Control
ISCO	Industrial Use Soil Cleanup Objective
MDL	Method Detection Limit
mg/kg	Milligrams per Kilogram
mg/l	Milligrams per liter
MTBE	Methyl Tert-butyl Ether
MW	Monitoring Well
NAVD 88	North American Vertical Datum of 1988
ng/g	Nanograms per gram
NTUs	Nephelometric Turbidity Units
NYCRR	New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
O&M	Operations and Maintenance
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PDI	Pre-Design Investigation
PFAAs	Perfluorinated Alkyl Acids
PFAS	Per- and Polyfluoroalkyl Substances
PFCs	Perfluorinated Chemicals
PFOS	Perfluorooctanesulfonic Acid
PGWSCO	Protection of Groundwater Soil Cleanup Objectives
PID	Photo Ionization Detector
PPE	Personal Protective Equipment
PRR	Periodic Review Report
PVC	Polyvinyl Chloride
QAPP	Quality Assurance Project Plan
RAOs	Remedial Action Objectives
RAP	Remedial Action Plan
RAWP	Remedial Action Work Plan
RCA	Recycled Concrete Aggregate
REC	Recognized Environmental Conditions
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan

Acronym	Definition
RL	Reporting Limit
RPD	Relative Percent Difference
QA	Quality Assurance
QC	Quality Control
QHHEA	Qualitative Human Health Exposure Assessment
SCGs	Standards, Criteria and Guidance
SCLs	Soil Cleanup Levels
SCO	Soil Cleanup Objective
sf	Square Foot
SMP	Site Management Plan
SOE	Support of Excavation
SoMP	Soil/Materials Management Plan
SOW	Scope of Work
SSDS	Sub-slab Depressurization System
SSO	Site Safety Officer
SVI	Soil Vapor Intrusion
SVOCs	Semivolatile Organic Compounds
SWPPP	Stormwater Pollution Prevention Plan
TAL	Target Analyte List
TCE	Trichloroethylene
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TICs	Tentatively Identified Compounds
TOC	Top of Casing
USEPA	United States Environmental Protection Agency
USGS	United States Geological Society
UST	Underground Storage Tank
UUSCO	Unrestricted Use Soil Cleanup Objective
VOCs	Volatile Organic Compounds

Executive Summary

Roux Environmental Engineering and Geology, D.P.C., (Roux), on behalf of Fifth XNY, LLC (Fifth XNY or the Volunteer), has prepared this Remedial Action Work Plan (RAWP) for a 21.6-acre New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) site located at 1612 5th Avenue, Bay Shore, New York (Site) and identified as NYSDEC BCP No. C152008.

Site Description/Physical Setting/Site History

A Site Location Map is included as Figure 1.

Property Location	
BCP Site Name:	1612 5th Avenue
Property Address:	1612 5th Avenue
Property Town, County, State:	Bay Shore, Town of Islip, Suffolk County, New York
Property Tax Identification:	0500.22300.0200.054001.0000; 0500.22300.0200.057001.0000; 0500.22400.0100.080003.0000; 0500.24400.0200.056000.0000; INDEPENDENCE STREET; and 0500.24400.0200.057000.0000.
Property Topographic Quadrangle:	USGS-Long Island, New York
Nearest Intersection:	5th Avenue, Liberty Street
Surrounding Area Description:	The Site is bounded by one- and two-story commercial buildings including a bus depot to the north, one- and two-story commercial buildings, two-story residential buildings, and a one-story warehouse to the south, Fifth Avenue to the east, and a one-story commercial office building, a three-story commercial office building, and residential homes to the west.

Property Information	
Property Size:	21.6007 acres
Property Shape:	Polygon
Property Use:	The Site is currently vacant. Structures associated with the former Site occupant were decommissioned in 2023 with only a one-story former mechanic shop/maintenance building erect at the Site.

The site formerly operated as a sand mine (since at least 1947 and through at least 1963) and a municipal landfill (between 1963 and 1986). Structures associated with the former Site occupants were decommissioned in 2023. The Site is currently vacant with only a one-story former mechanic shop/maintenance building erect at the Site.

Summary of the Remedial Investigation

Remedial Investigations were conducted on-Site as proposed in accordance with the following NYSDEC approved work plans:

- Remedial Investigation Work Plan (RIWP) dated August 18, 2023, and approved by NYSDEC on October 2, 2023.

- RIWP Addendum, dated April 16, 2025, and approved by NYSDEC on April 24, 2025. This RIWP Addendum Investigation is also referred to as a Pre-Design Investigation (PDI).

RI results have been discussed and reported to NYSDEC via the Remedial Investigation Report (RIR), dated June 7, 2024, which documents remedial investigations conducted at the Site in accordance with the NYSDEC approved RIWP, and the PDI Report, dated December 12, 2025, which documents additional investigations to delineate Per- and Polyfluoroalkyl Substances (PFAS) in soil and groundwater in accordance with the NYSDEC-approved RIWP Addendum. The RIR and the PDI Report were both approved by NYSDEC on January 30, 2026.

The following is a summary of the geological and hydrogeological findings, and the soil, groundwater, and soil vapor quality data that were generated by Roux during the 2023 RI and the 2025 PDI.

Local Geology and Stratigraphy

The Site is underlain with a mixture of fill consistent with the historic landfill contents, mostly consisting of brick, wood, concrete, plastic, and glass to a minimum depth of 2 feet below land surface (ft bls) and a maximum depth of 41 ft bls across the Site, based on Roux observations. Note that observations made, based on the geotechnical borings completed in 2022 by GZA Environmental Inc. (GZA), the depth of landfill extends to 65 ft bls.

Beneath the fill, the subsurface is predominantly comprised of fine to coarse sand.

Site Hydrogeologic Setting

According to the most recent round of water level data collected during the PDI from the permanent on-site wells, the elevation of the water table surface at the Site ranged from 36.41 ft to 38.04 ft relative to NAVD88, or from 30.56 ft bls to 35.1 ft bls. Groundwater flows generally to the south/southeast toward the Great South Bay.

Soil, Groundwater, and Soil Vapor Quality

- The volatile organic compound (VOC), acetone, was detected in soil exceeding NYSDEC Unrestricted Use Soil Cleanup Objectives (UUSCOs) and Protection of Groundwater SCOs (PGWSCOs). There were no VOCs detected in soil exceeding Industrial Use SCOs (ISCOs). Acetone is commonly used during laboratory decontamination procedures and is frequently identified as a laboratory-introduced contaminant. Based on the lack of VOC detections in the soil samples, it is believed that these detections of acetone are due to laboratory cross-contamination. In groundwater, there were no detections of VOCs in groundwater in exceedance of AWQSGVs.
- Semivolatile organic compounds (SVOCs), exclusively polycyclic aromatic hydrocarbons (PAHs), were detected in soil at concentrations above NYSDEC UUSCOs, ISCOs, and/or PGWSCOs across the Site. There were no detections of PAHs in groundwater. There were three detections of one SVOC, 1 ,4-Dioxane, at concentrations exceeding AWQSGVs, but not exceeding any SCOs. The data indicates that SVOCs in soil are not a significant source of groundwater contamination at the Site, and that the 1,4-Dioxane in groundwater is not emanating from an on-Site source.
- Metals were detected in soil at concentrations above NYSDEC SCOs across the Site. Arsenic, cadmium, hexavalent chromium, total chromium, copper, lead, mercury, nickel and zinc were all detected at concentrations above UUSCOs. Arsenic was detected in two samples above ISCOs. Arsenic, lead and mercury were detected above PGWSCOs. Four soil samples were found to exhibit characteristic for hazardous waste for mercury, when analyzed using the Toxicity Characteristic Leaching Procedure (TCLP). Metals contamination is related to the presence of

landfill material at the Site. Some metals were detected at concentrations above NYSDEC PGWSCOs in soil but were not detected in groundwater indicating that metals in soil are not a source of groundwater contamination at the property. All the metals detected in groundwater above AWQSGVs in the samples are naturally occurring.

- PCBs were detected in six soil samples at concentrations exceeding UUSCOs. There were no detections exceeding ISCOs or PGWSCOs in soil. Further, there were no detections of PCBs in groundwater. Therefore, PCBs in soil are not a source of groundwater contamination at the Site. The PCBs detected in soil are indicative of the landfill material.
- Pesticides were detected in soil at concentrations exceeding UUSCOs, but not detected in exceedance of ISCOs or PGWSCOs. Pesticides were not detected in groundwater; therefore, pesticides in soil are not a source of groundwater contamination at the Site, and the detections in soil are indicative of landfill material.
- PFAS compounds were detected in soil samples exceeding UUSCOs and PGWSCOs, but there were no detections exceeding ISCOs. PFAS compounds were detected in groundwater exceeding AWQSGVs across the Site. PFAS concentrations in groundwater were significantly lower in the deeper monitoring wells when compared to concentrations in the shallow monitoring wells. There is no documented use of PFAS at the Site and no known historical Site use that would indicate the past use of these compounds. The presence of PFAS is likely due to background conditions, and potentially, in part to the presence of landfill material, and is additionally, commonly known and reported in Long Island groundwater. As concluded in the NYSDEC-approved PDI Report prepared by Roux dated December 12, 2025, on-site PFAS concentrations are isolated to localized areas and consistent with regional PFAS concentrations. .
- In regard to soil vapor quality, petroleum-related and chlorinated VOCs were detected in soil vapor samples across the Site. Neither petroleum-related or chlorinated VOCs were detected above the AWQSGVs in groundwater or in exceedance of the UUSCOs in soil. The relatively low-level concentrations of petroleum-related and chlorinated VOCs, combined with the absence of these compounds in groundwater and soil, indicate it is unlikely there is an onsite VOC source of soil vapor impacts. Methane was detected in all soil vapor samples across the Site at elevated concentrations. This is attributed to the presence of decomposing landfill material beneath the Site.

Qualitative Human Health Exposure Assessment

The following table summarizes the exposure assessment.

Environmental Media and Exposure Route	Human Exposure Assessment
Direct contact with subsurface soils (and incidental ingestion)	• During remediation, remedial workers, trespassers, passersby, and utility workers could come into contact with contaminated soil contained in dust through inhalation, incidental ingestion, and dermal contact. Implementation of the HASP, CAMP and dust controls during the remedial action will mitigate potential exposures. • Post-remediation potential worker exposure to remaining soil contamination will be reduced or eliminated through installation of a Site-wide cover system. Potential exposure to residual contamination in soils beneath the demarcation layer will be managed through implementation of the HASP, CAMP, and dust control measures, as specified in the Site Management Plan.

Environmental Media and Exposure Route	Human Exposure Assessment
Ingestion of groundwater	• Encountering groundwater during construction is not anticipated. Groundwater is not and will be not used for drinking water, as any future buildings proposed on the Site will be connected to the public water supply.
Direct contact with groundwater (and incidental ingestion)	• The water table surface at the Site ranged from 38.68 ft to 40.35 ft relative to NAVD88, or from 25.50 ft bls to 31.22 ft bls, and encountering groundwater during construction is not anticipated. Therefore, dermal contact and incidental injection during ground intrusive work is not anticipated. • Proper PPE and personal hygiene measures, as defined in the HASP, will be required to prevent dermal contact and the potential for incidental ingestion impacted groundwater during construction. • Post-remediation exposure to Site groundwater will be eliminated through Site-wide redevelopment and implementation of an environmental easement restricting groundwater use unless treated to meet its intended purpose and approved in writing by the NYSDOH or Suffolk County Department of Health Services, with concurrence from the NYSDEC.
Inhalation of air (exposures related to soil vapor intrusion)	• Except for one small building, which will be demolished as part of Site redevelopment, all remedial work will be conducted on a vacant parcel; therefore, the potential for vapor intrusion of VOCs and Methane into enclosed spaces is limited to the period of building demolition. • Potential exposure to VOCs and methane for workers and passersby during the remedial action and future ground intrusive activities will be reduced or eliminated through implementation of the HASP, CAMP, and appropriate odor and vapor control measures. • Future workers exposure to vapors will be reduced or eliminated through installation of a sub-slab vapor barrier, the operation of an active sub-slab depressurization system (SSDS), and the operation of an active site-wide methane mitigation system in areas surrounding the building. • Future worker exposure to methane vapors inside the proposed building will be reduced or eliminated as noted above and monitored through a continuous methane gas sensor system installed inside the building and permitted by the Fire Marshal, that will trigger an audible alarm and notification signal to emergency personnel if methane gas concentrations are detected above applicable limits. • Future community exposure to migrating vapors will be mitigated through an active perimeter gas collection system (PGCS).

Summary of Selected Remedial Actions

This RAWP provides an evaluation of two remedial alternatives, Track 1 Unrestricted Use alternative (as required) and a Track 4 Industrial Use alternative, associated costs, and the recommended and preferred remedy.

The elements of the Track 4 Industrial Use remedy are:

1. A remedial design program will 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 gases and other emissions;
    - Increasing energy efficiency and minimizing use of non-renewable energy;
    - Conserving and efficiently managing resources and materials;
    - Reducing waste, increasing recycling, and increasing reuse of materials which would otherwise be considered a waste;
    - Maximizing habitat value and creating habitat when possible;
    - Fostering green and healthy communities and working landscapes which balance ecological, economic, and social goals; and
    - Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.
2. Demolition of the existing one-story former mechanic shop/maintenance building to facilitate the remedy.
3. Decommission of existing groundwater monitoring wells and extraction well.
4. Hot spot delineation, excavation and off-Site disposal of soil exceeding the TCLP USEPA Regulatory Level for hazardous waste for mercury in shallow soil and collection of excavation sidewall and bottom confirmation endpoint samples at a frequency consistent with that presented in DER-10. This RAWP proposes hot spot delineation centering soil boring locations RXSB-15, RXSB-19 and RXSB-32, where hazardous levels of mercury were found in shallow soils (0 to 2 ft bls). Hot spot excavation limits and approximate depth will be determined based on field delineation and prior to its off-site disposal to a hazardous waste receiving facility. This RAWP estimates approximately 360 cubic yards (cy) of hazardous soil will be removed and disposed of as part of remediation.
5. Collection of documentation samples to record the remaining level of contamination. Documentation samples will be collected below the demarcation layer or at the final depth of excavation. Based on the site area and the extensive sampling conducted during RI and PDI, documentation sampling will be conducted at a frequency of one sample per 7,500 square feet (sf) (approximately 126 samples) of the Site. Documentation samples will be analyzed for VOC, SVOCs, Pesticides, PCB and metals. Due to the fact that PDI soil detections of PFOS and PFOA were found at concentrations below the applicable Industrial SCO, no PFOS and PFAS sampling will be conducted. The frequency of bottom sampling proposed for this RAWP is a modification to the guidance provided in NYSDEC DER-10 Section 5.4 based on the overall Site perimeter being greater than 300 feet, and the fact soil has not been determined to significantly impact groundwater, and a result of the ICs and ECs that effectively will eliminate exposure to residual contamination to be present following completion of the remedy. Locations of documentation samples will be surveyed by a NYS-licensed surveyor and presented in the Final Engineering Report (FER).
6. On-Site treatment of excavated soils (e.g., screening of unstable soils) and/or concrete crushing or processing may be implemented, as needed, to minimize waste and maximize reuse for backfilling and grading purposes. These activities will be conducted with prior authorization from the NYSDEC.
7. Excavation and off-site disposal of up to approximately 46,000 cy of non-hazardous excess soil (which includes 31,400 cy for the one foot cut to accommodate the remedial cover system). Excess

soil will be characterized for acceptance at a NYSDEC-approved waste receiving facility. Off-site disposal of all material removed from the Site will be conducted in accordance with Federal, State, and local rules and regulations for handling, transport, and disposal.

8. In observance of the Green and Sustainable Remediation (GSR) principals, as recommended in NYSDEC DER-31/ Green Remediation Guidance Document and in adherence to the Town of Islip permit requirements for a natural buffer zone, an approximate 50 to 75 foot wide vegetated section (approximately 91,300 sf) of the property along the western and southern property lines will be preserved and will remain undisturbed. Pedestrian and vehicle access to this part of the site would be restricted with the installation of 8-foot chain link fence with wood stockade and sound attenuation in front of the buffer and a 6-foot chain link with 8-foot wood stockade fence at the site perimeter.

9. Except for the natural buffer area noted above, the entire site will be capped via the installation of a site-wide cover system improved with a vapor barrier and a horizontal geocomposite membrane to allow for industrial use of the Site to prevent exposure to remaining contamination, including methane vapors.

   The site-wide cover system over a demarcation layer, which will consist of approximately 19-inch thick concrete building foundations, approximately 9.5-inch thick concrete ramps/walkways, asphalt parking and driveway areas, or a soil cover. Where a soil cover is to be used, it will be a minimum of one foot of soil placed over a demarcation layer with the upper six inches of sufficient quality to maintain a vegetative layer and the remaining six inches meeting reuse criteria for cover system noted in Table 26.

10. On-site soil that is suitable for development will be reused on-site below the cover system, without additional chemical testing, to establish redevelopment subgrade; therefore, minimizing the generation of waste. On-site soil that is intended to be used as part of the soil cover above the demarcation layer (the 6-in below the top soil; approximately 2,930 cy), will be tested to meet the requirements of 6 NYCRR Part 375-6.7(d), where for industrial use sites (Part 375-6.7(d)(iii)) it will required to meet the lower of the protection of groundwater or the protection of public health soil cleanup objectives for commercial use as set forth in Table 375-6.8(b).

11. Approximately 54,000 cy of imported material (clean fill, recycled concrete aggregate (RCA), Dense Graded Aggregate (DGA), and/or virgin native crushed stone) will be imported to stabilize the subgrade and achieve the building final floor elevation of 76 ft. Clean fill will be tested to meet the requirements of 6 NYCRR Part 375-6.7(d), where for industrial use sites (Part 375-6.7(d)(iii)), use the lower of the protection of groundwater or the protection of public health soil cleanup objectives for commercial use as set forth in Table 375-6.8(b) of this Subpart, Table 26 of this RAWP. Import material will be approved by NYSDEC prior to its importation to the Site.

12. Installation of a vapor/gas mitigation system (VMS) for the entire Site in accordance with 6 NYCRR Part 363-9.7 for closed landfills. The VMS will include:

    a. vapor barrier (20 mil minimum) below the entire newly installed building.

    b. Installation of an active sub-slab depressurization system (SSDS) beneath the vapor barrier of the newly installed building. The SSDS will consist of a network of horizontal pipes set in the middle of a gas permeable layer to prevent any exposure to soil vapor. Piping will be connected to two (2) riser pipes penetrating the foundation slab and terminated at blowers and an exhaust stack with applicable emission controls located on the roof.

    c. A continuous methane gas sensor system installed inside the building and permitted by the Fire Marshal, that will trigger an audible alarm and notification signal to emergency personnel if methane gas concentrations are detected above applicable limits. Gas sensors will also be installed to monitor the levels of methane within the SSDS riser pipes.

    d. Installation of an active perimeter gas collection system (PGCS), gas monitoring wells and a horizontal geocomposite membrane to proactively manage and mitigate the risk of methane migration outside the limits of the capped area.

13. Imposition of Institutional Controls in the form of Environmental Easement to ensure proper Site use and to prevent future exposure to any residual contamination remaining in these areas, which will, e.g.:
    a. require the remedial party or Site owner to complete and submit to the NYSDEC a periodic certification of Institutional and Engineering Controls in accordance with 6 NYCRR Part 375-1.8 (h)(3);
    b. allows the continued use and development of the controlled property for Industrial Uses as defined by 6 NYCRR Part 375-1.8(g), although land use is subject to local zoning laws;
    c. restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the New York State Department of Health (NYSDOH) or Suffolk County Department of Health Services (groundwater restriction applies to the entire Site); and
    d. requires compliance with the Department-approved SMP.
14. A SMP is required for all portions of the Site which includes the following:
    a. an Institutional and Engineering Control Plan that identifies all use restrictions and Engineering Controls for the Site and details the steps and media-specific requirements necessary to ensure the following Institutional and/or Engineering controls remain in place and effective:
        i. Institutional Controls: The Environmental Easement discussed above;
        ii. Engineering Controls: VMS and site cover system.
    b. A Monitoring Plan to assess the performance and effectiveness of the remedy, including, monitoring for VOCs and methane within the newly installed building and methane concentrations around the Site perimeter;
    c. An O&M Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy.
    d. A Site Management Reporting Plan, in the form of Period Review Report (PRR) for submitting data, information, recommendations, and certifications to NYSDEC.
15. Submission of a FER that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, and describes all Engineering and Institutional Controls to be implemented at the Site, and lists any changes from this RAWP.

Significant Threat

A positive Significant Threat determination has been made by NYSDEC and/or NYSDOH with respect to this Site.

Summary of Proposed Redevelopment Plan

The planned redevelopment of the Site consists of a one-story industrial warehouse with parking and landscaped areas. The planned redevelopment will be completed consistent with the requirements under 6 NYCRR Part 363-9.7, which outlines the end use of closed landfills in New York.

The proposed Remedial Actions are 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 are described here to provide the basis for this assessment.

1. Introduction

Roux Environmental Engineering and Geology, D.P.C., (Roux), on behalf of Fifth XNY, LLC (Fifth XNY or the Volunteer), has prepared this Remedial Action Work Plan (RAWP) for a 21.6-acre New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) site located at 1612 5th Avenue, Bay Shore, New York (Site)The Site is comprised of five contiguous lots situated on the west side of 5th Avenue in Bay Shore. A Site Location Map is provided as **Figure 1** and a Tax Map is provided as **Figure 2**.

The Site was accepted into the program as Site No. C152008 and the Brownfield Cleanup Agreement (BCA) was executed on July 24, 2024 (Index No. C152008-05-23). The applicant Fifth XNY, LLC is participating in the BCP as a Volunteer as defined in ECL 27-1405 (1)(b). Industrial Use is proposed for the property. When completed, the Site will contain a one-story, 240,830 square foot (SF) warehouse with parking and landscaped areas. Refer to the BCP application for additional details.

Remedial Investigations (RIs) were completed on 1612 5th Avenue in accordance with the following NYSDEC approved work plans:

- Remedial Investigation Work Plan (RIWP) dated August 18, 2023, and approved by NYSDEC on October 2, 2023.
- RIWP Addendum, dated April 16, 2025, and approved by NYSDEC on April 24, 2025. This RIWP Addendum Investigation is also referred to as a Pre-Design Investigation (PDI).

The purpose of the RI was to determine the nature and extent of contamination at the Site, characterize environmental media, qualitatively assess the potential exposure of receptors to Site contaminants, and develop any other additional data necessary to support the development of a RAWP, based on the proposed future use of the Site as an industrial use warehouse.

RI results have been discussed and reported to NYSDEC via the Remedial Investigation Report (RIR), dated June 7, 2024, which documents remedial investigations conducted at the Site in accordance with the NYSDEC approved RIWP, and the PDI Report, dated December 12, 2025, which documents additional investigations to delineate Per- and Polyfluoroalkyl Substances (PFAS) in soil and groundwater in accordance with the NYSDEC-approved RIWP Addendum. The RIR and the PDI Report were both approved by NYSDEC on January 30, 2026.

This RAWP provides an evaluation of two remedial alternatives and their associated costs, then presents the recommended/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 positive Significant Threat determination has been made by NYSDEC and/or NYSDOH with respect to this Site. 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

A Site Location Map and Tax Map are included as Figures 1 and 2, respectively.

Property Location	
Property Name:	1612 5th Avenue
Property Address:	1612 5th Avenue
Property Town, County, State:	Bay Shore, Town of Islip, Suffolk County, New York
Property Tax Identification:	0500.22300.0200.054001.0000; 0500.22300.0200.057001.0000; 0500.22400.0100.080003.0000; 0500.24400.0200.056000.0000; INDEPENDENCE STREET; and 0500.24400.0200.057000.0000.
Property Topographic Quadrangle:	USGS-Long Island, New York
Nearest Intersection:	5th Avenue, Liberty Street
Surrounding Area Description:	The Site is bounded by one- and two-story commercial buildings including a bus depot to the north, one- and two-story commercial buildings, two-story residential buildings, and a one-story warehouse to the south; Fifth Avenue to the east; and a one-story commercial office building, a three-story commercial office building, and residential homes to the west.

Property Information	
Property Acreage:	21.6 acres
Property Shape:	Polygon
Property Use:	The Site is currently vacant. Most structures associated with the former Site occupant were decommissioned prior to entry into the BCP with only a one-story former mechanic shop/maintenance building erect at the Site.

1.2 Contemplated Redevelopment Plan

The planned redevelopment of the Site consists of a one-story industrial warehouse with parking and landscaped areas. The Remedial Action to be performed in accordance with the RAWP is intended to make the Site protective of human health and the environment consistent with the contemplated end use.

The planned redevelopment will be completed consistent with the requirements under 6 NYCRR Part 363-9.7, which outlines the end use of closed landfills in New York.

The redevelopment plans as of the date of submittal of this RAWP are included as **Appendix A.**

1.3 Description of Surrounding Properties

The Site is bounded by the following properties, as summarized in the table below. A figure presenting the land use is provided as **Figure 3**.

Adjacent Property Direction	Property Use
North	Multiple one- and two-story industrial buildings including a bus depot
South	One- and two-story industrial buildings, two-story religious building, residential building, one-story warehouses
East	5th Avenue, a three-story residential apartment building, a two-story auto body shop with an asphalt-paved parking lot, a two-story residential home, and a one-story auto repair shop.
West	A one-story commercial office building, a three-story commercial office building, residential homes, and asphalt-paved parking lots.

2. Description Of Remedial Investigation Findings

2.1 Summary of Remedial Investigations Performed

This section provides an overview of previous environmental-related activities completed at the Site, based on a review of the RIR and PDI Report.

2.1.1 Summary of Remedial Investigation (Roux, 06/2024).

The RI scope of work (SOW) included:

- The advancement of seventeen (17) soil borings, ten (10) shallow surface soil borings, and six (6) berm test pits, and fifty (50) soil samples collected from various depths;
- The installation of eight (8) permanent monitoring wells for the collection of groundwater samples; and
- The installation of ten (10) permanent soil vapor points to depths of 3.5 or 5 feet below land surface (ft bls) for the collection of ten (10) soil vapor samples.

RI Sampling Locations, Analyses and Rationale for soil, groundwater and soil vapor are presented in Tables 1 through 3, respectively. Summary of RI findings are provided below:

Soil/Fill:

- The Site is underlain with fill material consisting of wood, organics, refuse and deleterious materials with lower contents of sand and gravel extending from 2 ft bls to 65 ft bls. Native Soil beneath the fill material on Site consists of medium dense to dense sands with gravel.
- VOCs: acetone, was detected in soil exceeding NYSDEC Unrestricted Use Soil Cleanup Objectives (UUSCOs) and Protection of Groundwater SCOs (PGWSCOs). There were no VOCs detected in soil exceeding ISCOs.
- SVOCs: Exclusively PAHs, were detected in soil at concentrations above NYSDEC UUSCOs, ISCOs, and PGWSCOs across the Site.
- Metals: Arsenic, cadmium, hexavalent chromium, total chromium, copper, lead, mercury, nickel and zinc were all detected at concentrations above UUSCOs. Arsenic was detected in two samples above ISCOs. Arsenic, lead and mercury were detected above PGWSCOs. There were four exceedances of the TCLP USEPA Regulatory Level for hazardous waste mercury. There were no exceedances of the TCLP USEPA Regulatory Levels for lead.
- PCBs: Detected in six soil samples at concentrations exceeding UUSCOs. There were no detections exceeding ISCOs or PGWSCOs in soil. Pesticides were detected in soil at concentrations exceeding UUSCOs, but not detected in exceedance of ISCOs or PGWSCOs.
- PFAS compounds: Detected in soil samples exceeding UUSCOs and PGWSCOs.There were no detections exceeding ISCOs.

Groundwater:

- SVOCs: There were three detections of 1,4-Dioxane at concentrations exceeding AWQSGVs.
- PFAS: Detections of Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) in groundwater exceeding AWQSGVs across the Site.

Soil Vapor:

- Petroleum-related, methane and CVOCs were detected in soil vapor samples across the Site.

2.1.2 Summary of Pre-Design Investigation (Roux, 12/2025).

The objective of the PDI was to investigate and delineate the potential source and downgradient migration of PFAS in groundwater. The PDI SOW included:

- Nineteen (19) soil borings and collection of forty (40) soil samples from various depths; and
- Thirteen (13) permanent monitoring wells for the collection of groundwater samples.

Summary of the PDI Soil and Groundwater Sampling Program is presented in Tables 4. Summary of PDI findings is provided below:

Soil/Fill:

- The Site is underlain with a mixture of fill consistent with the historic landfill contents, mostly consisting of brick, wood, concrete, plastic, and glass to a minimum depth of 2 feet and a maximum depth of approximately 63 ft bls across the Site.
- PFAS: PFOS and PFOA were detected in soil samples at concentrations below the applicable ISCO but above the PGWSCOs.

Groundwater:

- PFOS and PFOA were detected in groundwater at concentrations exceeding the NYSDEC Ambient Water Quality Standards and Guidance Values (AWQSGVs). On-site PFAS impacts appear limited to localized areas. The presence of PFAS is likely due to background conditions, and potentially, in part to the presence of landfill material.

2.2 Significant Threat

A positive Significant Threat determination has been made by NYSDEC and/or NYSDOH with respect to this Site.

2.3 Site History

2.3.1 Past Uses and Ownership

Based on a review of previous environmental reports and documentation, including historic aerial photographs, the Site was owned by Hubbard Sand and Gravel since at least 1947 and operated as a sand mine through at least 1963. Between 1963 and 1986 the western portion of the Site was utilized as a municipal landfill and reportedly accepted construction and demolition (C&D) debris. As depicted in the aerial imagery below, landfill operations included the immediately adjacent, upgradient, property.

The Site is currently vacant and relatively flat. Only a one-story former mechanic shop/maintenance building currently occupied a small portion (approx. 5,035 SF) of the Site.



Source: Suffolk County 2004 Imagery, via GISViewer



Source: Suffolk County 2023 Imagery, via GISViewer

2.3.2 Phase I and Phase II Reports

Phase I Environmental Site Assessment (Roux, 04/2022)

The Phase I Environmental Site Assessment (ESA) was conducted to identify recognized environmental conditions (RECs) and other environmental conditions that may have affected the Site. Roux identified the following RECs at the Site:

- Historic use as a landfill;
- Current use as a vehicle repair shop;
- Stained soil;
- Current use of surrounding properties as vehicle repair shops; and
- Two separate spill incidents as reported and closed by NYSDEC.

Roux also identified the following Business Environmental Risks (BERs) at the Site:

- A stormwater management system in the eastern exterior portion of the Site, which consisted of a series of four open-grate and two closed-top dry wells. The presence of these dry wells provides a direct conduit to the subsurface for potential contaminants and their presence is therefore considered a BER.
- Several vegetated berms of soil/fill material along the western and northwestern sides of the Site. The source and condition of these soil/fill berms could not be confirmed during the Phase I ESA. These soil/fill berms may need to be disposed of to allow for future operations at the Site. The presence of soil/fill berms of unknown condition at the Site is considered a BER.

Phase II Environmental Site Assessment (Roux, 04/2023)

The Phase II ESA was completed to investigate the RECs and BERs identified in the Phase I ESA. The Phase II ESA SOW included:

- Fourteen (14) soil borings and collection of twenty-one (21) soil samples from various depths;
- Installation of eight (8) temporary monitoring wells at SB-1 through SB-4 and SB-8 through SB 11 for the collection of groundwater samples;
- Installation of temporary soil vapor points to depths of 5-5.5 feet below land surface (ft bls) for the collection of four (4) soil vapor samples (SV-1 through SV-4); and
- Collection of six (6) sediment samples from six drywell structures located in the eastern portion of the Site.

Summary of Phase II findings:

Soil/Fill:

- The western portion of the Site within the historic landfill area is underlain with a mixture of fill consistent with the historic landfill contents extending to a maximum of 65 ft bls. Beneath the fill, and outside of the historic landfill area, the site is underlain with fine to coarse sand.
- SVOCs and metals were detected in soil samples at concentrations exceeding the ISCO.

Groundwater:

- VOCs, SVOCs, metals, and PFAS were detected in groundwater at concentrations exceeding NYSDEC AWQSGVs.

Soil Vapor:

- VOCs, CVOCs, and methane were detected in soil vapor samples.

Drywell Sediment:

- No detections of VOCs, SVOCs, or metals in drywell sediment samples exceeding Suffolk County Department of Health Action Levels.

2.3.3 Sandborn Maps

Roux requested historical Sanborn maps for the Subject Property from EDR. EDR certified that the complete holdings of the Sanborn Library, LLC collection have been searched and that historical Sanborn maps covering the Subject Property were not found.

2.4 Geologic and Hydrogeologic Conditions

Based on the survey performed by Gallas Surveying Group dated January 14, 2026, the majority of the Site is generally flat at an elevation ranging from 65-70 feet above the North American Vertical Datum of 1988 (NAVD 88) (an approximation of mean sea level), with the exception of soil berms that are present on the west side of the Site with a maximum elevation of approximately 101 feet. A site survey of current conditions is included in Appendix B.

According to the water level data collected from the permanent on-site wells during the RI, the elevation of the water table surface at the Site ranged from 38.68 ft to 40.35 ft relative to NAVD88, or from 25.50 ft bls to 31.22 ft bls. During the PDI, water table surface at the Site ranged from between 30 and 35 ft. bls.

Combined, the average depth of groundwater observed during the RI and PDI is approximately 32 ft. bls. Groundwater flows generally to the south/southeast toward the Great South Bay. The most recent groundwater flow map is shown in Figure 9. Summary of Water Level Data collected on September 5, 2025 is included in Table 4.

2.4.1 Soil and Underlying Formation

The Site is underlain with a mixture of fill consistent with the historic landfill contents, mostly consisting of brick, wood, concrete, plastic, and glass to a minimum depth of 2 feet and a maximum depth of 41 feet across the Site, based on Roux observations. Note that observations made, based on the geotechnical borings completed in 2022 by prior consultant, GZA Environmental Inc. (GZA), the depth of landfill extends to 65 ft.bls.

Beneath the fill, the subsurface is predominantly comprised of fine to coarse sand.

2.4.2 Wetland Areas and Surface Water Bodies

According to the Environmental Database Report® (EDR) Report and National Wetlands Inventory, the Site is not located in or adjacent to any wetlands. According to a review of Federal Emergency Management Agency (FEMA) Flood Maps, the Site is not located in the 100-year or 500-year flood zones.

The Great South Bay is approximately 3.5 miles to the southeast of the Site.

2.5 Contamination Conditions

Contamination conditions described below are derived from site investigations conducted prior to the issuance of this RAWP and documented in the RIR, June 7, 2024, and PDI Report, dated December 12, 2025. Both documents were prepared in accordance with the current 6 NYCRR Part 375, dated 2006, and approved by NYSDEC on January 30, 2026.

Note that the NYSDEC has adopted revised 6 NYCRR Part 375, which became effective on December 31, 2025. As instructed by Patrick Powers, NYSDEC Project Manager, RI tables should be consistent between both documents (RIR and RAWP) and do not require revision. Copy of email correspondence with NYSDEC is provided in Appendix M.

2.5.1 Conceptual Model of Site Contamination

The following section explains the occurrence of contaminants and their fate and transport at the Site in the context of the local Site stratigraphy and hydrogeology.

Based on the Site-wide detections and exceedances of NYSDEC UUSCOs (and/or guidance values for PFOS and PFOA), soil impacts including SVOCs (exclusively PAHs), metals, pesticides, PCBs, PFOS and PFOA are likely due to the former use of the Site as a landfill. There were four exceedances of the TCLP USEPA Regulatory Level for hazardous waste mercury, three of them in shallow soils (0-2 ft. bgs). The spatial distribution of contaminants of potential concern in various media is shown in Figures 6 through 11.

As discussed in section 2.5.5., groundwater is not significantly impacted: 1,4-Dioxane was detected in two groundwater samples above NYSDEC AWQSGVs, but at low concentrations; and some naturally occurring metals exceeding the AWQSGV were detected Site-wide. 1,4-Dioxane was not detected in any soil samples, making it unlikely that soil is a source of the 1,4-Dioxane presence. The metals detected in

groundwater samples exceeding AWQSGVs are not consistent with the metals detected in soil. Therefore, soil is not a source of metal presence in groundwater.

PFAS compounds were detected in the RI and PDI groundwater and soil samples. PFOS and PFOA were detected in soil samples at concentrations below the applicable ISCO.

PFAS were detected in groundwater exceeding AWQSGVs across the Site. There is no documented use of PFAS at the Site and no known historical Site use that would indicate the past use of these compounds. Elevated PFOS/PFOA concentrations were observed in localized areas, where the highest concentrations, for both PFOS and PFOA, were identified in RXMW-6 at a PFOA concentration (2270 ng/l) significantly above NYSDEC AWGSGVs (6.7 ng/). The presence of PFAS is likely due to background conditions, and potentially, in part to the presence of landfill material, and is additionally, commonly known and reported in Long Island groundwater.

Methane concentrations were found at levels exceeding 25% of the lower explosive limit (LEL), per Part 363, Landfills, of the 6 NYCRR Part 360 Series, effective date July 22, 2023, concentration of methane and other explosive gases must not exceed 25% of the LEL.

2.5.2 Description of Areas of Concern

Based on the findings of the prior investigations, the following AOCs were further investigated as part of this RI:

- Presence of contaminated soil/fill and groundwater; and
- Presence of soil and soil vapor impacts due to historic Site operations.

2.5.3 Identification of Standards, Criteria and Guidance

Standards, Criteria and Guidance (SCGs) are promulgated requirements (“standards” and “criteria”) and non-promulgated guidance (“guidance”) that govern activities that may affect the environment and are used by the NYSDEC at various stages in the investigation and remediation of a site. SCGs incorporate both the concept of “applicable or relevant and appropriate requirements” (ARARs) and the “to be considered” (TBCs) category of non-enforceable criteria or guidance, consistent with the USEPA remediation programs. The following table provides a list of SCGs potentially applicable to the Site. Key SCGs are discussed in greater detail below.

Citation	Title	Regulatory Agency
General		
6 NYCRR Part 375	Environmental Remediation Programs, dated 2006.	NYSDEC
6 NYCRR Part 363-9.7	Landfills – Closure, Post-Closure, And Custodial Care – End Use	NYSDEC
29 CFR 1910.120	Hazardous Waste Operations and Emergency Response	US Department of Labor, OSHA
29 CFR 1926	Safety and Health Regulations for Construction	US Department of Labor, OSHA
TAGM HWR-4031	Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites	NYSDEC
No Citation	Analytical Services Protocol	NYSDEC

Citation	Title	Regulatory Agency
DER-10	Technical Guidance for Site Investigation and Remediation	NYSDEC
No Citation	Sampling for 1,4-Dioxane and Per- and Polyfluoroalkyl Substances (PFAS) Under DEC's Part 375 Remedial Programs	NYSDEC
Soil		
6 NYCRR Part 375	Environmental Remediation Programs	NYSDEC
CP-51	Soil Cleanup Guidance	NYSDEC
Groundwater		
6 NYCRR Part 700-705	Surface Water and Ground Water Classification Standards	NYSDEC
TOGS 1.1.1	AWQSGVs	NYSDEC
TOGS 2.1.3	Primary and Principal Aquifer	NYSDEC
Air		
Air Guide No. 1	Guidelines for the control of toxic ambient air contaminants	NYSDEC
No Citation	Final – Guidance for Evaluating Soil Vapor Intrusion in the State of New York	NYSDOH
No Citation	Division of Materials Management (DMM)	NYSDEC
6 NYCRR Part 363-9	Landfills – Closure, Post-Closure, and Custodial Care	NYSDEC
Solid Waste		
6 NYCRR Part 360	Solid Waste Management Facilities	NYSDEC
6 NYCRR Part 364	Waste Transporters	NYSDEC
Hazardous Waste		
6 NYCRR Part 371	Identification and Listing of Hazardous Wastes	NYSDEC
6 NYCRR Part 372	Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities	NYSDEC
6 NYCRR Part 376	Land Disposal Restrictions	NYSDEC
Site Management		
No Citation	Groundwater Monitoring Well Decommissioning Procedures	NYSDEC

Legend:

NYCRR: New York Code of Rules and Regulations

OSHA: Occupational Safety and Health Administration

TOGS: Technical Operational Guidance Series

TAGM HWR: Technical and Administrative Guidance Memorandum – Hazardous Waste Remediation

2.5.4 Soil/Fill Contamination

2.5.4.1 Summary of Soil/Fill Data and Comparison with SCGs

A total of 90 soil samples (including field duplicates) were collected and analyzed from 52 soil boring and test pit locations and submitted for laboratory analysis.

The UUSCOs are applicable to the evaluation of an unrestricted use cleanup and are used to evaluate a Track 1 unrestricted use scenario, as required by DER 10. The ISCOs are appropriate for the Site based upon the current and proposed future land use. The PGWSCOs are applicable to those parameters that are present in both soil and groundwater exceeding the applicable SCGs.

Laboratory analytical data generated during the RI for soil is summarized in Tables 6 through 12; PDI soil data is included in Table 20. Soil boring locations with soil sample exceedances of the NYSDEC Subpart 375-6 SCOs are shown on Figure 7 and 11. A summary of the detections above applicable SCGs, is provided below.

Volatile Organic Compounds in Soil

A summary of the VOC exceedances in the soil samples analyzed is provided below:

VOC Exceedances of SCOs in Soil

Analyte	NYSDEC UUSCO (mg/kg)	Detections above NYSDEC UUSCOs	NYSDEC ISCOs (mg/kg)	Detections above NYSDEC ISCOs	NYSDEC PGWSCOs (mg/kg)	Detections above NYSDEC PGWSCOs	Range in Concentration Above NYSDEC SCOs (mg/kg)	Soil Sample with Maximum Detection
Acetone	0.05	10	1,000	-	0.05	10	0.054 – 0.2	RXSB-26 (10-12)

– No exceedances detected/no SCO available
mg/kg – milligram per kilograms

Acetone is commonly used during laboratory decontamination procedures and is frequently identified as a laboratory-introduced contaminant. Based on the lack of VOC detections in the soil samples, it is believed that these detections of acetone are due to laboratory cross-contamination.

Semi-volatile Organic Compounds in Soil

A summary of the SVOC exceedances in the soil samples analyzed is provided below:

SVOC Exceedances of SCOs in Soil

Analyte	NYSDEC UUSCO (mg/kg)	Detections above NYSDEC UUSCOs	NYSDEC ISCOs (mg/kg)	Detections above NYSDEC ISCOs	NYSDEC PGWSCOs (mg/kg)	Detections above NYSDEC PGWSCOs	Range in Concentration Above NYSDEC SCOs (mg/kg)	Soil Sample with Maximum Detection
Benzo(A)Anthracene	1	1	11	-	1	1	1.3	RXSB-24 (0-2)
Benzo(A)Pyrene	1	1	1.1	1	22	-	1.6	RXSB-24 (0-2)
Benzo(B)Fluoranthene	1	2	11	-	1.7	1	1.1 – 2.2	RXSB-24 (0-2)
Chrysene	1	1	110	-	1	1	1.5	RXSB-24 (0-2)
Indeno(1,2,3-C,D) Pyrene	0.5	2	11	-	8.2	-	0.55 – 0.78	RXSB-24 (0-2)

– No exceedances detected/no SCO available

mg/kg – milligram per kilograms

SVOCs, exclusively polycyclic aromatic hydrocarbons (PAHs), detected in soil are indicative of landfill materials related to past Site use.

Metals in Soil

A summary of the Metals exceedances in the soil samples analyzed is provided below:

Metals Exceedances of SCOs in Soil

Analyte	NYSDEC UUSCO (mg/kg)	Detections above NYSDEC UUSCOs	NYSDEC ISCOs (mg/kg)	Detections above NYSDEC ISCOs	NYSDEC PGWSCOs (mg/kg)	Detections above NYSDEC PGWSCOs	Range in Concentration Above NYSDEC SCOs (mg/kg)	Soil Sample with Maximum Detection
Arsenic	13	3	16	2	16	3	13.7 - 20.1	RXSB-20 (10-12)
Cadmium	2.5	1	60	-	7.5	-	3.2	RXSB-27 (10-12)
Chromium, Hexavalent	1	2	800	-	19	-	1.1-1.3 J	RXSB-26 (0-2)
Chromium, Total	30	1	6800	-	-	-	146	RXSB-20 (10-12)
Copper	50	3	10000	-	1720	-	51.7 – 89.8	RXSB-20 (10-12)
Lead	63	13	3900	-	450	2	64.7 – 1050	RXSB-18 (10-12)
Mercury	0.18	15	5.7	-	0.73	1	0.19 – 0.92	RXSB-20 (0-2)
Nickel	30	1	10000	-	130	-	40	RXSB-35
Zinc	109	11	10000	-	2480	-	110 - 574	RXSB-17 (10-12)

– No exceedances detected/no SCO available
mg/kg – milligram per kilograms
J – Estimated value

The metals detected in soil that are not naturally occurring are indicative of landfill material consistent with past Site use.

Four soil samples were found exhibiting hazardous waste conditions for mercury, when comparing the results to the TCLP USEPA Regulatory Level for hazardous waste mercury (0.2 mg/L), at four locations ranging from 0.202 mg/L in RXSB-17 (10-12) and 1.09 mg/L in RXSB-32 (0-2 inches).

Polychlorinated Biphenyls in Soil

A summary of the PCB exceedances in the soil samples analyzed is provided below:

PCBs Exceedances of SCOs in Soil

Analyte	NYSDEC UUSCO (mg/kg)	Detections above NYSDEC UUSCOs	NYSDEC ISCOs (mg/kg)	Detections above NYSDEC ISCOs	NYSDEC PGWSCOs (mg/kg)	Detections above NYSDEC PGWSCOs	Range in Concentration Above NYSDEC SCOs (mg/kg)	Soil Sample with Maximum Detection
PCBs	0.1	6	25	-	3.2	-	0.15 – 0.97	RXSB-17 (10-12)

– No exceedances detected/no SCO available
mg/kg – milligram per kilograms

PCBs in exceedance of the UUSCOs were detected in six soil samples. There were no exceedances of their respective ISCOs or PGWSCOs. The PCBs detected in soil are indicative of landfill material consistent with past Site use.

Pesticides and Herbicides in Soil

A summary of the Pesticide and Herbicide exceedances in the soil samples analyzed is provided below:

Pesticide and Herbicide Exceedances of SCOs in Soil

Analyte	NYSDEC UUSCO (mg/kg)	Detections above NYSDEC UUSCOs	NYSDEC ISCOs (mg/kg)	Detections above NYSDEC ISCOs	NYSDEC PGWSCOs (mg/kg)	Detections above NYSDEC PGWSCOs	Range in Concentration Above NYSDEC SCOs (mg/kg)	Soil Sample with Maximum Detection
Aldrin	0.005	2	1.4	-	0.19	-	0.0085 J – 0.026 J	RXSB-19 (0-2)
Dieldrin	0.005	10	2.8	-	0.1	-	0.0078 – 0.058 J	RXSB-19 (0-2)
P,P'-DDD	0.0033	10	180	-	14	-	0.0037 J - 0.041	RXSB-38 (0-2)
P,P'-DDE	0.0033	23	120	-	17	-	0.0034 J – 0.037	BERM-6
P,P'-DDT	0.0033	14	94	-	136	-	0.0035 J – 0.076	BERM-6

– No exceedances detected/no SCO available
mg/kg – milligram per kilograms
J – Estimated value

No pesticides exceeded ISCOs or PGWSCOs. Pesticide and herbicide detections are indicative of landfill material and use of the Site as a landscape material supplier.

Emerging Contaminants in Soil

The top three highest PFOS and PFOA soil concentrations are shown below. Please note all these concentrations are well below the applicable Industrial SCO.

Sample ID	PFOS (ug/kg)	PFOA (ug/kg)	Sample Depth (ft.bls)
Industrial SCO	440	600	
PGW SCO	**1**	**0.8**	
RXMW-16/RXSB-40	**7.73**	**7.58**	27-29
RXMW-12D/RXSB-44	**3.42**	0.46	0-2
RXMW-12D/RXSB-44	**2.96**	0.47	10-12

Emerging contaminants list includes the 40 PFAS compounds listed in the NYSDEC April 2023 "Sampling, Analysis and Assessment of Per-and Polyfluoroalkyl Substances (PFAS)." PFOS and PFOA were detected in samples exceeding UUSCOs and PGWSCOs. No other emerging contaminant compounds were detected in exceedance of the soil cleanup guidance in any of the soil samples analyzed. There is no documented use of PFAS at the Site and no known historical Site use that would indicate the past use of these compounds. The presence of PFAS is likely due to background conditions, and potentially, in part to

the presence of landfill material, and is additionally, commonly known and reported in Long Island groundwater.

2.5.5 On-Site and Off-Site Groundwater Contamination

2.5.5.1 Summary of Groundwater Data and Comparison with SCGs

A total of eight groundwater samples were collected from eight permanent monitoring wells installed during the RI. A total of 13 groundwater samples were collected during the PDI.

The document entitled "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations," issued by the NYSDEC in June 1998 and amended in 2000, 2004, and 2023, presents the guidelines that were used to evaluate potential groundwater issues for the Site. SCGs for PFAS (specifically PFOA and PFOS) in groundwater are the Guidance Values presented in the NYSDEC Sampling, Analysis and Assessment of Per-and Polyfluoroalkyl Substances (PFAS) guidance document, revised April 2023.

The Site-wide analytical groundwater data was compared to NYSDEC AWQSGVs for Class GA groundwater as noted. However, it should be noted that the groundwater beneath the Site is not currently used as a drinking water source and the proposed redevelopment will be provided with potable water service. Furthermore, the proposed remedy includes the implementation of an institutional control restricting groundwater use unless treated to meet its intended purpose and approved in writing by the NYSDOH or Suffolk County Department of Health Services, with concurrence from the NYSDEC.

Analytes that exceeded NYSDEC PGWSCOs in Site-wide soil were compared to analyte detections in Site wide groundwater to assess whether, and to what extent, constituents detected in soil are impacting groundwater quality. An evaluation of soil exceedances and groundwater detections is provided in the below sections.

Laboratory analytical data generated during the RI for groundwater is summarized in Tables 13 through 18 and generated during the PDI in Table 21. Monitoring well locations with groundwater sample exceedances of AWQSGVs are shown on Figure 6 and 10.

A summary of groundwater quality results is provided in the below sections.

Volatile Organic Compounds in Groundwater

There were no detections of VOCs in groundwater in exceedance of AWQSGVs.

Semi-volatile Organic Compounds in Groundwater

A summary of the SVOC exceedances in the groundwater samples analyzed is provided below:

SVOC Exceedances of AWQSGVs in Groundwater

Analyte	NYSDEC AWQSGVs (µg/L)	Detections above NYSDEC AWQSGVs	Range in Concentration Above NYSDEC AWQSGVs (µg/L)	Sample with Maximum Detection
1,4-Dioxane (P-Dioxane)	0.35	3	0.47 – 3.4	RXMW-15

µg/L – micrograms per liter

There were no detections of 1,4-Dioxane in soil exceeding the PGWSCO; therefore, these exceedances observed in groundwater are likely due to off-Site impacts and do not indicate an on-Site source impacting groundwater.

Metals in Groundwater

A summary of the metals exceedances in the groundwater samples analyzed is provided below:

Metals Exceedances of AWQSGVs in Groundwater

	Analyte	NYSDEC AWQSGVs (µg/L)	Detections above NYSDEC AWQSGVs	Range in Concentration Above NYSDEC AWQSGVs (µg/L)	Sample with Maximum Detection
Total	Barium	1000	1	1,050	RXMW-15
	Iron	300	6	20,000 - 44,700	RXMW-9
	Magnesium	35,000	1	85,700	RXMW-15
	Manganese	300	6	572-2,350	RXMW-9
	Sodium	20,000	7	20,800 – 238,000	RXMW-9
Dissolved	Iron	300	5	471– 11,500	RXMW-14
	Magnesium	35,000	1	82,200	RXMW-15
	Manganese	300	1	570-2,220	RXMW-9
	Sodium	20,000	7	21,700 - 241,000	RXMW-9

µg/L – micrograms per liter
Sample counts above include exceedances in duplicate samples

All metals detected above AWQSGVs are naturally occurring. The metals detected in total and dissolved groundwater samples were not detected above PGWSCOs in any soil samples. Therefore, the metals detected in groundwater do not indicate metals in soil are a source of groundwater impacts.

Polychlorinated Biphenyls, Pesticides, and Herbicides in Groundwater

No PCBs, pesticides, nor herbicides were detected in any groundwater samples, as shown on Figure 6.

Emerging Contaminants in Groundwater

The top three highest PFOS and PFOA groundwater concentrations are shown below.

Sample ID	PFOS	PFOA	Well Screen
NYSDEC AWQSGV (ng/l)	2.7	6.7	(ft. bls)
RXMW-16/RXSB-40	**105**	**2270**	27- 37
RXMW-21	**97.2**	**15.2**	21-31
RXMW-12D/RXSB-44	**87.3**	**11.9**	27- 37

Elevated PFAS concentrations are isolated to localized areas, where the highest concentrations, for both PFOS and PFOA, were identified in RXMW-6. The presence of PFAS is likely due to background conditions, and potentially, in part to the presence of landfill material, and is additionally, commonly known and reported in Long Island groundwater.

2.5.6 On-Site and Off-Site Soil Vapor Contamination

2.5.6.1 Summary of Soil Vapor Contamination

A total of ten soil vapor samples were collected from permanent soil vapor points and submitted for laboratory analysis.

SCG for Soil Vapor

The Final "Guidance for Evaluating Soil Vapor Intrusion in the State of New York," (NYSDOH SVI Guidance) issued by the NYSDOH in October 2006 and updated in February 2024, presents the guidelines that were used to evaluate potential soil vapor intrusion issues for the Site.

SCGs for Methane

Part 363, Landfills, of the 6 NYCRR Part 360 Series, effective date July 22, 2023, presents that the concentration of methane and other explosive gases must not exceed 25% of the lower explosive limit (LEL).

Laboratory analytical data generated for soil vapor is summarized in Table 19. Soil vapor point locations with soil vapor sample detections are shown on Figure 8.

A summary of soil vapor quality results is provided in the below sections.

VOC Concentrations in Soil Vapor

Analyte	Detections	Range in Concentrations (µg/m^3)	Sample with Maximum Detection
Matrix A Compounds			
Trichloroethylene (TCE)	2	4.3 – 4.8	RXSV-13
1,1-Dichloroethene	2	0.32 J – 0.53 J	RXSV-14
Matrix B Compounds			
Methylene Chloride	3	2.4 J – 6.9 J	RXSV-5
Tetrachloroethylene (PCE)	8	0.75 J – 16	RXSV-13
Matrix D Compounds			
Benzene	10	1.5 J – 32	RXSV-14
Ethylbenzene	6	1 J – 6.7 J	RXSV-8
Cyclohexane	10	0.37 J – 120	RXSV-7
2,2,4-Trimethylpentane	10	1.3 – 220	RXSV-12
1,2,4-Trimethylbenzene	5	0.89 J – 4.7 J	RXSV-7
1,3,5-Trimethylbenzene (Mesitylene)	1	0.24 J	RXSV-9
O-Xylene (1,2-Dimethylbenzene)	5	1.5 J – 8.1 J	RXSV-7

Analyte	Detections	Range in Concentrations (µg/m^3)	Sample with Maximum Detection
Matrix E Compounds			
m,p-Xylene	7	3.1 J – 20 J	RXSV-7
N-Heptane	10	2.3 – 490	RXSV-8
N-Hexane	10	1.4 J – 430	RXSV-7
Matrix F Compounds			
Toluene	10	1.2 J – 17	RXSV-7
Non-Matrix Compounds			
1,2-Dichlorotetrafluoroethane	7	1.2 J – 77	RXSV-7
1,3-Butadiene	4	0.51 J – 9.4	RXSV-10
1,3-Dichlorobenzene	4	1.5 J – 2.1 J	RXSV-13
4-Ethyltoluene	1	0.24 J	RXSV-9
Acetone	9	13 – 440 E	RXSV-13
Butane	10	0.88 J – 3800 D	RXSV-12
Carbon Disulfide	8	1.7 J – 19	RXSV-14
Chlorodifluoromethane	10	2.4 J – 1200	RXSV-12
Chloroform	1	6	RXSV-9
Chloromethane	1	1.8 J	RXSV-10
Cis-1,2-Dichloroethylene	2	0.78 – 13	RXSV-14
Cymene	3	3.4 J – 17	RXSV-7
Dichlorodifluoromethane	8	3.2 J – 110	RXSV-13
Isopropanol	6	8.4 J – 27 J	RXSV-14
Isopropylbenzene (Cumene)	1	5.1 J	RXSV-12
Methane	9	24,000,000 – 380,000,000	RXSV-14
Methyl Ethyl Ketone (2-Butanone)	6	1.5 – 24	RXSV-14
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	1	11 J	RXSV-8
N-propylbenzene	1	0.54 J	RXSV-1
Tert-Butyl Methyl Ether	1	2.2	RXSV-1
Trans-1,2-Dichloroethene	1	1.2 J	RXSV-14
Trichlorofluoromethane	5	0.82 J – 40	RXSV-13

J – Estimated value
E- Result exceeded calibration range
D- Sample results are obtained from dilution

No indoor air samples, or sub-slab samples, were collected during the RI; therefore, no direct comparison is made to the NYSDOH Matrices. Methane was detected in all soil vapor samples, except RXSV-9, at concentrations ranging from 24,000,000 µg/m3 (3.66% by volume or 73% of the lower explosive limit [LEL] of 5%) in RXSV-13 to 330,000,000 µg/m3 (50.3% by volume or 3.3 times higher than the upper explosive

limit [UEL] of 15%) in RXSV-8. Methane concentrations are high throughout the Site and are highest within the approximate extent of the historic landfill.

2.6 Environmental and Public Health Assessment

2.6.1 Qualitative Human Health Exposure Assessment

As described in Appendix 3B of DER-10, "The overall purpose of the Qualitative Human Health Exposure Assessment (or the exposure assessment) is to evaluate and document how people might be exposed to site related contaminants, and to identify and characterize the potentially exposed population(s) now and under the reasonably anticipated future use of the site." The following section details the Qualitative Human Health Exposure Assessment based on data collected during the RI. This section (Section 2.6) is the same as provided in the RIR.

2.6.1.1 Soil Exposure

As described in Section 2.5.4, soil samples collected during the RI indicated the presence of VOCs, SVOCs, metals, PCBs, pesticides and PFOS/PFOA at concentrations above the NYSDEC UUSCOs. An individual could be exposed to these contaminants through direct contact with soil during ground intrusive work at the Site. Direct contact without the use of proper personal protective equipment (PPE) and personal hygiene measures could lead to dermal contact and incidental ingestion of these compounds. Since the Site is currently fully fenced and will be fully fenced during construction activities, and access is controlled, potential contact with Site soil is restricted to remedial and construction contract workers at the Site performing ground intrusive activities in addition to trespassers and passersby (through potential particulate matter in the air). The general public will not be exposed to direct contact with Site soil. CAMP and dust control measures will be implemented (as needed) during intrusive activities to minimize the potential for offsite exposures from soil/dust/vapor leaving the Site. Future workers exposure to remaining soil contamination will be reduced or eliminated through installation of a site-wide cover system with demarcation layer, to visually delineate the depth of remaining contaminated soil. Implementation of the HASP, CAMP and dust controls during the future ground intrusive activities, as stipulated by the Site Management Plan, will also mitigate potential exposures post-remediation.

2.6.1.2 Groundwater Exposure

As described above in Section 2.5.5, groundwater samples collected during the RI indicated that SVOCs and metals are present at concentrations slightly above the NYSDEC AWQSGVs. PFAS were detected in groundwater exceeding AWQSGVs across the Site, with elevated PFOS/PFOA concentrations in localized areas, where the highest concentrations, for both PFOS and PFOA, were identified in RXMW-6 at a PFOA concentration (2270 ng/l) significantly above NYSDEC AWGSGVs (6.7 ng/). The presence of PFAS is likely due to background conditions, and potentially, in part to the presence of landfill material, and is additionally, commonly known and reported in Long Island groundwater.

Groundwater is not used for drinking or other potable purposes (the area is connected to the public water supply), and there is no direct contact with or ingestion of groundwater by the general public. Furthermore, no public water supply wells are located in the area surrounding the Site.

Individuals who perform intrusive work (i.e., utility construction and/or repair), perform groundwater sampling or remedial activities may come into contact with contaminated groundwater. Proper personal protective equipment (PPE) and personal hygiene measures will be required to prevent dermal contact and the potential for incidental ingestion of these compounds.

The proposed on-Site building will be serviced by the public water supply. In addition, exposure to groundwater will be eliminated through Site-wide redevelopment and implementation of an institutional control restricting groundwater use unless treated to meet its intended purpose and approved in writing by the NYSDOH or Suffolk County Department of Health Services, with concurrence from the NYSDEC. Based on this, the potential for public exposure by direct contact with contaminated groundwater will be reduced or eliminated.

2.6.1.3 Soil Vapor Exposure

As described above in Section 2.5.6, soil vapor samples collected during the RI indicated the presence of petroleum-related VOCs, CVOCs and methane across the Site. CVOC impacts are Site-wide and likely originate from off-Site sources as no on-Site source of CVOCs was identified in soil or groundwater during the RI. Methane impacts are Site-wide and originate from the historical use as a former landfill.

Individuals who perform ground intrusive work and passersby during the remedial action may be exposed to contaminated soil vapor. CAMP and odor/vapor control measures will be implemented during intrusive activities to minimize the potential for offsite exposures from vapors leaving the Site during the remedial action.

Soil vapor intrusion from methane is a concern for the Site and mitigation measures are proposed as part of the remedy. The design plans depict the future building and other impervious site improvements over the top of the areas with high methane detections in soil vapor samples. The installation of a sub-slab vapor barrier, an active sub-slab depressurization system (SSDS), a perimeter methane vapor mitigation system and a methane monitoring system at the Site will mitigate this potential exposure impact.

2.6.1.4 Exposure Assessment Summary

The following table summarizes the exposure assessment.

Environmental Media and Exposure Route	Human Exposure Assessment
Direct contact with subsurface soils (and incidental ingestion)	• During remediation, remedial workers, trespassers, passersby, and utility workers could come into contact with contaminated soil contained in dust through inhalation, incidental ingestion, and dermal contact. Implementation of the HASP, CAMP and dust controls during the remedial action will mitigate potential exposures. • Post-remediation potential workers exposure to remaining soil contamination will be reduced or eliminated through installation of a Site-wide cover system. Potential exposure to residual contamination in soils beneath the demarcation layer will be managed through implementation of the HASP, CAMP, and dust control measures, as specified in the Site Management Plan.
Ingestion of groundwater	• Encountering groundwater during construction is not anticipated. Groundwater is not and will be not used for drinking water, as any future buildings proposed on the Site will be connected to the public water supply.

Environmental Media and Exposure Route	Human Exposure Assessment
Direct contact with groundwater (and incidental ingestion)	• The water table surface at the Site ranged from 38.68 ft to 40.35 ft relative to NAVD88, or from 25.50 ft bls to 31.22 ft bls, and encountering groundwater during construction is not anticipated. Therefore, dermal contact and incidental injection during ground intrusive work is not anticipated. • Proper PPE and personal hygiene measures, as defined in the HASP, will be required to prevent dermal contact and the potential for incidental ingestion impacted groundwater during construction. • Post-remediation exposure to Site groundwater will be eliminated through Site-wide redevelopment and implementation of an institutional control restricting groundwater use unless treated to meet its intended purpose and approved in writing by the NYSDOH or Suffolk County Department of Health Services, with concurrence from the NYSDEC.
Inhalation of air (exposures related to soil vapor intrusion)	• Remedial workers, trespassers, and utility workers may be exposed to contaminated soil vapor during ground intrusive activities. • Exposures to workers and passersby during the remedial action and future ground intrusive activities will be reduced or eliminated through implementation of the HASP, CAMP, and odor/vapor controls during construction. • Future workers exposure to vapors will be reduced or eliminated through installation of a sub-slab vapor barrier, the operation of an active sub-slab depressurization system (SSDS), and the operation of an active site-wide methane mitigation system in areas surrounding the building. • Future workers exposure to methane vapors inside the proposed building will be reduced or eliminated as noted above and monitored through a continuous methane gas sensor system installed inside the building and permitted by the Fire Marshal, that will trigger an audible alarm and notification signal to emergency personnel if methane gas concentrations are detected above applicable limits.

2.7 Interim Remedial Action

At the time of this report, no Interim Remedial Measures (IRMs) have been performed at the Site.

2.8. Remedial Action Objectives

Based on the results of the RI, 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.

2.8.2 Soil

RAOs for Public Health Protection

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

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater, surface water, or sediment contamination.

2.8.3 Soil Vapor

RAOs for Public Health Protection

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

3. Description of Remedial Action Plan

This section of the RAWP was prepared in accordance with 6 NYCRR Subpart 375 – 3.8(f), 6 NYCRR Subpart 375 – 1.8(f), and Section 4.3 of DER 10.

The following is a detailed description of the alternatives analysis and remedy selection process to address impacted media at the Site. The impacted media that will be addressed during the proposed Remedial Action are:

- Soil;
- Groundwater; and
- Soil vapor.

Two remedial alternatives (one being the required Unrestricted Use scenario) were evaluated, as follows:

- One alternative (Remedial Alternative 1) that will achieve an Unrestricted Use cleanup relative to on-Site soil (Track 1) without the use of permanent Institutional Controls (ICs) or Engineering Controls (ECs) as shown on Figure 13.
- One alternative (Remedial Alternative 2) that will achieve a Track 4 Industrial Use cleanup for the Site, as shown on Figures 14 and 15, coupled with the use of permanent ECs and ICs.

Remedial Alternative 1: Track 1 Unrestricted Use Cleanup (Figure 13):

1. Demolition of the existing one-story former mechanic shop/maintenance building to facilitate the remedy.
2. Decommission of on-Site groundwater monitoring wells and extraction wells.
3. Installation of support of excavation (SOE) to reach the proposed excavation depths.
4. Excavation and off-Site disposal of approximately 947,000 cy of soil (i.e., all soil exceeding the UUSCOs and fill material associated with the former landfill operations) over the entire Site. The limits and approximate depths of the excavation are shown on Figure 13. This source removal will improve groundwater and soil vapor quality. Final remedial disposal quantities will be based on confirmation endpoint samples and actual truck weights.
5. Hot spot delineation, excavation and off-Site disposal of approximately 680 cubic yards (cy) of soil exceeding the TCLP USEPA Regulatory Level for hazardous waste for mercury in soil with collection of excavation sidewall and bottom confirmation endpoint samples at a frequency consistent with that presented in DER-10. The excavation limits and approximate depth will be determined based on the pre-remediation investigation in the vicinity of RXSB-15, RXSB-17, RXSB-19 and RXSB-32.
6. Hot spot delineation, excavation and off-Site disposal of soil exceeding the TCLP USEPA Regulatory Level for hazardous waste for arsenic (in the vicinity of soil boring SB-8 and/or SB-13, if identified during the pre-remediation investigation). The excavation limits and approximate depth will be determined based on the pre-remediation investigation results.
7. Dewatering in compliance with city, state, and federal laws and regulations required to meet remedial excavation depths. Extracted groundwater will be temporarily stored on-Site, sampled for waste characterization and transported offsite for disposal.
8. Collection of excavation bottom endpoint samples at a frequency consistent with that presented in DER-10 to document that the UUSCOs were met.

9. Clean fill meeting the requirements of 6 NYCRR Part 375-6.79(d) will be brought in to replace the excavated soil and establish the designated grades at the Site.

Remedial Alternative 2: Track 4 Industrial Use Cleanup (Figures 14 and 15):

1. A remedial design program will 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 gases and other emissions;
    - Increasing energy efficiency and minimizing use of non-renewable energy;
    - Conserving and efficiently managing resources and materials;
    - Reducing waste, increasing recycling, and increasing reuse of materials which would otherwise be considered a waste;
    - Maximizing habitat value and creating habitat when possible;
    - Fostering green and healthy communities and working landscapes which balance ecological, economic, and social goals; and
    - Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.
2. Demolition of the existing one-story former mechanic shop/maintenance building to facilitate the remedy.
3. Decommission of existing groundwater monitoring wells and extraction well.
4. Hot spot delineation, excavation and off-Site disposal of soil exceeding the TCLP USEPA Regulatory Level for hazardous waste for mercury in shallow soil and collection of excavation sidewall and bottom confirmation endpoint samples at a frequency consistent with that presented in DER-10. This RAWP proposes hot spot delineation centering soil boring locations RXSB-15, RXSB-19 and RXSB-32, where hazardous levels of mercury were found in shallow soils (0 to 2 ft bls). Hot spot excavation limits and approximate depth will be determined based on field delineation and prior it's to off-site disposal to a hazardous waste receiving facility. This RAWP estimates approximately 360 cubic yards (cy) of hazardous soil will be removed and disposed of as part of remediation.
5. Collection of documentation samples to record the remaining level of contamination. Site area and the extensive sampling conducted during RI and PDI, documentation sampling will be conducted at a frequency of one sample per approximately 7,500 square feet of the Site. Documentation samples will be analyzed for VOC, SVOCs, Pesticides, PCB and metals. Due to the fact that PDI soil detections of PFOS and PFOA were found at concentrations below the applicable Industrial SCO, no PFOS and PFAS sampling will be conducted. The frequency of bottom sampling proposed for this RAWP is a modification to the guidance provided in NYSDEC DER-10 Section 5.4 based on the overall Site perimeter being greater than 300 feet, and the fact soil has not been determined to significantly impact groundwater, and a result of the ICs and ECs that effectively will eliminate exposure to residual contamination to be present following completion of the remedy. Documentation samples will be collected below the demarcation layer or at the final depth of excavation. Locations of documentation samples will be surveyed by a NYS-licensed surveyor and presented in the Final Engineering Report (FER).
6. On-Site treatment of excavated soils (e.g., screening of unstable soils) and/or concrete crushing or processing may be implemented, as needed, to minimize waste and maximize reuse for backfilling and grading purposes. These activities will be conducted with prior authorization from the NYSDEC.

7. Excavation and off-site disposal of up to approximately 46,000 cubic yards (cy) of non-hazardous excess soil (which includes 31,400 cy for the one foot cut to accommodate the remedial cover system). Excess soil will be characterized for acceptance at a NYSDEC-approved waste receiving facility. Off-site disposal of all material removed from the Site will be conducted in accordance with Federal, State, and local rules and regulations for handling, transport, and disposal.

8. In observance of the Green and Sustainable Remediation (GSR) principals, as recommended in NYSDEC DER-31/ Green Remediation Guidance Document and in adherence to the Town of Islip requirements for a natural buffer zone, an approximate 50 to 75 foot wide vegetated section (approximately 91,300 square feet (sf)) of the property along the western and southern property lines will be preserved and will remain undisturbed. Pedestrian and vehicle access to this part of the site would be restricted with the installation of 8-foot chain link fence with wood stockade and sound attenuation in front of the buffer and a 6-foot chain link with 8-foot wood stockade fence at the site perimeter.

9. Except for the natural buffer area noted above, the entire site will be capped via the installation of a site-wide cover system improved with a vapor barrier and a horizontal geocomposite membrane to allow for industrial use of the Site to prevent exposure to remaining contamination, including methane vapors.

   The site-wide cover system over a demarcation layer which will consist of approximately 19-inch thick concrete building foundations, approximately 9.5-inch thick concrete ramps/walkways, asphalt parking and driveway areas, or a soil cover. Where a soil cover is to be used, it will be a minimum of one foot of soil placed over a demarcation layer with the upper six inches of sufficient quality to maintain a vegetative layer and the remaining six inches meeting reuse criteria for cover system noted in Table 26.

10. On-site soil that is suitable for development will be reused on-site below the cover system, without additional chemical testing, to establish redevelopment subgrade; therefore, minimizing the generation of waste. On-site soil that is intended to be used as part of the soil cover above the demarcation layer (the 6-in below the top soil; approximately 2,930 cy), will be tested to meet the requirements of 6 NYCRR Part 375-6.7(d), where for industrial use sites (Part 375-6.7(d)(iii)) it will required to meet the lower of the protection of groundwater or the protection of public health soil cleanup objectives for commercial use as set forth in Table 375-6.8(b).

11. Approximately 54,000 cy of imported material (clean fill, recycled concrete aggregate (RCA), Dense Graded Aggregate (DGA), and/or virgin native crushed stone) will be imported to stabilize the subgrade and achieve the building final floor elevation of 76 ft. Clean fill will be tested to meet the requirements of 6 NYCRR Part 375-6.7(d), where for industrial use sites (Part 375-6.7(d)(iii)), use the lower of the protection of groundwater or the protection of public health soil cleanup objectives for commercial use as set forth in Table 375-6.8(b) of this Subpart, Table 26 of this RAWP. Import material will be approved by NYSDEC prior to its importation to the Site.

12. Installation of a vapor/gas mitigation system (VMS) for the entire Site in accordance with 6 NYCRR Part 363-9.7 for closed landfills. The VMS will include:

    a. vapor barrier (20 mil minimum) below the entire newly installed building.

    b. Installation of an active sub-slab depressurization system (SSDS) beneath the vapor barrier of the newly installed building. The SSDS will consist of a network of horizontal pipes set in the middle of a gas permeable layer to prevent any exposure to soil vapor. Piping will be connected to two (2) riser pipes penetrating the foundation slab and terminated at blowers and an exhaust stack with applicable emission controls located on the roof.

    c. A continuous methane gas sensor system installed inside the building and permitted by the Fire Marshal, that will trigger an audible alarm and notification signal to emergency personnel if methane gas concentrations are detected above applicable limits. Gas sensors will also be installed to monitor the levels of methane within the SSDS riser pipes.

d. Installation of an active perimeter gas collection system (PGCS), gas monitoring wells and a horizontal geocomposite membrane to proactively manage and mitigate the risk of methane migration outside the limits of the capped area.

13. Imposition of Institutional Controls in the form of Environmental Easement to ensure proper Site use and to prevent future exposure to any residual contamination remaining in these areas, which will, e.g.:
    a. require the remedial party or Site owner to complete and submit to the NYSDEC a periodic certification of Institutional and Engineering Controls in accordance with 6 NYCRR Part 375-1.8 (h)(3);
    b. allows the continued use and development of the controlled property for Industrial Uses as defined by 6 NYCRR Part 375-1.8(g), although land use is subject to local zoning laws;
    c. restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the New York State Department of Health (NYSDOH) or Suffolk County Department of Health Services (groundwater restriction applies to the entire Site); and
    d. requires compliance with the Department-approved SMP.
14. A SMP is required for all portions of the Site which includes the following:
    a. an Institutional and Engineering Control Plan that identifies all use restrictions and Engineering Controls for the Site and details the steps and media-specific requirements necessary to ensure the following Institutional and/or Engineering controls remain in place and effective:
        i. Institutional Controls: The Environmental Easement discussed above;
        ii. Engineering Controls: VMS and site cover system.
    b. A Monitoring Plan to assess the performance and effectiveness of the remedy, including, monitoring for VOCs and methane within the newly installed building and methane concentrations around the Site perimeter;
    c. An O&M Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy.
    d. A Site Management Reporting Plan, in the form of Periodic Review Report (PRR) for submitting data, information, recommendations, and certifications to NYSDEC.
15. Submission of a FER that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, and describes all Engineering and Institutional Controls to be implemented at the Site, and lists any changes from this RAWP.

3.1 Evaluation of Remedial Alternatives

The goal of the remedy selection process under the BCP is to select a remedy that is protective of human health and the environment taking into consideration the current, intended, and reasonably anticipated future use of the property, as an industrial site. Each Remedial Alternative is evaluated based on the factors listed below:

- 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;
- Land use; and
- Green & Sustainable Remediation (including climate resiliency).

SCGs applicable to the Site remediation are described briefly below

- 6 NYCRR Part 375-6 Soil Cleanup Objectives – The UUSCOs, ISCOs, and PGWSCOs listed in the guidance were used to evaluate soils, delineate areas with impacts, and specify cleanup objectives;
- NYSDEC Ambient Water Quality Standards and Guidance Values – TOGS 1.1.1 – the standards listed in the guidance were used to evaluate groundwater quality, delineate areas with impacts, and specify cleanup objectives (TOGS 1.1.1 incorporates the same standards as listed in 6 NYCRR Part 703 for the constituents of concern at the Site);
- NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation – May 2010 (or later version if available) – the proposed remedial alternatives were developed in accordance with the abovementioned document;
- NYSDOH Generic Community Air Monitoring Plan – will be required for all ground intrusive activities, and the abovementioned document was used to prepare the CAMP;
- NYS Waste Transporter Permits – 6 NYCRR Part 364 – As the remedial alternatives include excavation and disposal of soil, the abovementioned guidance document applies;
- NYS Solid Waste Management Requirements – 6 NYCRR Part 360 and Part 364 – As the remedial alternatives include excavation and disposal of soil, the abovementioned guidance document applies; and
- NYSDOH Guidance will be used to develop the SVI assessment.

3.1.1 Overall Protection of Human Health and the Environment

This criterion is an evaluation of the ability of each alternative or the remedy to protect public health and the environment.

Remedial Alternative 1, Track 1 will be protective of human health and the environment by removing soil at the Site that exceeds the UUSCOs and fill material associated with the former landfill operations and backfilling the area with material meeting the UUSCOs (as necessary), thus eliminating the potential for human and environmental exposure to contaminated soil/fill once construction is complete. Groundwater on-Site is not significantly impacted and is not used for potable purposes. Any groundwater impacts will be addressed through excavation of all soil that exceeds the UUSCOs, and dewatering to achieve the remedial excavation, which will improve on-Site groundwater quality. Soil vapor impacts Site-wide as a result of former landfill operations will be addressed through excavation of all soil that exceeds the UUSCOs and waste material to achieve the remedial excavation, which will remove source material and improve on-Site soil vapor quality and mitigate off-Site migration.

A soil vapor intrusion evaluation will be completed as part of the remedy. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion, although based on the proposed Remedial Action to achieve Track 1, there will be no remaining on-Site source of vapor intrusion. Considering all of these elements together, once the Remedial Action and building construction is complete, the potential for soil vapor intrusion will be addressed and will be documented in the FER.

Remedial Alternative 2, Track 4 will be protective of human health and the environment through the use of ECs and ICs. In addition, this alternative better aligns with the green remediation goals which among others seek to maximize the reuse of land, maintain areas of the site as a natural buffer, and recycling of materials and reducing the generation of waste. Site soils that are excavated for the installation of utilities may be placed back into the excavation following installation and/or may be reused on-site for backfilling and grading purposes under the final site-wide cover system. All excess soils will be characterized for acceptance at a NYSDEC approved waste receiving facility. Soil imported to the Site will be sampled and approved by NYSDEC prior to its importation to the Site.

ECs include installation of a 20-mil (minimum) vapor barrier and an active SSDS below the footprint of the newly constructed building, an active PGCS along the perimeter (to prevent and monitor migration of methane gases off-site), a site cover system consisting of concrete building foundations, concrete ramps/walkways, asphalt parking/driving areas or a soil cover over a demarcation layer, to allow for industrial use. ICs, including a SMP and Environmental Easement, will ensure long-term management of use restrictions and ICs and ECs. On-site groundwater will not be used for potable purposes, as restricted in the Environmental Easement. Remedial Alternative 2 will result in decreased truck traffic and lower air emissions contributing to local pollution and global greenhouse gas emissions compared to Remedial Alternative 1.

3.1.2 Standards, Criteria, and Guidance

The remedy must conform to officially promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance as appropriate.

Remedial Alternative 1 will achieve compliance with the UUSCOs for all on-Site areas. The handling and management of contaminated materials will be in compliance with the applicable SCGs. The excavation will be backfilled as necessary, with material meeting the Track 1 UUSCOs presented in the Part 375 Regulations. Groundwater on-Site is not significantly impacted and is not used for potable purposes. Any groundwater impacts will be addressed through excavation of all soil that exceeds the UUSCOs, and dewatering to achieve the remedial excavation, which will improve on-Site groundwater quality. Soil vapor impacts Site-wide as a result of former landfill operations will be addressed through excavation of all soil that exceeds the UUSCOs, which will remove source material and improve onsite soil vapor quality and mitigate offsite migration. A soil vapor intrusion evaluation will be completed as part of the remedy.

Remedial Alternative 2 will achieve compliance with the applicable SCGs, for industrial use, through the use of ECs and ICs. The entire Site will be capped with a site cover system consisting of concrete building foundations, concrete ramps/walkways, asphalt parking/driving areas, or a soil cover over (minimum 1-foot thick) and a demarcation layer. No exposed impacted soil will be present after remediation. In addition, groundwater at the Site will not be used for potable purposes, as restricted in the Environmental Easement. In addition, a 20-mil (minimum) vapor barrier and an active SSDS will be installed beneath the newly constructed building on-Site to mitigate the potential for vapor intrusion and maintain indoor air concentrations of VOCs and methane below NYSDOH and NYSDEC regulatory values. An active PGCS will be installed on the paved areas and on the perimeter of the Site boundary to mitigate the potential migration of methane gases off-site, to maintain compliance with NYSDEC regulations for landfill end use.

3.1.3 Short-Term Impacts and Effectiveness

This criterion is an evaluation of the potential short-term adverse environmental impacts and human exposures during the construction and/or implementation of an alternative or remedy.

Remedial Alternative 1 poses higher health and environmental risks during implementation than Remedial Alternative 2. The potential adverse impacts of this Remedial Alternative to the community and workers, though mitigated to the extent possible, are higher relative to other, less intrusive alternatives, due to the increased amount of excavation, heavy construction, and transportation actions (for disposal and backfilling) that would be needed to perform the remedy compared to the other Alternative. Some potential off-Site impacts, such as increased air emissions contributing to local pollution and greenhouse gas emissions, cannot be minimized. Other potential risks include material handling, electrical shock, vapor inhalation, general trip and fall, and noise hazards. These potential impacts are addressed in the Site-specific HASP and CAMP and the Soil/Materials Management Plan (SoMP), which detail the required monitoring during the construction and describe the mitigative actions to be implemented.

Remedial Alternative 2 poses less health and environmental risks during implementation than Remedial Alternative 1. The remedy implementation time is shorter and the potential adverse impacts to the community and workers (e.g., increased traffic or exposure to contaminants during soil excavation and transportation) can be mitigated with the HASP, CAMP, dust, odor, and traffic controls. Much less off-site disposal will be required, which will then contribute less local pollution and greenhouse gas emissions. Other potential risks include material handling, electrical shock, vapor inhalation, general trip and fall, and noise hazards. These potential impacts are addressed in the Site-specific HASP and CAMP and the SoMP, which detail the required monitoring during the construction and describe the mitigative actions to be implemented.

3.1.4 Long-Term Effectiveness and Permanence

This criterion is an evaluation of the long-term effectiveness and permanence of an alternative or remedy after implementation.

Remedial Alternative 1 removes all impacted soil. Therefore, incremental risk from soil impacts will be eliminated, ECs and ICs are not necessary, and the remedy will continue to meet RAOs in the future, thus providing a permanent long-term solution for the Site. Any groundwater impacts will be addressed through excavation of all soil that exceeds the UUSCOs and fill material associated with the former landfill operations, and dewatering to achieve the remedial excavation, which will improve on-Site groundwater quality and provide a long-term solution for the Site. Soil vapor impacts Site-wide as a result of former landfill operations will be addressed through excavation of all soil that exceeds the UUSCOs which will remove source material and improve onsite soil vapor quality and mitigate offsite migration.

Remedial Alternative 2 provides a long-term solution for the Site by implementing ICs and ECs to mitigate human health and environmental exposures to impacted soil, groundwater, and soil vapor. ECs, including a site cover system, active SSDS under the building and an active PGCS on the perimeter of the Site boundary, and ICs with a SMP and Environmental Easement, will ensure long-term management and use restrictions. The SMP will ensure long-term effectiveness of all ECs and ICs by requiring periodic inspection and certification that these controls and restrictions continue to be in place and are functioning as intended. However, the ECs for the Site will likely be in operation for many years after the construction is completed and will require emission controls for the methane.

3.1.5 Reduction in Toxicity, Mobility, or Volume of Contamination Through Treatment

This criterion is an evaluation of the ability of an alternative or remedy to reduce the toxicity, mobility and volume of site contamination. Preference should be given to remedies that permanently or significantly reduce the toxicity, mobility, or volume of the contamination at the Site, in the following order of preference:

- removal and/or treatment;
- containment;
- elimination of exposure; and
- treatment of source at the point of exposure.

Remedial alternatives that use treatment or removal to eliminate contaminants at a Site, reduce the total mass of toxic contaminants, cause irreversible reduction in contaminants mobility, or reduce of total volume of contaminated media are preferable.

Remedial Alternative 1 permanently eliminates the toxicity, mobility, and volume of contaminants within the Site by removing all soil with concentrations that exceeded the UUSCOs and fill material associated with the former landfill operations. Removal of impacted soil and groundwater during remedial excavation dewatering is expected to result in reductions in on-Site groundwater concentrations over time. Sources of potential impacts to soil vapor will be addressed through excavation of all soil that exceeds the UUSCOs and dewatering to achieve the remedial excavation, which will remove source material and improve on-Site soil vapor quality and mitigate off-Site migration.

Remedial Alternative 2 will eliminate the toxicity, mobility and volume of contaminants within the Site through the use of ECs and ICs. Excavation and off-site disposal of soil with hazardous levels of mercury, followed by installation of a site cover system, will eliminate exposure to impacted soil and significantly reduce potential mobility. In addition, the installation of a 20-mil (minimum) vapor barrier with an active SSDS will mitigate the potential for vapor intrusion into the newly constructed onsite building. An active PGCS on the perimeter of the Site boundary will reduce buildup of methane below the cover system and prevent off-site migration. The SMP will ensure long-term effectiveness of all ECs and ICs by requiring periodic inspection and certification that these controls and restrictions continue to be in place and are functioning as intended, to achieve the desired reductions in contaminant mass and migration to off-site receptors.

3.1.6 Implementability

This criterion is an evaluation of the technical and administrative feasibility of implementing an alternative or remedy.

The techniques, materials, and equipment to implement **Remedial Alternative 1** are in general readily available and have been proven effective in remediating the contaminants associated with the Site. Standard materials, services, and well-established technologies will be implemented. However, significant dewatering and sheeting and shoring would be required to accomplish the deep excavation in the former landfill.

The techniques, materials, and equipment to implement Remedial Alternative 2 are readily available and have been proven effective in remediating the contaminants associated with the Site. Standard materials,

services, and well-established technologies will be implemented. There are no specific difficulties associated with any of the activities proposed, which utilize standard construction methods.

3.1.7 Cost Effectiveness

This criterion is an evaluation of the overall cost effectiveness of an alternative or remedy.

The total cost for **Remedial Alternative 1** is estimated to be approximately $363,000,000. The cost estimate details for Remedial Alternative 1 are provided in Table 22.

The total cost for **Remedial Alternative 2** is estimated to be approximately $24,600,000 with $15,400 in annual operation, maintenance and monitoring. The cost estimate details for Remedial Alternative 2 are provided in Table 23.

The costs associated with Remedial Alternative 1 are higher than Remedial Alternative 2 due to significantly more the excavation, backfill materials, support of excavation, dewatering and off-Site disposal that will be required to achieve Track 1 UUSCOs. Remedial Alternative 2 includes long-term costs associated with the operation, maintenance and monitoring of the engineering controls.

3.1.8 Community Acceptance

This criterion is evaluated after the public review of the remedy selection process as part of the final DER selection/approval of a remedy for a site.

1. Any public comment relative to these criteria will be considered by DER after the close of the public comment period.
2. Documentation of the public comments received is to be consistent with the Citizen Participation Plan (CPP) identified for a remedial program in accordance with applicable DEC policy.

Remedial Alternative 1 may be less preferable due to the significantly longer construction schedule, more intensive trucking required, and increased emissions and noise. A full evaluation of this criterion cannot be made until after the public comment period is complete, but because the measures to be employed for all alternatives consist of standard construction methods, including ECs to minimize impacts to the surrounding community, community acceptance of all alternatives is anticipated.

3.1.9 Land Use

This criterion is an evaluation of the current, intended and reasonably anticipated future use of the Site and its surroundings, as it relates to an alternative or remedy, when unrestricted levels would not be achieved.

This evaluation has considered reasonably anticipated future uses of the Site and takes into account:

- current use and historical and/or recent development patterns;
- applicable zoning laws and maps;
- NYS Department of State's Brownfield Opportunity Areas (BOA) pursuant to section 970 r of the General Municipal Law;
- applicable land use plans;
- proximity to real property currently used for residential use, and to commercial, industrial, agricultural, and/or recreational areas;
- environmental justice impacts, Federal or State land use designations;

- population growth patterns and projections;
- accessibility to existing infrastructure;
- proximity of the Site to important cultural resources and natural resources, potential vulnerability of groundwater to contamination that might emanate from the Site, proximity to flood plains, geography and geology; and
- current ICs applicable to the Site.

Alternatives 1 and 2 are compatible with land use and zoning.

3.1.10 Green & Sustainable Remediation

This criterion is an evaluation of the overall sustainability of an alternative or remedy, as requested by the NYSDEC DER-31. Preference should be given to remedies that will minimize the environmental footprint of the cleanup actions. The selected alternative should be:

- Less disruptive to the environment;
- Generate less waste;
- Increase reuse and recycling; and
- Emit fewer pollutants to the atmosphere.

Spreadsheets for Environmental Footprint Analysis (SEFA) were used for calculations based on estimations made on time and materials required to execute each remedial alternative. When comparing **Remedial Alternative 1** to **Remedial Alternative 2**, tasks included in both alternatives, as well as tasks assumed to provide minimal contributions to the assessments, were not considered in the calculations.

Based on the SEFA calculations, **Remedial Alternative 1** will have a significantly larger negative impact on the overall environmental footprint of the project. When preparing the assessment for Remedial Alternative 1 the Pre-Remedial Investigation, SOE installation, excavation and disposal, and import of clean fill phases of work were considered. Based on the numbers provided by SEFA, the additional Pre-Remedial Investigation will not have a large impact on the environmental footprint, but high volumes of imported and exported material will require high levels of energy and resources. SEFA backup is included in Appendix C.

Based on the SEFA calculations, **Remedial Alternative 2** will have a smaller negative impact on the overall environmental footprint of the project. When preparing the assessment for Remedial Alternative 2 the import of clean fill, vapor barrier and SSDS installation, and methane vapor mitigation and Based on the SEFA calculations, Remedial Alternative 2 will have a smaller negative impact on the overall environmental footprint of the project. When preparing the assessment for Remedial Alternative 2 the import of clean fill, vapor barrier and SSDS installation, and methane vapor mitigation and monitoring system phases of work were considered. The Remedial Alternative 2 phases of work differed from Remedial Alternative 1, in part due to the intended re-use of soils on-site, as permitted, rather than exporting and disposing of site soils. Based on the numbers provided by SEFA, Remedial Alternative 2 will have a lesser impact on the project's overall environmental footprint due to significantly lesser quantities of material imports and export. SEFA backup is included in Appendix C.

3.2 Selection of the Preferred Remedy

The Preferred Remedy for the Site, Remedial Alternative 2, was selected for implementation as it adequately meets each of the evaluation criteria. The selected remedy is described in section 3.0. In summary, the Preferred Remedy for the Site:

- Is protective of public health and the environment;
- Complies with the appropriate SCOs;
- Provides short term effectiveness, including exposure prevention for construction workers and the surrounding community through the implementation of mitigative actions during construction;
- Provides long term effectiveness and permanence through ECs and ICs;
- Eliminates exposure to soil exceeding ISCOs through use of the site cover system and off-site disposal;
- Provides long-term effectiveness and permanence through soil removal, site cover system, vapor barrier system, active SSDS, active PGCS, and ECs and ICs;
- Will be able to be implemented quicker than Remedial Alternative 1 and therefore will have less impacts to workers and the surrounding neighborhood through the implementation of ECs during construction;
- Emits substantially less greenhouse gases;
- Can be implemented at considerably lower cost than Remedial Alternative 1;
- Is compatible with land use; and
- Should be acceptable to the community.

The Preferred Remedy for the Site is consistent with the approach for a Track 4 Industrial Use scenario.

3.2.1 Preferred Remedy Land Use Factor Evaluation

A land use factor evaluation of the Preferred Remedy for the Site is provided below based on the following criteria as required by Article 27, Title 14 of the ECL 27 1415.

3.2.1.1 Zoning

The Site is zoned for industrial use. The proposed redevelopment consists of a one-story distribution warehouse, which is consistent with the current zoning for the Site. The building is also consistent with the allowable development height for the building. The proposed remediation will also meet the requirements for industrial use.

3.2.2 Applicable Comprehensive Community Master Plans or Land Use Plans

The proposed redevelopment will provide industrial jobs and help the neighborhood continue to flourish as an industrial hub and is consistent with the current and reasonably foreseeable future uses in the neighborhood.

3.2.3 Surrounding Property Uses

The area surrounding the Site is comprised primarily of commercial/industrial and residential properties (Figure 3). The Site is adjoined by the following: one- and two-story commercial buildings including a bus depot to the north, one- and two-story commercial buildings, two-story residential buildings, and a one-story

warehouse to the south, Fifth Avenue to the east, and a one-story commercial office building, a three-story commercial office building, and residential homes to the west. The Site is currently zoned for industrial use.

A figure presenting the surrounding land use is provided as Figure 3.

3.2.4 Citizen Participation

Citizen participation will be pursued throughout the remedial process in accordance with the CPP for the Site (Appendix D).

3.2.5 Environmental Justice Concerns

According to the NYSDEC database for environmental justice concerns, the Site is included as part of a Potential Environmental Justice Area (PEJA) Community. Redevelopment of the Site into an industrial warehouse facility reduces public health risks, cleans up and removes a blighted and contaminated property from the community, provides local employment opportunities as part of construction and as part of the operation of the site as a warehouse, provides for a safer neighborhood by eliminating a nuisance property, and provides additional tax revenue which can be invested by the Town in other community benefits. Overall, the development will be supportive of the community.

3.2.6 Proximity to Natural Resources

There are no land uses within close proximity of the Site that are sensitive human or ecological receptors. According to the EDR Report and National Wetlands Inventory, the Site is not located in or adjacent to any wetlands.

3.2.7 Proximity to Cultural Resources

There are no cultural resources, including federal or state historic or heritage sites or Native American religious sites within ½ mile of the Site.

3.2.8 Land Use Designations

There are no federal or state land use designations related to the Site.

3.2.9 Population Growth Patterns

According to population growth patterns and projections, a potential future redevelopment of the Site into a distribution warehouse will provide industrial jobs and help the neighborhood continue to flourish as an industrial hub.

3.2.10 Accessibility to Existing Infrastructure

The Site's location is accessible to existing infrastructure.

3.2.11 Groundwater Vulnerability

There are no known wellhead protection areas or specifically designated groundwater recharge areas in the vicinity of the Site. Groundwater is estimated to flow to the south/southeast. Groundwater is not used as a source of drinking water.

3.2.12 Proximity to Floodplains

According to a review of Federal Emergency Management Agency (FEMA) Flood Maps, the Site is not located in the 100-year or 500-year flood zones.

3.2.13 Current Institutional Controls

There are currently no ICs on the property; however, ICs (SMP and Environmental Easement) will be implemented as part of the Site remedy under the Preferred Remedial Alternative 2.

3.3 Summary of Selected Remedial Actions

The Selected remedy is the alternative 2, Track 4 Industrial Use remedy and is described in section 3.0.

Remedial activities will be performed at the Site in accordance with this NYSDEC-approved RAWP and the Department-issued Decision Document. All deviations from the RAWP and/or Decision Document will be promptly reported to NYSDEC for approval and fully explained in the FER.

4. Remedial Action Program

4.1 Governing Documents

4.1.1 Standards, Criteria and Guidance

The Standards, Criteria and Guidance for Remedial Action projects in New York State as listed in section 2.5.3

4.1.1.1 Green and Sustainable Remediation and Climate Resiliency

Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy according to DER-31. The major Green and Sustainable Remediation (GSR) components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases, 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;
- Maximizing habitat value and creating habitat when possible, including maximizing the planting of trees, shrubs, and other carbon dioxide sinks in redevelopment;
- 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.

During the execution of the remediation work, and whenever feasible, EPA best management practices will be implemented. A copy of the EPA Green Remediation: Best Management Practices For Excavation And Surface Restoration is included in Appendix E.

4.1.2 Site Specific Health and Safety Plan (HASP)

The Site-specific HASP is included in Appendix F and the Site-specific CAMP is included within the HASP. All remedial work performed under this plan will be in full compliance with governmental requirements, including Site and worker safety requirements mandated by the Federal Occupational Safety and Health Administration (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 HASP 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).

The Roux Site Safety Coordinator will be determined prior to implementation of the remedial action. A resume will be provided to NYSDEC prior to the start of remedial construction.

Confined space entry will comply with all OSHA requirements to address the potential risk posed by combustible and toxic gasses.

4.1.3 Quality Assurance Project Plan (QAPP)

The QAPP/FSP (Appendix G) includes all procedures to be followed for sampling and analysis. The QAPP/FSP includes all requirements outlined in DER 10 Section 2.4.

4.1.4 Construction Quality Assurance Plan (CQAP)

Quality assurance/quality control procedures for all construction activities associated with implementation of the RAWP construction are established in the Construction Quality Assurance Plan (CQAP), which is set forth in this section of the RAWP. The CQAP describes the Site specific construction quality assurance and control measures that will be implemented at the Site during implementation of the RAWP. The CQAP includes a program for construction observation and testing to verify performance of the remedial construction in accordance with the RAWP.

In general, the remedial work to be addressed by this CQAP consists of the excavation and proper management/disposal of impacted soils, installation of the SSDS, and installation of the PGCS and gas monitoring wells.

Because the remedy is being accomplished concurrent with redevelopment, the Contractor and construction manager will have the primary responsibility to provide site redevelopment construction quality.

4.1.4.1 Organization / Personnel

The implementation of the remedial construction will be sequenced based on construction requirements, environmental considerations, and logistics based on entry points and staging areas. The project team is comprised of the Volunteer, construction manager, contractors, and consultants specializing in one or more critical aspects of the project. It is understood by the project team that close coordination and proper sequencing of all activities occurring on the Site will be crucial to the success of the remediation. The project team and associated responsibilities are as follows. If changes are made to the project team, the CQAP will be amended.

Company	Project Role	Name (title)	Contact Info (email or phone)
Fifth XNY, LLC	Owner/Volunteer	Brooks King (Project Manager)	brooksk@xebecrealty.com (404) 433-5338
Aurora Contractors	General Contractor/ Construction Manager	TBD	TBD
Roux Environmental Engineering and Geology, D.P.C.	Environmental Consultant	Frank Cherena, PG (Project Principal)	fcherena@rouxinc.com (631) 232-2600
		Paul Martorano, PE (Remedial Engineer)	pmartorano@rouxinc.com (631) 232-2600
		Camila Israel (Project Manager)	cisrael@rouxinc.com (347) 745-2191

Company	Project Role	Name (title)	Contact Info (email or phone)
		TBD (Field Team Leader)	(631) 232-2600
		TBD (Quality Assurance Officer)	(631) 232-2600
Aquifer Drilling and Testing	Well, Drilling	TBD (Drilling Supervisor)	(516) 616-6026
Gallas Surveying Group	Surveying	Gregory Gallas (Licensed Land Surveyor)	(732) 422-6700
Eurofins Laboratory	Environmental Laboratory	TBD (Project Manager)	TBD

4.1.4.2 Fifth XNY, LLC (Owner/Volunteer) – Site Redevelopment and Regulatory Interaction

Brooks Kings, Redevelopment Project Manager/Remediation Oversight for Owner

As Site owner, Fifth XNY LLC's project manager for the Site will coordinate communications with regulatory agencies and will provide general oversight of all aspects of the remediation. Fifth XNY LLC will be responsible for the review and submission of all documents, reports, correspondence, etc., required by the RAWP and/or the BCA with the NYSDEC.

Fifth XNY LLC's Project Manager will be responsible for community notifications and addressing concerns with the adjacent property owners and local community on all remediation-related issues. Fifth XNY LLC will be immediately notified by the on-Site team of any complaints or concerns regarding the work raised by the adjacent property owners and or the general public.

4.1.4.3 Aurora Contractors - General Contractor / Construction Manager

TBD, Project Quality Control Officer

The General Contractor/Construction Manager will be responsible for the quality assurance of all of the tasks being implemented. The General Contractor/Construction Manager will confirm that all components of the Site activities are conducted according to the requirements of the RAWP. The General Contractor/Construction Manager will be responsible for verifying that the daily Site construction activities are in compliance with all of the safety requirements and regulations governing the Site activity; however, each subcontractor is responsible for the health and safety of their own personnel. The General Contractor/Construction Manager will be responsible for managing the transportation and disposal of any contaminated waste and materials generated during the construction, including:

- Fill/Soil;
- Contaminated Concrete, Bricks or Other Construction Debris;
- Personal Protective Equipment and Other Miscellaneous Debris (if any); and
- Construction Wastewater (if any).

4.1.4.4 Roux Environmental Engineering and Geology, D.P.C. – RAWP and Environmental Monitoring Compliance

Frank Cherena, PG – Project Principal
Paul Martorano, PE – Remedial Engineer
Camila Israel – Project Manager
TBD – Quality Assurance Officer
TBD – Field Manager/Site Safety Officer (SSO)

Roux will coordinate all Site activities being implemented to achieve the remedial objectives defined in the RAWP. Roux will provide continual review of all quality control measures implemented by the contractors to ensure compliance with the Site's remedial objectives and the Site-specific HASP. As such, Roux will provide oversight services for the duration of the remedial activities.

Roux will implement the Site-specific CAMP in accordance with the HASP. Roux will provide ambient air quality monitoring for VOCs and particulates during all intrusive Site activities. CAMP monitoring data will be reported daily to the SSO and will be maintained on-Site. CAMP action level exceedances will be reported to the SSO, Fifth XNY LLC, and General Contractor project managers, and appropriate communication (including with NYSDEC and NYSDOH) and responsive action taken. All CAMP monitoring records will be included in the FER that will be submitted to the NYSDEC and NYSDOH following completion of the remediation and will include all of the CAMP data collected, daily monitoring station location maps, and copies of the action limit reports (if any). If an action limit report is generated due to VOC exceedances, the NYSDEC and NYSDOH will be notified within 24 hours of the exceedance. A brief summary of CAMP activities, including any action limit reports generated, will be provided in the daily field report.

The Quality Assurance Officer is responsible for conducting reviews, inspections, and audits to ensure the data collection is conducted in accordance with the QAPP/FSP. The Quality Assurance Officer's responsibilities range from ensuring effective field equipment decontamination procedures and proper sample collection to the review of all laboratory analytical data for completeness and usefulness. The Quality Assurance Officer reports to the Project Manager and makes independent recommendations to the field team.

All on-Site quality control persons identified in the CQAP will provide daily briefings and/or reports to Roux on-Site personnel, identifying the tasks completed, the remedial measures achieved, and any other issues of concern. Additionally, Paul Martorano, the "Remedial Engineer," a professional engineer licensed in the State of New York, will be responsible for certifying that the remediation construction was completed in substantial conformance with the NYSDEC-approved RAWP, NYSDEC-issued Decision Document, and/or any NYSDEC approved field changes.

4.1.4.5 Environmental Laboratory

The need for an environmental laboratory is limited to, soil waste characterization analysis, soil end-point and documentation sampling, and clean backfill sampling. Chemical-specific air sampling and analyses will be required for the air emissions from the SSDS and PGAS. Eurofins Laboratory (Eurofins) will be utilized for all remediation construction-related analytical requirements; Eurofins is a NYSDOH ELAP-certified laboratory. All results will be reported in electronic format deliverables prepared in accordance with NYSDEC requirements. Formal laboratory qualifications and QA/QC information packages for

Eurofins and any other analytical laboratories proposed for the project will be submitted to the NYSDEC or disposal facilities, if requested.

4.1.4.6 Surveying

Gallas Surveying Group, a NYS licensed surveying firm, will be contracted to provide lines, grades, boundaries, benchmarks, topographic surveys, as built drawings, and any other survey work required for the proper execution and documentation of the work as required by the RAWP.

4.1.4.7 Well Drilling

Aquifer Drilling and Testing, a NYS registered driller, will be contracted to drill and install the methane extraction wells and methane gas monitoring wells, in accordance with the specified dimensions and depths.

4.1.4.8 Waste Disposal Facilities

Waste from the Site will be transported to appropriately permitted waste disposal facilities. The waste disposal facilities selected for this project will be determined once the bidding process is completed.

Non-impacted construction debris, if any is generated, will be transported to a registered construction and demolition disposal facility.

4.1.4.9 Waste Transporter and Disposal Facility Qualifications

A qualifications package for each vendor contracted to transport waste from the Site to the designated soil disposal facilities and each designated disposal facility will be submitted to NYSDEC. The package will include the following:

- Proof of insurance and all current necessary waste transport permits for the waste type(s) being transported.
- Letters of commitment from all waste haulers and from all transfer, treatment, storage and disposal facilities to be used for the project. The letters of commitment shall specifically identify the types and quantities of waste that the facility will be able to accept, the permit numbers for all facilities at which the waste will be accepted, and all waste characterization requirements, if additional to waste characterization samples already collected. In the event that a facility (such as a privately-owned treatment works) is prohibited from issuing a letter of commitment without a sample of the waste, a conditional letter will be acceptable. Such a conditional letter shall specifically state what types and quantities of waste the facility will accept.
- For each waste hauler:
    - Name and federal and state identification numbers, as applicable;
    - Address;
    - Name of responsible contact for the hauler;
    - Telephone number for the contact;
    - List of types and sizes of all transport vehicles and equipment to be used;
    - A description of proposed transportation route, method and procedures for hauling waste material, including type of vehicles that will be used for each type of waste; and
    - Copies of any and all necessary permits and authorizations for each type of waste transported.

- For each transfer, treatment, storage and disposal facility, the Contractor shall submit the following information.
    - Facility name and federal and state identification numbers;
    - Facility location;
    - Name of responsible contact for the facility;
    - Telephone number for contact;
    - Signed letter of agreement to accept waste;
    - Unit of measure utilized at facility for costing purposes; and
    - Copies of all permits, licenses, letters of approval, and other authorizations to operate held by the proposed facility as they pertain to receipt and management of waste derived from this project.

4.1.4.10 Construction Quality Control Testing

Implementation of quality control testing and measurement will be performed by the contractors conducting the specific Site tasks. The quality control officers, defined in Section 4.1.4.1, will be responsible for providing documentation of all testing and measurement results to Roux. Roux will be responsible for verifying that all quality control testing has been conducted in compliance with the RAWP and as specified herein.

Prior to initial quality control testing procedures, the quality control officers will:

1. Verify that the testing procedures are within the manufacturer's recommendations;
2. Verify that the facilities' testing equipment are available and comply with testing standards;
3. Check testing instrument calibrations against certified standards; and
4. Verify the recording forms, including all the test documentation requirements, have been prepared.

Qualifications of all independent environmental testing firms and laboratories will be submitted to Roux and Fifth XNY LLC for approval prior to any quality control testing and/or lab analysis as an obligation of this CQAP.

Specific task-driven testing/certification obligations as they relate to environmental aspects of the project are as follows:

- A New York State-licensed surveyor will conduct all of the necessary measurements associated with the extent of the site cover system, the grade covered by the demarcation layer, and the grade of cover soils.
- Soil that does not meet the SCOs for reuse, and/or which has been determined to not meet the geotechnical requirements for backfill, will require waste characterization analyses prior to off-Site disposal. The in-situ characterization sampling and analysis will be conducted prior to excavation, as the excavated impacted soil will be direct-loaded onto trucks for waste transport and disposal, to the extent practicable. Limited and temporary stockpiling of soil for off-Site disposal may be necessary. If necessary, waste characterization samples will be collected from individual stockpiles, and no soil will be added or removed from the stockpile once the samples have been collected. Waste characterization analysis parameters and frequency for any additional samples are determined by the waste disposal facility's acceptance requirements. As required, excavated soil will be tested in accordance with the soil disposal facility's analytical acceptance requirements that will be provided to NYSDEC when available. Waste characterization results will be provided to the disposal facility for review.

- The CAMP requires continuous, real time monitoring of VOCs and particulates during all intrusive Site activities. The air monitoring equipment will be inspected periodically throughout each workday with intrusive activities to check and manually record the concentrations of VOCs and particulates and to ensure that the equipment is working properly. The air monitoring equipment will be repaired, recalibrated, and/or replaced, as necessary. These air monitoring data will be collected and logged for review daily by Roux and made available for regulatory agency review. Action Limit Reports will be completed to document any and all action level exceedances and will be submitted to NYSDEC and NYSDOH, as described in the CAMP.
- The SSDS and PGCS each require post-construction start-up monitoring and testing to ensure each system is operating in accordance with manufacturer specifications and that the flow rates and vacuums at each of the SSDS risers and blowers, sub-slab vapor monitoring points, and PGCS methane extraction wells are within acceptable tolerances. System balancing will be performed as needed. Effluent air sample collection and analysis will also be completed to ensure the associated emission controls are functioning as design or to ensure compliance with all air discharge SGCs.
- All testing data will be managed in accordance with the above requirements and will be included in the FER to be prepared by Roux upon completion of all remedial objectives defined in the NYSDEC-approved RAWP and NYSDEC-issued Decision Document.

4.1.4.11 Project Coordination

During implementation of the Remedial Action construction, progress meetings/conference calls will be conducted periodically to assess the progress of the work, overall progress to date, quality control requirements, environmental and construction health and safety requirements, and future progress expectations. Those in attendance will include representatives from the Volunteer, the General Contractor, Roux, and other subcontractors, as necessary. These progress meetings will provide the opportunity for all Site tasks to be integrated and discussed collectively and allow for coordination of all Site activities to maintain the overall construction schedule. Routine task meetings will also be conducted on an as needed basis to insure proper communication between the contractors, tradesman, and supervisory personnel.

4.1.5 Soil/Materials Management Plan (SoMP)

The SoMP is included in Section 5.4 of this RAWP.

4.1.6 Stormwater Pollution Prevention Plan (SWPPP)

The erosion and sediment controls will be in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control.

A Stormwater Pollution Prevention Plan (SWPPP) that provides details related to erosion and sediment controls to be followed during construction (including the remedial action construction) was prepared by the Site civil engineer and shall be submitted to NYSDEC prior to construction. The June 11, 2025, SWPPP prepared by R&M Engineering is included in Appendix H.

4.1.7 Community Air Monitoring Plan (CAMP)

All invasive work will be monitored in accordance with the CAMP that is included within the HASP in Appendix F.

4.1.8 Contractors Site Operations Plan (SOP)

The Remedial Engineer will review all plans and submittals for this remedial project (including those listed above and contractor and sub-contractor document submittals) and confirms that they are in compliance

with this RAWP. All remedial documents will be submitted to NYSDEC and NYSDOH in a timely manner and prior to the start of work.

4.1.9 Citizen Participation Plan (CPP)

The approved CPP for this project is attached in Appendix D. Document repositories have been established at the following locations and contain all applicable project documents:

- Bay Shore – Brightwaters Public Library
  1 South Country Road
  Brightwaters, New York 11718
  Phone: 631-665-4350
  Hours:
  Monday: 09:30AM – 21:00PM
  Tuesday: 09:30AM – 21:00PM
  Wednesday: 09:30AM – 21:00PM
  Thursday: 09:30AM – 21:00PM
  Friday: 09:30AM – 17:00PM
  Saturday: 09:30AM – 17:00PM
  Sunday: Closed
- NYSDEC Division of Environmental Remediation
  Patrick Powers, Project Manager
  625 Broadway
  Albany, NY 12233
  Phone: (518) 402-9758
  patrick.powers@dec.ny.gov
- NYSDOH Bureau of Environmental Exposure and Investigation
  Tony Perretta
  Empire State Plaza, Corning Tower
  Albany, NY 12237
  Phone: (518) 402-1365
  beei@health.ny.gov

In addition, an electronic repository can be accessed via DECInfo Locator at the following link: https://extapps.dec.ny.gov/data/DecDocs/C152008/

4.2 General Remedial Construction Information

4.2.1 Project Organization

A copy of professional profiles for the Project Principal, Remedial Engineer, Quality Assurance Officer, Project Manager, and Field Manager/SSO (plus resumes for several staff who may oversee the field work) for Roux and for the data validator are presented in Appendix I.

4.2.2 Remedial Engineer

The Remedial Engineer for this project will be Paul Martorano, P. E. 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 Site (NYSDEC BCP Site No. C152008). The Remedial Engineer will certify in the FER that the remedial activities were observed by Qualified Environmental Professionals (QEPs) under their supervision and that the remediation requirements set forth in the RAWP, Decision Document and any other relevant provisions of ECL 27-1419 have been achieved in full conformance with that Work Plan.

The Remedial Engineer, assisted by the Project Manager, 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, installation and testing of the engineering controls, import of backfill 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 11.1 in the FER.

4.2.3 Remedial Action Construction Schedule

A schedule for the major elements of the Remedial Action construction is presented in Section 12.

4.2.4 Work Hours

The hours for operation of remedial construction will conform to the Town of Islip Building Division construction code requirements or according to specific variances issued by that agency. NYSDEC will be notified by the Volunteer of any work-hour variances issued by the Town of Islip. NYSDEC reserves the right to deny alternate remedial construction hours.

4.2.5 Site Security

Security for the work, equipment, materials, supplies, facilities, personnel, and incidentals will be provided throughout the performance of the work at the Site. The Site will be fully fenced with construction fencing. This fencing will be maintained throughout the remedial construction work. Temporary fencing and barricades will be used to delineate and secure work areas with on-going remediation activities. Site security personnel will be employed as needed.

4.2.6 Traffic Control

For any trucking required, the proposed truck routes for ingress and egress to the Site are shown in Figure 15. All trucks loaded with Site-derived materials will exit the vicinity of the Site using only these approved truck routes. These are the most appropriate routes and take into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of NYSDOT truck routes; (c) prohibiting off-Site queuing of trucks entering the facility, to the extent practicable; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

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

Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation. A temporary decontamination pad/truck wash will be constructed to decontaminate trucks and other vehicles/equipment which made contact with contaminated Site soil prior to leaving the Site.

The contractors operating on the Site will be responsible for providing all necessary personnel and materials (e.g., traffic lanes, safety cones, etc.) to control traffic entering and exiting the Site and for coordinating traffic control measures with the Suffolk County and Town of Islip, as necessary. Contractors operating on

the Site shall be responsible for all applicable traffic control and notification requirements and incorporating those elements into this Traffic Control Plan.

4.2.7 Contingency Plan

The Contingency Plan is described in Section 5.4.11

4.2.8 Worker Training and Monitoring

All general Site workers (as defined in OSHA 1910.120 (e)(3)(i)) that will be involved with earth-disturbance activities will have received a minimum of 40 hours of initial health and safety training for hazardous waste site operations (40 Hour HAZWOPER training plus 8 hours of refresher training on an annual basis) and meet the medical surveillance requirements included in the HASP.

4.2.9 Agency Approvals

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 the Town of Islip. A COC will not be issued for the project unless conformance with zoning designation is demonstrated.

A complete list of all federal, state and local governmental permits, certificates or other approvals or authorizations required to perform the remedial work is provided above in Section 2.5.3. Local government permits required to perform the development work includes:

- Town of Islip: Site Plan and Building permits
- Suffolk County Fire Marshal: fire prevention system permits
- Suffolk County: Non-Utility Highway Work permit
- Gas, electric, water utility company approvals
- Suffolk County Department of Health: On-Site Sanitary System approval
- New York State: State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity

4.2.10 NYSDEC BCP Signage

A project sign will be erected at the main entrance to the Site prior to the start of any remedial activities. The sign will indicate that the project is being performed under the New York State Brownfield Cleanup Program. The sign will meet the detailed specifications provided by the NYSDEC Project Manager.

4.2.11 Pre-Construction Meeting with NYSDEC

A project kick-off meeting will be conducted with the Volunteer, Roux, NYSDEC, the General Contractor and any remedial Subcontractor prior to the commencement of any intrusive remedial activities proposed in this RAWP.

4.2.12 Emergency Contact Information

A draft emergency contact sheet with names and phone numbers is included in Table 24. It will define the specific project contacts for use by NYSDEC and NYSDOH in the case of a day or night emergency. A final version will be submitted following selection of the remedial subcontractors.

4.2.13 Remedial Action Costs

The total estimated cost of the Remedial Action is $24,600,000 with $15,400 per year in annual operation, maintenance, monitoring and reporting costs. An itemized and detailed summary of estimated costs for all remedial activity is attached on Table 23.

4.3 Site Preparation

4.3.1 Mobilization

The selected contractors shall supply any labor and materials required for the implementation of the remedial actions (i.e. excavation and disposal of soil, installation of engineering controls). Mobilization and Site preparation activities include:

1. Mobilization of equipment to the work area.
2. Installation of the Site perimeter construction fencing, plus temporary fencing and traffic barricades to delineate the work zone and serve as worksite security measures.
3. Implementation of erosion and sediment control measures in accordance with the New York Guidelines for Urban Erosion and Sediment Control and the SWPPP, Appendix H.
4. Set-up of decontamination facilities.
5. Site clearing, including building demolition, debris and vegetation removal.

4.3.2 Demolition

Demolition of the existing building, and associated floor slabs and subgrade foundations, will be completed during site preparation. Concrete slabs and foundations will be cleaned of residual soils and inspected for evidence of staining and/or contamination. If no evidence of staining is noted the concrete will be recycled off-Site at a registered recycling facility. If evidence of contamination is present on concrete, those pieces will be segregated and disposed offsite, per the disposal facility requirements.

4.3.3 Monitoring Well / Vapor Probe Decommissioning

Existing groundwater monitoring wells will be properly decommissioned in accordance with NYSDEC Commissioners Policy CP-43. Similarly, existing soil vapor probes, will be properly decommissioned.

4.3.4 Erosion and Sedimentation Controls

Implementation of erosion and sediment controls will be in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control and the SWPPP, Appendix H.

4.3.5 Stabilized Construction Entrance(s)

Stabilized construction entrances will be installed at all points of vehicle ingress and egress to the Site. The truck wash/decontamination pad (see Section 5.4.7) and the stone-based egress path will be continuous so that trucks do not get re-contaminated following decontamination and prior to departure from the Site.

Any Site-derived soil spilled on the sidewalk or street immediately adjacent to the Site will be promptly removed and the street will be cleaned.

4.3.6 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.

4.3.7 Structural Stability -Sheeting and Shoring

Appropriate management of structural stability of on-Site or off-Site structures during on-Site activities including excavation is the sole responsibility of the Volunteer and its contractors. The Volunteer and its contractors are solely responsible for the 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 this approved RAWP.

4.3.8 Equipment and Material Staging

An equipment and materials staging area will be established in a designated area on-Site.

4.3.9 Decontamination Area

A temporary decontamination pad/truck wash will be constructed to decontaminate trucks and other vehicles/equipment which make contact with contaminated Site soil prior to leaving the Site. The decontamination pad will be sized to accommodate the largest construction vehicle used and located prior to the stabilized construction egress. The decontamination pad will be integrated with the stabilized construction entrance. Dry decontamination will be employed to the extent practical, within a designated area of the Site. All liquid decontamination material will be collected and properly disposed of off-Site.

The truck decontamination area/construction entrance will be adequately sloped toward the interior of the Site to prevent off-Site tracking of soils.

4.3.10 Site Fencing and Security

The Site will be enclosed with construction fencing, which will be maintained during remedial construction.

The fences and gates will be closed and locked whenever there is no activity on the Site, and any breaks or gaps will be repaired immediately. Temporary fencing (e.g., cones, caution tape, etc.) will supplement the perimeter fencing to delineate and secure the area of on-going remediation activities within the Site, such as soil stockpiles and health and safety exclusion zones.

4.3.11 Demobilization

Demobilization from the Site will include:

- Removal and restoration of remediation-related equipment and materials storage areas;
- Equipment decontamination, as required; and
- General refuse disposal.

Erosion and sediment controls and Site perimeter fencing will likely remain in place for future redevelopment-related construction.

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 (e.g., names, phone numbers);
- A summary of CAMP results, including any excursions;
- An explanation of notable Site conditions;
- A look-ahead portion which describes immediately future work; and
- Photos of site activity.

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 2.

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 of the month following the end of the month of 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 (e.g., tons 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;
- 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; and
- Tracking of GSR metrics determined during the design process.

4.4.3 Other Reporting

Photographs will be taken of all remedial activities and submitted to NYSDEC in digital 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, SiteWiseTM or otherwise approved method) should be included.

Jobsite 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

If a complaint is received, the following procedure will be implemented:

1. Work in the affected area will be halted, and the source of the issue will be identified.
2. NYSDEC, NYSDOH, and the Volunteer will be notified of the complaint.
3. Nuisance odors, if any, will be abated through covering/containerizing excavated materials, backfilling open excavations in a timely manner, using a foam unit, and/or other appropriate odor suppression measures.
4. As described in NYSDEC DER-10, Appendix 1B – Fugitive Dust Control, nuisance dust, if any, will be abated by applying water on haul roads; wetting equipment and excavation faces; spraying water on buckets during excavation and dumping; hauling materials in properly tarped or watertight containers; restricting on-Site vehicle speeds to 10 mph; covering excavated areas and material after excavation activity ceases; and reducing the open excavation size and/or number of open excavations.
5. Work will resume in the affected area when the nuisance odors/dust have been abated, as determined by the Roux on-Site personnel.

4.4.5 Deviations from the Remedial Action Work Plan

Deviations from the RAWP will be reported to NYSDEC for approval and fully explained in the FER.

5. Remedial Action Implementation

This section describes the remedial measures included in this RAWP.

5.1 Soil Cleanup Objectives

The Soil Cleanup Objectives for the Site are the Part 375 ISCOs for all parameters. Soil and materials management on-Site and off-Site will be conducted in accordance with the Soil/Materials Management Plan as described below., as listed in Tables 6 through 12. Figures 7 and 11 show all soil samples that exceed the applicable SCOs proposed for this Remedial Action.

5.2 Remedial Performance Evaluation (End-Point Sampling)

5.2.1 End-Point and Documentation Sampling Frequency

End-point samples are proposed for the three shallow hot spot areas in the vicinity of RXSB-15, RXSB-19 and RXSB-32 which exhibited exceedances of the TCLP USEPA Regulatory Level for hazardous waste for mercury. The sampling frequency will be one sample from the top of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area. Samples will be collected in-situ ahead of the excavation, to minimize the handling of hazardous waste soil.

For all other areas of the Site, and given the Site area and the extensive sampling conducted during RI and PDI, documentation sampling will be conducted at a frequency of one sample per approximately 7,500 square feet of the Site. Documentation samples will be analyzed for VOC, SVOCs, Pesticides, PCB and metals. Due to the fact that PDI soil detections of PFOS and PFOA were found at concentrations below the applicable ISCOs, no PFOS and PFAS sampling will be conducted. The frequency of bottom sampling proposed for this RAWP is a modification to the guidance provided in NYSDEC DER-10 Section 5.4 based on the overall Site perimeter being greater than 300 feet, and the fact soil has not been determined to significantly impact groundwater, and a result of the ICs and ECs that effectively will eliminate exposure to residual contamination to be present following completion of the remedy.

The locations of all endpoint and documentation samples shall be laid out and surveyed by a NYS-licensed surveyor.

5.2.2 Methodology

End-point samples are proposed for the three shallow hot spot areas in the vicinity of RXSB-15, RXSB-19 and RXSB-32 which exhibited exceedances of the TCLP USEPA Regulatory Level for hazardous waste for mercury and across the Site prior to the construction of the site cover system.

All end-point bottom and sidewall samples will be analyzed for TCLP mercury and all documentation samples will be analyzed for the full suite of Part 375 parameters (TAL/Part 375 metals including hexavalent chromium; TCL/Part 375 VOCs and SVOCs, TCL/Part 375 pesticides/herbicides, and PCBs), and total cyanide.

5.2.3 Reporting of Results

A tabular summary of all performance evaluation sampling results, all material characterization results, and other sampling and chemical analysis performed as part of the Remedial Action will be included in the FER. The FER will be prepared in conformance with DER 10.

5.2.4 QA/QC

QA/QC protocols for sampling and analysis will be implemented per the QAPP/FSP (Appendix G). The QAPP/FSP includes all requirements outlined in DER 10 Section 2.4

5.2.5 DUSR and EDDS

Data validation will be performed on the end-point and documentation samples to determine whether the data, as presented, meets the Site-specific criteria for data quality and data use. Data qualifiers will be included on the data tables. The laboratory reported the results for data in ASP Category B deliverable packages.

An electronic data deliverable (EDD) in the required NYSDEC format will be provided by the laboratory. Data Usability Summary Reports (DUSRs), in accordance with Appendix 2B of DER-10, will be provided in the FER.

5.2.6 Reporting of End-Point Data in FER

End-point and documentation sampling results performed as part of the Remedial Action will be included in the FER. The FER will provide a tabular and map summary of all end-point sample results and exceedances of SCOs.

5.3 Estimated Material Removal Quantities

The estimated quantity of hazardous soil/fill to be removed from the Site is 360 cubic yards and the estimated quantity of nonhazardous soil/fill to be removed from the Site is 46,000 cubic yards (which includes 31,400 cy for the one foot cut to accommodate the remedial cover system). The estimated quantity of soil/fill to be imported into the Site for backfill and cover soil is 54,000 cubic yards. The estimated quantity of soil/fill expected to be reused/relocated on Site above the demarcation layer is 2,930 cubic yards

5.4 Soil/Materials Management Plan

The following sections summarize the SoMP to be implemented during the Remedial Action.

5.4.1 Soil Screening Methods

Visual, olfactory, and PID soil screening and assessment will be performed by a QEP 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 occur during all excavation and invasive work performed during the remedy and prior to issuance of the COC.

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

5.4.2 Stockpile Methods

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 or a QEP under their 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.

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 hotspot will be removed and end-point remedial performance sampling completed before excavations related to Site development commence proximal to the hotspot.

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 (i.e., 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

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.

Proposed in-bound and out-bound truck routes to the Site are shown in Figure 16. All trucks loaded with Site materials will exit the vicinity of the Site using only these approved truck routes. 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; and (f) overall safety in transport.

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

Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas or mesh 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

The off-Site disposal locations will be determined prior to implementation of the Remedial Action and will be reported to the NYSDEC Project Manager.

The total quantity of material expected to be disposed off-Site is [insert quantity; breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc.].

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:

- 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
- 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

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 of 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 as part of the cover system are listed in Table 25. On-Site reuse of material below the cover system will be conducted without chemical testing. The Remedial Engineer will ensure that procedures defined for material reuse in this RAWP are followed and that unacceptable material will not remain on-Site as part of the cover system.

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 J.

On-Site treatment of excavated soils (e.g., screening of unstable soils) and/or concrete crushing or processing may be implemented, as needed, to minimize waste and maximize reuse for backfilling and grading purposes. These activities will be conducted with prior authorization from the NYSDEC.

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 that exceeds the ISCOs, 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 of in accordance with applicable local, State, and Federal regulations.

Dewatered fluids, if any, will not be recharged back to the land surface or subsurface of the Site. Dewatering fluids will be managed off-Site.

Discharge of water generated during remedial construction to surface waters (i.e. a local pond, stream, river and/or storm sewer) is prohibited without a SPDES permit.

5.4.8 Demarcation

After the completion of soil removal and any other invasive remedial activities and prior to backfilling, a land survey will be performed by a New York State licensed surveyor. Soil exceeding the ISCOs will remain on-Site, therefore, the survey will define the top elevation of remaining contaminated soil. A physical demarcation layer, consisting of the underside of concrete walkways, ramps and stairs, the vapor barrier beneath the building, orange fence, filter fabric, wire mesh, and/or equivalent material will be placed on this surface to provide a visual reference. This demarcation layer will constitute the top of the 'Residuals Management Zone', the zone that requires adherence to special conditions for disturbance of contaminated residual soils defined in the SMP. The survey will measure the grade covered by the demarcation layer before the placement of cover soil. This survey and the demarcation layer placed on this grade surface will constitute the physical and written record of the upper surface of the 'Residuals Management Zone' in the SMP. A map showing the survey results will be included in the FER and the SMP.

5.4.9 Backfill from Off-Site Sources

All materials proposed for import onto the Site will be approved by the Remedial Engineer and NYSDEC 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 industrial use as set forth in Table 375-6.8(b) of 6 NYCRR Part 375 and listed in Table 26. 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 J.

5.4.10 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.

A copy of the site-specific Stormwater Pollution Prevention Plan (SWPPP), prepared by the Site civil engineer, is presented in Appendix H.

5.4.11 Contingency Plan

In the unlikely event that USTs or other previously unidentified contaminant sources are found during implementation of the Remedial Action, sampling will be performed on product, sediment, and surrounding soils, etc. in accordance with DER-10. Chemical analytical work will be for the full suite of Part 375 parameters (TAL/Part 375 metals including hexavalent chromium; TCL/Part 375 VOCs and SVOCs, TCL/Part 375 pesticides/herbicides, and PCBs), total cyanide and Emerging Contaminants (40 PFAS compounds listed in the NYSDEC April 2023 “Sampling, Analysis and Assessment of Per-and Polyfluoroalkyl Substances (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 also be included in daily and monthly reports and in the FER.

5.4.11.1 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.

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 hosing.

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 QEP 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.

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

The CAMP is included within the HASP in Appendix F.

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

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. Specific odor control methods to be used on a routine basis will include limiting open excavation areas and covering excavated soil (i.e., with polyethylene sheeting or in covered roll off containers). 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.

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/or (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.

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 and will comply with NYSDEC DER-10 Appendix 1B – Fugitive Dust Control:

- Dust suppression will be achieved through applying water on haul roads; wetting equipment and excavation faces; spraying water on buckets during excavation and dumping; hauling materials in properly tarped or watertight containers; restricting on-Site vehicle speeds to 10 mph; covering excavated areas and material after excavation activity ceases; and reducing the open excavation size and/or number of open excavations.
- Gravel will be used on roadways to limit contact with Site soils and potential dust generation.

5.4.13.3 Other Nuisances

A plan will be developed and utilized by the contractor for all remedial work and will conform, at a minimum, to Town of Islip noise control standards.

6. Residual Contamination to Remain On-Site

Since residual contaminated soil and soil vapor will exist beneath the Site after the remedy is complete, ECs and ICs are required to protect human health and the environment. These ECs and ICs are described hereafter. Long-term management of EC/ICs and of residual contamination will be implemented under a Site-specific SMP that will be developed and included in the FER and approved by NYSDEC.

ECs will be implemented to protect public health and the environment by appropriately managing residual contamination. The Controlled Property (the Site) will have two primary EC systems. These are: (1) a Site-wide Cover System and 2) a vapor/gas mitigation system.

The FER will report residual contamination on the Site in tabular and map form. This will include a presentation the ISCO exceedances.

7. Engineering Controls: Site Cover System

Exposure to residual contaminated soil throughout the Site will be prevented by an engineered, Site Cover System that will be built on the Site.

The Site cover system elements to be completed as part of this RAWP will include compacted subbase layer (with improved bearing capacity via the installation of CMC), asphalt covered parking and driving areas, concrete covered sidewalks/walkways, concrete building slab, and landscaped areas with a soil cover over existing Site soil (soil meeting the lower of the NYSDEC PGWSCOs and ISCOs). Where a soil cover is to be used it will be a minimum of one foot of soil placed over a demarcation layer with the upper six inches of soil of sufficient quality to maintain a vegetative layer. A physical demarcation layer, consisting of a 20-mil vapor barrier (included as part of the future building's vapor mitigation systems below the building foundation), the underside of concrete sidewalks/walkways, the underside of asphalt pavement, or orange snow fencing material, filter fabric or equivalent material in landscaped areas will be used to provide a visual reference above residual contamination. The foundation construction will be for a one-story distribution warehouse. Clean soil used for the cover system, including RCA and DGA will be in compliance with procedures defined for material import in the SoMP in section 5.4 above and will meet NYSDEC-approved cover soil quality objectives for this Site.

The Site cover system will be incorporated into the overall remedy of the Site. A map showing the aerial distribution of each of the cover types to be built at the Site is included in Figure 14. A diagram showing the design detail for each cover type is shown in Figure 15.

An Excavation Plan will be included in the Site Management Plan and 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. Inspection and maintenance of this site cover system will be described in the SMP.

8. Engineering Controls: Vapor Management System

To address the concerns for the potential migration of soil vapors into the building and to off-site, Roux designed a two part VMS that consists of 1) a 20-mil vapor barrier with active SSDS for the on-site building and 2) an active PGCS and gas monitoring wells to proactively mitigate the risk of methane migration off-site. The VMS will be designed and installed in accordance with 6 NYCRR Part 363-9.7 for closed landfills. The VMS includes the following components:

8.1 Vapor Barrier

Future redevelopment of the Site will include an enclosed building structure; therefore, a vapor barrier will be installed beneath the building foundation as an element of the remedy and will be incorporated as a part of the active SSDS design to prevent migration from impacted vapor into the building.

8.2 Active Sub-slab Depressurization Systems (SSDS)

In addition to the vapor barrier, an active SSDS will be installed beneath the slab of the newly installed building. The SSDS will consist of two networks of sub-slab vapor collection piping (east and west network) each consisting of nine (9) 4 inch diameter perforated PVC pipe legs, approximately 50 feet to each other for a 25-foot radius of influence, installed within a gas-permeable bed immediately beneath the building slab and vapor barrier system. The gas-permeable bed will consist of gravel or crushed stone wrapped in protective geotextile fabric to prevent entry of fines. The sub-slab vapor collection legs/loops will be joined below the slab by solid PVC header pipes that connect to two vertical riser pipes (one riser per network). The vertical riser pipes will penetrate the slab and be routed upward, along a building column or foundation wall, and terminate on the roof. A vacuum gauge and sample port will be installed on riser pipes and accessible via the roof. Each riser will connect to a regenerative blower, capable of providing the flowrate/vacuum required for depressurization of the sub-slab zone. The blower systems will have a low vacuum switch, knock-out tank with high level alarm, an in-line air filter, and effluent discharge stack. The blowers will operate continuously and include an alarm system capable of notifying appropriate building personnel of a shut-down incident or other alarm.

Performance of the system will be monitored via nine soil vapor monitoring points that will be installed in the slab of the building at various locations. In addition, a methane detection system will be installed within the building, which will include an alarm system capable of notifying appropriate building personnel in the event methane is detected within the building or system piping at concentrations approaching the lower explosive limit (LEL) for methane.

The effectiveness of the SSDS will be monitored and evaluated for future decommissioning based on its performance and demonstration that potential vapor intrusion into the building is not occurring.

Drawings of the proposed active SSDS, are provided in Appendix K.

8.3 Active Perimeter Gas Collection Systems (PGCS)

To monitor and control potential migration of methane gases off-site, an active PGCS will be installed as part of the remedy. The PGSC will consistent of the following components:

- A network of 39 vertical methane extraction wells (MEWs) around the entire perimeter of the Site. The MEWs encircle the area of the former landfill which is proposed to be covered by asphalt or concrete. The radius of influence (ROI) for each MEW was estimated at approximately 50 feet based on the general site soil characteristics (silty sand), with an estimated flow of 10-15 cubic feet per minute (cfm) at 50-60 inches of water (iwc) column pressure. The MEW are assumed to be continuously screened from grade to approximately 25 feet bls and are horizontally spaced so the ROI will overlap by approximately 10 feet. The MEW will be split into 2 separate networks, with each network being connected by a common 4-inch high density polyethylene (HPDE) header pipe, which terminates at a pressure blower on the roof of the proposed building. Each MEW will also be equipped with a sampling port to collect periodic vacuum readings and to measure the LEL or percent by volume of methane, as well as a control valve to modulate flow.
- A horizontal geocomposite membrane underneath paved areas of the Site that won't be under the influence of the MEWs. The geocomposite membrane will consist of perforated mini-pipes between layers of nonwover geotextile, which will be tied into the same 4-inch HDPE header as the MEW. The geocomposite layer will be installed on the stabilized subbase, prior to the placement of the base coarse for the asphalt parking and driveway areas.
- Performance of the PGCS will be confirmed by a network of 14 vertical methane monitoring wells that will be installed at the perimeter of the site at a distance of no greater than 400-feet. The wells will be continuously screened to a depth of 25 ft bls and will be equipped with a monitor probe with valve, to collect methane readings at the perimeter of the site, to ensure the concentration of methane will not exceed 25 percent of the LEL for methane.
- The effectiveness of the PGCS will be monitored and evaluated for future decommisiong based on its performace and demostration that potential migration of methane gases off-site is controlled.

The above noted assumptions for the PGSC (flow, pressure, radius of influence) and the need for any emission controls, will be verified prior to construction through the completion of a pre-construction pilot test. Further details of the pilot test will be provided as part of a Pilot Test Work Plan, to be submitted under separate cover. Upon completion of the pilot test, the design for the MEW and geocomposite system will be revised as needed.

Drawings of the proposed active PGCS, are provided in Appendix L.

9. Criteria for Completion of Remediation/ Termination of Remedial Systems

9.1 Site-wide Cover System

The Site cover system is a permanent Engineering Control, and the quality and integrity of this system will be inspected at defined, regular intervals in perpetuity, as described in the SMP.

9.2 Vapor/Gas Mitigation System (VMS)

An Operations, Maintenance and Monitoring (OM&M) Plan for engineering controls will be included as part of the SMP. The OM&M Plan will outline routine maintenance, the measures for evaluating performance and effectiveness of the soil vapor mitigation systems and reporting requirements. In addition, the criteria for termination of the VMS will be provided in the OM&M Plan.

The active VMS (SSDS and PGCS) will be permanent ECs and will not be discontinued without written approval by NYSDEC and NYSDOH. A proposal to discontinue the active SSDS and/or PGCS may be submitted by the property owner based on confirmatory data that justifies such request. Systems will remain in place and operational until permission to discontinue use is granted in writing by NYSDEC and NYSDOH.

10. Institutional Controls

After the Remedial Action is complete, the Site will have soil exceeding ISCOs remaining in place. ICs have been incorporated into the Remedial Action to render the Site remedy protective of public health and the environment. Two elements have been designed to ensure continual and proper management of soils that exceed ISCOs in perpetuity: an Environmental Easement and a SMP.

10.1 Environmental Easement

An Environmental Easement, as defined in Article 71 Title 36 of the Environmental Conservation Law, will be required as soil exceeding ISCOs will remain on-Site after the Remedial Action is complete. As part of this Remedial Action, an Environmental Easement approved by NYSDEC will be filed and recorded with the Suffolk County Clerk. The Environmental Easement will be submitted as part of the SMP and FER.

The Environmental Easement renders the Site a Controlled Property. The Environmental Easement will, e.g.:

1. require the remedial party or Site owner to complete and submit to the NYSDEC a periodic certification of ICs and ECs in accordance with Part 375-1.8 (h)(3);
2. allows the use and development of the controlled property for Industrial Use as defined by Part 375-1.8(g), although land use is subject to local zoning laws; and
3. require compliance with the Department-approved SMP.

The Environmental Easement must be recorded with the Suffolk County Clerk before the COC can be issued by NYSDEC. A series of ICs are required under this remedy to implement, maintain and monitor the ECs. These ICs are the requirements and/or restrictions placed on the Site that will be listed in and required by the Environmental Easement. ICs can generally be subdivided between controls that support ECs and those that place general restrictions on Site usage or other requirements. ICs in both of these categories are closely integrated with the SMP, which provides all of the methods and procedures to be followed to comply with this remedy.

The ICs that support ECs are:

- Compliance with the Environmental Easement by the Grantee and the Grantee's successors and adherence of all elements of the SMP is required;
- All ECs must be operated and maintained as specified in the SMP;
- A Site cover system consisting of asphalt parking and driving areas, concrete covered sidewalks/ walkways, concrete building slab, and landscaped areas with a minimum of one foot of cover over existing Site soil must be inspected, certified, and maintained as required in the SMP;
- An active VMS consisting of a SSDS and PGCS must be inspected, certified, operated and maintained as required by the SMP;
- All ECs on the Controlled Property must be inspected and certified at a frequency and in a manner defined in the SMP;
- Data and information pertinent to Site Management for the Controlled Property must be reported at the frequency and in a manner defined in the SMP; and
- ECs may not be discontinued without an amendment to or extinguishment of the Environmental Easement by the NYSDEC pursuant to ECL Article 71, Title 36.

Adherence to these ICs for the Site will be mandated by the Environmental Easement and will be implemented under the SMP (discussed in the next section). The Controlled Property (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 Controlled Property are prohibited, with the exception of raised planters;
- Use of groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for intended purpose and the prior written approval of the NYSDOH or Suffolk County Department of Health Services, with concurrence by NYSDEC;
- All future activities on the Controlled Property that will disturb soil that exceed ISCOs are prohibited unless they are conducted in accordance with the soil management provisions in the SMP;
- The Controlled Property may be used for industrial use only, provided the long-term ECs and ICs included in the SMP are employed; and
- The Controlled Property may not be used for a higher level of use without an amendment or extinguishment of this Environmental Easement by NYSDEC pursuant to ECL Article 71, Title 36 and unless allowed by local zoning.

Grantor agrees to submit to NYSDEC a periodic written statement that certifies, under penalty of perjury, that: (1) the controls employed at the Controlled Property 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 such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or per an alternate frequency that NYSDEC may allow. This annual statement must be certified by a NYS registered professional engineer.

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 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 Site's BCA. This includes: (1) development, implementation, and management of all ECs and ICs; (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.

A Site Management Plan is required, which includes the following:

1. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:
    a. Institutional Controls: The Environmental Easement discussed in Section 10.1 above.
    b. Engineering Controls: The Site cover system discussed in 7 and active VMS (SSDS and PGCS) discussed in Section 8.
        - an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
        - descriptions of the provisions of the Environmental Easement including any land use, and groundwater or surface water use restrictions;
        - a provision for the evaluation of the potential for soil vapor intrusion for any future buildings developed on the Site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
        - provisions for the management and inspection of the identified Engineering Controls;
        - maintaining site access controls and Department notification; and
        - the steps necessary for the periodic reviews and certification of the Institutional and Engineering Controls.
2. A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
    a. monitoring of the cover system to assess the performance and effectiveness of the remedy;
    b. monitoring for vapor intrusion for any buildings on the Site, as may be required by the Institutional and Engineering Control Plan discussed above; and
    c. a schedule of monitoring and frequency of submittals to the NYSDEC.
3. An Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
    a. compliance monitoring of treatment systems to ensure proper O&M;
    b. providing the NYSDEC access to the site and O&M records.
4. A Site Management Reporting Plan for submittal of data, information, recommendations, and certifications to NYSDEC.

Site management activities, reporting, and EC/IC certification will be scheduled on a certification period basis and summarized in a Periodic Review Report (PRR); the certification period will be annually. The Site Management Plan 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.

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

11. Final Engineering Report

An FER will be submitted to NYSDEC following implementation of the Remedial Action defined in this RAWP. The FER provides documentation that the remedial work required under this RAWP has been completed and has been performed in compliance with this Work Plan. The FER will provide a comprehensive account of the locations and characteristics of all material removed from the Site, including the map(s) of all sources surveyed. The FER will include as-built drawings for all constructed elements, calculation and manufacturer documentation for treatment systems, certifications, manifests, and bills of lading. The FER will provide a description of any potential deviations in the Remedial Action from the elements provided in the RAWP. The FER will provide a tabular summary of all performance evaluation sampling results, 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.

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

The FER will provide a thorough summary of all residual contaminated soil that exceeds the ISCOs in 6 NYCRR Part 375-6 that will be left on the Site after the remedy is complete. A table and map that show exceedances of the ISCOs for all soil 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.

All project reports must be submitted in digital form on electronic media (PDF) prior to the approval of a FER and issuance of a COC by NYSDEC.

11.1 Certifications

The following certification will appear in front of the Executive Summary of the FER. This certification will be appropriately signed and stamped. The certification will include the following statements:

> *I, [name], certify that I am currently a NYS registered professional engineer, I had primary direct responsibility for the implementation of the subject construction program, and I certify that the RAWP was implemented and that all construction activities were completed in substantial conformance with the DER-approved RAWP.*
>
> *The data submitted to DER demonstrates that the remediation requirements set forth in the Remedial Work Plan and all applicable statutes and regulations have been or will be achieved in accordance with the time frames, if any, established in the work plan.*

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 to ECL 71-3605 and that any affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded.

A Site Management Plan has been submitted for the continual and proper operation, maintenance, and monitoring of any engineering controls employed at the site including the proper maintenance of any remaining monitoring wells, and that such plan has been approved by DER.

Where DER has determined that the Site does not represent a significant threat to public health and the environment and where contaminants in groundwater at the site boundary contravene drinking water standards, the following statement will be added to the certification:

No new information has come to the remedial party (site owners) attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of offsite contamination are no longer valid,"

In addition, every five years the following statement will be added to the certification:

"The assumptions made in the *qualitative* exposure assessment remain valid."

The certification will be signed by the Remedial Engineer, Paul Martorano, who is a Professional Engineer registered in New York State.

12. Schedule

A schedule for the proposed Remedial Action for the Site is presented below.

Schedule	
March 2026	RAWP Submission
May 2026	45-Day Public Comment Period for the RAWP
3Q 2026	NYSDEC Approval of RAWP
3Q 2026 – 4Q	Implementation of the RAWP
4Q 2026	Submit Draft Environmental Easement Package
3Q 2027	Submit Draft SMP
3Q 2027	Submit Draft FER
4Q 2027	Anticipated Issuance of COC by NYSDEC

TABLES

1. Remedial Investigation Soil Sampling Locations, Analyses and Rationale
2. Remedial Investigation Groundwater Sampling Locations, Analyses and Rationale
3. Remedial Investigation Soil Vapor Sampling Locations, Analyses and Rationale
4. Pre-Design Investigation Summary of Soil and Groundwater Sampling Program
5. Summary of Water Level Data, September 2025
6. Summary of Volatile Organic Compounds in Soil
7. Summary of Semivolatile Organic Compounds in Soil
8. Summary of Metals in Soil
9. Summary of Polychlorinated Biphenyl Compounds in Soil
10. Summary of Pesticides and Herbicides in Soil
11. Summary of Per- and Polyfluoroalkyl Substances in Soil
12. Summary of TCLP Metals in Soil
13. Summary of Volatile Organic Compounds in Groundwater
14. Summary of Semivolatile Organic Compounds in Groundwater
15. Summary of Metals in Groundwater
16. Summary of Polychlorinated Biphenyl Compounds in Groundwater
17. Summary of Pesticides and Herbicides in Groundwater
18. Summary of Per- and Polyfluoroalkyl Substances in Groundwater
19. Summary of Volatile Organic Compounds in Soil Vapor
20. Summary of PFAS in Soil
21. Summary of PFAS in Groundwater
22. Remedial Cost Estimate for Alternative 1
23. Remedial Cost Estimate for Alternative 2
24. Emergency Contacts
25. Track 4 Soil Cleanup Objectives and Reuse Criteria
26. Track 4 Backfill and Soil Cover Import Criteria

Table 1. RI Soil Sampling Locations

Location	Matrix	Sample Intervals	Sample Parameters	Sampling Method**	Rationale
RXSB-12 through RXSB-28	Soil	Up to 30 ft bls: 0-2', 10-12' and most impacted two-foot interval (if applicable) unless groundwater encountered	TCL + 30/TAL	SW-846 8260B;SW-846 8270C;SW-846 8081A; SW-846 8151A;SW-846 8082;SW-846 6010/7471; SW-846 7196A; SW-846 9012B	Evaluate conditions within and outside of the Site building footprint; co-located with the monitoring well sampling points RXMW-7 through RXMW-17.
BERM-4 through BERM-9	Soil	Most impacted two-foot interval from top of berm to ground elevation, or two-foot interval from the center of the berm.	TCL + 30/TAL	SW-846 8260B;SW-846 8270C;SW-846 8081A; SW-846 8151A;SW-846 8082;SW-846 6010/7471; SW-846 7196A; SW-846 9012B	Evaluate conditions of the berm material.
RXSB-29 through RXSB-38	Soil	0-2 inches bls	TCL + 30/TAL	SW-846 8260B;SW-846 8270C;SW-846 8081A; SW-846 8151A;SW-846 8082;SW-846 6010/7471; SW-846 7196A; SW-846 9012B	Evaluate surficial soil conditions.
RXSB-12 through RXSB-28	Soil	Up to 30 ft bls: 0-2', 10-12' and most impacted two-foot interval (if applicable) unless groundwater encountered	1,4-Dioxane, PFAS	Method 1633 Modified; SW-846 8270D	Evaluate EC conditions across the Site.
BERM-4 through BERM-9	Soil	Most impacted two-foot interval from top of berm to ground elevation, or two-foot interval from the center of the berm.	1,4-Dioxane, PFAS	Method 1633 Modified; SW-846 8270D	Evaluate EC conditions of the berm material.
RXSB-29 through RXSB-38	Soil	0-2 inches bls	TCL + 30/TAL	SW-846 8260B;SW-846 8270C;SW-846 8081A; SW-846 8151A;SW-846 8082;SW-846 6010/7471; SW-846 7196A; SW-846 9012B	Evaluate surficial soil conditions.

Sample Interval depths are in feet below land surface; Additional intervals may be added based on field observations
**Laboratory will report to their minimum possible standards for each method (QAPP Table 2)
TCL + 30/TAL - includes TCL VOCs + 10 TICs, TCL BNA (SVOCs) + 20 TICs, TCL Pest/Herb/PCBs, TAL Metals
AOC - Area of Concern
TCL - USEPA Contract Laboratory Program Target Compound List
BNA - Base Neutral Acids
TAL - USEPA Contract Laboratory Program Target Analyte List
VOCs - Volatile Organic Compounds
SVOCs - Semivolatile Organic Compounds
PCBs - Polychlorinated Biphenyls
TICs - Tentatively Identified Compounds
PFAS - Per- and Polyfluoroalkyl Substances
QA/QC samples will be collected as described in the QAPP (Appendix F)
QAPP - Quality Assurance Project Plan

Table 2. RI Groundwater Sampling Locations

Location	Matrix	Sample Interval	Sample Parameters	Sampling Method**	Rationale
RXMW-8 through MW-17	Groundwater	Water Table	TCL + 30/TAL	SW-846 8260B;SW-846 8270C;SW-846 8081A; SW-846 8151A;SW-846 8082;SW-846 6010/7471; SW-846 7196A; SW-846 9012B	To evaluate groundwater quality.
RXMW-8 through MW-17	Groundwater	Water Table	1,4-Dioxane, PFAS	Method 537 Modified; SW-846 8270D SIM	To evaluate groundwater quality for emerging contaminants.

** Laboratory will report to their minimum possible standards for each method (QAPP Table 2)
TCL + 30/TAL - includes TCL VOCs + 10 TICs, TCL BNA (SVOCs) + 20 TICs, TCL Pest/PCBs, TAL Metals, Hexavalent Chromium
TCL - USEPA Contract Laboratory Program Target Compound List
TAL - USEPA Contract Laboratory Program Target Analyte List
VOCs - Volatile Organic Compounds
SVOCs - Semivolatile Organic Compounds
TICs - Tentatively Identified Compounds
PCBs - Polychlorinated Biphenyls
PFAS - Per- and Polyfluoroalkyl Substances
QA/QC samples will be collected as described in the QAPP (Appendix F)
*All groundwater samples will be analyzed for both filtered and unfiltered metals and SVOCs

Table 3. RI Soil Vapor Sampling Locations

Area of Concern (AOC)	Location	Matrix	Sample Depth/Location	Sample Parameters	Sampling Method**	Rationale
Soil Vapor	RXSV-5 through RXSV-14	Soil Vapor	Soil vapor points to be installed approximately 5 feet below ground surface.	VOCs	TO-15	To evaluate the nature and extent of soil vapor impacts throughout the Site.

** Laboratory will report to their minimum possible standards for each method (QAPP Table 2)
VOCs - Volatile Organic Compounds
QA/QC samples will be collected as described in the QAPP (Appendix F)

Table 4. Summary of Soil and Groundwater Sampling Program, 1612 5th Avenue, Bay Shore, New York

Co-located Borehole Location	Well ID	Soil Boring ID	Well Type	Screen (ft. bls)	Sample Matrix	Sample ID	Sample Interval (ft. bls)	Lab Job ID	Sample Collection Date
BERM-10	--	BERM-10	--	--	Soil	BERM-10 (2-3)_P	2-3	460-331579-1	07/28/2025 10:30 AM
BERM-11	--	BERM-11	--	--	Soil	BERM-11 (2-3)_P	2-3	460-331579-2	07/28/2025 11:30 AM
BERM-12	--	BERM-12	--	--	Soil	BERM-12 (2-3)_P	2-3	460-331579-3	07/28/2025 1:30 PM
BERM-13	--	BERM-13	--	--	Soil	BERM-13 (2-3)_P	2-3	460-331579-4	07/28/2025 2:25 PM
BERM-14	--	BERM-14	--	--	Soil	BERM-14 (2-3)_P	2-3	460-331579-5	07/28/2025 3:00 PM
BERM-15	--	BERM-15	--	--	Soil	BERM-15 (2-3)_P	2-3	460-331830-1	07/31/2025 11:30 AM
RXMW-12D/RXSB-44	RXMW-12D	RXSB-44	Deep	36 - 46	Groundwater	RXMW-12D_P	--	460-334316-2	09/04/2025 12:45 PM
			--	--	Soil	RXSB-44 (0-2)_P	0-2	460-333261-1	08/21/2025 7:20 AM
					Soil	RXSB-44 (10-12)_P	10-12	460-333261-2	08/21/2025 7:45 AM
					Soil	RXSB-44 (25-27)_P	25-27	460-333261-3	08/21/2025 10:00 AM
					Soil	RXSB-44 (30-32)_P	30-32	460-333261-4	08/21/2025 10:15 AM
RXMW-13D/RXSB-43	RXMW-13D	RXSB-43	Deep	35 - 45	Groundwater	RXMW-13D_P	--	460-334316-6	09/04/2025 11:00 AM
			--	--	Soil	RXSB-43(0-2)_P	0-2	460-333002-1	08/18/2025 4:00 AM
					Soil	RXSB-43(10-12)_P	10-12	460-333002-2	08/18/2025 10:00 AM
					Soil	RXSB-43(24-26)_P	24-26	460-333002-3	08/18/2025 1:45 PM
					Soil	RXSB-43(31-33)_P	31-33	460-333002-4	08/18/2025 2:20 PM
RXMW-14D/RXSB-42	RXMW-14D	RXSB-42	Deep	35 - 45	Groundwater	RXMW-14_P	--	460-334316-7	09/04/2025 11:20 AM
			--	--	Soil	RXSB-42(0-2)_P	0-2	460-332866-1	08/14/2025 9:00 AM
					Soil	RXSB-42(10-12)_P	10-12	460-332866-2	08/14/2025 9:45 AM
					Soil	RXSB-42(32-34)_P	32-34	460-332866-3	08/14/2025 11:30 AM
					Soil	RXSB-42(35-37)_P	35-37	460-332866-4	08/14/2025 12:00 PM
RXMW-15D	RXMW-15D	--	Deep	50 - 60	Groundwater	RXMW-15D_P	--	460-334316-12	09/04/2025 10:05 AM
RXMW-16/RXSB-40	RXMW-16	RXSB-40	Shallow	27 - 37	Groundwater	RXMW-16_P	--	460-334316-10	09/04/2025 10:00 AM
			--	--	Soil	RXSB-40(0-2)_P	0-2	460-332224-3	08/06/2025 11:45 AM
					Soil	RXSB-40(10-12)_P	10-12	460-332224-4	08/06/2025 1:30 PM
					Soil	RXSB-40(27-29)_P	27-29	460-332476-1	08/08/2025 9:00 AM
					Soil	RXSB-40(29-31)_P	29-31	460-332476-2	08/08/2025 9:05 AM
RXMW-17	RXMW-17	--	Shallow	30 - 40	Groundwater	RXMW-17_P	--	460-334316-4	09/04/2025 11:30 AM
RXMW-17D/RXSB-45	RXMW-17D	RXSB-45	Deep	40 - 50	Groundwater	RXMW-17D_P	--	460-334316-5	09/04/2025 11:35 AM
			--	--	Soil	RXSB-45(0-2)_P	0-2	460-333161-1	08/20/2025 9:00 AM
					Soil	RXSB-45(10-12)_P	10-12	460-333161-2	08/20/2025 9:45 AM
					Soil	RXSB-45(30-32)_P	30-32	460-333161-3	08/20/2025 11:15 AM
					Soil	RXSB-45(33-35)_P	33-35	460-333161-4	08/20/2025 11:20 AM
RXMW-18	RXMW-18	--	Shallow	30 - 40	Groundwater	RXMW-18_P	--	460-334316-8	09/04/2025 10:30 AM
			Deep	40 - 50	Groundwater	RXMW-18D_P	--	460-334316-9	09/04/2025 10:35 AM

Table 4. Summary of Soil and Groundwater Sampling Program, 1612 5th Avenue, Bay Shore, New York

Co-located Borehole Location	Well ID	Soil Boring ID	Well Type	Screen (ft. bls)	Sample Matrix	Sample ID	Sample Interval (ft. bls)	Lab Job ID	Sample Collection Date
RXMW-18D/RXSB-41	RXMW-18D	RXSB-41	--	--	Soil	RXSB-41 (0-2)_P	0-2	460-332647-1	08/12/2025 10:50 AM
					Soil	RXSB-41 (10-12)_P	10-12	460-332647-2	08/12/2025 11:40 AM
					Soil	RXSB-41 (32-34)_P	32-34	460-332647-3	08/12/2025 2:00 PM
					Soil	RXSB-41 (40-42)_P	40-42	460-332735-1	08/13/2025 7:40 AM
RXMW-19/RXSB-39	RXMW-19	RXSB-39	Shallow	32 - 42	Groundwater	RXMW-19_P	--	460-334316-13	09/04/2025 9:10 AM
			--	--	Soil	RXSB-39 (0-2)_P	0-2	460-331646-1	07/29/2025 8:10 AM
					Soil	RXSB-39 (10-12)_P	10-12	460-331646-2	07/29/2025 8:30 AM
					Soil	RXSB-39 (33-35)_P	33-35	460-332019-3	08/04/2025 3:30 PM
					Soil	RXSB-39 (35-37)_P	35-37	460-332019-4	08/04/2025 3:35 PM
RXMW-19D	RXMW-19D	--	Deep	53 - 63	Groundwater	RXMW-19D_P	--	460-334316-14	09/04/2025 9:15 AM
RXMW-20/RXSB-46	RXMW-20	RXSB-46	Shallow	30 - 40	Groundwater	RXMW-20_P	--	460-334316-1	09/04/2025 1:45 PM
			--	--	Soil	RXSB-46 (0-2)_P	0-2	460-331646-3	07/29/2025 1:05 PM
					Soil	RXSB-46 (10-12)_P	10-12	460-331646-4	07/29/2025 1:20 PM
					Soil	RXSB-46 (28-30)_P	28-30	460-331646-5	07/29/2025 2:10 PM
					Soil	RXSB-46 (36-38)_P	36-38	460-331646-6	07/29/2025 2:45 PM
RXMW-21	RXMW-21	--	Shallow	31 - 41	Groundwater	RXMW-21_P	--	460-334316-3	09/04/2025 12:10 PM

Table 5. Summary of Water Level Data, 1612 5th Avenue, Bay Shore, New York

September 1, 2025				
Well ID	**Elev Ground**	**Elevation of Measuring Point**	**Depth to Water (ft below measuring point)**	**Groundwater Elevation (ft msl)**
RXMW-12D	68.85	68.46	31.95	36.51
RXMW-13D	67.82	67.42	31.01	36.41
RXMW-14D	69.69	69.56	33.02	36.54
RXMW-15D	70.48	70.14	32.19	37.95
RXMW-16	70.21	69.84	31.8	38.04
RXMW-17	70.27	70.07	33.45	36.62
RXMW-17D	70.32	69.82	33.22	36.6
RXMW-18	71.32	70.9	33.8	37.1
RXMW-18D	70.97	70.63	33.5	37.13
RXMW-19	68.83	68.47	30.56	37.91
RXMW-19D	69.11	68.81	30.79	38.02
RXMW-20	73.68	72.98	35.1	37.88
RXMW-21	70.81	70.41	33.65	36.76

Note:
1. Elevation data is reported in US Survey Feet relative to North American Vertical Datum 1988 (NAVD88)
2. Survey data collected on September 5, 2025
3. Elev Top of Riser/Casing

Notes Utilized Throughout Tables	
Soil Tables	
J -	Estimated value
J+ -	Estimated value, high bias
J- -	Estimated value, low bias
U -	The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit
R -	Sample results rejected by validator
UJ -	Analyte was not detected. The associated reported quantitation limit is an estimate
B -	The analyte was found in an associated blank as well as in the sample
T -	Indicates that a quality control parameter has exceeded laboratory limits
P -	Concentration difference between the primary and confirmation column >40%. The lower result is reported
ft bls -	Feet below land surface
FD -	Duplicate sample
mg/kg -	Milligrams per kilogram
µg/kg -	Micrograms per kilogram
NYSDEC -	New York State Department of Environmental Conservation
SCO -	Soil Cleanup Objectives
--	No SCO available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use SCO	
Shaded data indicates that parameter was detected above the NYSDEC Part 375 Industrial SCO	
Red data indicates that parameter was detected above the NYSDEC Part 375 Protection of Groundwater SCO	
Per- and Polyfluoroalkyl Substances (PFAS)	
GV -	Guidance Values issued January 2020 and updated March 2023
Bold data indicates that parameter exceeded the NYSDEC Unrestricted Use Guidance Values	
Shaded data indicates that parameter exceeded the NYSDEC Industrial Guidance Values	
Red data indicates that parameter exceeded the NYSDEC Protection of Groundwater Guidance Values	
TCLP Tables	
mg/L -	Milligrams per liter
USEPA -	United States Environmental Protection Agency
TCLP -	Toxicity Characteristic Leaching Procedure
USEPA Regulatory Levels - United States Environmental Protection	
	Agency Limits for RCRA Characteristic Waste for Toxicity
RCRA -	Resource Conservation and Recovery Act
Bold -	Parameter was detected above USEPA Regulatory Levels

Notes Utilized Throughout Tables	
Groundwater Tables	
J -	Estimated Value
J+ -	Estimated value, high bias
U -	The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit
R -	Sample results rejected by validator
UJ -	Analyte was not detected. The associated reported quantitation limit is an estimate
B -	The analyte was found in an associated blank as well as in the sample
T -	Indicates that a quality control parameter has exceeded laboratory limits
FD -	Duplicate
NA -	Compound was not analyzed for by laboratory
µg/L -	Micrograms per liter
ng/L -	Nanogram per liter
NYSDEC -	New York State Department of Environmental Conservation
AWQSGVs -	Ambient Water-Quality Standards and Guidance Values
--	No NYSDEC AWQSGV available
Bold data indicates that parameter was detected above the NYSDEC AWQSGVs	
Soil Vapor/Ambient Air	
J -	Estimated value
E -	Indicates value exceeded calibration range
U -	The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit
UJ -	Analyte was not detected. The associated reported quantitation limit is an estimate
FD -	Duplicate sample
ug/m3 -	Micrograms per cubic meter
Bold data indicates that parameter was detected	

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	BERM-4	BERM-5	BERM-6
				Sample Date:	11/15/2023	11/15/2023	11/15/2023
				Sample Depth:			
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.0012 U	0.001 U	0.0013 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.0012 U	0.001 U	0.0013 U
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.0012 U	0.001 U	0.0013 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.0012 U	0.001 U	0.0013 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.0012 U	0.001 U	0.0013 U
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.0012 U	0.001 U	0.0013 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.0012 U	0.001 U	0.0013 U
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.0012 U	0.001 U	0.0013 U
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.0012 U	0.001 U	0.0013 U
2-Hexanone	--	--	--	MG/KG	0.0059 U	0.0052 U	0.0066 U
Acetone	**0.05**	1000	0.05	MG/KG	0.0071 U	0.0063 U	0.0079 U
Benzene	0.06	89	0.06	MG/KG	0.0012 U	0.001 U	0.0013 U
Bromochloromethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
Bromodichloromethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
Bromoform	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
Bromomethane	--	--	--	MG/KG	0.0024 U	0.0021 U	0.0026 U
Carbon Disulfide	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.0012 U	0.001 U	0.0013 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.0012 U	0.001 U	0.0013 U
Chloroethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
Chloroform	0.37	700	0.37	MG/KG	0.0012 U	0.001 U	0.0013 U
Chloromethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.0012 U	0.001 U	0.0013 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
Cyclohexane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
Dibromochloromethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	BERM-4	BERM-5	BERM-6
Sample Designation:					BERM-4	BERM-5	BERM-6
Sample Date:					11/15/2023	11/15/2023	11/15/2023
Sample Depth:							
Regular Sample or Field Duplicate:					N	N	N
Dichlorodifluoromethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
Ethylbenzene	1	780	1	MG/KG	0.0012 U	0.00027 J	0.0013 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
m,p-Xylene	--	--	--	MG/KG	0.0012 U	0.00092 J	0.0013 U
Methyl Acetate	--	--	--	MG/KG	0.0059 U	0.0052 U	0.0066 U
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.0059 U	0.0052 U	0.0066 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0059 U	0.0052 U	0.0066 U
Methylcyclohexane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
Methylene Chloride	0.05	1000	0.05	MG/KG	0.0024 U	0.0021 U	0.0026 U
N-Butylbenzene	12	1000	12	MG/KG	0.0012 U	0.001 U	0.0013 U
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.0012 U	0.001 U	0.0013 U
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0012 U	0.00027 J	0.0013 U
Sec-Butylbenzene	11	1000	11	MG/KG	0.0012 U	0.001 U	0.0013 U
Styrene	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.0012 U	0.001 U	0.0013 U
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.0012 U	0.001 U	0.0013 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.0012 U	0.001 U	0.0013 U
Toluene	0.7	1000	0.7	MG/KG	0.0012 U	0.00049 J	0.0013 U
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.0012 U	0.001 U	0.0013 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.0012 U	0.001 U	0.0013 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0013 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.0012 U	0.001 U	0.0013 U
Xylenes	0.26	1000	1.6	MG/KG	0.0024 U	0.0012 J	0.0026 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	BERM-7	BERM-8	BERM-9
Sample Designation:					BERM-7	BERM-8	BERM-9
Sample Date:					11/15/2023	11/15/2023	11/15/2023
Sample Depth:							
Regular Sample or Field Duplicate:					N	N	N
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.0016 U	0.0013 U	0.0014 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.0016 U	0.0013 U	0.0014 U
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.0016 U	0.0013 U	0.0014 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.0016 U	0.0013 U	0.0014 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.0016 U	0.0013 U	0.0014 U
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.0016 U	0.0013 U	0.0014 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.0016 U	0.0013 U	0.0014 U
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.0016 U	0.0013 U	0.0014 U
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.0016 U	0.0013 U	0.0014 U
2-Hexanone	--	--	--	MG/KG	0.0082 U	0.0065 U	0.0069 U
Acetone	**0.05**	1000	0.05	MG/KG	0.0098 U	0.0078 U	0.0083 U
Benzene	0.06	89	0.06	MG/KG	0.0016 U	0.0013 U	0.0014 U
Bromochloromethane	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
Bromodichloromethane	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
Bromoform	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
Bromomethane	--	--	--	MG/KG	0.0033 U	0.0026 U	0.0028 U
Carbon Disulfide	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.0016 U	0.0013 U	0.0014 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.0016 U	0.0013 U	0.0014 U
Chloroethane	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
Chloroform	0.37	700	0.37	MG/KG	0.0016 U	0.0013 U	0.0014 U
Chloromethane	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.0016 U	0.0013 U	0.0014 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
Cyclohexane	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
Dibromochloromethane	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		BERM-7	BERM-8	BERM-9
			Sample Date:		11/15/2023	11/15/2023	11/15/2023
			Sample Depth:				
			Regular Sample or Field Duplicate:		N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Dichlorodifluoromethane	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
Ethylbenzene	1	780	1	MG/KG	0.0016 U	0.0013 U	0.0014 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
m,p-Xylene	--	--	--	MG/KG	0.0016 U	0.0013 U	0.00038 J
Methyl Acetate	--	--	--	MG/KG	0.0082 U	0.0065 U	0.0069 U
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.0082 U	0.0065 U	0.0069 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0082 U	0.0065 U	0.0069 U
Methylcyclohexane	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
Methylene Chloride	0.05	1000	0.05	MG/KG	0.0033 U	0.0026 U	0.0028 U
N-Butylbenzene	12	1000	12	MG/KG	0.0016 U	0.0013 U	0.0014 U
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.0016 U	0.0013 U	0.0014 U
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
Sec-Butylbenzene	11	1000	11	MG/KG	0.0016 U	0.0013 U	0.0014 U
Styrene	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.0016 U	0.0013 U	0.0014 U
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.0016 U	0.0013 U	0.0014 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.0016 U	0.0013 U	0.0014 U
Toluene	0.7	1000	0.7	MG/KG	0.0016 U	0.0013 U	0.00034 J
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.0016 U	0.0013 U	0.0014 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.0016 U	0.0013 U	0.0014 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0016 U	0.0013 U	0.0014 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.0016 U	0.0013 U	0.0014 U
Xylenes	0.26	1000	1.6	MG/KG	0.0033 U	0.0026 U	0.00038 J

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	BERM-9	RXSB-12	RXSB-12
				Sample Date:	11/15/2023	11/01/2023	11/01/2023
				Sample Depth:		0 - 2 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	FD	N	FD
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.0012 U	0.001 U	0.00097 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0012 U	0.001 UJ	0.00097 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.0012 U	0.001 U	0.00097 U
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.0012 U	0.001 U	0.00097 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.0012 U	0.001 U	0.00097 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.0012 U	0.001 U	0.00097 U
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.0012 U	0.001 U	0.00097 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.0012 U	0.001 U	0.00097 U
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.0012 U	0.001 U	0.00097 U
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.0012 U	0.001 U	0.00097 U
2-Hexanone	--	--	--	MG/KG	0.0058 U	0.0051 U	0.0049 U
Acetone	**0.05**	1000	0.05	MG/KG	0.007 U	0.0093	0.0095
Benzene	0.06	89	0.06	MG/KG	0.0012 U	0.001 U	0.00097 U
Bromochloromethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
Bromodichloromethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
Bromoform	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
Bromomethane	--	--	--	MG/KG	0.0023 U	0.002 U	0.0019 U
Carbon Disulfide	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.0012 U	0.001 U	0.00097 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.0012 U	0.001 U	0.00097 U
Chloroethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
Chloroform	0.37	700	0.37	MG/KG	0.0012 U	0.001 U	0.00097 U
Chloromethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.0012 U	0.001 U	0.00097 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
Cyclohexane	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
Dibromochloromethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	BERM-9	RXSB-12	RXSB-12
Sample Designation:					BERM-9	RXSB-12	RXSB-12
Sample Date:					11/15/2023	11/01/2023	11/01/2023
Sample Depth:						0 - 2 ft bls	0 - 2 ft bls
Regular Sample or Field Duplicate:					FD	N	FD
Dichlorodifluoromethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
Ethylbenzene	1	780	1	MG/KG	0.00024 J	0.001 U	0.00097 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
m,p-Xylene	--	--	--	MG/KG	0.00051 J	0.001 U	0.00097 U
Methyl Acetate	--	--	--	MG/KG	0.0058 U	0.0051 UJ	0.0049 UJ
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.0058 U	0.0051 U	0.0049 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0058 U	0.0051 U	0.0049 U
Methylcyclohexane	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
Methylene Chloride	0.05	1000	0.05	MG/KG	0.0023 U	0.002 U	0.0019 U
N-Butylbenzene	12	1000	12	MG/KG	0.0012 U	0.001 U	0.00097 U
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.0012 U	0.001 U	0.00097 U
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
Sec-Butylbenzene	11	1000	11	MG/KG	0.0012 U	0.001 U	0.00097 U
Styrene	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.0012 U	0.001 U	0.00097 U
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.0012 U	0.001 U	0.00097 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.0012 U	0.001 U	0.00097 U
Toluene	0.7	1000	0.7	MG/KG	0.0003 J	0.001 U	0.00097 U
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.0012 U	0.001 U	0.00097 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0012 U	0.001 U	0.00097 U
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.0012 U	0.001 U	0.00097 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0012 U	0.001 UJ	0.00097 UJ
Vinyl Chloride	0.02	27	0.02	MG/KG	0.0012 U	0.001 U	0.00097 U
Xylenes	0.26	1000	1.6	MG/KG	0.00051 J	0.002 U	0.0019 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	RXSB-12	RXSB-13	RXSB-13
Sample Designation:					RXSB-12	RXSB-13	RXSB-13
Sample Date:					11/16/2023	11/01/2023	11/08/2023
Sample Depth:					10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
Regular Sample or Field Duplicate:					N	N	N
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.0012 U	0.00097 U	0.0011 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0012 U	0.00097 UJ	0.0011 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 R
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.0012 U	0.00097 U	0.0011 U
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.0012 U	0.00097 U	0.0011 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.00046 J	0.00097 U	0.0011 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.0012 U	0.00097 U	0.0011 U
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.0012 U	0.00097 U	0.0011 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.0012 U	0.00097 U	0.0011 U
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.0012 U	0.00097 U	0.0011 U
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.0012 U	0.00097 U	0.0011 U
2-Hexanone	--	--	--	MG/KG	0.0058 U	0.0048 U	0.0053 U
Acetone	**0.05**	1000	0.05	MG/KG	0.007 U	0.036	0.009
Benzene	0.06	89	0.06	MG/KG	0.0012 U	0.00097 U	0.0011 U
Bromochloromethane	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
Bromodichloromethane	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
Bromoform	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
Bromomethane	--	--	--	MG/KG	0.0023 U	0.0019 U	0.0021 U
Carbon Disulfide	--	--	--	MG/KG	0.00058 J	0.00097 U	0.0018
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.0012 U	0.00097 U	0.0011 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.0012 U	0.00097 U	0.0011 U
Chloroethane	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
Chloroform	0.37	700	0.37	MG/KG	0.0012 U	0.00097 U	0.0011 U
Chloromethane	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.0012 U	0.00097 U	0.0011 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
Cyclohexane	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
Dibromochloromethane	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-12	RXSB-13	RXSB-13
				Sample Date:	11/16/2023	11/01/2023	11/08/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Dichlorodifluoromethane	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
Ethylbenzene	1	780	1	MG/KG	0.0012	0.00097 U	0.0011 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
m,p-Xylene	--	--	--	MG/KG	0.0031 B	0.00097 U	0.0011 U
Methyl Acetate	--	--	--	MG/KG	0.0058 U	0.0048 UJ	0.0053 U
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.003 J	0.0048 U	0.0053 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0058 U	0.0048 U	0.0053 U
Methylcyclohexane	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
Methylene Chloride	0.05	1000	0.05	MG/KG	0.0023 U	0.0019 U	0.0021 U
N-Butylbenzene	12	1000	12	MG/KG	0.0012 U	0.00097 U	0.0011 U
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.0012 U	0.00097 U	0.0011 U
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.001 J	0.00097 U	0.0011 U
Sec-Butylbenzene	11	1000	11	MG/KG	0.0012 U	0.00097 U	0.0011 U
Styrene	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.0012 U	0.00097 U	0.0011 U
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.0012 U	0.00097 U	0.0011 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.0012 U	0.00097 U	0.0011 U
Toluene	0.7	1000	0.7	MG/KG	0.00066 J	0.00097 U	0.0011 U
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.0012 U	0.00097 U	0.0011 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0012 U	0.00097 U	0.0011 U
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.0012 U	0.00097 U	0.0011 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0012 U	0.00097 UJ	0.0011 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.0012 U	0.00097 U	0.0011 U
Xylenes	0.26	1000	1.6	MG/KG	0.0041 B	0.0019 U	0.0021 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	RXSB-13	RXSB-14	RXSB-14
Sample Designation:					RXSB-13	RXSB-14	RXSB-14
Sample Date:					11/08/2023	11/01/2023	11/08/2023
Sample Depth:					10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
Regular Sample or Field Duplicate:					FD	N	N
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.0011 U	0.00093 U	0.001 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0011 UJ	0.00093 UJ	0.001 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0011 R	0.00093 U	0.001 R
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.0011 U	0.00093 U	0.001 U
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.0011 U	0.00093 U	0.001 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.0011 U	0.00093 U	0.0011
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.0011 U	0.00093 U	0.001 U
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.0011 U	0.00093 U	0.001 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.0011 U	0.00093 U	0.00057 J
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.0011 U	0.00093 U	0.001 U
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.0011 U	0.00093 U	0.001 U
2-Hexanone	--	--	--	MG/KG	0.0053 U	0.0047 U	0.0052 U
Acetone	**0.05**	1000	0.05	MG/KG	0.0092	0.019	**0.057**
Benzene	0.06	89	0.06	MG/KG	0.0011 U	0.00093 U	0.00032 J
Bromochloromethane	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
Bromodichloromethane	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
Bromoform	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
Bromomethane	--	--	--	MG/KG	0.0021 U	0.0019 U	0.0021 U
Carbon Disulfide	--	--	--	MG/KG	0.0013	0.001	0.0023
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.0011 U	0.00093 U	0.001 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.0011 U	0.00093 U	0.001 U
Chloroethane	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
Chloroform	0.37	700	0.37	MG/KG	0.0011 U	0.00093 U	0.001 U
Chloromethane	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.0011 U	0.00093 U	0.001 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
Cyclohexane	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
Dibromochloromethane	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-13	RXSB-14	RXSB-14
				Sample Date:	11/08/2023	11/01/2023	11/08/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	FD	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Dichlorodifluoromethane	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
Ethylbenzene	1	780	1	MG/KG	0.0011 U	0.00093 U	0.00032 J
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
m,p-Xylene	--	--	--	MG/KG	0.0011 U	0.00093 U	0.0016
Methyl Acetate	--	--	--	MG/KG	0.0053 U	0.0047 UJ	0.0052 U
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.0053 U	0.0047 U	0.009
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0053 U	0.0047 U	0.0052 U
Methylcyclohexane	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
Methylene Chloride	0.05	1000	0.05	MG/KG	0.0021 U	0.0019 U	0.0021 U
N-Butylbenzene	12	1000	12	MG/KG	0.0011 U	0.00093 U	0.001 U
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.0011 U	0.00093 U	0.001 U
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0011 U	0.00093 U	0.0012
Sec-Butylbenzene	11	1000	11	MG/KG	0.0011 U	0.00093 U	0.001 U
Styrene	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.0011 U	0.00093 U	0.001 U
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.0011 U	0.00093 U	0.001 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.0011 U	0.00093 U	0.001 U
Toluene	0.7	1000	0.7	MG/KG	0.00027 J	0.00093 U	0.0013
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.0011 U	0.00093 U	0.001 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.00093 U	0.001 U
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.0011 U	0.00093 U	0.001 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0011 U	0.00093 UJ	0.001 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.0011 U	0.00093 U	0.001 U
Xylenes	0.26	1000	1.6	MG/KG	0.0021 U	0.0019 U	0.0028

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-15	RXSB-15	RXSB-16
				Sample Date:	11/03/2023	11/15/2023	11/02/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.0011 U	0.0012 U	0.0011 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0011 UJ	0.0012 U	0.0011 UT
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.0011 U	0.0012 U	0.0011 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
2-Hexanone	--	--	--	MG/KG	0.0057 U	0.0059 U	0.0054 U
Acetone	**0.05**	1000	0.05	MG/KG	0.013	0.015	0.0088
Benzene	0.06	89	0.06	MG/KG	0.0011 UJ	0.00059 J	0.0011 U
Bromochloromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
Bromodichloromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
Bromoform	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
Bromomethane	--	--	--	MG/KG	0.0023 U	0.0023 U	0.0022 U
Carbon Disulfide	--	--	--	MG/KG	0.0011 UJ	0.0021	0.00082 J
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.0011 U	0.0012 U	0.0011 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
Chloroethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
Chloroform	0.37	700	0.37	MG/KG	0.0011 U	0.0012 U	0.0011 U
Chloromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
Cyclohexane	--	--	--	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
Dibromochloromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-15	RXSB-15	RXSB-16
				Sample Date:	11/03/2023	11/15/2023	11/02/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Dichlorodifluoromethane	--	--	--	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
Ethylbenzene	1	780	1	MG/KG	0.0011 UJ	0.0012 U	0.00021 J
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
m,p-Xylene	--	--	--	MG/KG	0.0011 U	0.00038 J	0.00044 J
Methyl Acetate	--	--	--	MG/KG	0.0057 UJ	0.0059 U	0.0054 U
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.0057 U	0.0049 J	0.0054 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0057 U	0.0059 U	0.0054 U
Methylcyclohexane	--	--	--	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
Methylene Chloride	0.05	1000	0.05	MG/KG	0.0023 U	0.0023 U	0.0022 U
N-Butylbenzene	12	1000	12	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0011 UJ	0.00039 J	0.0003 J
Sec-Butylbenzene	11	1000	11	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
Styrene	--	--	--	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.0011 U	0.0012 U	0.0011 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
Toluene	0.7	1000	0.7	MG/KG	0.0011 UJ	0.00054 J	0.0004 J
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.0011 U	0.0012 U	0.0011 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.0011 UJ	0.0012 U	0.0011 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.0011 U	0.0012 U	0.0011 U
Xylenes	0.26	1000	1.6	MG/KG	0.0023 UJ	0.00077 J	0.00073 J

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	RXSB-16	RXSB-17	RXSB-17
Sample Designation:					RXSB-16	RXSB-17	RXSB-17
Sample Date:					11/15/2023	11/02/2023	11/14/2023
Sample Depth:					10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
Regular Sample or Field Duplicate:					N	N	N
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.0014 U	0.0011 U	0.0012 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0014 U	0.0011 UT	0.0012 U
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.0014 U	0.0011 U	0.0012 U
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.0014 U	0.0011 U	0.0012 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.00042 J	0.00065 J	0.0036
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.0014 U	0.0011 U	0.00051 J
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.0014 U	0.0011 U	0.0012 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.0014 U	0.0011 U	0.0027
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.0014 U	0.0011 U	0.0012 U
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.0014 U	0.0011 U	0.00032 J
2-Hexanone	--	--	--	MG/KG	0.0072 U	0.0056 U	0.0061 U
Acetone	**0.05**	1000	0.05	MG/KG	**0.12**	**0.054**	**0.06**
Benzene	0.06	89	0.06	MG/KG	0.0014 U	0.0011 U	0.00046 J
Bromochloromethane	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
Bromodichloromethane	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
Bromoform	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
Bromomethane	--	--	--	MG/KG	0.0029 U	0.0023 U	0.0025 U
Carbon Disulfide	--	--	--	MG/KG	0.0023	0.001 J	0.0013
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.0014 U	0.0011 U	0.0012 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.0014 U	0.0011 U	0.0012 U
Chloroethane	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
Chloroform	0.37	700	0.37	MG/KG	0.0014 U	0.0011 U	0.0012 U
Chloromethane	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.0014 U	0.0011 U	0.0012 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
Cyclohexane	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
Dibromochloromethane	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-16	RXSB-17	RXSB-17
				Sample Date:	11/15/2023	11/02/2023	11/14/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Dichlorodifluoromethane	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
Ethylbenzene	1	780	1	MG/KG	0.0014 U	0.0011 U	0.0037
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0084
m,p-Xylene	--	--	--	MG/KG	0.00037 J	0.0011 U	0.0015
Methyl Acetate	--	--	--	MG/KG	0.0072 U	0.0056 U	0.0061 U
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.031	0.0091	0.013
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0072 U	0.0056 U	0.0061 U
Methylcyclohexane	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
Methylene Chloride	0.05	1000	0.05	MG/KG	0.0029 U	0.0023 U	0.0025 U
N-Butylbenzene	12	1000	12	MG/KG	0.0014 U	0.0011 U	0.0012 U
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.0014 U	0.0011 U	0.00065 J
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0022
Sec-Butylbenzene	11	1000	11	MG/KG	0.0014 U	0.0011 U	0.00049 J
Styrene	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.0014 U	0.0011 U	0.00042 J
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.0014 U	0.0011 U	0.0012 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.0014 U	0.0011 U	0.0012 U
Toluene	0.7	1000	0.7	MG/KG	0.0014 U	0.00045 J	0.0011 J
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.0014 U	0.0011 U	0.0012 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.0014 U	0.0011 U	0.0012 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0014 U	0.0011 U	0.0012 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.0014 U	0.0011 U	0.0012 U
Xylenes	0.26	1000	1.6	MG/KG	0.00037 J	0.0023 U	0.0036

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-18	RXSB-18	RXSB-19
				Sample Date:	11/02/2023	11/15/2023	11/03/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.0011 U	0.0012 U	0.0011 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0011 UT	0.0012 U	0.0011 UJ
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.0011 U	0.0012 U	0.0011 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.0011 U	0.0078	0.0011 UJ
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
1,2-Dichloropropane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.0011 U	0.0027	0.0011 UJ
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
2-Hexanone	--	--	--	MG/KG	0.0057 U	0.0061 U	0.0056 U
Acetone	**0.05**	1000	0.05	MG/KG	0.04	**0.061**	0.0067 U
Benzene	0.06	89	0.06	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
Bromochloromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
Bromodichloromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
Bromoform	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
Bromomethane	--	--	--	MG/KG	0.0023 U	0.0024 U	0.0022 U
Carbon Disulfide	--	--	--	MG/KG	0.0011 U	0.002	0.0011 UJ
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.0011 U	0.0012 U	0.0011 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
Chloroethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
Chloroform	0.37	700	0.37	MG/KG	0.0011 U	0.0012 U	0.0011 U
Chloromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
Cyclohexane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
Dibromochloromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-18	RXSB-18	RXSB-19
				Sample Date:	11/02/2023	11/15/2023	11/03/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Dichlorodifluoromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
Ethylbenzene	1	780	1	MG/KG	0.0011 U	0.00055 J	0.0011 UJ
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0011 U	0.00053 J	0.0011 U
m,p-Xylene	--	--	--	MG/KG	0.0011 U	0.00086 J	0.0011 U
Methyl Acetate	--	--	--	MG/KG	0.0057 U	0.0061 U	0.0056 UJ
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.005 J	0.02	0.0056 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0057 U	0.0061 U	0.0056 U
Methylcyclohexane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
Methylene Chloride	0.05	1000	0.05	MG/KG	0.0023 U	0.0024 U	0.0022 U
N-Butylbenzene	12	1000	12	MG/KG	0.0011 U	0.00058 J	0.0011 UJ
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.0011 U	0.0019	0.0011 UJ
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0011 U	0.00025 J	0.0011 UJ
Sec-Butylbenzene	11	1000	11	MG/KG	0.0011 U	0.00061 J	0.0011 UJ
Styrene	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.0011 U	0.0012 U	0.0011 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
Toluene	0.7	1000	0.7	MG/KG	0.0011 U	0.00066 J	0.0011 UJ
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.0011 U	0.0012 U	0.0011 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.0011 U	0.0012 U	0.0011 UJ
Trichlorofluoromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.0011 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.0011 U	0.0012 U	0.0011 U
Xylenes	0.26	1000	1.6	MG/KG	0.0023 U	0.0011 J	0.0022 UJ

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-19	RXSB-20	RXSB-20
				Sample Date:	11/15/2023	11/03/2023	11/15/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.001 U	0.0011 U	0.0017 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0017 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0017 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.001 U	0.0011 UJ	0.0017 U
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.001 U	0.0011 UJ	0.0017 U
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.001 U	0.0011 U	0.0017 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.001 U	0.0011 UJ	0.0017 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.001 U	0.0011 UJ	0.0017 U
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.00081 J	0.0011 UJ	0.0024
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.001 U	0.0011 UJ	0.0017 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.001 U	0.0011 U	0.0017 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.001 U	0.0011 UJ	0.0017 U
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.001 U	0.0011 UJ	0.0017 U
1,2-Dichloropropane	--	--	--	MG/KG	0.001 U	0.0011 UJ	0.0017 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.00033 J	0.0011 UJ	0.0016 J
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.001 U	0.0011 UJ	0.0017 U
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.001 U	0.0011 UJ	0.0017 U
2-Hexanone	--	--	--	MG/KG	0.0051 U	0.0053 U	0.0083 U
Acetone	**0.05**	1000	0.05	MG/KG	0.038	0.0063 U	0.016
Benzene	0.06	89	0.06	MG/KG	0.00031 J	0.0011 UJ	0.00047 J
Bromochloromethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0017 U
Bromodichloromethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0017 U
Bromoform	--	--	--	MG/KG	0.001 U	0.0011 U	0.0017 U
Bromomethane	--	--	--	MG/KG	0.0021 U	0.0021 U	0.0033 U
Carbon Disulfide	--	--	--	MG/KG	0.0019	0.0011 UJ	0.0024
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.001 U	0.0011 U	0.0017 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.001 U	0.0011 UJ	0.0017 U
Chloroethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0017 U
Chloroform	0.37	700	0.37	MG/KG	0.001 U	0.0011 U	0.0017 U
Chloromethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0017 U
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.001 U	0.0011 UJ	0.0017 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.001 U	0.0011 UJ	0.0017 U
Cyclohexane	--	--	--	MG/KG	0.00052 J	0.0011 UJ	0.0017 U
Dibromochloromethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0017 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-19	RXSB-20	RXSB-20
				Sample Date:	11/15/2023	11/03/2023	11/15/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Dichlorodifluoromethane	--	--	--	MG/KG	0.001 U	0.0011 UJ	0.0017 U
Ethylbenzene	1	780	1	MG/KG	0.00055 J	0.0011 UJ	0.0005 J
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.00052 J	0.0011 U	0.0017 U
m,p-Xylene	--	--	--	MG/KG	0.0005 J	0.0011 U	0.00094 J
Methyl Acetate	--	--	--	MG/KG	0.0051 U	0.0053 UJ	0.0083 U
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.012	0.0053 U	0.0052 J
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0051 U	0.0053 U	0.0083 U
Methylcyclohexane	--	--	--	MG/KG	0.00066 J	0.0011 UJ	0.0017 U
Methylene Chloride	0.05	1000	0.05	MG/KG	0.0021 U	0.0021 U	0.0033 U
N-Butylbenzene	12	1000	12	MG/KG	0.001 U	0.0011 UJ	0.00049 J
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.001 U	0.0011 UJ	0.0003 J
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.00042 J	0.0011 UJ	0.00062 J
Sec-Butylbenzene	11	1000	11	MG/KG	0.001 U	0.0011 UJ	0.00075 J
Styrene	--	--	--	MG/KG	0.001 U	0.0011 UJ	0.0017 U
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.001 U	0.0011 UJ	0.0017 U
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.001 U	0.0011 U	0.0017 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.001 U	0.0011 UJ	0.0017 U
Toluene	0.7	1000	0.7	MG/KG	0.00035 J	0.0011 UJ	0.0006 J
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.001 U	0.0011 U	0.0017 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.001 U	0.0011 UJ	0.0017 U
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.001 U	0.0011 UJ	0.0017 U
Trichlorofluoromethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0017 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.001 U	0.0011 U	0.0017 U
Xylenes	0.26	1000	1.6	MG/KG	0.00092 J	0.0021 UJ	0.0016 J

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	Sample Designation: RXSB-21	RXSB-21	RXSB-22
					Sample Date: 11/03/2023	11/07/2023	11/03/2023
					Sample Depth: 0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
					Regular Sample or Field Duplicate: N	N	N
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.00096 U	0.0012 U	0.0011 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.00096 U	0.0012 U	0.0011 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.00096 U	0.0012 UJ	0.0011 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.00096 UJ	0.0012 R	0.0011 UJ
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.00096 U	0.0012 U	0.0011 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.00096 U	0.0012 U	0.0011 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
1,2-Dichloropropane	--	--	--	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
2-Hexanone	--	--	--	MG/KG	0.0048 U	0.0058 U	0.0055 U
Acetone	**0.05**	1000	0.05	MG/KG	0.03	0.0094	0.0066 U
Benzene	0.06	89	0.06	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
Bromochloromethane	--	--	--	MG/KG	0.00096 U	0.0012 U	0.0011 U
Bromodichloromethane	--	--	--	MG/KG	0.00096 U	0.0012 U	0.0011 U
Bromoform	--	--	--	MG/KG	0.00096 U	0.0012 U	0.0011 U
Bromomethane	--	--	--	MG/KG	0.0019 U	0.0023 U	0.0022 U
Carbon Disulfide	--	--	--	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.00096 U	0.0012 U	0.0011 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
Chloroethane	--	--	--	MG/KG	0.00096 U	0.0012 U	0.0011 U
Chloroform	0.37	700	0.37	MG/KG	0.00096 U	0.0012 U	0.0011 U
Chloromethane	--	--	--	MG/KG	0.00096 U	0.0012 U	0.0011 U
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
Cyclohexane	--	--	--	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
Dibromochloromethane	--	--	--	MG/KG	0.00096 U	0.0012 U	0.0011 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-21	RXSB-21	RXSB-22
				Sample Date:	11/03/2023	11/07/2023	11/03/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Dichlorodifluoromethane	--	--	--	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
Ethylbenzene	1	780	1	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.00096 U	0.0012 U	0.0011 U
m,p-Xylene	--	--	--	MG/KG	0.00096 U	0.0012 U	0.0011 U
Methyl Acetate	--	--	--	MG/KG	0.0048 UJ	0.0058 UJ	0.0055 UJ
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.0048 U	0.0058 U	0.0055 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0048 U	0.0058 U	0.0055 U
Methylcyclohexane	--	--	--	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
Methylene Chloride	0.05	1000	0.05	MG/KG	0.0019 U	0.0023 U	0.0022 U
N-Butylbenzene	12	1000	12	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
Sec-Butylbenzene	11	1000	11	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
Styrene	--	--	--	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.00096 U	0.0012 U	0.0011 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
Toluene	0.7	1000	0.7	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.00096 U	0.0012 U	0.0011 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.00096 UJ	0.0012 U	0.0011 UJ
Trichlorofluoromethane	--	--	--	MG/KG	0.00096 U	0.0012 UJ	0.0011 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.00096 U	0.0012 U	0.0011 U
Xylenes	0.26	1000	1.6	MG/KG	0.0019 UJ	0.0023 U	0.0022 UJ

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	RXSB-22	RXSB-23	RXSB-23
Sample Designation:					RXSB-22	RXSB-23	RXSB-23
Sample Date:					11/07/2023	11/06/2023	11/13/2023
Sample Depth:					10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
Regular Sample or Field Duplicate:					N	N	N
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.0011 U	0.001 U	0.0011 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0011 UJ	0.001 U	0.0011 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0011 R	0.001 UJ	0.0011 R
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.0011 U	0.001 U	0.0011 U
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.0011 U	0.001 U	0.0011 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.0011 U	0.001 U	0.00031 J
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.0011 U	0.001 U	0.0011 U
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.0011 U	0.001 U	0.0011 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.0011 U	0.001 U	0.0011 U
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.0011 U	0.001 U	0.0011 U
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.0011 U	0.001 U	0.0011 U
2-Hexanone	--	--	--	MG/KG	0.0054 U	0.005 U	0.0055 U
Acetone	**0.05**	1000	0.05	MG/KG	0.02	0.0063	0.014
Benzene	0.06	89	0.06	MG/KG	0.0011 U	0.001 U	0.0011 U
Bromochloromethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
Bromodichloromethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
Bromoform	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
Bromomethane	--	--	--	MG/KG	0.0021 U	0.002 U	0.0022 U
Carbon Disulfide	--	--	--	MG/KG	0.005	0.001 U	0.0021
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.0011 U	0.001 U	0.0011 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.0011 U	0.001 U	0.0011 U
Chloroethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
Chloroform	0.37	700	0.37	MG/KG	0.0011 U	0.001 U	0.0011 U
Chloromethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.0011 U	0.001 U	0.0011 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
Cyclohexane	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
Dibromochloromethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-22	RXSB-23	RXSB-23
				Sample Date:	11/07/2023	11/06/2023	11/13/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Dichlorodifluoromethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
Ethylbenzene	1	780	1	MG/KG	0.0011 U	0.001 U	0.0011 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
m,p-Xylene	--	--	--	MG/KG	0.0011 U	0.001 U	0.00032 J
Methyl Acetate	--	--	--	MG/KG	0.0054 UJ	0.005 U	0.0055 U
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.0048 J	0.005 U	0.0068
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0054 U	0.005 U	0.0055 U
Methylcyclohexane	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
Methylene Chloride	0.05	1000	0.05	MG/KG	0.0021 U	0.002 U	0.0022 U
N-Butylbenzene	12	1000	12	MG/KG	0.0011 U	0.001 U	0.0011 U
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.0011 U	0.001 U	0.0011 U
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0011 U	0.001 U	0.00037 J
Sec-Butylbenzene	11	1000	11	MG/KG	0.0011 U	0.001 U	0.0011 U
Styrene	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.0011 U	0.001 U	0.0011 U
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.0011 U	0.001 U	0.0011 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.0011 U	0.0021	0.0013
Toluene	0.7	1000	0.7	MG/KG	0.0011 U	0.001 U	0.00041 J
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.0011 U	0.001 U	0.0011 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.001 U	0.0011 U
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.0011 U	0.001 U	0.0011 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0011 UJ	0.001 U	0.0011 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.0011 U	0.001 U	0.0011 U
Xylenes	0.26	1000	1.6	MG/KG	0.0021 U	0.002 U	0.00068 J

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	RXSB-24 11/06/2023 0 - 2 ft bls N	RXSB-24 11/10/2023 10 - 12 ft bls N	RXSB-25 11/06/2023 0 - 2 ft bls N
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.0011 U	0.0012 U	0.00099 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0011 UJ	0.0012 U	0.00099 UJ
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.0011 U	0.0012 U	0.00099 U
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.0011 U	0.0012 U	0.00099 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.0011 U	0.00035 J	0.00099 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 UJ
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.0011 U	0.0012 U	0.00099 U
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.0011 U	0.0012 U	0.00099 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.0011 U	0.0012 U	0.00099 U
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.0011 U	0.0012 U	0.00099 U
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.0011 U	0.0012 U	0.00099 U
2-Hexanone	--	--	--	MG/KG	0.0055 U	0.0062 U	0.005 U
Acetone	**0.05**	1000	0.05	MG/KG	0.0074	0.034	0.0099
Benzene	0.06	89	0.06	MG/KG	0.0011 U	0.0012 U	0.00099 U
Bromochloromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
Bromodichloromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
Bromoform	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
Bromomethane	--	--	--	MG/KG	0.0022 U	0.0025 U	0.002 U
Carbon Disulfide	--	--	--	MG/KG	0.0011 U	0.0073	0.00099 U
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.0011 U	0.0012 U	0.00099 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.0011 U	0.0012 U	0.00099 U
Chloroethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
Chloroform	0.37	700	0.37	MG/KG	0.0011 U	0.0012 U	0.00099 U
Chloromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 UJ
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.0011 U	0.0012 U	0.00099 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
Cyclohexane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
Dibromochloromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-24	RXSB-24	RXSB-25
				Sample Date:	11/06/2023	11/10/2023	11/06/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Dichlorodifluoromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 UJ
Ethylbenzene	1	780	1	MG/KG	0.0011 U	0.0012 U	0.00099 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
m,p-Xylene	--	--	--	MG/KG	0.0011 U	0.00025 J	0.00099 U
Methyl Acetate	--	--	--	MG/KG	0.0055 U	0.0062 U	0.005 U
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.0055 U	0.0062 U	0.005 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0055 U	0.0062 U	0.005 U
Methylcyclohexane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
Methylene Chloride	0.05	1000	0.05	MG/KG	0.0022 U	0.0025 U	0.002 U
N-Butylbenzene	12	1000	12	MG/KG	0.0011 U	0.0012 U	0.00099 U
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.0011 U	0.0012 U	0.00099 U
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
Sec-Butylbenzene	11	1000	11	MG/KG	0.0011 U	0.0012 U	0.00099 U
Styrene	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.0011 U	0.0012 U	0.00099 U
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.0011 U	0.0012 U	0.00099 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.0045	0.0022	0.00099 U
Toluene	0.7	1000	0.7	MG/KG	0.0011 U	0.00036 J	0.00099 U
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.0011 U	0.0012 U	0.00099 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.0011 U	0.0012 U	0.00099 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0011 U	0.0012 U	0.00099 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.0011 U	0.0012 U	0.00099 U
Xylenes	0.26	1000	1.6	MG/KG	0.0022 U	0.00025 J	0.002 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	RXSB-25	RXSB-26	RXSB-26
Sample Designation:					RXSB-25	RXSB-26	RXSB-26
Sample Date:					11/16/2023	11/06/2023	11/09/2023
Sample Depth:					10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
Regular Sample or Field Duplicate:					N	N	N
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.0013 U	0.0013 U	0.0013 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0013 U	0.0013 UJ	0.0013 UJ
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.0013 U	0.0013 U	0.0013 U
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.0013 U	0.0013 U	0.0013 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 UJ
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 UJ
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.00081 J	0.0013 U	0.0013 UJ
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0013 U	0.0013 UJ	0.0013 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.0013 U	0.0013 U	0.0013 UJ
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.0013 U	0.0013 U	0.0013 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.0013 U	0.0013 U	0.0013 UJ
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.0013 U	0.0013 U	0.0013 UJ
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.0013 U	0.0013 U	0.0013 UJ
2-Hexanone	--	--	--	MG/KG	0.0065 U	0.0066 U	0.0063 U
Acetone	**0.05**	1000	0.05	MG/KG	**0.086**	0.008 U	**0.2**
Benzene	0.06	89	0.06	MG/KG	0.0013 U	0.0013 U	0.0013 U
Bromochloromethane	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 U
Bromodichloromethane	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 U
Bromoform	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 U
Bromomethane	--	--	--	MG/KG	0.0026 U	0.0027 U	0.0025 U
Carbon Disulfide	--	--	--	MG/KG	0.0037 J	0.0013 U	0.0013
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.0013 U	0.0013 U	0.0013 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.0013 U	0.0013 U	0.0013 UJ
Chloroethane	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 U
Chloroform	0.37	700	0.37	MG/KG	0.0013 U	0.0013 U	0.0013 U
Chloromethane	--	--	--	MG/KG	0.0013 U	0.0013 UJ	0.0013 U
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.0013 U	0.0013 U	0.0013 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 UJ
Cyclohexane	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 U
Dibromochloromethane	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-25	RXSB-26	RXSB-26
				Sample Date:	11/16/2023	11/06/2023	11/09/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Dichlorodifluoromethane	--	--	--	MG/KG	0.0013 U	0.0013 UJ	0.0013 U
Ethylbenzene	1	780	1	MG/KG	0.0015	0.0013 U	0.0013 UJ
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 UJ
m,p-Xylene	--	--	--	MG/KG	0.0047 B	0.0013 U	0.0013 UJ
Methyl Acetate	--	--	--	MG/KG	0.0065 U	0.0066 U	0.0063 U
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.019	0.0066 U	0.055
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0065 U	0.0066 U	0.0063 U
Methylcyclohexane	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 UJ
Methylene Chloride	0.05	1000	0.05	MG/KG	0.0026 U	0.0027 U	0.0025 U
N-Butylbenzene	12	1000	12	MG/KG	0.0013 U	0.0013 U	0.0013 UJ
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.0013 U	0.0013 U	0.0013 UJ
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0015	0.0013 U	0.0013 UJ
Sec-Butylbenzene	11	1000	11	MG/KG	0.0013 U	0.0013 U	0.0013 UJ
Styrene	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 UJ
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.0013 U	0.0013 U	0.0013 U
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.0013 U	0.0013 U	0.0013 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.0013 U	0.0013 U	0.0013 U
Toluene	0.7	1000	0.7	MG/KG	0.00069 J	0.0013 U	0.00053 J
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.0013 U	0.0013 U	0.0013 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 UJ
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.0013 U	0.0013 U	0.0013 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0013 U	0.0013 U	0.0013 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.0013 U	0.0013 U	0.0013 U
Xylenes	0.26	1000	1.6	MG/KG	0.0062 B	0.0027 U	0.0025 UJ

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	RXSB-27 11/06/2023 0 - 2 ft bls N	RXSB-27 11/16/2023 10 - 12 ft bls N	RXSB-28 11/06/2023 0 - 2 ft bls N
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.0011 U	0.0014 U	0.0012 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.0011 U	0.0014 U	0.0012 U
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.0011 U	0.0014 U	0.0012 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.0011 U	0.00067 J	0.0012 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.0011 U	0.0014 U	0.0012 U
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.0011 U	0.0014 U	0.0012 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.0011 U	0.0014 U	0.0012 U
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.0011 U	0.0014 U	0.0012 U
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.0011 U	0.0014 U	0.0012 U
2-Hexanone	--	--	--	MG/KG	0.0054 U	0.0068 U	0.0061 U
Acetone	**0.05**	1000	0.05	MG/KG	0.019	**0.18**	**0.098**
Benzene	0.06	89	0.06	MG/KG	0.0011 U	0.00043 J	0.0012 U
Bromochloromethane	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
Bromodichloromethane	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
Bromoform	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
Bromomethane	--	--	--	MG/KG	0.0022 U	0.0027 U	0.0024 U
Carbon Disulfide	--	--	--	MG/KG	0.0011 U	0.001 J	0.0013
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.0011 U	0.0014 U	0.0012 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.0011 U	0.0014 U	0.0012 U
Chloroethane	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
Chloroform	0.37	700	0.37	MG/KG	0.0011 U	0.0014 U	0.0012 U
Chloromethane	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.0011 U	0.0014 U	0.0012 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
Cyclohexane	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
Dibromochloromethane	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-27	RXSB-27	RXSB-28
				Sample Date:	11/06/2023	11/16/2023	11/06/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Dichlorodifluoromethane	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
Ethylbenzene	1	780	1	MG/KG	0.00096 J	0.0015	0.00027 J
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
m,p-Xylene	--	--	--	MG/KG	0.0011 U	0.0041 B	0.00025 J
Methyl Acetate	--	--	--	MG/KG	0.0054 U	0.0068 U	0.0061 U
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.0054 U	0.052	0.01
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0054 U	0.0068 U	0.0061 U
Methylcyclohexane	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
Methylene Chloride	0.05	1000	0.05	MG/KG	0.0022 U	0.0027 U	0.0024 U
N-Butylbenzene	12	1000	12	MG/KG	0.0011 U	0.0014 U	0.0012 U
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.0011 U	0.00026 J	0.0012 U
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0011 U	0.0012 J	0.0012 U
Sec-Butylbenzene	11	1000	11	MG/KG	0.0011 U	0.0014 U	0.0012 U
Styrene	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.0011 U	0.0014 U	0.0012 U
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.0011 U	0.0014 U	0.0012 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.0011 U	0.0014 U	0.0012 U
Toluene	0.7	1000	0.7	MG/KG	0.0011 U	0.001 J	0.00048 J
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.0011 U	0.0014 U	0.0012 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.0011 U	0.0014 U	0.0012 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0011 U	0.0014 U	0.0012 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.0011 U	0.0014 U	0.0012 U
Xylenes	0.26	1000	1.6	MG/KG	0.0022 U	0.0053 B	0.00025 J

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-28	RXSB-29	RXSB-30
				Sample Date:	11/16/2023	11/02/2023	11/02/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.0017 U	0.00098 U	0.0011 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0017 U	0.00098 UT	0.0011 R
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.0017 U	0.00098 U	0.0011 U
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.0017 U	0.00098 U	0.0011 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.00064 J	0.00098 U	0.0011 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.0017 U	0.00098 U	0.0011 U
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.0017 U	0.00098 U	0.0011 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.0017 U	0.00098 U	0.0011 U
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.0017 U	0.00098 U	0.0011 U
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.0017 U	0.00098 U	0.0011 U
2-Hexanone	--	--	--	MG/KG	0.0085 U	0.0049 U	0.0055 U
Acetone	**0.05**	1000	0.05	MG/KG	**0.13**	0.0059 U	0.0066 U
Benzene	0.06	89	0.06	MG/KG	0.00045 J	0.00098 U	0.0011 U
Bromochloromethane	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
Bromodichloromethane	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
Bromoform	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
Bromomethane	--	--	--	MG/KG	0.0034 U	0.002 U	0.0022 U
Carbon Disulfide	--	--	--	MG/KG	0.00091 J	0.00098 U	0.0011 U
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.0017 U	0.00098 U	0.0011 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.0017 U	0.00098 U	0.0011 U
Chloroethane	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
Chloroform	0.37	700	0.37	MG/KG	0.0017 U	0.00098 U	0.0011 U
Chloromethane	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.0017 U	0.00098 U	0.0011 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
Cyclohexane	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
Dibromochloromethane	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-28	RXSB-29	RXSB-30
				Sample Date:	11/16/2023	11/02/2023	11/02/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Dichlorodifluoromethane	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
Ethylbenzene	1	780	1	MG/KG	0.0014 J	0.00098 U	0.0011 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
m,p-Xylene	--	--	--	MG/KG	0.0022 B	0.00098 U	0.0011 U
Methyl Acetate	--	--	--	MG/KG	0.0085 U	0.0049 U	0.0055 U
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.027	0.0049 U	0.0055 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0085 U	0.0049 U	0.0055 U
Methylcyclohexane	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
Methylene Chloride	0.05	1000	0.05	MG/KG	0.0034 U	0.002 U	0.0022 U
N-Butylbenzene	12	1000	12	MG/KG	0.0017 U	0.00098 U	0.0011 U
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.0017 U	0.00098 U	0.0011 U
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.00071 J	0.00098 U	0.0011 U
Sec-Butylbenzene	11	1000	11	MG/KG	0.0017 U	0.00098 U	0.0011 U
Styrene	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.0017 U	0.00098 U	0.0011 U
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.0017 U	0.00098 U	0.0011 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.0017 U	0.00098 U	0.0011 U
Toluene	0.7	1000	0.7	MG/KG	0.00073 J	0.00098 U	0.0011 U
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.0017 U	0.00098 U	0.0011 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.0017 U	0.00098 U	0.0011 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0017 U	0.00098 U	0.0011 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.0017 U	0.00098 U	0.0011 U
Xylenes	0.26	1000	1.6	MG/KG	0.0029 BJ	0.002 U	0.0022 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	RXSB-31	RXSB-32	RXSB-33
Sample Designation:					RXSB-31	RXSB-32	RXSB-33
Sample Date:					11/02/2023	11/03/2023	11/06/2023
Sample Depth:					0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
Regular Sample or Field Duplicate:					N	N	N
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.001 U	0.0012 U	0.001 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.001 U	0.0012 U	0.001 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.001 U	0.0012 U	0.001 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.001 R	0.0012 UJ	0.001 UJ
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.001 U	0.0012 UJ	0.001 U
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.001 U	0.0012 U	0.001 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.001 U	0.0012 UJ	0.001 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.001 U	0.0012 UJ	0.001 U
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.001 U	0.0012 UJ	0.001 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.001 U	0.0012 UJ	0.001 UJ
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.001 U	0.0012 U	0.001 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.001 U	0.0012 UJ	0.001 U
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.001 U	0.0012 UJ	0.001 U
1,2-Dichloropropane	--	--	--	MG/KG	0.001 U	0.0012 UJ	0.001 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.001 U	0.0012 UJ	0.001 U
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.001 U	0.0012 UJ	0.001 U
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.001 U	0.0012 UJ	0.001 U
2-Hexanone	--	--	--	MG/KG	0.0051 U	0.0062 U	0.0052 U
Acetone	**0.05**	1000	0.05	MG/KG	0.0061 U	0.0074 U	0.0062 U
Benzene	0.06	89	0.06	MG/KG	0.001 U	0.0012 UJ	0.001 U
Bromochloromethane	--	--	--	MG/KG	0.001 U	0.0012 U	0.001 U
Bromodichloromethane	--	--	--	MG/KG	0.001 U	0.0012 U	0.001 U
Bromoform	--	--	--	MG/KG	0.001 U	0.0012 U	0.001 U
Bromomethane	--	--	--	MG/KG	0.002 U	0.0025 U	0.0021 U
Carbon Disulfide	--	--	--	MG/KG	0.001 U	0.0012 UJ	0.001 U
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.001 U	0.0012 U	0.001 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.001 U	0.0012 UJ	0.001 U
Chloroethane	--	--	--	MG/KG	0.001 U	0.0012 U	0.001 U
Chloroform	0.37	700	0.37	MG/KG	0.001 U	0.0012 U	0.001 U
Chloromethane	--	--	--	MG/KG	0.001 U	0.0012 U	0.001 UJ
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.001 U	0.0012 UJ	0.001 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.001 U	0.0012 UJ	0.001 U
Cyclohexane	--	--	--	MG/KG	0.001 U	0.0012 UJ	0.001 U
Dibromochloromethane	--	--	--	MG/KG	0.001 U	0.0012 U	0.001 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	RXSB-31	RXSB-32	RXSB-33
Sample Designation:					RXSB-31	RXSB-32	RXSB-33
Sample Date:					11/02/2023	11/03/2023	11/06/2023
Sample Depth:					0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
Regular Sample or Field Duplicate:					N	N	N
Dichlorodifluoromethane	--	--	--	MG/KG	0.001 U	0.0012 UJ	0.001 UJ
Ethylbenzene	1	780	1	MG/KG	0.001 U	0.0012 UJ	0.001 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.001 U	0.0012 U	0.001 U
m,p-Xylene	--	--	--	MG/KG	0.001 U	0.0012 U	0.001 U
Methyl Acetate	--	--	--	MG/KG	0.0051 U	0.0062 UJ	0.0052 U
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.0051 U	0.0062 U	0.0052 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0051 U	0.0062 U	0.0052 U
Methylcyclohexane	--	--	--	MG/KG	0.001 U	0.0012 UJ	0.001 U
Methylene Chloride	0.05	1000	0.05	MG/KG	0.002 U	0.0025 U	0.0021 U
N-Butylbenzene	12	1000	12	MG/KG	0.001 U	0.0012 UJ	0.001 U
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.001 U	0.0012 UJ	0.001 U
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.001 U	0.0012 UJ	0.001 U
Sec-Butylbenzene	11	1000	11	MG/KG	0.001 U	0.0012 UJ	0.001 U
Styrene	--	--	--	MG/KG	0.001 U	0.0012 UJ	0.001 U
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.001 U	0.0012 UJ	0.001 U
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.001 U	0.0012 U	0.001 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.001 U	0.0012 UJ	0.001 U
Toluene	0.7	1000	0.7	MG/KG	0.001 U	0.0012 UJ	0.001 U
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.001 U	0.0012 U	0.001 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.001 U	0.0012 UJ	0.001 U
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.001 U	0.0012 UJ	0.001 U
Trichlorofluoromethane	--	--	--	MG/KG	0.001 U	0.0012 U	0.001 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.001 U	0.0012 U	0.001 U
Xylenes	0.26	1000	1.6	MG/KG	0.002 U	0.0025 UJ	0.0021 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-34	RXSB-35	RXSB-36
				Sample Date:	11/06/2023	11/08/2023	11/09/2023
				Sample Depth:	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.00095 U	0.0011 U	0.0013 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.00095 U	0.0011 UJ	0.0013 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.00095 UJ	0.0011 R	0.0013 UJ
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.00095 U	0.0011 U	0.0013 U
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.00095 U	0.0011 U	0.0013 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.00095 U	0.0011 U	0.0013 U
1,2-Dichloropropane	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
2-Hexanone	--	--	--	MG/KG	0.0047 U	0.0055 U	0.0065 U
Acetone	**0.05**	1000	0.05	MG/KG	0.0057 U	0.0066 U	0.0078 U
Benzene	0.06	89	0.06	MG/KG	0.00095 U	0.0011 U	0.0013 U
Bromochloromethane	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 U
Bromodichloromethane	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 U
Bromoform	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 U
Bromomethane	--	--	--	MG/KG	0.0019 U	0.0022 U	0.0026 U
Carbon Disulfide	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 U
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.00095 U	0.0011 U	0.0013 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
Chloroethane	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 U
Chloroform	0.37	700	0.37	MG/KG	0.00095 U	0.0011 U	0.0013 U
Chloromethane	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 U
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.00095 U	0.0011 U	0.0013 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
Cyclohexane	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 U
Dibromochloromethane	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-34	RXSB-35	RXSB-36
				Sample Date:	11/06/2023	11/08/2023	11/09/2023
				Sample Depth:	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Dichlorodifluoromethane	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 U
Ethylbenzene	1	780	1	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
m,p-Xylene	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
Methyl Acetate	--	--	--	MG/KG	0.0047 U	0.0055 U	0.0065 U
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.0047 U	0.0055 U	0.0065 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0047 U	0.0055 U	0.0065 U
Methylcyclohexane	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
Methylene Chloride	0.05	1000	0.05	MG/KG	0.0019 U	0.0022 U	0.0026 U
N-Butylbenzene	12	1000	12	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
Sec-Butylbenzene	11	1000	11	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
Styrene	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.00095 U	0.0011 U	0.0013 U
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.00095 U	0.0011 U	0.0013 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.00095 U	0.0011 U	0.0013 U
Toluene	0.7	1000	0.7	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.00095 U	0.0011 U	0.0013 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 UJ
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.00095 U	0.0011 U	0.0013 U
Trichlorofluoromethane	--	--	--	MG/KG	0.00095 U	0.0011 U	0.0013 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.00095 U	0.0011 U	0.0013 U
Xylenes	0.26	1000	1.6	MG/KG	0.0019 U	0.0022 U	0.0026 UJ

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-37	RXSB-38
				Sample Date:	01/04/2024	01/05/2024
				Sample Depth:	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units		
1,1,1-Trichloroethane (TCA)	0.68	1000	0.68	MG/KG	0.00099 U	0.0011 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.00099 U	0.0011 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.00099 U	0.0011 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.00099 U	0.0011 U
1,1-Dichloroethane	0.27	480	0.27	MG/KG	0.00099 U	0.0011 U
1,1-Dichloroethene	0.33	1000	0.33	MG/KG	0.00099 U	0.0011 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.00099 UJ	0.0011 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.00099 UJ	0.0011 U
1,2,4-Trimethylbenzene	3.6	380	3.6	MG/KG	0.00099 U	0.0011 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.00099 U	0.0011 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.00099 U	0.0011 U
1,2-Dichlorobenzene	1.1	1000	1.1	MG/KG	0.00099 UJ	0.0011 U
1,2-Dichloroethane	0.02	60	0.02	MG/KG	0.00099 U	0.0011 U
1,2-Dichloropropane	--	--	--	MG/KG	0.00099 U	0.0011 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	380	8.4	MG/KG	0.00099 U	0.0011 U
1,3-Dichlorobenzene	2.4	560	2.4	MG/KG	0.00099 UJ	0.0011 U
1,4-Dichlorobenzene	1.8	250	1.8	MG/KG	0.00099 UJ	0.0011 U
2-Hexanone	--	--	--	MG/KG	0.0049 U	0.0056 U
Acetone	**0.05**	1000	0.05	MG/KG	0.0059 R	0.0067 U
Benzene	0.06	89	0.06	MG/KG	0.00099 U	0.0011 U
Bromochloromethane	--	--	--	MG/KG	0.00099 U	0.0011 U
Bromodichloromethane	--	--	--	MG/KG	0.00099 U	0.0011 U
Bromoform	--	--	--	MG/KG	0.00099 U	0.0011 U
Bromomethane	--	--	--	MG/KG	0.002 U	0.0022 U
Carbon Disulfide	--	--	--	MG/KG	0.00099 U	0.0011 U
Carbon Tetrachloride	0.76	44	0.76	MG/KG	0.00099 U	0.0011 U
Chlorobenzene	1.1	1000	1.1	MG/KG	0.00099 UJ	0.0011 U
Chloroethane	--	--	--	MG/KG	0.00099 U	0.0011 U
Chloroform	0.37	700	0.37	MG/KG	0.00099 U	0.0011 U
Chloromethane	--	--	--	MG/KG	0.00099 U	0.0011 U
Cis-1,2-Dichloroethylene	0.25	1000	0.25	MG/KG	0.00099 U	0.0011 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.00099 U	0.0011 U
Cyclohexane	--	--	--	MG/KG	0.00099 U	0.0011 U
Dibromochloromethane	--	--	--	MG/KG	0.00099 U	0.0011 U

Table 6. Summary of Volatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-37	RXSB-38
				Sample Date:	01/04/2024	01/05/2024
				Sample Depth:	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units		
Dichlorodifluoromethane	--	--	--	MG/KG	0.00099 U	0.0011 U
Ethylbenzene	1	780	1	MG/KG	0.00099 UJ	0.0011 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.00099 UJ	0.0011 U
m,p-Xylene	--	--	--	MG/KG	0.00099 UJ	0.0011 U
Methyl Acetate	--	--	--	MG/KG	0.0049 U	0.0056 U
Methyl Ethyl Ketone (2-Butanone)	0.12	1000	0.12	MG/KG	0.0049 UJ	0.0056 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0049 U	0.0056 U
Methylcyclohexane	--	--	--	MG/KG	0.00099 UJ	0.0011 U
Methylene Chloride	0.05	1000	0.05	MG/KG	0.002 U	0.0022 U
N-Butylbenzene	12	1000	12	MG/KG	0.00099 UJ	0.0011 U
N-Propylbenzene	3.9	1000	3.9	MG/KG	0.00099 UJ	0.0011 U
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.00099 UJ	0.0011 U
Sec-Butylbenzene	11	1000	11	MG/KG	0.00099 UJ	0.0011 U
Styrene	--	--	--	MG/KG	0.00099 U	0.0011 U
T-Butylbenzene	5.9	1000	5.9	MG/KG	0.00099 U	0.0011 U
Tert-Butyl Methyl Ether	0.93	1000	0.93	MG/KG	0.00099 U	0.0011 U
Tetrachloroethylene (PCE)	1.3	300	1.3	MG/KG	0.00099 U	0.0011 U
Toluene	0.7	1000	0.7	MG/KG	0.00099 UJ	0.0011 U
Trans-1,2-Dichloroethene	0.19	1000	0.19	MG/KG	0.00099 U	0.0011 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.00099 U	0.0011 U
Trichloroethylene (TCE)	0.47	400	0.47	MG/KG	0.00099 U	0.0011 U
Trichlorofluoromethane	--	--	--	MG/KG	0.00099 U	0.0011 U
Vinyl Chloride	0.02	27	0.02	MG/KG	0.00099 U	0.0011 U
Xylenes	0.26	1000	1.6	MG/KG	0.002 UJ	0.0022 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	Sample Designation: BERM-4	BERM-5	BERM-6
					Sample Date: 11/15/2023	11/15/2023	11/15/2023
					Sample Depth:		
					Regular Sample or Field Duplicate: N	N	N
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.035 U	0.036 U	0.034 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.14 U	0.14 U	0.14 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.14 U	0.14 U	0.14 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.28 U	0.29 U	0.28 U
2,4-Dinitrotoluene	--	--	--	MG/KG	0.071 R	0.072 R	0.07 R
2,6-Dinitrotoluene	--	--	--	MG/KG	0.071 U	0.072 U	0.07 U
2-Chloronaphthalene	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
2-Chlorophenol	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
2-Methylnaphthalene	--	--	--	MG/KG	0.016 J	0.36 U	0.34 U
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.35 U	0.36 U	0.34 U
2-Nitroaniline	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
2-Nitrophenol	--	--	--	MG/KG	0.35 U	0.36 U	0.34 UJ
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.14 U	0.14 U	0.14 U
3-Nitroaniline	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.28 R	0.29 R	0.28 R
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
4-Chloroaniline	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.35 U	0.36 U	0.34 U
4-Nitroaniline	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
4-Nitrophenol	--	--	--	MG/KG	0.71 U	0.72 U	0.7 U
Acenaphthene	20	1000	98	MG/KG	0.046 J	0.36 U	0.34 U
Acenaphthylene	100	1000	107	MG/KG	0.033 J	0.36 U	0.34 U
Acetophenone	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
Anthracene	100	1000	1000	MG/KG	0.12 J	0.36 U	0.011 J
Atrazine	--	--	--	MG/KG	0.14 U	0.14 U	0.14 U
Benzaldehyde	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.46	0.052	0.08
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.53	0.062	0.11

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		BERM-4	BERM-5	BERM-6
			Sample Date:		11/15/2023	11/15/2023	11/15/2023
			Sample Depth:				
			Regular Sample or Field Duplicate:		N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	0.64	0.09	0.14
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.3 J	0.049 J	0.06 J
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.23	0.03 J	0.053
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.02 J	0.36 U	0.34 U
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.035 U	0.036 U	0.034 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.026 J	0.36 U	0.34 U
Caprolactam	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
Carbazole	--	--	--	MG/KG	0.062 J	0.36 U	0.34 U
Chrysene	**1**	110	1	MG/KG	0.48	0.058 J	0.1 J
Cresols, M & P	0.33	1000	0.33	MG/KG	0.35 U	0.36 U	0.34 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.097 J	0.036 U	0.038 J
Dibenzofuran	7	1000	210	MG/KG	0.029 J	0.36 U	0.34 U
Diethyl Phthalate	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
Dimethyl Phthalate	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
Di-N-Octylphthalate	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
Fluoranthene	100	1000	1000	MG/KG	1	0.082 J	0.15 J
Fluorene	30	1000	386	MG/KG	0.046 J	0.36 U	0.34 U
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.035 U	0.036 U	0.034 U
Hexachlorobutadiene	--	--	--	MG/KG	0.071 U	0.072 U	0.07 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.35 R	0.36 R	0.34 R
Hexachloroethane	--	--	--	MG/KG	0.035 U	0.036 U	0.034 UJ
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.42	0.081	0.097
Isophorone	--	--	--	MG/KG	0.14 U	0.14 U	0.14 U
Naphthalene	12	1000	12	MG/KG	0.026 J	0.36 U	0.34 U
Nitrobenzene	--	--	--	MG/KG	0.035 U	0.036 U	0.034 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.035 U	0.036 U	0.034 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.35 U	0.36 U	0.34 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.28 U	0.29 U	0.28 U
Phenanthrene	100	1000	1000	MG/KG	0.65	0.027 J	0.043 J
Phenol	0.33	1000	0.33	MG/KG	0.35 U	0.36 U	0.34 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	BERM-4	BERM-5	BERM-6
				Sample Date:	11/15/2023	11/15/2023	11/15/2023
				Sample Depth:			
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	0.83	0.073 J	0.12 J

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	BERM-7	BERM-8	BERM-9
				Sample Date:	11/15/2023	11/15/2023	11/15/2023
				Sample Depth:			
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.037 U	0.034 U	0.035 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.15 U	0.14 U	0.14 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.15 U	0.14 U	0.14 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.3 U	0.28 R	0.28 R
2,4-Dinitrotoluene	--	--	--	MG/KG	0.075 UJ	0.07 UJ	0.07 UJ
2,6-Dinitrotoluene	--	--	--	MG/KG	0.075 UJ	0.07 UJ	0.07 UJ
2-Chloronaphthalene	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
2-Chlorophenol	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
2-Methylnaphthalene	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.37 U	0.34 U	0.35 U
2-Nitroaniline	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
2-Nitrophenol	--	--	--	MG/KG	0.37 UJ	0.34 UJ	0.35 UJ
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.15 U	0.14 U	0.14 U
3-Nitroaniline	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.3 R	0.28 R	0.28 R
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
4-Chloroaniline	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.37 U	0.34 U	0.35 U
4-Nitroaniline	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
4-Nitrophenol	--	--	--	MG/KG	0.75 U	0.7 U	0.7 U
Acenaphthene	20	1000	98	MG/KG	0.37 U	0.013 J	0.35 U
Acenaphthylene	100	1000	107	MG/KG	0.021 J	0.023 J	0.015 J
Acetophenone	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
Anthracene	100	1000	1000	MG/KG	0.034 J	0.053 J	0.036 J
Atrazine	--	--	--	MG/KG	0.15 U	0.14 U	0.14 U
Benzaldehyde	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.24	0.31	0.22
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.29	0.36	0.26

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	Sample Designation: BERM-7	BERM-8	BERM-9
					Sample Date: 11/15/2023	11/15/2023	11/15/2023
					Sample Depth:		
					Regular Sample or Field Duplicate: N	N	N
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	0.41	0.55	0.38
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.12 J	0.18 J	0.17 J
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.17	0.24	0.18
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.037 U	0.034 U	0.035 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.059 J	0.022 J	0.35 U
Caprolactam	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
Carbazole	--	--	--	MG/KG	0.018 J	0.03 J	0.016 J
Chrysene	**1**	110	1	MG/KG	0.28 J	0.39	0.27 J
Cresols, M & P	0.33	1000	0.33	MG/KG	0.37 U	0.34 U	0.35 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.045 J	0.053 J	0.05 J
Dibenzofuran	7	1000	210	MG/KG	0.37 U	0.34 U	0.35 U
Diethyl Phthalate	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
Dimethyl Phthalate	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
Di-N-Octylphthalate	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
Fluoranthene	100	1000	1000	MG/KG	0.46	0.69	0.44
Fluorene	30	1000	386	MG/KG	0.37 U	0.013 J	0.35 U
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.037 U	0.034 U	0.035 U
Hexachlorobutadiene	--	--	--	MG/KG	0.075 U	0.07 U	0.07 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.37 R	0.34 R	0.35 R
Hexachloroethane	--	--	--	MG/KG	0.037 UJ	0.034 UJ	0.035 UJ
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.18	0.26	0.25
Isophorone	--	--	--	MG/KG	0.15 U	0.14 U	0.14 U
Naphthalene	12	1000	12	MG/KG	0.0065 J	0.0099 J	0.0062 J
Nitrobenzene	--	--	--	MG/KG	0.037 U	0.034 U	0.035 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.037 U	0.034 U	0.035 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.37 U	0.34 U	0.35 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.3 U	0.28 U	0.28 U
Phenanthrene	100	1000	1000	MG/KG	0.15 J	0.24 J	0.13 J
Phenol	0.33	1000	0.33	MG/KG	0.37 U	0.34 U	0.35 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	BERM-7	BERM-8	BERM-9
				Sample Date:	11/15/2023	11/15/2023	11/15/2023
				Sample Depth:			
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	0.37	0.53	0.36

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	Sample Designation: BERM-9 Sample Date: 11/15/2023 Sample Depth: Regular Sample or Field Duplicate: FD	Sample Designation: RXSB-12 Sample Date: 11/01/2023 Sample Depth: 0 - 2 ft bls Regular Sample or Field Duplicate: N	Sample Designation: RXSB-12 Sample Date: 11/01/2023 Sample Depth: 0 - 2 ft bls Regular Sample or Field Duplicate: FD
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.034 U	0.033 U	0.033 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.14 U	0.14 U	0.13 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.14 U	0.14 U	0.13 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.27 R	0.27 U	0.27 U
2,4-Dinitrotoluene	--	--	--	MG/KG	0.069 UJ	0.068 U	0.068 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.069 UJ	0.068 U	0.068 U
2-Chloronaphthalene	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
2-Chlorophenol	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
2-Methylnaphthalene	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.34 U	0.33 U	0.33 U
2-Nitroaniline	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
2-Nitrophenol	--	--	--	MG/KG	0.34 UJ	0.33 U	0.33 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.14 U	0.14 U	0.13 U
3-Nitroaniline	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.27 R	0.27 U	0.27 U
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
4-Chloroaniline	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.34 U	0.33 U	0.33 U
4-Nitroaniline	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
4-Nitrophenol	--	--	--	MG/KG	0.69 U	0.68 U	0.68 U
Acenaphthene	20	1000	98	MG/KG	0.34 U	0.33 U	0.33 U
Acenaphthylene	100	1000	107	MG/KG	0.013 J	0.33 U	0.33 U
Acetophenone	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
Anthracene	100	1000	1000	MG/KG	0.039 J	0.33 U	0.33 U
Atrazine	--	--	--	MG/KG	0.14 U	0.14 U	0.13 U
Benzaldehyde	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.21	0.031 J	0.032 J
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.25	0.024 J	0.035

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	BERM-9	RXSB-12	RXSB-12
				Sample Date:	11/15/2023	11/01/2023	11/01/2023
				Sample Depth:		0 - 2 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	FD	N	FD
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	0.38	0.036	0.042
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.17 J	0.026 J	0.028 J
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.18	0.016 J	0.025 J
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.034 U	0.033 U	0.033 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
Caprolactam	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
Carbazole	--	--	--	MG/KG	0.016 J	0.33 U	0.33 U
Chrysene	**1**	110	1	MG/KG	0.27 J	0.026 J	0.034 J
Cresols, M & P	0.33	1000	0.33	MG/KG	0.34 U	0.33 U	0.33 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.047 J	0.033 U	0.028 J
Dibenzofuran	7	1000	210	MG/KG	0.34 U	0.33 U	0.33 U
Diethyl Phthalate	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
Dimethyl Phthalate	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
Di-N-Octylphthalate	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
Fluoranthene	100	1000	1000	MG/KG	0.43	0.04 J	0.045 J
Fluorene	30	1000	386	MG/KG	0.34 U	0.33 U	0.33 U
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.034 U	0.033 U	0.033 U
Hexachlorobutadiene	--	--	--	MG/KG	0.069 U	0.068 U	0.068 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.34 R	0.33 R	0.33 R
Hexachloroethane	--	--	--	MG/KG	0.034 UJ	0.033 U	0.033 U
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.24	0.056	0.06
Isophorone	--	--	--	MG/KG	0.14 U	0.14 U	0.13 U
Naphthalene	12	1000	12	MG/KG	0.34 U	0.33 U	0.33 U
Nitrobenzene	--	--	--	MG/KG	0.034 U	0.033 U	0.033 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.034 U	0.033 U	0.033 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.34 U	0.33 U	0.33 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.27 U	0.27 U	0.27 U
Phenanthrene	100	1000	1000	MG/KG	0.15 J	0.33 U	0.015 J
Phenol	0.33	1000	0.33	MG/KG	0.34 U	0.33 U	0.33 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	BERM-9	RXSB-12	RXSB-12
				Sample Date:	11/15/2023	11/01/2023	11/01/2023
				Sample Depth:		0 - 2 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	FD	N	FD
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	0.35	0.034 J	0.038 J

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	Sample Designation: RXSB-12	RXSB-13	RXSB-13
					Sample Date: 11/16/2023	11/01/2023	11/08/2023
					Sample Depth: 10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
					Regular Sample or Field Duplicate: N	N	N
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.33 UJ	0.33 U	0.33 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.033 UJ	0.033 U	0.033 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.33 UJ	0.33 U	0.33 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.33 UJ	0.33 U	0.33 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.13 UJ	0.13 U	0.13 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.13 UJ	0.13 U	0.13 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.27 R	0.27 U	0.27 U
2,4-Dinitrotoluene	--	--	--	MG/KG	0.068 UJ	0.067 U	0.068 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.068 UJ	0.067 U	0.068 U
2-Chloronaphthalene	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
2-Chlorophenol	--	--	--	MG/KG	0.33 UJ	0.33 U	0.33 U
2-Methylnaphthalene	--	--	--	MG/KG	0.33 UJ	0.33 U	0.33 U
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.33 U	0.33 U	0.33 U
2-Nitroaniline	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
2-Nitrophenol	--	--	--	MG/KG	0.33 UJ	0.33 U	0.33 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.13 U	0.13 U	0.13 U
3-Nitroaniline	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.27 UJ	0.27 U	0.27 UJ
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
4-Chloroaniline	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.33 UJ	0.33 U	0.33 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.33 U	0.33 U	0.33 U
4-Nitroaniline	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
4-Nitrophenol	--	--	--	MG/KG	0.68 U	0.67 U	0.68 U
Acenaphthene	20	1000	98	MG/KG	0.33 U	0.33 U	0.33 U
Acenaphthylene	100	1000	107	MG/KG	0.33 U	0.33 U	0.33 U
Acetophenone	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
Anthracene	100	1000	1000	MG/KG	0.33 U	0.33 U	0.33 U
Atrazine	--	--	--	MG/KG	0.13 U	0.13 U	0.13 U
Benzaldehyde	--	--	--	MG/KG	0.33 UJ	0.33 U	0.33 UJ
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.033 U	0.033 U	0.033 U
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.014 J	0.033 U	0.033 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	Sample Designation: RXSB-12	RXSB-13	RXSB-13
					Sample Date: 11/16/2023	11/01/2023	11/08/2023
					Sample Depth: 10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
					Regular Sample or Field Duplicate: N	N	N
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	0.016 J	0.033 U	0.033 U
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.012 J	0.33 U	0.33 U
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.0085 J	0.033 U	0.033 U
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.33 UJ	0.33 U	0.33 U
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.033 U	0.033 U	0.033 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
Caprolactam	--	--	--	MG/KG	0.33 UT	0.33 U	0.33 U
Carbazole	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
Chrysene	**1**	110	1	MG/KG	0.33 U	0.33 U	0.33 U
Cresols, M & P	0.33	1000	0.33	MG/KG	0.33 U	0.33 U	0.33 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.033 U	0.033 U	0.033 U
Dibenzofuran	7	1000	210	MG/KG	0.33 UJ	0.33 U	0.33 U
Diethyl Phthalate	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
Dimethyl Phthalate	--	--	--	MG/KG	0.33 UJ	0.33 U	0.33 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
Di-N-Octylphthalate	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
Fluoranthene	100	1000	1000	MG/KG	0.018 J	0.33 U	0.33 U
Fluorene	30	1000	386	MG/KG	0.33 U	0.33 U	0.33 U
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.033 UJ	0.033 U	0.033 U
Hexachlorobutadiene	--	--	--	MG/KG	0.068 UJ	0.067 U	0.068 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.33 UJ	0.33 R	0.33 U
Hexachloroethane	--	--	--	MG/KG	0.033 U	0.033 U	0.033 U
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.033 U	0.033 U	0.033 U
Isophorone	--	--	--	MG/KG	0.13 U	0.13 U	0.13 U
Naphthalene	12	1000	12	MG/KG	0.33 UJ	0.33 U	0.33 U
Nitrobenzene	--	--	--	MG/KG	0.033 UJ	0.033 U	0.033 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.033 U	0.033 U	0.033 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.33 U	0.33 U	0.33 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.27 U	0.27 U	0.27 U
Phenanthrene	100	1000	1000	MG/KG	0.33 U	0.33 U	0.33 U
Phenol	0.33	1000	0.33	MG/KG	0.33 U	0.33 U	0.33 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-12	RXSB-13	RXSB-13
				Sample Date:	11/16/2023	11/01/2023	11/08/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	0.017 J	0.33 U	0.33 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	Sample Designation: RXSB-13 Sample Date: 11/08/2023 Sample Depth: 10 - 12 ft bls Regular Sample or Field Duplicate: FD	Sample Designation: RXSB-14 Sample Date: 11/01/2023 Sample Depth: 0 - 2 ft bls Regular Sample or Field Duplicate: N	Sample Designation: RXSB-14 Sample Date: 11/08/2023 Sample Depth: 10 - 12 ft bls Regular Sample or Field Duplicate: N
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.033 U	0.035 U	0.037 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.13 U	0.14 U	0.15 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.13 U	0.14 U	0.15 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.27 U	0.29 U	0.3 U
2,4-Dinitrotoluene	--	--	--	MG/KG	0.068 U	0.072 U	0.076 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.068 U	0.072 U	0.076 U
2-Chloronaphthalene	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
2-Chlorophenol	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
2-Methylnaphthalene	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.33 U	0.35 U	0.37 U
2-Nitroaniline	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
2-Nitrophenol	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.13 U	0.14 U	0.15 U
3-Nitroaniline	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.27 U	0.29 U	0.3 U
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
4-Chloroaniline	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.33 U	0.35 U	0.37 U
4-Nitroaniline	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
4-Nitrophenol	--	--	--	MG/KG	0.68 U	0.72 U	0.76 U
Acenaphthene	20	1000	98	MG/KG	0.33 U	0.015 J	0.37 U
Acenaphthylene	100	1000	107	MG/KG	0.33 U	0.35 U	0.37 U
Acetophenone	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
Anthracene	100	1000	1000	MG/KG	0.33 U	0.033 J	0.021 J
Atrazine	--	--	--	MG/KG	0.13 U	0.14 U	0.15 U
Benzaldehyde	--	--	--	MG/KG	0.33 UJ	0.35 U	0.37 UJ
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.033 U	0.18	0.069
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.033 U	0.22	0.059

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-13	RXSB-14	RXSB-14
				Sample Date:	11/08/2023	11/01/2023	11/08/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	FD	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	0.033 U	0.28	0.066
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.33 U	0.15 J	0.035 J
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.033 U	0.12	0.029 J
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.33 U	0.35 U	0.045 J
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.033 U	0.035 U	0.037 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.33 U	0.047 J	0.37 U
Caprolactam	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
Carbazole	--	--	--	MG/KG	0.33 U	0.021 J	0.37 U
Chrysene	**1**	110	1	MG/KG	0.33 U	0.21 J	0.063 J
Cresols, M & P	0.33	1000	0.33	MG/KG	0.33 U	0.35 U	0.37 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.033 U	0.06	0.037 U
Dibenzofuran	7	1000	210	MG/KG	0.33 U	0.35 U	0.37 U
Diethyl Phthalate	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
Dimethyl Phthalate	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
Di-N-Octylphthalate	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
Fluoranthene	100	1000	1000	MG/KG	0.33 U	0.37	0.15 J
Fluorene	30	1000	386	MG/KG	0.33 U	0.012 J	0.37 U
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.033 U	0.035 U	0.037 U
Hexachlorobutadiene	--	--	--	MG/KG	0.068 U	0.072 U	0.076 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.33 U	0.35 R	0.37 U
Hexachloroethane	--	--	--	MG/KG	0.033 U	0.035 U	0.037 U
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.033 U	0.21	0.042
Isophorone	--	--	--	MG/KG	0.13 U	0.14 U	0.15 U
Naphthalene	12	1000	12	MG/KG	0.33 U	0.35 U	0.37 U
Nitrobenzene	--	--	--	MG/KG	0.033 U	0.035 U	0.037 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.033 U	0.035 U	0.037 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.33 U	0.35 U	0.37 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.27 U	0.29 U	0.3 U
Phenanthrene	100	1000	1000	MG/KG	0.33 U	0.17 J	0.12 J
Phenol	0.33	1000	0.33	MG/KG	0.33 U	0.35 U	0.37 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-13	RXSB-14	RXSB-14
				Sample Date:	11/08/2023	11/01/2023	11/08/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	FD	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	0.33 U	0.31 J	0.12 J

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	RXSB-15	RXSB-15	RXSB-16
Sample Designation:					RXSB-15	RXSB-15	RXSB-16
Sample Date:					11/03/2023	11/15/2023	11/02/2023
Sample Depth:					0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
Regular Sample or Field Duplicate:					N	N	N
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.037 U	0.037 U	0.033 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.37 UJ	0.37 U	0.33 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.15 U	0.15 U	0.13 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.15 U	0.15 U	0.13 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.29 UJ	0.3 U	0.27 U
2,4-Dinitrotoluene	--	--	--	MG/KG	0.074 U	0.076 U	0.067 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.074 U	0.076 U	0.067 U
2-Chloronaphthalene	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
2-Chlorophenol	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
2-Methylnaphthalene	--	--	--	MG/KG	0.048 J	0.013 J	0.33 U
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.37 U	0.37 U	0.33 U
2-Nitroaniline	--	--	--	MG/KG	0.37 U	0.37 UJ	0.33 U
2-Nitrophenol	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.15 U	0.15 U	0.13 U
3-Nitroaniline	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.29 UJ	0.3 UJ	0.27 U
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
4-Chloroaniline	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.37 U	0.37 U	0.33 U
4-Nitroaniline	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
4-Nitrophenol	--	--	--	MG/KG	0.74 UJ	0.76 U	0.67 U
Acenaphthene	20	1000	98	MG/KG	0.1 J	0.043 J	0.017 J
Acenaphthylene	100	1000	107	MG/KG	0.016 J	0.37 U	0.33 U
Acetophenone	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
Anthracene	100	1000	1000	MG/KG	0.19 J	0.079 J	0.038 J
Atrazine	--	--	--	MG/KG	0.15 U	0.15 U	0.13 U
Benzaldehyde	--	--	--	MG/KG	0.37 UJ	0.37 UJ	0.33 UJ
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.69	0.25	0.081 J
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.75	0.25	0.088 J

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-15	RXSB-15	RXSB-16
				Sample Date:	11/03/2023	11/15/2023	11/02/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	**1.1**	0.32	0.1 J
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.31 J	0.097 J	0.056 J
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.45	0.13	0.047 J
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.038 J	0.37 U	0.33 U
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.037 U	0.037 U	0.033 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.074 J	0.076 J	0.022 J
Caprolactam	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
Carbazole	--	--	--	MG/KG	0.16 J	0.037 J	0.015 J
Chrysene	**1**	110	1	MG/KG	0.86	0.26 J	0.11 J
Cresols, M & P	0.33	1000	0.33	MG/KG	0.37 U	0.37 U	0.33 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.094	0.031 J	0.033 J
Dibenzofuran	7	1000	210	MG/KG	0.081 J	0.018 J	0.33 U
Diethyl Phthalate	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
Dimethyl Phthalate	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
Di-N-Octylphthalate	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
Fluoranthene	100	1000	1000	MG/KG	1.9	0.53	0.24 J
Fluorene	30	1000	386	MG/KG	0.069 J	0.042 J	0.027 J
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.037 U	0.037 U	0.033 U
Hexachlorobutadiene	--	--	--	MG/KG	0.074 U	0.076 U	0.067 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.37 UJ	0.37 UJ	0.33 R
Hexachloroethane	--	--	--	MG/KG	0.037 U	0.037 U	0.033 U
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.39	0.12	0.099 J
Isophorone	--	--	--	MG/KG	0.15 U	0.15 U	0.13 U
Naphthalene	12	1000	12	MG/KG	0.07 J	0.017 J	0.33 U
Nitrobenzene	--	--	--	MG/KG	0.037 U	0.037 U	0.033 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.037 U	0.037 U	0.033 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.37 U	0.37 U	0.33 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.29 UJ	0.3 U	0.27 U
Phenanthrene	100	1000	1000	MG/KG	1.3	0.35 J	0.19 J
Phenol	0.33	1000	0.33	MG/KG	0.37 U	0.37 U	0.33 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-15	RXSB-15	RXSB-16
				Sample Date:	11/03/2023	11/15/2023	11/02/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	1.5	0.45	0.19 J

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	Sample Designation: RXSB-16 Sample Date: 11/15/2023 Sample Depth: 10 - 12 ft bls Regular Sample or Field Duplicate: N	Sample Designation: RXSB-17 Sample Date: 11/02/2023 Sample Depth: 0 - 2 ft bls Regular Sample or Field Duplicate: N	Sample Designation: RXSB-17 Sample Date: 11/14/2023 Sample Depth: 10 - 12 ft bls Regular Sample or Field Duplicate: N
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.04 U	0.033 U	0.039 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.16 U	0.13 U	0.16 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.16 U	0.13 U	0.16 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.32 U	0.27 U	0.31 R
2,4-Dinitrotoluene	--	--	--	MG/KG	0.08 U	0.067 U	0.079 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.08 U	0.067 U	0.079 U
2-Chloronaphthalene	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
2-Chlorophenol	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
2-Methylnaphthalene	--	--	--	MG/KG	0.018 J	0.33 U	0.12 J
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.4 U	0.33 U	0.39 U
2-Nitroaniline	--	--	--	MG/KG	0.4 UJ	0.33 U	0.39 U
2-Nitrophenol	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.16 U	0.13 U	0.16 U
3-Nitroaniline	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.32 UJ	0.27 U	0.31 R
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
4-Chloroaniline	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.4 U	0.33 U	0.036 J
4-Nitroaniline	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
4-Nitrophenol	--	--	--	MG/KG	0.8 U	0.67 U	0.79 U
Acenaphthene	20	1000	98	MG/KG	0.15 J	0.33 U	0.086 J
Acenaphthylene	100	1000	107	MG/KG	0.035 J	0.33 U	0.021 J
Acetophenone	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
Anthracene	100	1000	1000	MG/KG	0.23 J	0.013 J	0.12 J
Atrazine	--	--	--	MG/KG	0.16 U	0.13 U	0.16 U
Benzaldehyde	--	--	--	MG/KG	0.4 UJ	0.33 UJ	0.39 U
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.55	0.053 J	0.25
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.58	0.055 J	0.24

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-16	RXSB-17	RXSB-17
				Sample Date:	11/15/2023	11/02/2023	11/14/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	0.76	0.072 J	0.28
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.22 J	0.032 J	0.11
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.28	0.028 J	0.11
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.18 J	0.33 U	0.84
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.4 U	0.33 U	0.017 J
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.04 U	0.033 U	0.039 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	1	0.33 U	12
Caprolactam	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
Carbazole	--	--	--	MG/KG	0.077 J	0.33 U	0.069 J
Chrysene	**1**	110	1	MG/KG	0.54	0.067 J	0.25 J
Cresols, M & P	0.33	1000	0.33	MG/KG	0.4 U	0.33 U	0.036 J
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.072 J	0.033 U	0.049 J
Dibenzofuran	7	1000	210	MG/KG	0.067 J	0.33 U	0.059 J
Diethyl Phthalate	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
Dimethyl Phthalate	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.033 J	0.33 U	0.025 J
Di-N-Octylphthalate	--	--	--	MG/KG	0.4 U	0.33 U	1
Fluoranthene	100	1000	1000	MG/KG	1.5	0.14 J	0.57
Fluorene	30	1000	386	MG/KG	0.17 J	0.33 U	0.14 J
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.04 U	0.033 U	0.039 U
Hexachlorobutadiene	--	--	--	MG/KG	0.08 U	0.067 U	0.079 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.4 UJ	0.33 R	0.39 UJ
Hexachloroethane	--	--	--	MG/KG	0.04 U	0.033 U	0.039 U
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.29	0.073 J	0.18 J
Isophorone	--	--	--	MG/KG	0.16 U	0.13 U	0.16 U
Naphthalene	12	1000	12	MG/KG	0.031 J	0.33 U	2.8
Nitrobenzene	--	--	--	MG/KG	0.04 U	0.033 U	0.039 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.04 U	0.033 U	0.039 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.4 U	0.33 U	0.39 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.32 U	0.27 U	0.31 U
Phenanthrene	100	1000	1000	MG/KG	1	0.06 J	0.62
Phenol	0.33	1000	0.33	MG/KG	0.4 U	0.33 U	0.39 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-16	RXSB-17	RXSB-17
				Sample Date:	11/15/2023	11/02/2023	11/14/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	1.2	0.11 J	0.49

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-18	RXSB-18	RXSB-19
				Sample Date:	11/02/2023	11/15/2023	11/03/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.033 U	0.036 U	0.037 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.13 U	0.15 U	0.15 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.13 U	0.15 U	0.15 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.27 U	0.29 U	0.3 U
2,4-Dinitrotoluene	--	--	--	MG/KG	0.067 U	0.074 U	0.076 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.067 U	0.074 U	0.076 U
2-Chloronaphthalene	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
2-Chlorophenol	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
2-Methylnaphthalene	--	--	--	MG/KG	0.33 U	0.26 J	0.37 U
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.33 U	0.36 U	0.37 U
2-Nitroaniline	--	--	--	MG/KG	0.33 U	0.36 UJ	0.37 UJ
2-Nitrophenol	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.13 U	0.15 U	0.15 U
3-Nitroaniline	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.27 U	0.29 UJ	0.3 U
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
4-Chloroaniline	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.33 U	0.36 U	0.37 U
4-Nitroaniline	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
4-Nitrophenol	--	--	--	MG/KG	0.67 U	0.74 U	0.76 UJ
Acenaphthene	20	1000	98	MG/KG	0.035 J	0.67	0.37 U
Acenaphthylene	100	1000	107	MG/KG	0.01 J	0.055 J	0.37 U
Acetophenone	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
Anthracene	100	1000	1000	MG/KG	0.058 J	0.79	0.023 J
Atrazine	--	--	--	MG/KG	0.13 U	0.15 U	0.15 U
Benzaldehyde	--	--	--	MG/KG	0.33 UJ	0.36 UJ	0.37 UJ
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.25 J	0.67	0.18
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.39 J	0.5	0.22

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-18	RXSB-18	RXSB-19
				Sample Date:	11/02/2023	11/15/2023	11/03/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	0.47 J	0.83	0.29
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.18 J	0.17 J	0.16 J
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.15 J	0.32	0.11
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.33 U	1.8	0.37 U
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.33 U	0.092 J	0.37 U
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.033 U	0.036 U	0.037 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.33 U	1.4	0.37 U
Caprolactam	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
Carbazole	--	--	--	MG/KG	0.032 J	0.32 J	0.37 U
Chrysene	**1**	110	1	MG/KG	0.29 J	0.7	0.21 J
Cresols, M & P	0.33	1000	0.33	MG/KG	0.33 U	0.36 U	0.37 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.065 J	0.058 J	0.035 J
Dibenzofuran	7	1000	210	MG/KG	0.33 U	0.62	0.37 U
Diethyl Phthalate	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
Dimethyl Phthalate	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
Di-N-Octylphthalate	--	--	--	MG/KG	0.33 U	0.083 J	0.37 U
Fluoranthene	100	1000	1000	MG/KG	0.43 J	2.4	0.28 J
Fluorene	30	1000	386	MG/KG	0.024 J	0.87	0.37 U
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.033 U	0.036 U	0.037 U
Hexachlorobutadiene	--	--	--	MG/KG	0.067 U	0.074 U	0.076 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.33 R	0.36 UJ	0.37 UJ
Hexachloroethane	--	--	--	MG/KG	0.033 U	0.036 U	0.037 U
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.29 J	0.22	0.19
Isophorone	--	--	--	MG/KG	0.13 U	0.15 U	0.15 U
Naphthalene	12	1000	12	MG/KG	0.0066 J	0.26 J	0.37 U
Nitrobenzene	--	--	--	MG/KG	0.033 U	0.036 U	0.037 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.033 U	0.036 U	0.037 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.33 U	0.36 U	0.37 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.27 U	0.29 U	0.3 U
Phenanthrene	100	1000	1000	MG/KG	0.22 J	3.3	0.094 J
Phenol	0.33	1000	0.33	MG/KG	0.33 U	0.36 U	0.37 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-18	RXSB-18	RXSB-19
				Sample Date:	11/02/2023	11/15/2023	11/03/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	0.37 J	1.7	0.35 J

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	Sample Designation: RXSB-19 Sample Date: 11/15/2023 Sample Depth: 10 - 12 ft bls Regular Sample or Field Duplicate: N	Sample Designation: RXSB-20 Sample Date: 11/03/2023 Sample Depth: 0 - 2 ft bls Regular Sample or Field Duplicate: N	Sample Designation: RXSB-20 Sample Date: 11/15/2023 Sample Depth: 10 - 12 ft bls Regular Sample or Field Duplicate: N
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.037 U	0.036 U	0.049 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.15 U	0.15 U	0.2 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.15 U	0.15 U	0.2 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.3 U	0.29 U	0.4 U
2,4-Dinitrotoluene	--	--	--	MG/KG	0.075 U	0.074 U	0.1 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.075 U	0.074 U	0.1 U
2-Chloronaphthalene	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
2-Chlorophenol	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
2-Methylnaphthalene	--	--	--	MG/KG	0.093 J	0.018 J	0.025 J
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.37 U	0.36 U	0.49 U
2-Nitroaniline	--	--	--	MG/KG	0.37 UJ	0.36 U	0.49 UJ
2-Nitrophenol	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.15 U	0.15 U	0.2 U
3-Nitroaniline	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.3 UJ	0.29 U	0.4 UJ
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
4-Chloroaniline	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.37 U	0.36 U	0.49 U
4-Nitroaniline	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
4-Nitrophenol	--	--	--	MG/KG	0.75 U	0.74 U	1 U
Acenaphthene	20	1000	98	MG/KG	0.078 J	0.044 J	0.066 J
Acenaphthylene	100	1000	107	MG/KG	0.37 U	0.011 J	0.034 J
Acetophenone	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
Anthracene	100	1000	1000	MG/KG	0.032 J	0.087 J	0.17 J
Atrazine	--	--	--	MG/KG	0.15 U	0.15 U	0.2 U
Benzaldehyde	--	--	--	MG/KG	0.37 UJ	0.36 UJ	0.49 UJ
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.072	0.3	0.6
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.068	0.34	0.68

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	Sample Designation: RXSB-19 Sample Date: 11/15/2023 Sample Depth: 10 - 12 ft bls Regular Sample or Field Duplicate: N	Sample Designation: RXSB-20 Sample Date: 11/03/2023 Sample Depth: 0 - 2 ft bls Regular Sample or Field Duplicate: N	Sample Designation: RXSB-20 Sample Date: 11/15/2023 Sample Depth: 10 - 12 ft bls Regular Sample or Field Duplicate: N
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	0.13	0.46	0.97
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.054 J	0.16 J	0.24 J
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.049	0.19	0.35
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.37 U	0.36 U	0.067 J
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.037 U	0.036 U	0.049 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.079 J	0.059 J	0.7
Caprolactam	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
Carbazole	--	--	--	MG/KG	0.027 J	0.043 J	0.055 J
Chrysene	**1**	110	1	MG/KG	0.087 J	0.3 J	0.62
Cresols, M & P	0.33	1000	0.33	MG/KG	0.37 U	0.36 U	0.49 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.037 UJ	0.044	0.076 J
Dibenzofuran	7	1000	210	MG/KG	0.042 J	0.029 J	0.031 J
Diethyl Phthalate	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
Dimethyl Phthalate	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.017 J	0.29 J	0.49 U
Di-N-Octylphthalate	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
Fluoranthene	100	1000	1000	MG/KG	0.18 J	0.51	1.3
Fluorene	30	1000	386	MG/KG	0.052 J	0.051 J	0.092 J
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.037 U	0.036 U	0.049 U
Hexachlorobutadiene	--	--	--	MG/KG	0.075 U	0.074 U	0.1 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.37 UJ	0.36 UJ	0.49 UJ
Hexachloroethane	--	--	--	MG/KG	0.037 U	0.036 U	0.049 U
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.048	0.19	0.31
Isophorone	--	--	--	MG/KG	0.15 U	0.15 U	0.2 U
Naphthalene	12	1000	12	MG/KG	0.11 J	0.026 J	0.032 J
Nitrobenzene	--	--	--	MG/KG	0.037 U	0.036 U	0.049 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.037 U	0.036 U	0.049 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.37 U	0.36 U	0.49 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.3 U	0.29 U	0.4 U
Phenanthrene	100	1000	1000	MG/KG	0.16 J	0.33 J	0.71
Phenol	0.33	1000	0.33	MG/KG	0.37 U	0.36 U	0.49 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-19	RXSB-20	RXSB-20
				Sample Date:	11/15/2023	11/03/2023	11/15/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	0.14 J	0.44	1

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	RXSB-21 11/03/2023 0 - 2 ft bls N	RXSB-21 11/07/2023 10 - 12 ft bls N	RXSB-22 11/03/2023 0 - 2 ft bls N
Sample Designation:					RXSB-21	RXSB-21	RXSB-22
Sample Date:					11/03/2023	11/07/2023	11/03/2023
Sample Depth:					0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
Regular Sample or Field Duplicate:					N	N	N
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.035 U	0.033 U	0.038 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.14 U	0.13 U	0.15 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.14 U	0.13 U	0.15 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.29 U	0.27 U	0.31 U
2,4-Dinitrotoluene	--	--	--	MG/KG	0.072 U	0.068 U	0.077 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.072 U	0.068 U	0.077 U
2-Chloronaphthalene	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
2-Chlorophenol	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
2-Methylnaphthalene	--	--	--	MG/KG	0.35 U	0.33 U	0.03 J
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.35 U	0.33 U	0.38 U
2-Nitroaniline	--	--	--	MG/KG	0.35 UJ	0.33 UJ	0.38 UJ
2-Nitrophenol	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.14 U	0.13 U	0.15 U
3-Nitroaniline	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.29 U	0.27 U	0.31 U
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
4-Chloroaniline	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.35 U	0.33 U	0.38 U
4-Nitroaniline	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
4-Nitrophenol	--	--	--	MG/KG	0.72 UJ	0.68 U	0.77 UJ
Acenaphthene	20	1000	98	MG/KG	0.35 U	0.33 U	0.096 J
Acenaphthylene	100	1000	107	MG/KG	0.35 U	0.33 U	0.019 J
Acetophenone	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
Anthracene	100	1000	1000	MG/KG	0.35 U	0.33 U	0.27 J
Atrazine	--	--	--	MG/KG	0.14 U	0.13 U	0.15 U
Benzaldehyde	--	--	--	MG/KG	0.35 UJ	0.33 UJ	0.38 UJ
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.035 U	0.033 U	0.85
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.035 U	0.033 U	0.92

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	Sample Designation: RXSB-21	RXSB-21	RXSB-22
					Sample Date: 11/03/2023	11/07/2023	11/03/2023
					Sample Depth: 0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
					Regular Sample or Field Duplicate: N	N	N
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	0.035 U	0.033 U	**1.3**
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.015 J	0.33 U	0.41
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.035 U	0.033 U	0.45
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.035 U	0.033 U	0.038 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.35 U	0.33 U	0.072 J
Caprolactam	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
Carbazole	--	--	--	MG/KG	0.35 U	0.33 U	0.097 J
Chrysene	**1**	110	1	MG/KG	0.35 U	0.33 U	1
Cresols, M & P	0.33	1000	0.33	MG/KG	0.35 U	0.33 U	0.38 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.035 U	0.033 U	0.11
Dibenzofuran	7	1000	210	MG/KG	0.35 U	0.33 U	0.071 J
Diethyl Phthalate	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
Dimethyl Phthalate	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
Di-N-Octylphthalate	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
Fluoranthene	100	1000	1000	MG/KG	0.35 U	0.33 U	1.9
Fluorene	30	1000	386	MG/KG	0.35 U	0.33 U	0.13 J
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.035 U	0.033 U	0.038 U
Hexachlorobutadiene	--	--	--	MG/KG	0.072 U	0.068 U	0.077 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.35 UJ	0.33 U	0.38 UJ
Hexachloroethane	--	--	--	MG/KG	0.035 U	0.033 U	0.038 U
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.035 U	0.033 U	**0.55**
Isophorone	--	--	--	MG/KG	0.14 U	0.13 U	0.15 U
Naphthalene	12	1000	12	MG/KG	0.35 U	0.33 U	0.034 J
Nitrobenzene	--	--	--	MG/KG	0.035 U	0.033 U	0.038 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.035 U	0.033 U	0.038 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.35 U	0.33 U	0.38 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.29 U	0.27 U	0.31 U
Phenanthrene	100	1000	1000	MG/KG	0.35 U	0.33 U	1.2
Phenol	0.33	1000	0.33	MG/KG	0.35 U	0.33 U	0.38 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-21	RXSB-21	RXSB-22
				Sample Date:	11/03/2023	11/07/2023	11/03/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	0.011 J	0.33 U	1.7

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	Sample Designation: RXSB-22 Sample Date: 11/07/2023 Sample Depth: 10 - 12 ft bls Regular Sample or Field Duplicate: N	Sample Designation: RXSB-23 Sample Date: 11/06/2023 Sample Depth: 0 - 2 ft bls Regular Sample or Field Duplicate: N	Sample Designation: RXSB-23 Sample Date: 11/13/2023 Sample Depth: 10 - 12 ft bls Regular Sample or Field Duplicate: N
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.038 U	0.034 U	0.038 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.15 U	0.14 U	0.15 UJ
2,4-Dichlorophenol	--	--	--	MG/KG	0.15 U	0.14 U	0.15 UJ
2,4-Dimethylphenol	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
2,4-Dinitrophenol	--	--	--	MG/KG	0.3 U	0.27 U	0.3 R
2,4-Dinitrotoluene	--	--	--	MG/KG	0.076 U	0.069 U	0.076 UJ
2,6-Dinitrotoluene	--	--	--	MG/KG	0.076 U	0.069 U	0.076 UJ
2-Chloronaphthalene	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
2-Chlorophenol	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
2-Methylnaphthalene	--	--	--	MG/KG	0.014 J	0.34 U	0.011 J
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.38 U	0.34 U	0.38 U
2-Nitroaniline	--	--	--	MG/KG	0.38 UJ	0.34 UJ	0.38 UJ
2-Nitrophenol	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.15 U	0.14 U	0.15 U
3-Nitroaniline	--	--	--	MG/KG	0.38 U	0.34 U	0.38 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.3 U	0.27 U	0.3 R
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
4-Chloroaniline	--	--	--	MG/KG	0.38 U	0.34 U	0.38 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.38 U	0.34 U	0.38 U
4-Nitroaniline	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
4-Nitrophenol	--	--	--	MG/KG	0.76 U	0.69 U	0.76 UJ
Acenaphthene	20	1000	98	MG/KG	0.014 J	0.045 J	0.073 J
Acenaphthylene	100	1000	107	MG/KG	0.38 U	0.029 J	0.38 UJ
Acetophenone	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
Anthracene	100	1000	1000	MG/KG	0.027 J	0.16 J	0.096 J
Atrazine	--	--	--	MG/KG	0.15 U	0.14 U	0.15 U
Benzaldehyde	--	--	--	MG/KG	0.38 UJ	0.34 UJ	0.38 U
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.08	0.7	0.23 J
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.074	0.78	0.21 J

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-22	RXSB-23	RXSB-23
				Sample Date:	11/07/2023	11/06/2023	11/13/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	0.093	0.98	0.28 J
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.046 J	0.31 J	0.12 J
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.033 J	0.36	0.11 J
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.038 U	0.034 U	0.038 UJ
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.38 U	0.034 J	0.38 UJ
Caprolactam	--	--	--	MG/KG	0.38 U	0.34 U	0.38 U
Carbazole	--	--	--	MG/KG	0.38 U	0.061 J	0.071 J
Chrysene	**1**	110	1	MG/KG	0.076 J	0.74	0.28 J
Cresols, M & P	0.33	1000	0.33	MG/KG	0.38 U	0.34 U	0.38 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.038 U	0.091	0.035 J
Dibenzofuran	7	1000	210	MG/KG	0.38 U	0.02 J	0.063 J
Diethyl Phthalate	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
Dimethyl Phthalate	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
Di-N-Octylphthalate	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
Fluoranthene	100	1000	1000	MG/KG	0.18 J	1.4	0.9 J
Fluorene	30	1000	386	MG/KG	0.027 J	0.042 J	0.12 J
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.038 U	0.034 U	0.038 UJ
Hexachlorobutadiene	--	--	--	MG/KG	0.076 U	0.069 U	0.076 UJ
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.38 U	0.34 U	0.38 R
Hexachloroethane	--	--	--	MG/KG	0.038 U	0.034 U	0.038 UJ
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.05	0.41	0.14 J
Isophorone	--	--	--	MG/KG	0.15 U	0.14 U	0.15 UJ
Naphthalene	12	1000	12	MG/KG	0.38 U	0.017 J	0.017 J
Nitrobenzene	--	--	--	MG/KG	0.038 U	0.034 U	0.038 UJ
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.038 U	0.034 U	0.038 UJ
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.38 U	0.34 U	0.38 UJ
Pentachlorophenol	0.8	55	0.8	MG/KG	0.3 U	0.27 U	0.3 UJ
Phenanthrene	100	1000	1000	MG/KG	0.12 J	0.7	0.78 J
Phenol	0.33	1000	0.33	MG/KG	0.38 U	0.34 U	0.38 UJ

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-22	RXSB-23	RXSB-23
				Sample Date:	11/07/2023	11/06/2023	11/13/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	0.15 J	1.3	0.64 J

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	Sample Designation: RXSB-24	RXSB-24	RXSB-25
					Sample Date: 11/06/2023	11/10/2023	11/06/2023
					Sample Depth: 0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
					Regular Sample or Field Duplicate: N	N	N
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.033 U	0.042 U	0.034 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.13 U	0.17 U	0.14 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.13 U	0.17 U	0.14 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.27 U	0.34 U	0.28 U
2,4-Dinitrotoluene	--	--	--	MG/KG	0.068 U	0.085 U	0.069 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.068 U	0.085 U	0.069 U
2-Chloronaphthalene	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
2-Chlorophenol	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
2-Methylnaphthalene	--	--	--	MG/KG	0.33 U	0.036 J	0.34 U
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.33 U	0.42 U	0.34 U
2-Nitroaniline	--	--	--	MG/KG	0.33 UJ	0.42 U	0.34 UJ
2-Nitrophenol	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.13 U	0.17 U	0.14 U
3-Nitroaniline	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.27 U	0.34 U	0.28 U
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
4-Chloroaniline	--	--	--	MG/KG	0.33 U	0.42 R	0.34 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.33 U	0.42 U	0.34 U
4-Nitroaniline	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
4-Nitrophenol	--	--	--	MG/KG	0.68 U	0.85 U	0.69 U
Acenaphthene	20	1000	98	MG/KG	0.05 J	0.25 J	0.013 J
Acenaphthylene	100	1000	107	MG/KG	0.048 J	0.42 U	0.34 U
Acetophenone	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
Anthracene	100	1000	1000	MG/KG	0.19 J	0.36 J	0.034 J
Atrazine	--	--	--	MG/KG	0.13 U	0.17 U	0.14 U
Benzaldehyde	--	--	--	MG/KG	0.33 UJ	0.42 UJ	0.34 UJ
Benzo(A)Anthracene	**1**	11	1	MG/KG	**1.3**	0.69	0.23
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	**1.6**	0.66	0.3

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-24	RXSB-24	RXSB-25
				Sample Date:	11/06/2023	11/10/2023	11/06/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	**2.2**	0.84	0.44
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.59	0.36 J	0.13 J
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.76	0.29	0.14
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.16 J	1.7	0.34 U
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.033 U	0.042 U	0.034 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.055 J	0.97	0.045 J
Caprolactam	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
Carbazole	--	--	--	MG/KG	0.11 J	0.2 J	0.018 J
Chrysene	**1**	110	1	MG/KG	**1.5**	0.72	0.29 J
Cresols, M & P	0.33	1000	0.33	MG/KG	0.33 U	0.42 U	0.34 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.16	0.091	0.036
Dibenzofuran	7	1000	210	MG/KG	0.025 J	0.12 J	0.34 U
Diethyl Phthalate	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
Dimethyl Phthalate	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
Di-N-Octylphthalate	--	--	--	MG/KG	0.056 J	0.42 U	0.34 U
Fluoranthene	100	1000	1000	MG/KG	2.3	1.7	0.53
Fluorene	30	1000	386	MG/KG	0.037 J	0.21 J	0.34 U
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.033 U	0.042 U	0.034 U
Hexachlorobutadiene	--	--	--	MG/KG	0.068 U	0.085 U	0.069 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
Hexachloroethane	--	--	--	MG/KG	0.033 U	0.042 U	0.034 U
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	**0.78**	0.44	0.15
Isophorone	--	--	--	MG/KG	0.13 U	0.17 U	0.14 U
Naphthalene	12	1000	12	MG/KG	0.021 J	0.13 J	0.34 U
Nitrobenzene	--	--	--	MG/KG	0.033 U	0.042 U	0.034 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.033 U	0.042 U	0.034 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.33 U	0.42 U	0.34 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.27 U	0.34 U	0.28 U
Phenanthrene	100	1000	1000	MG/KG	0.83	1.6	0.17 J
Phenol	0.33	1000	0.33	MG/KG	0.33 U	0.42 U	0.34 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-24	RXSB-24	RXSB-25
				Sample Date:	11/06/2023	11/10/2023	11/06/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	2.3	1.4	0.46

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	Sample Designation: RXSB-25 Sample Date: 11/16/2023 Sample Depth: 10 - 12 ft bls Regular Sample or Field Duplicate: N	Sample Designation: RXSB-26 Sample Date: 11/06/2023 Sample Depth: 0 - 2 ft bls Regular Sample or Field Duplicate: N	Sample Designation: RXSB-26 Sample Date: 11/09/2023 Sample Depth: 10 - 12 ft bls Regular Sample or Field Duplicate: N
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.36 UJ	0.34 U	0.38 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.036 UJ	0.034 U	0.038 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.36 UJ	0.34 UJ	0.38 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.36 UJ	0.34 UJ	0.38 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.15 UJ	0.14 UJ	0.15 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.15 UJ	0.14 U	0.15 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.36 U	0.34 U	0.38 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.29 R	0.27 U	0.3 U
2,4-Dinitrotoluene	--	--	--	MG/KG	0.074 UJ	0.069 U	0.076 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.074 UJ	0.069 U	0.076 U
2-Chloronaphthalene	--	--	--	MG/KG	0.36 U	0.34 U	0.38 U
2-Chlorophenol	--	--	--	MG/KG	0.36 UJ	0.34 U	0.38 U
2-Methylnaphthalene	--	--	--	MG/KG	0.039 J	0.34 U	0.042 J
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.36 U	0.34 U	0.38 U
2-Nitroaniline	--	--	--	MG/KG	0.36 U	0.34 UJ	0.38 U
2-Nitrophenol	--	--	--	MG/KG	0.36 UJ	0.34 U	0.38 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.15 U	0.14 U	0.15 U
3-Nitroaniline	--	--	--	MG/KG	0.36 U	0.34 U	0.38 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.29 UJ	0.27 UJ	0.3 U
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.36 U	0.34 U	0.38 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.36 U	0.34 U	0.38 U
4-Chloroaniline	--	--	--	MG/KG	0.36 U	0.34 U	0.38 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.36 UJ	0.34 U	0.38 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.029 J	0.34 U	0.38 U
4-Nitroaniline	--	--	--	MG/KG	0.36 U	0.34 U	0.38 U
4-Nitrophenol	--	--	--	MG/KG	0.74 U	0.69 UJ	0.76 U
Acenaphthene	20	1000	98	MG/KG	0.033 J	0.34 U	0.074 J
Acenaphthylene	100	1000	107	MG/KG	0.021 J	0.34 U	0.016 J
Acetophenone	--	--	--	MG/KG	0.36 U	0.34 U	0.38 U
Anthracene	100	1000	1000	MG/KG	0.076 J	0.017 J	0.094 J
Atrazine	--	--	--	MG/KG	0.15 U	0.14 U	0.15 U
Benzaldehyde	--	--	--	MG/KG	0.1 J	0.34 UJ	0.094 J
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.37	0.17	0.41
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.48	0.19	0.46

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-25	RXSB-26	RXSB-26
				Sample Date:	11/16/2023	11/06/2023	11/09/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	0.65	0.3	0.69
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.3 J	0.079 J	0.26 J
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.24	0.1	0.25
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.36 U	0.34 U	9.6
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.36 UJ	0.34 U	0.018 J
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.36 U	0.34 U	0.38 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.036 U	0.034 U	0.038 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.36 U	0.34 U	0.38 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.29 J	0.34 U	1.7
Caprolactam	--	--	--	MG/KG	0.36 UT	0.34 U	0.38 U
Carbazole	--	--	--	MG/KG	0.026 J	0.34 U	0.041 J
Chrysene	**1**	110	1	MG/KG	0.44	0.21 J	0.51
Cresols, M & P	0.33	1000	0.33	MG/KG	0.029 J	0.34 U	0.38 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.067	0.021 J	0.076
Dibenzofuran	7	1000	210	MG/KG	0.028 J	0.34 U	0.059 J
Diethyl Phthalate	--	--	--	MG/KG	0.36 U	0.34 U	0.38 U
Dimethyl Phthalate	--	--	--	MG/KG	0.36 UJ	0.34 U	0.38 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.034 J	0.34 U	0.36 J
Di-N-Octylphthalate	--	--	--	MG/KG	0.36 U	0.34 U	0.092 J
Fluoranthene	100	1000	1000	MG/KG	0.66	0.35	0.79
Fluorene	30	1000	386	MG/KG	0.031 J	0.34 U	0.1 J
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.036 UJ	0.034 U	0.038 U
Hexachlorobutadiene	--	--	--	MG/KG	0.074 UJ	0.069 U	0.076 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.36 UJ	0.34 U	0.38 U
Hexachloroethane	--	--	--	MG/KG	0.036 U	0.034 U	0.038 U
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.36	0.1	0.33
Isophorone	--	--	--	MG/KG	0.15 U	0.14 U	0.15 U
Naphthalene	12	1000	12	MG/KG	0.12 J	0.34 U	0.086 J
Nitrobenzene	--	--	--	MG/KG	0.036 UJ	0.034 U	0.038 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.036 U	0.034 U	0.038 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.36 U	0.34 U	0.38 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.29 U	0.27 UJ	0.3 U
Phenanthrene	100	1000	1000	MG/KG	0.25 J	0.077 J	0.52
Phenol	0.33	1000	0.33	MG/KG	0.36 U	0.34 U	0.38 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-25	RXSB-26	RXSB-26
				Sample Date:	11/16/2023	11/06/2023	11/09/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	0.59	0.34	0.81

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	Sample Designation: RXSB-27	RXSB-27	RXSB-28
					Sample Date: 11/06/2023	11/16/2023	11/06/2023
					Sample Depth: 0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
					Regular Sample or Field Duplicate: N	N	N
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.34 U	0.34 UJ	0.33 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.034 U	0.034 UJ	0.033 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.34 U	0.34 UJ	0.33 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.34 U	0.34 UJ	0.33 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.14 U	0.14 UJ	0.13 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.14 U	0.14 UJ	0.13 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.27 U	0.27 R	0.27 U
2,4-Dinitrotoluene	--	--	--	MG/KG	0.068 U	0.069 UJ	0.068 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.068 U	0.069 UJ	0.068 U
2-Chloronaphthalene	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
2-Chlorophenol	--	--	--	MG/KG	0.34 U	0.34 UJ	0.33 U
2-Methylnaphthalene	--	--	--	MG/KG	0.34 U	0.056 J	0.33 U
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.34 U	0.34 U	0.33 U
2-Nitroaniline	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
2-Nitrophenol	--	--	--	MG/KG	0.34 U	0.34 UJ	0.33 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.14 U	0.14 U	0.13 U
3-Nitroaniline	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.27 U	0.27 UJ	0.27 U
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
4-Chloroaniline	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.34 U	0.34 UJ	0.33 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.34 U	0.072 J	0.33 U
4-Nitroaniline	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
4-Nitrophenol	--	--	--	MG/KG	0.68 U	0.69 U	0.68 U
Acenaphthene	20	1000	98	MG/KG	0.34 U	0.094 J	0.33 U
Acenaphthylene	100	1000	107	MG/KG	0.34 U	0.064 J	0.33 U
Acetophenone	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Anthracene	100	1000	1000	MG/KG	0.022 J	0.13 J	0.33 U
Atrazine	--	--	--	MG/KG	0.14 U	0.14 U	0.13 U
Benzaldehyde	--	--	--	MG/KG	0.34 UJ	0.056 J	0.33 UJ
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.12	0.49	0.054
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.14	0.61	0.057

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-27	RXSB-27	RXSB-28
				Sample Date:	11/06/2023	11/16/2023	11/06/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	0.2	0.85	0.079
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.1 J	0.31 J	0.041 J
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.073	0.25	0.03 J
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.34 U	22	0.33 U
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.34 U	0.017 J	0.33 U
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.034 U	0.034 U	0.033 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.021 J	8.3	0.33 U
Caprolactam	--	--	--	MG/KG	0.34 U	0.34 UT	0.33 U
Carbazole	--	--	--	MG/KG	0.34 U	0.06 J	0.33 U
Chrysene	**1**	110	1	MG/KG	0.15 J	0.53	0.055 J
Cresols, M & P	0.33	1000	0.33	MG/KG	0.34 U	0.072 J	0.33 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.029 J	0.095	0.033 U
Dibenzofuran	7	1000	210	MG/KG	0.34 U	0.069 J	0.33 U
Diethyl Phthalate	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Dimethyl Phthalate	--	--	--	MG/KG	0.34 U	0.34 UJ	0.33 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.34 U	0.21 J	0.33 U
Di-N-Octylphthalate	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Fluoranthene	100	1000	1000	MG/KG	0.24 J	0.98	0.086 J
Fluorene	30	1000	386	MG/KG	0.34 U	0.089 J	0.33 U
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.034 U	0.034 UJ	0.033 U
Hexachlorobutadiene	--	--	--	MG/KG	0.068 U	0.069 UJ	0.068 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.34 U	0.34 UJ	0.33 U
Hexachloroethane	--	--	--	MG/KG	0.034 U	0.034 U	0.033 U
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.12	0.38	0.046
Isophorone	--	--	--	MG/KG	0.14 U	0.14 U	0.13 U
Naphthalene	12	1000	12	MG/KG	0.0068 J	0.1 J	0.33 U
Nitrobenzene	--	--	--	MG/KG	0.034 U	0.034 UJ	0.033 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.034 U	0.034 U	0.033 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.34 U	0.063 J	0.33 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.27 U	0.27 U	0.27 U
Phenanthrene	100	1000	1000	MG/KG	0.1 J	0.67	0.044 J
Phenol	0.33	1000	0.33	MG/KG	0.34 U	0.34 U	0.33 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-27	RXSB-27	RXSB-28
				Sample Date:	11/06/2023	11/16/2023	11/06/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	0.23 J	0.91	0.085 J

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	RXSB-28	RXSB-29	RXSB-30
Sample Designation:					RXSB-28	RXSB-29	RXSB-30
Sample Date:					11/16/2023	11/02/2023	11/02/2023
Sample Depth:					10 - 12 ft bls	0 - 2 in bls	0 - 2 in bls
Regular Sample or Field Duplicate:					N	N	N
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.39 UJ	0.34 U	0.33 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.039 UJ	0.034 U	0.033 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.39 UJ	0.34 U	0.33 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.39 UJ	0.34 U	0.33 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.16 UJ	0.14 U	0.13 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.16 UJ	0.14 U	0.13 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.39 U	0.34 U	0.33 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.31 R	0.27 U	0.27 U
2,4-Dinitrotoluene	--	--	--	MG/KG	0.079 UJ	0.068 U	0.068 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.079 UJ	0.068 U	0.068 U
2-Chloronaphthalene	--	--	--	MG/KG	0.39 U	0.34 U	0.33 U
2-Chlorophenol	--	--	--	MG/KG	0.39 UJ	0.34 U	0.33 U
2-Methylnaphthalene	--	--	--	MG/KG	0.037 J	0.34 U	0.33 U
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.39 U	0.34 U	0.33 U
2-Nitroaniline	--	--	--	MG/KG	0.39 U	0.34 U	0.33 U
2-Nitrophenol	--	--	--	MG/KG	0.39 UJ	0.34 U	0.33 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.16 U	0.14 U	0.13 U
3-Nitroaniline	--	--	--	MG/KG	0.39 U	0.34 U	0.33 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.31 UJ	0.27 U	0.27 U
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.39 U	0.34 U	0.33 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.39 U	0.34 U	0.33 U
4-Chloroaniline	--	--	--	MG/KG	0.39 U	0.34 U	0.33 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.39 UJ	0.34 U	0.33 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.22 J	0.34 U	0.33 U
4-Nitroaniline	--	--	--	MG/KG	0.39 U	0.34 U	0.33 U
4-Nitrophenol	--	--	--	MG/KG	0.79 U	0.68 U	0.68 U
Acenaphthene	20	1000	98	MG/KG	0.095 J	0.34 U	0.33 U
Acenaphthylene	100	1000	107	MG/KG	0.012 J	0.34 U	0.33 U
Acetophenone	--	--	--	MG/KG	0.39 U	0.34 U	0.33 U
Anthracene	100	1000	1000	MG/KG	0.15 J	0.34 U	0.33 U
Atrazine	--	--	--	MG/KG	0.16 U	0.14 U	0.13 U
Benzaldehyde	--	--	--	MG/KG	0.097 J	0.34 UJ	0.33 UJ
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.29	0.034 U	0.063 J
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.21	0.019 J	0.094 J

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-28	RXSB-29	RXSB-30
				Sample Date:	11/16/2023	11/02/2023	11/02/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	0.35	0.025 J	0.13 J
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.11 J	0.019 J	0.069 J
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.13	0.011 J	0.039 J
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.39 U	0.34 U	0.33 U
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.079 J	0.34 U	0.33 U
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.39 U	0.34 U	0.33 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.039 U	0.034 U	0.033 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.39 U	0.34 U	0.33 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.21 J	0.067 J	0.33 U
Caprolactam	--	--	--	MG/KG	0.39 UT	0.34 U	0.33 U
Carbazole	--	--	--	MG/KG	0.039 J	0.34 U	0.33 U
Chrysene	**1**	110	1	MG/KG	0.34 J	0.016 J	0.084 J
Cresols, M & P	0.33	1000	0.33	MG/KG	0.22 J	0.34 U	0.33 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.037 J	0.034 U	0.035 J
Dibenzofuran	7	1000	210	MG/KG	0.066 J	0.34 U	0.33 U
Diethyl Phthalate	--	--	--	MG/KG	0.39 U	0.34 U	0.33 U
Dimethyl Phthalate	--	--	--	MG/KG	0.39 UJ	0.34 U	0.33 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.027 J	0.34 U	0.33 U
Di-N-Octylphthalate	--	--	--	MG/KG	0.39 U	0.34 U	0.33 U
Fluoranthene	100	1000	1000	MG/KG	0.84	0.027 J	0.093 J
Fluorene	30	1000	386	MG/KG	0.11 J	0.34 U	0.33 U
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.039 UJ	0.034 U	0.033 U
Hexachlorobutadiene	--	--	--	MG/KG	0.079 UJ	0.068 U	0.068 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.39 UJ	0.34 R	0.33 R
Hexachloroethane	--	--	--	MG/KG	0.039 U	0.034 U	0.033 U
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.14	0.047 J	0.11 J
Isophorone	--	--	--	MG/KG	0.16 U	0.14 U	0.13 U
Naphthalene	12	1000	12	MG/KG	0.085 J	0.34 U	0.33 U
Nitrobenzene	--	--	--	MG/KG	0.039 UJ	0.034 U	0.033 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.039 U	0.034 U	0.033 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.39 U	0.34 U	0.33 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.31 U	0.27 U	0.27 U
Phenanthrene	100	1000	1000	MG/KG	0.61	0.34 U	0.027 J
Phenol	0.33	1000	0.33	MG/KG	0.39 U	0.34 U	0.33 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-28	RXSB-29	RXSB-30
				Sample Date:	11/16/2023	11/02/2023	11/02/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	0.85	0.024 J	0.09 J

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-31	RXSB-32	RXSB-33
				Sample Date:	11/02/2023	11/03/2023	11/06/2023
				Sample Depth:	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.034 U	0.037 U	0.033 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.14 U	0.15 U	0.13 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.14 U	0.15 U	0.13 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.27 U	0.3 U	0.27 U
2,4-Dinitrotoluene	--	--	--	MG/KG	0.068 U	0.075 U	0.068 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.068 U	0.075 U	0.068 U
2-Chloronaphthalene	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
2-Chlorophenol	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
2-Methylnaphthalene	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.34 U	0.37 U	0.33 U
2-Nitroaniline	--	--	--	MG/KG	0.34 U	0.37 U	0.33 UJ
2-Nitrophenol	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.14 U	0.15 U	0.13 U
3-Nitroaniline	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.27 U	0.3 U	0.27 U
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
4-Chloroaniline	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.34 U	0.37 U	0.33 U
4-Nitroaniline	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
4-Nitrophenol	--	--	--	MG/KG	0.68 U	0.75 U	0.68 U
Acenaphthene	20	1000	98	MG/KG	0.011 J	0.37 U	0.33 U
Acenaphthylene	100	1000	107	MG/KG	0.015 J	0.37 U	0.33 U
Acetophenone	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
Anthracene	100	1000	1000	MG/KG	0.037 J	0.023 J	0.027 J
Atrazine	--	--	--	MG/KG	0.14 U	0.15 U	0.13 U
Benzaldehyde	--	--	--	MG/KG	0.34 UJ	0.37 UJ	0.33 UJ
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.2 J	0.14	0.24
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.29 J	0.2	0.35

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-31	RXSB-32	RXSB-33
				Sample Date:	11/02/2023	11/03/2023	11/06/2023
				Sample Depth:	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	0.37 J	0.28	0.54
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.18 J	0.11 J	0.17 J
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.12 J	0.13	0.19
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.034 U	0.037 U	0.033 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.036 J	0.37 U	0.33 U
Caprolactam	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
Carbazole	--	--	--	MG/KG	0.016 J	0.015 J	0.04 J
Chrysene	**1**	110	1	MG/KG	0.24 J	0.18 J	0.31 J
Cresols, M & P	0.33	1000	0.33	MG/KG	0.34 U	0.37 U	0.33 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.061 J	0.028 J	0.038
Dibenzofuran	7	1000	210	MG/KG	0.34 U	0.37 U	0.33 U
Diethyl Phthalate	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
Dimethyl Phthalate	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
Di-N-Octylphthalate	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
Fluoranthene	100	1000	1000	MG/KG	0.34 J	0.26 J	0.47
Fluorene	30	1000	386	MG/KG	0.0098 J	0.37 U	0.33 U
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.034 U	0.037 U	0.033 U
Hexachlorobutadiene	--	--	--	MG/KG	0.068 U	0.075 U	0.068 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.34 R	0.37 UJ	0.33 U
Hexachloroethane	--	--	--	MG/KG	0.034 U	0.037 U	0.033 U
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.25 J	0.13	0.2
Isophorone	--	--	--	MG/KG	0.14 U	0.15 U	0.13 U
Naphthalene	12	1000	12	MG/KG	0.34 U	0.01 J	0.33 U
Nitrobenzene	--	--	--	MG/KG	0.034 U	0.037 U	0.033 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.034 U	0.037 U	0.033 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.34 U	0.37 U	0.33 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.27 U	0.3 U	0.27 U
Phenanthrene	100	1000	1000	MG/KG	0.12 J	0.1 J	0.16 J
Phenol	0.33	1000	0.33	MG/KG	0.34 U	0.37 U	0.33 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-31	RXSB-32	RXSB-33
				Sample Date:	11/02/2023	11/03/2023	11/06/2023
				Sample Depth:	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	0.3 J	0.23 J	0.42

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	RXSB-34	RXSB-35	RXSB-36
Sample Designation:					RXSB-34	RXSB-35	RXSB-36
Sample Date:					11/06/2023	11/08/2023	11/09/2023
Sample Depth:					0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
Regular Sample or Field Duplicate:					N	N	N
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.034 U	0.034 U	0.033 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.14 U	0.14 U	0.13 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.14 U	0.14 U	0.13 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.27 U	0.27 U	0.27 U
2,4-Dinitrotoluene	--	--	--	MG/KG	0.069 U	0.068 U	0.067 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.069 U	0.068 U	0.067 U
2-Chloronaphthalene	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
2-Chlorophenol	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
2-Methylnaphthalene	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.34 U	0.34 U	0.33 U
2-Nitroaniline	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
2-Nitrophenol	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.14 U	0.14 U	0.13 U
3-Nitroaniline	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.27 U	0.27 U	0.27 U
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
4-Chloroaniline	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.34 U	0.34 U	0.33 U
4-Nitroaniline	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
4-Nitrophenol	--	--	--	MG/KG	0.69 U	0.68 U	0.67 U
Acenaphthene	20	1000	98	MG/KG	0.34 U	0.34 U	0.33 U
Acenaphthylene	100	1000	107	MG/KG	0.34 U	0.34 U	0.33 U
Acetophenone	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Anthracene	100	1000	1000	MG/KG	0.014 J	0.34 U	0.33 U
Atrazine	--	--	--	MG/KG	0.14 U	0.14 U	0.13 U
Benzaldehyde	--	--	--	MG/KG	0.34 UJ	0.34 UJ	0.33 UJ
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.1	0.052	0.052
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.12	0.057	0.067

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-34	RXSB-35	RXSB-36
				Sample Date:	11/06/2023	11/08/2023	11/09/2023
				Sample Depth:	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	0.15	0.076	0.11
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.091 J	0.046 J	0.068 J
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.068	0.027 J	0.041
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.019 J	0.34 U	0.021 J
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.034 U	0.034 U	0.033 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.34 U	0.34 U	0.11 J
Caprolactam	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Carbazole	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Chrysene	**1**	110	1	MG/KG	0.12 J	0.052 J	0.058 J
Cresols, M & P	0.33	1000	0.33	MG/KG	0.34 U	0.34 U	0.33 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.025 J	0.034 U	0.033 U
Dibenzofuran	7	1000	210	MG/KG	0.34 U	0.34 U	0.33 U
Diethyl Phthalate	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Dimethyl Phthalate	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Di-N-Octylphthalate	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Fluoranthene	100	1000	1000	MG/KG	0.16 J	0.078 J	0.11 J
Fluorene	30	1000	386	MG/KG	0.34 U	0.34 U	0.33 U
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.034 U	0.034 U	0.033 U
Hexachlorobutadiene	--	--	--	MG/KG	0.069 U	0.068 U	0.067 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Hexachloroethane	--	--	--	MG/KG	0.034 U	0.034 U	0.033 U
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.1	0.053	0.078
Isophorone	--	--	--	MG/KG	0.14 U	0.14 U	0.13 U
Naphthalene	12	1000	12	MG/KG	0.34 U	0.34 U	0.33 U
Nitrobenzene	--	--	--	MG/KG	0.034 U	0.034 U	0.033 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.034 U	0.034 U	0.033 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.34 U	0.34 U	0.33 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.27 U	0.27 U	0.27 U
Phenanthrene	100	1000	1000	MG/KG	0.064 J	0.033 J	0.05 J
Phenol	0.33	1000	0.33	MG/KG	0.34 U	0.34 U	0.33 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-34	RXSB-35	RXSB-36
				Sample Date:	11/06/2023	11/08/2023	11/09/2023
				Sample Depth:	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Pyrene	100	1000	1000	MG/KG	0.16 J	0.072 J	0.099 J

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-37	RXSB-38
				Sample Date:	01/04/2024	01/05/2024
				Sample Depth:	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units		
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.36 U	0.37 U
1,4-Dioxane (P-Dioxane)	0.1	250	0.1	MG/KG	0.036 U	0.037 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.36 UJ	0.37 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.36 U	0.37 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.15 U	0.15 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.15 U	0.15 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.36 U	0.37 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.29 U	0.3 UJ
2,4-Dinitrotoluene	--	--	--	MG/KG	0.073 U	0.075 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.073 U	0.075 U
2-Chloronaphthalene	--	--	--	MG/KG	0.36 U	0.37 U
2-Chlorophenol	--	--	--	MG/KG	0.36 U	0.37 U
2-Methylnaphthalene	--	--	--	MG/KG	0.36 U	0.37 U
2-Methylphenol (O-Cresol)	0.33	1000	0.33	MG/KG	0.36 U	0.37 U
2-Nitroaniline	--	--	--	MG/KG	0.36 U	0.37 U
2-Nitrophenol	--	--	--	MG/KG	0.36 U	0.37 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.15 U	0.15 U
3-Nitroaniline	--	--	--	MG/KG	0.36 U	0.37 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.29 U	0.3 U
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.36 U	0.37 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.36 U	0.37 U
4-Chloroaniline	--	--	--	MG/KG	0.36 U	0.37 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.36 UJ	0.37 U
4-Methylphenol (P-Cresol)	0.33	1000	0.33	MG/KG	0.36 U	0.37 U
4-Nitroaniline	--	--	--	MG/KG	0.36 U	0.37 U
4-Nitrophenol	--	--	--	MG/KG	0.73 U	0.75 U
Acenaphthene	20	1000	98	MG/KG	0.36 U	0.37 U
Acenaphthylene	100	1000	107	MG/KG	0.36 U	0.37 U
Acetophenone	--	--	--	MG/KG	0.36 U	0.37 U
Anthracene	100	1000	1000	MG/KG	0.36 U	0.015 J
Atrazine	--	--	--	MG/KG	0.15 U	0.15 U
Benzaldehyde	--	--	--	MG/KG	0.36 U	0.37 UJ
Benzo(A)Anthracene	**1**	11	1	MG/KG	0.032 J	0.083
Benzo(A)Pyrene	**1**	1.1	22	MG/KG	0.026 J	0.1

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	Sample Designation: RXSB-37 Sample Date: 01/04/2024 Sample Depth: 0 - 2 in bls Regular Sample or Field Duplicate: N	Sample Designation: RXSB-38 Sample Date: 01/05/2024 Sample Depth: 0 - 2 in bls Regular Sample or Field Duplicate: N
Benzo(B)Fluoranthene	**1**	11	1.7	MG/KG	0.031 J	0.12
Benzo(G,H,I)Perylene	100	1000	1000	MG/KG	0.016 J	0.074 J
Benzo(K)Fluoranthene	0.8	110	1.7	MG/KG	0.012 J	0.07
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.36 U	0.37 U
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.36 U	0.37 U
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.36 U	0.37 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.036 U	0.037 U
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.36 U	0.37 U
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.36 U	0.37 U
Caprolactam	--	--	--	MG/KG	0.36 U	0.37 U
Carbazole	--	--	--	MG/KG	0.36 U	0.37 U
Chrysene	**1**	110	1	MG/KG	0.025 J	0.11 J
Cresols, M & P	0.33	1000	0.33	MG/KG	0.36 U	0.37 U
Dibenz(A,H)Anthracene	0.33	1.1	1000	MG/KG	0.036 U	0.034 J
Dibenzofuran	7	1000	210	MG/KG	0.36 UJ	0.37 U
Diethyl Phthalate	--	--	--	MG/KG	0.36 UJ	0.37 U
Dimethyl Phthalate	--	--	--	MG/KG	0.36 UJ	0.37 U
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.03 J	0.038 J
Di-N-Octylphthalate	--	--	--	MG/KG	0.36 U	0.37 U
Fluoranthene	100	1000	1000	MG/KG	0.039 J	0.2 J
Fluorene	30	1000	386	MG/KG	0.36 UJ	0.37 U
Hexachlorobenzene	0.33	12	3.2	MG/KG	0.036 U	0.037 U
Hexachlorobutadiene	--	--	--	MG/KG	0.073 U	0.075 U
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.36 U	0.37 U
Hexachloroethane	--	--	--	MG/KG	0.036 U	0.037 U
Indeno(1,2,3-C,D)Pyrene	**0.5**	11	8.2	MG/KG	0.017 J	0.12
Isophorone	--	--	--	MG/KG	0.15 U	0.15 U
Naphthalene	12	1000	12	MG/KG	0.36 U	0.37 U
Nitrobenzene	--	--	--	MG/KG	0.036 U	0.037 U
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.036 U	0.037 U
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.36 U	0.37 U
Pentachlorophenol	0.8	55	0.8	MG/KG	0.29 U	0.3 U
Phenanthrene	100	1000	1000	MG/KG	0.017 J	0.088 J
Phenol	0.33	1000	0.33	MG/KG	0.36 U	0.37 U

Table 7. Summary of Semivolatile Organic Compounds in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-37	RXSB-38
				Sample Date:	01/04/2024	01/05/2024
				Sample Depth:	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units		
Pyrene	100	1000	1000	MG/KG	0.048 J	0.15 J

Table 8. Summary of Metals in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		BERM-4	BERM-5	BERM-6	BERM-7	BERM-8
			Sample Date:		11/15/2023	11/15/2023	11/15/2023	11/15/2023	11/15/2023
			Sample Depth:						
			Regular Sample or Field Duplicate:		N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
Aluminum	--	--	--	MG/KG	6900 J	9960 J	7110 J	7230	7110
Antimony	--	--	--	MG/KG	0.65 J	0.72 J	0.4 J	0.24 J	0.5 J
Arsenic	**13**	16	16	MG/KG	4.9	5	4.3	**13.7**	7
Barium	350	10000	820	MG/KG	76.1	39	36.5	62.9 J	42.3 J
Beryllium	7.2	2700	47	MG/KG	0.3 J	0.27 J	0.24 J	0.26 J	0.26 J
Cadmium	**2.5**	60	7.5	MG/KG	0.32 J	0.19 J	0.17 J	0.41 J	0.38 J
Calcium	--	--	--	MG/KG	7960	3770	4970	14800 J	13600 J
Chromium, Hexavalent	**1**	800	19	MG/KG	2.1 U	2.1 U	2 U	2.2 U	2 U
Chromium, Total	**30**	6800	--	MG/KG	15	14.6	11.6	21.2 J	14.4 J
Cobalt	--	--	--	MG/KG	4.4	3.3	3.1	5.2	3.4
Copper	**50**	10000	1720	MG/KG	24.4	14.6	14.6	49.8	22.2
Cyanide	27	10000	40	MG/KG	0.19 J	0.22 U	0.24 U	0.17 J	0.22 U
Iron	--	--	--	MG/KG	11600	11200	9240	15200	10300
Lead	**63**	3900	450	MG/KG	**113**	**65.1**	**64.7**	**81.3**	53.4
Magnesium	--	--	--	MG/KG	2440	1610	2110	5330 J	4670 J
Manganese	1600	10000	2000	MG/KG	184	141	144	220	166
Mercury	**0.18**	5.7	0.73	MG/KG	**0.21**	0.09	0.095	0.13	0.097
Nickel	**30**	10000	130	MG/KG	12	8.1	7.6	12.1	8.3
Potassium	--	--	--	MG/KG	715	555	506	695	565
Selenium	3.9	6800	4	MG/KG	0.29 J	0.4 J	0.3 J	0.35 J	0.31 J
Silver	2	6800	8.3	MG/KG	0.086 J	0.2 J	0.33 U	0.11 J	0.083 J
Sodium	--	--	--	MG/KG	83.7	49 J	52.4 J	77.9 J	75.6 J
Thallium	--	--	--	MG/KG	0.071 J	0.076 J	0.069 J	0.15 J	0.074 J
Vanadium	--	--	--	MG/KG	22.5	20.7	19.5	21.9	21.5
Zinc	**109**	10000	2480	MG/KG	**110**	53	63.7	**117**	74.5

Table 8. Summary of Metals in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	BERM-9	BERM-9	RXSB-12	RXSB-12	RXSB-12
				Sample Date:	11/15/2023	11/15/2023	11/01/2023	11/01/2023	11/16/2023
				Sample Depth:			0 - 2 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	FD	N	FD	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
Aluminum	--	--	--	MG/KG	8430 J	5950 J	7490	6890	937
Antimony	--	--	--	MG/KG	0.61 J	0.41 J	0.9 UJ	0.98 UJ	0.95 U
Arsenic	**13**	16	16	MG/KG	7.6 J	5.1 J	2.1	2.4	0.64 J
Barium	350	10000	820	MG/KG	44.4 J	29.1 J	13.2	17.7	4.2 J
Beryllium	7.2	2700	47	MG/KG	0.29 J	0.2 J	0.18 J	0.24 J	0.061 J
Cadmium	**2.5**	60	7.5	MG/KG	0.28 J	0.2 J	0.9 U	0.98 U	0.95 U
Calcium	--	--	--	MG/KG	7990 J	9780 J	6090 J	9960 J	1490
Chromium, Hexavalent	**1**	800	19	MG/KG	2 U	2 U	2 U	2.1 U	2 U
Chromium, Total	**30**	6800	--	MG/KG	15.8 J	11 J	7.6 J	10.8 J	10.6
Cobalt	--	--	--	MG/KG	3.6 J	2.4 J	2	1.8 J	0.72 J
Copper	**50**	10000	1720	MG/KG	24 J	17.8 J	4.1	5.5	2.7
Cyanide	27	10000	40	MG/KG	0.14 J	0.23 U	0.24 U	0.24 U	0.21 U
Iron	--	--	--	MG/KG	10400 J	7590 J	7850	7880	2370
Lead	**63**	3900	450	MG/KG	51.7 J	36.2 J	7.5	11.2	1.7
Magnesium	--	--	--	MG/KG	2130 J	3850 J	2100 J	2270 J	465
Manganese	1600	10000	2000	MG/KG	176 J	128 J	54.7	97.8	38.3
Mercury	**0.18**	5.7	0.73	MG/KG	0.11	0.11	0.038 J+	0.035 J+	0.016 U
Nickel	**30**	10000	130	MG/KG	8.9 J	6.2 J	3.8	4	1.8 J
Potassium	--	--	--	MG/KG	674 J	417 J	531	600	116 J
Selenium	3.9	6800	4	MG/KG	0.38 J	0.26 J	0.26 J	0.33 J	1.2 U
Silver	2	6800	8.3	MG/KG	0.097 J	0.076 J	0.36 U	0.39 U	0.38 U
Sodium	--	--	--	MG/KG	68 J	59.4 J	104 J	148 J	67.7 J
Thallium	--	--	--	MG/KG	0.092 J	0.062 J	0.048 J	0.084 J	0.38 U
Vanadium	--	--	--	MG/KG	20 J	15.5 J	11.9	13.5	3.3 J
Zinc	**109**	10000	2480	MG/KG	79.8 J	52.9 J	16.4	19	3.6 J

Table 8. Summary of Metals in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		RXSB-13	RXSB-13	RXSB-13	RXSB-14	RXSB-14
			Sample Date:		11/01/2023	11/08/2023	11/08/2023	11/01/2023	11/08/2023
			Sample Depth:		0 - 2 ft bls	10 - 12 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
			Regular Sample or Field Duplicate:		N	N	FD	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
Aluminum	--	--	--	MG/KG	4480	943	657	4000	4160
Antimony	--	--	--	MG/KG	0.94 UJ	0.78 U	0.78 U	1 UJ	0.23 J
Arsenic	**13**	16	16	MG/KG	1.9	0.81 R	0.53 J	3.1	3
Barium	350	10000	820	MG/KG	11.8	4.3	3	28	23.1
Beryllium	7.2	2700	47	MG/KG	0.13 J	0.076 J	0.05 J	0.21 J	0.16 J
Cadmium	**2.5**	60	7.5	MG/KG	0.94 U	0.78 U	0.78 U	1 U	0.15 J
Calcium	--	--	--	MG/KG	6130 J	1310	386	27600 J	22500
Chromium, Hexavalent	**1**	800	19	MG/KG	2.1 U	2 U	2 U	2.1 U	2.2 U
Chromium, Total	**30**	6800	--	MG/KG	5.7 J	8.8 J	4	10.2 J	11
Cobalt	--	--	--	MG/KG	1.4 J	0.68 J	0.42 J	2.2	2
Copper	**50**	10000	1720	MG/KG	5.5	3	1.5 J	12.6	17.4
Cyanide	27	10000	40	MG/KG	0.31	0.13 J	0.22 U	0.24 U	0.25 U
Iron	--	--	--	MG/KG	5200	2560 J	1250	8500	6050
Lead	**63**	3900	450	MG/KG	6.6	1.7	1.5	18.7	21.8
Magnesium	--	--	--	MG/KG	710 J	186 J	116	2310 J	2900
Manganese	1600	10000	2000	MG/KG	47.4	29.1 J	18.5	135	89.4
Mercury	**0.18**	5.7	0.73	MG/KG	0.025 J+	0.02	0.016 U	0.047 J+	0.025
Nickel	**30**	10000	130	MG/KG	3.9	1.7	0.83 J	5.2	5
Potassium	--	--	--	MG/KG	280	94.3	67.2 J	411	325
Selenium	3.9	6800	4	MG/KG	0.18 J	0.97 U	0.97 U	1.3 U	0.11 J
Silver	2	6800	8.3	MG/KG	0.38 U	0.31 U	0.31 U	0.41 U	0.34 U
Sodium	--	--	--	MG/KG	50.9 J	39 J	77.6 U	139 J	316
Thallium	--	--	--	MG/KG	0.38 U	0.16 J	0.31 U	0.41 U	0.037 J
Vanadium	--	--	--	MG/KG	19	5.3 J	2.5	15.7	9.9
Zinc	**109**	10000	2480	MG/KG	14.3	5.5 J	3.2 J	36.5	**172**

Table 8. Summary of Metals in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		RXSB-15	RXSB-15	RXSB-16	RXSB-16	RXSB-17
			Sample Date:		11/03/2023	11/15/2023	11/02/2023	11/15/2023	11/02/2023
			Sample Depth:		0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
			Regular Sample or Field Duplicate:		N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
Aluminum	--	--	--	MG/KG	5810	4730 J+	3620 J	3690 J+	3520 J
Antimony	--	--	--	MG/KG	1.1 U	0.37 J	0.91 U	0.94	0.97 U
Arsenic	**13**	16	16	MG/KG	4.3	3.2	4.3	8.2	2.8
Barium	350	10000	820	MG/KG	49.6	39.6	19.9 J	143	21.3 J
Beryllium	7.2	2700	47	MG/KG	0.24 J	0.19 J	0.14 J	0.18 J	0.13 J
Cadmium	**2.5**	60	7.5	MG/KG	0.17 J	0.14 J	0.11 J	0.79 J	0.14 J
Calcium	--	--	--	MG/KG	47700	34800	44900	21100	18000
Chromium, Hexavalent	**1**	800	19	MG/KG	**1.1 J**	2.2 U	2 U	2.4 U	2 U
Chromium, Total	**30**	6800	--	MG/KG	18	16	6.6	13.6	12.2
Cobalt	--	--	--	MG/KG	3.3	4.3	2.6	2.5	2.1
Copper	**50**	10000	1720	MG/KG	23.9	**51.7**	23.1	19	11
Cyanide	27	10000	40	MG/KG	0.23 J	0.22 UJ	0.34	0.28 UJ	0.22 U
Iron	--	--	--	MG/KG	8640	12200	7500 J	8320	5660 J
Lead	**63**	3900	450	MG/KG	34.9	38.7	32.9	**133**	25.7
Magnesium	--	--	--	MG/KG	5710	4830	23500 J	2770	2890 J
Manganese	1600	10000	2000	MG/KG	163	165	109 J	175	89 J
Mercury	**0.18**	5.7	0.73	MG/KG	**0.19**	0.12	**0.35 J**	**0.21**	0.051 J
Nickel	**30**	10000	130	MG/KG	10	7.6	6.5	6.2	5.4
Potassium	--	--	--	MG/KG	731	821	441 J	487	812 J
Selenium	3.9	6800	4	MG/KG	0.14 J	0.19 J	0.15 J	0.17 J	0.12 J
Silver	2	6800	8.3	MG/KG	0.43 U	0.36 U	0.37 U	0.53	0.39 U
Sodium	--	--	--	MG/KG	362	388	139	73.1 J	95.4 J
Thallium	--	--	--	MG/KG	0.056 J	0.36 U	0.045 J	0.36 U	0.39 U
Vanadium	--	--	--	MG/KG	23.1	27.8	27	9.9	17.2
Zinc	**109**	10000	2480	MG/KG	51.4 J+	51.3	29.7 J	**156**	42.3 J

Table 8. Summary of Metals in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-17	RXSB-18	RXSB-18	RXSB-19	RXSB-19
				Sample Date:	11/14/2023	11/02/2023	11/15/2023	11/03/2023	11/15/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
Aluminum	--	--	--	MG/KG	3540 J	5880 J	3460 J+	3700 J	2700 J+
Antimony	--	--	--	MG/KG	3.6	0.9 U	4.7	0.17 J	0.43 J
Arsenic	**13**	16	16	MG/KG	6.7	6.2	3.6	2.6	1.6
Barium	350	10000	820	MG/KG	227	41.5 J	69.9	39.3 J	31.9
Beryllium	7.2	2700	47	MG/KG	0.21 J	0.2 J	0.15 J	0.17 J	0.091 J
Cadmium	**2.5**	60	7.5	MG/KG	2.2	0.19 J	0.39 J	0.23 J	0.27 J
Calcium	--	--	--	MG/KG	25900	4980	9600	15800	4340
Chromium, Hexavalent	**1**	800	19	MG/KG	2.3 U	2 U	2.2 U	2.3 U	2.2 U
Chromium, Total	**30**	6800	--	MG/KG	19.4	8.3	23.5	6.6	8.8
Cobalt	--	--	--	MG/KG	3.9	2.1	3.1	1.7 J	1.3 J
Copper	**50**	10000	1720	MG/KG	**60.8**	17.4	23.6	13.2 J	15.5
Cyanide	27	10000	40	MG/KG	0.27 R	0.22 U	0.21 UJ	0.66 J+	0.26 UJ
Iron	--	--	--	MG/KG	15500	8520 J	13800	6690	4630
Lead	**63**	3900	450	MG/KG	**404**	40.5	**1050**	43.4	61.9
Magnesium	--	--	--	MG/KG	6070	1470 J	1550	2350	810
Manganese	1600	10000	2000	MG/KG	152	86.3 J	166	76.4 J	84.2
Mercury	**0.18**	5.7	0.73	MG/KG	**0.61**	0.14 J	0.087	0.11 J-	0.12
Nickel	**30**	10000	130	MG/KG	26.4	4.9	6.9	4.2	4.8
Potassium	--	--	--	MG/KG	477	339 J	446	228	306
Selenium	3.9	6800	4	MG/KG	0.39 J	0.3 J	0.15 J	0.25 J	1.1 U
Silver	2	6800	8.3	MG/KG	0.13 J	0.36 U	0.094 J	0.45 U	0.34 U
Sodium	--	--	--	MG/KG	151	91.8	125	118	84.9 J
Thallium	--	--	--	MG/KG	0.37 U	0.057 J	0.35 U	0.45 U	0.34 U
Vanadium	--	--	--	MG/KG	13.5	12.1	13.8	8.8	9.5
Zinc	**109**	10000	2480	MG/KG	**574**	61.2 J	**126**	63 J+	67.3

Table 8. Summary of Metals in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-20	RXSB-20	RXSB-21	RXSB-21	RXSB-22
				Sample Date:	11/03/2023	11/15/2023	11/03/2023	11/07/2023	11/03/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
Aluminum	--	--	--	MG/KG	4290	4220 J+	3760	1410	5320
Antimony	--	--	--	MG/KG	1 U	4.2	0.89 U	0.77 U	0.92 U
Arsenic	**13**	16	16	MG/KG	3.5	**20.1**	3.1	0.89	3.1
Barium	350	10000	820	MG/KG	31.7	196	16.5	5.6	50.2
Beryllium	7.2	2700	47	MG/KG	0.17 J	0.18 J	0.14 J	0.074 J	0.24 J
Cadmium	**2.5**	60	7.5	MG/KG	1 U	1.3	0.15 J	0.77 U	0.14 J
Calcium	--	--	--	MG/KG	28400	20500	3140	388	38600
Chromium, Hexavalent	**1**	800	19	MG/KG	2.2 U	2.9 U	2.1 U	2 U	2.3 U
Chromium, Total	**30**	6800	--	MG/KG	10.8	**146**	6.1	7.9	11.9
Cobalt	--	--	--	MG/KG	2.2	4.1	1.8	1 J	2.5
Copper	**50**	10000	1720	MG/KG	12.3	**89.8**	10.3	3	13.9
Cyanide	27	10000	40	MG/KG	0.25 U	0.21 J	0.21 U	0.22 U	0.25 U
Iron	--	--	--	MG/KG	6530	18700	6680	3050	6570
Lead	**63**	3900	450	MG/KG	24.6	**610**	17	1.9	55.5
Magnesium	--	--	--	MG/KG	2360	2870	543	252	3870
Manganese	1600	10000	2000	MG/KG	122	197	55	52.4	135
Mercury	**0.18**	5.7	0.73	MG/KG	**0.92**	**0.42**	**0.57**	0.015 UJ	**0.5**
Nickel	**30**	10000	130	MG/KG	5.6	15.1	3.9	1.9	6.8
Potassium	--	--	--	MG/KG	478	579	207	159 J	521
Selenium	3.9	6800	4	MG/KG	0.16 J	0.25 J	0.15 J	0.96 U	0.12 J
Silver	2	6800	8.3	MG/KG	0.42 U	0.45 J	0.35 U	0.31 U	0.37 U
Sodium	--	--	--	MG/KG	180	261	88.7 U	77 U	216
Thallium	--	--	--	MG/KG	0.42 U	0.49 U	0.35 U	0.31 U	0.041 J
Vanadium	--	--	--	MG/KG	13.9	14.3	8.8	4	18.4
Zinc	**109**	10000	2480	MG/KG	39.2 J+	**487**	29.7 J+	6.8	46.5 J+

Table 8. Summary of Metals in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		RXSB-22	RXSB-23	RXSB-23	RXSB-24	RXSB-24
			Sample Date:		11/07/2023	11/06/2023	11/13/2023	11/06/2023	11/10/2023
			Sample Depth:		10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
			Regular Sample or Field Duplicate:		N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
Aluminum	--	--	--	MG/KG	7040	2950	3820	4310	5810
Antimony	--	--	--	MG/KG	0.92 U	0.22 J	1.1 UJ	0.41 J	0.19 J
Arsenic	**13**	16	16	MG/KG	3.4	1.9	3.1	2.8	2.3
Barium	350	10000	820	MG/KG	18	40	42.6 J	73.5	98.9 J
Beryllium	7.2	2700	47	MG/KG	0.34 J	0.13 J	0.17 J	0.19 J	0.3 J
Cadmium	**2.5**	60	7.5	MG/KG	0.92 U	0.1 J	1.1 U	0.16 J	1 U
Calcium	--	--	--	MG/KG	3770	18900	25500	26300	46300
Chromium, Hexavalent	**1**	800	19	MG/KG	2.2 U	2 U	2.2 UJ	2 U	2.5 UJ
Chromium, Total	**30**	6800	--	MG/KG	20.1	5.9	13.8	10.4	9.7 J
Cobalt	--	--	--	MG/KG	3.8	1.6	4.1	2.3	3.7
Copper	**50**	10000	1720	MG/KG	16.4	7.1	19.7	12.9	18.4
Cyanide	27	10000	40	MG/KG	0.24 U	0.17 J+	0.24 U	0.17 J	0.29 U
Iron	--	--	--	MG/KG	16100	4620	7670	7160	8360
Lead	**63**	3900	450	MG/KG	8.4	30.8	25.3 J	**66.6**	55.3
Magnesium	--	--	--	MG/KG	3050	1520 J	10500	3370 J	2470
Manganese	1600	10000	2000	MG/KG	158	84.5	105 J	128	244
Mercury	**0.18**	5.7	0.73	MG/KG	0.018 J	0.13	0.093 J+	0.096	0.059 J
Nickel	**30**	10000	130	MG/KG	19.2	4.6	8.2	6.4	7.2 J
Potassium	--	--	--	MG/KG	482 J	310	1340	470	1370 J
Selenium	3.9	6800	4	MG/KG	1.2 U	0.99 U	1.4 U	0.12 J	0.14 J
Silver	2	6800	8.3	MG/KG	0.37 U	0.32 U	0.44 U	0.31 U	0.13 J
Sodium	--	--	--	MG/KG	53.3 J	97.3	170	149	450
Thallium	--	--	--	MG/KG	0.37 U	0.32 U	0.059 J	0.043 J	0.11 J
Vanadium	--	--	--	MG/KG	14.7	21.6 J	15.9	15.5 J	13
Zinc	**109**	10000	2480	MG/KG	45.9	33.6	34.8	74.8	28.4 J

Table 8. Summary of Metals in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		RXSB-25	RXSB-25	RXSB-26	RXSB-26	RXSB-27
			Sample Date:		11/06/2023	11/16/2023	11/06/2023	11/09/2023	11/06/2023
			Sample Depth:		0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
			Regular Sample or Field Duplicate:		N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
Aluminum	--	--	--	MG/KG	5990	3700	4990	6560	6240
Antimony	--	--	--	MG/KG	0.41 J	0.42 J	0.47 J	0.7 J	0.4 J
Arsenic	**13**	16	16	MG/KG	4.5	**17.2**	3.7	6.7	3.4
Barium	350	10000	820	MG/KG	43.6	130 J	34.3	63	47.9
Beryllium	7.2	2700	47	MG/KG	0.26 J	0.19 J	0.21 J	0.22 J	0.3 J
Cadmium	**2.5**	60	7.5	MG/KG	0.16 J	0.66 J	0.13 J	0.64 J	0.16 J
Calcium	--	--	--	MG/KG	28000	29200	41500	18800	4100
Chromium, Hexavalent	**1**	800	19	MG/KG	2 U	2.2 U	**1.3 J**	2.2 U	2 U
Chromium, Total	**30**	6800	--	MG/KG	16.2	25.1	15.1	11.9	14.3
Cobalt	--	--	--	MG/KG	3.7	2.5	3	1.7 J	4.6
Copper	**50**	10000	1720	MG/KG	16.4	32.8	14.8	28.8	19.2
Cyanide	27	10000	40	MG/KG	0.24 U	0.29	0.23 U	0.2 J	0.24 U
Iron	--	--	--	MG/KG	10500	8930	9930	7480	13500
Lead	**63**	3900	450	MG/KG	34.8	**216**	27.7	**89**	51.5
Magnesium	--	--	--	MG/KG	5170 J	2410	2900 J	2840	1910 J
Manganese	1600	10000	2000	MG/KG	223	201	122	161	271
Mercury	**0.18**	5.7	0.73	MG/KG	0.066 J+	**0.22**	0.03	0.14	0.11
Nickel	**30**	10000	130	MG/KG	9.9	7.6 J	6.6	7.2	10.7
Potassium	--	--	--	MG/KG	904	507 J	313	481	760
Selenium	3.9	6800	4	MG/KG	0.13 J	0.21 J	0.14 J	0.26 J	0.17 J
Silver	2	6800	8.3	MG/KG	0.079 J	0.11 J	0.32 U	0.41 U	0.31 U
Sodium	--	--	--	MG/KG	156	214	142	187	138
Thallium	--	--	--	MG/KG	0.08 J	0.37 U	0.32 U	0.41 U	0.086 J
Vanadium	--	--	--	MG/KG	21.1 J	10.9 J	19.8 J	11.1	20.4 J
Zinc	**109**	10000	2480	MG/KG	50.2	**208 J**	41.7	**317**	65.4

Table 8. Summary of Metals in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		RXSB-27	RXSB-28	RXSB-28	RXSB-29	RXSB-30
			Sample Date:		11/16/2023	11/06/2023	11/16/2023	11/02/2023	11/02/2023
			Sample Depth:		10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 in bls	0 - 2 in bls
			Regular Sample or Field Duplicate:		N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
Aluminum	--	--	--	MG/KG	3150	4150	5200	2350 J	4380 J
Antimony	--	--	--	MG/KG	0.58 J	0.45 J	0.64 J	0.96 U	0.8 U
Arsenic	**13**	16	16	MG/KG	6.5	2.3	12.8	3.4	4
Barium	350	10000	820	MG/KG	76.3 J	20	130 J	20.6 J	34.5 J
Beryllium	7.2	2700	47	MG/KG	0.16 J	0.12 J	0.22 J	0.11 J	0.16 J
Cadmium	**2.5**	60	7.5	MG/KG	**3.2**	0.13 J	1.8	0.96 U	0.2 J
Calcium	--	--	--	MG/KG	13500	16000	24900	21600	5950
Chromium, Hexavalent	**1**	800	19	MG/KG	2.1 U	2 U	2.3 U	2 U	2 U
Chromium, Total	**30**	6800	--	MG/KG	23.4	8.4	23	9.4	8.6
Cobalt	--	--	--	MG/KG	2.3	1.5 J	3.3	1.4 J	2
Copper	**50**	10000	1720	MG/KG	32	12	42.4	8.6	16.6
Cyanide	27	10000	40	MG/KG	0.24	0.21 U	0.3	0.21 U	0.21 U
Iron	--	--	--	MG/KG	8110	5190	13600	4330 J	6570 J
Lead	**63**	3900	450	MG/KG	**129**	29.8	**187**	11.9	52.9
Magnesium	--	--	--	MG/KG	2680	1240 J	4280	4120 J	1530 J
Manganese	1600	10000	2000	MG/KG	146	108	246	85.2 J	105 J
Mercury	**0.18**	5.7	0.73	MG/KG	0.16	0.091	0.16	**0.35 J**	**0.39 J**
Nickel	**30**	10000	130	MG/KG	8.3 J	4.5	14.6 J	4.2	5.9
Potassium	--	--	--	MG/KG	676 J	519	1650 J	324 J	440 J
Selenium	3.9	6800	4	MG/KG	0.17 J	0.15 J	0.24 J	1.2 U	0.21 J
Silver	2	6800	8.3	MG/KG	0.11 J	0.32 U	0.2 J	0.39 U	0.093 J
Sodium	--	--	--	MG/KG	206	79.6 J	238	93.4 J	114
Thallium	--	--	--	MG/KG	0.38 U	0.32 U	0.38 U	0.39 U	0.047 J
Vanadium	--	--	--	MG/KG	14.6 J	10.2 J	11.8 J	8	11.8
Zinc	**109**	10000	2480	MG/KG	**170 J**	35.9	**247 J**	30.7 J	57.5 J

Table 8. Summary of Metals in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		RXSB-31	RXSB-32	RXSB-33	RXSB-34	RXSB-35
			Sample Date:		11/02/2023	11/03/2023	11/06/2023	11/06/2023	11/08/2023
			Sample Depth:		0 - 2 in bls	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
			Regular Sample or Field Duplicate:		N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
Aluminum	--	--	--	MG/KG	4660 J	5090	4490	5200	5080
Antimony	--	--	--	MG/KG	0.72 U	0.92 U	0.33 J	0.53 J	0.43 J
Arsenic	**13**	16	16	MG/KG	3.9	4.2	3.2	3.5	3.9
Barium	350	10000	820	MG/KG	36.8 J	45.7	44.8	44.4	43
Beryllium	7.2	2700	47	MG/KG	0.18 J	0.26 J	0.18 J	0.23 J	0.22 J
Cadmium	**2.5**	60	7.5	MG/KG	0.22 J	0.15 J	0.13 J	0.19 J	0.16 J
Calcium	--	--	--	MG/KG	15000	53300	21600	16600	30700
Chromium, Hexavalent	**1**	800	19	MG/KG	2 U	2.2 U	2 U	2 U	2 U
Chromium, Total	**30**	6800	--	MG/KG	9.9	13.4	10.4	9.8	13.1
Cobalt	--	--	--	MG/KG	2.8	4	2.7	2.9	2.6
Copper	**50**	10000	1720	MG/KG	16.7	20.5	11.5	19.2	35.5
Cyanide	27	10000	40	MG/KG	0.23 U	0.23 U	0.2 U	0.24 U	0.17 J
Iron	--	--	--	MG/KG	7210 J	6970	8210	8160	11100
Lead	**63**	3900	450	MG/KG	53.9	42.6	47.7	60.4	35.7
Magnesium	--	--	--	MG/KG	2480 J	5450	3310 J	4390 J	2870
Manganese	1600	10000	2000	MG/KG	126 J	162	284	120	160
Mercury	**0.18**	5.7	0.73	MG/KG	0.15 J	**0.29**	0.064	**0.27**	**0.4**
Nickel	**30**	10000	130	MG/KG	7.6	8.8	6.9	13.9	**40**
Potassium	--	--	--	MG/KG	590 J	565	488	644	731
Selenium	3.9	6800	4	MG/KG	0.16 J	0.16 J	0.11 J	0.21 J	0.16 J
Silver	2	6800	8.3	MG/KG	0.29 U	0.094 J	0.32 U	0.07 J	0.1 J
Sodium	--	--	--	MG/KG	88.8	157	177	115	276
Thallium	--	--	--	MG/KG	0.053 J	0.059 J	0.041 J	0.065 J	0.056 J
Vanadium	--	--	--	MG/KG	15.2	16.8	13.6 J	15.8 J	14.7
Zinc	**109**	10000	2480	MG/KG	64.9 J	53.4 J+	56.3	70.9	62.3

Table 8. Summary of Metals in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		RXSB-36	RXSB-37	RXSB-38
			Sample Date:		11/09/2023	01/04/2024	01/05/2024
			Sample Depth:		0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
			Regular Sample or Field Duplicate:		N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
Aluminum	--	--	--	MG/KG	3420	3140	6780
Antimony	--	--	--	MG/KG	1 U	0.21 J	1 UJ
Arsenic	**13**	16	16	MG/KG	2.4	2.3	2.4
Barium	350	10000	820	MG/KG	34 J-	20.4 J	24.2
Beryllium	7.2	2700	47	MG/KG	0.13 J	0.15 J	0.23 J
Cadmium	**2.5**	60	7.5	MG/KG	0.24 J	0.86 U	1 U
Calcium	--	--	--	MG/KG	27800	3920 J	5320 J
Chromium, Hexavalent	**1**	800	19	MG/KG	2 U	2.2 U	2.2 U
Chromium, Total	**30**	6800	--	MG/KG	14.4	4.8 J	9
Cobalt	--	--	--	MG/KG	2	1.8	2
Copper	**50**	10000	1720	MG/KG	15.2	6.8 J	9.5 J
Cyanide	27	10000	40	MG/KG	0.22 U	0.32	0.23 U
Iron	--	--	--	MG/KG	9800	4540	10900
Lead	**63**	3900	450	MG/KG	13 J	24.4	33.5
Magnesium	--	--	--	MG/KG	2380	2020	3110
Manganese	1600	10000	2000	MG/KG	146 J	82.7 J	50
Mercury	**0.18**	5.7	0.73	MG/KG	0.024	0.046	0.083 J
Nickel	**30**	10000	130	MG/KG	9.9 J	3.8	5.1 J
Potassium	--	--	--	MG/KG	425	253	288
Selenium	3.9	6800	4	MG/KG	1.3 U	0.13 J	0.31 J
Silver	2	6800	8.3	MG/KG	0.4 U	0.34 U	0.41 U
Sodium	--	--	--	MG/KG	103	86.1 U	57.2 J
Thallium	--	--	--	MG/KG	0.4 U	0.13 J	0.05 J
Vanadium	--	--	--	MG/KG	12.2 J	7.2	12
Zinc	**109**	10000	2480	MG/KG	79.4 J	26	36.6

Table 9. Summary of Polychlorinated Biphenyls in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		BERM-4	BERM-5	BERM-6	BERM-7	BERM-8
			Sample Date:		11/15/2023	11/15/2023	11/15/2023	11/15/2023	11/15/2023
			Sample Depth:						
			Regular Sample or Field Duplicate:		N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.072 U	0.073 U	0.07 U	0.075 U	0.07 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.072 U	0.073 U	0.07 U	0.075 U	0.07 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.072 U	0.073 U	0.07 U	0.075 U	0.07 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.072 U	0.073 U	0.07 U	0.075 U	0.07 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.072 U	0.073 U	0.07 U	0.075 U	0.07 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.072 U	0.073 U	0.07 U	0.075 U	0.07 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.072 U	0.073 U	0.07 U	0.075 U	0.07 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.072 U	0.073 U	0.07 U	0.075 U	0.07 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.072 U	0.073 U	0.07 U	0.075 U	0.07 U
Polychlorinated Biphenyl (PCBs)	**0.1**	25	3.2	MG/KG	0.072 U	0.073 U	0.07 U	0.075 U	0.07 U

Table 9. Summary of Polychlorinated Biphenyls in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		BERM-9	BERM-9	RXSB-12	RXSB-12	RXSB-12
			Sample Date:		11/15/2023	11/15/2023	11/01/2023	11/01/2023	11/16/2023
			Sample Depth:				0 - 2 ft bls	0 - 2 ft bls	10 - 12 ft bls
			Regular Sample or Field Duplicate:		N	FD	N	FD	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.07 U	0.069 U	0.068 U	0.068 U	0.067 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.07 U	0.069 U	0.068 U	0.068 U	0.067 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.07 U	0.069 U	0.068 U	0.068 U	0.067 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.07 U	0.069 U	0.068 U	0.068 U	0.067 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.07 U	0.069 U	0.068 U	0.068 U	0.067 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.07 U	0.069 U	0.068 U	0.068 U	0.067 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.07 U	0.069 U	0.068 U	0.068 U	0.067 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.07 U	0.069 U	0.068 U	0.068 U	0.067 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.07 U	0.069 U	0.068 U	0.068 U	0.067 U
Polychlorinated Biphenyl (PCBs)	**0.1**	25	3.2	MG/KG	0.07 U	0.069 U	0.068 U	0.068 U	0.067 U

Table 9. Summary of Polychlorinated Biphenyls in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-13	RXSB-13	RXSB-13	RXSB-14	RXSB-14
				Sample Date:	11/01/2023	11/08/2023	11/08/2023	11/01/2023	11/08/2023
				Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
				Regular Sample or Field Duplicate:	N	N	FD	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.068 U	0.068 U	0.068 U	0.072 U	0.076 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.068 U	0.068 U	0.068 U	0.072 U	0.076 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.068 U	0.068 U	0.068 U	0.072 U	0.076 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.068 U	0.068 U	0.068 U	0.072 U	0.076 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.068 U	0.068 U	0.068 U	0.072 U	0.076 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.068 U	0.068 U	0.068 U	0.072 U	0.076 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.068 U	0.068 U	0.068 U	0.072 U	0.076 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.068 U	0.068 U	0.068 U	0.072 U	0.076 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.068 U	0.068 U	0.068 U	0.072 U	0.076 U
Polychlorinated Biphenyl (PCBs)	**0.1**	25	3.2	MG/KG	0.068 U	0.068 U	0.068 U	0.072 U	0.076 U

Table 9. Summary of Polychlorinated Biphenyls in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		RXSB-15	RXSB-15	RXSB-16	RXSB-16	RXSB-17
			Sample Date:		11/03/2023	11/15/2023	11/02/2023	11/15/2023	11/02/2023
			Sample Depth:		0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
			Regular Sample or Field Duplicate:		N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.074 U	0.076 U	0.067 U	0.08 U	0.067 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.074 U	0.076 U	0.067 U	0.08 U	0.067 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.074 U	0.076 U	0.067 U	0.08 U	0.067 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.074 U	0.076 U	0.067 U	0.08 U	0.067 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.074 U	0.076 U	0.067 U	0.33	0.067 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.074 U	0.076 U	0.067 U	0.08 U	0.067 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.074 U	0.076 U	0.067 U	0.08 U	0.067 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.074 U	0.076 U	0.067 U	0.09	0.067 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.074 U	0.076 U	0.067 U	0.08 U	0.067 U
Polychlorinated Biphenyl (PCBs)	**0.1**	25	3.2	MG/KG	0.074 U	0.076 U	0.067 U	**0.42**	0.067 U

Table 9. Summary of Polychlorinated Biphenyls in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		RXSB-17	RXSB-18	RXSB-18	RXSB-19	RXSB-19
			Sample Date:		11/14/2023	11/02/2023	11/15/2023	11/03/2023	11/15/2023
			Sample Depth:		10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
			Regular Sample or Field Duplicate:		N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.079 U	0.067 U	0.074 U	0.076 U	0.075 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.079 U	0.067 U	0.074 U	0.076 U	0.075 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.079 U	0.067 U	0.074 U	0.076 U	0.075 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.81	0.067 U	0.074 U	0.076 U	0.075 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.079 U	0.067 U	0.074 U	0.19	0.075 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.079 U	0.067 U	0.074 U	0.076 U	0.075 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.079 U	0.067 U	0.074 U	0.076 U	0.075 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.16	0.067 U	0.074 U	0.076 U	0.075 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.079 U	0.067 U	0.074 U	0.076 U	0.075 U
Polychlorinated Biphenyl (PCBs)	**0.1**	25	3.2	MG/KG	**0.97**	0.067 U	0.074 U	**0.19**	0.075 U

Table 9. Summary of Polychlorinated Biphenyls in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		RXSB-20	RXSB-20	RXSB-21	RXSB-21	RXSB-22
			Sample Date:		11/03/2023	11/15/2023	11/03/2023	11/07/2023	11/03/2023
			Sample Depth:		0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
			Regular Sample or Field Duplicate:		N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.074 U	0.1 U	0.072 U	0.068 U	0.077 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.074 U	0.1 U	0.072 U	0.068 U	0.077 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.074 U	0.1 U	0.072 U	0.068 U	0.077 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.074 U	0.1 U	0.072 U	0.068 U	0.077 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.074 U	0.1 U	0.072 U	0.86	0.077 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.074 U	0.1 U	0.072 U	0.068 U	0.077 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.074 U	0.1 U	0.072 U	0.068 U	0.077 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.074 U	0.1 U	0.072 U	0.068 U	0.077 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.074 U	0.1 U	0.072 U	0.068 U	0.077 U
Polychlorinated Biphenyl (PCBs)	**0.1**	25	3.2	MG/KG	0.074 U	0.1 U	0.072 U	**0.86**	0.077 U

Table 9. Summary of Polychlorinated Biphenyls in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		RXSB-22	RXSB-23	RXSB-23	RXSB-24	RXSB-24
			Sample Date:		11/07/2023	11/06/2023	11/13/2023	11/06/2023	11/10/2023
			Sample Depth:		10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
			Regular Sample or Field Duplicate:		N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.076 U	0.069 U	0.076 U	0.068 U	0.085 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.076 U	0.069 U	0.076 U	0.068 U	0.085 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.076 U	0.069 U	0.076 U	0.068 U	0.085 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.076 U	0.069 U	0.076 U	0.068 U	0.085 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.15	0.069 U	0.076 U	0.068 U	0.085 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.076 U	0.069 U	0.076 U	0.068 U	0.085 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.076 U	0.069 U	0.076 U	0.068 U	0.085 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.076 U	0.069 U	0.076 U	0.068 U	0.085 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.076 U	0.069 U	0.076 U	0.068 U	0.085 U
Polychlorinated Biphenyl (PCBs)	**0.1**	25	3.2	MG/KG	**0.15**	0.069 U	0.076 U	0.068 U	0.085 U

Table 9. Summary of Polychlorinated Biphenyls in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		RXSB-25	RXSB-25	RXSB-26	RXSB-26	RXSB-27
			Sample Date:		11/06/2023	11/16/2023	11/06/2023	11/09/2023	11/06/2023
			Sample Depth:		0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
			Regular Sample or Field Duplicate:		N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.069 U	0.074 U	0.069 U	0.076 U	0.068 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.069 U	0.074 U	0.069 U	0.076 U	0.068 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.069 U	0.074 U	0.069 U	0.076 U	0.068 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.069 U	0.074 U	0.069 U	0.076 U	0.068 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.069 U	0.074 U	0.069 U	0.076 U	0.068 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.069 U	0.074 U	0.069 U	0.076 U	0.068 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.069 U	0.074 U	0.069 U	0.076 U	0.068 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.069 U	0.074 U	0.069 U	0.076 U	0.068 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.069 U	0.074 U	0.069 U	0.076 U	0.068 U
Polychlorinated Biphenyl (PCBs)	**0.1**	25	3.2	MG/KG	0.069 U	0.074 U	0.069 U	0.076 U	0.068 U

Table 9. Summary of Polychlorinated Biphenyls in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-27	RXSB-28	RXSB-28	RXSB-29	RXSB-30
				Sample Date:	11/16/2023	11/06/2023	11/16/2023	11/02/2023	11/02/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.069 U	0.068 U	0.079 U	0.068 U	0.068 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.069 U	0.068 U	0.079 U	0.068 U	0.068 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.069 U	0.068 U	0.079 U	0.068 U	0.068 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.34	0.068 U	0.079 U	0.068 U	0.068 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.069 U	0.068 U	0.079 U	0.068 U	0.068 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.069 U	0.068 U	0.079 U	0.068 U	0.068 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.069 U	0.068 U	0.079 U	0.068 U	0.068 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.069 U	0.068 U	0.079 U	0.068 U	0.068 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.069 U	0.068 U	0.079 U	0.068 U	0.068 U
Polychlorinated Biphenyl (PCBs)	**0.1**	25	3.2	MG/KG	**0.34**	0.068 U	0.079 U	0.068 U	0.068 U

Table 9. Summary of Polychlorinated Biphenyls in Soil, 1612 5th Avenue, Bay Shore, New York

			Sample Designation:		RXSB-31	RXSB-32	RXSB-33	RXSB-34	RXSB-35
			Sample Date:		11/02/2023	11/03/2023	11/06/2023	11/06/2023	11/08/2023
			Sample Depth:		0 - 2 in bls	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
			Regular Sample or Field Duplicate:		N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units					
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.068 U	0.076 U	0.068 U	0.069 U	0.068 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.068 U	0.076 U	0.068 U	0.069 U	0.068 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.068 U	0.076 U	0.068 U	0.069 U	0.068 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.068 U	0.076 U	0.068 U	0.069 U	0.068 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.068 U	0.076 U	0.068 U	0.069 U	0.068 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.068 U	0.076 U	0.068 U	0.069 U	0.068 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.068 U	0.076 U	0.068 U	0.069 U	0.068 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.068 U	0.076 U	0.068 U	0.069 U	0.068 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.068 U	0.076 U	0.068 U	0.069 U	0.068 U
Polychlorinated Biphenyl (PCBs)	**0.1**	25	3.2	MG/KG	0.068 U	0.076 U	0.068 U	0.069 U	0.068 U

Table 9. Summary of Polychlorinated Biphenyls in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-36	RXSB-37	RXSB-38
				Sample Date:	11/09/2023	01/04/2024	01/05/2024
				Sample Depth:	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units			
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.067 U	0.073 U	0.074 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.067 U	0.073 U	0.074 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.067 U	0.073 U	0.074 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.067 U	0.073 U	0.074 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.067 U	0.073 U	0.074 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.067 U	0.073 U	0.074 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.067 U	0.073 U	0.074 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.067 U	0.073 U	0.074 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.067 U	0.073 U	0.074 U
Polychlorinated Biphenyl (PCBs)	**0.1**	25	3.2	MG/KG	0.067 U	0.073 U	0.074 U

Table 10. Summary of Pesticides and Herbicides in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	BERM-4	BERM-5	BERM-6	BERM-7
				Sample Date:	11/15/2023	11/15/2023	11/15/2023	11/15/2023
				Sample Depth:				
				Regular Sample or Field Duplicate:	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units				
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.036 U	0.036 U	0.035 U	0.037 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.036 U	0.036 U	0.035 U	0.037 U
Aldrin	**0.005**	1.4	0.19	MG/KG	0.0072 U	0.0073 U	0.007 U	0.0075 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	6.8	0.02	MG/KG	0.0021 U	0.0022 U	0.0021 U	0.0022 U
Alpha Endosulfan	2.4	920	102	MG/KG	0.0072 U	0.0073 U	0.007 U	0.0075 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	14	0.09	MG/KG	0.0021 U	0.0022 U	0.0021 U	0.0022 U
Beta Endosulfan	2.4	920	102	MG/KG	0.0072 U	0.0073 U	0.007 U	0.0075 U
Chlordane (Technical)	--	--	--	MG/KG	0.25	0.22	0.2	0.34
cis-Chlordane	0.094	47	2.9	MG/KG	0.033 J	0.027 J	0.028 J	0.051 J
Delta BHC (Delta Hexachlorocyclohexane)	0.04	1000	0.25	MG/KG	0.0021 U	0.0022 U	0.0021 U	0.0022 U
Dieldrin	**0.005**	2.8	0.1	MG/KG	0.0021 U	0.0022 U	0.0021 U	0.0022 U
Endosulfan Sulfate	2.4	920	1000	MG/KG	0.0072 U	0.0073 U	0.007 U	0.0075 U
Endrin	0.014	410	0.06	MG/KG	0.0072 U	0.0073 U	0.007 U	0.0075 U
Endrin Aldehyde	--	--	--	MG/KG	0.0072 U	0.0073 U	0.007 U	0.0075 U
Endrin Ketone	--	--	--	MG/KG	0.0072 U	0.0073 U	0.007 U	0.0075 U
Gamma Bhc (Lindane)	0.1	23	0.1	MG/KG	0.0021 U	0.0022 U	0.0021 U	0.0022 U
Heptachlor	0.042	29	0.38	MG/KG	0.0072 U	0.0073 U	0.007 U	0.0075 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0072 U	0.0073 U	0.007 U	0.0075 U
Methoxychlor	--	--	--	MG/KG	0.0072 U	0.0073 U	0.007 U	0.0075 U
P,P'-DDD	**0.0033**	180	14	MG/KG	**0.015**	0.0073 U	**0.041**	0.0075 U
P,P'-DDE	**0.0033**	120	17	MG/KG	0.0072 U	**0.01**	**0.037**	0.0075 U
P,P'-DDT	**0.0033**	94	136	MG/KG	**0.021**	**0.012**	**0.076**	**0.024**
Silvex (2,4,5-TP)	3.8	1000	3.8	MG/KG	0.036 U	0.036 U	0.035 U	0.037 U
Toxaphene	--	--	--	MG/KG	0.072 U	0.073 U	0.07 U	0.075 U

Table 10. Summary of Pesticides and Herbicides in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	BERM-8	BERM-9	BERM-9	RXSB-12
				Sample Date:	11/15/2023	11/15/2023	11/15/2023	11/01/2023
				Sample Depth:				0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	FD	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units				
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.035 U	0.035 U	0.034 U	0.034 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.035 U	0.035 U	0.034 U	0.034 U
Aldrin	**0.005**	1.4	0.19	MG/KG	0.007 U	0.007 U	0.0069 U	0.0068 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	6.8	0.02	MG/KG	0.0021 U	0.0021 U	0.0021 U	0.002 U
Alpha Endosulfan	2.4	920	102	MG/KG	0.007 U	0.007 U	0.0069 U	0.0068 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	14	0.09	MG/KG	0.0021 U	0.0021 U	0.0021 U	0.002 U
Beta Endosulfan	2.4	920	102	MG/KG	0.007 U	0.007 U	0.0069 U	0.0068 U
Chlordane (Technical)	--	--	--	MG/KG	0.27	0.18	0.34	0.068 U
cis-Chlordane	0.094	47	2.9	MG/KG	0.036 J	0.029 J	0.05 J	0.0068 U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	1000	0.25	MG/KG	0.0021 U	0.0021 U	0.0021 U	0.002 U
Dieldrin	**0.005**	2.8	0.1	MG/KG	0.0021 U	0.0021 U	0.0021 U	0.002 U
Endosulfan Sulfate	2.4	920	1000	MG/KG	0.007 U	0.007 U	0.0069 U	0.0068 U
Endrin	0.014	410	0.06	MG/KG	0.007 U	0.007 U	0.0069 U	0.0068 U
Endrin Aldehyde	--	--	--	MG/KG	0.007 U	0.007 U	0.0069 U	0.0068 U
Endrin Ketone	--	--	--	MG/KG	0.007 U	0.007 U	0.0069 U	0.0068 U
Gamma Bhc (Lindane)	0.1	23	0.1	MG/KG	0.0021 U	0.0021 U	0.0021 U	0.002 U
Heptachlor	0.042	29	0.38	MG/KG	0.007 U	0.007 U	0.0069 U	0.0068 U
Heptachlor Epoxide	--	--	--	MG/KG	0.007 U	0.007 U	0.0069 U	0.0068 U
Methoxychlor	--	--	--	MG/KG	0.007 U	0.007 U	0.0069 U	0.0068 U
P,P'-DDD	**0.0033**	180	14	MG/KG	0.007 U	0.007 U	0.0069 U	0.0068 U
P,P'-DDE	**0.0033**	120	17	MG/KG	**0.0045 J**	**0.005 J**	**0.009**	0.0068 U
P,P'-DDT	**0.0033**	94	136	MG/KG	**0.013**	**0.0081**	**0.014**	0.0068 U
Silvex (2,4,5-TP)	3.8	1000	3.8	MG/KG	0.035 U	0.035 U	0.034 U	0.034 U
Toxaphene	--	--	--	MG/KG	0.07 U	0.07 U	0.069 U	0.068 U

Table 10. Summary of Pesticides and Herbicides in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	RXSB-12 11/01/2023 0 - 2 ft bls FD	RXSB-12 11/16/2023 10 - 12 ft bls N	RXSB-13 11/01/2023 0 - 2 ft bls N	RXSB-13 11/08/2023 10 - 12 ft bls N
Sample Designation:					RXSB-12	RXSB-12	RXSB-13	RXSB-13
Sample Date:					11/01/2023	11/16/2023	11/01/2023	11/08/2023
Sample Depth:					0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
Regular Sample or Field Duplicate:					FD	N	N	N
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.034 U	0.034 U	0.034 U	0.034 UJ
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.034 U	0.034 U	0.034 U	0.034 UJ
Aldrin	**0.005**	1.4	0.19	MG/KG	0.0068 U	0.0067 U	0.0068 U	0.0068 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	6.8	0.02	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
Alpha Endosulfan	2.4	920	102	MG/KG	0.0068 U	0.0067 U	0.0068 U	0.0068 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	14	0.09	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
Beta Endosulfan	2.4	920	102	MG/KG	0.0068 U	0.0067 U	0.0068 U	0.0068 U
Chlordane (Technical)	--	--	--	MG/KG	0.087	0.067 U	0.068 U	0.068 U
cis-Chlordane	0.094	47	2.9	MG/KG	0.0085 J	0.0067 U	0.0068 U	0.0068 U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	1000	0.25	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
Dieldrin	**0.005**	2.8	0.1	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
Endosulfan Sulfate	2.4	920	1000	MG/KG	0.0068 U	0.0067 U	0.0068 U	0.0068 U
Endrin	0.014	410	0.06	MG/KG	0.0068 U	0.0067 U	0.0068 U	0.0068 U
Endrin Aldehyde	--	--	--	MG/KG	0.0068 U	0.0067 U	0.0068 U	0.0068 U
Endrin Ketone	--	--	--	MG/KG	0.0068 U	0.0067 U	0.0068 U	0.0068 U
Gamma Bhc (Lindane)	0.1	23	0.1	MG/KG	0.002 U	0.002 U	0.002 U	0.002 U
Heptachlor	0.042	29	0.38	MG/KG	0.0068 U	0.0067 U	0.0068 U	0.0068 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0068 U	0.0067 U	0.0068 U	0.0068 U
Methoxychlor	--	--	--	MG/KG	0.0068 U	0.0067 U	0.0068 U	0.0068 U
P,P'-DDD	**0.0033**	180	14	MG/KG	0.0068 U	0.0067 U	0.0068 U	0.0068 U
P,P'-DDE	**0.0033**	120	17	MG/KG	0.0068 U	0.0067 U	0.0068 U	0.0068 U
P,P'-DDT	**0.0033**	94	136	MG/KG	0.0068 U	0.0067 U	0.0068 U	0.0068 U
Silvex (2,4,5-TP)	3.8	1000	3.8	MG/KG	0.034 U	0.034 U	0.034 U	0.034 UJ
Toxaphene	--	--	--	MG/KG	0.068 U	0.067 U	0.068 U	0.068 U

Table 10. Summary of Pesticides and Herbicides in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	RXSB-13	RXSB-14	RXSB-14	RXSB-15
Sample Designation:					RXSB-13	RXSB-14	RXSB-14	RXSB-15
Sample Date:					11/08/2023	11/01/2023	11/08/2023	11/03/2023
Sample Depth:					10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
Regular Sample or Field Duplicate:					FD	N	N	N
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.034 UJ	0.036 U	0.038 UJ	0.037 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.034 UJ	0.036 U	0.038 UJ	0.037 U
Aldrin	**0.005**	1.4	0.19	MG/KG	0.0068 U	0.0072 U	0.0076 U	**0.0085 J**
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	6.8	0.02	MG/KG	0.002 U	0.0022 U	0.0023 U	0.0022 U
Alpha Endosulfan	2.4	920	102	MG/KG	0.0068 U	0.0072 U	0.0076 U	0.0074 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	14	0.09	MG/KG	0.002 U	0.0022 U	0.0023 U	0.0022 U
Beta Endosulfan	2.4	920	102	MG/KG	0.0068 U	0.0072 U	0.0076 U	0.0074 U
Chlordane (Technical)	--	--	--	MG/KG	0.068 U	0.11	0.076 U	0.25 J
cis-Chlordane	0.094	47	2.9	MG/KG	0.0068 U	0.011 J	0.0076 U	0.025 J
Delta BHC (Delta Hexachlorocyclohexane)	0.04	1000	0.25	MG/KG	0.002 U	0.0022 U	0.0023 U	0.0022 U
Dieldrin	**0.005**	2.8	0.1	MG/KG	0.002 U	0.0022 U	0.0023 U	**0.009 J**
Endosulfan Sulfate	2.4	920	1000	MG/KG	0.0068 U	0.0072 U	0.0076 U	0.0074 U
Endrin	0.014	410	0.06	MG/KG	0.0068 U	0.0072 U	0.0076 U	0.0074 U
Endrin Aldehyde	--	--	--	MG/KG	0.0068 U	0.0072 U	0.0076 U	0.0074 U
Endrin Ketone	--	--	--	MG/KG	0.0068 U	0.0072 U	0.0076 U	0.0074 U
Gamma Bhc (Lindane)	0.1	23	0.1	MG/KG	0.002 U	0.0022 U	0.0023 U	0.0022 U
Heptachlor	0.042	29	0.38	MG/KG	0.0068 U	0.0072 U	0.0076 U	0.0074 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0068 U	0.0072 U	0.0076 U	0.0074 U
Methoxychlor	--	--	--	MG/KG	0.0068 U	0.0072 U	0.0076 U	0.0074 U
P,P'-DDD	**0.0033**	180	14	MG/KG	0.0068 U	0.0072 U	0.0076 U	0.0074 U
P,P'-DDE	**0.0033**	120	17	MG/KG	0.0068 U	**0.0051 J**	0.0076 U	**0.014 J**
P,P'-DDT	**0.0033**	94	136	MG/KG	0.0068 U	0.0072 U	0.0076 U	**0.007 J**
Silvex (2,4,5-TP)	3.8	1000	3.8	MG/KG	0.034 UJ	0.036 U	0.038 UJ	0.037 U
Toxaphene	--	--	--	MG/KG	0.068 U	0.072 U	0.076 U	0.074 U

Table 10. Summary of Pesticides and Herbicides in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-15	RXSB-16	RXSB-16	RXSB-17
				Sample Date:	11/15/2023	11/02/2023	11/15/2023	11/02/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units				
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.038 UJ	0.033 U	0.04 UJ	0.034 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.038 UJ	0.033 U	0.04 UJ	0.034 U
Aldrin	**0.005**	1.4	0.19	MG/KG	0.0076 U	0.0067 U	0.008 U	0.0067 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	6.8	0.02	MG/KG	0.0023 U	0.002 U	0.0024 U	0.002 U
Alpha Endosulfan	2.4	920	102	MG/KG	0.0076 U	0.0067 U	0.008 U	0.0067 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	14	0.09	MG/KG	0.0023 U	0.002 U	0.0024 U	0.002 U
Beta Endosulfan	2.4	920	102	MG/KG	0.0076 U	0.0067 U	0.008 U	0.0067 U
Chlordane (Technical)	--	--	--	MG/KG	0.052 J	0.067 U	0.2	0.067 U
cis-Chlordane	0.094	47	2.9	MG/KG	0.0047 J	0.0032 J	0.013 J	0.0037 J
Delta BHC (Delta Hexachlorocyclohexane)	0.04	1000	0.25	MG/KG	0.0023 U	0.002 U	0.0024 U	0.002 U
Dieldrin	**0.005**	2.8	0.1	MG/KG	0.0023 U	0.002 U	0.0024 U	0.002 U
Endosulfan Sulfate	2.4	920	1000	MG/KG	0.0076 U	0.0067 U	0.008 U	0.0067 U
Endrin	0.014	410	0.06	MG/KG	0.0076 U	0.0067 U	0.008 U	0.0067 U
Endrin Aldehyde	--	--	--	MG/KG	0.0076 U	0.0067 U	0.008 U	0.0067 U
Endrin Ketone	--	--	--	MG/KG	0.0076 U	0.0067 U	0.008 U	0.0067 U
Gamma Bhc (Lindane)	0.1	23	0.1	MG/KG	0.0023 U	0.002 U	0.0024 U	0.002 U
Heptachlor	0.042	29	0.38	MG/KG	0.0076 U	0.0067 U	0.008 U	0.0067 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0076 U	0.0067 U	0.008 U	0.0067 U
Methoxychlor	--	--	--	MG/KG	0.0076 UJ	0.0067 U	0.008 UJ	0.0067 U
P,P'-DDD	**0.0033**	180	14	MG/KG	0.0076 U	**0.0051 J**	**0.017**	0.0067 U
P,P'-DDE	**0.0033**	120	17	MG/KG	0.0027 J	**0.0082**	**0.013 J**	0.0032 J
P,P'-DDT	**0.0033**	94	136	MG/KG	0.0076 U	0.0067 U	0.008 U	0.0067 U
Silvex (2,4,5-TP)	3.8	1000	3.8	MG/KG	0.038 UJ	0.033 U	0.04 UJ	0.034 U
Toxaphene	--	--	--	MG/KG	0.076 U	0.067 U	0.08 U	0.067 U

Table 10. Summary of Pesticides and Herbicides in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-17	RXSB-18	RXSB-18	RXSB-19
				Sample Date:	11/14/2023	11/02/2023	11/15/2023	11/03/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units				
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.039 U	0.034 U	0.037 UJ	0.038 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.039 U	0.034 U	0.037 UJ	0.038 U
Aldrin	**0.005**	1.4	0.19	MG/KG	0.0079 U	0.0067 U	0.0074 U	**0.026 J**
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	6.8	0.02	MG/KG	0.0024 U	0.002 U	0.0022 U	0.0023 U
Alpha Endosulfan	2.4	920	102	MG/KG	0.0079 U	0.0067 U	0.0074 U	0.0076 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	14	0.09	MG/KG	0.0024 U	0.002 U	0.0022 U	0.0023 U
Beta Endosulfan	2.4	920	102	MG/KG	0.0079 U	0.0067 U	0.0074 U	0.0076 U
Chlordane (Technical)	--	--	--	MG/KG	0.33	0.067 U	0.14	0.16 J
cis-Chlordane	0.094	47	2.9	MG/KG	0.028 P	0.0024 J	0.016 J	0.013 J
Delta BHC (Delta Hexachlorocyclohexane)	0.04	1000	0.25	MG/KG	0.0024 U	0.002 U	0.0022 U	0.0023 U
Dieldrin	**0.005**	2.8	0.1	MG/KG	0.0024 U	0.002 U	0.0022 U	**0.058 J**
Endosulfan Sulfate	2.4	920	1000	MG/KG	0.0079 U	0.0067 U	0.0074 U	0.0076 U
Endrin	0.014	410	0.06	MG/KG	0.0079 U	0.0067 U	0.0074 U	0.0076 U
Endrin Aldehyde	--	--	--	MG/KG	0.0079 U	0.0067 U	0.0074 U	0.0076 U
Endrin Ketone	--	--	--	MG/KG	0.0079 U	0.0067 U	0.0074 U	0.0076 U
Gamma Bhc (Lindane)	0.1	23	0.1	MG/KG	0.0024 U	0.002 U	0.0022 U	0.0023 U
Heptachlor	0.042	29	0.38	MG/KG	0.0079 U	0.0067 U	0.0074 U	0.0076 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0079 U	0.0067 U	0.0074 U	0.0076 U
Methoxychlor	--	--	--	MG/KG	0.0079 U	0.0067 U	0.0074 UJ	0.0076 U
P,P'-DDD	**0.0033**	180	14	MG/KG	0.0079 U	**0.0049 J**	**0.011**	0.0076 U
P,P'-DDE	**0.0033**	120	17	MG/KG	0.0079 U	**0.0061 J**	**0.015**	**0.0048 J**
P,P'-DDT	**0.0033**	94	136	MG/KG	0.0079 U	0.0067 U	0.0074 U	0.0076 U
Silvex (2,4,5-TP)	3.8	1000	3.8	MG/KG	0.039 U	0.034 U	0.037 UJ	0.038 U
Toxaphene	--	--	--	MG/KG	0.079 U	0.067 U	0.074 U	0.076 U

Table 10. Summary of Pesticides and Herbicides in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-19	RXSB-20	RXSB-20	RXSB-21
				Sample Date:	11/15/2023	11/03/2023	11/15/2023	11/03/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units				
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.037 UJ	0.037 U	0.05 UJ	0.036 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.037 UJ	0.037 U	0.05 UJ	0.036 U
Aldrin	**0.005**	1.4	0.19	MG/KG	0.0075 U	0.0074 U	0.01 U	0.0072 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	6.8	0.02	MG/KG	0.0022 U	0.0022 U	0.003 U	0.0021 U
Alpha Endosulfan	2.4	920	102	MG/KG	0.0075 U	0.0074 U	0.01 U	0.0072 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	14	0.09	MG/KG	0.0022 U	0.0022 U	0.003 U	0.0021 U
Beta Endosulfan	2.4	920	102	MG/KG	0.0075 U	0.0074 U	0.01 U	0.0072 U
Chlordane (Technical)	--	--	--	MG/KG	0.091	0.074 U	0.14	0.072 U
cis-Chlordane	0.094	47	2.9	MG/KG	0.0093 J	0.0074 U	0.013 J	0.0072 U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	1000	0.25	MG/KG	0.0022 U	0.0022 U	0.003 U	0.0021 U
Dieldrin	**0.005**	2.8	0.1	MG/KG	0.0022 U	0.003 J	0.003 U	0.0021 U
Endosulfan Sulfate	2.4	920	1000	MG/KG	0.0075 U	0.0074 U	0.01 U	0.0072 U
Endrin	0.014	410	0.06	MG/KG	0.0075 U	0.0074 U	0.01 U	0.0072 U
Endrin Aldehyde	--	--	--	MG/KG	0.0075 U	0.0074 U	0.01 U	0.0072 U
Endrin Ketone	--	--	--	MG/KG	0.0075 U	0.0074 U	0.01 U	0.0072 U
Gamma Bhc (Lindane)	0.1	23	0.1	MG/KG	0.0022 U	0.0022 U	0.003 U	0.0021 U
Heptachlor	0.042	29	0.38	MG/KG	0.0075 U	0.0074 U	0.01 U	0.0072 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0075 U	0.0074 U	0.0032 J	0.0072 U
Methoxychlor	--	--	--	MG/KG	0.0075 UJ	0.0074 U	0.01 UJ	0.0072 U
P,P'-DDD	**0.0033**	180	14	MG/KG	**0.015 J**	0.0029 J	**0.014**	0.0072 U
P,P'-DDE	**0.0033**	120	17	MG/KG	**0.0034 J**	0.0074 U	**0.0062 J**	0.0072 U
P,P'-DDT	**0.0033**	94	136	MG/KG	0.0075 U	0.0074 U	0.01 U	0.0072 U
Silvex (2,4,5-TP)	3.8	1000	3.8	MG/KG	0.037 UJ	0.037 U	0.05 UJ	0.036 U
Toxaphene	--	--	--	MG/KG	0.075 U	0.074 U	0.1 U	0.072 U

Table 10. Summary of Pesticides and Herbicides in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-21	RXSB-22	RXSB-22	RXSB-23
				Sample Date:	11/07/2023	11/03/2023	11/07/2023	11/06/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units				
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.034 U	0.038 U	0.038 U	0.034 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.034 U	0.038 U	0.038 U	0.034 U
Aldrin	**0.005**	1.4	0.19	MG/KG	0.0068 U	0.0077 U	0.0076 U	0.0069 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	6.8	0.02	MG/KG	0.002 U	0.0023 U	0.0023 U	0.002 U
Alpha Endosulfan	2.4	920	102	MG/KG	0.0068 U	0.0077 U	0.0076 U	0.0069 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	14	0.09	MG/KG	0.002 U	0.0023 U	0.0023 U	0.002 U
Beta Endosulfan	2.4	920	102	MG/KG	0.0068 U	0.0077 U	0.0076 U	0.0069 U
Chlordane (Technical)	--	--	--	MG/KG	0.068 U	0.49 J	0.076 U	0.16
cis-Chlordane	0.094	47	2.9	MG/KG	0.0068 U	0.047 J	0.0076 U	0.016 J
Delta BHC (Delta Hexachlorocyclohexane)	0.04	1000	0.25	MG/KG	0.002 U	0.0023 U	0.0023 U	0.002 U
Dieldrin	**0.005**	2.8	0.1	MG/KG	0.002 U	**0.02 J**	0.0023 U	0.0044 J
Endosulfan Sulfate	2.4	920	1000	MG/KG	0.0068 U	0.0077 U	0.0076 U	0.0069 U
Endrin	0.014	410	0.06	MG/KG	0.0068 U	0.0077 U	0.0076 U	0.0069 U
Endrin Aldehyde	--	--	--	MG/KG	0.0068 U	0.0077 U	0.0076 U	0.0069 U
Endrin Ketone	--	--	--	MG/KG	0.0068 UJ	0.0077 U	0.0076 UJ	0.0069 UJ
Gamma Bhc (Lindane)	0.1	23	0.1	MG/KG	0.002 U	0.0023 U	0.0023 U	0.002 U
Heptachlor	0.042	29	0.38	MG/KG	0.0068 U	0.0077 U	0.0076 U	0.0069 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0068 U	0.0077 U	0.0076 U	0.0069 U
Methoxychlor	--	--	--	MG/KG	0.0068 U	0.0077 U	0.0076 U	0.0069 U
P,P'-DDD	**0.0033**	180	14	MG/KG	0.0068 U	0.0077 U	0.0076 U	0.0069 U
P,P'-DDE	**0.0033**	120	17	MG/KG	0.0068 U	**0.012 J**	0.0076 U	**0.004 J**
P,P'-DDT	**0.0033**	94	136	MG/KG	0.0068 U	0.0077 U	0.0076 U	**0.0041 J**
Silvex (2,4,5-TP)	3.8	1000	3.8	MG/KG	0.034 U	0.038 U	0.038 U	0.034 U
Toxaphene	--	--	--	MG/KG	0.068 U	0.077 U	0.076 U	0.069 U

Table 10. Summary of Pesticides and Herbicides in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-23	RXSB-24	RXSB-24	RXSB-25
				Sample Date:	11/13/2023	11/06/2023	11/10/2023	11/06/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units				
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.38 U	0.034 U	0.042 UJ	0.035 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.38 U	0.034 U	0.042 UJ	0.035 U
Aldrin	**0.005**	1.4	0.19	MG/KG	0.0076 U	0.0068 U	0.0085 U	0.0069 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	6.8	0.02	MG/KG	0.0023 U	0.002 U	0.0025 U	0.0021 U
Alpha Endosulfan	2.4	920	102	MG/KG	0.0076 U	0.0068 U	0.0085 U	0.0069 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	14	0.09	MG/KG	0.0023 U	0.002 U	0.0025 U	0.0021 U
Beta Endosulfan	2.4	920	102	MG/KG	0.0076 U	0.0068 U	0.0085 U	0.0069 U
Chlordane (Technical)	--	--	--	MG/KG	0.076 U	0.46	0.19 J	0.19
cis-Chlordane	0.094	47	2.9	MG/KG	0.0076 U	0.043 J	0.027 J	0.022 J
Delta BHC (Delta Hexachlorocyclohexane)	0.04	1000	0.25	MG/KG	0.0023 U	0.002 U	0.0025 U	0.0021 U
Dieldrin	**0.005**	2.8	0.1	MG/KG	0.0023 U	**0.01 J**	0.0047 J	**0.0078**
Endosulfan Sulfate	2.4	920	1000	MG/KG	0.0076 U	0.0068 U	0.0085 U	0.0069 U
Endrin	0.014	410	0.06	MG/KG	0.0076 U	0.0068 U	0.0085 U	0.0069 U
Endrin Aldehyde	--	--	--	MG/KG	0.0076 U	0.0068 U	0.0085 U	0.0069 U
Endrin Ketone	--	--	--	MG/KG	0.0076 U	0.0068 UJ	0.0085 U	0.0069 UJ
Gamma Bhc (Lindane)	0.1	23	0.1	MG/KG	0.0023 U	0.002 U	0.0025 U	0.0021 U
Heptachlor	0.042	29	0.38	MG/KG	0.0076 U	0.0068 U	0.0085 U	0.0069 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0076 U	0.0068 U	0.0085 U	0.0069 U
Methoxychlor	--	--	--	MG/KG	0.0076 U	0.0068 U	0.0085 U	0.0069 U
P,P'-DDD	**0.0033**	180	14	MG/KG	0.0076 U	0.0068 U	**0.018 J**	0.0069 U
P,P'-DDE	**0.0033**	120	17	MG/KG	0.0076 U	**0.019**	**0.013 J**	**0.0047 J**
P,P'-DDT	**0.0033**	94	136	MG/KG	0.0076 U	**0.0058 J**	**0.024 J**	0.0069 U
Silvex (2,4,5-TP)	3.8	1000	3.8	MG/KG	0.38 U	0.034 U	0.042 UJ	0.035 U
Toxaphene	--	--	--	MG/KG	0.076 U	0.068 U	0.085 U	0.069 U

Table 10. Summary of Pesticides and Herbicides in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-25	RXSB-26	RXSB-26	RXSB-27
				Sample Date:	11/16/2023	11/06/2023	11/09/2023	11/06/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
				Regular Sample or Field Duplicate:	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units				
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.037 U	0.034 U	0.038 U	0.034 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.037 U	0.034 U	0.038 U	0.034 U
Aldrin	**0.005**	1.4	0.19	MG/KG	0.0074 U	0.0069 U	0.0076 U	0.0068 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	6.8	0.02	MG/KG	0.0022 U	0.0021 U	0.0023 U	0.002 U
Alpha Endosulfan	2.4	920	102	MG/KG	0.0074 U	0.0069 U	0.0076 U	0.0068 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	14	0.09	MG/KG	0.0022 U	0.0021 U	0.0023 U	0.002 U
Beta Endosulfan	2.4	920	102	MG/KG	0.0074 U	0.0069 U	0.0076 U	0.0068 U
Chlordane (Technical)	--	--	--	MG/KG	0.074 U	0.21	0.076 U	0.068 U
cis-Chlordane	0.094	47	2.9	MG/KG	0.0023 JP	0.021 J	0.0076 U	0.0068 U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	1000	0.25	MG/KG	0.0022 U	0.0021 U	0.0023 U	0.002 U
Dieldrin	**0.005**	2.8	0.1	MG/KG	0.0022 U	**0.012**	0.0023 U	0.002 U
Endosulfan Sulfate	2.4	920	1000	MG/KG	0.0074 U	0.0069 U	0.0076 U	0.0068 U
Endrin	0.014	410	0.06	MG/KG	0.0074 U	0.0069 U	0.0076 U	0.0068 U
Endrin Aldehyde	--	--	--	MG/KG	0.0074 U	0.0069 U	0.0076 U	0.0068 U
Endrin Ketone	--	--	--	MG/KG	0.0074 U	0.0069 UJ	0.0076 U	0.0068 UJ
Gamma Bhc (Lindane)	0.1	23	0.1	MG/KG	0.0022 U	0.0021 U	0.0023 U	0.002 U
Heptachlor	0.042	29	0.38	MG/KG	0.0074 U	0.0069 U	0.0076 U	0.0068 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0074 U	0.0069 U	0.0076 U	0.0068 U
Methoxychlor	--	--	--	MG/KG	0.0074 U	0.0069 U	0.0076 U	0.0068 U
P,P'-DDD	**0.0033**	180	14	MG/KG	0.0074 U	0.0069 U	0.0076 U	0.0068 U
P,P'-DDE	**0.0033**	120	17	MG/KG	**0.0041 J**	**0.012**	0.0076 U	0.0068 U
P,P'-DDT	**0.0033**	94	136	MG/KG	0.0074 U	**0.0039 J**	0.0076 U	0.0068 U
Silvex (2,4,5-TP)	3.8	1000	3.8	MG/KG	0.037 U	0.034 U	0.038 U	0.034 U
Toxaphene	--	--	--	MG/KG	0.074 U	0.069 U	0.076 U	0.068 U

Table 10. Summary of Pesticides and Herbicides in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-27	RXSB-28	RXSB-28	RXSB-29
				Sample Date:	11/16/2023	11/06/2023	11/16/2023	11/02/2023
				Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units				
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.034 U	0.034 U	0.039 U	0.034 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.034 U	0.034 U	0.039 U	0.034 U
Aldrin	**0.005**	1.4	0.19	MG/KG	0.0069 U	0.0068 U	0.0079 U	0.0068 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	6.8	0.02	MG/KG	0.0021 U	0.002 U	0.0024 U	0.002 U
Alpha Endosulfan	2.4	920	102	MG/KG	0.0069 U	0.0068 U	0.0079 U	0.0068 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	14	0.09	MG/KG	0.0021 U	0.002 U	0.0024 U	0.002 U
Beta Endosulfan	2.4	920	102	MG/KG	0.0069 U	0.0068 U	0.0079 U	0.0068 U
Chlordane (Technical)	--	--	--	MG/KG	0.069 U	0.068 U	0.079 U	0.068 U
cis-Chlordane	0.094	47	2.9	MG/KG	0.0069 U	0.0037 J	0.0043 JP	0.0034 J
Delta BHC (Delta Hexachlorocyclohexane)	0.04	1000	0.25	MG/KG	0.0021 U	0.002 U	0.0024 U	0.002 U
Dieldrin	**0.005**	2.8	0.1	MG/KG	0.0021 U	0.002 U	0.0024 U	0.002 U
Endosulfan Sulfate	2.4	920	1000	MG/KG	0.0069 U	0.0068 U	0.0079 U	0.0068 U
Endrin	0.014	410	0.06	MG/KG	0.0069 U	0.0068 U	0.0079 U	0.0068 U
Endrin Aldehyde	--	--	--	MG/KG	0.0069 U	0.0068 U	0.0079 U	0.0068 U
Endrin Ketone	--	--	--	MG/KG	0.0069 U	0.0068 UJ	0.0079 U	0.0068 U
Gamma Bhc (Lindane)	0.1	23	0.1	MG/KG	0.0021 U	0.002 U	0.0024 U	0.002 U
Heptachlor	0.042	29	0.38	MG/KG	0.0069 U	0.0068 U	0.0079 U	0.0068 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0069 U	0.0068 U	0.0079 U	0.0068 U
Methoxychlor	--	--	--	MG/KG	0.0069 U	0.0068 U	0.0079 U	0.0068 U
P,P'-DDD	**0.0033**	180	14	MG/KG	0.0069 U	0.0023 J	0.0079 U	0.0068 U
P,P'-DDE	**0.0033**	120	17	MG/KG	0.0069 U	**0.007**	**0.0077 J**	0.0068 U
P,P'-DDT	**0.0033**	94	136	MG/KG	0.0069 U	**0.015**	0.0079 U	0.0068 U
Silvex (2,4,5-TP)	3.8	1000	3.8	MG/KG	0.034 U	0.034 U	0.039 U	0.034 U
Toxaphene	--	--	--	MG/KG	0.069 U	0.068 U	0.079 U	0.068 U

Table 10. Summary of Pesticides and Herbicides in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-30	RXSB-31	RXSB-32	RXSB-33
				Sample Date:	11/02/2023	11/02/2023	11/03/2023	11/06/2023
				Sample Depth:	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units				
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.034 U	0.034 U	0.038 U	0.034 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.034 U	0.034 U	0.038 U	0.034 U
Aldrin	**0.005**	1.4	0.19	MG/KG	0.0068 U	0.0068 U	0.0076 U	0.0068 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	6.8	0.02	MG/KG	0.002 U	0.002 U	0.0023 U	0.002 U
Alpha Endosulfan	2.4	920	102	MG/KG	0.0068 U	0.0068 U	0.0076 U	0.0068 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	14	0.09	MG/KG	0.002 U	0.002 U	0.0023 U	0.002 U
Beta Endosulfan	2.4	920	102	MG/KG	0.0068 U	0.0068 U	0.0076 U	0.0068 U
Chlordane (Technical)	--	--	--	MG/KG	0.046 J	0.12	0.19 J	0.22 J+
cis-Chlordane	0.094	47	2.9	MG/KG	0.0053 J	0.015 J	0.021 J	0.027 J+
Delta BHC (Delta Hexachlorocyclohexane)	0.04	1000	0.25	MG/KG	0.002 U	0.002 U	0.0023 U	0.002 U
Dieldrin	**0.005**	2.8	0.1	MG/KG	0.002 U	0.002 U	**0.01 J**	**0.022 J+**
Endosulfan Sulfate	2.4	920	1000	MG/KG	0.0068 U	0.0068 U	0.0076 U	0.0068 U
Endrin	0.014	410	0.06	MG/KG	0.0068 U	0.0068 U	0.0076 U	0.0068 U
Endrin Aldehyde	--	--	--	MG/KG	0.0068 U	0.0068 U	0.0076 U	0.0068 U
Endrin Ketone	--	--	--	MG/KG	0.0068 U	0.0068 U	0.0076 U	0.0068 UJ
Gamma Bhc (Lindane)	0.1	23	0.1	MG/KG	0.002 U	0.002 U	0.0023 U	0.002 U
Heptachlor	0.042	29	0.38	MG/KG	0.0068 U	0.0068 U	0.0076 U	0.0068 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0068 U	0.0068 U	0.0076 U	0.0068 U
Methoxychlor	--	--	--	MG/KG	0.0068 U	0.0068 U	0.0076 U	0.0068 U
P,P'-DDD	**0.0033**	180	14	MG/KG	0.0068 U	0.0024 J	0.0076 U	0.0068 U
P,P'-DDE	**0.0033**	120	17	MG/KG	0.0068 U	0.0068 U	**0.0034 J**	0.0023 J
P,P'-DDT	**0.0033**	94	136	MG/KG	0.0068 U	0.0068 U	**0.0036 J**	0.0068 U
Silvex (2,4,5-TP)	3.8	1000	3.8	MG/KG	0.034 U	0.034 U	0.038 U	0.034 U
Toxaphene	--	--	--	MG/KG	0.068 U	0.068 U	0.076 U	0.068 U

Table 10. Summary of Pesticides and Herbicides in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-34	RXSB-35	RXSB-36	RXSB-37
				Sample Date:	11/06/2023	11/08/2023	11/09/2023	01/04/2024
				Sample Depth:	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
				Regular Sample or Field Duplicate:	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units				
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.034 U	0.034 UJ	0.033 U	0.036 UJ
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.034 U	0.034 UJ	0.033 U	0.036 U
Aldrin	**0.005**	1.4	0.19	MG/KG	0.0069 U	0.0068 U	0.0067 U	0.0073 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	6.8	0.02	MG/KG	0.0021 U	0.002 U	0.002 U	0.0022 U
Alpha Endosulfan	2.4	920	102	MG/KG	0.0069 U	0.0068 U	0.0067 U	0.0073 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	14	0.09	MG/KG	0.0021 U	0.002 U	0.002 U	0.0022 U
Beta Endosulfan	2.4	920	102	MG/KG	0.0069 U	0.0068 U	0.0067 U	0.0073 U
Chlordane (Technical)	--	--	--	MG/KG	0.3	0.048 J	0.067 U	0.073 U
cis-Chlordane	0.094	47	2.9	MG/KG	0.034 J	0.0068 U	0.0067 U	0.0073 U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	1000	0.25	MG/KG	0.0021 U	0.002 U	0.002 U	0.0022 U
Dieldrin	**0.005**	2.8	0.1	MG/KG	**0.029**	0.002 U	0.002 U	0.0034 J
Endosulfan Sulfate	2.4	920	1000	MG/KG	0.0069 U	0.0068 U	0.0067 U	0.0073 U
Endrin	0.014	410	0.06	MG/KG	0.0069 U	0.0068 U	0.0067 U	0.0073 U
Endrin Aldehyde	--	--	--	MG/KG	0.0069 U	0.0068 U	0.0067 U	0.0073 U
Endrin Ketone	--	--	--	MG/KG	0.0069 UJ	0.0068 U	0.0067 U	0.0073 U
Gamma Bhc (Lindane)	0.1	23	0.1	MG/KG	0.0021 U	0.002 U	0.002 U	0.0022 U
Heptachlor	0.042	29	0.38	MG/KG	0.0069 U	0.0068 U	0.0067 U	0.0073 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0069 U	0.0068 U	0.0067 U	0.0073 U
Methoxychlor	--	--	--	MG/KG	0.0069 U	0.0068 U	0.0067 U	0.0073 U
P,P'-DDD	**0.0033**	180	14	MG/KG	0.0029 J	0.0068 U	0.0067 U	0.0073 U
P,P'-DDE	**0.0033**	120	17	MG/KG	0.0069 U	0.0068 U	0.0067 U	0.0073 U
P,P'-DDT	**0.0033**	94	136	MG/KG	0.0032 J	0.0068 U	0.0067 U	0.0073 U
Silvex (2,4,5-TP)	3.8	1000	3.8	MG/KG	0.034 U	0.034 UJ	0.033 U	0.036 UJ
Toxaphene	--	--	--	MG/KG	0.069 U	0.068 U	0.067 U	0.073 U

Table 10. Summary of Pesticides and Herbicides in Soil, 1612 5th Avenue, Bay Shore, New York

				Sample Designation:	RXSB-38
				Sample Date:	01/05/2024
				Sample Depth:	0 - 2 in bls
				Regular Sample or Field Duplicate:	N
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Industrial SCO	NYSDEC Part 375 Protection of Groundwater SCO	Units	
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.037 UJ
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.037 U
Aldrin	**0.005**	1.4	0.19	MG/KG	0.0074 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	6.8	0.02	MG/KG	0.0022 U
Alpha Endosulfan	2.4	920	102	MG/KG	0.0074 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	14	0.09	MG/KG	0.0022 U
Beta Endosulfan	2.4	920	102	MG/KG	0.0074 U
Chlordane (Technical)	--	--	--	MG/KG	0.074 U
cis-Chlordane	0.094	47	2.9	MG/KG	0.0074 U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	1000	0.25	MG/KG	0.0022 U
Dieldrin	**0.005**	2.8	0.1	MG/KG	**0.027**
Endosulfan Sulfate	2.4	920	1000	MG/KG	0.0074 U
Endrin	0.014	410	0.06	MG/KG	0.0074 U
Endrin Aldehyde	--	--	--	MG/KG	0.0074 U
Endrin Ketone	--	--	--	MG/KG	0.0074 U
Gamma Bhc (Lindane)	0.1	23	0.1	MG/KG	0.0022 U
Heptachlor	0.042	29	0.38	MG/KG	0.0074 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0074 U
Methoxychlor	--	--	--	MG/KG	0.0074 U
P,P'-DDD	**0.0033**	180	14	MG/KG	**0.0037 J**
P,P'-DDE	**0.0033**	120	17	MG/KG	0.0074 U
P,P'-DDT	**0.0033**	94	136	MG/KG	**0.0035 J**
Silvex (2,4,5-TP)	3.8	1000	3.8	MG/KG	0.037 UJ
Toxaphene	--	--	--	MG/KG	0.074 U

Table 11. Summary of Per- and Polyfluoroalkyl Substances in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units	Sample Designation:	BERM-4	BERM-5	BERM-6	BERM-7	BERM-8	BERM-9	BERM-9
					Sample Date:	11/15/2023	11/15/2023	11/15/2023	11/15/2023	11/15/2023	11/15/2023	11/15/2023
					Sample Depth:							
					Regular Sample or Field Duplicate:	N	N	N	N	N	N	FD
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	--	--	UG/KG		0.96 U	1.24 U	1.03 U	1.2 U	0.88 U	0.85 U	1 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG		2.4 U	3.09 U	2.57 U	3 U	2.2 U	2.12 U	2.5 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG		2.4 U	3.09 U	2.57 U	3 U	2.2 U	2.12 U	2.5 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	--	--	UG/KG		0.24 U	0.31 U	0.26 U	0.3 U	0.22 U	0.21 U	0.25 U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	--	--	UG/KG		6 U	7.72 U	6.42 U	7.5 U	5.5 U	5.3 U	6.24 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	--	--	UG/KG		6 U	7.72 U	6.42 U	7.5 U	5.5 U	5.3 U	6.24 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	--	--	UG/KG		1.2 U	1.54 U	1.28 U	1.5 U	1.1 U	1.06 U	1.25 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	UG/KG		0.96 U	1.24 U	1.03 U	1.2 U	0.88 U	0.85 U	1 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	--	--	UG/KG		0.96 U	1.24 U	1.03 U	1.2 U	0.88 U	0.85 U	1 U
N-ethyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG		0.24 U	0.31 U	0.26 U	0.3 U	0.22 U	0.21 U	0.25 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	--	--	UG/KG		0.24 U	0.31 U	0.26 U	0.3 U	0.39	0.21 U	0.25 U
N-methyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG		0.24 U	0.31 U	0.26 U	0.3 U	0.22 U	0.21 U	0.25 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	--	--	UG/KG		0.48 U	0.62 U	0.51 U	0.6 U	0.44 U	0.42 U	0.5 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	--	--	UG/KG		0.48 U	0.62 U	0.51 U	0.6 U	0.44 U	0.42 U	0.5 U
Perfluoro(2-Propoxypropanoic) Acid	--	--	--	UG/KG		0.96 U	1.24 U	1.03 U	1.2 U	0.88 U	0.85 U	1 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	--	--	UG/KG		0.48 U	0.62 U	0.51 U	0.6 U	0.44 U	0.42 U	0.5 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	--	--	UG/KG		0.48 U	0.62 U	0.51 U	0.6 U	0.44 U	0.42 U	0.5 U
Perfluorobutanesulfonic acid (PFBS)	--	--	--	UG/KG		0.24 U	0.31 U	0.26 U	0.3 U	0.22 U	0.21 U	0.25 U
Perfluorobutanoic Acid	--	--	--	UG/KG		0.96 U	0.13 J	0.11 J	0.51 J	0.25 J	0.28 J	0.23 J
Perfluorodecane Sulfonic Acid	--	--	--	UG/KG		0.052 J	0.31 U	0.26 U	0.14 J	0.1 J	0.12 J	0.12 J
Perfluorodecanoic acid (PFDA)	--	--	--	UG/KG		0.092 J	0.38	0.14 J	0.65	0.45	0.53	0.45
Perfluorododecane sulfonate (PFDoDS)	--	--	--	UG/KG		0.24 U	0.31 U	0.26 U	0.3 U	0.22 U	0.21 U	0.25 U
Perfluorododecanoic acid (PFDoA)	--	--	--	UG/KG		0.24 U	0.21 J	0.092 J	0.39	0.26	0.26	0.25
Perfluoroheptane Sulfonate (PFHPS)	--	--	--	UG/KG		0.24 U	0.31 U	0.26 U	0.3 U	0.22 U	0.21 U	0.25 U
Perfluoroheptanoic acid (PFHpA)	--	--	--	UG/KG		0.054 J	0.13 J	0.12 J	0.34	0.27	0.25	0.21 J
Perfluorohexanesulfonic acid (PFHxS)	--	--	--	UG/KG		0.24 U	0.048 J	0.26 U	0.3 U	0.095 J	0.11 J	0.077 J
Perfluorohexanoic acid (PFHxA)	--	--	--	UG/KG		0.071 J	0.12 J	0.26 U	0.4	0.41	0.25	0.23 J
Perfluorononanesulfonic Acid (PFNS)	--	--	--	UG/KG		0.24 U	0.31 U	0.26 U	0.3 U	0.22 U	0.21 U	0.25 U
Perfluorononanoic acid (PFNA)	--	--	--	UG/KG		0.077 J	0.37	0.093 J	0.37	0.3	0.34	0.32
Perfluorooctane Sulfonamide (FOSA)	--	--	--	UG/KG		0.24 U	0.31 U	0.26 U	0.3 U	0.22 U	0.21 U	0.25 U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	UG/KG		0.81	**1.4**	0.8	**2.63**	**3.06**	**2.39**	**2**
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	UG/KG		0.21 J	0.56	0.23 J	0.57	**0.7**	**0.71**	0.58
Perfluoropentanesulfonic Acid (PFPeS)	--	--	--	UG/KG		0.24 U	0.31 U	0.26 U	0.3 U	0.22 U	0.21 U	0.25 U
Perfluoropentanoic Acid (PFPeA)	--	--	--	UG/KG		0.073 J	0.21 J	0.16 J	0.72	0.7	0.43	0.37 J
Perfluorotetradecanoic acid (PFTA)	--	--	--	UG/KG		0.24 U	0.13 J	0.053 J	0.21 J	0.15 J	0.16 J	0.16 J
Perfluorotridecanoic Acid (PFTriA)	--	--	--	UG/KG		0.043 J	0.25 J	0.087 J	0.29 J	0.19 J	0.18 J	0.19 J
Perfluoroundecanoic Acid (PFUnA)	--	--	--	UG/KG		0.059 J	0.39	0.099 J	0.42	0.29	0.26	0.28
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	--	--	UG/KG		0.96 U	1.24 U	1.03 U	1.2 U	0.88 U	0.85 U	1 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	--	--	UG/KG		0.96 U	1.24 U	1.03 U	1.2 U	0.88 U	0.85 U	1 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	--	--	UG/KG		0.96 U	1.24 U	1.03 U	1.2 U	0.88 U	0.85 U	1 U

Table 11. Summary of Per- and Polyfluoroalkyl Substances in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units	RXSB-12 11/01/2023 0 - 2 ft bls N	RXSB-12 11/01/2023 0 - 2 ft bls FD	RXSB-12 11/16/2023 10 - 12 ft bls N	RXSB-13 11/01/2023 0 - 2 ft bls N	RXSB-13 11/08/2023 10 - 12 ft bls N	RXSB-13 11/08/2023 10 - 12 ft bls FD	RXSB-14 11/01/2023 0 - 2 ft bls N
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	--	--	UG/KG	0.89 U	0.88 U	0.81 U	0.94 U	0.8 U	0.86 U	0.95 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	2.23 U	2.2 U	2.02 U	2.34 U	1.99 U	2.16 U	2.37 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	2.23 U	2.2 U	2.02 U	2.34 U	1.99 U	2.16 U	2.37 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.24 U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	--	--	UG/KG	5.56 U	5.49 U	5.06 U	5.85 U	4.98 U	5.4 U	5.92 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	--	--	UG/KG	5.56 U	5.49 U	5.06 U	5.85 U	4.98 U	5.4 U	5.92 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	--	--	UG/KG	1.11 U	1.1 U	1.01 U	1.17 U	1 U	1.08 U	1.18 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	UG/KG	0.89 U	0.88 U	0.81 U	0.94 U	0.8 U	0.86 U	0.95 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	--	--	UG/KG	0.89 U	0.88 U	0.81 U	0.94 U	0.8 U	0.86 U	0.95 U
N-ethyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.24 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.24 U
N-methyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.24 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	--	--	UG/KG	0.45 U	0.44 U	0.4 U	0.47 U	0.4 U	0.43 U	0.47 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	--	--	UG/KG	0.45 U	0.44 U	0.4 U	0.47 U	0.4 U	0.43 U	0.47 U
Perfluoro(2-Propoxypropanoic) Acid	--	--	--	UG/KG	0.89 U	0.88 U	0.81 U	0.94 U	0.8 U	0.86 U	0.95 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	--	--	UG/KG	0.45 U	0.44 U	0.4 U	0.47 U	0.4 U	0.43 U	0.47 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	--	--	UG/KG	0.45 U	0.44 U	0.4 U	0.47 U	0.4 U	0.43 U	0.47 U
Perfluorobutanesulfonic acid (PFBS)	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.24 U
Perfluorobutanoic Acid	--	--	--	UG/KG	0.89 U	0.88 U	0.81 U	0.94 U	0.8 U	0.86 U	0.95 U
Perfluorodecane Sulfonic Acid	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.24 U
Perfluorodecanoic acid (PFDA)	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.24 U
Perfluorododecane sulfonate (PFDoDS)	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.24 U
Perfluorododecanoic acid (PFDoA)	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.24 U
Perfluoroheptane Sulfonate (PFHPS)	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.24 U
Perfluoroheptanoic acid (PFHpA)	--	--	--	UG/KG	0.22 U	0.034 J	0.2 U	0.23 U	0.2 U	0.22 U	0.24 U
Perfluorohexanesulfonic acid (PFHxS)	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.051 J
Perfluorohexanoic acid (PFHxA)	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.24 U
Perfluorononanesulfonic Acid (PFNS)	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.24 U
Perfluorononanoic acid (PFNA)	--	--	--	UG/KG	0.022 J	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.072 J
Perfluorooctane Sulfonamide (FOSA)	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.039 J
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	UG/KG	0.27 J	0.31 J	0.2 U	0.26 J	0.2 U	0.22 U	**2.23 J**
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	UG/KG	0.12 J	0.13 J	0.2 U	0.23 U	0.2 U	0.22 U	0.097 J
Perfluoropentanesulfonic Acid (PFPeS)	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.24 U
Perfluoropentanoic Acid (PFPeA)	--	--	--	UG/KG	0.45 U	0.44 U	0.4 U	0.47 U	0.4 U	0.43 U	0.47 U
Perfluorotetradecanoic acid (PFTA)	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.033 J
Perfluorotridecanoic Acid (PFTriA)	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.07 J
Perfluoroundecanoic Acid (PFUnA)	--	--	--	UG/KG	0.22 U	0.22 U	0.2 U	0.23 U	0.2 U	0.22 U	0.14 J
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	--	--	UG/KG	0.89 U	0.88 U	0.81 U	0.94 U	0.8 U	0.86 U	0.95 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	--	--	UG/KG	0.89 U	0.88 U	0.81 U	0.94 U	0.8 U	0.86 U	0.95 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	--	--	UG/KG	0.89 U	0.88 U	0.81 U	0.94 U	0.8 U	0.86 U	0.95 U

Table 11. Summary of Per- and Polyfluoroalkyl Substances in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units	Sample Designation:	RXSB-14	RXSB-15	RXSB-15	RXSB-16	RXSB-16	RXSB-17	RXSB-17
					Sample Date:	11/08/2023	11/03/2023	11/15/2023	11/02/2023	11/15/2023	11/02/2023	11/14/2023
					Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
					Regular Sample or Field Duplicate:	N	N	N	N	N	N	N
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	--	--	UG/KG		0.94 U	0.84 U	0.9 U	0.81 U	0.82 U	0.89 U	0.97 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG		2.35 U	2.1 U	2.24 U	2.03 U	2.06 U	2.23 U	1.66 J
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG		2.35 U	0.18 J	2.24 U	2.03 U	2.06 U	2.23 U	0.33 J
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	--	--	UG/KG		0.23 U	0.21 U	0.22 U	0.09 J	0.15 J	0.029 J	0.4
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	--	--	UG/KG		5.87 U	5.26 U	5.6 U	5.07 U	5.15 U	5.57 U	6.06 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	--	--	UG/KG		5.87 U	5.26 U	5.6 U	5.07 U	5.15 U	5.57 U	6.06 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	--	--	UG/KG		1.17 U	1.05 U	1.12 U	1.01 U	1.03 U	1.11 U	1.21 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	UG/KG		0.94 U	0.84 U	0.9 U	0.81 U	0.82 U	0.89 U	0.97 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	--	--	UG/KG		0.94 U	0.84 U	0.9 U	0.81 U	0.82 U	0.89 U	0.97 U
N-ethyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG		0.23 U	0.21 U	0.22 U	0.2 U	0.21 U	0.22 U	0.24 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	--	--	UG/KG		0.064 J	0.07 J	0.22 U	0.2 J	0.43	0.075 J	2.89
N-methyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG		0.23 U	0.21 U	0.22 U	0.2 U	0.21 U	0.22 U	0.24 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	--	--	UG/KG		0.47 U	0.42 U	0.45 U	0.41 U	0.41 U	0.45 U	0.49 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	--	--	UG/KG		0.47 U	0.42 U	0.45 U	0.41 U	0.41 U	0.45 U	0.49 U
Perfluoro(2-Propoxypropanoic) Acid	--	--	--	UG/KG		0.94 U	0.84 U	0.9 U	0.81 U	0.82 U	0.89 U	0.97 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	--	--	UG/KG		0.47 U	0.42 U	0.45 U	0.41 U	0.41 U	0.11 J	0.49 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	--	--	UG/KG		0.47 U	0.42 U	0.45 U	0.41 U	0.41 U	0.45 U	0.49 U
Perfluorobutanesulfonic acid (PFBS)	--	--	--	UG/KG		0.23 U	0.21 U	0.22 U	0.2 U	0.21 U	0.22 U	0.1 J
Perfluorobutanoic Acid	--	--	--	UG/KG		0.94 U	0.84 U	0.9 U	0.81 U	0.82 U	0.89 U	0.97 U
Perfluorodecane Sulfonic Acid	--	--	--	UG/KG		0.23 U	0.21 U	0.22 U	0.2 U	0.03 J	0.22 U	0.24 U
Perfluorodecanoic acid (PFDA)	--	--	--	UG/KG		0.23 U	0.21 U	0.22 U	0.076 J	0.21 U	0.22 U	0.24 U
Perfluorododecane sulfonate (PFDoDS)	--	--	--	UG/KG		0.23 U	0.21 U	0.22 U	0.2 U	0.21 U	0.22 U	0.24 U
Perfluorododecanoic acid (PFDoA)	--	--	--	UG/KG		0.23 U	0.21 U	0.22 U	0.083 J	0.21 U	0.22 U	0.24 U
Perfluoroheptane Sulfonate (PFHPS)	--	--	--	UG/KG		0.23 U	0.21 U	0.22 U	0.2 U	0.21 U	0.22 U	0.24 U
Perfluoroheptanoic acid (PFHpA)	--	--	--	UG/KG		0.23 U	0.21 U	0.22 U	0.2 U	0.027 J	0.22 U	0.03 J
Perfluorohexanesulfonic acid (PFHxS)	--	--	--	UG/KG		0.042 J	0.035 J	0.038 J	0.2 U	0.032 J	0.22 U	0.088 J
Perfluorohexanoic acid (PFHxA)	--	--	--	UG/KG		0.029 J	0.21 U	0.044 J	0.2 U	0.026 J	0.22 U	0.072 J
Perfluorononanesulfonic Acid (PFNS)	--	--	--	UG/KG		0.23 U	0.21 U	0.22 U	0.2 U	0.21 U	0.22 U	0.24 U
Perfluorononanoic acid (PFNA)	--	--	--	UG/KG		0.23 U	0.054 J	0.036 J	0.042 J	0.026 J	0.22 U	0.11 J
Perfluorooctane Sulfonamide (FOSA)	--	--	--	UG/KG		0.034 J	0.037 J	0.021 J	0.04 J	0.076 J	0.22 U	0.18 J
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	UG/KG		0.37	0.41	0.13 J	0.35 J	0.67	0.077 J	**0.95**
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	UG/KG		0.23 U	0.16 J	0.091 J	0.095 J	0.079 J	0.22 U	0.19 J
Perfluoropentanesulfonic Acid (PFPeS)	--	--	--	UG/KG		0.23 U	0.21 U	0.22 U	0.2 U	0.21 U	0.22 U	0.24 U
Perfluoropentanoic Acid (PFPeA)	--	--	--	UG/KG		0.47 U	0.42 U	0.45 U	0.41 U	0.41 U	0.45 U	0.49 U
Perfluorotetradecanoic acid (PFTA)	--	--	--	UG/KG		0.23 U	0.036 J	0.023 J	0.07 J	0.21 U	0.031 J	0.24 U
Perfluorotridecanoic Acid (PFTriA)	--	--	--	UG/KG		0.23 U	0.061 J	0.05 J	0.092 J	0.21 U	0.056 J	0.13 J
Perfluoroundecanoic Acid (PFUnA)	--	--	--	UG/KG		0.23 U	0.11 J	0.21 J	0.083 J	0.21 U	0.056 J	0.047 J
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	--	--	UG/KG		0.94 U	0.84 U	0.9 U	0.81 U	0.82 U	0.89 U	0.97 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	--	--	UG/KG		0.94 U	0.84 U	0.9 U	0.81 U	0.82 U	0.89 U	0.97 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	--	--	UG/KG		0.94 U	0.84 U	0.9 U	0.81 U	0.82 U	0.89 U	0.97 U

Table 11. Summary of Per- and Polyfluoroalkyl Substances in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units	Sample Designation:	RXSB-18	RXSB-18	RXSB-19	RXSB-19	RXSB-20	RXSB-20	RXSB-21
					Sample Date:	11/02/2023	11/15/2023	11/03/2023	11/15/2023	11/03/2023	11/15/2023	11/03/2023
					Sample Depth:	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
					Regular Sample or Field Duplicate:	N	N	N	N	N	N	N
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	--	--	UG/KG		0.99 U	0.94 U	1.02 U	0.94 U	0.85 U	1.17 U	0.86 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG		2.46 U	2.35 U	2.55 U	2.34 U	2.13 U	0.57 J	2.14 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG		2.46 U	2.35 U	2.55 U	2.34 U	2.13 U	0.44 J	2.14 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	--	--	UG/KG		0.25 U	0.23 U	0.26 U	0.23 U	0.21 U	0.34 J	0.21 U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	--	--	UG/KG		6.16 U	5.86 U	6.38 U	5.85 U	5.32 U	7.3 U	5.36 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	--	--	UG/KG		6.16 U	5.86 U	6.38 U	5.85 U	5.32 U	7.3 U	5.36 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	--	--	UG/KG		1.23 U	1.17 U	1.28 U	1.17 U	1.06 U	1.46 U	1.07 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	UG/KG		0.99 U	0.94 U	1.02 U	0.94 U	0.85 U	1.17 U	0.86 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	--	--	UG/KG		0.99 U	0.94 U	1.02 U	0.94 U	0.85 U	1.17 U	0.86 U
N-ethyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG		0.25 U	0.23 U	0.26 U	0.23 U	0.21 U	0.29 U	0.21 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	--	--	UG/KG		0.12 J	0.59	0.26 U	0.23 U	0.21 U	2.26	0.21 U
N-methyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG		0.25 U	0.23 U	0.26 U	0.23 U	0.21 U	0.29 U	0.21 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	--	--	UG/KG		0.49 U	0.47 U	0.51 U	0.47 U	0.43 U	0.58 U	0.43 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	--	--	UG/KG		0.49 U	0.47 U	0.51 U	0.47 U	0.43 U	0.58 U	0.43 U
Perfluoro(2-Propoxypropanoic) Acid	--	--	--	UG/KG		0.99 U	0.94 U	1.02 U	0.94 U	0.85 U	1.17 U	0.86 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	--	--	UG/KG		0.49 U	0.47 U	0.51 U	0.47 U	0.43 U	0.58 U	0.43 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	--	--	UG/KG		0.49 U	0.47 U	0.51 U	0.47 U	0.43 U	0.58 U	0.43 U
Perfluorobutanesulfonic acid (PFBS)	--	--	--	UG/KG		0.25 U	0.23 U	0.26 U	0.23 U	0.052 J	0.36	0.21 U
Perfluorobutanoic Acid	--	--	--	UG/KG		0.99 U	0.94 U	1.02 U	0.94 U	0.19 J	0.098 J	0.86 U
Perfluorodecane Sulfonic Acid	--	--	--	UG/KG		0.25 U	0.23 U	0.26 U	0.23 U	0.21 U	0.064 J	0.21 U
Perfluorodecanoic acid (PFDA)	--	--	--	UG/KG		0.25 U	0.23 U	0.26 U	0.23 U	0.082 J	0.19 J	0.21 U
Perfluorododecane sulfonate (PFDoDS)	--	--	--	UG/KG		0.25 U	0.23 U	0.26 U	0.23 U	0.21 U	0.29 U	0.21 U
Perfluorododecanoic acid (PFDoA)	--	--	--	UG/KG		0.25 U	0.23 U	0.26 U	0.23 U	0.21 U	0.29 U	0.21 U
Perfluoroheptane Sulfonate (PFHPS)	--	--	--	UG/KG		0.25 U	0.23 U	0.26 U	0.23 U	0.21 U	0.29 U	0.21 U
Perfluoroheptanoic acid (PFHpA)	--	--	--	UG/KG		0.049 J	0.038 J	0.26 U	0.23 U	0.35	0.11 J	0.033 J
Perfluorohexanesulfonic acid (PFHxS)	--	--	--	UG/KG		0.25 U	0.066 J	0.26 U	0.23 U	0.17 J	0.1 J	0.21 U
Perfluorohexanoic acid (PFHxA)	--	--	--	UG/KG		0.25 U	0.054 J	0.26 U	0.23 U	0.4	0.1 J	0.21 U
Perfluorononanesulfonic Acid (PFNS)	--	--	--	UG/KG		0.25 U	0.23 U	0.26 U	0.23 U	0.21 U	0.29 U	0.21 U
Perfluorononanoic acid (PFNA)	--	--	--	UG/KG		0.075 J	0.045 J	0.26 U	0.02 J	0.13 J	1.89	0.21 U
Perfluorooctane Sulfonamide (FOSA)	--	--	--	UG/KG		0.25 U	0.1 J	0.26 U	0.23 U	0.21 U	0.55	0.21 U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	UG/KG		0.49 J	**1.3**	0.19 J	**0.96**	0.88	**6.51**	0.29
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	UG/KG		0.25 J	0.52	0.26 U	0.3	**0.81**	0.54	0.057 J
Perfluoropentanesulfonic Acid (PFPeS)	--	--	--	UG/KG		0.25 U	0.23 U	0.26 U	0.23 U	0.21 U	0.29 U	0.21 U
Perfluoropentanoic Acid (PFPeA)	--	--	--	UG/KG		0.49 U	0.47 U	0.51 U	0.47 U	0.32 J	0.11 J	0.43 U
Perfluorotetradecanoic acid (PFTA)	--	--	--	UG/KG		0.25 U	0.026 J	0.26 U	0.23 U	0.21 U	0.032 J	0.21 U
Perfluorotridecanoic Acid (PFTriA)	--	--	--	UG/KG		0.039 J	0.054 J	0.26 U	0.23 U	0.21 U	0.28 J	0.21 U
Perfluoroundecanoic Acid (PFUnA)	--	--	--	UG/KG		0.074 J	0.079 J	0.26 U	0.23 U	0.063 J	0.84	0.21 U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	--	--	UG/KG		0.99 U	0.94 U	1.02 U	0.94 U	0.85 U	1.17 U	0.86 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	--	--	UG/KG		0.99 U	0.94 U	1.02 U	0.94 U	0.85 U	1.17 U	0.86 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	--	--	UG/KG		0.99 U	0.94 U	1.02 U	0.94 U	0.85 U	1.17 U	0.86 U

Table 11. Summary of Per- and Polyfluoroalkyl Substances in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units	RXSB-21 11/07/2023 10 - 12 ft bls N	RXSB-22 11/03/2023 0 - 2 ft bls N	RXSB-22 11/07/2023 10 - 12 ft bls N	RXSB-23 11/06/2023 0 - 2 ft bls N	RXSB-23 11/13/2023 10 - 12 ft bls N	RXSB-24 11/06/2023 0 - 2 ft bls N	RXSB-24 11/10/2023 10 - 12 ft bls N
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	--	--	UG/KG	0.97 U	0.98 U	0.77 U	0.91 U	0.87 U	1.04 U	0.95 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	2.41 U	0.14 J	1.93 U	2.27 U	2.18 U	2.59 U	2.38 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	2.41 U	0.14 J	1.93 U	2.27 U	2.18 U	2.59 U	2.38 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	--	--	UG/KG	0.24 U	0.12 J	0.19 U	0.046 J	0.22 U	0.26 U	0.056 J
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	--	--	UG/KG	6.04 U	6.14 U	4.81 U	5.67 U	5.46 U	6.49 U	5.95 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	--	--	UG/KG	6.04 U	6.14 U	4.81 U	5.67 U	5.46 U	6.49 U	5.95 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	--	--	UG/KG	1.21 U	1.23 U	0.96 U	1.13 U	1.09 U	1.3 U	1.19 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	UG/KG	0.97 U	0.98 U	0.77 U	0.91 U	0.87 U	1.04 U	0.95 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	--	--	UG/KG	0.97 U	0.98 U	0.77 U	0.91 U	0.87 U	1.04 U	0.95 U
N-ethyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.24 U	0.25 U	0.19 U	0.23 U	0.22 U	0.26 U	0.24 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	--	--	UG/KG	0.064 J	0.25 U	0.19 U	0.14 J	0.052 J	0.17 J	0.13 J
N-methyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.24 U	0.25 U	0.19 U	0.23 U	0.22 U	0.26 U	0.24 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	--	--	UG/KG	0.48 U	0.49 U	0.39 U	0.45 U	0.44 U	0.52 U	0.48 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	--	--	UG/KG	0.48 U	0.49 U	0.39 U	0.45 U	0.44 U	0.52 U	0.48 U
Perfluoro(2-Propoxypropanoic) Acid	--	--	--	UG/KG	0.97 U	0.98 U	0.77 U	0.91 U	0.87 U	1.04 U	0.95 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	--	--	UG/KG	0.48 U	0.49 U	0.39 U	0.45 U	0.44 U	0.52 U	0.48 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	--	--	UG/KG	0.48 U	0.49 U	0.39 U	0.45 U	0.44 U	0.52 U	0.48 U
Perfluorobutanesulfonic acid (PFBS)	--	--	--	UG/KG	0.24 U	0.25 U	0.19 U	0.23 U	0.22 U	0.26 U	0.24 U
Perfluorobutanoic Acid	--	--	--	UG/KG	0.97 U	0.98 U	0.77 U	0.91 U	0.87 U	1.04 U	0.95 U
Perfluorodecane Sulfonic Acid	--	--	--	UG/KG	0.24 U	0.25 U	0.19 U	0.23 U	0.22 U	0.26 U	0.24 U
Perfluorodecanoic acid (PFDA)	--	--	--	UG/KG	0.24 U	0.25 U	0.19 U	0.23 U	0.22 U	0.26 U	0.24 U
Perfluorododecane sulfonate (PFDoDS)	--	--	--	UG/KG	0.24 U	0.25 U	0.19 U	0.23 U	0.22 U	0.26 U	0.24 U
Perfluorododecanoic acid (PFDoA)	--	--	--	UG/KG	0.24 U	0.082 J	0.19 U	0.23 U	0.22 U	0.26 U	0.24 U
Perfluoroheptane Sulfonate (PFHPS)	--	--	--	UG/KG	0.24 U	0.25 U	0.19 U	0.23 U	0.22 U	0.26 U	0.24 U
Perfluoroheptanoic acid (PFHpA)	--	--	--	UG/KG	0.24 U	0.25 U	0.19 U	0.23 U	0.22 U	0.26 U	0.24 U
Perfluorohexanesulfonic acid (PFHxS)	--	--	--	UG/KG	0.24 U	0.25 U	0.19 U	0.23 U	0.035 J	0.26 U	0.24 U
Perfluorohexanoic acid (PFHxA)	--	--	--	UG/KG	0.24 U	0.25 U	0.19 U	0.23 U	0.22 U	0.26 U	0.24 U
Perfluorononanesulfonic Acid (PFNS)	--	--	--	UG/KG	0.24 U	0.25 U	0.19 U	0.23 U	0.22 U	0.26 U	0.24 U
Perfluorononanoic acid (PFNA)	--	--	--	UG/KG	0.24 U	0.25 U	0.19 U	0.23 U	0.22 U	0.26 U	0.24 U
Perfluorooctane Sulfonamide (FOSA)	--	--	--	UG/KG	0.24 U	0.25 U	0.19 U	0.017 J	0.016 J	0.26 U	0.24 U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	UG/KG	0.12 J	0.32	0.19 U	0.69	0.14 J	0.22 J	0.28
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	UG/KG	0.24 U	0.25 U	0.19 U	0.074 J	0.22 U	0.072 J	0.059 J
Perfluoropentanesulfonic Acid (PFPeS)	--	--	--	UG/KG	0.24 U	0.25 U	0.19 U	0.23 U	0.22 U	0.26 U	0.24 U
Perfluoropentanoic Acid (PFPeA)	--	--	--	UG/KG	0.48 U	0.49 U	0.39 U	0.45 U	0.44 U	0.52 U	0.48 U
Perfluorotetradecanoic acid (PFTA)	--	--	--	UG/KG	0.24 U	0.051 J	0.19 U	0.23 U	0.22 U	0.26 U	0.24 U
Perfluorotridecanoic Acid (PFTriA)	--	--	--	UG/KG	0.24 U	0.25 U	0.19 U	0.23 U	0.22 U	0.26 U	0.24 U
Perfluoroundecanoic Acid (PFUnA)	--	--	--	UG/KG	0.24 U	0.066 J	0.19 U	0.035 J	0.22 U	0.26 U	0.24 U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	--	--	UG/KG	0.97 U	0.98 U	0.77 U	0.91 U	0.87 U	1.04 U	0.95 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	--	--	UG/KG	0.97 U	0.98 U	0.77 U	0.91 U	0.87 U	1.04 U	0.95 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	--	--	UG/KG	0.97 U	0.98 U	0.77 U	0.91 U	0.87 U	1.04 U	0.95 U

Table 11. Summary of Per- and Polyfluoroalkyl Substances in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units	RXSB-25 11/06/2023 0 - 2 ft bls N	RXSB-25 11/16/2023 10 - 12 ft bls N	RXSB-26 11/06/2023 0 - 2 ft bls N	RXSB-26 11/09/2023 10 - 12 ft bls N	RXSB-27 11/06/2023 0 - 2 ft bls N	RXSB-27 11/16/2023 10 - 12 ft bls N	RXSB-28 11/06/2023 0 - 2 ft bls N
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	--	--	UG/KG	0.98 U	1.14 U	0.91 U	1.17 U	0.99 U	1.48 U	0.87 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	2.46 U	2.86 U	2.27 U	1.24 J	2.48 U	0.88 J	2.18 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	2.46 U	2.86 U	2.27 U	0.5 J	2.48 U	0.32 J	2.18 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	--	--	UG/KG	0.037 J	0.08 J	0.23 U	0.54	0.25 U	0.53	0.034 J
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	--	--	UG/KG	6.14 U	7.15 U	5.66 U	7.31 U	6.2 U	9.25 U	5.46 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	--	--	UG/KG	6.14 U	7.15 U	5.66 U	7.31 U	6.2 U	9.25 U	5.46 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	--	--	UG/KG	1.23 U	1.43 U	1.13 U	1.46 U	1.24 U	1.85 U	1.09 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	UG/KG	0.98 U	1.14 U	0.91 U	0.24 J	0.99 U	1.48 U	0.87 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	--	--	UG/KG	0.98 U	1.14 U	0.91 U	1.17 U	0.99 U	1.48 U	0.87 U
N-ethyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.25 U	0.29 U	0.23 U	0.29 U	0.25 U	0.37 U	0.22 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	--	--	UG/KG	0.033 J	0.27 J	0.23 U	2.34	0.1 J	1.49	0.17 J
N-methyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.25 U	0.29 U	0.23 U	0.29 U	0.25 U	0.37 U	0.22 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	--	--	UG/KG	0.49 U	0.57 U	0.45 U	0.58 U	0.5 U	0.74 U	0.44 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	--	--	UG/KG	0.49 U	0.57 U	0.45 U	0.58 U	0.5 U	0.74 U	0.44 U
Perfluoro(2-Propoxypropanoic) Acid	--	--	--	UG/KG	0.98 U	1.14 U	0.91 U	1.17 U	0.99 U	1.48 U	0.87 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	--	--	UG/KG	0.49 U	0.57 U	0.45 U	0.58 U	0.5 U	0.74 U	0.44 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	--	--	UG/KG	0.49 U	0.57 U	0.45 U	0.58 U	0.5 U	0.74 U	0.44 U
Perfluorobutanesulfonic acid (PFBS)	--	--	--	UG/KG	0.25 U	0.29 U	0.23 U	0.29 U	0.25 U	0.05 J	0.22 U
Perfluorobutanoic Acid	--	--	--	UG/KG	0.98 U	1.14 U	0.91 U	0.095 J	0.99 U	0.13 J	0.87 U
Perfluorodecane Sulfonic Acid	--	--	--	UG/KG	0.25 U	0.079 J	0.23 U	0.074 J	0.25 U	0.37 U	0.22 U
Perfluorodecanoic acid (PFDA)	--	--	--	UG/KG	0.23 J	0.22 J	1.39	0.44	0.099 J	0.24 J	0.2 J
Perfluorododecane sulfonate (PFDoDS)	--	--	--	UG/KG	0.25 U	0.29 U	0.23 U	0.29 U	0.25 U	0.37 U	0.22 U
Perfluorododecanoic acid (PFDoA)	--	--	--	UG/KG	0.18 J	0.15 J	0.19 J	0.28 J	0.072 J	0.15 J	0.17 J
Perfluoroheptane Sulfonate (PFHPS)	--	--	--	UG/KG	0.25 U	0.29 U	0.23 U	0.29 U	0.25 U	0.37 U	0.22 U
Perfluoroheptanoic acid (PFHpA)	--	--	--	UG/KG	0.08 J	0.091 J	0.035 J	0.2 J	0.031 J	0.19 J	0.052 J
Perfluorohexanesulfonic acid (PFHxS)	--	--	--	UG/KG	0.25 U	0.2 J	0.23 U	0.3	0.029 J	0.48	0.22 U
Perfluorohexanoic acid (PFHxA)	--	--	--	UG/KG	0.25 U	0.22 J	0.23 U	0.23 J	0.25 U	1.12	0.22 U
Perfluorononanesulfonic Acid (PFNS)	--	--	--	UG/KG	0.25 U	0.29 U	0.23 U	0.29 U	0.25 U	0.37 U	0.22 U
Perfluorononanoic acid (PFNA)	--	--	--	UG/KG	0.071 J	0.25 J	0.12 J	0.32	0.049 J	0.25 J	0.13 J
Perfluorooctane Sulfonamide (FOSA)	--	--	--	UG/KG	0.25 U	0.086 J	0.043 J	0.5	0.017 J	0.36 J	0.036 J
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	UG/KG	0.46	**4.96**	0.46	**7.12**	0.45	**6.35**	0.45
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	UG/KG	0.14 J	**0.7**	0.18 J	**1.31**	0.21 J	**1.41**	0.32
Perfluoropentanesulfonic Acid (PFPeS)	--	--	--	UG/KG	0.25 U	0.29 U	0.23 U	0.29 U	0.25 U	0.37 U	0.22 U
Perfluoropentanoic Acid (PFPeA)	--	--	--	UG/KG	0.082 J	0.089 J	0.026 J	0.15 J	0.052 J	0.29 J	0.064 J
Perfluorotetradecanoic acid (PFTA)	--	--	--	UG/KG	0.086 J	0.093 J	0.07 J	0.17 J	0.25 U	0.067 J	0.12 J
Perfluorotridecanoic Acid (PFTriA)	--	--	--	UG/KG	0.079 J	0.12 J	0.069 J	0.22 J	0.061 J	0.3 J	0.19 J
Perfluoroundecanoic Acid (PFUnA)	--	--	--	UG/KG	0.12 J	0.19 J	0.15 J	0.34	0.11 J	0.23 J	0.22
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	--	--	UG/KG	0.98 U	1.14 U	0.2 J	1.17 U	0.99 U	1.48 U	0.87 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	--	--	UG/KG	0.98 U	1.14 U	0.91 U	1.17 U	0.99 U	1.48 U	0.87 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	--	--	UG/KG	0.98 U	1.14 U	0.91 U	1.17 U	0.99 U	1.48 U	0.87 U

Table 11. Summary of Per- and Polyfluoroalkyl Substances in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units	RXSB-28	RXSB-29	RXSB-30	RXSB-31	RXSB-32	RXSB-33	RXSB-34
Sample Designation:					RXSB-28	RXSB-29	RXSB-30	RXSB-31	RXSB-32	RXSB-33	RXSB-34
Sample Date:					11/16/2023	11/02/2023	11/02/2023	11/02/2023	11/03/2023	11/06/2023	11/06/2023
Sample Depth:					10 - 12 ft bls	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
Regular Sample or Field Duplicate:					N	N	N	N	N	N	N
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	--	--	UG/KG	1.42 U	0.96 U	0.93 U	0.89 U	0.87 U	0.88 U	0.98 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	2 J	2.41 U	2.33 U	2.22 U	2.16 U	2.2 U	2.44 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	0.27 J	2.41 U	2.33 U	2.22 U	2.16 U	2.2 U	0.2 J
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	--	--	UG/KG	0.43	0.24 U	0.23 U	0.22 U	0.22 U	0.22 U	0.24 U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	--	--	UG/KG	8.87 U	6.03 U	5.82 U	5.55 U	5.41 U	5.51 U	6.1 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	--	--	UG/KG	8.87 U	6.03 U	5.82 U	5.55 U	5.41 U	5.51 U	6.1 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	--	--	UG/KG	1.77 U	1.21 U	1.16 U	1.11 U	1.08 U	1.1 U	1.22 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	UG/KG	1.42 U	0.96 U	0.93 U	0.89 U	0.87 U	0.88 U	0.98 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	--	--	UG/KG	1.42 U	0.96 U	0.93 U	0.89 U	0.87 U	0.88 U	0.98 U
N-ethyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.35 U	0.24 U	0.23 U	0.22 U	0.22 U	0.22 U	0.24 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	--	--	UG/KG	13	0.24 U	0.23 U	0.22 U	0.22 U	0.22 U	0.24 U
N-methyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.35 U	0.24 U	0.23 U	0.22 U	0.22 U	0.22 U	0.24 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	--	--	UG/KG	0.71 U	0.48 U	0.47 U	0.44 U	0.43 U	0.44 U	0.49 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	--	--	UG/KG	0.71 U	0.48 U	0.47 U	0.44 U	0.43 U	0.44 U	0.49 U
Perfluoro(2-Propoxypropanoic) Acid	--	--	--	UG/KG	1.42 U	0.96 U	0.93 U	0.89 U	0.87 U	0.88 U	0.98 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	--	--	UG/KG	0.71 U	0.48 U	0.47 U	0.44 U	0.43 U	0.44 U	0.49 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	--	--	UG/KG	0.71 U	0.48 U	0.47 U	0.44 U	0.43 U	0.44 U	0.49 U
Perfluorobutanesulfonic acid (PFBS)	--	--	--	UG/KG	0.35 U	0.24 U	0.23 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluorobutanoic Acid	--	--	--	UG/KG	0.16 J	0.96 U	0.21 J	0.082 J	0.87 U	0.88 U	0.051 J
Perfluorodecane Sulfonic Acid	--	--	--	UG/KG	0.069 J	0.24 U	0.23 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluorodecanoic acid (PFDA)	--	--	--	UG/KG	0.48	0.24 U	0.26 J	0.16 J	0.22 U	0.22 U	0.57
Perfluorododecane sulfonate (PFDoDS)	--	--	--	UG/KG	0.35 U	0.24 U	0.23 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluorododecanoic acid (PFDoA)	--	--	--	UG/KG	0.42	0.24 U	0.19 J	0.095 J	0.14 J	0.076 J	0.32
Perfluoroheptane Sulfonate (PFHPS)	--	--	--	UG/KG	0.35 U	0.24 U	0.23 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluoroheptanoic acid (PFHpA)	--	--	--	UG/KG	0.31 J	0.24 U	0.18 J	0.13 J	0.22 U	0.11 J	0.048 J
Perfluorohexanesulfonic acid (PFHxS)	--	--	--	UG/KG	0.95 J	0.24 U	0.083 J	0.22 U	0.22 U	0.22 U	0.24 U
Perfluorohexanoic acid (PFHxA)	--	--	--	UG/KG	0.8	0.24 U	0.27 J	0.29 J	0.22 U	0.22 U	0.24 U
Perfluorononanesulfonic Acid (PFNS)	--	--	--	UG/KG	0.35 U	0.24 U	0.23 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluorononanoic acid (PFNA)	--	--	--	UG/KG	0.56	0.019 J	0.17 J	0.073 J	0.22 U	0.047 J	0.13 J
Perfluorooctane Sulfonamide (FOSA)	--	--	--	UG/KG	0.45	0.24 U	0.23 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	UG/KG	**10.8**	0.11 J	**0.91 J**	0.78 J	0.082 J	0.26	0.37
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	UG/KG	**3.26**	0.24 U	0.54 J	0.17 J	0.22 U	0.15 J	0.15 J
Perfluoropentanesulfonic Acid (PFPeS)	--	--	--	UG/KG	0.35 U	0.24 U	0.23 U	0.22 U	0.22 U	0.22 U	0.24 U
Perfluoropentanoic Acid (PFPeA)	--	--	--	UG/KG	0.34 J	0.48 U	0.23 J	0.32 J	0.43 U	0.076 J	0.1 J
Perfluorotetradecanoic acid (PFTA)	--	--	--	UG/KG	0.27 J	0.024 J	0.096 J	0.058 J	0.086 J	0.22 U	0.15 J
Perfluorotridecanoic Acid (PFTriA)	--	--	--	UG/KG	0.4	0.24 U	0.14 J	0.082 J	0.07 J	0.22 U	0.083 J
Perfluoroundecanoic Acid (PFUnA)	--	--	--	UG/KG	0.41	0.24 U	0.22 J	0.1 J	0.08 J	0.041 J	0.14 J
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	--	--	UG/KG	1.42 U	0.96 U	0.93 U	0.89 U	0.87 U	0.88 U	0.98 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	--	--	UG/KG	1.42 U	0.96 U	0.93 U	0.89 U	0.87 U	0.88 U	0.98 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	--	--	UG/KG	1.42 U	0.96 U	0.93 U	0.89 U	0.87 U	0.88 U	0.98 U

Table 11. Summary of Per- and Polyfluoroalkyl Substances in Soil, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units	RXSB-35	RXSB-36	RXSB-37	RXSB-38
Sample Designation:					RXSB-35	RXSB-36	RXSB-37	RXSB-38
Sample Date:					11/08/2023	11/09/2023	01/04/2024	01/05/2024
Sample Depth:					0 - 2 in bls	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
Regular Sample or Field Duplicate:					N	N	N	N
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	--	--	UG/KG	0.94 U	0.81 U	0.8 U	0.84 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	2.34 U	2.03 U	1.99 U	2.1 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	2.34 U	2.03 U	1.99 U	2.1 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	--	--	UG/KG	0.23 U	0.2 U	0.2 U	0.21 U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	--	--	UG/KG	5.85 U	5.07 U	4.98 U	5.25 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	--	--	UG/KG	5.85 U	5.07 U	4.98 U	5.25 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	--	--	UG/KG	1.17 U	1.01 U	1 U	1.05 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	UG/KG	0.94 U	0.81 U	0.8 U	0.84 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	--	--	UG/KG	0.94 U	0.81 U	0.8 U	0.84 U
N-ethyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.23 U	0.2 U	0.2 U	0.21 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	--	--	UG/KG	0.23 U	0.2 U	0.2 U	0.21 U
N-methyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.23 U	0.2 U	0.2 U	0.21 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	--	--	UG/KG	0.47 U	0.41 U	0.4 U	0.42 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	--	--	UG/KG	0.47 U	0.41 U	0.4 U	0.42 U
Perfluoro(2-Propoxypropanoic) Acid	--	--	--	UG/KG	0.94 U	0.81 U	0.8 U	0.84 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	--	--	UG/KG	0.47 U	0.41 U	0.4 U	0.42 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	--	--	UG/KG	0.47 U	0.41 U	0.4 U	0.42 U
Perfluorobutanesulfonic acid (PFBS)	--	--	--	UG/KG	0.23 U	0.2 U	0.2 U	0.21 U
Perfluorobutanoic Acid	--	--	--	UG/KG	0.94 U	0.81 U	0.8 U	0.092 J
Perfluorodecane Sulfonic Acid	--	--	--	UG/KG	0.23 U	0.2 U	0.2 U	0.21 U
Perfluorodecanoic acid (PFDA)	--	--	--	UG/KG	0.3	0.2 U	0.2 U	0.21 U
Perfluorododecane sulfonate (PFDoDS)	--	--	--	UG/KG	0.23 U	0.2 U	0.2 U	0.21 U
Perfluorododecanoic acid (PFDoA)	--	--	--	UG/KG	0.23	0.2 U	0.2 U	0.21 U
Perfluoroheptane Sulfonate (PFHPS)	--	--	--	UG/KG	0.23 U	0.2 U	0.2 U	0.21 U
Perfluoroheptanoic acid (PFHpA)	--	--	--	UG/KG	0.036 J	0.2 U	0.2 U	0.034 J
Perfluorohexanesulfonic acid (PFHxS)	--	--	--	UG/KG	0.028 J	0.2 U	0.2 U	0.21 U
Perfluorohexanoic acid (PFHxA)	--	--	--	UG/KG	0.084 J	0.2 U	0.022 J	0.21 U
Perfluorononanesulfonic Acid (PFNS)	--	--	--	UG/KG	0.23 U	0.2 U	0.2 U	0.21 U
Perfluorononanoic acid (PFNA)	--	--	--	UG/KG	0.034 J	0.2 U	0.016 J	0.21 U
Perfluorooctane Sulfonamide (FOSA)	--	--	--	UG/KG	0.23 U	0.2 U	0.2 U	0.21 U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	UG/KG	0.1 J	0.2 U	0.13 J	0.26
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	UG/KG	0.08 J	0.2 U	0.2 U	0.096 J
Perfluoropentanesulfonic Acid (PFPeS)	--	--	--	UG/KG	0.23 U	0.2 U	0.2 U	0.21 U
Perfluoropentanoic Acid (PFPeA)	--	--	--	UG/KG	0.072 J	0.41 U	0.034 J	0.056 J
Perfluorotetradecanoic acid (PFTA)	--	--	--	UG/KG	0.13 J	0.025 J	0.2 U	0.21 U
Perfluorotridecanoic Acid (PFTriA)	--	--	--	UG/KG	0.064 J	0.028 J	0.2 U	0.21 U
Perfluoroundecanoic Acid (PFUnA)	--	--	--	UG/KG	0.11 J	0.2 U	0.2 U	0.21 U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	--	--	UG/KG	0.94 U	0.81 U	0.8 U	0.84 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	--	--	UG/KG	0.94 U	0.81 U	0.8 U	0.84 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	--	--	UG/KG	0.94 U	0.81 U	0.8 U	0.84 U

Table 12. Summary of TCLP Metals in Soil, 1612 5th Avenue, Bay Shore, New York

		Sample Designation:	BERM-4	BERM-5	BERM-6	BERM-7	BERM-8	BERM-9	BERM-9	RXSB-12	RXSB-12
		Sample Date:	11/15/2023	11/15/2023	11/15/2023	11/15/2023	11/15/2023	11/15/2023	11/15/2023	11/01/2023	11/01/2023
		Sample Depth:								0 - 2 ft bls	0 - 2 ft bls
		Regular Sample or Field Duplicate:	N	N	N	N	N	N	FD	N	FD
Parameters	USEPA Regulatory Levels (mg/L)	Units									
Lead	5	MG/L	0.0601	0.0214	0.0267	0.0142	0.0161	0.0141 J	0.0204 J	0.0165	0.012 U
Mercury	**0.2**	MG/L	0.002	0.002	0.00086	0.0011	0.0016	0.0012	0.0028	0.00034	0.0002 U

Table 12. Summary of TCLP Metals in Soil, 1612 5th Avenue, Bay Shore, New York

		Sample Designation:	RXSB-12	RXSB-13	RXSB-13	RXSB-13	RXSB-14	RXSB-14	RXSB-15	RXSB-15	RXSB-16
		Sample Date:	11/16/2023	11/01/2023	11/08/2023	11/08/2023	11/01/2023	11/08/2023	11/03/2023	11/15/2023	11/02/2023
		Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
		Regular Sample or Field Duplicate:	N	N	N	FD	N	N	N	N	N
Parameters	USEPA Regulatory Levels (mg/L)	Units									
Lead	5	MG/L	0.0296	0.012 U	0.0277	0.385	0.012 U	0.023	0.012 U	0.012 U	0.0431
Mercury	**0.2**	MG/L	0.001	0.0002 U	0.0157	0.0038	0.00021	0.0045	**0.993**	0.0018	0.0094

Table 12. Summary of TCLP Metals in Soil, 1612 5th Avenue, Bay Shore, New York

		Sample Designation:	RXSB-16	RXSB-17	RXSB-17	RXSB-18	RXSB-18	RXSB-19	RXSB-19	RXSB-20	RXSB-20
		Sample Date:	11/15/2023	11/02/2023	11/14/2023	11/02/2023	11/15/2023	11/03/2023	11/15/2023	11/03/2023	11/15/2023
		Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls
		Regular Sample or Field Duplicate:	N	N	N	N	N	N	N	N	N
Parameters	USEPA Regulatory Levels (mg/L)	Units									
Lead	5	MG/L	0.0798	0.0179	0.276	0.0497	2.18	0.0187	0.201	0.012 U	0.246
Mercury	**0.2**	MG/L	0.001	0.0044	**0.202**	0.0594	0.00063	**0.583**	0.00098	0.0659	0.0011

Table 12. Summary of TCLP Metals in Soil, 1612 5th Avenue, Bay Shore, New York

	Sample Designation:		RXSB-21	RXSB-21	RXSB-22	RXSB-22	RXSB-23	RXSB-23	RXSB-24	RXSB-24	RXSB-25
	Sample Date:		11/03/2023	11/07/2023	11/03/2023	11/07/2023	11/06/2023	11/13/2023	11/06/2023	11/10/2023	11/06/2023
	Sample Depth:		0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls
	Regular Sample or Field Duplicate:		N	N	N	N	N	N	N	N	N
Parameters	USEPA Regulatory Levels (mg/L)	Units									
Lead	5	MG/L	0.0168	0.0104 J	0.0115 J	0.0598	0.012 U	0.0882	0.012 U	0.0096 J	0.012 U
Mercury	**0.2**	MG/L	0.0381	0.00084	0.0679	0.0057	0.0023	0.0018	0.00046	0.0015	0.0027

Table 12. Summary of TCLP Metals in Soil, 1612 5th Avenue, Bay Shore, New York

		Sample Designation:	RXSB-25	RXSB-26	RXSB-26	RXSB-27	RXSB-27	RXSB-28	RXSB-28	RXSB-29	RXSB-30
		Sample Date:	11/16/2023	11/06/2023	11/09/2023	11/06/2023	11/16/2023	11/06/2023	11/16/2023	11/02/2023	11/02/2023
		Sample Depth:	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 ft bls	10 - 12 ft bls	0 - 2 in bls	0 - 2 in bls
		Regular Sample or Field Duplicate:	N	N	N	N	N	N	N	N	N
Parameters	USEPA Regulatory Levels (mg/L)	Units									
Lead	5	MG/L	0.267	0.012 U	0.0166	0.0635	0.0674	0.0212	0.0505	0.0134	0.0168
Mercury	**0.2**	MG/L	0.0023	0.0026	0.0023	0.0013	0.0032	0.0021	0.0041	0.0054	0.0071

Table 12. Summary of TCLP Metals in Soil, 1612 5th Avenue, Bay Shore, New York

		Sample Designation:	RXSB-31	RXSB-32	RXSB-33	RXSB-34	RXSB-35	RXSB-36	RXSB-37	RXSB-38
		Sample Date:	11/02/2023	11/03/2023	11/06/2023	11/06/2023	11/08/2023	11/09/2023	01/04/2024	01/05/2024
		Sample Depth:	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls	0 - 2 in bls
		Regular Sample or Field Duplicate:	N	N	N	N	N	N	N	N
Parameters	USEPA Regulatory Levels (mg/L)	Units								
Lead	5	MG/L	0.0198	0.012 U	0.012 U	0.0474	0.0091 J	0.012 U	0.0697	0.0986
Mercury	**0.2**	MG/L	0.0058	**1.09**	0.00076	0.0012	0.0126	0.0015	0.0002 U	0.0002 U

Table 13. Summary of Volatile Organic Compounds in Groundwater, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Ambient Water Quality Standards and Guidance Values	Units	RXMW-10	RXMW-10	RXMW-11	RXMW-12	RXMW-13	RXMW-14	RXMW-15
Sample Designation:			RXMW-10	RXMW-10	RXMW-11	RXMW-12	RXMW-13	RXMW-14	RXMW-15
Sample Date:			01/08/2024	01/08/2024	01/09/2024	01/10/2024	01/10/2024	01/09/2024	01/09/2024
Regular Sample or Field Duplicate:			N	FD	N	N	N	N	N
1,1,1-Trichloroethane (TCA)	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-Chloropropane	0.04	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane (Ethylene Dibromide)	0.0006	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	3	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	0.43 J
1,2-Dichloroethane	0.6	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene (Mesitylene)	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	3	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	3	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	50	UG/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	50	UG/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	1	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromochloromethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	50	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	50	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	5	UG/L	1 U	1 U	1 UT	1 UJ	1 UJ	1 UT	1 UT
Carbon Disulfide	60	UG/L	1 U	1 U	1 UJ	1 R	1 R	1 UJ	1 UJ
Carbon Tetrachloride	5	UG/L	1 UJ	1 UJ	1 U	1 U	1 U	1 UJ	1 UJ
Chlorobenzene	5	UG/L	1 U	1 U	1 U	0.63 J	0.73 J	0.4 J	1.7
Chloroethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1.8
Chloroform	7	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Cis-1,2-Dichloroethylene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,3-Dichloropropene	--	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cyclohexane	--	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	50	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Table 13. Summary of Volatile Organic Compounds in Groundwater, 1612 5th Avenue, Bay Shore, New York

	Sample Designation:		RXMW-10	RXMW-10	RXMW-11	RXMW-12	RXMW-13	RXMW-14	RXMW-15
	Sample Date:		01/08/2024	01/08/2024	01/09/2024	01/10/2024	01/10/2024	01/09/2024	01/09/2024
	Regular Sample or Field Duplicate:		N	FD	N	N	N	N	N
Parameters	NYSDEC Ambient Water Quality Standards and Guidance Values	Units							
Dichlorodifluoromethane	5	UG/L	1 UJ	1 UJ	1 UJ	1 U	1 U	1 UJ	1 UJ
Ethylbenzene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene (Cumene)	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	0.46 J
m,p-Xylene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl Acetate	--	UG/L	5 U	5 U	5 U	5 UJ	5 UJ	5 U	5 U
Methyl Ethyl Ketone (2-Butanone)	50	UG/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	UG/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methylcyclohexane	--	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene Chloride	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
N-Butylbenzene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
N-Propylbenzene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
O-Xylene (1,2-Dimethylbenzene)	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Sec-Butylbenzene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
T-Butylbenzene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tert-Butyl Methyl Ether	10	UG/L	1 U	1 U	0.61 J	0.33 J	1 U	1 U	2.7
Tetrachloroethylene (PCE)	5	UG/L	0.85 J	0.69 J	1 U	1 U	1 U	1 U	1 U
Toluene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,3-Dichloropropene	--	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethylene (TCE)	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane	5	UG/L	1 UJ	1 UJ	1 UJ	1 U	1 U	1 UJ	1 UJ
Vinyl Chloride	2	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes	5	UG/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U

Table 13. Summary of Volatile Organic Compounds in Groundwater, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Ambient Water Quality Standards and Guidance Values	Units	RXMW-8	RXMW-9
Sample Designation:			RXMW-8	RXMW-9
Sample Date:			01/08/2024	01/09/2024
Regular Sample or Field Duplicate:			N	N
1,1,1-Trichloroethane (TCA)	5	UG/L	1 U	1 U
1,1,2,2-Tetrachloroethane	5	UG/L	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	5	UG/L	1 U	1 U
1,1,2-Trichloroethane	1	UG/L	1 U	1 U
1,1-Dichloroethane	5	UG/L	1 U	1 U
1,1-Dichloroethene	5	UG/L	1 U	1 U
1,2,3-Trichlorobenzene	5	UG/L	1 U	1 U
1,2,4-Trichlorobenzene	5	UG/L	1 U	1 U
1,2,4-Trimethylbenzene	5	UG/L	1 U	1 U
1,2-Dibromo-3-Chloropropane	0.04	UG/L	1 U	1 U
1,2-Dibromoethane (Ethylene Dibromide)	0.0006	UG/L	1 U	1 U
1,2-Dichlorobenzene	3	UG/L	1 U	1 U
1,2-Dichloroethane	0.6	UG/L	1 U	1 U
1,2-Dichloropropane	1	UG/L	1 U	1 U
1,3,5-Trimethylbenzene (Mesitylene)	5	UG/L	1 U	1 U
1,3-Dichlorobenzene	3	UG/L	1 U	1 U
1,4-Dichlorobenzene	3	UG/L	1 U	1 U
2-Hexanone	50	UG/L	5 U	5 U
Acetone	50	UG/L	5 U	5 U
Benzene	1	UG/L	1 U	1 U
Bromochloromethane	5	UG/L	1 U	1 U
Bromodichloromethane	50	UG/L	1 U	1 U
Bromoform	50	UG/L	1 U	1 U
Bromomethane	5	UG/L	1 U	1 U
Carbon Disulfide	60	UG/L	1 U	1 UJ
Carbon Tetrachloride	5	UG/L	1 UJ	1 UJ
Chlorobenzene	5	UG/L	1 U	1 U
Chloroethane	5	UG/L	1 U	1 U
Chloroform	7	UG/L	1 U	1 U
Chloromethane	5	UG/L	1 U	1 UJ
Cis-1,2-Dichloroethylene	5	UG/L	1 U	1 U
Cis-1,3-Dichloropropene	--	UG/L	1 U	1 U
Cyclohexane	--	UG/L	1 UJ	1 U
Dibromochloromethane	50	UG/L	1 U	1 U

Table 13. Summary of Volatile Organic Compounds in Groundwater, 1612 5th Avenue, Bay Shore, New York

	Sample Designation:		RXMW-8	RXMW-9
	Sample Date:		01/08/2024	01/09/2024
	Regular Sample or Field Duplicate:		N	N
Parameters	NYSDEC Ambient Water Quality Standards and Guidance Values	Units		
Dichlorodifluoromethane	5	UG/L	1 UJ	1 UJ
Ethylbenzene	5	UG/L	1 U	1 U
Isopropylbenzene (Cumene)	5	UG/L	1 U	1 U
m,p-Xylene	5	UG/L	1 U	1 U
Methyl Acetate	--	UG/L	5 U	5 U
Methyl Ethyl Ketone (2-Butanone)	50	UG/L	5 U	5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	UG/L	5 U	5 U
Methylcyclohexane	--	UG/L	1 U	1 U
Methylene Chloride	5	UG/L	1 U	1 U
N-Butylbenzene	5	UG/L	1 U	1 U
N-Propylbenzene	5	UG/L	1 U	1 U
O-Xylene (1,2-Dimethylbenzene)	5	UG/L	1 U	1 U
Sec-Butylbenzene	5	UG/L	1 U	1 U
Styrene	5	UG/L	1 U	1 U
T-Butylbenzene	5	UG/L	1 U	1 U
Tert-Butyl Methyl Ether	10	UG/L	1 U	0.94 J
Tetrachloroethylene (PCE)	5	UG/L	0.8 J	1 U
Toluene	5	UG/L	1 U	1 U
Trans-1,2-Dichloroethene	5	UG/L	1 U	1 U
Trans-1,3-Dichloropropene	--	UG/L	1 U	1 U
Trichloroethylene (TCE)	5	UG/L	1 U	1 U
Trichlorofluoromethane	5	UG/L	1 UJ	1 UJ
Vinyl Chloride	2	UG/L	1 U	1 U
Xylenes	5	UG/L	2 U	2 U

Table 14. Summary of Semivolatile Organic Compounds in Groundwater, 1612 5th Avenue, Bay Shore, New York

	Sample Designation:		RXMW-10	RXMW-10	RXMW-11	RXMW-12	RXMW-13	RXMW-14	RXMW-15
	Sample Date:		01/08/2024	01/08/2024	01/09/2024	01/10/2024	01/10/2024	01/09/2024	01/09/2024
	Regular Sample or Field Duplicate:		N	FD	N	N	N	N	N
Parameters	NYSDEC Ambient Water Quality Standards and Guidance Values	Units							
1,2,4,5-Tetrachlorobenzene	5	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dioxane (P-Dioxane)	**0.35**	UG/L	0.2 U	0.2 U	0.2 U	**0.52**	0.2 U	0.16 J	**3.4**
2,3,4,6-Tetrachlorophenol	--	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	--	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	--	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	5	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	50	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	10	UG/L	40 U	40 U	40 U	40 U	40 U	40 U	40 U
2,4-Dinitrotoluene	5	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	5	UG/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2-Chloronaphthalene	10	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	--	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	--	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol (O-Cresol)	--	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	5	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	--	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	5	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline	5	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4,6-Dinitro-2-Methylphenol	--	UG/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U
4-Bromophenyl Phenyl Ether	--	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-Methylphenol	--	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	5	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl Phenyl Ether	--	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methylphenol (P-Cresol)	--	UG/L	10 U	10 U	1.7 J	10 U	1 J+	3.3 J	1.9 J
4-Nitroaniline	5	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	--	UG/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Acenaphthene	20	UG/L	10 U	10 U	10 U	10 U	1.2 J	10 U	10 U
Acenaphthylene	20	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetophenone	--	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	50	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Atrazine	7.5	UG/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzaldehyde	--	UG/L	10 UJ	10 UJ	10 UJ	10 U	10 U	10 UJ	10 UJ
Benzo(A)Anthracene	0.002	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(A)Pyrene	0	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Table 14. Summary of Semivolatile Organic Compounds in Groundwater, 1612 5th Avenue, Bay Shore, New York

	Sample Designation:		RXMW-10	RXMW-10	RXMW-11	RXMW-12	RXMW-13	RXMW-14	RXMW-15
	Sample Date:		01/08/2024	01/08/2024	01/09/2024	01/10/2024	01/10/2024	01/09/2024	01/09/2024
	Regular Sample or Field Duplicate:		N	FD	N	N	N	N	N
Parameters	NYSDEC Ambient Water Quality Standards and Guidance Values	Units							
Benzo(B)Fluoranthene	0.002	UG/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzo(G,H,I)Perylene	--	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(K)Fluoranthene	0.002	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzyl Butyl Phthalate	50	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Biphenyl (Diphenyl)	5	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-Chloroethoxy) Methane	5	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	1	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bis(2-Chloroisopropyl) Ether	5	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-Ethylhexyl) Phthalate	5	UG/L	2 U	2 U	0.97 J	0.97 J	2 U	2 U	2 U
Caprolactam	--	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	--	UG/L	10 U	10 U	10 U	10 U	10 U	0.84 J	10 U
Chrysene	0.002	UG/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Cresols, M & P	--	UG/L	10 U	10 U	1.6 J	10 U	1 J+	3.2 J	1.8 J
Dibenz(A,H)Anthracene	--	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibenzofuran	--	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl Phthalate	50	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl Phthalate	50	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-N-Butyl Phthalate	50	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-N-Octylphthalate	--	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	50	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	50	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	0.04	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	0.5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorocyclopentadiene	5	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	5	UG/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Indeno(1,2,3-C,D)Pyrene	0.002	UG/L	2 U	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ
Isophorone	50	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10	UG/L	2 U	2 U	2.2	2 U	2 U	1.3 J	2 U
Nitrobenzene	0.4	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
N-Nitrosodi-N-Propylamine	--	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
N-Nitrosodiphenylamine	50	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	1	UG/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Phenanthrene	50	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenol	1	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table 14. Summary of Semivolatile Organic Compounds in Groundwater, 1612 5th Avenue, Bay Shore, New York

		Sample Designation:	RXMW-10	RXMW-10	RXMW-11	RXMW-12	RXMW-13	RXMW-14	RXMW-15
		Sample Date:	01/08/2024	01/08/2024	01/09/2024	01/10/2024	01/10/2024	01/09/2024	01/09/2024
		Regular Sample or Field Duplicate:	N	FD	N	N	N	N	N
Parameters	NYSDEC Ambient Water Quality Standards and Guidance Values	Units							
Pyrene	50	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table 14. Summary of Semivolatile Organic Compounds in Groundwater, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Ambient Water Quality Standards and Guidance Values	Units	RXMW-8	RXMW-9
Sample Designation:			RXMW-8	RXMW-9
Sample Date:			01/08/2024	01/09/2024
Regular Sample or Field Duplicate:			N	N
1,2,4,5-Tetrachlorobenzene	5	UG/L	10 U	10 U
1,4-Dioxane (P-Dioxane)	**0.35**	UG/L	0.2 U	**0.47**
2,3,4,6-Tetrachlorophenol	--	UG/L	10 U	10 U
2,4,5-Trichlorophenol	--	UG/L	10 U	10 U
2,4,6-Trichlorophenol	--	UG/L	10 U	10 U
2,4-Dichlorophenol	5	UG/L	10 U	10 U
2,4-Dimethylphenol	50	UG/L	10 UJ	10 U
2,4-Dinitrophenol	10	UG/L	40 U	40 U
2,4-Dinitrotoluene	5	UG/L	10 U	10 U
2,6-Dinitrotoluene	5	UG/L	2 U	2 U
2-Chloronaphthalene	10	UG/L	10 U	10 U
2-Chlorophenol	--	UG/L	10 U	10 U
2-Methylnaphthalene	--	UG/L	10 U	10 U
2-Methylphenol (O-Cresol)	--	UG/L	10 U	10 U
2-Nitroaniline	5	UG/L	10 U	10 U
2-Nitrophenol	--	UG/L	10 U	10 U
3,3'-Dichlorobenzidine	5	UG/L	10 U	10 U
3-Nitroaniline	5	UG/L	10 U	10 U
4,6-Dinitro-2-Methylphenol	--	UG/L	20 U	20 U
4-Bromophenyl Phenyl Ether	--	UG/L	10 U	10 U
4-Chloro-3-Methylphenol	--	UG/L	10 U	10 U
4-Chloroaniline	5	UG/L	10 U	10 U
4-Chlorophenyl Phenyl Ether	--	UG/L	10 U	10 U
4-Methylphenol (P-Cresol)	--	UG/L	10 U	10 U
4-Nitroaniline	5	UG/L	10 U	10 U
4-Nitrophenol	--	UG/L	20 U	20 U
Acenaphthene	20	UG/L	10 U	10 U
Acenaphthylene	20	UG/L	10 U	10 U
Acetophenone	--	UG/L	10 U	10 U
Anthracene	50	UG/L	10 U	10 U
Atrazine	7.5	UG/L	2 U	2 U
Benzaldehyde	--	UG/L	10 UJ	10 UJ
Benzo(A)Anthracene	0.002	UG/L	1 U	1 U
Benzo(A)Pyrene	0	UG/L	1 U	1 U

Table 14. Summary of Semivolatile Organic Compounds in Groundwater, 1612 5th Avenue, Bay Shore, New York

	Sample Designation:		RXMW-8	RXMW-9
	Sample Date:		01/08/2024	01/09/2024
	Regular Sample or Field Duplicate:		N	N
Parameters	NYSDEC Ambient Water Quality Standards and Guidance Values	Units		
Benzo(B)Fluoranthene	0.002	UG/L	2 U	2 U
Benzo(G,H,I)Perylene	--	UG/L	10 U	10 U
Benzo(K)Fluoranthene	0.002	UG/L	1 U	1 U
Benzyl Butyl Phthalate	50	UG/L	10 U	10 U
Biphenyl (Diphenyl)	5	UG/L	10 U	10 U
Bis(2-Chloroethoxy) Methane	5	UG/L	10 U	10 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	1	UG/L	1 U	1 U
Bis(2-Chloroisopropyl) Ether	5	UG/L	10 U	10 U
Bis(2-Ethylhexyl) Phthalate	5	UG/L	2 U	2 U
Caprolactam	--	UG/L	10 U	10 U
Carbazole	--	UG/L	10 U	10 U
Chrysene	0.002	UG/L	2 U	2 U
Cresols, M & P	--	UG/L	10 U	10 U
Dibenz(A,H)Anthracene	--	UG/L	1 U	1 U
Dibenzofuran	--	UG/L	10 U	10 U
Diethyl Phthalate	50	UG/L	10 U	10 U
Dimethyl Phthalate	50	UG/L	10 U	10 U
Di-N-Butyl Phthalate	50	UG/L	10 U	10 U
Di-N-Octylphthalate	--	UG/L	10 U	10 U
Fluoranthene	50	UG/L	10 U	10 U
Fluorene	50	UG/L	10 U	10 U
Hexachlorobenzene	0.04	UG/L	1 U	1 U
Hexachlorobutadiene	0.5	UG/L	1 U	1 U
Hexachlorocyclopentadiene	5	UG/L	10 U	10 U
Hexachloroethane	5	UG/L	2 U	2 U
Indeno(1,2,3-C,D)Pyrene	0.002	UG/L	2 U	2 UJ
Isophorone	50	UG/L	10 U	10 U
Naphthalene	10	UG/L	2 U	2 U
Nitrobenzene	0.4	UG/L	1 U	1 U
N-Nitrosodi-N-Propylamine	--	UG/L	1 U	1 U
N-Nitrosodiphenylamine	50	UG/L	10 U	10 U
Pentachlorophenol	1	UG/L	20 U	20 U
Phenanthrene	50	UG/L	10 U	10 U
Phenol	1	UG/L	10 U	10 U

Table 14. Summary of Semivolatile Organic Compounds in Groundwater, 1612 5th Avenue, Bay Shore, New York

		Sample Designation:	RXMW-8	RXMW-9
		Sample Date:	01/08/2024	01/09/2024
		Regular Sample or Field Duplicate:	N	N
Parameters	NYSDEC Ambient Water Quality Standards and Guidance Values	Units		
Pyrene	50	UG/L	10 U	10 U

Table 15. Summary of Metals in Groundwater, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Ambient Water Quality Standards and Guidance Values	Units	Sample Designation:	RXMW-10	RXMW-10	RXMW-10	RXMW-10	RXMW-11	RXMW-11	RXMW-12	RXMW-12	RXMW-13
			Sample Date:	01/08/2024	01/08/2024	01/08/2024	01/08/2024	01/09/2024	01/09/2024	01/10/2024	01/10/2024	01/10/2024
			Regular Sample or Field Duplicate:	N	N	FD	FD	N	N	N	N	N
			Total or Dissolved:	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
Aluminum	--	UG/L		37 J	40 U	42.6	40 U	211	40 U	49	40 U	86.2
Antimony	3	UG/L		2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic	25	UG/L		2 U	2 U	2 U	2 U	8.5	2 U	5.9	2 U	1.3 J
Barium	**1000**	UG/L		17.4	28	18.6	31.5	57.8	30.4	66.8	72.1	542
Beryllium	3	UG/L		0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Cadmium	5	UG/L		2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Calcium	--	UG/L		36500	33700	36800	34700	74000	74100	113000	116000	168000
Chromium, Hexavalent	50	UG/L		10 U	NA	10 U	NA	10 UJ	NA	10 U	NA	10 U
Chromium, Total	50	UG/L		4 U	4 U	4 U	4 U	4 U	4 U	2.6 J	4 U	4 U
Cobalt	--	UG/L		4 U	4 U	4 U	4 U	4 U	4 U	0.78 J	0.59 J	0.91 J
Copper	200	UG/L		4 U	4 U	4 U	4 U	2.7 J	4 U	4 U	4 U	4 U
Cyanide	200	UG/L		5.6 J	NA	6.6 J	NA	10 U	NA	10 U	NA	10 U
Iron	**300**	UG/L		45.5 J	20.1 J	65.9 J	120 U	**35500**	**1410**	**29100**	**2040**	**27100**
Lead	25	UG/L		1.2 U	1.2 U	1.2 U	1.2 U	2.1	1.2 U	0.55 J	1.2 U	1.8
Magnesium	**35000**	UG/L		2800	2670	2760	2690	5870	6080	21300	22200	28800
Manganese	**300**	UG/L		8.5	10.4	9.3	4.9 J	**992**	**981**	**831**	**842**	**698**
Mercury	0.7	UG/L		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.45
Nickel	100	UG/L		4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	1.6 J
Potassium	--	UG/L		6490	6030	6200	6340	10000	10500	28600	31000	56100
Selenium	10	UG/L		1.2 J	0.93 J	0.79 J	0.92 J	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Silver	50	UG/L		2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Sodium	**20000**	UG/L		**24200**	**23000**	**23500**	**24500**	**105000**	**113000**	**40100**	**40500**	**43700**
Thallium	0.5	UG/L		0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Vanadium	--	UG/L		4 U	4 U	4 U	4 U	4 U	4 U	1.4 J	4 U	2.6 J
Zinc	2000	UG/L		16 U	12.5 J	16 U	7.3 J	7.9 J	4.3 J	16 U	16 U	16 U

Table 15. Summary of Metals in Groundwater, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Ambient Water Quality Standards and Guidance Values	Units	Sample Designation:	RXMW-13	RXMW-14	RXMW-14	RXMW-15	RXMW-15	RXMW-8	RXMW-8	RXMW-9	RXMW-9
			Sample Date:	01/10/2024	01/09/2024	01/09/2024	01/09/2024	01/09/2024	01/08/2024	01/08/2024	01/09/2024	01/09/2024
			Regular Sample or Field Duplicate:	N	N	N	N	N	N	N	N	N
			Total or Dissolved:	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
Aluminum	--	UG/L		40 U	191	40 U	263	40 U	40 U	40 U	209	40 U
Antimony	3	UG/L		2 UJ	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic	25	UG/L		2 U	1.8 J	2 U	2.1	1.5 J	2 U	2 U	9.3	2 U
Barium	**1000**	UG/L		382	244	228	**1050**	640	17	32.1	88.3	43.1
Beryllium	3	UG/L		0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Cadmium	5	UG/L		2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Calcium	--	UG/L		164000	55400	55600	232000	224000	26200	24000	82500	82600
Chromium, Hexavalent	50	UG/L		NA	10 U	NA	10 U	NA	10 U	NA	10 U	NA
Chromium, Total	50	UG/L		4 U	4 U	4 U	7.3	3.5 J	4 U	4 U	4 U	4 U
Cobalt	--	UG/L		0.81 J	2.1 J	1.9 J	2.6 J	2.3 J	4 U	4 U	0.46 J	4 U
Copper	200	UG/L		4 U	4 U	4 U	2.9 J	4 U	4 U	4 U	2.6 J	4 U
Cyanide	200	UG/L		NA	10 U	NA	5.8 J	NA	10 U	NA	10 U	NA
Iron	**300**	UG/L		**471**	**20000**	**11500**	**32800**	149	24.3 J	18.9 J	**44700**	**1770**
Lead	25	UG/L		1.2 U	3	1.2 U	21.4	1.2 U	1.2 U	1.2 U	0.94 J	1.2 U
Magnesium	**35000**	UG/L		29400	17400	17600	**85700**	**82200**	2490	2450	8990	9100
Manganese	**300**	UG/L		**699**	**969**	**918**	**572**	**570**	71.8	90.2	**2350**	**2220**
Mercury	0.7	UG/L		0.2 U	0.2 U	0.096 J	0.2 U	0.36	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	100	UG/L		4 U	3.8 J	3 J	2.8 J	2.1 J	4 U	4 U	4 U	4 U
Potassium	--	UG/L		56800	12600	12600	72800	72900	2590	2320	14900	15100
Selenium	10	UG/L		2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	0.69 J	0.51 J	2.5 U	2.5 U
Silver	50	UG/L		2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Sodium	**20000**	UG/L		**43400**	**20800**	**21700**	**121000**	**122000**	8690	9400	**238000**	**241000**
Thallium	0.5	UG/L		0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Vanadium	--	UG/L		4 U	4 U	4 U	2.2 J	4 U	4 U	4 U	4 U	4 U
Zinc	2000	UG/L		16 U	11.8 J	9.1 J	40.4	5.4 J	16 U	19.6	16 U	8.5 J

Table 16. Summary of Polychlorinated Biphenyls in Groundwater, 1612 5th Avenue, Bay Shore, New York

		Sample Designation:	RXMW-10	RXMW-10	RXMW-11	RXMW-12	RXMW-13	RXMW-14	RXMW-15	RXMW-8
		Sample Date:	01/08/2024	01/08/2024	01/09/2024	01/10/2024	01/10/2024	01/09/2024	01/09/2024	01/08/2024
		Regular Sample or Field Duplicate:	N	FD	N	N	N	N	N	N
Parameters	NYSDEC Ambient Water Quality Standards and Guidance Values	Units								
PCB-1016 (Aroclor 1016)	--	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
PCB-1221 (Aroclor 1221)	--	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
PCB-1232 (Aroclor 1232)	--	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
PCB-1242 (Aroclor 1242)	--	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
PCB-1248 (Aroclor 1248)	--	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
PCB-1254 (Aroclor 1254)	--	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
PCB-1260 (Aroclor 1260)	--	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
PCB-1262 (Aroclor 1262)	--	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
PCB-1268 (Aroclor 1268)	--	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Polychlorinated Biphenyl (PCBs)	0.09	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U

Table 16. Summary of Polychlorinated Biphenyls in Groundwater, 1612 5th Avenue, Bay Shore, New York

		Sample Designation:	RXMW-9
		Sample Date:	01/09/2024
		Regular Sample or Field Duplicate:	N
Parameters	NYSDEC Ambient Water Quality Standards and Guidance Values	Units	
PCB-1016 (Aroclor 1016)	--	UG/L	0.4 U
PCB-1221 (Aroclor 1221)	--	UG/L	0.4 U
PCB-1232 (Aroclor 1232)	--	UG/L	0.4 U
PCB-1242 (Aroclor 1242)	--	UG/L	0.4 U
PCB-1248 (Aroclor 1248)	--	UG/L	0.4 U
PCB-1254 (Aroclor 1254)	--	UG/L	0.4 U
PCB-1260 (Aroclor 1260)	--	UG/L	0.4 U
PCB-1262 (Aroclor 1262)	--	UG/L	0.4 U
PCB-1268 (Aroclor 1268)	--	UG/L	0.4 U
Polychlorinated Biphenyl (PCBs)	0.09	UG/L	0.4 U

Table 17. Summary of Pesticides and Herbicides in Groundwater, 1612 5th Avenue, Bay Shore, New York

		Sample Designation:	RXMW-10	RXMW-10	RXMW-11	RXMW-12	RXMW-13	RXMW-14	RXMW-15
		Sample Date:	01/08/2024	01/08/2024	01/09/2024	01/10/2024	01/10/2024	01/09/2024	01/09/2024
		Regular Sample or Field Duplicate:	N	FD	N	N	N	N	N
Parameters	NYSDEC Ambient Water Quality Standards and Guidance Values	Units							
2,4-D (Dichlorophenoxyacetic Acid)	50	UG/L	1.2 UJ	1.2 UJ	1.2 UJ	1.2 U	1.2 U	1.2 UJ	1.2 UJ
Acetic acid, (2,4,5-trichlorophenoxy)-	35	UG/L	1.2 UT	1.2 UT	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Aldrin	0	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.01	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Alpha Endosulfan	--	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.04	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Beta Endosulfan	--	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Chlordane (Technical)	--	UG/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-Chlordane	--	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dieldrin	0.004	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan Sulfate	--	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	0	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin Aldehyde	5	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin Ketone	5	UG/L	0.02 UJ	0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Gamma Bhc (Lindane)	0.05	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Heptachlor	0.04	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Heptachlor Epoxide	0.03	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Methoxychlor	35	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
P,P'-DDD	0.3	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
P,P'-DDE	0.2	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
P,P'-DDT	0.2	UG/L	0.02 UJ	0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Silvex (2,4,5-TP)	0.26	UG/L	1.2 UJ	1.2 UJ	1.2 UJ	1.2 U	1.2 U	1.2 UJ	1.2 UJ
Toxaphene	0.06	UG/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Table 17. Summary of Pesticides and Herbicides in Groundwater, 1612 5th Avenue, Bay Shore, New York

		Sample Designation:	RXMW-8	RXMW-9
		Sample Date:	01/08/2024	01/09/2024
		Regular Sample or Field Duplicate:	N	N
Parameters	NYSDEC Ambient Water Quality Standards and Guidance Values	Units		
2,4-D (Dichlorophenoxyacetic Acid)	50	UG/L	1.2 UJ	1.2 UJ
Acetic acid, (2,4,5-trichlorophenoxy)-	35	UG/L	1.2 UT	1.2 U
Aldrin	0	UG/L	0.02 U	0.02 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.01	UG/L	0.02 U	0.02 U
Alpha Endosulfan	--	UG/L	0.02 U	0.02 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.04	UG/L	0.02 U	0.02 U
Beta Endosulfan	--	UG/L	0.02 U	0.02 U
Chlordane (Technical)	--	UG/L	0.5 U	0.5 U
cis-Chlordane	--	UG/L	0.02 U	0.02 U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	UG/L	0.02 U	0.02 U
Dieldrin	0.004	UG/L	0.02 U	0.02 U
Endosulfan Sulfate	--	UG/L	0.02 U	0.02 U
Endrin	0	UG/L	0.02 U	0.02 U
Endrin Aldehyde	5	UG/L	0.02 U	0.02 U
Endrin Ketone	5	UG/L	0.02 UJ	0.02 U
Gamma Bhc (Lindane)	0.05	UG/L	0.02 U	0.02 U
Heptachlor	0.04	UG/L	0.02 U	0.02 U
Heptachlor Epoxide	0.03	UG/L	0.02 U	0.02 U
Methoxychlor	35	UG/L	0.02 U	0.02 U
P,P'-DDD	0.3	UG/L	0.02 U	0.02 U
P,P'-DDE	0.2	UG/L	0.02 U	0.02 U
P,P'-DDT	0.2	UG/L	0.02 UJ	0.02 U
Silvex (2,4,5-TP)	0.26	UG/L	1.2 UJ	1.2 UJ
Toxaphene	0.06	UG/L	0.5 U	0.5 U

Table 18. Summary of Per- and Polyfluoroalkyl Substances in Groundwater, 1612 5th Avenue, Bay Shore, New York

Parameters	NYSDEC Ambient Water Quality Guidance Values	Units	RXMW-10	RXMW-10	RXMW-11	RXMW-12	RXMW-13	RXMW-14
Sample Designation:			RXMW-10	RXMW-10	RXMW-11	RXMW-12	RXMW-13	RXMW-14
Sample Date:			01/08/2024	01/08/2024	01/09/2024	01/10/2024	01/10/2024	01/09/2024
Regular Sample or Field Duplicate:			N	FD	N	N	N	N
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	NG/L	4.72 U	4.67 U	24.8 U	10 U	9.99 U	10 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	NG/L	18.9 U	18.7 U	99.1 U	2.66 J	40 U	40 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	NG/L	9.43 U	9.34 U	49.6 U	20 U	20 U	20 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	NG/L	1.89 U	1.87 U	9.91 U	2.68 J	21.6	4 U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	NG/L	18.9 U	18.7 U	99.1 U	40.1 U	12.1 J	40 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	NG/L	18.9 U	18.7 U	99.1 U	40.1 U	40 U	40 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	NG/L	9.43 U	9.34 U	49.6 U	20 U	20 U	20 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	NG/L	1.89 U	1.87 U	9.91 U	4.01 U	4 U	4 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	NG/L	4.72 U	4.67 U	24.8 U	10 U	9.99 U	10 U
N-ethyl perfluoro-1-octanesulfonamide	--	NG/L	1.89 U	1.87 U	9.91 U	4.01 U	4 U	4 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	NG/L	1.89 U	1.87 U	9.91 U	5.06	30.1	4 U
N-methyl perfluoro-1-octanesulfonamide	--	NG/L	1.89 U	1.87 U	9.91 U	4.01 U	4 U	4 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	NG/L	1.89 U	1.87 U	9.91 U	4.01 U	4 U	4 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	NG/L	4.72 U	4.67 U	24.8 U	10 U	9.99 U	10 U
Perfluoro(2-Propoxypropanoic) Acid	--	NG/L	1.89 U	1.87 U	9.91 U	4.01 U	4 U	4 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	NG/L	4.72 U	4.67 U	24.8 U	10 U	9.99 U	10 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	NG/L	4.72 U	4.67 U	24.8 U	10 U	9.99 U	10 U
Perfluorobutanesulfonic acid (PFBS)	--	NG/L	3.04	2.57	1.35 J	5.48	5.66	9.82
Perfluorobutanoic Acid	--	NG/L	11.7	11.4	9.13 J	25.2	25.1	43.2
Perfluorodecane Sulfonic Acid	--	NG/L	1.89 U	1.87 U	9.91 U	4.01 U	4 U	4 U
Perfluorodecanoic acid (PFDA)	--	NG/L	2.08	1.91	2.19 J	4.01 U	5.9	4 U
Perfluorododecane sulfonate (PFDoDS)	--	NG/L	1.89 U	1.87 U	9.91 U	4.01 U	4 U	4 U
Perfluorododecanoic acid (PFDoA)	--	NG/L	1.89 U	1.87 U	9.91 U	4.01 U	4 U	4 U
Perfluoroheptane Sulfonate (PFHPS)	--	NG/L	1.89 U	1.87 U	9.91 U	4.48	4 U	4 U
Perfluoroheptanoic acid (PFHpA)	--	NG/L	8.93	8.65	6.02 J	13.1	34.9	12.6
Perfluorohexanesulfonic acid (PFHxS)	--	NG/L	2.05	1.89	4.73 J	64.7	26.6	6.16
Perfluorohexanoic acid (PFHxA)	--	NG/L	13.6	14	11.5	39.6	65.4	19.2
Perfluorononanesulfonic Acid (PFNS)	--	NG/L	1.89 U	1.87 U	9.91 U	4.01 U	4 U	4 U
Perfluorononanoic acid (PFNA)	--	NG/L	2.34	2.21	3.37 J	1.49 J	14.8	1.49 J
Perfluorooctane Sulfonamide (FOSA)	--	NG/L	1.89 U	1.87 U	1.3 J	0.6 J	2.73 J	0.4 J
Perfluorooctanesulfonic acid (PFOS)	**2.7**	NG/L	**10.3**	**11**	**29.9**	**56.4**	**139**	**16**
Perfluorooctanoic acid (PFOA)	**6.7**	NG/L	**11.1**	**11.7**	**14.9**	**23.8**	**103**	**26.7**
Perfluoropentanesulfonic Acid (PFPeS)	--	NG/L	0.32 J	0.31 J	9.91 U	4.67	4.16	0.97 J
Perfluoropentanoic Acid (PFPeA)	--	NG/L	18.8	18.1	15.5	34.5	42	22.6
Perfluorotetradecanoic acid (PFTA)	--	NG/L	1.89 U	1.87 U	9.91 U	4.01 U	4 U	4 U

Table 18. Summary of Per- and Polyfluoroalkyl Substances in Groundwater, 1612 5th Avenue, Bay Shore, New York

		Sample Designation:	RXMW-10	RXMW-10	RXMW-11	RXMW-12	RXMW-13	RXMW-14
		Sample Date:	01/08/2024	01/08/2024	01/09/2024	01/10/2024	01/10/2024	01/09/2024
		Regular Sample or Field Duplicate:	N	FD	N	N	N	N
Parameters	NYSDEC Ambient Water Quality Guidance Values	Units						
Perfluorotridecanoic Acid (PFTriA)	--	NG/L	1.89 U	1.87 U	9.91 U	4.01 U	4 U	4 U
Perfluoroundecanoic Acid (PFUnA)	--	NG/L	1.89 U	1.87 U	9.91 U	4.01 U	0.85 J	4 U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	NG/L	9.43 U	9.34 U	49.6 U	20 U	20 U	20 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	NG/L	4.72 U	4.67 U	24.8 U	10 U	9.99 U	10 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	NG/L	9.43 U	9.34 U	49.6 U	20 U	200 U	1.54 J

Table 18. Summary of Per- and Polyfluoroalkyl Substances in Groundwater, 1612 5th Avenue, Bay Shore, New York

	Sample Designation:		RXMW-15	RXMW-8	RXMW-9
	Sample Date:		01/09/2024	01/08/2024	01/09/2024
	Regular Sample or Field Duplicate:		N	N	N
Parameters	NYSDEC Ambient Water Quality Guidance Values	Units			
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	NG/L	25 U	4.72 U	49.4 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	NG/L	99.8 U	18.9 U	198 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	NG/L	49.9 U	9.43 U	98.8 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	NG/L	10.9	1.89 U	19.8 U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	NG/L	31.7 J	18.9 U	198 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	NG/L	99.8 U	18.9 U	198 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	NG/L	49.9 U	9.43 U	98.8 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	NG/L	9.98 U	1.89 U	19.8 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	NG/L	25 U	4.72 U	49.4 U
N-ethyl perfluoro-1-octanesulfonamide	--	NG/L	9.98 U	1.89 U	19.8 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	NG/L	47.9	1.89 U	19.8 U
N-methyl perfluoro-1-octanesulfonamide	--	NG/L	9.98 U	1.89 U	19.8 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	NG/L	9.98 U	1.89 U	19.8 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	NG/L	25 U	4.72 U	49.4 U
Perfluoro(2-Propoxypropanoic) Acid	--	NG/L	9.98 U	1.89 U	19.8 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	NG/L	25 U	4.72 U	49.4 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	NG/L	25 U	4.72 U	49.4 U
Perfluorobutanesulfonic acid (PFBS)	--	NG/L	6.47 J	1.39 J	2.64 J
Perfluorobutanoic Acid	--	NG/L	33.3	6.06	14.2 J
Perfluorodecane Sulfonic Acid	--	NG/L	9.98 U	1.89 U	19.8 U
Perfluorodecanoic acid (PFDA)	--	NG/L	2.07 J	0.84 J	19.8 U
Perfluorododecane sulfonate (PFDoDS)	--	NG/L	9.98 U	1.89 U	19.8 U
Perfluorododecanoic acid (PFDoA)	--	NG/L	9.98 U	1.89 U	19.8 U
Perfluoroheptane Sulfonate (PFHPS)	--	NG/L	9.98 U	1.89 U	19.8 U
Perfluoroheptanoic acid (PFHpA)	--	NG/L	54.7	5.04	12.9 J
Perfluorohexanesulfonic acid (PFHxS)	--	NG/L	65.6	0.96 J	23
Perfluorohexanoic acid (PFHxA)	--	NG/L	57.5	7.97	24.7
Perfluorononanesulfonic Acid (PFNS)	--	NG/L	9.98 U	1.89 U	19.8 U
Perfluorononanoic acid (PFNA)	--	NG/L	16.5	1.56 J	3.52 J
Perfluorooctane Sulfonamide (FOSA)	--	NG/L	1.24 J	1.89 U	2.58 J
Perfluorooctanesulfonic acid (PFOS)	**2.7**	NG/L	**84.5**	**6.42**	**33.9**
Perfluorooctanoic acid (PFOA)	**6.7**	NG/L	**2150**	4.69	**43.8**
Perfluoropentanesulfonic Acid (PFPeS)	--	NG/L	17.5	1.89 U	19.8 U
Perfluoropentanoic Acid (PFPeA)	--	NG/L	56.5	12.3	20.6
Perfluorotetradecanoic acid (PFTA)	--	NG/L	9.98 U	1.89 U	19.8 U

Table 18. Summary of Per- and Polyfluoroalkyl Substances in Groundwater, 1612 5th Avenue, Bay Shore, New York

	Sample Designation:		RXMW-15	RXMW-8	RXMW-9
	Sample Date:		01/09/2024	01/08/2024	01/09/2024
	Regular Sample or Field Duplicate:		N	N	N
Parameters	NYSDEC Ambient Water Quality Guidance Values	Units			
Perfluorotridecanoic Acid (PFTriA)	--	NG/L	9.98 U	1.89 U	19.8 U
Perfluoroundecanoic Acid (PFUnA)	--	NG/L	9.98 U	0.29 J	19.8 U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	NG/L	49.9 U	9.43 U	98.8 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	NG/L	25 U	4.72 U	49.4 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	NG/L	10.1 J	9.43 U	18.1 J

Table 19. Summary of Volatile Organic Compounds in Soil Vapor, 1612 5th Avenue, Bay Shore, New York

Sample Designation:		RXSV-10	RXSV-11	RXSV-12	RXSV-13	RXSV-14	RXSV-5	RXSV-5
Sample Date:		01/05/2024	01/05/2024	01/05/2024	01/05/2024	01/05/2024	01/05/2024	01/05/2024
Regular Samples or Field Duplicates:		N	N	N	N	N	N	FD
Parameter	Units							
1,1,1-Trichloroethane (TCA)	UG/M3	2.2 U	4.4 U	22 UJ	2.2 U	4.4 UJ	11 U	5.5 UJ
1,1,2,2-Tetrachloroethane	UG/M3	2.7 U	5.5 U	27 UJ	2.7 U	5.5 UJ	14 U	6.9 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/M3	3.1 U	6.1 U	31 UJ	3.1 U	6.1 UJ	15 U	7.7 UJ
1,1,2-Trichloroethane	UG/M3	2.2 U	4.4 U	22 UJ	2.2 U	4.4 UJ	11 U	5.5 UJ
1,1-Dichloroethane	UG/M3	1.6 U	3.2 U	16 UJ	1.6 U	3.2 UJ	8.1 U	4 UJ
1,1-Dichloroethene	UG/M3	0.4 U	0.8 U	4 UJ	**0.32 J**	**0.53 J**	2 U	1 UJ
1,2,4-Trichlorobenzene	UG/M3	7.4 U	15 U	74 UJ	7.4 U	15 UJ	37 U	19 UJ
1,2,4-Trimethylbenzene	UG/M3	**1.4 J**	3.9 U	20 UJ	**0.95 J**	3.9 UJ	9.8 U	4.9 UJ
1,2-Dibromoethane (Ethylene Dibromide)	UG/M3	3.1 U	6.1 U	31 UJ	3.1 U	6.1 UJ	15 U	7.7 UJ
1,2-Dichlorobenzene	UG/M3	2.4 U	4.8 U	24 UJ	2.4 U	4.8 UJ	12 U	6 UJ
1,2-Dichloroethane	UG/M3	1.6 U	3.2 U	16 UJ	1.6 U	3.2 UJ	8.1 U	4 UJ
1,2-Dichloropropane	UG/M3	1.8 U	3.7 U	18 UJ	1.8 U	3.7 UJ	9.2 U	4.6 UJ
1,2-Dichlorotetrafluoroethane	UG/M3	**2.3 J**	**23**	**34 J**	2.8 U	5.6 UJ	**13 J**	**6.9 J**
1,3,5-Trimethylbenzene (Mesitylene)	UG/M3	2 U	3.9 U	20 UJ	2 U	3.9 UJ	9.8 U	4.9 UJ
1,3-Butadiene	UG/M3	**9.4**	1.8 U	8.8 UJ	**1.1**	**1.4 J**	4.4 U	2.2 UJ
1,3-Dichlorobenzene	UG/M3	**1.7 J**	4.8 U	24 UJ	**2.1 J**	4.8 UJ	12 U	6 UJ
1,4-Dichlorobenzene	UG/M3	2.4 U	4.8 U	24 UJ	2.4 U	4.8 UJ	12 U	6 UJ
1,4-Dioxane (P-Dioxane)	UG/M3	36 U	72 U	360 UJ	36 U	72 UJ	180 U	90 UJ
2,2,4-Trimethylpentane	UG/M3	**43**	**53**	**220 J**	**110**	**6.6 J**	**79**	**21 J**
2-Chlorotoluene	UG/M3	2.1 U	4.1 U	21 UJ	2.1 U	4.1 UJ	10 U	5.2 UJ
2-Hexanone	UG/M3	4.1 U	8.2 U	41 UJ	4.1 U	8.2 UJ	20 U	10 UJ
4-Ethyltoluene	UG/M3	2 U	3.9 U	20 UJ	2 U	3.9 UJ	9.8 U	4.9 UJ
Acetone	UG/M3	**130**	**100**	240 UJ	**440 E**	**120 J**	**110 J**	59 UJ
Allyl Chloride (3-Chloropropene)	UG/M3	3.1 U	6.3 U	31 UJ	3.1 U	6.3 UJ	16 U	7.8 UJ
Benzene	UG/M3	**6.7**	**2.1 J**	**6 J**	**24**	**32 J**	**2.5 J**	**1.5 J**
Benzyl Chloride	UG/M3	2.1 U	4.1 U	21 UJ	2.1 U	4.1 UJ	10 U	5.2 UJ
Bromodichloromethane	UG/M3	2.7 U	5.4 U	27 UJ	2.7 U	5.4 UJ	13 U	6.7 UJ
Bromoform	UG/M3	4.1 U	8.3 U	41 UJ	4.1 U	8.3 UJ	21 U	10 UJ
Bromomethane	UG/M3	1.6 U	3.1 U	15 UJ	1.6 U	3.1 UJ	7.8 U	3.9 UJ
Butane	UG/M3	**640**	**3000**	**3800 J**	**690**	**1300 J**	**1500**	**870 J**
Carbon Disulfide	UG/M3	**17**	**1.7 J**	31 UJ	**18**	**19 J**	**4.1 J**	7.8 UJ
Carbon Tetrachloride	UG/M3	0.44 U	0.88 U	4.4 UJ	0.44 U	0.88 UJ	2.2 U	1.1 UJ
Chlorobenzene	UG/M3	1.8 U	3.7 U	18 UJ	1.8 U	3.7 UJ	9.2 U	4.6 UJ
Chlorodifluoromethane	UG/M3	**450**	**510**	**1200 J**	**5.8**	**11 J**	**410**	**230 J**
Chloroethane	UG/M3	2.6 U	5.3 U	26 UJ	2.6 U	5.3 UJ	13 U	6.6 UJ
Chloroform	UG/M3	2 U	3.9 U	19 UJ	2 U	3.9 UJ	9.7 U	4.9 UJ
Chloromethane	UG/M3	**1.8 J**	4.1 U	21 UJ	2.1 U	4.1 UJ	10 U	5.2 UJ

Table 19. Summary of Volatile Organic Compounds in Soil Vapor, 1612 5th Avenue, Bay Shore, New York

Sample Designation:		RXSV-10	RXSV-11	RXSV-12	RXSV-13	RXSV-14	RXSV-5	RXSV-5
Sample Date:		01/05/2024	01/05/2024	01/05/2024	01/05/2024	01/05/2024	01/05/2024	01/05/2024
Regular Samples or Field Duplicates:		N	N	N	N	N	N	FD
Parameter	Units							
Cis-1,2-Dichloroethylene	UG/M3	0.4 U	0.8 U	4 UJ	**0.78**	**13 J**	2 U	1 UJ
Cis-1,3-Dichloropropene	UG/M3	1.8 U	3.6 U	18 UJ	1.8 U	3.6 UJ	9.1 U	4.5 UJ
Cyclohexane	UG/M3	**66**	**34**	**71 J**	**64**	**30 J**	**18**	**5.1 J**
Cymene	UG/M3	2.2 U	4.4 U	**6.8 J**	2.2 U	4.4 UJ	11 U	5.5 UJ
Dibromochloromethane	UG/M3	3.4 U	6.8 U	34 UJ	3.4 U	6.8 UJ	17 U	8.5 UJ
Dichlorodifluoromethane	UG/M3	**8**	**6.3 J**	**27 J**	**110**	**5.5 J**	**13 J**	**3.2 J**
Ethylbenzene	UG/M3	**1.6 J**	3.5 U	17 UJ	**2.3**	3.5 UJ	8.7 U	4.3 UJ
Hexachlorobutadiene	UG/M3	4.3 U	8.5 U	42 UJ	4.3 U	8.5 UJ	21 U	11 UJ
Isopropanol	UG/M3	**13 J**	**20 J**	240 UJ	**12 J**	**27 J**	120 U	61 UJ
Isopropylbenzene (Cumene)	UG/M3	2 U	3.9 U	**5.1 J**	2 U	3.9 UJ	9.8 U	4.9 UJ
m,p-Xylene	UG/M3	**5.6**	8.7 U	**11 J**	**5.8**	8.7 UJ	22 U	11 UJ
Methane	UG/M3	**280000000**	**190000000**	**290000000**	**24000000**	**380000000**	**200000000**	**260000000**
Methyl Ethyl Ketone (2-Butanone)	UG/M3	**10**	**8.4**	29 UJ	**24**	**21 J**	15 U	7.4 UJ
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	UG/M3	4.1 U	8.2 U	41 UJ	4.1 U	8.2 UJ	20 U	10 UJ
Methyl Methacrylate	UG/M3	4.1 U	8.2 U	41 UJ	4.1 U	8.2 UJ	20 U	10 UJ
Methylene Chloride	UG/M3	3.5 U	6.9 U	35 UJ	**4.1**	6.9 UJ	**6.9 J**	8.7 UJ
Naphthalene	UG/M3	5.2 U	10 U	52 UJ	5.2 U	10 UJ	26 U	13 UJ
N-Butylbenzene	UG/M3	2.2 U	4.4 U	22 UJ	2.2 U	4.4 UJ	11 U	5.5 UJ
N-Heptane	UG/M3	**19**	**18**	**250 J**	**67**	**19 J**	**19**	**6.6 J**
N-Hexane	UG/M3	**58**	**140**	**280 J**	**110**	**99 J**	**98**	**41 J**
N-Propylbenzene	UG/M3	**0.54 J**	3.9 U	20 UJ	2 U	3.9 UJ	9.8 U	4.9 UJ
O-Xylene (1,2-Dimethylbenzene)	UG/M3	**2.4**	3.5 U	17 UJ	**2.6**	3.5 UJ	8.7 U	4.3 UJ
Sec-Butylbenzene	UG/M3	2.2 U	4.4 U	22 UJ	2.2 U	4.4 UJ	11 U	5.5 UJ
Styrene	UG/M3	1.7 U	3.4 U	17 UJ	1.7 U	3.4 UJ	8.5 U	4.3 UJ
T-Butylbenzene	UG/M3	2.2 U	4.4 U	22 UJ	2.2 U	4.4 UJ	11 U	5.5 UJ
Tert-Butyl Alcohol	UG/M3	30 U	61 U	300 UJ	30 U	61 UJ	150 U	76 UJ
Tert-Butyl Methyl Ether	UG/M3	**2.2**	2.9 U	14 UJ	1.4 U	2.9 UJ	7.2 U	3.6 UJ
Tetrachloroethylene (PCE)	UG/M3	**2 J**	**0.75 J**	27 UJ	**16**	**2.4 J**	14 U	**0.76 J**
Tetrahydrofuran	UG/M3	29 U	59 U	290 UJ	29 U	59 UJ	150 U	74 UJ
Toluene	UG/M3	**5.3**	**1.8 J**	**13 J**	**13**	**2.3 J**	**5.4 J**	**1.2 J**
Trans-1,2-Dichloroethene	UG/M3	1.6 U	3.2 U	16 UJ	1.6 U	**1.2 J**	7.9 U	4 UJ
Trans-1,3-Dichloropropene	UG/M3	1.8 U	3.6 U	18 UJ	1.8 U	3.6 UJ	9.1 U	4.5 UJ
Trichloroethylene (TCE)	UG/M3	0.4 U	0.8 U	4 UJ	**4.8**	**4.3 J**	2 U	1 UJ
Trichlorofluoromethane	UG/M3	2.2 U	**1.3 J**	22 UJ	**40**	**3.2 J**	11 U	5.6 UJ
Vinyl Bromide	UG/M3	1.7 U	3.5 U	17 UJ	1.7 U	3.5 UJ	8.7 U	4.4 UJ
Vinyl Chloride	UG/M3	0.4 U	0.8 U	4 UJ	0.4 U	0.8 UJ	2 U	1 UJ

Table 19. Summary of Volatile Organic Compounds in Soil Vapor, 1612 5th Avenue, Bay Shore, New York

Sample Designation:		RXSV-6	RXSV-7	RXSV-8	RXSV-9
Sample Date:		01/05/2024	01/04/2024	01/04/2024	01/05/2024
Regular Samples or Field Duplicates:		N	N	N	N
Parameter	Units				
1,1,1-Trichloroethane (TCA)	UG/M3	2.2 U	11 U	11 U	1.1 U
1,1,2,2-Tetrachloroethane	UG/M3	2.7 U	14 U	14 U	1.4 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/M3	3.1 U	15 U	15 U	1.5 U
1,1,2-Trichloroethane	UG/M3	2.2 U	11 U	11 U	1.1 U
1,1-Dichloroethane	UG/M3	1.6 U	8.1 U	8.1 U	0.81 U
1,1-Dichloroethene	UG/M3	0.4 U	2 U	2 U	0.2 U
1,2,4-Trichlorobenzene	UG/M3	7.4 U	37 U	37 U	3.7 U
1,2,4-Trimethylbenzene	UG/M3	**0.98 J**	**4.7 J**	9.8 U	**0.89 J**
1,2-Dibromoethane (Ethylene Dibromide)	UG/M3	3.1 U	15 U	15 U	1.5 U
1,2-Dichlorobenzene	UG/M3	2.4 U	12 U	12 U	1.2 U
1,2-Dichloroethane	UG/M3	1.6 U	8.1 U	8.1 U	0.81 U
1,2-Dichloropropane	UG/M3	1.8 U	9.2 U	9.2 U	0.92 U
1,2-Dichlorotetrafluoroethane	UG/M3	2.8 U	**77**	**18**	**1.2 J**
1,3,5-Trimethylbenzene (Mesitylene)	UG/M3	2 U	9.8 U	9.8 U	**0.24 J**
1,3-Butadiene	UG/M3	**0.51 J**	4.4 U	4.4 U	0.44 U
1,3-Dichlorobenzene	UG/M3	**1.5 J**	12 U	12 U	**2**
1,4-Dichlorobenzene	UG/M3	2.4 U	12 U	12 U	1.2 U
1,4-Dioxane (P-Dioxane)	UG/M3	36 U	180 U	180 U	18 U
2,2,4-Trimethylpentane	UG/M3	**13**	**140**	**37**	**1.3**
2-Chlorotoluene	UG/M3	2.1 U	10 U	10 U	1 U
2-Hexanone	UG/M3	4.1 U	20 U	20 U	2 U
4-Ethyltoluene	UG/M3	2 U	9.8 U	9.8 U	**0.24 J**
Acetone	UG/M3	**79**	**86 J**	**58 J**	**13**
Allyl Chloride (3-Chloropropene)	UG/M3	3.1 U	16 U	16 U	1.6 U
Benzene	UG/M3	**4.6**	**6.3 J**	**11**	**1.5**
Benzyl Chloride	UG/M3	2.1 U	10 U	10 U	1 U
Bromodichloromethane	UG/M3	2.7 U	13 U	13 U	1.3 U
Bromoform	UG/M3	4.1 U	21 U	21 U	2.1 U
Bromomethane	UG/M3	1.6 U	7.8 U	7.8 U	0.78 U
Butane	UG/M3	**300**	**3700**	**1800**	**0.88 J**
Carbon Disulfide	UG/M3	**17**	**7.2 J**	**14 J**	1.6 U
Carbon Tetrachloride	UG/M3	0.44 U	2.2 U	2.2 U	0.22 U
Chlorobenzene	UG/M3	1.8 U	9.2 U	9.2 U	0.92 U
Chlorodifluoromethane	UG/M3	**2.4 J**	**760**	**130**	**2.7**
Chloroethane	UG/M3	2.6 U	13 U	13 U	1.3 U
Chloroform	UG/M3	2 U	9.8 U	9.8 U	**6**
Chloromethane	UG/M3	2.1 U	10 U	10 U	1 U

Table 19. Summary of Volatile Organic Compounds in Soil Vapor, 1612 5th Avenue, Bay Shore, New York

Sample Designation:		RXSV-6	RXSV-7	RXSV-8	RXSV-9
Sample Date:		01/05/2024	01/04/2024	01/04/2024	01/05/2024
Regular Samples or Field Duplicates:		N	N	N	N
Parameter	Units				
Cis-1,2-Dichloroethylene	UG/M3	0.4 U	2 U	2 U	0.2 U
Cis-1,3-Dichloropropene	UG/M3	1.8 U	9.1 U	9.1 U	0.91 U
Cyclohexane	UG/M3	**27**	**120**	**39**	**0.37 J**
Cymene	UG/M3	2.2 U	**17**	**3.4 J**	1.1 U
Dibromochloromethane	UG/M3	3.4 U	17 U	17 U	1.7 U
Dichlorodifluoromethane	UG/M3	4.9 U	**19 J**	25 U	**11**
Ethylbenzene	UG/M3	**1 J**	**6.5 J**	**6.7 J**	**1.7**
Hexachlorobutadiene	UG/M3	4.3 U	21 U	21 U	2.1 U
Isopropanol	UG/M3	**12 J**	120 U	120 U	**8.4 J**
Isopropylbenzene (Cumene)	UG/M3	2 U	9.8 U	9.8 U	0.98 U
m,p-Xylene	UG/M3	**3.1 J**	**20 J**	**19 J**	**6.2**
Methane	UG/M3	**240000000**	**300000000**	**330000000**	5300000 U
Methyl Ethyl Ketone (2-Butanone)	UG/M3	**18**	15 U	15 U	**1.5**
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	UG/M3	4.1 U	20 U	**11 J**	2 U
Methyl Methacrylate	UG/M3	4.1 U	20 U	20 U	2 U
Methylene Chloride	UG/M3	**2.4 J**	17 U	17 U	1.7 U
Naphthalene	UG/M3	5.2 U	26 U	26 U	2.6 U
N-Butylbenzene	UG/M3	2.2 U	11 U	11 U	1.1 U
N-Heptane	UG/M3	**77**	**460**	**490**	**2.3**
N-Hexane	UG/M3	**55**	**430**	**230**	**1.4 J**
N-Propylbenzene	UG/M3	2 U	9.8 U	9.8 U	0.98 U
O-Xylene (1,2-Dimethylbenzene)	UG/M3	**1.5 J**	**8.1 J**	**6.7 J**	**2.2**
Sec-Butylbenzene	UG/M3	2.2 U	11 U	11 U	1.1 U
Styrene	UG/M3	1.7 U	8.5 U	8.5 U	0.85 U
T-Butylbenzene	UG/M3	2.2 U	11 U	11 U	1.1 U
Tert-Butyl Alcohol	UG/M3	30 U	150 U	150 U	15 U
Tert-Butyl Methyl Ether	UG/M3	1.4 U	7.2 U	7.2 U	0.72 U
Tetrachloroethylene (PCE)	UG/M3	**1.9 J**	**4 J**	**4 J**	**11**
Tetrahydrofuran	UG/M3	29 U	150 U	150 U	15 U
Toluene	UG/M3	**6.7**	**17**	**12**	**9.9**
Trans-1,2-Dichloroethene	UG/M3	1.6 U	7.9 U	7.9 U	0.79 U
Trans-1,3-Dichloropropene	UG/M3	1.8 U	9.1 U	9.1 U	0.91 U
Trichloroethylene (TCE)	UG/M3	0.4 U	2 U	2 U	0.2 U
Trichlorofluoromethane	UG/M3	**0.82 J**	11 U	11 U	**12**
Vinyl Bromide	UG/M3	1.7 U	8.7 U	8.7 U	0.87 U
Vinyl Chloride	UG/M3	0.4 U	2 U	2 U	0.2 U

Notes Utilized Throughout Tables	
Soil Tables	
J -	Estimated value
U -	The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit
UJ -	Analyte was not detected. The associated reported quantitation limit is an estimate
ft bls -	Feet below land surface
FD -	Duplicate sample
µg/kg -	Micrograms per kilogram
NYSDEC -	New York State Department of Environmental Conservation
GV -	Guidance Values
--	No GV available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use GV	
Shaded data indicates that parameter was detected above the NYSDEC Part 375 Industrial GV	
Red data indicates that parameter was detected above the NYSDEC Part 375 Protection of Groundwater GV	
Groundwater Tables	
J -	Estimated Value
U -	The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit
UJ -	Analyte was not detected. The associated reported quantitation limit is an estimate
T -	Indicates that a quality control parameter has exceeded laboratory limits
FD -	Duplicate sample
ng/L -	Nanogram per liter
NYSDEC -	New York State Department of Environmental Conservation
AWQSGVs -	Ambient Water-Quality Standards and Guidance Values
--	No NYSDEC AWQSGV available
Bold data indicates that parameter was detected above the NYSDEC AWQSGVs	

Table 20. Summary of Per- and Polyfluoroalkyl Substances in Soil

Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units	BERM-10	BERM-11	BERM-12	BERM-13	BERM-14
Sample Designation:					BERM-10	BERM-11	BERM-12	BERM-13	BERM-14
Sample Date:					07/28/2025	07/28/2025	07/28/2025	07/28/2025	07/28/2025
Sample Depth (ft bls):					2 - 3	2 - 3	2 - 3	2 - 3	2 - 3
Regular Sample or Field Duplicate:					N	N	N	N	N
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	--	--	UG/KG	0.3 U	0.64 U	0.4 U	0.24 U	0.24 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	1.5 U	3.19 U	2.01 U	1.2 U	1.21 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	1.5 U	3.19 U	2.01 U	1.2 U	1.21 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	--	--	UG/KG	0.12 J	0.64 U	0.12 J	0.24 U	0.24 U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	--	--	UG/KG	1.5 U	1.59 U	2.01 U	1.2 U	1.21 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	--	--	UG/KG	1.5 U	1.59 U	2.01 U	1.2 U	1.21 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	--	--	UG/KG	0.6 U	0.64 U	0.8 U	0.48 U	0.48 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	UG/KG	0.3 U	0.32 U	0.4 U	0.24 U	0.24 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	--	--	UG/KG	0.3 U	0.64 U	0.4 U	0.24 U	0.24 U
N-ethyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.3 U	0.64 U	0.4 U	0.24 U	0.24 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	--	--	UG/KG	0.43	0.64 U	0.22 J	0.24 U	0.24 U
N-methyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.3 U	0.64 U	0.4 U	0.24 U	0.24 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	--	--	UG/KG	0.3 U	0.32 U	0.4 U	0.24 U	0.24 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	--	--	UG/KG	0.3 U	0.32 U	0.4 U	0.24 U	0.24 U
Perfluoro(2-Propoxypropanoic) Acid	--	--	--	UG/KG	0.3 U	0.32 U	0.4 U	0.24 U	0.24 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	--	--	UG/KG	0.3 U	0.32 U	0.4 U	0.24 U	0.24 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	--	--	UG/KG	0.3 U	0.32 U	0.4 U	0.24 U	0.24 U
Perfluorobutanesulfonic acid (PFBS)	--	--	--	UG/KG	0.3 U	0.32 U	0.4 U	0.24 U	0.24 U
Perfluorobutanoic Acid	--	--	--	UG/KG	0.6 U	0.64 U	0.8 U	0.48 U	0.48 U
Perfluorodecane Sulfonic Acid	--	--	--	UG/KG	0.3 U	0.64 U	0.4 U	0.13 J	0.24 U
Perfluorodecanoic acid (PFDA)	--	--	--	UG/KG	0.093 J	0.64 U	0.33 J	0.24 U	0.24 U
Perfluorododecane sulfonate (PFDoDS)	--	--	--	UG/KG	0.3 U	0.64 U	0.4 U	0.24 U	0.24 U
Perfluorododecanoic acid (PFDoA)	--	--	--	UG/KG	0.1 J	0.64 U	0.13 J	0.13 J	0.084 J
Perfluoroheptane Sulfonate (PFHPS)	--	--	--	UG/KG	0.3 U	0.64 U	0.4 U	0.24 U	0.24 U
Perfluoroheptanoic acid (PFHpA)	--	--	--	UG/KG	0.3 U	0.32 U	0.4 U	0.24 U	0.24 U
Perfluorohexanesulfonic acid (PFHxS)	--	--	--	UG/KG	0.3 U	0.32 U	0.4 U	0.24 U	0.24 U
Perfluorohexanoic acid (PFHxA)	--	--	--	UG/KG	0.3 U	0.32 U	0.4 U	0.24 U	0.24 U
Perfluorononanesulfonic Acid (PFNS)	--	--	--	UG/KG	0.3 U	0.64 U	0.4 U	0.24 U	0.24 U
Perfluorononanoic acid (PFNA)	--	--	--	UG/KG	0.12 J	0.32 U	0.3 J	0.24 U	0.24 U
Perfluorooctane Sulfonamide (FOSA)	--	--	--	UG/KG	0.12 J	0.64 U	0.14 J	0.24 U	0.24 U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	UG/KG	0.62	0.58 J	**4.79**	0.25	0.15 J
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	UG/KG	0.39	0.32 U	0.4 U	0.24 U	0.24 U
Perfluoropentanesulfonic Acid (PFPeS)	--	--	--	UG/KG	0.3 U	0.32 U	0.5	0.24 U	0.24 U

Table 20. Summary of Per- and Polyfluoroalkyl Substances in Soil

			Sample Designation:		BERM-10	BERM-11	BERM-12	BERM-13	BERM-14
			Sample Date:		07/28/2025	07/28/2025	07/28/2025	07/28/2025	07/28/2025
			Sample Depth (ft bls):		2 - 3	2 - 3	2 - 3	2 - 3	2 - 3
			Regular Sample or Field Duplicate:		N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units					
Perfluoropentanoic Acid (PFPeA)	--	--	--	UG/KG	0.3 U	0.32 U	0.4 U	0.24 U	0.24 U
Perfluorotetradecanoic acid (PFTA)	--	--	--	UG/KG	0.3 U	0.64 U	0.4 U	0.24 U	0.24 U
Perfluorotridecanoic Acid (PFTriA)	--	--	--	UG/KG	0.077 J	0.64 U	0.4 U	0.24 U	0.24 U
Perfluoroundecanoic Acid (PFUnA)	--	--	--	UG/KG	0.12 J	0.64 U	0.36 J	0.24 U	0.24 U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	--	--	UG/KG	0.6 U	1.28 U	0.8 U	0.48 U	0.48 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	--	--	UG/KG	0.6 U	0.64 U	0.8 U	0.48 U	0.48 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	--	--	UG/KG	0.6 U	0.64 U	0.8 U	0.48 U	0.48 U

Table 20. Summary of Per- and Polyfluoroalkyl Substances in Soil

Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units	Sample Designation: BERM-15	RXSB-39	RXSB-39	RXSB-39	RXSB-39
					Sample Date: 07/31/2025	07/29/2025	07/29/2025	08/04/2025	08/04/2025
					Sample Depth (ft bls): 2 - 3	0 - 2	10 - 12	33 - 35	35 - 37
					Regular Sample or Field Duplicate: N	N	N	N	N
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	1.18 U	1.07 U	1.24 U	1.27 U	1.17 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	1.18 U	1.07 U	1.24 U	1.27 U	1.17 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	--	--	UG/KG	0.24 U	0.21 U	0.081 J	0.25 U	0.23 U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	--	--	UG/KG	1.18 U	1.07 U	1.24 U	1.27 U	1.17 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	--	--	UG/KG	1.18 U	1.07 U	1.24 U	1.27 U	1.17 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	--	--	UG/KG	0.47 U	0.43 U	0.5 U	0.51 U	0.47 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
N-ethyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	--	--	UG/KG	0.24 U	0.21 U	1.16	0.47	0.23 U
N-methyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluoro(2-Propoxypropanoic) Acid	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluorobutanesulfonic acid (PFBS)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluorobutanoic Acid	--	--	--	UG/KG	0.47 U	0.43 U	0.5 U	0.51 U	0.47 U
Perfluorodecane Sulfonic Acid	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluorodecanoic acid (PFDA)	--	--	--	UG/KG	0.087 J	0.21 U	0.25 U	0.25 U	0.23 U
Perfluorododecane sulfonate (PFDoDS)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluorododecanoic acid (PFDoA)	--	--	--	UG/KG	0.059 J	0.21 U	0.25 U	0.25 U	0.23 U
Perfluoroheptane Sulfonate (PFHPS)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluoroheptanoic acid (PFHpA)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluorohexanesulfonic acid (PFHxS)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluorohexanoic acid (PFHxA)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluorononanesulfonic Acid (PFNS)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluorononanoic acid (PFNA)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluorooctane Sulfonamide (FOSA)	--	--	--	UG/KG	0.24 U	0.21 U	0.071 J	0.25 U	0.23 U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	UG/KG	0.23 J	0.43	0.44	**1.5**	0.06 J
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluoropentanesulfonic Acid (PFPeS)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U

Table 20. Summary of Per- and Polyfluoroalkyl Substances in Soil

			Sample Designation:		BERM-15	RXSB-39	RXSB-39	RXSB-39	RXSB-39
			Sample Date:		07/31/2025	07/29/2025	07/29/2025	08/04/2025	08/04/2025
			Sample Depth (ft bls):		2 - 3	0 - 2	10 - 12	33 - 35	35 - 37
			Regular Sample or Field Duplicate:		N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units					
Perfluoropentanoic Acid (PFPeA)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluorotetradecanoic acid (PFTA)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluorotridecanoic Acid (PFTriA)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Perfluoroundecanoic Acid (PFUnA)	--	--	--	UG/KG	0.24 U	0.21 U	0.25 U	0.25 U	0.23 U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	--	--	UG/KG	0.47 U	0.43 U	0.5 U	0.51 U	0.47 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	--	--	UG/KG	0.47 U	0.43 U	0.5 U	0.51 U	0.47 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	--	--	UG/KG	0.47 U	0.43 U	0.5 U	0.51 U	0.47 U

Table 20. Summary of Per- and Polyfluoroalkyl Substances in Soil

Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units	Sample Designation: RXSB-39 Sample Date: 08/04/2025 Sample Depth (ft bls): 35 - 37 Regular Sample or Field Duplicate: FD	Sample Designation: RXSB-40 Sample Date: 08/06/2025 Sample Depth (ft bls): 0 - 2 Regular Sample or Field Duplicate: N	Sample Designation: RXSB-40 Sample Date: 08/06/2025 Sample Depth (ft bls): 10 - 12 Regular Sample or Field Duplicate: N	Sample Designation: RXSB-40 Sample Date: 08/08/2025 Sample Depth (ft bls): 27 - 29 Regular Sample or Field Duplicate: N	Sample Designation: RXSB-40 Sample Date: 08/08/2025 Sample Depth (ft bls): 29 - 31 Regular Sample or Field Duplicate: N
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	1.14 U	2.63 U	1.11 U	1.65 J	236
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	1.14 U	2.63 U	1.11 U	2.15 U	1.37 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	--	--	UG/KG	0.23 U	0.53 U	0.065 J	0.17 J	0.2 J
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	--	--	UG/KG	1.14 U	2.63 U	1.11 U	0.95 J	1.37 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	--	--	UG/KG	1.14 U	2.63 U	1.11 U	2.15 U	1.37 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	--	--	UG/KG	0.46 U	1.05 U	0.45 U	0.86 U	0.55 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
N-ethyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.26 J	0.63
N-ethyl perfluorooctanesulfonamidoacetic acid	--	--	--	UG/KG	0.23 U	0.53 U	0.13 J	12.3	56
N-methyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
Perfluoro(2-Propoxypropanoic) Acid	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
Perfluorobutanesulfonic acid (PFBS)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
Perfluorobutanoic Acid	--	--	--	UG/KG	0.46 U	1.05 U	0.45 U	0.86 U	0.55 U
Perfluorodecane Sulfonic Acid	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
Perfluorodecanoic acid (PFDA)	--	--	--	UG/KG	0.23 U	0.2 J	0.22 U	0.15 J	0.27 U
Perfluorododecane sulfonate (PFDoDS)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
Perfluorododecanoic acid (PFDoA)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
Perfluoroheptane Sulfonate (PFHPS)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
Perfluoroheptanoic acid (PFHpA)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.22 J	0.094 J
Perfluorohexanesulfonic acid (PFHxS)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.11 J	0.27 U
Perfluorohexanoic acid (PFHxA)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.19 J	0.27 U
Perfluorononanesulfonic Acid (PFNS)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
Perfluorononanoic acid (PFNA)	--	--	--	UG/KG	0.23 U	0.28 J	0.22 U	0.54	0.27 U
Perfluorooctane Sulfonamide (FOSA)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.33 J	0.19 J
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	UG/KG	0.23 U	0.53	0.11 J	**7.73**	**2.1 J**
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	UG/KG	0.23 U	0.31 J	0.22 U	**7.58**	**1.76**
Perfluoropentanesulfonic Acid (PFPeS)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U

Table 20. Summary of Per- and Polyfluoroalkyl Substances in Soil

				Sample Designation:	RXSB-39	RXSB-40	RXSB-40	RXSB-40	RXSB-40
				Sample Date:	08/04/2025	08/06/2025	08/06/2025	08/08/2025	08/08/2025
				Sample Depth (ft bls):	35 - 37	0 - 2	10 - 12	27 - 29	29 - 31
				Regular Sample or Field Duplicate:	FD	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units					
Perfluoropentanoic Acid (PFPeA)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
Perfluorotetradecanoic acid (PFTA)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
Perfluorotridecanoic Acid (PFTriA)	--	--	--	UG/KG	0.23 U	0.53 U	0.22 U	0.43 U	0.27 U
Perfluoroundecanoic Acid (PFUnA)	--	--	--	UG/KG	0.23 U	0.14 J	0.066 J	0.43 U	0.27 U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	--	--	UG/KG	0.46 U	1.05 U	0.45 U	0.86 U	0.55 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	--	--	UG/KG	0.46 U	1.05 U	0.45 U	0.86 U	0.55 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	--	--	UG/KG	0.46 U	1.05 U	0.45 U	0.86 U	0.55 U

Table 20. Summary of Per- and Polyfluoroalkyl Substances in Soil

			Sample Designation:		RXSB-41	RXSB-41	RXSB-41	RXSB-41	RXSB-42
			Sample Date:		08/12/2025	08/12/2025	08/12/2025	08/13/2025	08/14/2025
			Sample Depth (ft bls):		0 - 2	10 - 12	32 - 34	40 - 42	0 - 2
			Regular Sample or Field Duplicate:		N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units					
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	1.1 U	1.24 U	1.01 U	1.2 U	1.14 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	1.1 U	1.24 U	1.01 U	1.2 U	1.14 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	--	--	UG/KG	0.067 J	0.25 U	0.2 U	0.24 U	0.064 J
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	--	--	UG/KG	1.1 U	1.24 U	1.01 U	1.2 U	1.14 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	--	--	UG/KG	1.1 U	1.24 U	1.01 U	1.2 U	1.14 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	--	--	UG/KG	0.44 U	0.5 U	0.41 U	0.48 U	0.45 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
N-ethyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	--	--	UG/KG	0.25	0.2 J	0.11 J	0.24 U	0.24
N-methyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluoro(2-Propoxypropanoic) Acid	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluorobutanesulfonic acid (PFBS)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluorobutanoic Acid	--	--	--	UG/KG	0.44 U	0.5 U	0.41 U	0.48 U	0.45 U
Perfluorodecane Sulfonic Acid	--	--	--	UG/KG	0.059 J	0.25 U	0.2 U	0.24 U	0.23 U
Perfluorodecanoic acid (PFDA)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluorododecane sulfonate (PFDoDS)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluorododecanoic acid (PFDoA)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.068 J
Perfluoroheptane Sulfonate (PFHPS)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluoroheptanoic acid (PFHpA)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluorohexanesulfonic acid (PFHxS)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluorohexanoic acid (PFHxA)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluorononanesulfonic Acid (PFNS)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluorononanoic acid (PFNA)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluorooctane Sulfonamide (FOSA)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	UG/KG	0.25	0.41	0.078 J	0.24 U	0.27
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluoropentanesulfonic Acid (PFPeS)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U

Table 20. Summary of Per- and Polyfluoroalkyl Substances in Soil

				Sample Designation:	RXSB-41	RXSB-41	RXSB-41	RXSB-41	RXSB-42
				Sample Date:	08/12/2025	08/12/2025	08/12/2025	08/13/2025	08/14/2025
				Sample Depth (ft bls):	0 - 2	10 - 12	32 - 34	40 - 42	0 - 2
				Regular Sample or Field Duplicate:	N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units					
Perfluoropentanoic Acid (PFPeA)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluorotetradecanoic acid (PFTA)	--	--	--	UG/KG	0.22 U	0.25 U	0.2 U	0.24 U	0.23 U
Perfluorotridecanoic Acid (PFTriA)	--	--	--	UG/KG	0.058 J	0.25 U	0.2 U	0.24 U	0.23 U
Perfluoroundecanoic Acid (PFUnA)	--	--	--	UG/KG	0.088 J	0.25 U	0.2 U	0.24 U	0.058 J
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	--	--	UG/KG	0.44 U	0.5 U	0.41 U	0.48 U	0.45 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	--	--	UG/KG	0.44 U	0.5 U	0.41 U	0.48 U	0.45 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	--	--	UG/KG	0.44 U	0.5 U	0.41 U	0.48 U	0.45 U

Table 20. Summary of Per- and Polyfluoroalkyl Substances in Soil

				Sample Designation:	RXSB-42	RXSB-42	RXSB-42	RXSB-43	RXSB-43
				Sample Date:	08/14/2025	08/14/2025	08/14/2025	08/18/2025	08/18/2025
				Sample Depth (ft bls):	10 - 12	32 - 34	35 - 37	0 - 2	10 - 12
				Regular Sample or Field Duplicate:	N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units					
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	1.24 U	1.62 U	1.15 U	1.21 U	1.3 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	1.24 U	1.62 U	1.15 U	1.21 U	1.3 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	--	--	UG/KG	0.15 J	1.76	0.23 U	0.14 J	0.13 J
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	--	--	UG/KG	1.24 U	1.62 U	1.15 U	1.21 U	1.3 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	--	--	UG/KG	1.24 U	1.62 U	1.15 U	1.21 U	1.3 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	--	--	UG/KG	0.49 U	0.65 U	0.46 U	0.48 U	0.52 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
N-ethyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	--	--	UG/KG	0.52	4.43	0.23 U	0.15 J	0.74
N-methyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
Perfluoro(2-Propoxypropanoic) Acid	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
Perfluorobutanesulfonic acid (PFBS)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
Perfluorobutanoic Acid	--	--	--	UG/KG	0.49 U	0.65 U	0.46 U	0.48 U	0.52 U
Perfluorodecane Sulfonic Acid	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
Perfluorodecanoic acid (PFDA)	--	--	--	UG/KG	0.077 J	0.32 U	0.23 U	0.067 J	0.19 J
Perfluorododecane sulfonate (PFDoDS)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
Perfluorododecanoic acid (PFDoA)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.18 J
Perfluoroheptane Sulfonate (PFHPS)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
Perfluoroheptanoic acid (PFHpA)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.18 J
Perfluorohexanesulfonic acid (PFHxS)	--	--	--	UG/KG	0.25 U	0.12 J	0.23 U	0.24 U	0.1 J
Perfluorohexanoic acid (PFHxA)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
Perfluorononanesulfonic Acid (PFNS)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
Perfluorononanoic acid (PFNA)	--	--	--	UG/KG	0.075 J	0.091 J	0.23 U	0.24 U	0.23 J
Perfluorooctane Sulfonamide (FOSA)	--	--	--	UG/KG	0.11 J	0.12 J	0.23 U	0.24 U	0.14 J
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	UG/KG	**0.99**	**1.05**	0.23 U	0.43	**1.76**
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	UG/KG	0.25 U	0.48	0.23 U	0.24 U	**0.85**
Perfluoropentanesulfonic Acid (PFPeS)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U

Table 20. Summary of Per- and Polyfluoroalkyl Substances in Soil

				Sample Designation:	RXSB-42	RXSB-42	RXSB-42	RXSB-43	RXSB-43
				Sample Date:	08/14/2025	08/14/2025	08/14/2025	08/18/2025	08/18/2025
				Sample Depth (ft bls):	10 - 12	32 - 34	35 - 37	0 - 2	10 - 12
				Regular Sample or Field Duplicate:	N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units					
Perfluoropentanoic Acid (PFPeA)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.26 U
Perfluorotetradecanoic acid (PFTA)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.12 J
Perfluorotridecanoic Acid (PFTriA)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.12 J
Perfluoroundecanoic Acid (PFUnA)	--	--	--	UG/KG	0.25 U	0.32 U	0.23 U	0.24 U	0.22 J
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	--	--	UG/KG	0.49 U	0.65 U	0.46 U	0.48 U	0.52 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	--	--	UG/KG	0.49 U	0.65 U	0.46 U	0.48 U	0.52 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	--	--	UG/KG	0.49 U	0.65 U	0.46 U	0.48 U	0.52 U

Table 20. Summary of Per- and Polyfluoroalkyl Substances in Soil

Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units	RXSB-43	RXSB-43	RXSB-44	RXSB-44	RXSB-44
Sample Designation:					RXSB-43	RXSB-43	RXSB-44	RXSB-44	RXSB-44
Sample Date:					08/18/2025	08/18/2025	08/21/2025	08/21/2025	08/21/2025
Sample Depth (ft bls):					24 - 26	31 - 33	0 - 2	10 - 12	25 - 27
Regular Sample or Field Duplicate:					N	N	N	N	N
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	1.25 U	1.1 U	1.57 U	1.48 U	1.08 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	1.25 U	1.1 U	1.57 U	1.48 U	1.08 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	--	--	UG/KG	0.25 U	0.22 U	0.15 J	0.15 J	0.52
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	--	--	UG/KG	1.25 U	1.1 U	1.57 U	1.48 U	1.08 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	--	--	UG/KG	1.25 U	1.1 U	1.57 U	1.48 U	1.08 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	--	--	UG/KG	0.5 U	0.44 U	0.63 UJ	0.59 UJ	0.43 UJ
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
N-ethyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	--	--	UG/KG	0.25 U	0.19 J	0.78	0.29 J	1.34
N-methyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
Perfluoro(2-Propoxypropanoic) Acid	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	--	--	UG/KG	0.25 U	0.22 U	0.31 UJ	0.3 UJ	0.22 UJ
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
Perfluorobutanesulfonic acid (PFBS)	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
Perfluorobutanoic Acid	--	--	--	UG/KG	0.5 U	0.44 U	0.63 U	0.59 U	0.43 U
Perfluorodecane Sulfonic Acid	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
Perfluorodecanoic acid (PFDA)	--	--	--	UG/KG	0.25 U	0.22 U	0.4	0.28 J	0.22 U
Perfluorododecane sulfonate (PFDoDS)	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
Perfluorododecanoic acid (PFDoA)	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
Perfluoroheptane Sulfonate (PFHPS)	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
Perfluoroheptanoic acid (PFHpA)	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
Perfluorohexanesulfonic acid (PFHxS)	--	--	--	UG/KG	0.25 U	0.22 U	0.11 J	0.1 J	0.22 U
Perfluorohexanoic acid (PFHxA)	--	--	--	UG/KG	0.25 U	0.22 U	0.13 J	0.09 J	0.22 U
Perfluorononanesulfonic Acid (PFNS)	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
Perfluorononanoic acid (PFNA)	--	--	--	UG/KG	0.25 U	0.22 U	0.15 J	0.19 J	0.22 U
Perfluorooctane Sulfonamide (FOSA)	--	--	--	UG/KG	0.25 U	0.22 U	0.32	0.23 J	0.22 U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	UG/KG	0.25 U	0.22 U	**3.42**	**2.96**	0.23
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	UG/KG	0.25 U	0.22 U	0.46	0.47	0.22 U
Perfluoropentanesulfonic Acid (PFPeS)	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U

Table 20. Summary of Per- and Polyfluoroalkyl Substances in Soil

				Sample Designation:	RXSB-43	RXSB-43	RXSB-44	RXSB-44	RXSB-44
				Sample Date:	08/18/2025	08/18/2025	08/21/2025	08/21/2025	08/21/2025
				Sample Depth (ft bls):	24 - 26	31 - 33	0 - 2	10 - 12	25 - 27
				Regular Sample or Field Duplicate:	N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units					
Perfluoropentanoic Acid (PFPeA)	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
Perfluorotetradecanoic acid (PFTA)	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
Perfluorotridecanoic Acid (PFTriA)	--	--	--	UG/KG	0.25 U	0.22 U	0.31 UJ	0.3 UJ	0.22 UJ
Perfluoroundecanoic Acid (PFUnA)	--	--	--	UG/KG	0.25 U	0.22 U	0.31 U	0.3 U	0.22 U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	--	--	UG/KG	0.5 U	0.44 U	0.63 U	0.59 U	0.43 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	--	--	UG/KG	0.5 U	0.44 U	0.63 U	0.59 U	0.43 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	--	--	UG/KG	0.5 U	0.44 U	0.63 U	0.59 U	0.43 U

Table 20. Summary of Per- and Polyfluoroalkyl Substances in Soil

Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units	RXSB-44	RXSB-45	RXSB-45	RXSB-45	RXSB-45
Sample Designation:					RXSB-44	RXSB-45	RXSB-45	RXSB-45	RXSB-45
Sample Date:					08/21/2025	08/20/2025	08/20/2025	08/20/2025	08/20/2025
Sample Depth (ft bls):					30 - 32	0 - 2	10 - 12	10 - 12	30 - 32
Regular Sample or Field Duplicate:					N	N	N	FD	N
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	--	--	UG/KG	0.24 U	0.24 U	0.48 U	0.46 U	0.24 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	1.19 U	1.19 U	2.41 U	2.3 U	1.18 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	1.19 U	1.19 U	2.41 U	2.3 U	0.63 J
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	--	--	UG/KG	0.24 U	0.24 U	0.49	0.59	0.24 U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	--	--	UG/KG	1.19 U	1.19 U	2.41 U	2.3 U	1.18 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	--	--	UG/KG	1.19 U	1.19 U	2.41 U	2.3 U	1.18 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	--	--	UG/KG	0.48 UJ	0.48 U	0.96 U	0.92 U	0.47 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	UG/KG	0.24 U	0.24 U	0.48 U	0.46 U	0.24 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	--	--	UG/KG	0.24 U	0.24 U	0.48 U	0.46 U	0.24 U
N-ethyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.24 U	0.24 U	0.48 U	0.46 U	0.24 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	--	--	UG/KG	0.1 J	0.24 U	1.55	1.87	0.24 U
N-methyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.24 U	0.24 U	0.48 U	0.46 U	0.24 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	--	--	UG/KG	0.24 U	0.24 U	0.48 U	0.46 U	0.24 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	--	--	UG/KG	0.24 U	0.24 U	0.48 U	0.46 U	0.24 U
Perfluoro(2-Propoxypropanoic) Acid	--	--	--	UG/KG	0.24 U	0.24 U	0.48 U	0.46 U	0.24 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	--	--	UG/KG	0.24 UJ	0.24 U	0.48 U	0.46 U	0.24 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	--	--	UG/KG	0.24 U	0.24 U	0.48 U	0.46 U	0.24 U
Perfluorobutanesulfonic acid (PFBS)	--	--	--	UG/KG	0.24 U	0.24 U	0.48 U	0.46 U	0.24 U
Perfluorobutanoic Acid	--	--	--	UG/KG	0.48 U	0.48 U	0.96 U	0.92 U	0.47 U
Perfluorodecane Sulfonic Acid	--	--	--	UG/KG	0.24 U	0.24 U	0.12 J	0.14 J	0.24 U
Perfluorodecanoic acid (PFDA)	--	--	--	UG/KG	0.24 U	0.3	0.48 U	0.13 J	0.24 U
Perfluorododecane sulfonate (PFDoDS)	--	--	--	UG/KG	0.24 U	0.24 U	0.48 U	0.46 U	0.24 U
Perfluorododecanoic acid (PFDoA)	--	--	--	UG/KG	0.24 U	0.14 J	0.48 U	0.46 U	0.24 U
Perfluoroheptane Sulfonate (PFHPS)	--	--	--	UG/KG	0.24 U	0.24 U	0.48 U	0.46 U	0.24 U
Perfluoroheptanoic acid (PFHpA)	--	--	--	UG/KG	0.24 U	0.11 J	0.12 J	0.13 J	0.24 U
Perfluorohexanesulfonic acid (PFHxS)	--	--	--	UG/KG	0.24 U	0.065 J	0.23 J	0.29 J	0.24 U
Perfluorohexanoic acid (PFHxA)	--	--	--	UG/KG	0.24 U	0.16 J	0.21 J	0.23 J	0.24 U
Perfluorononanesulfonic Acid (PFNS)	--	--	--	UG/KG	0.24 U	0.24 U	0.48 U	0.46 U	0.24 U
Perfluorononanoic acid (PFNA)	--	--	--	UG/KG	0.24 U	0.22 J	0.21 J	0.25 J	0.24 U
Perfluorooctane Sulfonamide (FOSA)	--	--	--	UG/KG	0.24 U	0.24 U	0.29 J	0.28 J	0.24 U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	UG/KG	0.24 U	0.33	**1.74**	**2.4**	0.24 U
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	UG/KG	0.24 U	0.57	**0.72**	**0.76**	0.24 U
Perfluoropentanesulfonic Acid (PFPeS)	--	--	--	UG/KG	0.24 U	0.24 U	0.48 U	0.46 U	0.24 U

Table 20. Summary of Per- and Polyfluoroalkyl Substances in Soil

				Sample Designation:	RXSB-44	RXSB-45	RXSB-45	RXSB-45	RXSB-45
				Sample Date:	08/21/2025	08/20/2025	08/20/2025	08/20/2025	08/20/2025
				Sample Depth (ft bls):	30 - 32	0 - 2	10 - 12	10 - 12	30 - 32
				Regular Sample or Field Duplicate:	N	N	N	FD	N
Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units					
Perfluoropentanoic Acid (PFPeA)	--	--	--	UG/KG	0.24 U	0.12 J	0.51 J	0.46 U	0.24 U
Perfluorotetradecanoic acid (PFTA)	--	--	--	UG/KG	0.24 U	0.073 J	0.48 U	0.46 U	0.24 U
Perfluorotridecanoic Acid (PFTriA)	--	--	--	UG/KG	0.24 UJ	0.24 U	0.48 U	0.46 U	0.24 U
Perfluoroundecanoic Acid (PFUnA)	--	--	--	UG/KG	0.24 U	0.084 J	0.48 U	0.46 U	0.24 U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	--	--	UG/KG	0.48 U	0.48 U	0.96 U	0.92 U	0.47 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	--	--	UG/KG	0.48 U	0.48 U	0.96 U	0.92 U	0.47 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	--	--	UG/KG	0.48 U	0.48 U	0.96 U	0.92 U	0.47 U

Table 20. Summary of Per- and Polyfluoroalkyl Substances in Soil

Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units	RXSB-45	RXSB-46	RXSB-46	RXSB-46	RXSB-46
Sample Designation:					RXSB-45	RXSB-46	RXSB-46	RXSB-46	RXSB-46
Sample Date:					08/20/2025	07/29/2025	07/29/2025	07/29/2025	07/29/2025
Sample Depth (ft bls):					33 - 35	0 - 2	10 - 12	28 - 30	36 - 38
Regular Sample or Field Duplicate:					N	N	N	N	N
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	1.2 U	1.25 U	0.37 J	2.25	1.6 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	UG/KG	1.2 U	1.25 U	1.38 U	1.95 U	1.6 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	--	--	UG/KG	0.095 J	0.25 U	0.28 U	0.27 J	0.32 U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	--	--	UG/KG	1.2 U	1.25 U	1.38 U	1.95 U	1.6 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	--	--	UG/KG	1.2 U	1.25 U	1.38 U	1.95 U	1.6 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	--	--	UG/KG	0.48 U	0.5 U	0.55 U	0.78 U	0.64 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
N-ethyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.12 J	0.32 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	--	--	UG/KG	0.19 J	0.25 U	0.26 J	2.92	0.38
N-methyl perfluoro-1-octanesulfonamide	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Perfluoro(2-Propoxypropanoic) Acid	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Perfluorobutanesulfonic acid (PFBS)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Perfluorobutanoic Acid	--	--	--	UG/KG	0.48 U	0.5 U	0.55 U	0.78 U	0.64 U
Perfluorodecane Sulfonic Acid	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Perfluorodecanoic acid (PFDA)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Perfluorododecane sulfonate (PFDoDS)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Perfluorododecanoic acid (PFDoA)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Perfluoroheptane Sulfonate (PFHPS)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Perfluoroheptanoic acid (PFHpA)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Perfluorohexanesulfonic acid (PFHxS)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.12 J
Perfluorohexanoic acid (PFHxA)	--	--	--	UG/KG	0.24 U	0.084 J	0.28 U	0.39 U	0.32 U
Perfluorononanesulfonic Acid (PFNS)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Perfluorononanoic acid (PFNA)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Perfluorooctane Sulfonamide (FOSA)	--	--	--	UG/KG	0.24 U	0.25 U	0.095 J	0.14 J	0.32 U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	UG/KG	0.15 J	0.14 J	**1.29**	**1.68**	0.78
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	UG/KG	0.24 U	0.14 J	0.28 U	0.31 J	**3.1**
Perfluoropentanesulfonic Acid (PFPeS)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U

Table 20. Summary of Per- and Polyfluoroalkyl Substances in Soil

				Sample Designation:	RXSB-45	RXSB-46	RXSB-46	RXSB-46	RXSB-46
				Sample Date:	08/20/2025	07/29/2025	07/29/2025	07/29/2025	07/29/2025
				Sample Depth (ft bls):	33 - 35	0 - 2	10 - 12	28 - 30	36 - 38
				Regular Sample or Field Duplicate:	N	N	N	N	N
Parameters	NYSDEC Part 375 Unrestricted Use GV	NYSDEC Part 375 Industrial GV	NYSDEC Part 375 Protection of Groundwater GV	Units					
Perfluoropentanoic Acid (PFPeA)	--	--	--	UG/KG	0.24 U	0.25 U	0.18 J	0.39 U	0.32 U
Perfluorotetradecanoic acid (PFTA)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Perfluorotridecanoic Acid (PFTriA)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Perfluoroundecanoic Acid (PFUnA)	--	--	--	UG/KG	0.24 U	0.25 U	0.28 U	0.39 U	0.32 U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	--	--	UG/KG	0.48 U	0.5 U	0.55 U	0.78 U	0.64 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	--	--	UG/KG	0.48 U	0.5 U	0.55 U	0.78 U	0.64 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	--	--	UG/KG	0.48 U	0.5 U	0.55 U	0.78 U	0.64 U

Table 21. Summary of Per- and Polyfluoroalkyl Substances in Groundwater

Parameters	NYSDEC Ambient Water Quality Guidance Values	Units	RXMW-12D	RXMW-13D	RXMW-14D	RXMW-15D	RXMW-16	RXMW-17
Sample Designation:			RXMW-12D	RXMW-13D	RXMW-14D	RXMW-15D	RXMW-16	RXMW-17
Sample Date:			09/04/2025	09/04/2025	09/04/2025	09/04/2025	09/04/2025	09/04/2025
Regular Sample or Field Duplicate:			N	N	N	N	N	N
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	7.12 U	4.12 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	NG/L	24.6 U	19.1 U	19 U	8.26 U	35.6 U	20.6 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	NG/L	24.6 U	19.1 U	19 U	8.26 U	35.6 U	20.6 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	NG/L	4.93 U	3.82 U	3.81 U	0.57 J	7.12 U	1.57 J
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	NG/L	24.6 U	19.1 U	19 U	8.26 U	16.2 J	20.6 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	NG/L	24.6 U	19.1 U	19 U	8.26 U	35.6 U	20.6 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	NG/L	9.85 U	7.64 U	7.61 U	3.3 U	16.7	8.23 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	7.12 U	4.12 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	7.12 U	4.12 U
N-ethyl perfluoro-1-octanesulfonamide	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	7.12 U	4.12 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	NG/L	4.93 U	7.36	3.24 J	7.64	54.6	5.38
N-methyl perfluoro-1-octanesulfonamide	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	7.12 U	4.12 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	7.12 U	4.12 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	7.12 U	4.12 U
Perfluoro(2-Propoxypropanoic) Acid	--	NG/L	3.69 U	2.87 U	2.85 U	1.24 U	5.34 U	3.09 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	7.12 U	4.12 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	7.12 U	4.12 U
Perfluorobutanesulfonic acid (PFBS)	--	NG/L	2.19 J	5.11	5.95	0.9 J	17.3	4.47
Perfluorobutanoic Acid	--	NG/L	4.44 J	26.6	9.16	4.54	75.1 J	23.8
Perfluorodecane Sulfonic Acid	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	7.12 U	4.12 U
Perfluorodecanoic acid (PFDA)	--	NG/L	4.93 U	3.82 U	3.81 U	0.5 J	7.12 U	1.19 J
Perfluorododecane sulfonate (PFDoDS)	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	7.12 U	4.12 U
Perfluorododecanoic acid (PFDoA)	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	7.12 U	4.12 U
Perfluoroheptane Sulfonate (PFHPS)	--	NG/L	3.71 J	3.82 U	3.81 U	0.49 J	2.96 J	4.12 U
Perfluoroheptanoic acid (PFHpA)	--	NG/L	2.9 J	11.5	6.48	3.9	80.7	12.1
Perfluorohexanesulfonic acid (PFHxS)	--	NG/L	38.5	6.84	4	5.33	52.5	9.2
Perfluorohexanoic acid (PFHxA)	--	NG/L	12.2	22.7	8.87	6.4	120	27.4
Perfluorononanesulfonic Acid (PFNS)	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	7.12 U	4.12 U
Perfluorononanoic acid (PFNA)	--	NG/L	1.72 J	1.83 J	1.3 J	2.48	27.3	3.24 J
Perfluorooctane Sulfonamide (FOSA)	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	1.93 J	4.12 U
Perfluorooctanesulfonic acid (PFOS)	**2.7**	NG/L	**87.3**	**16**	**10.7**	**21.5**	**105**	**27.6**
Perfluorooctanoic acid (PFOA)	**6.7**	NG/L	**11.9**	**56.9**	**26.8**	**73.1**	**2270**	**191**
Perfluoropentanesulfonic Acid (PFPeS)	--	NG/L	2.43 J	1.59 J	3.81 U	0.49 J	7.84	4.12 U
Perfluoropentanoic Acid (PFPeA)	--	NG/L	6.25	18.3	8	4.41	56.5	18.1
Perfluorotetradecanoic acid (PFTA)	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	7.12 U	4.12 U

Table 21. Summary of Per- and Polyfluoroalkyl Substances in Groundwater

		Sample Designation:	RXMW-12D	RXMW-13D	RXMW-14D	RXMW-15D	RXMW-16	RXMW-17
		Sample Date:	09/04/2025	09/04/2025	09/04/2025	09/04/2025	09/04/2025	09/04/2025
		Regular Sample or Field Duplicate:	N	N	N	N	N	N
Parameters	NYSDEC Ambient Water Quality Guidance Values	Units						
Perfluorotridecanoic Acid (PFTriA)	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	7.12 U	4.12 U
Perfluoroundecanoic Acid (PFUnA)	--	NG/L	4.93 U	3.82 U	3.81 U	1.65 U	7.12 U	4.12 U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	NG/L	9.85 U	7.64 U	7.61 U	3.3 U	14.2 U	8.23 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	NG/L	9.85 U	7.64 U	7.61 U	3.3 U	14.2 U	8.23 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	NG/L	9.85 U	7.64 U	7.61 U	187	16.4	8.23 U

Table 21. Summary of Per- and Polyfluoroalkyl Substances in Groundwater

Parameters	NYSDEC Ambient Water Quality Guidance Values	Units	RXMW-17D	RXMW-18	RXMW-18D	RXMW-18D	RXMW-19	RXMW-19
Sample Designation:			RXMW-17D	RXMW-18	RXMW-18D	RXMW-18D	RXMW-19	RXMW-19
Sample Date:			09/04/2025	09/04/2025	09/04/2025	09/04/2025	08/06/2025	08/06/2025
Regular Sample or Field Duplicate:			N	N	N	FD	N	FD
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	0.5 J	1.75 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	NG/L	27.7 U	17.7 U	13.9 U	16.6 U	8.72 U	8.73 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	NG/L	27.7 U	17.7 U	13.9 U	16.6 U	8.72 U	8.73 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	NG/L	1.86 J	3.54 U	2.77 U	3.32 U	0.83 J	1.75 U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	NG/L	27.7 U	17.7 U	13.9 U	16.6 U	8.72 U	8.73 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	NG/L	27.7 U	17.7 U	13.9 U	16.6 U	8.72 U	8.73 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	NG/L	11.1 U	7.08 U	5.55 U	6.65 U	3.49 U	3.49 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	1.74 U	1.75 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	1.74 U	1.75 U
N-ethyl perfluoro-1-octanesulfonamide	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	1.74 U	1.75 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	NG/L	6.84	3.54 U	0.77 J	3.32 U	2.9	2.08
N-methyl perfluoro-1-octanesulfonamide	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	1.74 U	1.75 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	0.5 JT	1.75 UT
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	1.74 U	1.75 U
Perfluoro(2-Propoxypropanoic) Acid	--	NG/L	4.15 U	2.66 U	2.08 U	2.49 U	1.31 U	1.31 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	1.74 U	1.75 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	1.74 U	1.75 U
Perfluorobutanesulfonic acid (PFBS)	--	NG/L	4.79 J	3.95	3.1	3.06 J	1.42 J	1.19 J
Perfluorobutanoic Acid	--	NG/L	23.4	4.66 J	4.42 J	4.43 J	5.05	4.57
Perfluorodecane Sulfonic Acid	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	0.46 J	1.75 U
Perfluorodecanoic acid (PFDA)	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	1.17 J	0.72 J
Perfluorododecane sulfonate (PFDoDS)	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	1.74 U	1.75 U
Perfluorododecanoic acid (PFDoA)	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	0.58 J	1.75 U
Perfluoroheptane Sulfonate (PFHPS)	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	1.49 J	0.95 J
Perfluoroheptanoic acid (PFHpA)	--	NG/L	12.5	3.51 J	2.93	2.88 J	3.22	2.71
Perfluorohexanesulfonic acid (PFHxS)	--	NG/L	9.32	2 J	1.98 J	2.2 J	11.2	10.7
Perfluorohexanoic acid (PFHxA)	--	NG/L	29	7.41	6.09	6.28	5.68	5.6
Perfluorononanesulfonic Acid (PFNS)	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	0.47 J	1.75 U
Perfluorononanoic acid (PFNA)	--	NG/L	3.47 J	3.54 U	1.01 J	1.16 J	1.72 J	1.53 J
Perfluorooctane Sulfonamide (FOSA)	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	0.46 J	1.75 U
Perfluorooctanesulfonic acid (PFOS)	**2.7**	NG/L	**28.1**	**4.6**	**3.9**	**3.8**	**43.5**	**38.2**
Perfluorooctanoic acid (PFOA)	**6.7**	NG/L	**185**	**11.5**	**11.5**	**11.6**	**12.7**	**11.9**
Perfluoropentanesulfonic Acid (PFPeS)	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	0.95 J	0.85 J
Perfluoropentanoic Acid (PFPeA)	--	NG/L	17.9	7.49	6.31	6.16	5.97	5.4
Perfluorotetradecanoic acid (PFTA)	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	0.65 J	1.75 U

Table 21. Summary of Per- and Polyfluoroalkyl Substances in Groundwater

Parameters	NYSDEC Ambient Water Quality Guidance Values	Units	RXMW-17D	RXMW-18	RXMW-18D	RXMW-18D	RXMW-19	RXMW-19
Sample Designation:			RXMW-17D	RXMW-18	RXMW-18D	RXMW-18D	RXMW-19	RXMW-19
Sample Date:			09/04/2025	09/04/2025	09/04/2025	09/04/2025	08/06/2025	08/06/2025
Regular Sample or Field Duplicate:			N	N	N	FD	N	FD
Perfluorotridecanoic Acid (PFTriA)	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	0.68 J	1.75 U
Perfluoroundecanoic Acid (PFUnA)	--	NG/L	5.54 U	3.54 U	2.77 U	3.32 U	0.62 J	1.75 U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	NG/L	11.1 U	7.08 U	5.55 U	6.65 U	1.4 J	3.49 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	NG/L	11.1 U	7.08 U	5.55 U	6.65 U	3.49 U	3.49 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	NG/L	11.1 U	7.08 U	5.55 U	6.65 U	5.38	3.49 U

Table 21. Summary of Per- and Polyfluoroalkyl Substances in Groundwater

Parameters	NYSDEC Ambient Water Quality Guidance Values	Units	RXMW-19	RXMW-19D	RXMW-20	RXMW-21
Sample Designation:			RXMW-19	RXMW-19D	RXMW-20	RXMW-21
Sample Date:			09/04/2025	09/04/2025	09/04/2025	09/04/2025
Regular Sample or Field Duplicate:			N	N	N	N
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	NG/L	19 U	7.42 U	27.4 U	25 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	NG/L	19 U	7.42 U	27.4 U	25 U
2-(N-methyl perfluorooctanesulfonamido) acetic acid	--	NG/L	3.81 U	1.48 U	2.27 J	5.01 U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	--	NG/L	19 U	7.42 U	27.4 U	25 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	--	NG/L	19 U	7.42 U	27.4 U	25 U
3-Perfluoropropyl propanoic acid (3:3 FTCA)	--	NG/L	7.61 U	2.97 U	11 U	10 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
N-ethyl perfluoro-1-octanesulfonamide	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
N-ethyl perfluorooctanesulfonamidoacetic acid	--	NG/L	3.34 J	0.39 J	12.1	5.01 U
N-methyl perfluoro-1-octanesulfonamide	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
Perfluoro(2-Propoxypropanoic) Acid	--	NG/L	2.85 U	1.11 U	4.11 U	3.75 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
Perfluorobutanesulfonic acid (PFBS)	--	NG/L	2.03 J	1.48 U	5.12 J	2.31 J
Perfluorobutanoic Acid	--	NG/L	7.4 J	1.64 J	13.3	10
Perfluorodecane Sulfonic Acid	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
Perfluorodecanoic acid (PFDA)	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
Perfluorododecane sulfonate (PFDoDS)	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
Perfluorododecanoic acid (PFDoA)	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
Perfluoroheptane Sulfonate (PFHPS)	--	NG/L	0.99 J	1.48 U	1.53 J	2.39 J
Perfluoroheptanoic acid (PFHpA)	--	NG/L	3.41 J	0.64 J	11.4	3.82 J
Perfluorohexanesulfonic acid (PFHxS)	--	NG/L	11.9	0.85 J	23.1	21.3
Perfluorohexanoic acid (PFHxA)	--	NG/L	8.42	1.43 J	21.1	19.4
Perfluorononanesulfonic Acid (PFNS)	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
Perfluorononanoic acid (PFNA)	--	NG/L	2.76 J	0.58 J	5.41 J	2.36 J
Perfluorooctane Sulfonamide (FOSA)	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
Perfluorooctanesulfonic acid (PFOS)	**2.7**	NG/L	**41.7**	**3.64**	**67.3**	**97.2**
Perfluorooctanoic acid (PFOA)	**6.7**	NG/L	**14.5**	2.78	**236**	**15.2**
Perfluoropentanesulfonic Acid (PFPeS)	--	NG/L	1.03 J	1.48 U	2.9 J	1.66 J
Perfluoropentanoic Acid (PFPeA)	--	NG/L	8.63	0.84 J	12.5	12.6
Perfluorotetradecanoic acid (PFTA)	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U

Table 21. Summary of Per- and Polyfluoroalkyl Substances in Groundwater

	Sample Designation:		RXMW-19	RXMW-19D	RXMW-20	RXMW-21
	Sample Date:		09/04/2025	09/04/2025	09/04/2025	09/04/2025
	Regular Sample or Field Duplicate:		N	N	N	N
Parameters	NYSDEC Ambient Water Quality Guidance Values	Units				
Perfluorotridecanoic Acid (PFTriA)	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
Perfluoroundecanoic Acid (PFUnA)	--	NG/L	3.81 U	1.48 U	5.48 U	5.01 U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	--	NG/L	7.61 U	2.97 U	11 U	10 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	--	NG/L	7.61 U	2.97 U	11 U	10 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	--	NG/L	6.6 J	2.94 J	2.82 J	10 U

Table 22. Remedial Cost Estimate for Alternative 1

Item	Description	Estimated Quantity	Unit	Unit Price	Cost
Capital Costs					
SITE PREPARATION					
	Mob/Demob/Soil Staging Area/Erosion Control/Temp. Facilities/Building Demo	1	LS	$5,500,000	$5,500,000
	Perimeter Fencing/Temporary Fencing	1	LS	$60,000	$60,000
	Permitting/Insurance/Project Management	1	LS	$13,200,000	$13,200,000
EXCAVATION					
	SOE	1	LS	$20,365,500	$20,365,500
	Monitoring Well and Extraction Well Abandonment	1	LS	$25,000	$25,000
	Dewatering and Water Treatment	1	LS	$750,000	$750,000
	Soil Excavation and Handling	947,023	CY	$45	$42,616,037
	Documentation Sampling (including QA/QC)	620	sample	$700	$434,000
	Backfill	947,023	CY	$75	$71,026,728
	Surveying	1	LS	$20,000	$20,000
DISPOSAL					
	Non-Hazardous Transportation and Disposal	1,419,868	tons	$85	$120,688,770
	Hazardous Waste Transportation and Disposal	667	tons	$200	$133,333
			Subtotal Remediation Construction Cost		**$274,819,367**
Supplemental Remedial Costs					
	RI Implementation	1	LS	$230,000	$230,000
	Hazardous Waste Delineation	1	LS	$20,000	$20,000
	In Situ Waste Characterization (1 sample per 800 cy)	1,366	sample	$1,410	$1,926,402
	Backfill Sampling for VOCs	1,902	each	$65	$123,630
	Backfill Sampling for all other parameters	949	each	$635	$602,615
	Data Usability Summary Report	1	LS	$31,000	$31,000
	Vapor, Dust, and Odor Suppression	12	Month	$10,000	$120,000
	Community Air Monitoring Plan (CAMP) Implementation (during excavation and soil handling), Field Oversight and Engineering Support/Disposal Coordination	12	Month	$44,000	$528,000
			Subtotal Supplemental Remediation Cost		**$3,581,647**

Table 22. Remedial Cost Estimate for Alternative 1

Item	Description	Estimated Quantity	Unit	Unit Price	Cost
Brownfield Cleanup Program (BCP) Reporting/Record Keeping					
	Remedial Investigation Work Plan, Remedial Investigation Report, Remedial Action Work Plan, Project Management	1	LS	$85,000	$85,000
	Monthly Reporting, Fact Sheets, Citizen Participation Activities	12	Month	$2,000	$24,000
	Final Engineering Report	1	LS	$50,000	$50,000
	Subtotal Supplemental BCP Reporting and Record Keeping				**$159,000**
	Contingency	**20%**			**$55,712,003**
	Sales Tax				**$23,703,170**
	TOTAL REMEDIAL CONSTRUCTION, SUPPLEMENTAL AND BCP RECORD KEEPING/REPORTING*				**$358,000,000**

* Total Cost is rounded up to nearest $100,000.

Table 23. Remedial Cost Estimate for Alternative 2

Item	Description	Estimated Quantity	Unit	Unit Price	Cost
Capital Costs					
SITE PREPARATION					
	Mob/Demob/Soil Staging Area/Erosion Control/Temp. Facilities/Building Demo	1	LS	$550,000	$550,000
	Perimeter Fencing/Temporary Fencing	1	LS	$400,000	$400,000
	Permitting/Insurance/Project Management	1	LS	$850,000	$850,000
EXCAVATION					
	Monitoring Well and Extraction Well Abandonment	1	LS	$25,000	$25,000
	Soil Excavation and Handling for 1-Foot Site Cover, Hot Spots and Excess	31,800	CY	$45	$1,431,000
	Documentation Sampling (including QA/QC)	126	sample	$1,040	$131,040
	Surveying	1	LS	$20,000	$20,000
DISPOSAL					
	Non-Hazardous Transportation and Disposal (site excess soil)	40,876	tons	$85	$3,474,460
	Hazardous Waste Transportation and Disposal (hot spots)	464	tons	$200	$92,800
SITE COVER SYSTEM					
	Standard Duty Asphalt Pavement	75,005	SF	$2.81	$210,400
	Heavy Duty Asphalt Pavement	270,655	SF	$6.13	$1,659,100
	Concrete Truck Loading Docks	53,790	SF	$10.46	$562,600
	Concrete Building Slab/Foundation	240,830	SF	$11.36	$2,736,000
	Landscaped Areas with 6-Inches of Clean Topsoil	2,930	CY	$75	$219,750
	Landscaped Areas with 6-Inches of Reuse Soil	2,930	CY	$45	$131,850
	Demarcation Layer (orange snow fence, filter fabric or equal)	94,020	SY	$6	$564,119
ACTIVE PERIMETER GAS COLLECTION SYSTEM					
	Draintube Geocomposite	1	LS	$178,000	$178,000
	Methane Extraction Well Installation	1	LS	$333,000	$333,000
	Methane Header Collection System	1	LS	$77,000	$77,000
	Blowers with Emission Controls	2	EA	$100,000	$200,000
ACTIVE BUILDING SSDS					
	Vapor Barrier	240,830	SF	$2	$481,660
	Active SSDS Beneath Building	1	LS	$944,946	$944,946
	Building Methane Gas Sensor System	1	LS	$50,000	$50,000
		Subtotal Remediation Construction Cost			**$15,322,725**

Table 23. Remedial Cost Estimate for Alternative 2

Item	Description	Estimated Quantity	Unit	Unit Price	Cost
Supplemental Remedial Costs					
	RI Implementation	1	LS	$700,000	$700,000
	In Situ Waste Characterization (1 sample per 800 cy)	40	sample	$1,410	$56,410
	Backfill Sampling for VOCs	113	sample	$107	$12,119
	Backfill Sampling for all other parameters	55	sample	$889	$48,909
	Data Usability Summary Report	1	LS	$11,950	$11,950
	Vapor, Dust, and Odor Suppression	12	Month	$10,000	$120,000
	Remedial Action Field Oversight, Community Air Monitoring Plan (CAMP) Implementation (during excavation and soil handling), Engineering Support, Disposal Coordination	12	Month	$45,000	$540,000
			Subtotal Supplemental Remediation Cost		**$1,489,388**
Brownfield Cleanup Program (BCP) Reporting/Record Keeping					
	Remedial Investigation Work Plan, Remedial Investigation Report, Remedial Action Work Plan, Project Management	1	LS	$85,000	$85,000
	Monthly Reporting, Fact Sheets, Citizen Participation Activities	18	Month	$2,000	$36,000
	Final Engineering Report, Site Management Plan	1	LS	$100,000	$100,000
			Subtotal Supplemental BCP Reporting and Record Keeping		**$221,000**
			Contingency	**20%**	**$3,406,623**
			Sales Tax		**$1,333,077**
	TOTAL REMEDIAL CONSTRUCTION, SUPPLEMENTAL AND BCP RECORD KEEPING/REPORTING*				**$21,800,000**

* Total Cost is rounded up to nearest $100,000.

TABLE 24

Project Management/Health and Safety Personnel

Title	Contact	Telephone
Fifth XNY, LLC (Volunteer)		
Project Manager	Brooks King	404-433-5338
General Contractor/Soil Remedial Contractor		
Project Quality Control Officer	TBD	
Roux (Environmental Consultant)		
Project Principal	Frank Cherena	631-630-2388
Remedial Engineer	Paul Martorano	631-630-2471
Project Manager	Camila Israel	347-745-2191
Field Manager/Site Safety Officer	TBD	TBD
Corporate Health and Safety Manager	Brian Hobbs	631-630-2419
Office Health and Safety Manager	Nevin Pahlad	631-630-2426

Emergency Phone Numbers

Emergency Medical Service 911

Police: Suffolk County Police Department 911

Fire: Brentwood Fire Department.....911

Hospital: South Shore University Hospital 631-968-3000

Urgent Care: CityMD Bay Shore Urgent Care 516-453-0172

National Response Center.....800-424-8802

Poison Control Center.....800-222-1222

CHEMTREC® 800-262-8200

Centers for Disease Control.....800-232-4636

USEPA (Region II).....212-637-3000

NYSDEC Emergency Spill Response.....800-457-7362

Table 25. Track 4 Soil Cleanup Objectives and Reuse Criteria
1612 Fifth Avenue, Bay Shore, NY

Parameter	Track 4 Soil Cleanup Objectives*
Volatile Organic Compounds (Concentrations in mg/kg)	
1,1,1-Trichloroethane	1,000
1,1-Dichloroethane	240
1,1-Dichloroethene	5.1
1,2,4-Trimethylbenzene	1,000
1,3,5-Trimethylbenzene	1,000
1,2-Dichlorobenzene	1,000
1,2-Dichloroethane	30
1,3-Dichlorobenzene	280
1,4-Dichlorobenzene	130
2-Butanone (MEK)	1,000
Acetone	1,000
Aniline	36
Benzene	20
n-Butylbenzene	1,000
Carbon tetrachloride	41
Chlorobenzene	1,000
Chloroform	180
cis-1,2-Dichloroethene	590
Ethylbenzene	390
Methylene chloride	1,000
MTBE	890
n-Propylbenzene	1,000
sec-Butylbenzene	1,000
tert-Butylbenzene	1,000
Tetrachloroethene	81
Toluene	1,000
trans-1,2-Dichloroethene	1,000
Trichloroethene	54
Vinyl chloride	7.1
Xylenes (total)	1,000
Semivolatile Organic Compounds (Concentrations in mg/kg)	
1,4-Dioxane	36
Acenaphthene	1,000
Acenaphthylene	1,000
Anthracene	1,000
Benzo[a]anthracene	37
Benzo[a]pyrene	3.7
Benzo[b]fluoranthene	37
Benzo[g,h,i]perylene	78
Benzo[k]fluoranthene	78
Chrysene	78
Dibenzo[a,h]anthracene	3.7
Dibenzofuran	290
Fluoranthene	1,000
Fluorene	1,000
Indeno[1,2,3-cd]pyrene	37
m-Cresol	1,000
Naphthalene	1,000
o-Cresol	1,000
p-Cresol	1,000
Pentachlorophenol	7
Phenanthrene	78
Phenol	1,000
Pyrene	1,000

Table 25. Track 4 Soil Cleanup Objectives and Reuse Criteria
1612 Fifth Avenue, Bay Shore, NY

Parameter	Track 4 Soil Cleanup Objectives*
Metals (Concentrations in mg/kg)	
Arsenic	16
Barium	10,000
Beryllium	750
Cadmium	4.4
Chromium, Hexavalent	11
Chromium	2,000
Copper	10,000
Cyanide, Total	240
Lead	3,900
Manganese	10,000
Mercury	1.1
Nickel	5,900
Selenium	2,000
Silver	2,000
Zinc	10,000
Pesticides (Concentrations in mg/kg)	
2,4,5-TP	--
4,4'-DDD	33
4,4'-DDE	22
4,4'-DDT	27
Aldrin	0.33
alpha-BHC	1.2
alpha-Chlordane	11
beta-BHC	2.9
delta-BHC	1,000
Dieldrin	0.48
Endosulfan I	580
Endosulfan II	580
Endosulfan sulfate	580
Endrin	87
gamma-BHC (Lindane)	3.4
Heptachlor	5.1
Total Polychlorinated Biphenyls (Concentrations in mg/kg)	
Total Polychlorinated Biphenyls	25
Perfluorinated Alkyl Acids (Concentrations in µg/kg)	
Perfluorooctanesulfonic acid (PFOS)	1
Perfluorooctanoic acid (PFOA)	0.8

* The SCOs and reuse cleanup objectives are the NYSDEC Part 375 Protection of Groundwater for PFOS and PFOA and Industrial Use SCOs for all other parameters.
µg/kg - Micrograms per kilogram
mg/kg - Milligrams per kilogram
ng/g - nanogram per gram
NYSDEC - New York State Department of Environmental Conservation
SCOs - Soil Cleanup Objectives
--Standards not yet determined

Table 26. Track 4 Backfill and Soil Cover Import Criteria
1612 Fifth Avenue, Bay Shore, NY

Parameter	Track 4 Soil Import Criteria*
Volatile Organic Compounds (Concentrations in µg/kg)	
1,1,1-Trichloroethane	680
1,1-Dichloroethane	270
1,1-Dichloroethene	330
1,2,4-Trimethylbenzene	3600
1,3,5-Trimethylbenzene	8400
1,2-Dichlorobenzene	1100
1,2-Dichloroethane	20
1,3-Dichlorobenzene	2400
1,4-Dichlorobenzene	1800
1,4-Dioxane	100
2-Butanone (MEK)	120
Acetone	50
Benzene	60
n-Butylbenzene	12000
Carbon tetrachloride	760
Chlorobenzene	1100
Chloroform	370
cis-1,2-Dichloroethene	250
Ethylbenzene	1000
Methylene chloride	50
MTBE	930
n-Propylbenzene	3900
sec-Butylbenzene	11000
tert-Butylbenzene	5900
Tetrachloroethene	1300
Toluene	700
trans-1,2-Dichloroethene	190
Trichloroethene	470
Vinyl chloride	20
Xylenes (total)	1600
Semivolatile Organic Compounds (Concentrations in µg/kg)	
1,4-Dioxane	100
2-Methylphenol	330
3&4-Methylphenol	330
Acenaphthene	98000
Acenaphthylene	107000
Anthracene	500000
Benzo[a]anthracene	1000
Benzo[a]pyrene	1000
Benzo[b]fluoranthene	1700
Benzo[g,h,i]perylene	500000
Benzo[k]fluoranthene	1700
Chrysene	1000
Dibenzo[a,h]anthracene	560
Dibenzofuran	210000
Fluoranthene	500000
Fluorene	386000
Hexachlorobenzene	3200
Indeno[1,2,3-cd]pyrene	5600
Naphthalene	12000
Pentachlorophenol	800
Phenanthrene	500000
Phenol	330
Pyrene	500000

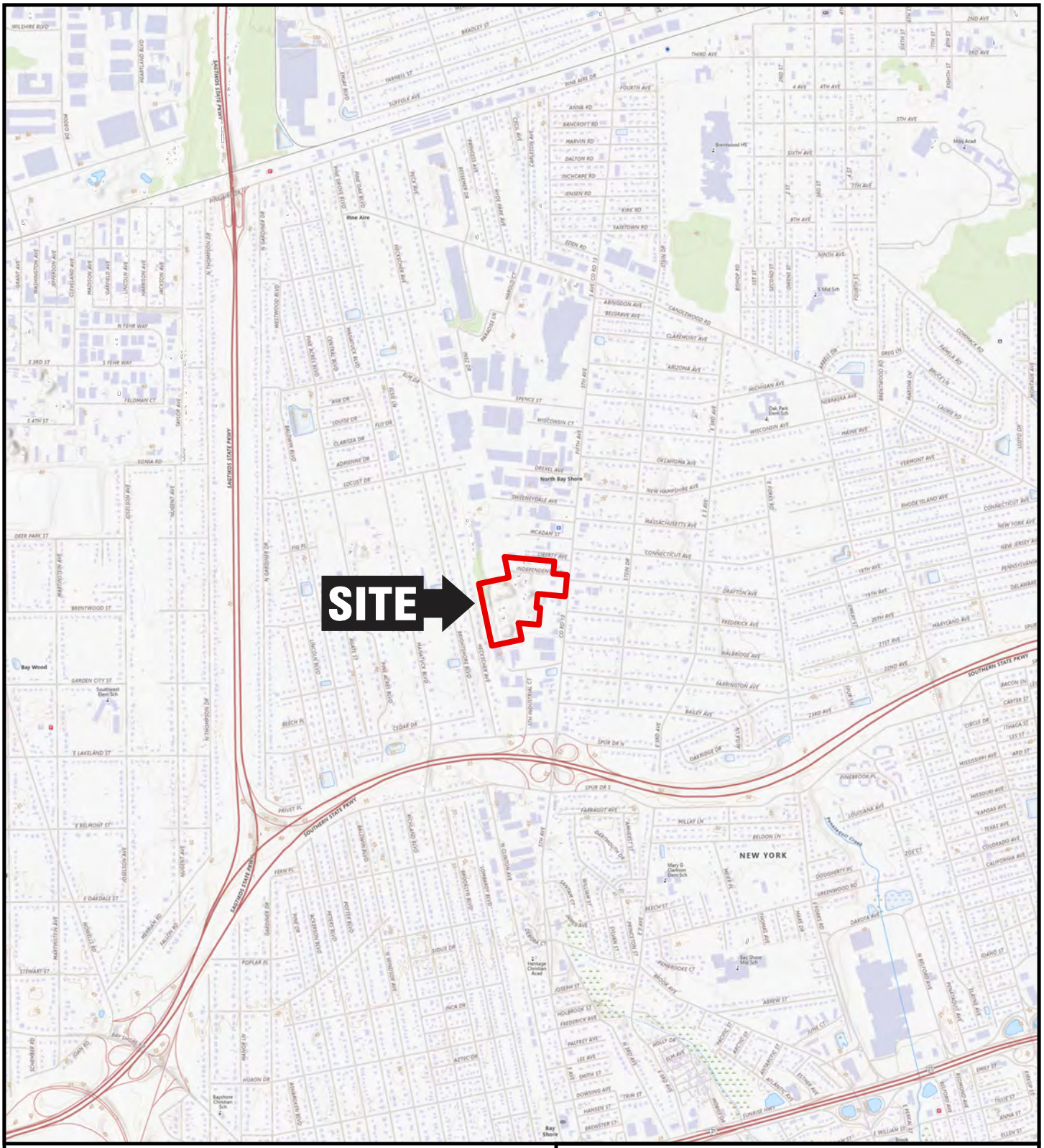
Table 26. Track 4 Backfill and Soil Cover Import Criteria
1612 Fifth Avenue, Bay Shore, NY

Parameter	Track 4 Soil Import Criteria*
Metals (Concentrations in mg/kg)	
Arsenic	16
Barium	400
Beryllium	47
Cadmium	7.5
Chromium, Hexavalent	19
Chromium	1500
Copper	270
Cyanide, Total	27
Lead	450
Manganese	2000
Mercury	0.73
Nickel	130
Selenium	4
Silver	8.3
Zinc	2480
Pesticides (Concentrations in µg/kg)	
2,4,5-TP	3800
4,4'-DDD	14000
4,4'-DDE	17000
4,4'-DDT	47000
Aldrin	190
alpha-BHC	20
alpha-Chlordane	2900
beta-BHC	90
delta-BHC	250
Dieldrin	100
Endosulfan I	102000
Endosulfan II	102000
Endosulfan sulfate	200000
Endrin	60
gamma-BHC (Lindane)	100
Heptachlor	380
Pentachlorophenol	800
Total Polychlorinated Biphenyls (Concentrations in µg/kg)	
Total Polychlorinated Biphenyls	1000
Perfluorinated Alkyl Acids (Concentrations in ng/g)	
Perfluorooctanesulfonic acid (PFOS)	1
Perfluorooctanoic acid (PFOA)	0.8

* Backfill and soil cover criteria for the Track 4 remedy are the lower of the NYSDEC Part 375 Protection of Groundwater or Commercial Use SCOs.
µg/kg - Micrograms per kilogram
mg/kg - Milligrams per kilogram
ng/g - nanogram per gram
NYSDEC - New York State Department of Environmental Conservation
SCOs - Soil Cleanup Objectives
--Standards not yet determined

FIGURES

1. Site Location Map
2. Tax Map
3. Land Use Map
4. RI Sample Locations
5. PDI Sample Locations
6. RI Summary of Soil Exceedances
7. RI Summary of Groundwater Exceedances
8. RI Summary of Soil Vapor Detections
9. RI 2025 Groundwater Flow Map
10. PDI Summary of Groundwater Exceedances
11. PDI Summary of Soil Exceedances
12. PDI 2025 Groundwater Flow Map
13. Remedial Alternative 1: Track 1 Unrestricted Use
14. Remedial Alternative 2: Track 4 Industrial Use
15. Remedial Alternative 2: Cover System Details
16. Truck Routes



QUADRANGLE LOCATION



N

2,000 0 2,000 '

Title:

SITE LOCATION MAP

1612 5TH AVENUE,
BAY SHORE, NY
SITE NO. C152008

Prepared for:

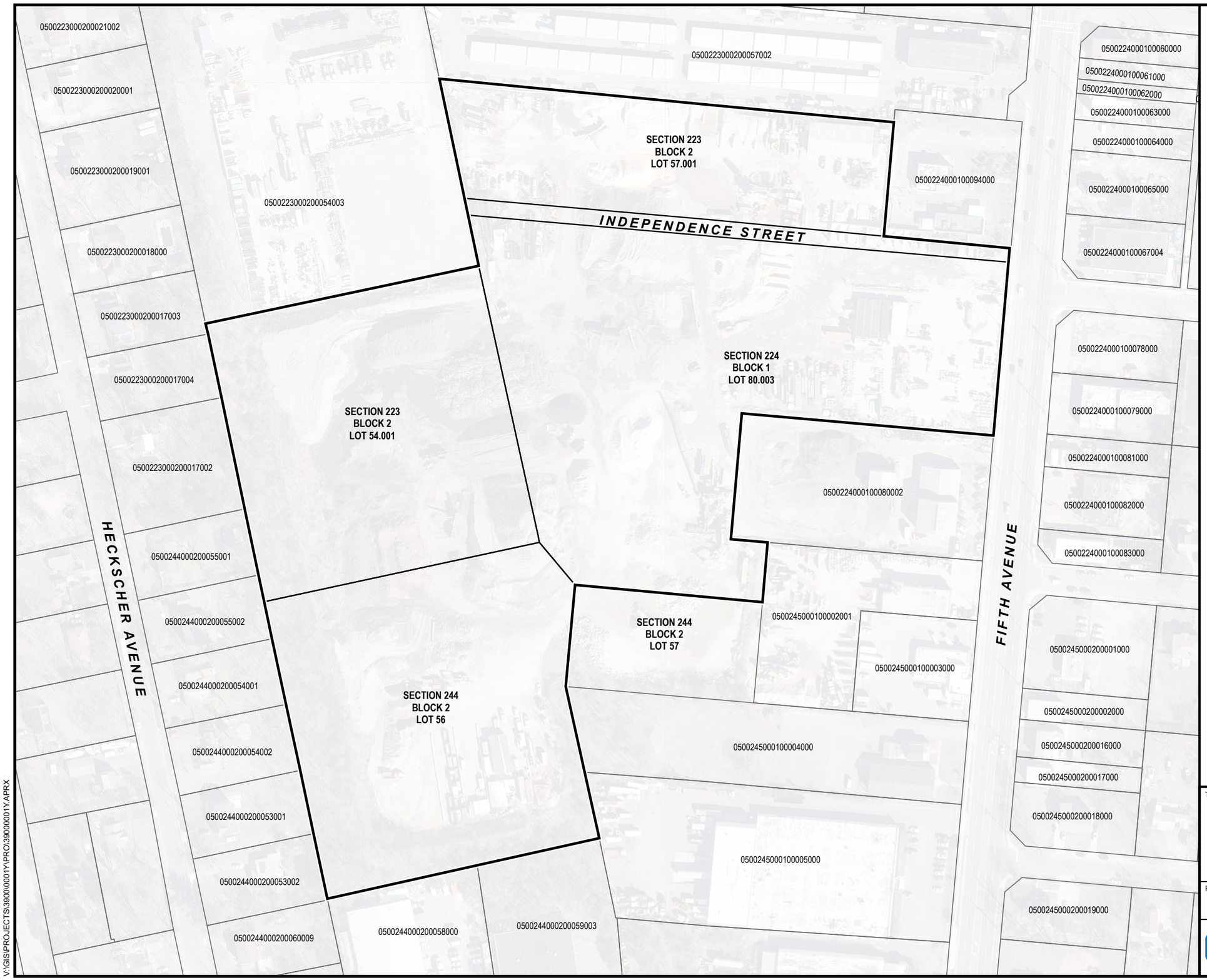
FIFTH XNY, LLC

ROUX

Compiled by: D.H.M.	Date: 03/2026
Prepared by: M.S.R.	Scale: AS SHOWN
Project Mgr: C.I.	Project: 3900.0001Y003
File: 3900.0001Y121.01.APRX	

FIGURE 01

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LEGEND

- BCP SITE BOUNDARY
- TAX LOT LINE

NOTES

1. THE SITE BOUNDARY AND TAX LOT LINES SOURCE: OPEN DATA SUFFOLK COUNTY NY.GOV - SUFFOLK GIS:TAX-PARCEL-POLYGON

150 0 150'

Title:

TAX MAP

1612 5TH AVENUE,
BAY SHORE, NY
SITE NO. C152008

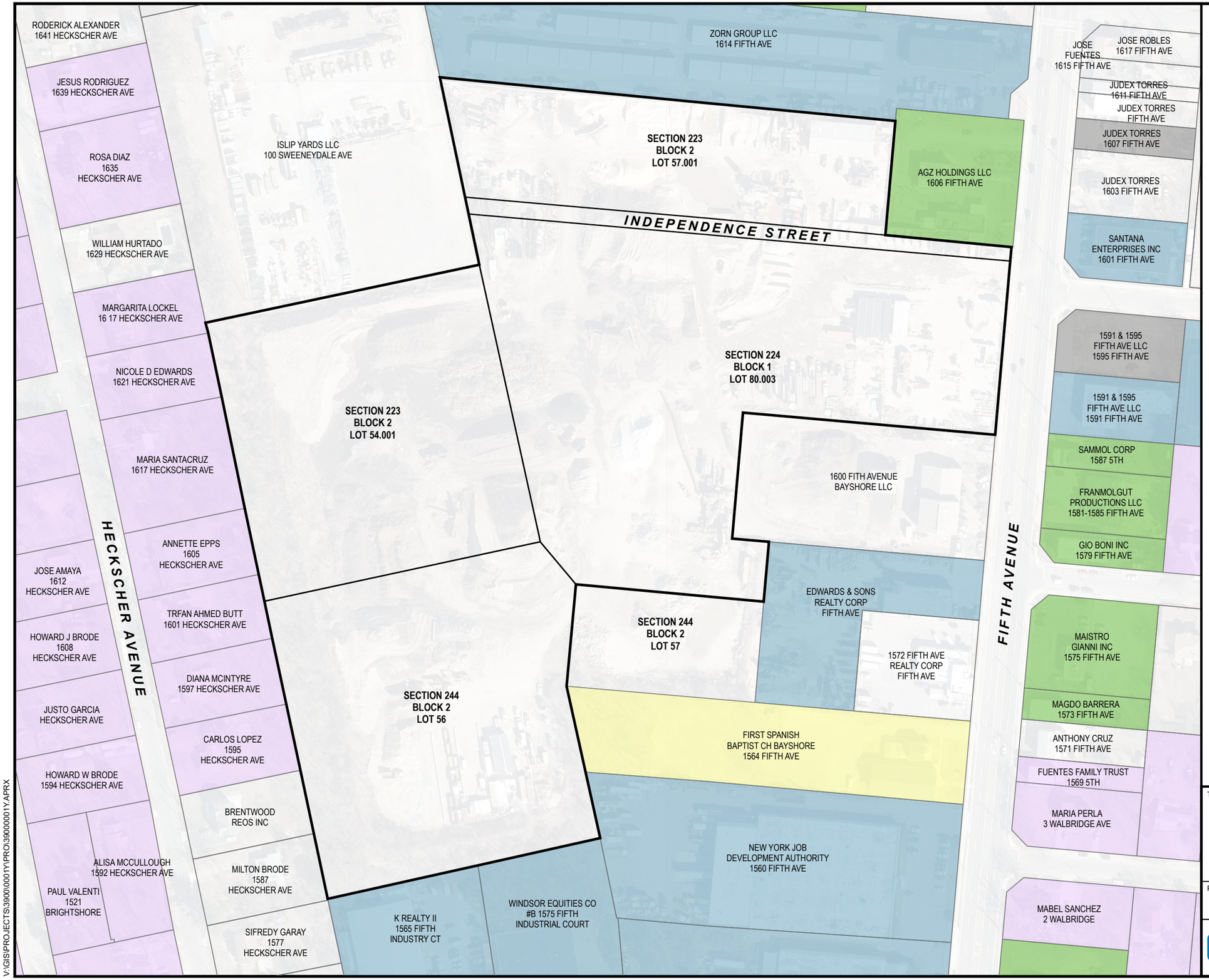
Prepared for:

FIFTH XNY, LLC

ROUX

Compiled by: D.H.M.	Date: 03/2026	FIGURE
Prepared by: M.S.R.	Scale: AS SHOWN	02
Project Mgr: C.I.	Project: 3900.0001Y003	
File: 3900.0001Y121.02.APRX		

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LEGEND

- BCP SITE BOUNDARY
- UNKNOWN
- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- INSTITUTIONAL
- VACANT

NOTE

1. LAND USE AND OWNER INFORMATION SOURCED FROM SUFFOLK COUNTY GIS DATA

150 0 150'

Title:

LAND USE MAP

1612 5TH AVENUE,
BAY SHORE, NY
SITE NO. C152008

Prepared for:

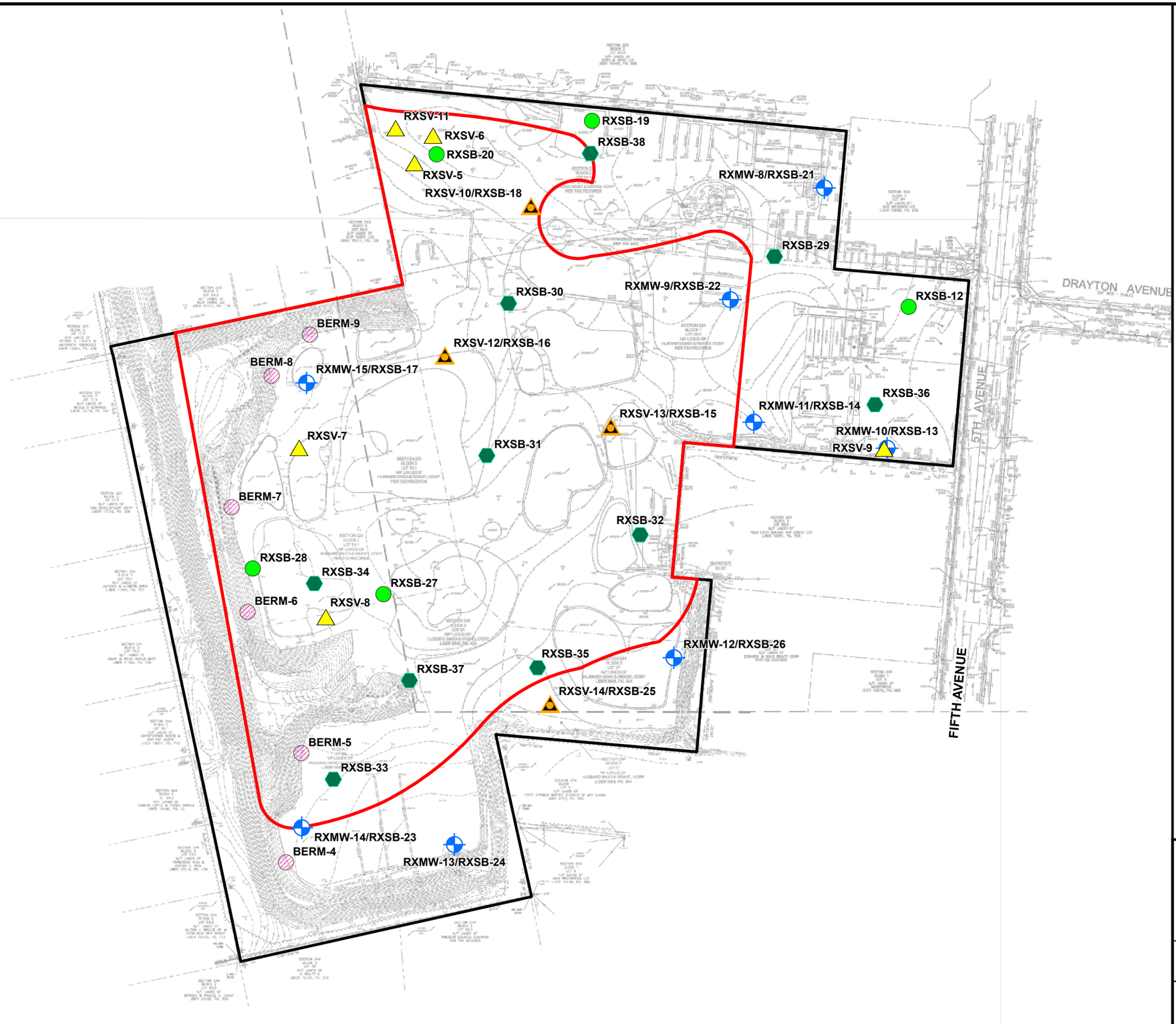
FIFTH XNY, LLC

ROUX

Compiled by: D.H.M.	Date: 03/2026
Prepared by: M.S.R.	Scale: AS SHOWN
Project Mgr: C.I.	Project: 3900.0001Y003
File: 3900.0001Y121.03.APRX	

FIGURE 03

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N

LEGEND

- LOCATION AND DESIGNATION OF SURFACE SOIL SAMPLE
- LOCATION AND DESIGNATION OF SOIL BORING
- LOCATION AND DESIGNATION OF BERM SOIL SAMPLE
- LOCATION AND DESIGNATION OF PERMANENT MONITORING WELL CONVERTED FROM SOIL BORING
- LOCATION AND DESIGNATION OF SOIL VAPOR POINT
- LOCATION AND DESIGNATION OF PERMANENT SOIL VAPOR POINT CONVERTED FROM SOIL BORING
- APPROXIMATE EXTENT OF HISTORIC LANDFILL
- BCP SITE BOUNDARY

NOTES

1. THE PROPERTY BOUNDARY AND EXTENT OF LANDFILL ARE ESTIMATED BASED ON THE INFORMATION PROVIDED TO ROUX.
2. SITE SURVEY SOURCED FROM GALLAS SURVEYING GROUP, DRAWING G22002, DATED 3/2/2022

150 0 150'

Title:

RI SAMPLE LOCATIONS

1612 5TH AVENUE,
BAY SHORE, NY
SITE NO. C152008

Prepared for:

FIFTH XNY, LLC

ROUX

Compiled by: D.H.M.	Date: 03/2026	FIGURE
Prepared by: M.S.R.	Scale: AS SHOWN	04
Project Mgr: C.I.	Project: 3900.0001Y003	
File: 3900.0001Y121.04.APRX		

V:\GIS\PROJECTS\3900\0001Y\PRO\39000001Y.APRX



N

LEGEND

- BERM SOIL SAMPLE - PDI
- DEEP MONITORING WELL - PDI
- SHALLOW MONITORING WELL - PDI
- SOIL BORING AND DEEP MONITORING WELL - SAMPLE FROM GW INTERFACE - PDI
- SOIL BORING AND SHALLOW MONITORING WELL - WILL BE SAMPLED FROM 0-2, 10-12, AND GW INTERFACE - PDI
- APPROXIMATE EXTENT OF HISTORIC LANDFILL
- BCP SITE BOUNDARY

NOTES

1. THE PROPERTY BOUNDARY AND EXTENT OF LANDFILL ARE ESTIMATED BASED ON THE INFORMATION PROVIDED TO ROUX.
2. AERIAL SOURCE: GOOGLE EARTH DATED 06-2023

100 0 100'

Title:

PRE-DESIGN INVESTIGATIONS SAMPLE LOCATIONS

1612 5TH AVENUE,
BAY SHORE, NY
SITE NO. C152008

Prepared for:

FIFTH XNY, LLC

ROUX

Compiled by: D.H.M.	Date: 03/2026
Prepared by: M.S.R.	Scale: AS SHOWN
Project Mgr: C.I.	Project: 3900.0001Y003
File: 3900.0001Y121.05.APRX	

FIGURE 05

V:\GIS\PROJECTS\3900\0001Y\PRO\39000001Y.APRX

RXSB-16	11/02/2023	11/15/2023
Depth (ft bls)	0 - 2	10 - 12
VOCs		
Acetone	NE	0.12
Metals		
Lead	NE	133
Mercury	0.35 J	0.21
Zinc	NE	156
PCBs		
Polychlorinated Biphenyl (PCBs)	ND	0.42
Pesticides		
P,P'-DDD	0.0051 J	0.017
P,P'-DDE	0.0082	0.013 J

RXSB-20	11/03/2023	11/15/2023
Depth (ft bls)	0 - 2	10 - 12
Metals		
Arsenic	NE	20.1
Chromium, Total	NE	146
Copper	NE	89.8
Lead	NE	610
Mercury	0.92	0.42
Zinc	NE	487
Pesticides		
P,P'-DDD	NE	0.014
P,P'-DDE	ND	0.0062 J
PFAS		
Perfluorooctanesulfonic acid (PFOS)	NE	6.51
Perfluorooctanoic acid (PFOA)	0.81	NE

RXSB-18	11/02/2023	11/15/2023
Depth (ft bls)	0 - 2	10 - 12
VOCs		
Acetone	NE	0.061
Metals		
Lead	NE	1050
Zinc	NE	126
Pesticides		
P,P'-DDD	0.0049 J	0.011
P,P'-DDE	0.0061 J	0.015
PFAS		
Perfluorooctanesulfonic acid (PFOS)	NE	1.3

RXSB-19	11/03/2023	11/15/2023
Depth (ft bls)	0 - 2	10 - 12
PCBs		
Polychlorinated Biphenyl (PCBs)	0.19	ND
Pesticides		
Aldrin	0.026 J	ND
Dieldrin	0.058 J	ND
P,P'-DDD	ND	0.015 J
P,P'-DDE	0.0048 J	0.0034 J
PFAS		
Perfluorooctanesulfonic acid (PFOS)	NE	0.96
TCLP Metals		
Mercury	0.583	NE

BERM-9	11/15/2023	11/15/2023
Depth (ft bls)		DUP
Pesticides		
P,P'-DDE	0.005 J	0.009
P,P'-DDT	0.0081	0.014
PFAS		
Perfluorooctanesulfonic acid (PFOS)	2.39	2
Perfluorooctanoic acid (PFOA)	0.71	NE

RXSB-30	11/02/2023
Depth (in bls)	0 - 2
Metals	
Mercury	0.39 J
PFAS	
Perfluorooctanesulfonic acid (PFOS)	0.91 J

RXSB-38	01/05/2024
Depth (in bls)	0 - 2
Pesticides	
Dieldrin	0.027
P,P'-DDD	0.0037 J
P,P'-DDT	0.0035 J

RXSB-21	11/03/2023	11/07/2023
Depth (ft bls)	0 - 2	10 - 12
Metals		
Mercury	0.57	ND
PCBs		
Polychlorinated Biphenyl (PCBs)	ND	0.86

RXSB-29	11/02/2023
Depth (in bls)	0 - 2
Metals	
Mercury	0.35 J

RXSB-17	11/2/23	11/14/23
Depth (ft bls)	0 - 2	10 - 12
VOCs		
Acetone	0.054	0.06
Metals		
Copper	NE	60.8
Lead	NE	404
Mercury	NE	0.61
Zinc	NE	574
PCBs		
Polychlorinated Biphenyl (PCBs)	ND	0.97
PFAS		
Perfluorooctanesulfonic acid (PFOS)	NE	0.95
TCLP Metals		
Mercury	NE	0.202

RXSB-22	11/03/2023	11/07/2023
Depth (ft bls)	0 - 2	10 - 12
SVOCs		
Benzo(B)Fluoranthene	1.3	NE
Indeno(1,2,3-C,D)Pyrene	0.55	NE
Metals		
Mercury	0.5	NE
PCBs		
Polychlorinated Biphenyl (PCBs)	ND	0.15
Pesticides		
Dieldrin	0.02 J	ND
P,P'-DDE	0.012 J	ND

BERM-8	11/15/2023
Depth (ft bls)	
Pesticides	
P,P'-DDE	0.0045 J
P,P'-DDT	0.013
PFAS	
Perfluorooctanesulfonic acid (PFOS)	3.06
Perfluorooctanoic acid (PFOA)	0.7

BERM-7	11/15/2023
Depth (ft bls)	
Metals	
Arsenic	13.7
Lead	81.3
Zinc	117
Pesticides	
P,P'-DDT	0.024
PFAS	
Perfluorooctanesulfonic acid (PFOS)	2.63

RXSB-14	11/01/2023	11/08/2023
Depth (ft bls)	0 - 2	10 - 12
VOCs		
Acetone	NE	0.057
Metals		
Zinc	NE	172
Pesticides		
P,P'-DDE	0.0051 J	ND
PFAS		
Perfluorooctanesulfonic acid (PFOS)	2.23 J	NE

RXSB-28	11/06/2023	11/16/2023
Depth (ft bls)	0 - 2	10 - 12
VOCs		
Acetone	0.098	0.13
Metals		
Lead	NE	187
Zinc	NE	247 J
Pesticides		
P,P'-DDE	0.007	0.0077 J
P,P'-DDT	0.015	ND
PFAS		
Perfluorooctanesulfonic acid (PFOS)	NE	10.8
Perfluorooctanoic acid (PFOA)	NE	3.26

RXSB-34	11/06/2023
Depth (in bls)	0 - 2
Metals	
Mercury	0.27
Pesticides	
Dieldrin	0.029

BERM-6	11/15/2023
Depth (ft bls)	
Metals	
Lead	64.7
Pesticides	
P,P'-DDD	0.041
P,P'-DDE	0.037
P,P'-DDT	0.076

RXSB-15	11/03/2023	11/15/2023
Depth (ft bls)	0 - 2	10 - 12
SVOCs		
Benzo(B)Fluoranthene	1.1	NE
Metals		
Chromium, Hexavalent	1.1 J	ND
Copper	NE	51.7
Mercury	0.19	NE
Pesticides		
Aldrin	0.0085 J	ND
Dieldrin	0.009 J	ND
P,P'-DDE	0.014 J	NE
P,P'-DDT	0.007 J	ND
TCLP Metals		
Mercury	0.993	NE

RXSB-27	11/06/2023	11/16/2023
Depth (ft bls)	0 - 2	10 - 12
VOCs		
Acetone	NE	0.18
Metals		
Cadmium	NE	3.2
Lead	NE	129
Zinc	NE	170 J
PCBs		
Polychlorinated Biphenyl (PCBs)	ND	0.34
PFAS		
Perfluorooctanesulfonic acid (PFOS)	NE	6.35
Perfluorooctanoic acid (PFOA)	NE	1.41

BERM-5	11/15/2023
Depth (ft bls)	
Metals	
Lead	65.1
Pesticides	
P,P'-DDE	0.01
P,P'-DDT	0.012
PFAS	
Perfluorooctanesulfonic acid (PFOS)	1.4

RXSB-32	11/03/2023
Depth (in bls)	0 - 2
Metals	
Mercury	0.29
Pesticides	
Dieldrin	0.01 J
P,P'-DDE	0.0034 J
P,P'-DDT	0.0036 J
TCLP Metals	
Mercury	1.09

RXSB-33	11/06/2023
Depth (in bls)	0 - 2
Pesticides	
Dieldrin	0.022 J+

BERM-4	11/15/2023
Depth (ft bls)	
Metals	
Lead	113
Mercury	0.21
Zinc	110
Pesticides	
P,P'-DDD	0.015
P,P'-DDT	0.021

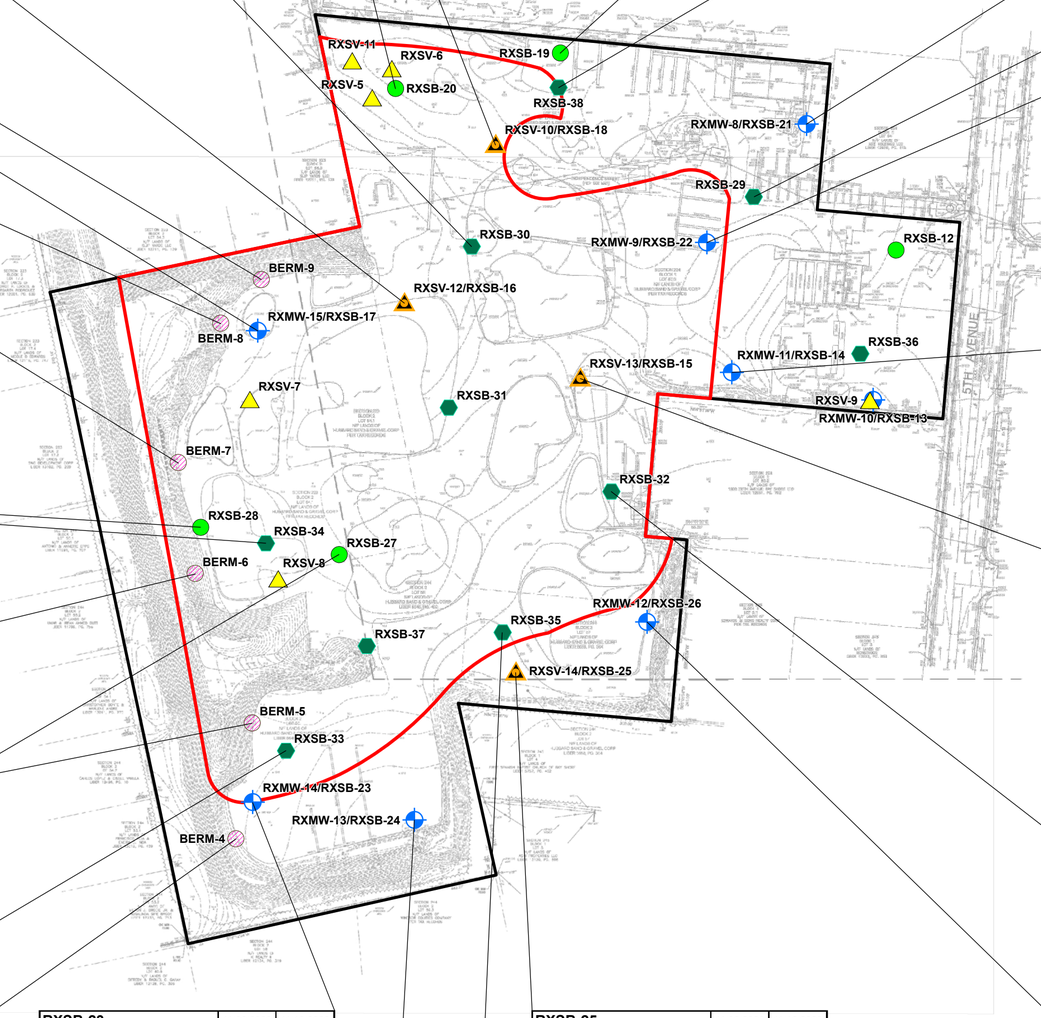
RXSB-23	11/06/2023	11/13/2023
Depth (ft bls)	0 - 2	10 - 12
Pesticides		
P,P'-DDE	0.004 J	ND
P,P'-DDT	0.0041 J	ND

RXSB-24	11/06/2023	11/10/2023
Depth (ft bls)	0 - 2	10 - 12
SVOCs		
Benzo(A)Anthracene	1.3	NE
Benzo(A)Pyrene	1.6	NE
Benzo(B)Fluoranthene	2.2	NE
Chrysene	1.5	NE
Indeno(1,2,3-C,D)Pyrene	0.78	NE
Metals		
Lead	66.6	NE
Pesticides		
Dieldrin	0.01 J	NE
P,P'-DDD	ND	0.018 J
P,P'-DDE	0.019	0.013 J
P,P'-DDT	0.0058 J	0.024 J

RXSB-25	11/06/2023	11/16/2023
Depth (ft bls)	0 - 2	10 - 12
VOCs		
Acetone	NE	0.086
Metals		
Arsenic	NE	17.2
Lead	NE	216
Mercury	NE	0.22
Zinc	NE	208 J
Pesticides		
Dieldrin	0.0078	ND
P,P'-DDE	0.0047 J	0.0041 J
PFAS		
Perfluorooctanesulfonic acid (PFOS)	NE	4.96
Perfluorooctanoic acid (PFOA)	NE	0.7

RXSB-35	11/08/2023
Depth (in bls)	0 - 2
Metals	
Mercury	0.4
Nickel	40

RXSB-26	11/06/2023	11/09/2023
Depth (ft bls)	0 - 2	10 - 12
VOCs		
Acetone	ND	0.2
Metals		
Chromium, Hexavalent	1.3 J	ND
Lead	NE	89
Zinc	NE	317
Pesticides		
Dieldrin	0.012	ND
P,P'-DDE	0.012	ND
P,P'-DDT	0.0039 J	ND
PFAS		
Perfluorooctanesulfonic acid (PFOS)	NE	7.12
Perfluorooctanoic acid (PFOA)	NE	1.31



Parameter	NYSDEC Part 375 Unrestricted Use Soil Cleanup Objectives	NYSDEC Part 375 Industrial Soil Cleanup Objectives	NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives	Units
VOCs				
Acetone	0.05	1000	0.05	mg/kg
SVOCs				
Benzo(A)Anthracene	1	11	1	mg/kg
Benzo(A)Pyrene	1	1.1	22	mg/kg
Benzo(B)Fluoranthene	1	11	1.7	mg/kg
Chrysene	1	110	1	mg/kg
Indeno(1,2,3-C,D)Pyrene	0.5	11	8.2	mg/kg
Metals				
Arsenic	13	16	16	mg/kg
Cadmium	2.5	60	7.5	mg/kg
Chromium, Hexavalent	1	800	19	mg/kg
Chromium, Total	30	6800	--	mg/kg
Copper	50	10000	1720	mg/kg
Lead	63	3900	450	mg/kg
Mercury	0.18	5.7	0.73	mg/kg
Nickel	30	10000	130	mg/kg
Zinc	109	10000	2480	mg/kg
PCBs				mg/kg
Polychlorinated Biphenyl (PCBs)	0.1	25	3.2	mg/kg
Pesticides				
Aldrin	0.005	1.4	0.19	mg/kg
Dieldrin	0.005	2.8	0.1	mg/kg
P,P'-DDD	0.0033	180	14	mg/kg
P,P'-DDE	0.0033	120	17	mg/kg
P,P'-DDT	0.0033	94	136	mg/kg
PFAS				
Perfluorooctanesulfonic acid (PFOS)	0.88	440	1	µg/kg
Perfluorooctanoic acid (PFOA)	0.66	600	0.8	µg/kg
TCLP Metals	USEPA Regulatory Levels			
Mercury	0.2	--	--	mg/L

LEGEND

- LOCATION AND DESIGNATION OF SURFACE SOIL SAMPLE
- LOCATION AND DESIGNATION OF SOIL BORING
- LOCATION AND DESIGNATION OF BERM SOIL SAMPLE
- LOCATION AND DESIGNATION OF PERMANENT MONITORING WELL CONVERTED FROM SOIL BORING
- LOCATION AND DESIGNATION OF SOIL VAPOR POINT
- LOCATION AND DESIGNATION OF PERMANENT SOIL VAPOR POINT CONVERTED FROM SOIL BORING
- APPROXIMATE EXTENT OF HISTORIC LANDFILL
- BCP SITE BOUNDARY

NOTES

1. THE PROPERTY BOUNDARY AND EXTENT OF LANDFILL ARE ESTIMATED BASED ON THE INFORMATION PROVIDED TO ROUX.
2. SITE SURVEY SOURCED FROM GALLAS SURVEYING GROUP, DRAWING G22002, DATED 3/2/2022

MG/KG - MILLIGRAMS PER KILOGRAM
MG/KG - MICROGRAMS PER KILOGRAM
MG/L - MILLIGRAMS PER LITER
NYSDEC - NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
-- NO NYSDEC PART 375 SOIL CLEANUP OBJECTIVES AVAILABLE
USEPA - UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
TCLP - TOXICITY CHARACTERISTIC LEACHING PROCEDURE UNITED STATES ENVIRONMENTAL PROTECTION
USEPA REGULATORY LEVELS - AGENCY LIMITS FOR RCRA CHARACTERISTIC WASTE FOR TOXICITY
RCRA - RESOURCE CONSERVATION AND RECOVERY ACT
J - ESTIMATED VALUE
J+ - ESTIMATED VALUE, HIGH BIAS
DUP - DUPLICATE SAMPLE
VOCS - VOLATILE ORGANIC COMPOUNDS
SVOCS - SEMIVOLATILE ORGANIC COMPOUNDS
PCBS - POLYCHLORINATED BIPHENYLS
PFAS - PER- AND POLYFLUOROALKYL SUBSTANCES
NE - NO EXCEEDANCE
ND - NO DETECTION
NA - NOT ANALYZED FOR BY LABORATORY
FT BLS - FEET BELOW LAND SURFACE

150 0 150'

Title:

SUMMARY OF SOIL EXCEEDANCES

1612 5TH AVENUE,
BAY SHORE, NY
SITE NO. C152008

Prepared for:

FIFTH XNY, LLC

ROUX

Compiled by: D.H.M.	Date: 03/2026
Prepared by: M.S.R.	Scale: AS SHOWN
Project Mgr: C.I.	Project: 3900.0001Y003
File: 3900.0001Y121.06.APRX	

FIGURE 06

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RXMW-15	01/09/2024
SVOCs	
1,4-Dioxane (P-Dioxane)	**3.4**
Metals, Total	
Barium	**1050**
Iron	**32800**
Magnesium	**85700**
Manganese	**572**
Sodium	**121000**
Metals, Dissolved	
Magnesium	**82200**
Manganese	**570**
Sodium	**122000**
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**84.5**
Perfluorooctanoic acid (PFOA)	**2150**

RXMW-8	01/08/2024
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**6.42**

RXMW-9	01/09/2024
SVOCs	
1,4-Dioxane (P-Dioxane)	**0.47**
Metals, Total	
Iron	**44700**
Manganese	**2350**
Sodium	**238000**
Metals, Dissolved	
Iron	**1770**
Manganese	**2220**
Sodium	**241000**
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**33.9**
Perfluorooctanoic acid (PFOA)	**43.8**

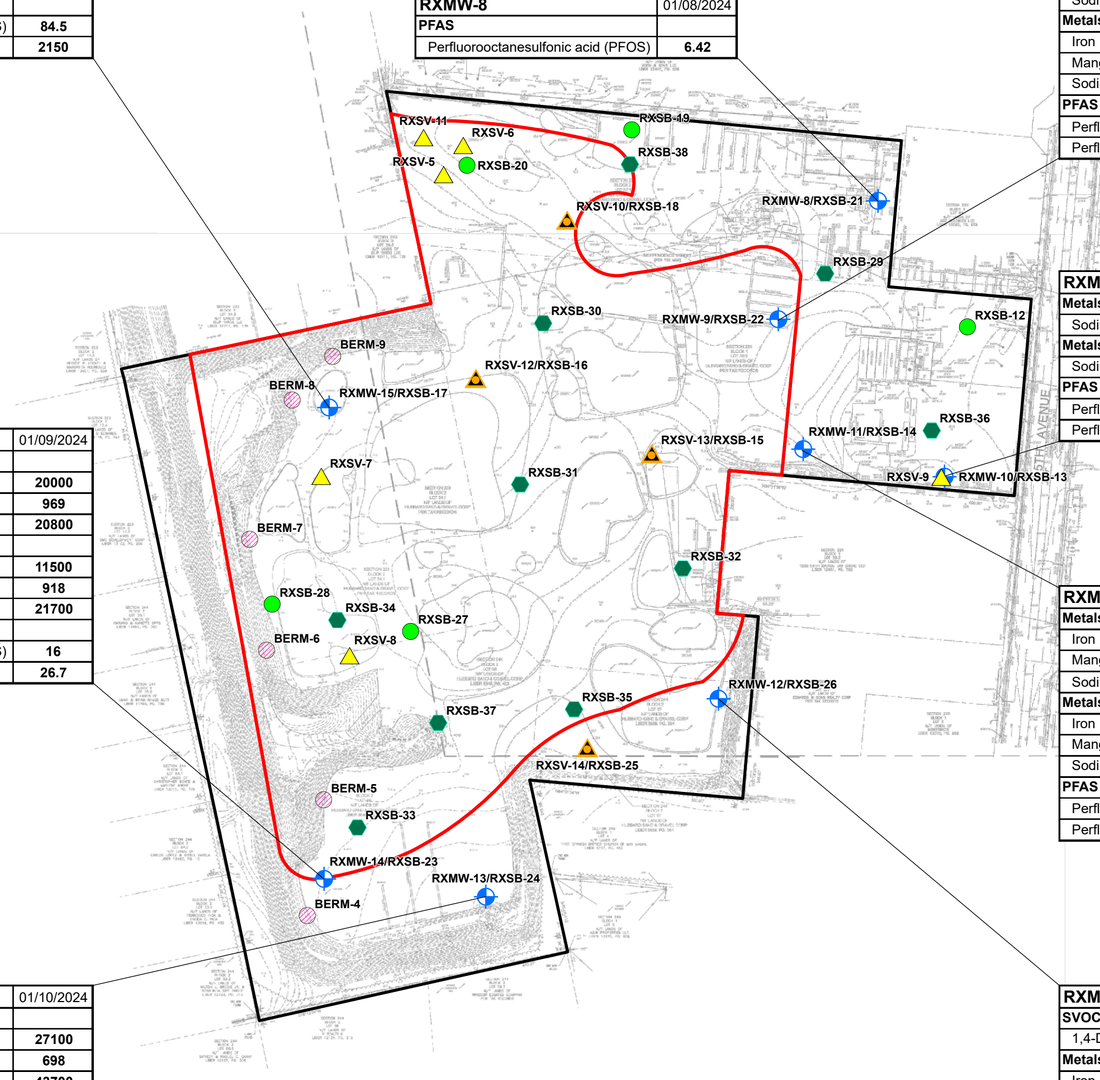
RXMW-10	01/08/2024	01/08/2024 DUP
Metals, Total		
Sodium	**24200**	**23500**
Metals, Dissolved		
Sodium	**23000**	**24500**
PFAS		
Perfluorooctanesulfonic acid (PFOS)	**10.3**	**11**
Perfluorooctanoic acid (PFOA)	**11.1**	**11.7**

RXMW-14	01/09/2024
Metals, Total	
Iron	**20000**
Manganese	**969**
Sodium	**20800**
Metals, Dissolved	
Iron	**11500**
Manganese	**918**
Sodium	**21700**
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**16**
Perfluorooctanoic acid (PFOA)	**26.7**

RXMW-11	01/09/2024
Metals, Total	
Iron	**35500**
Manganese	**992**
Sodium	**105000**
Metals, Dissolved	
Iron	**1410**
Manganese	**981**
Sodium	**113000**
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**29.9**
Perfluorooctanoic acid (PFOA)	**14.9**

RXMW-13	01/10/2024
Metals, Total	
Iron	**27100**
Manganese	**698**
Sodium	**43700**
Metals, Dissolved	
Iron	**471**
Manganese	**699**
Sodium	**43400**
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**139**
Perfluorooctanoic acid (PFOA)	**103**

RXMW-12	01/10/2024
SVOCs	
1,4-Dioxane (P-Dioxane)	**0.52**
Metals, Total	
Iron	**29100**
Manganese	**831**
Sodium	**40100**
Metals, Dissolved	
Iron	**2040**
Manganese	**842**
Sodium	**40500**
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**56.4**
Perfluorooctanoic acid (PFOA)	**23.8**



Parameter	NYSDEC AWQSGV	Units
VOCs	NE	µg/L
SVOCs		
1,4-Dioxane (P-Dioxane)	**0.35**	µg/L
Metals, Total		
Barium	**1000**	µg/L
Iron	**300**	µg/L
Magnesium	**35000**	µg/L
Manganese	**300**	µg/L
Sodium	**20000**	µg/L
Metals, Dissolved		
Barium	**1000**	µg/L
Iron	**300**	µg/L
Magnesium	**35000**	µg/L
Manganese	**300**	µg/L
Sodium	**20000**	µg/L
PCBs	NE	µg/L
Pesticides	NE	µg/L
PFAS		
Perfluorooctanesulfonic acid (PFOS)	**2.7**	ng/L
Perfluorooctanoic acid (PFOA)	**6.7**	ng/L

LEGEND

- LOCATION AND DESIGNATION OF SURFACE SOIL SAMPLE
- LOCATION AND DESIGNATION OF SOIL BORING
- LOCATION AND DESIGNATION OF BERM SOIL SAMPLE
- LOCATION AND DESIGNATION OF PERMANENT MONITORING WELL CONVERTED FROM SOIL BORING
- LOCATION AND DESIGNATION OF SOIL VAPOR POINT
- LOCATION AND DESIGNATION OF PERMANENT SOIL VAPOR POINT CONVERTED FROM SOIL BORING
- APPROXIMATE EXTENT OF HISTORIC LANDFILL
- BCP SITE BOUNDARY

NOTES

1. THE PROPERTY BOUNDARY AND EXTENT OF LANDFILL ARE ESTIMATED BASED ON THE INFORMATION PROVIDED TO ROUX.
2. SITE SURVEY SOURCED FROM GALLAS SURVEYING GROUP, DRAWING G22002, DATED 3/2/2022

MG/L - MICROGRAMS PER LITER
NG/L - NANOGRAMS PER LITER
NYSDEC - NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AWQSGVS - AMBIENT WATER-QUALITY STANDARDS AND GUIDANCE VALUES
-- NO NYSDEC AWQSGV AVAILABLE
B - FOUND IN LABORATORY BLANK
E - EXCEEDS CALIBRATION LIMIT
D - DILUTION
J - ESTIMATED VALUE
DUP - DUPLICATE SAMPLE
VOCS - VOLATILE ORGANIC COMPOUNDS
SVOCS - SEMIVOLATILE ORGANIC COMPOUNDS
PCBS - POLYCHLORINATED BIPHENYLS
PFAS - PER- AND POLYFLUOROALKYL SUBSTANCES
NE - NO EXCEEDANCES
ND - NO DETECTION

150 0 150'

Title:

SUMMARY OF GROUNDWATER EXCEEDANCES

1612 5TH AVENUE,
BAY SHORE, NY
SITE NO. C152008

Prepared for:

FIFTH XNY, LLC

ROUX

Compiled by: D.H.M.	Date: 03/2026
Prepared by: M.S.R.	Scale: AS SHOWN
Project Mgr: C.I.	Project: 3900.0001Y003
File: 3900.0001Y121.07.APRX	

FIGURE 07

V:\GIS\PROJECTS\3900\0001Y\PRO\39000001Y.APRX

RXSV-5	01/05/2024	01/05/2024 DUP
VOCs		
1,2-Dichlorotetrafluoroethane	**13 J**	**6.9 J**
2,2,4-Trimethylpentane	**79**	**21**
Acetone	**110 J**	ND
Benzene	**2.5 J**	**1.5 J**
Butane	**1500 D**	**870 D**
Carbon Disulfide	**4.1 J**	ND
Chlorodifluoromethane	**410**	**230**
Cyclohexane	**18**	**5.1**
Dichlorodifluoromethane	**13 J**	**3.2 J**
Methane	**200000000**	**260000000**
Methylene Chloride	**6.9 J**	ND
N-Heptane	**19**	**6.6**
N-Hexane	**98**	**41**
Tetrachloroethylene (PCE)	ND	**0.76 J**
Toluene	**5.4 J**	**1.2 J**

RXSV-11	01/05/2024
VOCs	
1,2-Dichlorotetrafluoroethane	**23**
2,2,4-Trimethylpentane	**53**
Acetone	**100**
Benzene	**2.1 J**
Butane	**3000 D**
Carbon Disulfide	**1.7 J**
Chlorodifluoromethane	**510**
Cyclohexane	**34**
Dichlorodifluoromethane	**6.3 J**
Isopropanol	**20 J**
Methane	**190000000**
Methyl Ethyl Ketone (2-Butanone)	**8.4**
N-Heptane	**18**
N-Hexane	**140**
Tetrachloroethylene (PCE)	**0.75 J**
Toluene	**1.8 J**
Trichlorofluoromethane	**1.3 J**

RXSV-6	01/05/2024
VOCs	
1,2,4-Trimethylbenzene	**0.98 J**
1,3-Butadiene	**0.51 J**
1,3-Dichlorobenzene	**1.5 J**
2,2,4-Trimethylpentane	**13**
Acetone	**79**
Benzene	**4.6**
Butane	**300 D**
Carbon Disulfide	**17**
Chlorodifluoromethane	**2.4 J**
Cyclohexane	**27**
Ethylbenzene	**1 J**
Isopropanol	**12 J**
m,p-Xylene	**3.1 J**
Methane	**240000000**
Methyl Ethyl Ketone (2-Butanone)	**18**
Methylene Chloride	**2.4 J**
N-Heptane	**77**
N-Hexane	**55**
O-Xylene (1,2-Dimethylbenzene)	**1.5 J**
Tetrachloroethylene (PCE)	**1.9 J**
Toluene	**6.7**
Trichlorofluoromethane	**0.82 J**

RXSV-10	01/05/2024
VOCs	
1,2,4-Trimethylbenzene	**1.4 J**
1,2-Dichlorotetrafluoroethane	**2.3 J**
1,3-Butadiene	**9.4**
1,3-Dichlorobenzene	**1.7 J**
2,2,4-Trimethylpentane	**43**
Acetone	**130**
Benzene	**6.7**
Butane	**640 D**
Carbon Disulfide	**17**
Chlorodifluoromethane	**450 D**
Chloromethane	**1.8 J**
Cyclohexane	**66**
Dichlorodifluoromethane	**8**
Ethylbenzene	**1.6 J**
Isopropanol	**13 J**
m,p-Xylene	**5.6**
Methane	**280000000**
Methyl Ethyl Ketone (2-Butanone)	**10**
N-Heptane	**19**
N-Hexane	**58**
N-Propylbenzene	**0.54 J**
O-Xylene (1,2-Dimethylbenzene)	**2.4**
Tert-Butyl Methyl Ether	**2.2**
Tetrachloroethylene (PCE)	**2 J**
Toluene	**5.3**

RXSV-12	01/05/2024
VOCs	
1,2-Dichlorotetrafluoroethane	**34**
2,2,4-Trimethylpentane	**220**
Benzene	**6 J**
Butane	**3800 D**
Chlorodifluoromethane	**1200**
Cyclohexane	**71**
Cymene	**6.8 J**
Dichlorodifluoromethane	**27 J**
Isopropylbenzene (Cumene)	**5.1 J**
m,p-Xylene	**11 J**
Methane	**290000000**
N-Heptane	**250**
N-Hexane	**280**
Toluene	**13 J**

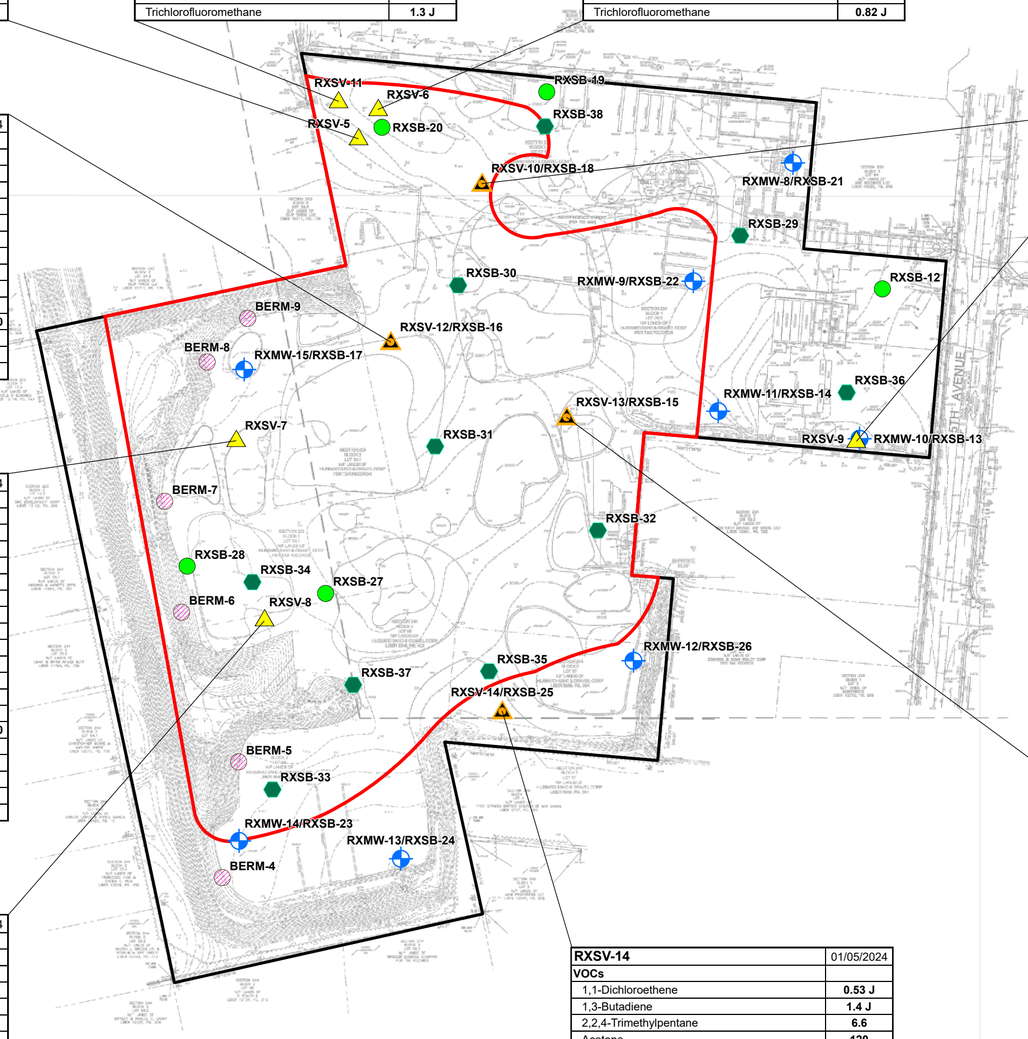
RXSV-9	01/05/2024
VOCs	
1,2,4-Trimethylbenzene	**0.89 J**
1,2-Dichlorotetrafluoroethane	**1.2 J**
1,3,5-Trimethylbenzene (Mesitylene)	**0.24 J**
1,3-Dichlorobenzene	**2**
2,2,4-Trimethylpentane	**1.3**
4-Ethyltoluene	**0.24 J**
Acetone	**13**
Benzene	**1.5**
Butane	**0.88 J**
Chlorodifluoromethane	**2.7**
Chloroform	**6**
Cyclohexane	**0.37 J**
Dichlorodifluoromethane	**11**
Ethylbenzene	**1.7**
Isopropanol	**8.4 J**
m,p-Xylene	**6.2**
Methyl Ethyl Ketone (2-Butanone)	**1.5**
N-Heptane	**2.3**
N-Hexane	**1.4 J**
O-Xylene (1,2-Dimethylbenzene)	**2.2**
Tetrachloroethylene (PCE)	**11**
Toluene	**9.9**
Trichlorofluoromethane	**12**

RXSV-7	01/04/2024
VOCs	
1,2,4-Trimethylbenzene	**4.7 J**
1,2-Dichlorotetrafluoroethane	**77**
2,2,4-Trimethylpentane	**140**
Acetone	**86 J**
Benzene	**6.3 J**
Butane	**3700 D**
Carbon Disulfide	**7.2 J**
Chlorodifluoromethane	**760**
Cyclohexane	**120**
Cymene	**17**
Dichlorodifluoromethane	**19 J**
Ethylbenzene	**6.5 J**
m,p-Xylene	**20 J**
Methane	**300000000**
N-Heptane	**460**
N-Hexane	**430**
O-Xylene (1,2-Dimethylbenzene)	**8.1 J**
Tetrachloroethylene (PCE)	**4 J**
Toluene	**17**

RXSV-13	01/05/2024
VOCs	
1,1-Dichloroethene	**0.32 J**
1,2,4-Trimethylbenzene	**0.95 J**
1,3-Butadiene	**1.1**
1,3-Dichlorobenzene	**2.1 J**
2,2,4-Trimethylpentane	**110**
Acetone	**440 E**
Benzene	**24**
Butane	**690 D**
Carbon Disulfide	**18**
Chlorodifluoromethane	**5.8**
Cis-1,2-Dichloroethylene	**0.78**
Cyclohexane	**64**
Dichlorodifluoromethane	**110**
Ethylbenzene	**2.3**
Isopropanol	**12 J**
m,p-Xylene	**5.8**
Methane	**24000000**
Methyl Ethyl Ketone (2-Butanone)	**24**
Methylene Chloride	**4.1**
N-Heptane	**67**
N-Hexane	**110**
O-Xylene (1,2-Dimethylbenzene)	**2.6**
Tetrachloroethylene (PCE)	**16**
Toluene	**13**
Trichloroethylene (TCE)	**4.8**
Trichlorofluoromethane	**40**

RXSV-8	01/04/2024
VOCs	
1,2-Dichlorotetrafluoroethane	**18**
2,2,4-Trimethylpentane	**37**
Acetone	**58 J**
Benzene	**11**
Butane	**1800 D**
Carbon Disulfide	**14 J**
Chlorodifluoromethane	**130**
Cyclohexane	**39**
Cymene	**3.4 J**
Ethylbenzene	**6.7 J**
m,p-Xylene	**19 J**
Methane	**330000000**
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**11 J**
N-Heptane	**490**
N-Hexane	**230**
O-Xylene (1,2-Dimethylbenzene)	**6.7 J**
Tetrachloroethylene (PCE)	**4 J**
Toluene	**12**

RXSV-14	01/05/2024
VOCs	
1,1-Dichloroethene	**0.53 J**
1,3-Butadiene	**1.4 J**
2,2,4-Trimethylpentane	**6.6**
Acetone	**120**
Benzene	**32**
Butane	**1300 D**
Carbon Disulfide	**19**
Chlorodifluoromethane	**11**
Cis-1,2-Dichloroethylene	**13**
Cyclohexane	**30**
Dichlorodifluoromethane	**5.5 J**
Isopropanol	**27 J**
Methane	**380000000**
Methyl Ethyl Ketone (2-Butanone)	**21**
N-Heptane	**19**
N-Hexane	**99**
Tetrachloroethylene (PCE)	**2.4 J**
Toluene	**2.3 J**
Trans-1,2-Dichloroethene	**1.2 J**
Trichloroethylene (TCE)	**4.3**
Trichlorofluoromethane	**3.2 J**



LEGEND

- LOCATION AND DESIGNATION OF SURFACE SOIL SAMPLE
- LOCATION AND DESIGNATION OF SOIL BORING
- LOCATION AND DESIGNATION OF BERM SOIL SAMPLE
- LOCATION AND DESIGNATION OF PERMANENT MONITORING WELL CONVERTED FROM SOIL BORING
- LOCATION AND DESIGNATION OF SOIL VAPOR POINT
- LOCATION AND DESIGNATION OF PERMANENT SOIL VAPOR POINT CONVERTED FROM SOIL BORING
- APPROXIMATE EXTENT OF HISTORIC LANDFILL
- BCP SITE BOUNDARY

NOTES

1. THE PROPERTY BOUNDARY AND EXTENT OF LANDFILL ARE ESTIMATED BASED ON THE INFORMATION PROVIDED TO ROUX.
2. SITE SURVEY SOURCED FROM GALLAS SURVEYING GROUP, DRAWING G22002, DATED 3/2/2022

CONCENTRATIONS IN MG/M3
MG/M3 - MICROGRAMS PER CUBIC METER
VOCS - VOLATILE ORGANIC COMPOUNDS
ND - COMPOUND WAS ANALYZED FOR BUT NOT DETECTED

150 0 150'

Title:

SUMMARY OF SOIL VAPOR DETECTIONS

1612 5TH AVENUE,
BAY SHORE, NY
SITE NO. C152008

Prepared for:

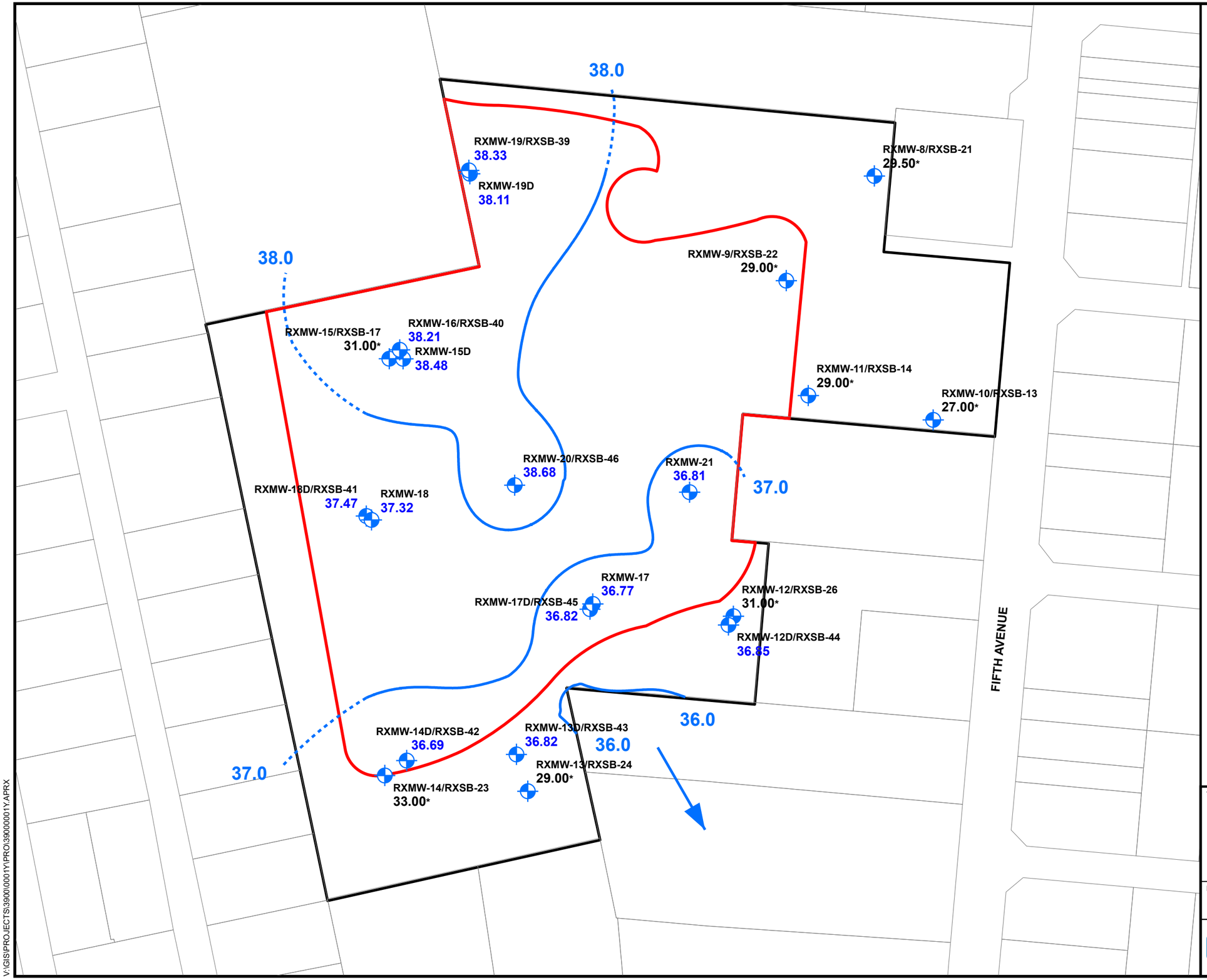
FIFTH XNY, LLC

ROUX

Compiled by: D.H.M.	Date: 03/2026
Prepared by: M.S.R.	Scale: AS SHOWN
Project Mgr: C.I.	Project: 3900.0001Y003
File: 3900.0001Y121.08.APRX	

FIGURE 08

V:\GIS\PROJECTS\3900\0001Y\PRO\39000001Y.APRX



LEGEND

38.11	GROUNDWATER ELEVATION IN FEET RELATIVE TO NAVD 88
	LOCATION AND DESIGNATION OF PERMANENT MONITORING WELL CONVERTED FROM SOIL BORING
	DIRECTION OF GROUNDWATER FLOW
38.0	LINE OF EQUAL WATER LEVEL ELEVATION IN FEET RELATIVE TO NAVD 88
	ESTIMATED LINE OF EQUAL WATER LEVEL ELEVATION IN FEET RELATIVE TO NAVD 88
	APPROXIMATE EXTENT OF HISTORIC LANDFILL
	BCP SITE BOUNDARY
	PARCEL BOUNDARY

NOTES

1. THE PROPERTY BOUNDARY AND EXTENT OF LANDFILL ARE ESTIMATED BASED ON THE INFORMATION PROVIDED TO ROUX.
2. GROUNDWATER ELEVATIONS BASED ON GAUGING DATA COLLECTED ON 11/04/2025
3. NAVD - NORTH AMERICAN VERTICAL DATUM
4. 33.00* DENOTES WATER LEVEL ELEVATION NOT USED TO ESTIMATE DIRECTION OF GROUNDWATER FLOW

150 0 150'

Title:

2025
GROUNDWATER ELEVATION MAP

1612 5TH AVENUE,
BAY SHORE, NY

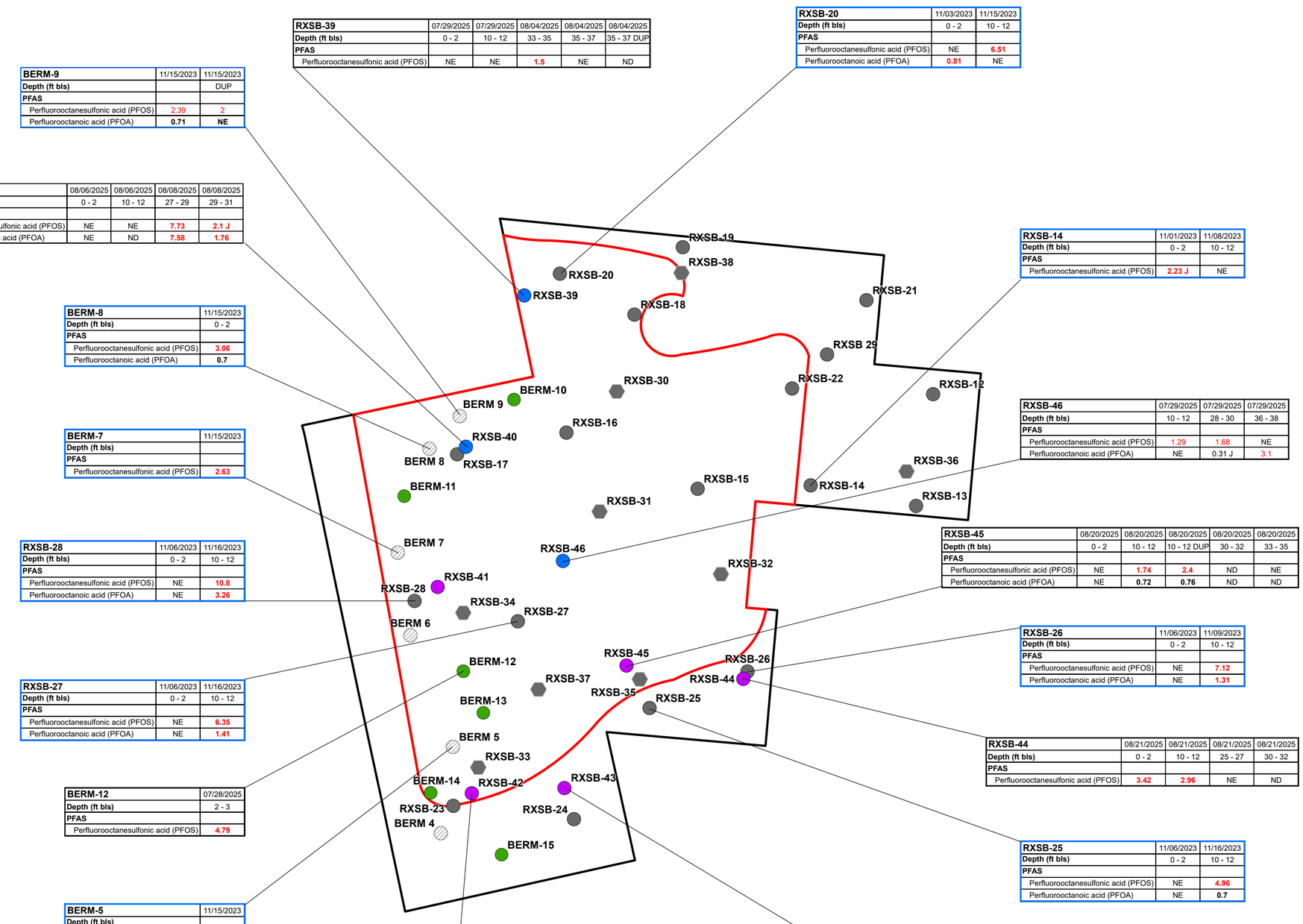
Prepared for:

FIFTH XNY, LLC

ROUX

Compiled by: E.L.	Date: 03/30/26	FIGURE
Prepared by: M.S.R.	Scale: AS SHOWN	9
Project Mgr: C.I.	Project: 3900.0001Y003	
File: 3900.0001Y121.09.APRX		

V:\GIS\PROJECTS\3900\0001Y\PRO\39000001Y.APRX



RXSB-39	07/29/2025	07/29/2025	08/04/2025	08/04/2025	08/04/2025
Depth (ft bls)	0 - 2	10 - 12	33 - 35	35 - 37	35 - 37 DUP
PFAS					
Perfluorooctanesulfonic acid (PFOS)	NE	NE	**1.5**	NE	ND

RXSB-20	11/03/2023	11/15/2023
Depth (ft bls)	0 - 2	10 - 12
PFAS		
Perfluorooctanesulfonic acid (PFOS)	NE	**6.51**
Perfluorooctanoic acid (PFOA)	**0.81**	NE

BERM-9	11/15/2023	11/15/2023
Depth (ft bls)		DUP
PFAS		
Perfluorooctanesulfonic acid (PFOS)	2.39	2
Perfluorooctanoic acid (PFOA)	**0.71**	**NE**

RXSB-40	08/06/2025	08/06/2025	08/08/2025	08/08/2025
Depth (ft bls)	0 - 2	10 - 12	27 - 29	29 - 31
PFAS				
Perfluorooctanesulfonic acid (PFOS)	NE	NE	**7.73**	**2.1 J**
Perfluorooctanoic acid (PFOA)	NE	ND	**7.58**	**1.76**

RXSB-14	11/01/2023	11/08/2023
Depth (ft bls)	0 - 2	10 - 12
PFAS		
Perfluorooctanesulfonic acid (PFOS)	**2.23 J**	NE

BERM-8	11/15/2023
Depth (ft bls)	0 - 2
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**3.06**
Perfluorooctanoic acid (PFOA)	**0.7**

RXSB-46	07/29/2025	07/29/2025	07/29/2025
Depth (ft bls)	10 - 12	28 - 30	36 - 38
PFAS			
Perfluorooctanesulfonic acid (PFOS)	1.29	1.68	NE
Perfluorooctanoic acid (PFOA)	NE	0.31 J	3.1

BERM-7	11/15/2023
Depth (ft bls)	
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**2.63**

RXSB-45	08/20/2025	08/20/2025	08/20/2025	08/20/2025	08/20/2025
Depth (ft bls)	0 - 2	10 - 12	10 - 12 DUP	30 - 32	33 - 35
PFAS					
Perfluorooctanesulfonic acid (PFOS)	NE	**1.74**	**2.4**	ND	NE
Perfluorooctanoic acid (PFOA)	NE	**0.72**	**0.76**	ND	ND

RXSB-28	11/06/2023	11/16/2023
Depth (ft bls)	0 - 2	10 - 12
PFAS		
Perfluorooctanesulfonic acid (PFOS)	NE	**10.8**
Perfluorooctanoic acid (PFOA)	NE	**3.26**

RXSB-26	11/06/2023	11/09/2023
Depth (ft bls)	0 - 2	10 - 12
PFAS		
Perfluorooctanesulfonic acid (PFOS)	NE	**7.12**
Perfluorooctanoic acid (PFOA)	NE	**1.31**

RXSB-27	11/06/2023	11/16/2023
Depth (ft bls)	0 - 2	10 - 12
PFAS		
Perfluorooctanesulfonic acid (PFOS)	NE	**6.35**
Perfluorooctanoic acid (PFOA)	NE	**1.41**

RXSB-44	08/21/2025	08/21/2025	08/21/2025	08/21/2025
Depth (ft bls)	0 - 2	10 - 12	25 - 27	30 - 32
PFAS				
Perfluorooctanesulfonic acid (PFOS)	**3.42**	**2.96**	NE	ND

BERM-12	07/28/2025
Depth (ft bls)	2 - 3
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**4.79**

RXSB-25	11/06/2023	11/16/2023
Depth (ft bls)	0 - 2	10 - 12
PFAS		
Perfluorooctanesulfonic acid (PFOS)	NE	**4.96**
Perfluorooctanoic acid (PFOA)	NE	**0.7**

BERM-5	11/15/2023
Depth (ft bls)	
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**1.4**

RXSB-42	08/14/2025	08/14/2025	08/14/2025	08/14/2025
Depth (ft bls)	0 - 2	10 - 12	32 - 34	35 - 37
PFAS				
Perfluorooctanesulfonic acid (PFOS)	NE	**0.99**	**1.05**	ND

RXSB-43	08/18/2025	08/18/2025	08/18/2025	08/18/2025
Depth (ft bls)	0 - 2	10 - 12	24 - 26	31 - 33
PFAS				
Perfluorooctanesulfonic acid (PFOS)	NE	**1.76**	ND	ND
Perfluorooctanoic acid (PFOA)	ND	**0.85**	ND	ND

LEGEND

- LOCATION AND DESIGNATION OF SURFACE SOIL SAMPLE INSTALLED DURING RI
- LOCATION AND DESIGNATION OF SOIL BORING INSTALLED DURING RI
- LOCATION AND DESIGNATION OF BERM SOIL SAMPLE INSTALLED DURING RI
- BERM SOIL SAMPLE - PDI
- SOIL BORING AND DEEP MONITORING WELL - SAMPLE FROM GW INTERFACE - PDI
- SOIL BORING AND SHALLOW MONITORING WELL - WILL BE SAMPLED FROM 0-2, 10-12, AND GW INTERFACE - PDI
- APPROXIMATE EXTENT OF HISTORIC LANDFILL
- BCP SITE BOUNDARY

N

Parameter	NYSDEC Part 375 Unrestricted Use Guidance Values	NYSDEC Part 375 Industrial Guidance Values	NYSDEC Part 375 Protection of Groundwater Guidance Values	Units
PFAS				
Perfluorooctanesulfonic acid (PFOS)	**0.88**	440	1	µg/kg
Perfluorooctanoic acid (PFOA)	**0.66**	600	0.8	µg/kg

NOTES

1. THE PROPERTY BOUNDARY AND EXTENT OF LANDFILL ARE ESTIMATED BASED ON THE INFORMATION PROVIDED TO ROUX.
2. BLUE FRAME BOXES INDICATE REMEDIAL INVESTIGATION DATA

MG/KG - MICROGRAMS PER KILOGRAM
NYSDEC - NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
-- NO NYSDEC PART 375 SOIL CLEANUP OBJECTIVES AVAILABLE
J - ESTIMATED VALUE
DUP - DUPLICATE SAMPLE
PFAS - PER- AND POLYFLUOROALKYL SUBSTANCES
NE - NO EXCEEDANCE
ND - NO DETECTION
FT BLS - FEET BELOW LAND SURFACE

BOLD DATA INDICATES THAT PARAMETER WAS DETECTED ABOVE THE NYSDEC PART 375 UNRESTRICTED USE GV
SHADED DATA INDICATES THAT PARAMETER WAS DETECTED ABOVE THE NYSDEC PART 375 INDUSTRIAL GV
RED DATA INDICATES THAT PARAMETER WAS DETECTED ABOVE THE NYSDEC PART 375 PROTECTION OF GROUNDWATER GV

150 0 150'

Title:

PDI SUMMARY OF SOIL PFAS EXCEEDANCES

1612 5TH AVENUE,
BAY SHORE, NY
SITE NO. C152008

Prepared for:

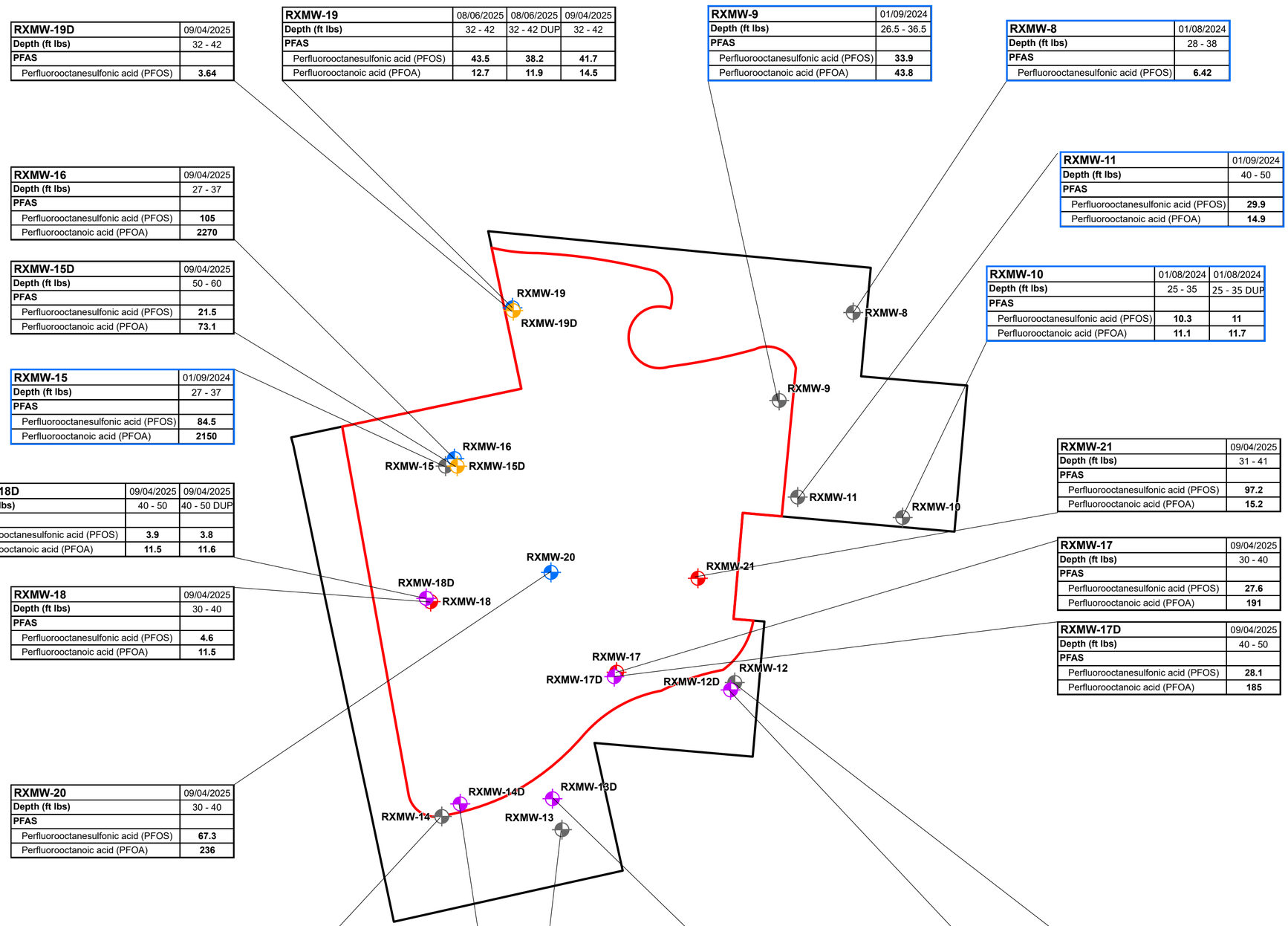
FIFTH XNY, LLC

ROUX

Compiled by: D.H.M.	Date: 03/2026
Prepared by: M.S.R.	Scale: AS SHOWN
Project Mgr: C.I.	Project: 3900.0001Y003
File: 3900.0001Y121.10.APRX	

FIGURE 10

V:\GIS\PROJECTS\3900000001Y\PRO\3900000001Y.APRX



RXMW-19D	09/04/2025
Depth (ft lbs)	32 - 42
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**3.64**

RXMW-19	08/06/2025	08/06/2025	09/04/2025
Depth (ft lbs)	32 - 42	32 - 42 DUP	32 - 42
PFAS			
Perfluorooctanesulfonic acid (PFOS)	**43.5**	**38.2**	**41.7**
Perfluorooctanoic acid (PFOA)	**12.7**	**11.9**	**14.5**

RXMW-9	01/09/2024
Depth (ft lbs)	26.5 - 36.5
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**33.9**
Perfluorooctanoic acid (PFOA)	**43.8**

RXMW-8	01/08/2024
Depth (ft lbs)	28 - 38
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**6.42**

RXMW-16	09/04/2025
Depth (ft lbs)	27 - 37
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**105**
Perfluorooctanoic acid (PFOA)	**2270**

RXMW-11	01/09/2024
Depth (ft lbs)	40 - 50
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**29.9**
Perfluorooctanoic acid (PFOA)	**14.9**

RXMW-15D	09/04/2025
Depth (ft lbs)	50 - 60
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**21.5**
Perfluorooctanoic acid (PFOA)	**73.1**

RXMW-10	01/08/2024	01/08/2024
Depth (ft lbs)	25 - 35	25 - 35 DUP
PFAS		
Perfluorooctanesulfonic acid (PFOS)	**10.3**	**11**
Perfluorooctanoic acid (PFOA)	**11.1**	**11.7**

RXMW-15	01/09/2024
Depth (ft lbs)	27 - 37
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**84.5**
Perfluorooctanoic acid (PFOA)	**2150**

RXMW-21	09/04/2025
Depth (ft lbs)	31 - 41
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**97.2**
Perfluorooctanoic acid (PFOA)	**15.2**

RXMW-18D	09/04/2025	09/04/2025
Depth (ft lbs)	40 - 50	40 - 50 DUP
PFAS		
Perfluorooctanesulfonic acid (PFOS)	**3.9**	**3.8**
Perfluorooctanoic acid (PFOA)	**11.5**	**11.6**

RXMW-17	09/04/2025
Depth (ft lbs)	30 - 40
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**27.6**
Perfluorooctanoic acid (PFOA)	**191**

RXMW-18	09/04/2025
Depth (ft lbs)	30 - 40
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**4.6**
Perfluorooctanoic acid (PFOA)	**11.5**

RXMW-17D	09/04/2025
Depth (ft lbs)	40 - 50
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**28.1**
Perfluorooctanoic acid (PFOA)	**185**

RXMW-20	09/04/2025
Depth (ft lbs)	30 - 40
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**67.3**
Perfluorooctanoic acid (PFOA)	**236**

RXMW-12	01/10/2024
Depth (ft lbs)	40 - 50
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**56.4**
Perfluorooctanoic acid (PFOA)	**23.8**

RXMW-14	01/09/2024
Depth (ft lbs)	27 - 37
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**16**
Perfluorooctanoic acid (PFOA)	**26.7**

RXMW-14D	09/04/2025
Depth (ft lbs)	35 - 45
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**10.7**
Perfluorooctanoic acid (PFOA)	**26.8**

RXMW-13	01/10/2024
Depth (ft lbs)	28 - 38
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**139**
Perfluorooctanoic acid (PFOA)	**103**

RXMW-13D	09/04/2025
Depth (ft lbs)	35 - 45
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**16**
Perfluorooctanoic acid (PFOA)	**56.9**

RXMW-12D	09/04/2025
Depth (ft lbs)	36 - 46
PFAS	
Perfluorooctanesulfonic acid (PFOS)	**87.3**
Perfluorooctanoic acid (PFOA)	**11.9**

LEGEND

- LOCATION AND DESIGNATION OF PERMANENT MONITORING WELL CONVERTED FROM SOIL BORING INSTALLED DURING RI
- DEEP MONITORING WELL - PDI
- SHALLOW MONITORING WELL - PDI
- SOIL BORING AND DEEP MONITORING WELL - SAMPLE FROM GW INTERFACE - PDI
- SOIL BORING AND SHALLOW MONITORING WELL - WILL BE SAMPLED FROM 0-2, 10-12, AND GW INTERFACE - PDI
- APPROXIMATE EXTENT OF HISTORIC LANDFILL
- BCP SITE BOUNDARY

N

Parameter	NYSDEC AWQSGV	Units
PFAS		
Perfluorooctanesulfonic acid (PFOS)	**2.7**	ng/L
Perfluorooctanoic acid (PFOA)	**6.7**	ng/L

NOTES

1. THE PROPERTY BOUNDARY AND EXTENT OF LANDFILL ARE ESTIMATED BASED ON THE INFORMATION PROVIDED TO ROUX.
2. BLUE FRAME BOXES INDICATE REMEDIAL INVESTIGATION DATA

J - ESTIMATED VALUE
U - THE ANALYTE WAS ANALYZED FOR, BUT WAS NOT DETECTED ABOVE THE LEVEL OF THE ASSOCIATED REPORTED QUANTITATION LIMIT
T - INDICATES THAT A QUALITY CONTROL PARAMETER HAS EXCEEDED LABORATORY LIMITS
DUP - DUPLICATE SAMPLE
ng/L - NANOGRAM PER LITER
NYSDEC - NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION GUIDANCE VALUES
AWQSGVs - AMBIENT WATER-QUALITY STANDARDS AND GUIDANCE VALUES
-- NO NYSDEC AWQSGV AVAILABLE

BOLD DATA INDICATES THAT PARAMETER WAS DETECTED ABOVE THE NYSDEC AWQSGVS

150 0 150'

Title:

PDI SUMMARY OF GROUNDWATER PFAS EXCEEDANCES

1612 5TH AVENUE,
BAY SHORE, NY
SITE NO. C152008

Prepared for:

FIFTH XNY, LLC

ROUX

Compiled by: D.H.M.	Date: 03/2026
Prepared by: M.S.R.	Scale: AS SHOWN
Project Mgr: C.I.	Project: 3900.0001Y003
File: 3900.0001Y121.11.APRX	

FIGURE 11

V:\GIS\PROJECTS\3900\0001Y\PRO\39000001Y.APRX

38.0

RXMW-19/RXSB-39
38.33

RXMW-19D
38.11

RXMW-8/RXSB-21
29.50*

38.0

RXMW-9/RXSB-22
29.00*

RXMW-15/RXSB-17
31.00*

RXMW-16/RXSB-40
38.21

RXMW-15D
38.48

RXMW-11/RXSB-14
29.00*

RXMW-10/RXSB-13
27.00*

RXMW-20/RXSB-46
38.68

RXMW-21
36.81

37.0

RXMW-18D/RXSB-41
37.47

RXMW-18
37.32

RXMW-17
36.77

RXMW-17D/RXSB-45
36.82

RXMW-12/RXSB-26
31.00*

RXMW-12D/RXSB-44
36.85

FIFTH AVENUE

36.0

RXMW-14D/RXSB-42
36.69

RXMW-13D/RXSB-43
36.82

36.0

37.0

RXMW-13/RXSB-24
29.00*

RXMW-14/RXSB-23
33.00*

N

LEGEND

38.11	GROUNDWATER ELEVATION IN FEET RELATIVE TO NAVD 88
	LOCATION AND DESIGNATION OF PERMANENT MONITORING WELL CONVERTED FROM SOIL BORING
	DIRECTION OF GROUNDWATER FLOW
38.0	LINE OF EQUAL WATER LEVEL ELEVATION IN FEET RELATIVE TO NAVD 88
	ESTIMATED LINE OF EQUAL WATER LEVEL ELEVATION IN FEET RELATIVE TO NAVD 88
	APPROXIMATE EXTENT OF HISTORIC LANDFILL
	BCP SITE BOUNDARY
	PARCEL BOUNDARY

NOTES

1. THE PROPERTY BOUNDARY AND EXTENT OF LANDFILL ARE ESTIMATED BASED ON THE INFORMATION PROVIDED TO ROUX.
2. GROUNDWATER ELEVATIONS BASED ON GAUGING DATA COLLECTED ON 11/04/2025
3. NAVD - NORTH AMERICAN VERTICAL DATUM
4. 33.00* DENOTES WATER LEVEL ELEVATION NOT USED TO ESTIMATE DIRECTION OF GROUNDWATER FLOW

150 0 150'

Title:

PDI 2025
GROUNDWATER FLOW MAP

1612 5TH AVENUE,
BAY SHORE, NY
SITE NO. C152008

Prepared for:

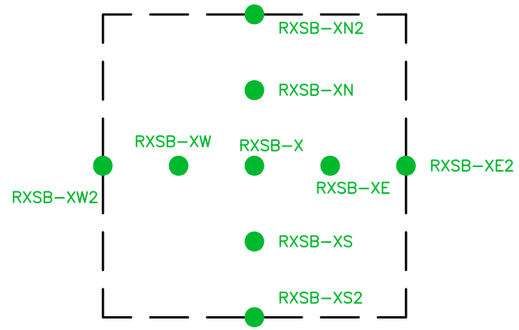
FIFTH XNY, LLC

ROUX

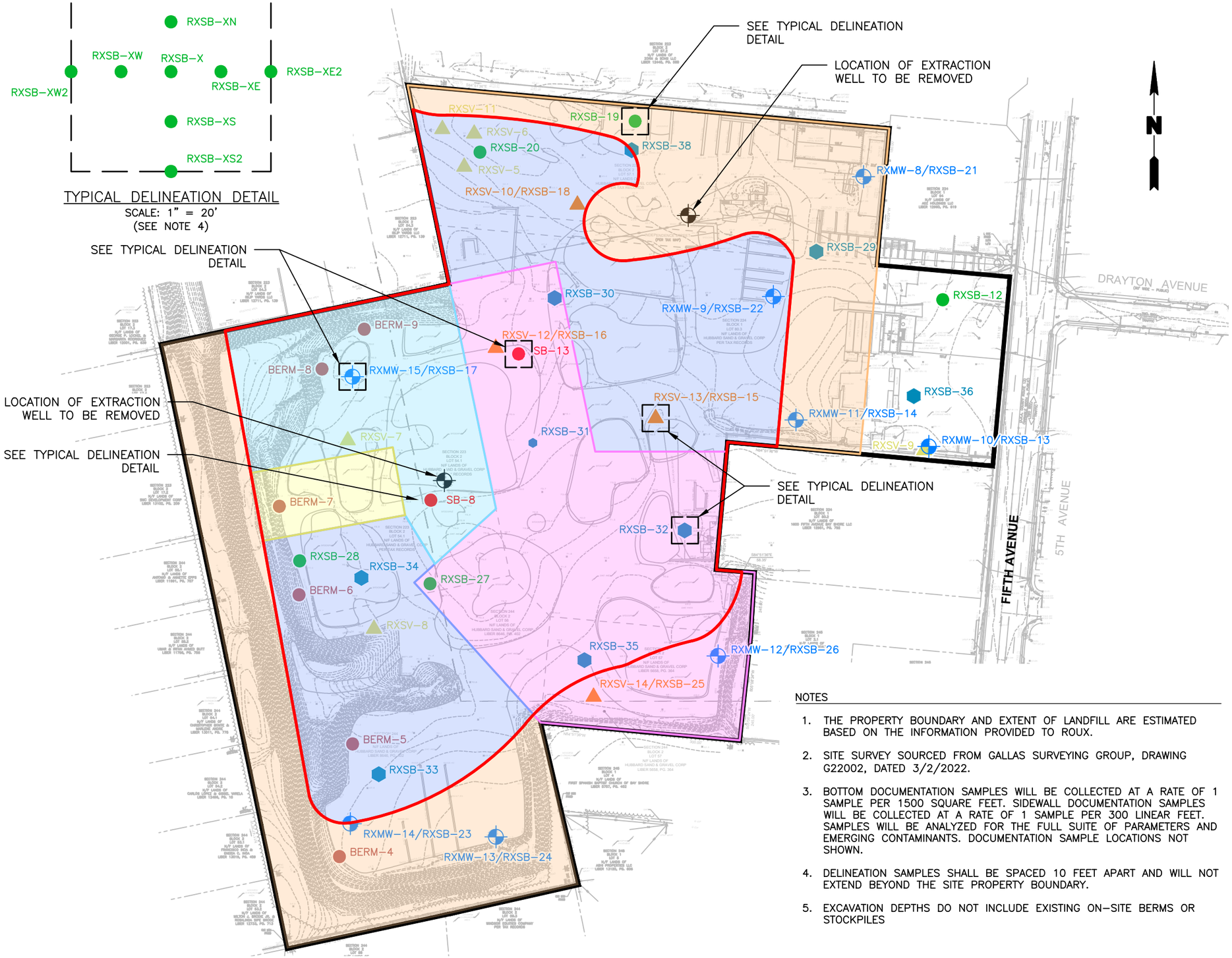
Compiled by: D.H.M.	Date: 03/12/26
Prepared by: M.S.R.	Scale: AS SHOWN
Project Mgr: C.I.	Project: 3900.0001Y003
File: 39000001Y.mxd	

FIGURE 12

V:\GIS\PROJECTS\3900\0001Y\PRO\39000001Y.APRX



TYPICAL DELINEATION DETAIL
SCALE: 1" = 20'
(SEE NOTE 4)



LEGEND

- LOCATION AND DESIGNATION OF SURFACE SOIL SAMPLE
- LOCATION AND DESIGNATION OF SOIL BORING
- LOCATION AND DESIGNATION OF PHASE II SOIL BORING TO BE SAMPLED FOR TCLP ARSENIC
- LOCATION AND DESIGNATION OF BERM SOIL SAMPLE
- LOCATION AND DESIGNATION OF PERMANENT MONITORING WELL CONVERTED FROM SOIL BORING
- LOCATION AND DESIGNATION OF SOIL VAPOR POINT
- LOCATION AND DESIGNATION OF PERMANENT SOIL VAPOR POINT CONVERTED FROM SOIL BORING
- APPROXIMATE EXTENT OF HISTORIC LANDFILL
- BCP SITE BOUNDARY
- PROPOSED HOT SPOT EXCAVATION AND DELINEATION FOR TCLP MERCURY EXCEEDANCE (SEE NOTE 4)
- PROPOSED EXCAVATION TO 15 FT BLS
- PROPOSED EXCAVATION TO 25 FT BLS
- PROPOSED EXCAVATION TO 35 FT BLS
- PROPOSED EXCAVATION TO 40 FT BLS
- PROPOSED EXCAVATION TO 65 FT BLS

FT BLS — FEET BELOW LAND SURFACE

TCLP — TOXICITY CHARACTERISTIC LEACHATE PROCEDURE

NOTES

1. THE PROPERTY BOUNDARY AND EXTENT OF LANDFILL ARE ESTIMATED BASED ON THE INFORMATION PROVIDED TO ROUX.
2. SITE SURVEY SOURCED FROM GALLAS SURVEYING GROUP, DRAWING G22002, DATED 3/2/2022.
3. BOTTOM DOCUMENTATION SAMPLES WILL BE COLLECTED AT A RATE OF 1 SAMPLE PER 1500 SQUARE FEET. SIDEWALL DOCUMENTATION SAMPLES WILL BE COLLECTED AT A RATE OF 1 SAMPLE PER 300 LINEAR FEET. SAMPLES WILL BE ANALYZED FOR THE FULL SUITE OF PARAMETERS AND EMERGING CONTAMINANTS. DOCUMENTATION SAMPLE LOCATIONS NOT SHOWN.
4. DELINEATION SAMPLES SHALL BE SPACED 10 FEET APART AND WILL NOT EXTEND BEYOND THE SITE PROPERTY BOUNDARY.
5. EXCAVATION DEPTHS DO NOT INCLUDE EXISTING ON-SITE BERMS OR STOCKPILES

150' 0 150'

Title:

REMEDIAL ALTERNATIVE 1: TRACK 1 UNRESTRICTED USE

1612 5TH AVENUE, BAY SHORE, NEW YORK
SITE NO. C152008

Prepared for:

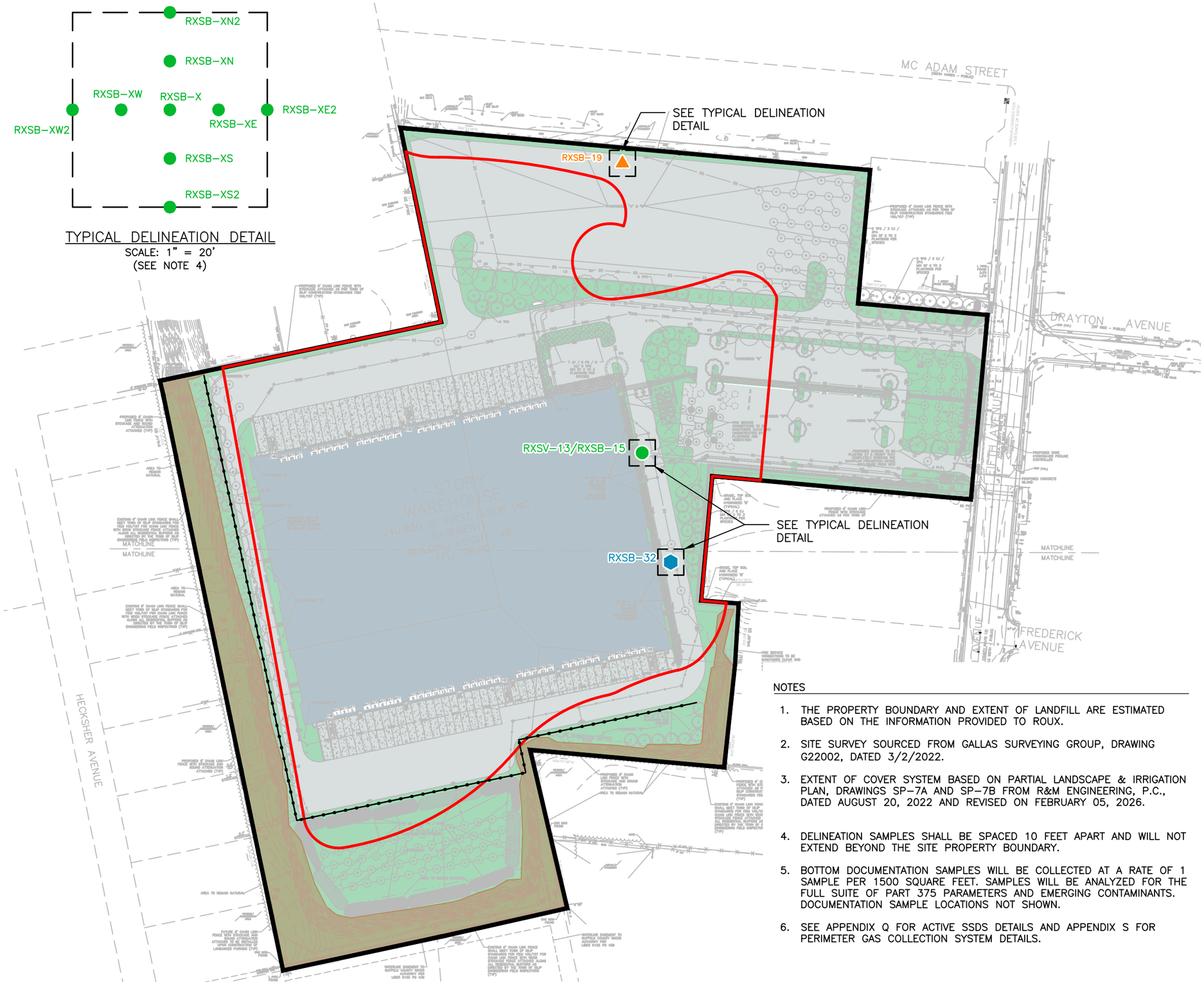
FIFTH XNY, LLC

ROUX

Compiled by: D.H.	Date: 3/12/2026	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	13
Project Mgr: D.H.	Project: 3900.0001Y003	
File: 3900.0001Y121.03.DWG		

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TYPICAL DELINEATION DETAIL
SCALE: 1" = 20'
(SEE NOTE 4)



LEGEND

- APPROXIMATE EXTENT OF HISTORIC LANDFILL
- BCP SITE BOUNDARY
- PROPOSED CONCRETE COVER SYSTEM (SEE FIGURE 15, DETAIL 1)
- PROPOSED ASPHALT COVER SYSTEM SEE FIGURE 15, DETAIL 2)
- PROPOSED SOIL COVER SYSTEM (SEE FIGURE 15, DETAIL 3)
- PROPOSED BUILDING FOUNDATION COVER SYSTEM (SEE FIGURE 15, DETAIL 4)
- PROPOSED NATURAL BUFFER
- PROPOSED HOT SPOT EXCAVATION AND DELINEATION FOR TCLP MERCURY EXCEEDANCE (SEE NOTE 4 AND DETAIL THIS DRAWING)
- INTERIOR SITE FENCE (8–FOOT CHAIN LINK WITH STOCKADE AND SOUND ATTENUATION ATTACHED)
- LOCATION AND DESIGNATION OF SURFACE SOIL SAMPLE
- LOCATION AND DESIGNATION OF SOIL BORING
- LOCATION AND DESIGNATION OF PERMANENT SOIL VAPOR POINT CONVERTED FROM SOIL BORING

NOTES

1. THE PROPERTY BOUNDARY AND EXTENT OF LANDFILL ARE ESTIMATED BASED ON THE INFORMATION PROVIDED TO ROUX.
2. SITE SURVEY SOURCED FROM GALLAS SURVEYING GROUP, DRAWING G22002, DATED 3/2/2022.
3. EXTENT OF COVER SYSTEM BASED ON PARTIAL LANDSCAPE & IRRIGATION PLAN, DRAWINGS SP–7A AND SP–7B FROM R&M ENGINEERING, P.C., DATED AUGUST 20, 2022 AND REVISED ON FEBRUARY 05, 2026.
4. DELINEATION SAMPLES SHALL BE SPACED 10 FEET APART AND WILL NOT EXTEND BEYOND THE SITE PROPERTY BOUNDARY.
5. BOTTOM DOCUMENTATION SAMPLES WILL BE COLLECTED AT A RATE OF 1 SAMPLE PER 1500 SQUARE FEET. SAMPLES WILL BE ANALYZED FOR THE FULL SUITE OF PART 375 PARAMETERS AND EMERGING CONTAMINANTS. DOCUMENTATION SAMPLE LOCATIONS NOT SHOWN.
6. SEE APPENDIX Q FOR ACTIVE SSDS DETAILS AND APPENDIX S FOR PERIMETER GAS COLLECTION SYSTEM DETAILS.

150' 0 150'

Title:

REMEDIAL ALTERNATIVE 2: TRACK 4 INDUSTRIAL USE

1612 5TH AVENUE, BAY SHORE, NEW YORK
SITE NO. C152008

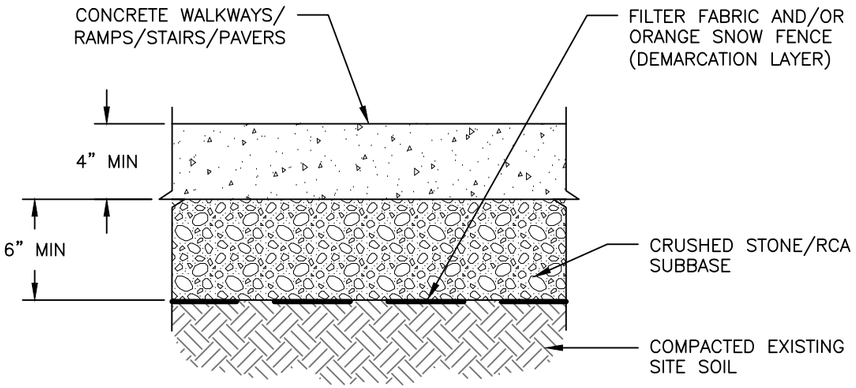
Prepared for:

FIFTH XNY, LLC

ROUX

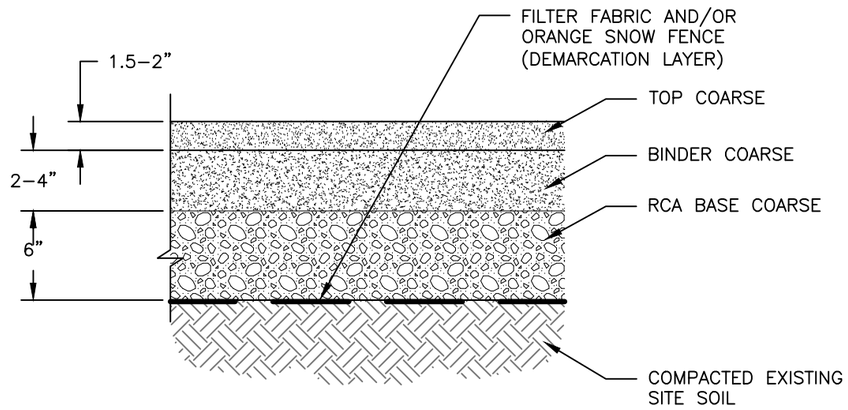
Compiled by: P.M.	Date: 3/16/2026	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	14
Project Mgr: C.I.	Project: 3900.0001Y003	
File: 3900.0001Y121.04.DWG		

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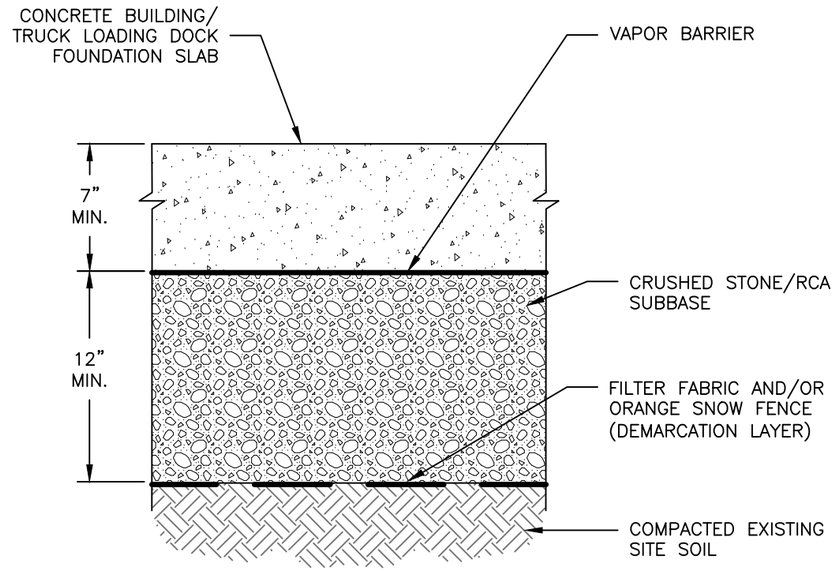
1 PROPOSED SITE COVER SYSTEM: CONCRETE WALKWAYS/RAMPS/STAIRS/PAVERS

SCALE: NOT TO SCALE



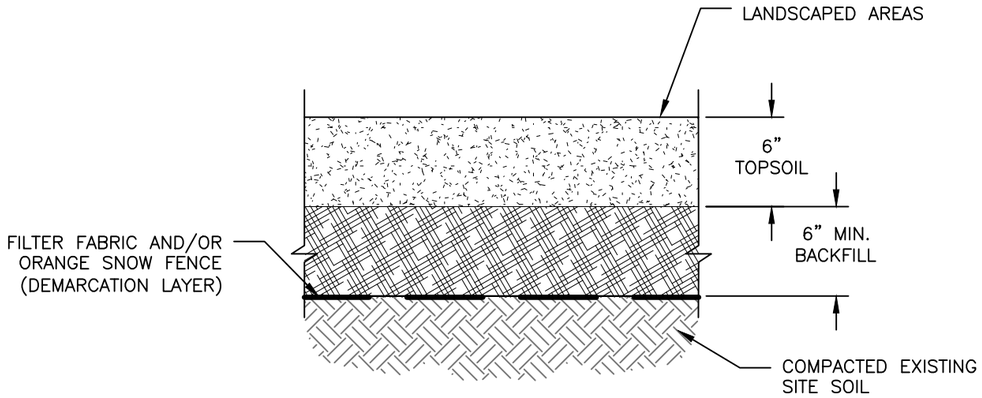
2 PROPOSED SITE COVER SYSTEM: ASPHALT PARKING AND DRIVEWAYS

SCALE: NOT TO SCALE



4 PROPOSED SITE COVER SYSTEM: SLAB ON GRADE BUILDING/TRUCK LOADING DOCK FOUNDATIONS

SCALE: NOT TO SCALE



3 PROPOSED SITE COVER SYSTEM: LANDSCAPED AREAS

SCALE: NOT TO SCALE

Title:

REMEDIAL ALTERNATIVE 2: COVER SYSTEM DETAILS

1612 5TH AVENUE, BAY SHORE, NEW YORK
SITE NO. C152008

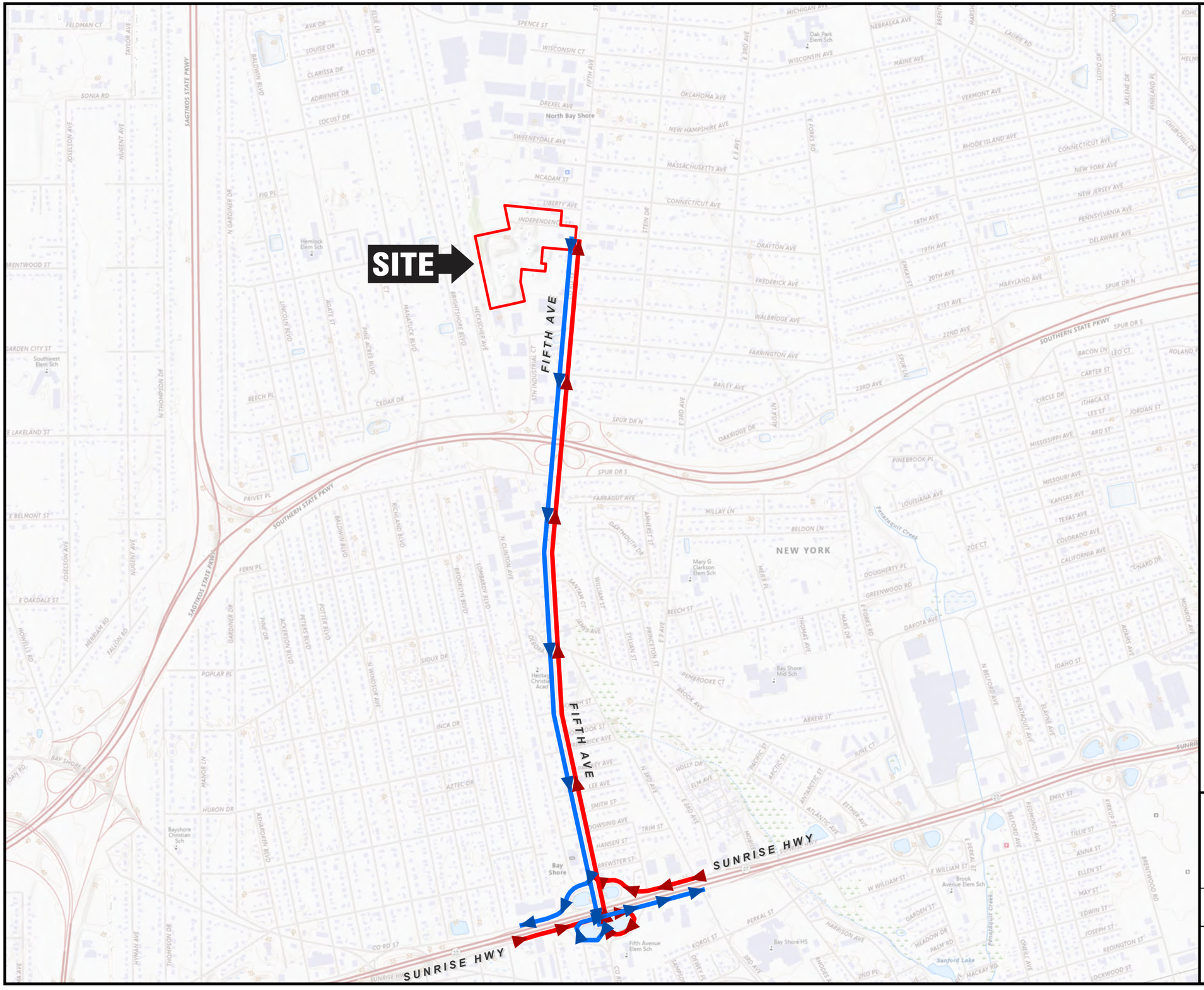
Prepared for:

FIFTH XNY, LLC

ROUX

Compiled by: P.M.	Date: 3/16/2026	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	15
Project Mgr: C.I.	Project: 3900.0001Y003	
File: 3900.0001Y121.03.DWG		

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N

LEGEND

- INBOUND TRUCK ROUTE
- OUTBOUND TRUCK ROUTE

1,200 0 1,200'

Title:

TRUCK ROUTES

1612 5TH AVENUE,
BAY SHORE, NY
SITE NO. C152008

Prepared for:

FIFTH XNY, LLC

ROUX

Compiled by: D.H.M.	Date: 03/2026	FIGURE
Prepared by: M.S.R.	Scale: AS SHOWN	16
Project Mgr: C.I.	Project: 3900.0001Y003	
File: 3900.0001Y121.16.APRX		

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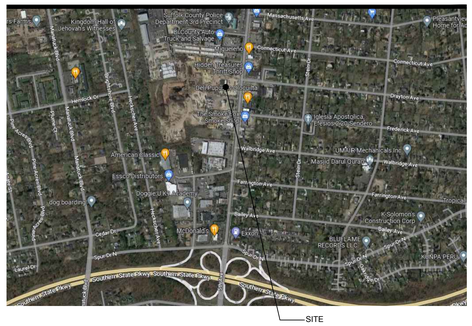
APPENDICES

A. Redevelopment Plans
B. Site Survey, January 2026
C. Green & Sustainable Remediation
D. Citizens Participation Plan (CPP)
E. EPA Green Remediation: Best Management Practices for Excavation and Surface Restoration
F. Site Health and Safety Plan (HASP)/ Community Air Monitoring Plan (CAMP)
G. Quality Assurance Project Plan (QAPP) / Field Sampling Plan (FSP)
H. R&M Engineering Stormwater Pollution Protection Plan
I. Professional Profiles
J. Request to Import/Reuse Fill Material Form
K. Sub-slab Depressurization System Plan and Details
L. Perimeter Methane Collection System
M. Correspondence with NYSDEC related to RAWP

APPENDIX A

Redevelopment Plans

LOCATION MAP



SITE

NEW CONSTRUCTION

XEBEC PROPOSED WAREHOUSE

1612 5TH AVENUE,
BAY SHORE, NY 11706

ISSUED FOR 50% PERMIT SET
JUNE 30, 2023

RENDERED IMAGE



XEBEC

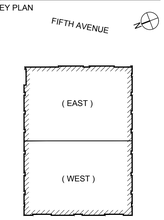
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NEW YORK 11706

ARCHITECT
bld architecture
bld architecture, dpc
31 West Main Street, Suite 205
Patchogue, NY 11772
TEL: 631 580 2100
FAX: 631 580 9760
www.bldnow.com

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Woodbury, NY 11797
Phone: (516) 827-4900
Website: www.cameroneng.com

CIVIL ENGINEER CONSULTANT
ROBINSON & MULLER ENGINEERS, P.C.
50 Elm Street
Huntington, NY 11743
Phone: (631) 271-0576
Fax: (631) 271-0582
Website: rmengineering.com

KEY PLAN



MATERIAL LEGEND

- ALUMINUM
- BATT INSULATION
- BRICK
- CONCRETE
- CONCRETE MASONRY BLOCK
- EARTH
- GYP. BOARD
- PLYWOOD
- RIGID INSULATION
- SHIM
- STEEL
- STONE
- STONE FILL
- WOOD BLOCKING
- WOOD FINISH

ARCHITECTURAL ABBREVIATIONS

A		GAL	GALLONS	PNL	PANEL
ACT	ACOUSTICAL CEILING TILE	GALV	GALVANIZED	PR	PAIR
ADD	ADDITIONAL	GC	GENERAL CONTRACTOR	PRESS	PRESSURE
ADJ	ADJUSTADJACENT	GL	GLASS	PRIM	PRIMARY
ADMIN	ADMINISTRATION	GR	GRADE	PROJ	PROJECTION
AFF	ABOVE FINISH FLOOR	GYP. BD.	GYPSUM BOARD	PTR	PRINTER
AHU	AIR HANDLING UNIT	GYP	GYPSUM	PVC	POLYVINYL CHLORIDE
ALT	ALTERNATE	**H**		PVMT	PAVEMENT
ALUM	ALUMINUM	H	HEIGHT	PWR	POWER
AL	ALUMINUM	HD	HEAD	**R**	
ANUN	ANNUNCIATOR	HDCP	HANDICAP	R	RISER / RADIUS
APPROX	APPROXIMATE	HDR	HEADER	RA	RETURN AIR
ARCH	ARCHITECTURAL	HDW	HARDWARE	RAD	RADIATION
AUTO	AUTOMATIC	HM	HOLLOW METAL	RCP	REFLECTED CEILING PLAN
B		HORZ	HORIZONTAL	RD	ROOF DRAIN
BD	BOARD	HT	HEIGHT	REC	RECESSED
BLDG	BUILDING	HTR	HEATER	RECEPT	RECEPTACLE
BLKG	BLOCKING	HVAC	HEATING, VENTILATION, AIR CONDITIONING	RECEPT	RECEPTION
BM	BEAM		HOT WATER	REF	REFERENCE
BO	BOTTOM OF	HW		REF	REFRIGERATOR
BOT	BOTTOM	**I**		REINF	REINFORCE
BR	BRICK	ID	INSIDE DIAMETER	REQD	REQUIRED
BRG	BEARING	IN	INCH	RES	RESISTANT
C		INSUL	INSULATION	RET	RETAINING
CAB	CABINET	INT	INTERIOR	REV	REVERSE / REVISE
CANTL	CANTILEVER	IC	IMPACT ISOLATION COEFFICIENT	RM	ROOM
CAP	CAPACITY			RO	ROUGH OPENING
CEM	CEMENT	**J**		RS	ROUGH SLAB
CJ	CONTROL JOINT	JAN	JANITOR	RV	ROOF VENT
CL	CENTER LINE / CLOSET	JB	JUNCTION BOX	**S**	
CLG	CEILING	JST	JOIST	S	SINK
CMU	CONCRETE MASONRY UNIT	JT	JOINT	SCH	SCHEDULE
COL	COLUMN	**K**		SCWD	SOLID CORE WOOD
CONC	CONCRETE	KO	KNOCK OUT	SD	SHOWER DRAIN
CONF	CONFERENCE	**L**		S/D	SMOKE DAMPER
CONN	CONNECTED/-ION	L	LENGTH	SDISP	SOAP DISPENSER
CONT	CONTINUOUS	L/LAV	LAVATORY	SE	SOUTHEAST
CONST	CONSTRUCTION	LBS	POUND	SECT	SECTION
CONTR	CONTRACT	LF	LINEAL FOOT	SECY	SECRETARY
COORD	COORDINATE	LIN	LINEAR	SF	SQUARE FOOT
CORR	CORRIDOR	LKR	LOCKER	SH	SHOWER
CPT	CARPET	LLH	LONG LEG HORIZONTAL	SHT	SHEET
CT	CERAMIC TILE	LLV	LONG LEG VERTICAL	SHTG	SHEATHING
CTR	CENTER	LOC	LOCATION	SIM	SIMILAR
CUFT	CUBIC FEET	LOR	LOCATE	SURF. MTD.	SURFACE MOUNTED
CUH	CABINET UNIT HEATER	LT	LIGHT	SPEC	SPECIFICATIONS
CW	COLD WATER	LTG	LIGHTING	SQ	SQUARE
CU	CONDENSING UNIT	LVR	LOUVER	SQ YD	SQUARE YARD
D		**M**		SS	STAINLESS STEEL
DEMO	DEMOLITION	MAN	MANUAL	ST	STREET
DEPT	DEPARTMENT	MATL	MATERIAL	STD	STANDARD
DET	DETAIL	MAX	MAXIMUM	STL	STEEL
DF	DRINKING FOUNTAIN	MC	MEDICINE CABINET	STOR	STORAGE
DIA	DIAMETER	MD	METAL DECK	STRUCT	STRUCTURAL
DIAG	DIAGONAL	MCJ	MASONRY CONTROL JOINT	SUPV	SUPERVISOR
DIFF	DIFFUSER	MECH	MECHANICAL	SUSP	SUSPENDED
DIM	DIMENSION	MEMB	MEMBRANE	S	SWITCH
DISP	DISPENSER	MTL	METAL	SW	SOUTHWEST
DIV	DIVISION	MEZZ	MEZZANINE	SWD	SOFTWOOD
DN	DOWN	MFR	MANUFACTURER	STC	SOUND TRANSMISSION COEFFICIENT
DWG	DRAWING	MH	MANHOLE		
DWLS	DOWELS	MIN	MINIMUM	**T**	
E		MIR	MIRROR	TAN	TANGENT
EA	EACH	MISC	MISCELLANEOUS	TBD	TACKBOARD
EC	ELECTRIC CABINET	MO	MASONRY OPENING	TEL	TELEPHONE
EF	EXHAUST FAN	MONO	MONOLITHIC	TEMP	TEMPERATURE
EL	ELEVATION	MTD	MOUNTED	T&G	TONGUE & GROOVE
ELEC	ELECTRICAL	MULL	MULLION	THRES	THRESHOLD
ELEV	ELEVATION	**N**		TOIL	TOILET
EMR	ELEVATOR MACHINE ROOM	NA	NOT APPLICABLE	T.O.	TOP OF
ENTR	ENTRANCE	NE	NORTHEAST	TOW	TOP OF WALL
EQ	EQUAL	NIC	NOT IN CONTRACT	TOS	TOP OF SLAB/STEEL
EQUIP	EQUIPMENT	NO	NUMBER	TRAN	TRANSFORMER
EXIST	EXISTING	NOM	NOMINAL	TV	TELEVISION
EXP	EXPANSION	NRC	NOISE REDUCTION COEFFICIENT	TYP	TYPICAL
EXT	EXTERIOR			**U**	
EWC	ELECTRIC WATER COOLER	NT	NOTE	U	URINAL
F		NTS	NOT TO SCALE	UON	UNLESS OTHERWISE NOTED
FD	FLOOR DRAIN	NW	NORTHWEST		
FDN	FOUNDATION	**O**		UTIL	UTILITY
FE	FIRE EXTINGUISHER	OC	ON CENTER	**V**	
FEC	FIRE EXTINGUISHER CAB	OD	OUTSIDE DIAMETER	VERT	VERTICAL
FIN	FINISH	OFF	OFFICE	VEST	VESTIBULE
FIXT	FIXTURE	OH	OVERHEAD	VENT	VENTILATION
FLASH	FLASHING	OPER	OPERATOR	**W**	
FLEX	FLEXIBLE	OPNG	OPENING	W	WIDTH / WIDE
FLUOR	FLUORESCENT	OPP	OPPOSITE	W	WIDE FLANGE
FRMG	FRAMING	**P**		W/	WITH
FT	FOOT / FEET	PART	PARTITION	WC	WATER CLOSET
FTG	FOOTING	PED	PEDESTAL	WD	WOOD
FURR	FURRING	PL	PLATE / PROPERTY LINE	WDW	WINDOW
FUT	FUTURE	PLAM	PLASTIC LAMINATE	WHTR	WATER HEATER
G		PLBG	PLUMBING	W/O	WITHOUT
GA	GAUGE	PLYWD	PLYWOOD	WT	WEIGHT

SYMBOLS LEGEND

- DETAIL MARKER (A / XXX)
- ELEVATION MARKER (A / XXX)
- SECTION MARKER (A / XXX)
- INTERIOR ELEVATION MARKER (TOP / LEFT / RIGHT / BOT)
- ELEVATION DATUM MARKER (X FLOOR ELEV. + 0'-0")
- CENTER LINE
- DOOR TAG (XXXX)
- PARTITION TAG (P1)
- WINDOW TAG (A)
- CEILING HEIGHT TAG (X'-X")
- FINISH TAG (P1)
- ROOM TAG (ROOM NAME 1 / ROOM NAME / X / X S.F.)
- NORTH ARROW (N)
- COLUMN BUBBLE & GRID LINE (A)
- WALL MOUNTED EXIT SIGN (ARROW DENOTES DIRECTION OF TRAVEL)
- CEILING MOUNTED EXIT SIGN (ARROW DENOTES DIRECTION OF TRAVEL)
- FIRE EXTINGUISHER- WALL MOUNTED (FE)
- FIRE EXTINGUISHER CABINET (FEC)
- REVISION TAG (1)
- FRAMING SYMBOL
- NYS SYMBOL OF ACCESSIBILITY
- BREAK LINE

DRAWING LIST

ARCHITECTURAL

T1.1	TITLE SHEET, DRAWING LIST, ABBREVIATIONS & SYMBOLS
G1.1	GENERAL NOTES & ADA DETAILS
G1.2	WALL PARTITION SCHEDULE & UL ASSEMBLY DETAILS
CC1.1	CODE COMPLIANCE TABULATIONS (ROIBES)
EG1.1	EGRESS FLOOR PLAN - EAST
EG1.2	EGRESS FLOOR PLAN - WEST
EN1.1	ENERGY COMPLIANCE THERMAL ENVELOPE
A1.1	CONSTRUCTION FLOOR PLAN - EAST
A1.2	CONSTRUCTION FLOOR PLAN - WEST
A1.3	BUILDING ROOF PLAN - EAST
A1.4	BUILDING ROOF PLAN - WEST
A1.5	ENLARGED FLOOR PLANS
A2.1	REFLECTED CEILING PLAN - EAST & DETAILS
A2.2	REFLECTED CEILING PLAN - WEST
A3.1	BUILDING ELEVATIONS
A3.2	BUILDING ELEVATIONS
A4.1	BUILDING SECTIONS
A4.2	BUILDING SECTIONS
A5.1	WALL SECTIONS
A5.2	WALL SECTIONS & ENLARGED DETAILS
A6.1	ROOF DETAILS & LADDER DETAILS
A8.1	STAIR ENLARGED PLANS, SECTIONS & DETAILS
A11.1	DOOR & PARTITION SCHEDULE, ELEVATIONS AND DETAILS
A11.2	WINDOW SCHEDULE, ELEVATIONS AND DETAILS

CIVIL

SP-1	COVER SHEET
SP-2	OVERALL ALIGNMENT PLAN
SP-3A	PARTIAL ALIGNMENT PLAN
SP-3B	PARTIAL ALIGNMENT PLAN
SP-4A	PARTIAL DEMOLITION PLAN
SP-4B	PARTIAL DEMOLITION PLAN
SP-5A	PARTIAL GRADING & DRAINAGE PLAN
SP-5B	PARTIAL GRADING & DRAINAGE PLAN
SP-6A	PARTIAL UTILITY PLAN
SP-6B	PARTIAL UTILITY PLAN
SP-7A	PARTIAL LANDSCAPE & IRRIGATION PLAN
SP-7B	PARTIAL LANDSCAPE & IRRIGATION PLAN
SP-8A	PARTIAL PHOTOMETRIC PLAN
SP-8B	PARTIAL PHOTOMETRIC PLAN
SP-9A	PARTIAL SWPPP PLAN
SP-9B	PARTIAL SWPPP PLAN
SP-10	CONSTRUCTION DETAILS
SP-11	DRAINAGE DETAILS
SP-12	SANITARY DETAILS
SP-13	SANITARY DETAILS
SP-14	WATER & UTILITY DETAILS
SP-15	SWPPP DETAILS
RW-1	RETAINING WALL DETAILS
WZTC-1	WORK ZONE TRAFFIC CONTROL PLAN

STRUCTURAL

S-001	STRUCTURAL NOTES
S-002	ROOF SNOW LOADING PLAN
S-003	ROOF WIND LOADING PLAN
S-101	ROOF FRAMING PLAN
S-102	ROOF FRAMING PLAN
FO-101	FOUNDATION PLAN
FO-102	FOUNDATION PLAN
FO-200	FIRST FLOOR FRAMING PLAN
FO-201	FIRST FLOOR FRAMING PLAN
FO-300	TYPICAL FOUNDATION DETAILS
FO-400	FOUNDATION DETAILS
S-200	TYPICAL DETAILS

ELECTRICAL

E-001	LEGEND AND ABBREVIATIONS
E-002	SPECIFICATIONS
E-003	SWITCHBOARD SPECIFICATIONS
E-010	BRANCH PANEL SCHEDULE
E-011	BRANCH PANEL SCHEDULE
E-012	BRANCH PANEL SCHEDULE
E-013	BRANCH PANEL SCHEDULE
E-014	BRANCH PANEL SCHEDULE
E-101	FIRST FLOOR POWER DISTRIBUTION PLAN
E-102	FIRST FLOOR POWER DISTRIBUTION PLAN
E-201	FIRST FLOOR POWER PLAN
E-202	FIRST FLOOR POWER PLAN
E-203	ROOF POWER PLAN
E-204	ROOF POWER PLAN
E-300	SITE LIGHTING POWER PLAN
E-301	FIRST FLOOR LIGHTING POWER PLAN
E-302	FIRST FLOOR LIGHTING POWER PLAN
E-501	DETAILS SHEET 1
E-502	DETAILS SHEET 2
E-601	RISER SCHEDULES
E-602	RISER DIAGRAM

MECHANICAL

M-001	GENERAL NOTES
M-002	SPECIFICATION SHEET 1
M-003	SPECIFICATION SHEET 2
M-004	SPECIFICATION SHEET 3
M-010	DETAILS SHEET 1
M-011	DETAILS SHEET 2
M-020	SCHEDULES
M-101	FIRST FLOOR PLAN EAST
M-102	FIRST FLOOR PLAN WEST
M-103	FIRST FLOOR PART PLANS
M-104	ROOF PLAN EAST

PLUMBING

P-001	GENERAL NOTES
P-010	SPECIFICATIONS
P-020	DETAILS
P-030	RISER DIAGRAMS
P-101	FIRST FLOOR PLAN
P-102	FIRST FLOOR PLAN
P-103	ROOF PLAN
P-104	ROOF PLAN
P-201	PLUMBING PART PLANS

FIRE SUPPRESSION

SP-001	GENERAL NOTES
SP-010	SPECIFICATION SHEET 1
SP-011	SPECIFICATION SHEET 2
SP-012	SPECIFICATION SHEET 3
SP-020	SPRINKLER DETAILS
SP-030	RISER DIAGRAM
SP-101	FIRST FLOOR PLAN
SP-102	FIRST FLOOR PLAN
SP-201	SPRINKLER PART PLAN

FIRE ALARM

FA-001	GENERAL NOTES AND LEGEND
FA-101	FIRST FLOOR PLAN
FA-102	FIRST FLOOR PLAN
FA-103	ROOF PLAN
FA-104	ROOF PLAN
FA-200	RISER DIAGRAM

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

IBC CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA TABLE R301.2 (1)

GROUND SNOW LOAD	WIND DESIGN				SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP	ICE BARRIER REQ.	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
	SPEED (MPH)	TOPOGRAPHIC EFFECTS	SPECIAL WIND REGION	WIND-BORNE DEBRIS ZONE		WEATHERING	FROST LINE DEPTH	TERMITE					
20	130	NO	NO	NO	B	SEVERE	3'-0"	MOD TO HEAVY	SEE NOTES BELOW	YES	FEMA NFIP MINIMAL HAZARD	599	51°F

WINTER DESIGN TEMP

- INTERIOR SPACE INTENDED FOR HUMAN OCCUPANCY SHALL BE PROVIDED WITH AN INDOOR TEMPERATURE OF NOT LESS THAN 68° F AT A POINT 3 FEET ABOVE THE FLOOR ON THE DESIGN HEATING DAY
- SYSTEM DESIGN SHALL BE BASED ON MAX 72°F HEATING, MINIMUM 75°F COOLING
- DEGREE DAYS (NY LAGUARDIA) 4811, WINTER DESIGN TEMP 15°F, DRY BULB 89°F, WET BULB 75°F (2020 IPC APPENDIX D)
- AS PER NYSBC 2020 CHAPTER 16 SECTION 1609 AND ASCE 2016, WIND EXPOSURE CATEGORY AND SURFACE ROUGHNESS IS B
- USE C FOR BOTH SOUTH SHORE AND FIRE ISLAND

BUILDING DEPARTMENT PLAN REVIEW NOTE

TOWN OF ISLIP BUILDING PLANS EXAMINER SHALL REVIEW THE ENCLOSED DOCUMENT FOR MINIMUM ACCEPTABLE PLAN SUBMITTAL REQUIREMENTS OF THE TOWN OF ISLIP AS SPECIFIED IN THE BUILDING AND/OR RESIDENTIAL CODE OF THE STATE OF NEW YORK. THIS REVIEW DOES NOT GUARANTEE COMPLIANCE WITH THAT CODE. THE SEAL AND SIGNATURE OF THE DESIGN PROFESSIONAL HAS BEEN INTERPRETED AS AN ATTESTATION THAT, TO THE BEST OF THE LICENSE'S BELIEF AND INFORMATION, THE WORK IN THE DOCUMENT IS:

- ACCURATE
- CONFORMS WITH GOVERNING COEDS APPLICABLE AT THE TIME OF SUBMISSION
- CONFORMS WITH REASONABLE STANDARDS OF PRACTICE WITH VIEW TO THE SAFEGUARDING OF LIFE, HEALTH, PROPERTY, AND PUBLIC WELFARE.
- IS THE RESPONSIBILITY OF THE LICENSEE

ISSUED FOR 50% PERMIT	06/30/23
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REVISION:	DATE:

DRAWING TITLE:

TITLE SHEET, DRAWING LIST, ABBREVIATIONS & SYMBOLS

SCALE: NTS

DRAWN BY: KT

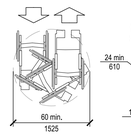
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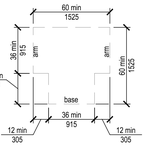
DWG. NO.

T-1.1

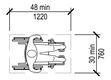
22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706



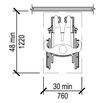
SIZE OF TURNING SPACE
CIRCULAR
FIG 304.3 (a)



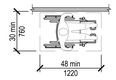
SIZE OF TURNING SPACE
T-SHAPED
FIG 304.3 (a)



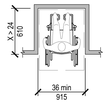
SIZE OF CLEAR FLOOR SPACE
FIG 305.3



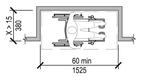
POSITION OF CLEAR FLOOR SPACE
FORWARD
FIG 305.5 (a)



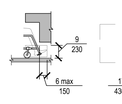
POSITION OF CLEAR FLOOR SPACE
PARALLEL
FIG 305.5 (b)



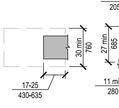
MANEUVERING CLEARANCE IN AN ALCOVE
FORWARD APPROACH
FIG 305.7 (a)



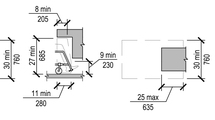
MANEUVERING CLEARANCE IN AN ALCOVE
PARALLEL APPROACH
FIG 305.7 (b)



TOE CLEARANCE
ELEVATION
FIG 306.2 (a)

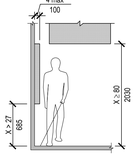


TOE CLEARANCE
PLAN
FIG 306.2 (b)

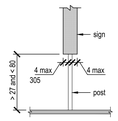


TOE CLEARANCE
ELEVATION
FIG 306.3 (a)

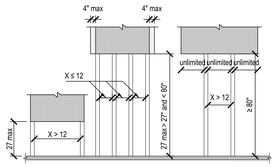
TOE CLEARANCE
PLAN
FIG 306.2 (b)



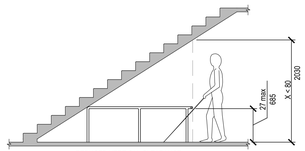
LIMITS OF PROTRUDING OBJECTS
FIG 307.2



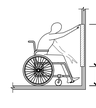
POST-MOUNTED
PROTRUDING OBJECTS
FIG 307.3 (a)



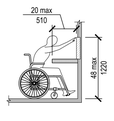
POST-MOUNTED
PROTRUDING OBJECTS
FIG 307.3 (b)



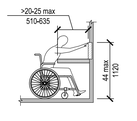
REDUCED VERTICAL CLEARANCE
FIG 307.4



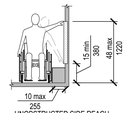
UNOBSTRUCTED FORWARD REACH
FIG 308.2.1



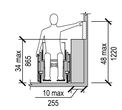
OBSTRUCTED HIGH FORWARD REACH
FIG 308.2.2 (a)



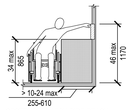
OBSTRUCTED HIGH FORWARD REACH
FIG 308.2.2 (b)



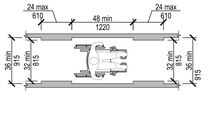
UNOBSTRUCTED SIDE REACH
FIG 308.3.1



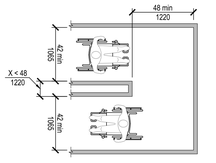
OBSTRUCTED HIGH SIDE REACH
FIG 308.3.2 (a)



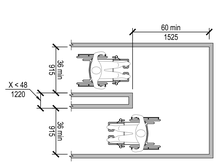
OBSTRUCTED HIGH SIDE REACH
FIG 308.3.2 (b)



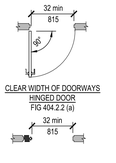
CLEAR WIDTH OF AN ACCESSIBLE ROUTE
FIG 403.5



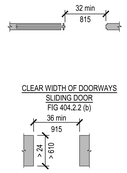
180 DEGREE TURN
FIG 403.5.1 (a)



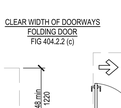
180 DEGREE TURN (EXCEPTION)
FIG 403.5.1 (b)



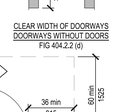
CLEAR WIDTH OF DOORWAYS
HINGED DOOR
FIG 404.2.2 (a)



CLEAR WIDTH OF DOORWAYS
SLIDING DOOR
FIG 404.2.2 (b)



CLEAR WIDTH OF DOORWAYS
FOLDING DOOR
FIG 404.2.2 (c)



CLEAR WIDTH OF DOORWAYS
DOORWAYS WITHOUT DOORS
FIG 404.2.2 (d)



MANEUVERING CLEARANCE AT
DOORWAYS WITHOUT DOORS
FRONT APPROACH
FIG 404.2.3.4 (a)



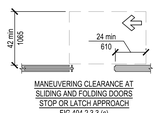
MANEUVERING CLEARANCE AT
DOORWAYS WITHOUT DOORS
SIDE APPROACH
FIG 404.2.3.4 (b)



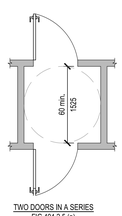
MANEUVERING CLEARANCE AT
SLIDING AND FOLDING DOORS
FRONT APPROACH
FIG 404.2.3.3 (a)



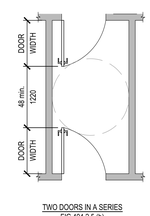
MANEUVERING CLEARANCE AT
SLIDING AND FOLDING DOORS
POCKET OR HINGE APPROACH
FIG 404.2.3.3 (b)



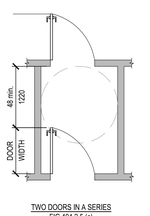
MANEUVERING CLEARANCE AT
SLIDING AND FOLDING DOORS
STOP OR LATCH APPROACH
FIG 404.2.3.3 (c)



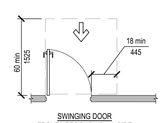
TWO DOORS IN A SERIES
FIG 404.2.5 (a)



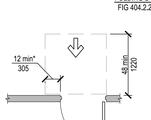
TWO DOORS IN A SERIES
FIG 404.2.5 (b)



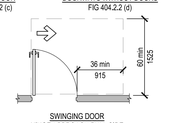
TWO DOORS IN A SERIES
FIG 404.2.5 (c)



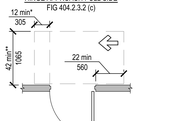
SWINGING DOOR
FRONT APPROACH PULL SIDE
FIG 404.2.3.2 (a)
SWINGING DOOR
HINGE APPROACH PULL SIDE
FIG 404.2.3.2 (d)



SWINGING DOOR
FRONT APPROACH PUSH SIDE
FIG 404.2.3.2 (b)
*if both closer and latch are provided



SWINGING DOOR
HINGE APPROACH PULL SIDE
FIG 404.2.3.2 (c)



SWINGING DOOR
HINGE APPROACH PUSH SIDE
FIG 404.2.3.2 (e)

SWINGING DOOR
LATCH APPROACH PULL SIDE
FIG 404.2.3.2 (f)
*if both closer and latch are provided

SWINGING DOOR
LATCH APPROACH PUSH SIDE
FIG 404.2.3.2 (g)
*if both closer and latch are provided

MANEUVERING CLEARANCE AT
RECESSED DOORS
PULL SIDE
FIG 404.2.3.5 (a)

MANEUVERING CLEARANCE AT
RECESSED DOORS
PUSH SIDE
FIG 404.2.3.5 (b)
*if both closer and latch are provided
** 48 min if both closer and latch are provided

MANEUVERING CLEARANCE AT
RECESSED DOORS
PUSH SIDE
door provided with both closer and latch
FIG 404.2.3.5 (c)

RAMP LANDINGS
FIG 405.7 (a)
RAMP LANDINGS
FIG 405.7 (b)

RAMP EDGE PROTECTION
FIG 405.9.2 (a)
Barrier prevents passage of a 4 inch sphere with any portion within 4 inch of floor.

RAMP EDGE PROTECTION
FIG 405.9.2 Barrier (b)

TREADS AND RISERS FOR
ACCESSIBLE STAIRWAYS
FIG 504.2

STAIR NOSINGS
FIG 504.5

HANDRAIL HEIGHT
FIG 505.4

TOP & BOTTOM HANDRAIL
EXTENSIONS AT RAMPS
FIG 505.10.1

BOTTOM HANDRAIL
EXTENSIONS AT STAIRS
FIG 505.10.3

accessible water closets (a)
ambulatory accessible water closets (b)
WATER CLOSET LOCATION
FIG 604.2

WATER CLOSET SEAT HEIGHT
FIG 604.4

SIZE OF CLEARANCE FOR WATER CLOSET
FIG 604.3

note: for children's dimensions see Fig. 609.4
SIDE WALL GRAB BAR FOR
WATER CLOSET
FIG 604.5.1

REAR WALL GRAB BAR FOR
WATER CLOSET
FIG 604.5.1

WHEELCHAIR ACCESSIBLE
TOILET COMPARTMENTS
wall-hung water closet - adult
FIG 604.9.2 (a)

WHEELCHAIR ACCESSIBLE TOILET
COMPARTMENTS
floor-mounted water closet - adult
wall-hung and floor-mounted water closet - children
FIG 604.9.2 (b)

WHEELCHAIR ACCESSIBLE COMPARTMENT
DOOR OPENINGS
FIG 604.9.3.1

WHEELCHAIR ACCESSIBLE COMPARTMENT
DOOR OPENINGS - ALTERNATE
FIG 604.9.3.1 (c)

WHEELCHAIR ACCESSIBLE COMPARTMENT
TOE CLEARANCE
FIG 604.9.5

AMBULATORY ACCESSIBLE
COMPARTMENT
FIG 604.10

STANDARD ROLL-IN-TYPE SHOWER
COMPARTMENT SIZE & CLEARANCE
FIG 608.2.2

HEIGHT OF URINALS
FIG 605.2

HEIGHT OF LAVATORIES & SINKS
FIG 606.3

CLEARANCE FOR BATHTUBS
FIG 607.2

GRAB BARS FOR BATHTUBS W/ PERMANENT SEATS
FIG 607.4.1

GRAB BARS FOR BATHTUBS W/O PERMANENT SEATS
FIG 607.4.2

LOCATION OF BATHTUB
CONTROLS
FIG 607.5

TRANSFER-TYPE SHOWER COMPARTMENT
SIZE & CLEARANCE
FIG 608.2.1
GRAB BARS IN
TRANSFER-TYPE SHOWER
FIG 608.3.1

ALTERNATE ROLL-IN-TYPE SHOWER
COMPARTMENT SIZE & CLEARANCE
FIG 608.2.3

GRAB BARS IN STANDARD
ROLL-IN-TYPE SHOWER
FIG 608.3.2

TRANSFER-TYPE SHOWER CONTROL
& HANDSHOWER LOCATION
FIG 608.4.1

GRAB BARS IN ALT. ROLL-IN-TYPE SHOWER
FIG 608.3.3

STANDARD ROLL-IN-TYPE SHOWER
CONTROL & HANDSHOWER LOCATION
FIG 608.4.2

ALTENATE ROLL-IN-TYPE SHOWER
CONTROL & HANDSHOWER LOCATION
FIG 608.4.2

RECTANGULAR SHOWER
COMPARTMENT SEAT
FIG 610.3.1

L-SHAPED SHOWER
COMPARTMENT SEAT
FIG 610.3.2

HEIGHT OF RAISED CHARACTERS ABOVE FLOOR
FIG 703.3.10

LOCATION OF SIGNS AT DOORS
FIG 703.3.11

GENERAL CONSTRUCTION NOTES

1. COORDINATE DRYWALL WORK WITH THAT OF THE OTHER TRADES IF DRYWALL IS IN CONFLICT WITH HVAC, MEP, FIRE ALARM, ETC. FOR A COMPLETE INSTALLATION.
2. PROVIDE WATER RESISTANT GYPSUM BOARD FOR PARTITIONS ADJACENT TO PLUMBING LINES OR FIXTURES.
3. REMOVE MISCELLANEOUS APPURTENANCES, DEVICES, ETC., ON EXISTING WALLS WHICH SHALL NOT REMAIN UNDER THESE ALTERATIONS, AS DIRECTED BY THE OWNER. PATCH WALLS THAT ARE INDICATED TO RECEIVE NEW FINISHES.
4. ELEVATION 0'-0" IS A DATUM REFERENCE OF THE CONCRETE FLOOR SLAB, NOTATION TO HEIGHTS WILL BE FROM THIS ELEVATION, UNLESS OTHERWISE NOTED. SURFACES ABOVE FINISHED FLOOR ARE TAKEN FROM THIS DATUM AND NOTED A.F.F.
5. PROVIDE SURFACE MOUNTED ELECTRICAL RACEWAY SYSTEMS IN LIEU OF CONDUIT IN AREAS WHERE ELECTRICAL WORK WILL REMAIN EXPOSED, INCLUDING BUT NOT LIMITED TO: CMU WALL PARTITIONS, EXPOSED CONCRETE CEILINGS, ETC.
6. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ADJOINING REMAINING AREAS AS A RESULT OF HIS WORK, AND SHALL REPAIR DAMAGED SURFACES TO THEIR PRE-EXISTING CONDITIONS OR AS MAY BE REQUIRED TO COMPLETE THE ENTIRE SCOPE OF THE WORK.
7. ALTERATIONS TO EXISTING WORK SHALL BE PATCHED AND FINISHED, AS NECESSARY, TO MATCH EXISTING CONTIGUOUS SURFACES OR NEW FINISHES SHOWN.
8. DRYWALL CONSTRUCTION:
   A. PROVIDE SIZES AND TYPES AS SHOWN ON THE DRAWINGS, TAPED AND SPACKLED WITH THREE (3) COATS AND SANDED SMOOTH.
   B. PROVIDE ALL METAL CORNER BEADS, STOPS, EDGE TRIM, CASINGS, BEADS, ETC. AS REQUIRED TO FINISH ALL DRYWALL SURFACES WITH FLUSH, LEVEL EDGES.
   C. USE FIRECODE "X" OR "C" GYPSUM BOARD WHERE REQUIRED TO OBTAIN FIRE RATINGS PER N.Y.S. BUILDING CODES.
9. FLAME SPREAD OF ALL INTERIOR FINISHES SHALL MEET OR EXCEED CLASS "A" (ASTM-E-84) OR CLASS "I" (RADIANT PANEL TEST) REQUIREMENTS, UNLESS OTHERWISE NOTED.
10. PROVIDE DRY CHEMICAL "ABC" TYPE, OR AS SPECIFIED BY TENANT, 10 LB. CAPACITY FIRE EXTINGUISHERS (F.E.), WHERE INDICATED ON THE FLOOR PLANS.
11. PROVIDE ANY AND ALL FIRE RETARDANT TREATED WOOD BLOCKING/BACKING OR 14 GA. GALV. FLAT STOCK BACKING AS REQUIRED TO ENSURE PROPER AND ADEQUATE SUPPORT (IN COMPLIANCE WITH NEW YORK STATE BUILDING CODE MINIMUM LOADING REQUIREMENTS WHERE APPLICABLE) OF VARIOUS ITEMS INCLUDING, BUT NOT NECESSARILY LIMITED TO, HANDRAILS, CABINETRY, SHELVING, HANDICAP GRAB BARS, TOILET ACCESSORIES, CABLE TRAYS, CONDUITS, ETC.
12. FOR ANY PORTIONS OF AN EXISTING BUILDING THAT WILL REMAIN OCCUPIED DURING CONSTRUCTION, CONTRACTOR SHALL PROVIDE ALL REQUIRED TEMPORARY PARTITIONS, DUST PROTECTION AND SEPARATION REQUIRED TO PROVIDE TENANT WITH SAFE EGRESS, AND ACCESS TO REQUIRED FACILITIES (I.E. RESTROOMS, ELEC. CLOSETS, ETC.) CONTRACTOR SHALL MINIMIZE DISRUPTION TO TENANT AS A RESULT OF NOISE, TRAFFIC, PARKING, SITE AND BUILDING ACCESS, ETC.
13. PROVIDE TEMPORARY (TP) / DUST (DP) PROTECTION WHERE INDICATED IN DRAWINGS AND AS MAY BECOME NECESSARY TO ACCOMMODATE THE WORK. "DP PROTECTION SHALL CONSIST OF FULL HEIGHT, 6 MIL FIRE RETARDANT, ANTI-STATIC PLASTIC BY REBCO, OR EQUAL. "TP" PROTECTION SHALL BE 6'-0" HI. TEMPERED MASONITE ON FIRE RETARDANT WOOD OR METAL STUD, 24" O.C. WITH PLASTIC DUST PROTECTION FROM TOP OF MASONITE TO UNDERSIDE OF CEILING. ALL PROTECTION SHALL BE SEALED TIGHT AT EDGES. OVERLAP EDGES OF ACCESS OPENINGS IN PLASTIC PROTECTION 18" MIN. ACCESS OPENINGS IN "TP" PROTECTION SHALL BE FUNCTIONAL 3' X 7' HINGED DOORS. PROTECTION IN USE DURING ALTERATIONS SHALL BE SEALED AND MAINTAINED FOR MAXIMUM DUST CONTROL. COORDINATE LOCATIONS AND ARRANGEMENT OF PROTECTION WITH ARCHITECT AND OWNER PRIOR TO THE COMMENCEMENT OF WORK IN EACH AREA OF WORK ASSOCIATED WITH THIS PROJECT.

GENERAL CEILING CONSTRUCTION NOTES

1. SET CEILING HEIGHTS AS INDICATED ON THE DRAWINGS MEASURED, FROM FINISHED FLOOR UNLESS NOTED OTHERWISE. SEE FINISH SCHEDULE.
2. NOTIFY THE ARCHITECT IMMEDIATELY AND PRIOR TO PROGRESS OF WORK IF UNUSUAL FIELD CONDITIONS ARISE WHICH WOULD PREVENT THE CEILING ASSEMBLIES AND/OR LIGHT FIXTURES FROM BEING INSTALLED AT THE SPECIFIED HEIGHT.
3. IN GENERAL, EXECUTE THE CEILING WORK TO PROVIDE A SMOOTH, CONTINUOUS, MATCHING, TIGHT AND ALIGNING CEILING, THE FINAL CEILING INSTALLATION SHALL BE FREE OF VISUAL DEFECTS, REPLACE CEILING TILES DAMAGED BY OTHER TRADES.
4. HE CEILING GRID SUSPENSION SYSTEM SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S STANDARD SPECIFICATIONS AND METHODS OF INSTALLATION. THE SUSPENDED CEILING BLACK IRON CARRYING CHANNELS SHALL BE SECURELY SUPPORTED BY HANGERS FASTENED TO STRUCTURAL SUPPORTS AND PROPERLY SPACED TO SUPPORT LIGHTING FIXTURES AND ACOUSTIC CEILING ASSEMBLY. NEW CEILING DIFFUSERS, AND AIR RETURN GRILLES, SHALL BE NATURED, ANODIZED, OR EXTRUDED ALUMINUM AND RECEIVE A BAKED ENAMEL WHITE FINISH. LIGHTING FIXTURES SHALL BE FASTENED TO THE STRUCTURE ABOVE WITH SAFETY CHAINS INDEPENDENTLY OF THE CEILING SYSTEM.
5. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CUTTING FOR AND/OR BRIDGING REQUIRED FOR LIGHT FIXTURES, AIR DIFFUSERS, ETC.

COORDINATION NOTE

ALL CONTRACTORS ARE RESPONSIBLE FOR COORDINATION OF THEIR WORK WITH THE WORK OF OTHER TRADESMEN. ALL DRAWINGS RELATED TO THE CONSTRUCTION OF THIS PROJECT, AS ENUMERATED ON THE TITLE SHEET, ARE HEREIN REFERENCED FOR COORDINATION PURPOSES. ALL CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH THE COMPLETE SET OF DOCUMENTS AND SPECIFICATIONS FOR THIS PURPOSE. NO CHANGE ORDERS OR ADDITIONS TO THE CONTRACT SUM SHALL BE ENTERTAINED FOR LACK OF COORDINATION BETWEEN TRADES.

CONTRACT MODIFICATIONS

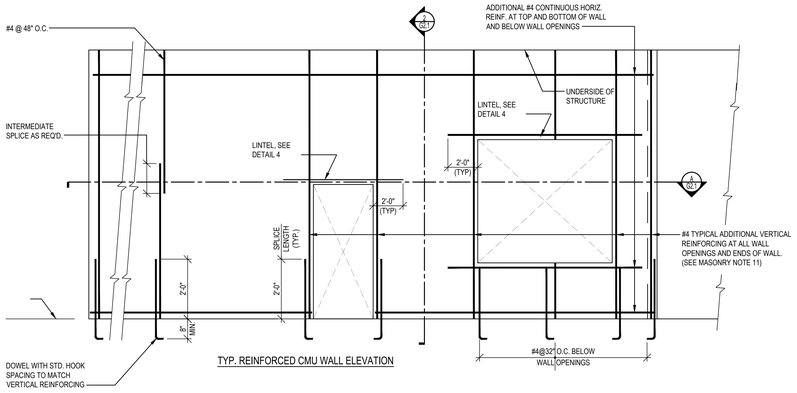
ALL CONTRACT MODIFICATIONS AND CHANGE ORDER PROPOSAL PROCEDURES SHALL BE IN STRICT ACCORDANCE WITH GENERAL CONDITIONS FOR CONSTRUCTION AND THE OWNERS REQUIREMENTS. CHANGE ORDER WORK PERFORMED WITHOUT THE NECESSARY APPROVALS WILL BE DENIED.

SUBMITTAL NOTES

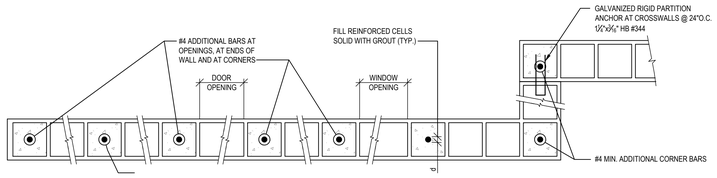
1. PROVIDE ARCHITECT WITH A 5'-0" X 5'-0" BRUSH-OUT OF EACH COLOR AND FINISH FOR ARCHITECT'S APPROVAL AT LEAST 2 WEEKS PRIOR TO SITE APPLICATION. ON-SITE APPLICATIONS SHALL BE REQUIRED ONE WEEK PRIOR TO FINAL APPROVAL. ARCHITECT RESERVES THE RIGHT TO ADJUST ANY COLOR / FINISH ONCE THE WALL TEST HAS BEEN MADE.
2. PROPRIETARY NAMES IDENTIFYING ITEMS OF WORK ARE USED TO DESIGNATE THE STANDARD OF CONSTRUCTION. ITEMS OF EQUAL QUALITY MAY BE SUBMITTED IN A TIMELY FASHION FOR THE ARCHITECTS REVIEW AND APPROVAL.
3. CONTRACTOR SHALL SUBMIT CUTS., M.S.D.S. SHEETS., AND SAMPLES OF FINISHES, EQUIPMENT & MATERIALS FOR ARCHITECT'S APPROVAL PRIOR TO ORDERING, FABRICATION, OR COMMENCEMENT OF THE WORK. ALL SUBMISSIONS SHALL BE PROVIDED IN SETS OF FIVE (5) AND TIMED SUCH THAT MATERIAL DELIVERIES & INSTALLATION ACCOMMODATE THE OWNERS SCHEDULE & COMPLETION DATE.
4. ALL MATERIALS AND EQUIPMENT SPECIFIED SHALL BE SUPPLIED, INSTALLED, CONNECTED, ERECTED, CLEANED, AND CONDITIONED AS DIRECTED BY THE SUPPLIER/MANUFACTURER, IN ACCORDANCE WITH ACCEPTED INDUSTRY STANDARD PRACTICE AND IN COMPLIANCE WITH PRODUCT WARRANTY.
5. ALL SUBCONTRACTORS' SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL THROUGH THE GENERAL CONTRACTOR PRIOR TO WORK BEING PERFORMED, UNLESS OTHERWISE NOTED.
6. ALL CONTRACTORS SHALL SUBMIT ALL SHOP DRAWINGS FOR APPROVAL TO THE ARCHITECT PRIOR TO COMMENCEMENT OF WORK. SHOP DRAWING SUBMITTALS SHALL BE IN THE FORM OF AN ELECTRONIC PDF FORMAT. APPROVAL OF SHOP DRAWING SHALL INDICATE ONLY THAT SUCH DRAWINGS GENERALLY EXPRESS THE INTENT OF THE CONTRACT DOCUMENTS AND SHALL NEITHER BE CONSTRUED AS A COMPLETE CHECK NOR RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR QUANTITIES AND DIMENSIONS. ALL CONTRACTORS SHALL SUBMIT CUTS, SAMPLES AND FINISHES FOR WRITTEN APPROVAL BY THE ARCHITECT PRIOR TO ORDERING OR FABRICATION.

GENERAL SITE & CONSTRUCTION SAFETY NOTES

1. ON SITE, IT IS ARCHITECT'S INTENT TO HAVE SITE SAFETY TAKE PRECEDENCE AT ALL TIMES. THIS MEANS THAT ALL CONSTRUCTION TOOLS AND EQUIPMENT USED ON THE PROJECT MUST MEET THE LATEST OSHA STANDARDS, IN ADDITION ALL LOCAL STATE OR FEDERAL CODES HAVING JURISDICTION AT THE PROJECT SITE, MUST ALSO BE CONSIDERED PART OF THE SAFETY REQUIREMENTS. ANY DAMAGED TOOLS OR EQUIPMENT MUST BE REPLACED IMMEDIATELY. AT THE TIME OF COMPLETION OF THE PROJECT PLEASE INSURE THAT ALL EQUIPMENT AND TOOLS ARE REMOVED FROM PROJECT.
2. ANY CONSTRUCTION TOOLS &/OR EQUIPMENT USED ON PROJECT MUST BE PROPERLY GROUNDED & USE ONLY SOURCE OF POWER APPROVED BY BUILDING MANAGEMENT SO AS NOT TO DISRUPT BUILDING'S ELECTRICAL SYSTEMS & MUST ALSO FOLLOW OSHA GUIDELINES OR ANY OTHER CODE REQUIREMENTS HAVING JURISDICTION OVER TOOLS AND EQUIPMENT.
3. THROUGHOUT THE ENTIRE COURSE OF CONSTRUCTION THE G.C. AND ANY OTHER TRADE WORKING ON PROJECT SITE, MUST FOLLOW THE CURRENT OSHA GUIDELINES IN ADDITION TO ALL LOCAL, STATE AND FEDERAL CODES HAVING JURISDICTION AS IT RELATES TO PROTECTIVE CLOTHING SUCH AS, BU



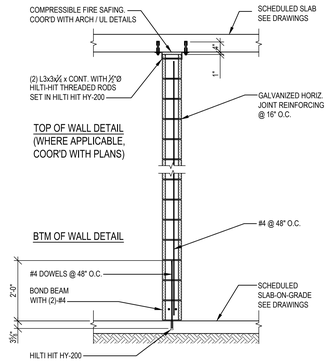
TYP. REINFORCED CMU WALL ELEVATION



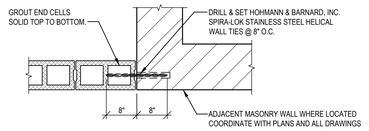
PLAN SECTION A

1 TYP. CONCRETE MASONRY WALL REINFORCEMENT PLAN
SCALE: 1/2"=1'-0"

COORDINATE WITH FLOOR PLANS, REFLECTED CEILING AND ALL DRAWINGS FOR LOCATIONS OF REINFORCED CMU PARTITIONS



2 TYP. NON-BEARING CMU WALL SECTION DETAIL
SCALE: 1/2"=1'-0"



3 TYP. CMU TO MASONRY WALL PLAN DETAIL
SCALE: 3/4"=1'-0"

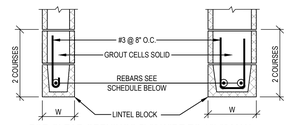
CONCRETE MASONRY NOTES

1. CONCRETE MASONRY UNITS SHALL BE NORMAL WEIGHT HOLLOW CONCRETE MASONRY UNITS C.M.U. NET COMPRESSIVE STRENGTH OF CONCRETE MASONRY UNITS SHALL BE 4,050 PSI (MIN). NET COMPRESSIVE STRENGTH OF MASONRY, F'M = 2,500PSI MINIMUM. ALL CELLS WITH REINFORCING SHALL BE GROUTED SOLID.
2. MORTAR SHALL BE TYPE N FOR INTERIOR AND TYPE S FOR EXTERIOR.
3. ALL GROUT SHALL BE 'FINE' AS DEFINED BY ASTM C476. MIN f'c FOR GROUT SHALL BE 2,500 PSI.
4. REINFORCING BARS SHALL BE ASTM A615 GRADE 60.
5. HORIZONTAL JOINT REINFORCING SHALL BE TRUSS TYPE COLD DRAWN ASTM A82 GALVANIZED PER ASTM A461 CLASS 1.
6. STEEL LINTEL ANGLES SHALL BE ASTM A36. ALL STEEL LINTELS ANGLES SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123.
7. MASONRY WALL CONSTRUCTION REQUIREMENTS SHALL CONFORM TO ACI 530 AND THE NYS BUILDING CODE 2014.
8. COORDINATE ALL DETAILS WITH MECHANICAL, ELECTRICAL, PLUMBING AND ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
9. REFER TO DETAIL 1/S-400 FOR MINIMUM WALL REINFORCING.
10. SEE SECTIONS FOR VERTICAL REINFORCEMENT.
11. ALL MASONRY IS SUBJECTED TO SPECIAL INSPECTION PER NYS BUILDING CODE.

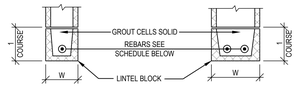
TYPE OF LOADING *	LINTEL SECTION NOMINAL SIZE (IN.) WxH	REQUIRED REINFORCING CLEAR SPAN							
		3'-4"	4'-0"	4'-8"	5'-4"	6'-0"	6'-8"	7'-4"	8'-0"	10'-0"
WALL LOADS	6x8	1-#4	1-#4	1-#4	2-#4	2-#5				
	6x16					1-#3	1-#3	1-#6	1-#6	
FLOOR & ROOF LOADS	6x16	1-#4	1-#4	2-#3	1-#5	2-#4	2-#4	2-#5	2-#5	
WALL LOADS	8x8	1-#4	2-#4	2-#4	2-#4	2-#4	2-#5	2-#6		
	8x16							2-#5	2-#5	2-#6
FLOOR & ROOF LOADS	8x8	2-#4								
	8x16	2-#4	2-#4	2-#4	2-#4	2-#4	2-#4	2-#5	2-#5	2-#6

(*) INCLUDES WEIGHT OF LINTEL.

NOTES:
1. WALL LOADS ASSUMED 300 LBS PER LINEAR FOOT.
2. FLOOR & ROOF LOADS INCLUDING WALL LOADS ASSUMED 1000 LBS PER LINEAR FOOT.
3. 8" LINTELS ASSUMED TO WEIGHT 50 LBS/FT.
4. 16" LINTELS ASSUMED TO WEIGHT 100 LBS/FT.



FOR CLEAR OPENINGS 5'-0" WIDE TO 10'-0" MAX.

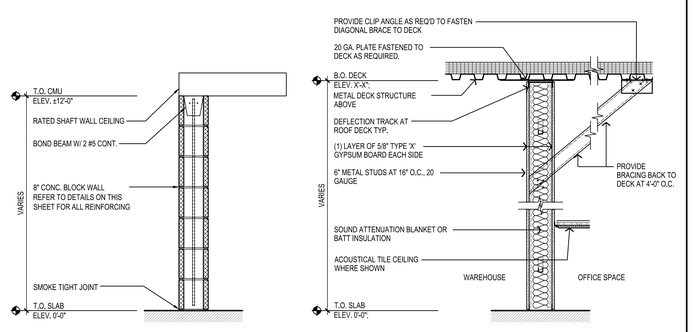


FOR CLEAR OPENINGS LESS THAN 5'-0" WIDE

NOTES:
1. USE THIS DETAIL UNLESS OTHERWISE NOTED ON PLAN.
2. PROVIDE BLOCK LINTELS FOR ALL OPENINGS IN INTERIOR BLOCK PARTITIONS, AND EXTERIOR WALLS FOR WHICH STEEL LINTELS ARE NOT SHOWN. REFER TO ARCH. DWG'S. FOR SIZE AND LOCATION OF OPENINGS. PROVIDE 8" MIN. BEARING AT EACH END.
3. "W" PER TABLE (FIRST DIMENSION).
4. GROUT SHALL BE FINE ONLY.
5. KNOCK-OUT BOND BEAM BLOCK NOT PERMITTED OVER OPENINGS.

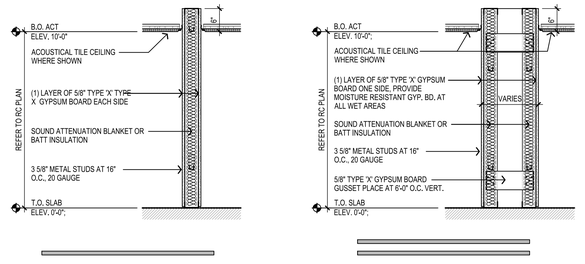
4 TYP. REINFORCED CMU LINTEL DETAILS
SCALE: X"=X'-X"

PARTITION SCHEDULE



P1 2-HOUR RATED, 8" CONCRETE MASONRY UNIT WALL UL DESIGN U905

P2 NON-RATED 6" METAL STUD PARTITION (EXTEND TO UNDERSIDE OF DECK AS SHOWN)



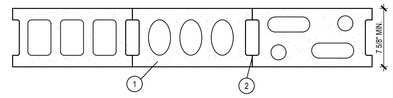
P3 NON-RATED 3 5/8" METAL STUD PARTITION (GYPSUM BOARD: 6" ABOVE FINISH CEILING)

P4 NON-RATED 3 5/8" METAL STUD DOUBLE CHASE PARTITION. PROVIDE 5/8" TYPE 'X' TILE BACKER BOARD AT ALL WALLS TO RECEIVE TILE FINISH IN LIEU OF GYPSUM BOARD (EXTEND TO UNDERSIDE OF DECK AS SHOWN)

PARTITION NOTES

1. ALL WORK TO BE DONE IN ACCORDANCE WITH NYS BUILDING CODE-TABLE 2506.2 AND 2508.1.
2. GYPSUM BOARD:
   - 5/8" TYPE 'X' THICK TYPE FIRE CODE 'X', UNLESS OTHERWISE INDICATED.
   - PROVIDE TILE BACKER BOARD TO RECEIVE TILE.
3. CONTRACTOR TO COMPLY WITH ALL UL WALL ASSEMBLIES AS PER UL DIRECTORY LISTINGS.
4. WALLS TO BE FINISHED SHALL BE TAPED, PROPERLY FLUSHED AND SANDED SMOOTH. JOINTS IN FINISHED GYPSUM WALLS TO RECEIVE TAPE AND THREE COATS OF SPACKLE.
5. 3-5/8" WIDE STEEL STUD, 20 GAUGE (MIN.) GALVANIZED AT 16" O.C., UP TO 14' MAX. HEIGHT.
6. 6" WIDE STEEL STUD, 20 GAUGE (MIN.) GALVANIZED AT 16" O.C. WITH HORIZONTAL BRIDGING AT 5' O.C., UP TO 28' MAX. HEIGHT.
7. SOUND REDUCING INSULATION SHALL BE 3" FIBERGLASS BATT INSULATION AND TO BE INSTALLED AS TO PREVENT SAGGING. PROVIDE INSULATION TO DECK WHERE PARTITION GOES TO DECK.
8. PROVIDE ACOUSTICAL SEALANT AT WALL PERIMETERS AND PENETRATIONS AT ALL NON-RATED WALLS.
9. PROVIDE FIRE-RATED SEALANT AT WALL PERIMETERS AND PENETRATIONS AT ALL FIRE-RATED WALLS.

WALL ASSEMBLY
DESIGN NO. U905
NON-BEARING WALL RATING - 2 HOUR



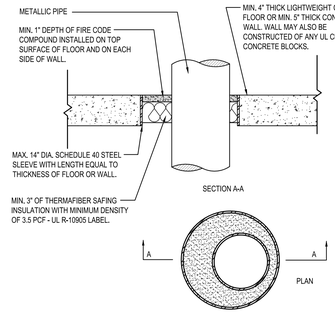
1. CONCRETE BLOCKS - VARIOUS DESIGNS. CLASSIFICATION D-2 (2 HR).

   SEE CONCRETE BLOCKS CATEGORY FOR LIST OF ELIGIBLE MANUFACTURERS.

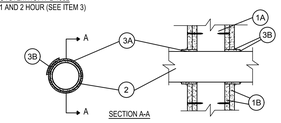
2. MORTAR - BLOCKS LAID IN FULL BED OF MORTAR, NOM. ⅜ IN. THICK, OF NOT LESS THAN 2½ AND NOT MORE THAN 3½ PARTS OF CLEAN SHARP SAND TO 1 PART PORTLAND CEMENT (PROPORTIONED BY VOLUME) AND NOT MORE THAN 50 PERCENT HYDRATED LIME (BY CEMENT VOLUME). VERTICAL JOINTS STAGGERED.

* BEARING THE UL CLASSIFICATION MARKING

FLOOR/WALL PENETRATIONS
UL U400S



SYSTEM NO. W-L-1002
1 AND 2 HOUR (SEE ITEM 3)



1. WALL ASSEMBLY - THE 1 OR 2 HOUR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

   A. STUDS - STEEL STUDS TO BE MIN 3-5/8" IN, WIDE BY 1-3/8 IN, DEEP CHANNELS SPACED MAX 24 IN, OC.

   B. WALLBOARD, GYPSUM* - NOM 5/8" IN. THICK, 4 FT. WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 5-1/4 IN.

2. PIPE OR CONDUIT - NOM 6 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE, NOM 6 IN. DIAM (OR SMALLER) STEEL CONDUIT, NOM 6 IN. DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 6 IN. DIAM (OR SMALLER) CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE, NOM 4 IN. DIAM (OR SMALLER) STEEL EMT OR NOM 4 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING. A MAX OF ONE PIPE OR CONDUIT IS PERMITTED IN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN THE PIPE OR CONDUIT AND THE CIRCULAR CUTOUT IN THE GYPSUM WALLBOARD LAYERS ON EACH SIDE OF THE WALL SHALL BE MIN 1/4 IN. TO MAX 3/8 IN. PIPE OR CONDUIT TO BE INSTALLED NEAR CENTER OF STUD CAVITY WIDTH AND TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.

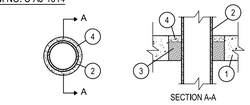
3. FIRESTOP SYSTEM - INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL ASSEMBLY. THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED. THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS FOLLOWS.

   A. FILL, VOID OR CAVITY MATERIALS* - WRAP STRIP - NOM 1/4 IN. THICK INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL, SUPPLIED IN 2 IN. WIDE STRIPS. NOM 2 IN. WIDE STRIP TIGHTLY WRAPPED AROUND PIPE OR CONDUIT WITH SEAM BUTTED. WRAP STRIP LAYER SECURELY BOUND WITH STEEL WIRE OR ALUMINUM FOIL TAPE AND SLID INTO ANNULAR SPACE APPROX 1-1/4 IN. SUCH THAT APPROX 3/4 IN. OF THE WRAP STRIP IS REQUIRED.
      MINNESOTA MINING & MFG. CO. - FS-195 + OR APPROVED EQUAL

   B. FILL, VOID OR CAVITY MATERIALS*- CAULK OR PUTTY- MIN 1/4 IN. DIAM CONTINUOUS BEAD APPLIED TO THE WRAP STRIP/WALL INTERFACE AND TO THE EXPOSED EDGE OF THE WRAP STRIP LAYER APPROX 3/4 IN. FROM THE WALL SURFACE.
      MINNESOTA MINING & MFG. CO. - CP-25WB + CAULK, MPS-2+ PUTTY

* BEARING THE UL CLASSIFICATION MARKING OR APPROVED EQUAL

SYSTEM NO. C-AJ-1014



1. FLOOR OR WALL ASSEMBLY - MIN 3-1/4 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIAM OF CIRCULAR OPENING IS 6 IN.
   SEE CONCRETE BLOCK (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

2. THROUGH PENETRANTS - ONE METALLIC PIPE OR CONDUIT TO BE CENTERED WITHIN THE FIRESTOP SYSTEM. A NOM ANNULAR SPACE OF 3/4 IN. IS REQUIRED WITHIN THE FIRESTOP SYSTEM. PIPE OR CONDUIT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR CONDUITS MAY BE USED:
   A. STEEL PIPE - NOM 4 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

   B. CONDUIT - NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR STEEL CONDUIT.

3. PACKING MATERIAL - MIN 4 PCF MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS REQUIRE TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL. MIN THICKNESS OF PACKING MATERIAL IN FLOORS AND WALLS TO BE 2-3/4 IN. AND 2-1/4 IN. RESPECTIVELY.

4. FILL, VOID OR CAVITY MATERIAL* - SEALANT - MIN 1/2 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR WITH BOTH SURFACES OF WALL, AS AN ALTERNATE, THE PERMANENT FORMING MATERIAL (ITEM 3) MAY BE OMITTED IF THE FILL MATERIAL THICKNESS IS INCREASED TO A MIN 1-1/2 IN.
   MINNESOTA MINING & MFG. CO. - TYPES FB-2000, FB-2003+, FB-2003 (FLOORS ONLY). (NOTE: RATINGS APPLY ONLY WHEN FB-2000+ IS USED.)

* BEARING THE UL CLASSIFICATION MARKING

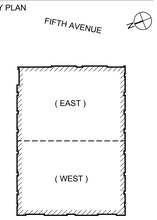
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BAY SHORE, NEW YORK 11706

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KEY PLAN



ISSUED FOR 50% PERMIT	06/30/23
ISSUED FOR DD	04/28/23
REVISION:	DATE:

DRAWING TITLE:

WALL PARTITION SCHEDULE & UL ASSEMBLY DETAILS

SCALE: NTS

DRAWN BY: KT

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DWG. NO.

G-2.1

22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706

Town of Islip
New York State
Building Code Evaluation Summary

DATE: 04/28/23 REVISED DATE: -

ADDRESS: 1612 FIFTH AVENUE BAY SHORE, TOWN OF ISLIP SUFFOLK COUNTY, NY 11706

BUILDING NAME(S): XEBEC LLC, WAREHOUSE BUILDING NUMBERS: TBD

PROJECT TITLE: NEW CONSTRUCTION - XEBEC, LLC

ARCHITECT/ENGINEER: BLD ARCHITECTURE, DPC

CODE ENFORCEMENT JURISDICTION: [X] TOWN OF ISLIP VARIANCE REQUESTED: [X] YES [ ] NO

2020 NYSBC CHAPTER 3: 2020 NYSBC CHAPTER 6:

OCCUPANCY CLASSIFICATION(S): S-1 GROUP I CONDITION: N/A CONSTRUCTION CLASSIFICATION: TYPE IIB

WORK INVOLVED: (CHECK ALL THAT APPLY)
[X] GENERAL CONSTRUCTION [X] FIRE ALARM [X] PLUMBING [X] SPRINKLER
[X] ROOFING [X] STRUCTURAL [X] ELECTRICAL [ ] ELEVATOR
[ ] ASBESTOS ABATEMENT/ENVIRONMENTAL [X] MECHANICAL [X] SITE WORK [ ] OTHER

NO:	TOPIC	CODE SECTION U.O.N.	REQUIRED / ALLOWED	ACTUAL (PROVIDED)
1	FIRE APPARATUS ACCESS ROAD	FC503.1 & APPENDIX D	REQUIRED	PROVIDED - REFER TO SITE / CIVIL PLANS
2	HIGH RISE BUILDINGS	403.1	NOT REQUIRED	N/A
3	ATRIUMS	404.1	NOT REQUIRED	N/A
4	CLASS AND MAQ HAZARDOUS MATERIAL CONTROL AREA	414.1	THE PROVISIONS OF SECTIONS 414.1 THROUGH 414.6 SHALL APPLY TO BUILDINGS AND STRUCTURES OCCUPIED FOR THE MANUFACTURING, PROCESSING, DISPENSING, USE OR STORAGE OF HAZARDOUS MATERIALS.	N/A - TENANT FIT-OUTS AND ACTUAL STORAGE-TYPE OCCUPANCY UNDER FUTURE APPLICATION NIC INTENTION IS TO PROVIDE CORE & SHELL WAREHOUSE BUILDING FOR TENANT FIT-OUT UNDER FUTURE SEPARATE APPLICATION
5	DWELLING AND SLEEPING UNIT SEPARATION	420.2 & 420.3	NOT REQUIRED	N/A
6	BUILDING AREA & HEIGHT	TABLE 504.3 & TABLE 504.4	TYPE IIB (OCCUPANCY S-1): 75 FEET & MAX OF 3 FLOORS ABOVE GRADE	45'-0" MAX BUILDING HEIGHT PROVIDED 1 STORY BUILDING
		TABLE 506.2 & SECTION 506	TABLE 506.2: ALLOWABLE AREA FACTOR TYPE IIB BUILDING - OCCUPANCY TYPE S-1 S1 SPRINKLERED BUILDING: 70,000 SF NS NON-SPRINKLERED BUILDING: 17,500 SF SECTION 507 - UNLIMITED AREA BUILDINGS 507.4 SPRINKLERED, ONE-STORY BUILDINGS	GROUP S-1 / TYPE IIB: 108,021 GSF WAREHOUSE BUILDING 507.4 SPRINKLERED, ONE-STORY BUILDINGS THE AREA OF A GROUP S BUILDING NO MORE THAN ONE STORY ABOVE GRADE PLANE OF ANY CONSTRUCTION TYPE, SHALL NOT BE LIMITED WHERE THE BUILDING IS PROVIDED WITH AN AUTOMATIC SPRINKLER SYSTEM THROUGHOUT IN ACCORDANCE WITH SECTION 903.3.1.1, AND IS SURROUNDED AND ADJOINED BY PUBLIC WAYS OR YARDS NOT LESS THAN 60FT IN WIDTH SEE SITE / CIVIL PLANS - ENTIRE BUILDING IS SURROUNDED BY CLEAR YARD GREATER THAN < 60FT, ENTIRE BUILDING WILL BE PROTECTED WITH ESFR (EXTENDED SPRAY, FAST RESPONSE) FIRE SPRINKLER SYSTEM COMPLIANT FOR THE PROPOSED WAREHOUSE STORAGE OCCUPANCY **THEREFORE COMPLIES FOR UNLIMITED AREA BUILDING**
7	MEZZANINES / EQUIP PLATFORMS	505	MEZZANINE SHALL NOT CONTRIBUTE TO EITHER BUILDING AREA OF NUMBER OF STORIES. CLEAR HEIGHT ABOVE AND BELOW THE MEZZANINE FLOOR SHALL NOT BE LESS THAN 7 FT	N/A
8	MIXED OCCUPANCIES		NON-SEPARATED OCCUPANCIES: BUILDINGS OR PORTIONS OF BUILDINGS THAT COMPLY WITH THE PROVISIONS OF THIS SECTION SHALL BE CONSIDERED AS NON-SEPARATED OCCUPANCIES NON-SEPARATED OCCUPANCIES SHALL BE INDIVIDUALLY CLASSIFIED IN ACCORDANCE WITH 302.THE MOST RESTRICTIVE PROVISIONS OF CHAPTER 9 THAT APPLY TO THE NON-SEPARATED OCCUPANCIES SHALL APPLY.	N/A - TENANT FIT-OUTS AND ACTUAL STORAGE-TYPE OCCUPANCY UNDER FUTURE APPLICATION NIC INTENTION IS TO PROVIDE CORE & SHELL WAREHOUSE BUILDING FOR FUTURE TENANT FIT-OUT
9	INCIDENTAL USES	TABLE 509	N/A	N/A
10	EXTERIOR WALL FIRE-RESISTANCE RATING	TABLE 602	X < 5 TYPE IIB: 0HR 5 < X < 10 TYPE IIB: 0HR 10 < X < 30 TYPE IIB: 0HR X > 30 TYPE IIB: 0HR	EXTERIOR WALL RATING: 0 HR / NO LIMIT
11	FIRE RESISTIVE CONSTRUCTION	701-703	REQUIRED	UL LISTED FIRE-RESISTIVE CONSTRUCTION ASSEMBLIES PROVIDED FOR ELECTRICAL AND UTILITY ROOMS AS REQUIRED
	EXTERIOR WALL: ALLOWABLE AREA OF OPENINGS:	TABLE 705.8	FIRE SEPARATION DISTANCE (FEET): 0 TO LESS THAN 3 UNPROTECTED, NONSPRINKLERED NP 3 TO LESS THAN 5 UNPROTECTED, NONSPRINKLERED NP 5 TO LESS THAN 10 UNPROTECTED, NONSPRINKLERED 10% 10 TO LESS THAN 15 UNPROTECTED, NONSPRINKLERED 15% 15 TO LESS THAN 20 UNPROTECTED, NONSPRINKLERED 25% 20 TO LESS THAN 25 UNPROTECTED, NONSPRINKLERED 45% 25 TO LESS THAN 30 UNPROTECTED, NONSPRINKLERED 70% 30 OR GREATER UNPROTECTED, NONSPRINKLERED NO LIMIT	705.8.1, EXCEPTION 2: BUILDINGS WHOSE EXTERIOR BEARING WALLS, EXTERIOR NONBEARING WALLS AND EXTERIOR PRIMARY STRUCTURAL FRAME ARE NOT REQUIRED TO BE FIRE-RESISTANCE RATED SHALL BE PERMITTED TO HAVE UNLIMITED UNPROTECTED OPENINGS
	EXTERIOR WALL: VERTICAL SEPARATION OF OPENINGS	705.8.5	NOT REQUIRED	N/A
	PARAPETS	701-703	NOT REQUIRED	N/A
	FIRE WALLS	706	NOT REQUIRED	N/A
	FIRE BARRIERS	707	NOT REQUIRED	N/A
	FIRE PARTITIONS	708	NOT REQUIRED	N/A
	SMOKE BARRIERS	709	NOT REQUIRED	N/A
	SMOKE PARTITIONS	710	NOT REQUIRED	N/A
	HORIZONTAL ASSEMBLIES	711	NOT REQUIRED	N/A
	VERTICAL OPENINGS	712	NOT REQUIRED	N/A
	SHAFT ENCLOSURES	713	NOT REQUIRED	N/A
	PENETRATIONS	714	REQUIRED AT FIRE RESISTANCE RATED WALL ASSEMBLIES	ALL PENETRATIONS THROUGH FIRE RATED WALL ASSEMBLIES SHALL BE PROTECTED WITH UL LISTED FIRESTOP SYSTEMS
	JOINT SYSTEMS	715	JOINTS BETWEEN FIRE RATED ASSEMBLIES TO BE PROTECTED WITH FIRE-RESISTANT JOINT DETAILS	ALL JOINTS BETWEEN FIRE RATED WALL ASSEMBLIES SHALL BE PROTECTED WITH UL LISTED FIRESTOP SYSTEMS
	OPENING PROTECTIVES	716	NOT REQUIRED	N/A
	DUCTS AND AIR TRANSFER OPENINGS	717	DAMPERS FOR ALL DUCT PENETRATIONS AT FIRE-RESISTANCE RATED WALLS	FIRE DAMPERS ARE PROVIDED FOR DUCT PENETRATIONS THROUGH FIRE-RATED WALL ASSEMBLIES
	CONCEALED SPACES	718	NOT REQUIRED	N/A
	PRESCRIPTIVE FIRE RESISTANCE	721	NOT REQUIRED	N/A
	CALCULATED FIRE RESISTANCE	722	NOT REQUIRED	N/A
12	INTERIOR FINISHES	801		
	WALL & CEILING: EXIT STAIRS & RAMPS	803.11 & TABLE 803.11	GROUP S-1 - SPRINKLERED: CLASS C	PROPOSED FINISHES SHALL MEET OR EXCEED CLASS C FLAME SPREAD INDEX
	WALL & CEILING: CORRIDORS & EXITS	803.11 & TABLE 803.11	GROUP S-1 - SPRINKLERED: CLASS C	PROPOSED FINISHES SHALL MEET OR EXCEED CLASS C FLAME SPREAD INDEX
	WALL & CEILING: ROOMS/SPACES	803.11 & TABLE 803.11	GROUP S-1 - SPRINKLERED: CLASS C	PROPOSED FINISHES SHALL MEET OR EXCEED CLASS C FLAME SPREAD INDEX
	FLOORS	804	MINIMUM CLASS II	PROPOSED FLOOR FINISHES SHALL BE MINIMUM CLASS II - FUTURE TENANT FIT-OUT NIC
	COMBUSTIBLE DECORATIVE MATERIALS	806.3	NOT REQUIRED	N/A
13	FIRE PROTECTION: GENERAL	901.1		
	SPRINKLER SYSTEM	903.2.9	AN AUTOMATIC SPRINKLER SYSTEM SHALL BE PROVIDED THROUGHOUT ALL BUILDINGS CONTAINING A GROUP S-1 OCCUPANCY WHERE ONE OF THE FOLLOWING CONDITIONS EXISTS: 1. FIRE AREA EXCEEDS 12,000 SF 2. FIRE AREA IS LOCATED MORE THAN 3-STORIES ABOVE GRADE 3. COMBINED GROUP S-1 FIRE AREA ON ALL FLOORS EXCEEDS 24,000 SF	INDICATE TYPE OF SPRINKLER SYSTEM [X] NFPA 13 [ ] NFPA 13R [ ] NFPA 13D [ ] NOT REQ. ESFR - EARLY SUPPRESSION, FAST RESPONSE TYPE FIRE SPRINKLER SYSTEM PROPOSED TO COVER ENTIRE WAREHOUSE STORAGE BUILDING , SEE FIRE PROTECTION ENGINEERING DRAWINGS
	STORIES AND BASEMENTS W/O OPENINGS	903.2.11.1	NOT REQUIRED	N/A
	ALT. FIRE EXTINGUISHING SYS.	904	NOT REQUIRED	N/A
	STANDPIPE SYSTEM	905	NOT REQUIRED	N/A
	PORTABLE FIRE EXTINGUISHERS	906	REQUIRED	PORTABLE FIRE EXTINGUISHERS ARE PROVIDED THROUGHOUT THE BUILDING AND IN ALL UTILITY ROOMS FOR COMPLIANCE

NO:	TOPIC	CODE SECTION U.O.N.	REQUIRED / ALLOWED	ACTUAL (PROVIDED)
13 CONT.	FIRE AND SMOKE ALARM SYSTEMS	907.1, 907.2, & 907.4	REQUIRED	INDICATE TYPE OF FIRE ALARM SYSTEM [X] ADDRESSABLE [ ] CONVENTIONAL(ZONED)
	SMOKE DETECTION SYSTEMS	907.2.11	REQUIRED	N/A
	OCCUPANT NOTIFICATION	907.5	REQUIRED	N/A
	EMERGENCY VOICE VISIBLE ALARMS	907.5.2.1, 907.5.2.2, 907.5.2.3, APPENDIX E TABLE E104.2.1	AUDIBLE ALARMS - REQUIRED EMERGENCY VOICE - REQUIRED VISIBLE ALARMS - REQUIRED	NEW FIRE ALARM SYSTEM COMPLIANT WITH NFPA 72, SEE FIRE ALARM ENGINEERING DRAWINGS
	SMOKE CONTROL	909	REQUIRED	POST-FIRE SMOKE PURGE SYSTEM PROVIDED, SEE MECHANICAL ENGINEERING DRAWINGS
	SMOKEPROOF ENCLOSURE / STAIR PRESSURIZATION	909.20	NOT REQUIRED	N/A
	SMOKE AND HEAT REMOVAL	910	NOT REQUIRED	POST-FIRE SMOKE PURGE SYSTEM PROVIDED, SEE MECHANICAL ENGINEERING DRAWINGS
	FIRE COMMAND CENTER	911	NOT REQUIRED	N/A
	FIRE DEPARTMENT CONNECTIONS	912	REQUIRED	SEE SITE / CIVIL AND MEP ENGINEERING DRAWINGS FOR FIRE DEPARTMENT CONNECTIONS
	FIRE PUMPS	913	REQUIRED	NEW FIRE PUMP PROVIDED FOR FIRE SPRINKLER SYSTEM, SEE MEP ENGINEERING DRAWINGS
	EQUIPMENT ROOM IDENTIFICATION	914	REQUIRED	ALL EQUIPMENT AND SERVICE UTILITY ROOMS SHALL HAVE CLEAR IDENTIFICATION AND ROOM SIGNAGE
	CARBON MONOXIDE DETECTION	915 / FC915	REQUIRED	INDICATE TYPE OF CO DETECTION [ ] INDEPENDENT [ ]CO ALARMS [X] CONNECTED TO FACP
	COMBUSTIBLE HIGH PACKING	IFC CHAPTER 32	NOT REQUIRED	N/A - TENANT FIT-OUTS AND ACTUAL STORAGE-TYPE OCCUPANCY UNDER FUTURE APPLICATION NIC INTENTION IS TO PROVIDE CORE & SHELL WAREHOUSE BUILDING FOR TENANT FIT-OUT UNDER SEPARATE FUTURE APPLICATION
14	MEANS OF EGRESS	1001.1		
	HEADROOM	1003.3.1	NOT MORE THAN 50% OF THE CEILING AREA OF A MEANS OF EGRESS SHALL BE REDUCED IN HEIGHT BY PROTRUDING OBJECTS	PROTRUDING OBJECTS <50%
	OCCUPANT LOAD	TABLE 1004.1.2	TABLE 1004.5 MAX FLOOR AREA ALLOWANCES PER OCCUPANT WAREHOUSE AREA (GROUP S-1): 500 GROSS ACCESSORY STORAGE AREA (GROUP S-1): 300 GROSS	FIRST FLOOR S-1 WAREHOUSE 215 OCC S-1 ACCESSORY STORAGE 2 OCC S-1 ACCESSORY STORAGE 2 OCC S-1 ACCESSORY STORAGE 1 OCC TOTAL: 220 TOTAL OCCUPANTS (SEE EGRESS PLANS)
	COMMON PATH OF EGRESS	TABLE 1006.2.1	GROUP S - SPRINKLERED - 100 FT MAX	SEE LIFE SAFETY AND EGRESS PLANS - NO COMMON PATH OF TRAVEL WITH QUANTITY AND LAYOUT OF NEW EXTERIOR EGRESS EXIT DOORS
	SINGLE EXITS	1006.3.2	A SINGLE EXIT OR ACCESS TO A SINGLE EXIT SHALL BE PERMITTED FROM ANY STORY OR OCCUPIED ROOF WHERE ONE OF THE FOLLOWING CONDITIONS EXISTS:	COMPLIES WITH MINIMUM 2 EXITS (SEE EGRESS PLANS) PROPOSED BUILDING WILL CONTAIN VARIOUS NEW EXIT DOORS ADEQUATELY SPACED AROUND THE BUILDING PERIMETER
	EMERGENCY LIGHTING	1008.3	REQUIRED	NEW EMERGENCY LIGHTING THROUGHOUT BUILDING, SEE ELECTRICAL ENGINEERING DRAWINGS
	ACCESSIBLE MEANS OF EGRESS	1009.1	REQUIRED	ACCESSIBLE MEANS OF EGRESS PROVIDED, SEE EGRESS PLANS
	ELEVATOR REQUIRED	1009.2.1	NOT REQUIRED	N/A
	ELEVATOR ACCESS FROM "AOR"	1009.4	NOT REQUIRED	N/A
	AREA OF REFUGE	1009.6	NOT REQUIRED	N/A
	CONTROLLED EGRESS DOORS	1010.1,9,6	UNLATCHING OF ANY DOOR OR LEAF SHALL NOT REQUIRE MORE THAN ONE OPERATION	PROPOSED DOOR HARDWARE SHALL NOT REQUIRE MORE THAN ONE OPE... ALL DOORS HAVE LEVER SETS OR PUSH BA...
	DELAYED EGRESS LOCKS	1010.1.9.7	NOT REQUIRED	N/A
	PANIC HARDWARE	1010.1.10	REQUIRED	PANIC EXIT DEVICES ... IT HARDWARE PROVIDED FOR UTILITY ROOMS
	STAIRWAY WIDTH, RISER AND OPENING, TREAD AND HEIGHTS	1011	MINIMUM WIDTH SHALL NOT BE LESS THAN 44 INCHES	...OCK EGRESS ... WIDTHS ARE MIN 44 INCHES
	RAMPS	1012	NOT REQUIRED	N/A
	EXIT SIGNS	1013.1	REQUIRED	EXIT ... LOCATED AT EAC... DOOR, COORDINATE WITH RCP AND ELE... ENGINEERING DR...
	HANDRAILS	1014.1	REQ...	...G DOCK EGRESS STAIRS ... CODE ...LIANT HANDRAILS
	GUARDS	1015.1	...QUIRED	N/A
	...T GUARDS		...EQUIRED	N/A
	WINDOW OPENING CONTROL DEVICES AND GUARDS	1015...	...QUIRED	N/A
	EXIT ACCESS TRAVEL DISTANCE	TABLE 10...	G... SPRINKLERED 250 FEET	EXIT ACCESS TRAVEL DISTANCE COMPLIES (SEE EGRESS PLANS)
	EXIT ACCESS STAIRS AND RAMPS	1019.1	NOT RE...	N/A
	CORRIDOR FIRE RATING	TABLE 102...	NOT REQUIRED	N/A
	...OR WIDTH	10...	ANY FACILITY NOT LISTED BELOW: 44 INCHES	CORRIDORS NOT REQUIRED OR PROVIDED
	DEAD END ...	1020.4	20 FEET MAX	N/A
	AIR MOVEMENT IN CORRIDORS	1020.5	CORRIDORS SHALL NOT SERVE AS SUPPLY, RETURN, EXHAUST, RELIEF OR VENTILATION AIR DUCTS	N/A
	CORRIDOR CONTINUITY	1020.6	NOT REQUIRED	N/A
	EXIT FIRE RATING	1023.2	NOT REQUIRED	N/A
	SMOKEPROOF ENCLOSURES	1023.11	NOT REQUIRED	N/A
	EXIT PASSAGEWAYS	1024.1	NOT REQUIRED	N/A
	LUMINOUS EGRESS MARKINGS	1025.1	NOT REQUIRED	N/A
	HORIZONTAL EXITS	1026.1	NOT REQUIRED	N/A
	EXTERIOR STAIRS	1027.1	EXTERIOR EXIT STAIRWAYS SERVING AS AN ELEMENT OF A REQUIRED MEANS OF EGRESS SHALL COMPLY WITH THIS SECTION	EXTERIOR LOADING DOCK STAIRS COMPLY, SEE PLANS
	EXIT DISCHARGE	1028.1	REQUIRED, EXITS SHALL DISCHARGE DIRECTLY TO THE EXTERIOR OF THE BUILDING. EXIT DISCHARGE AT GRADE OR DIRECT PATH TO	COMPLIES - ALL EXITS DISCHARGE DIRECTLY TO BUILDING EXTERIOR AT GRADE OR THROUGH EXTERIOR STAIR TO GRADE
	ASSEMBLY BLEACHERS	1029, 303.6, 1029.1.1	NOT REQUIRED	N/A
	EMERGENCY ESCAPE & RESCUE	1030.1	NOT REQUIRED	N/A
15	ACCESSIBILITY	1101.1 & ICC ANSI A117.1-2009	REQUIRED	PROVIDED - SEE EGRESS PLANS
	ACCESSIBLE ROUTE	1104.1	REQUIRED	PROVIDED - SEE EGRESS PLANS
	ACCESSIBLE ENTRANCES	1105.1	60% OF ALL PUBLIC ENTRANCES SHALL BE ACCESSIBLE	MIN 60% OF ENTRANCES ARE ACCESSIBLE AND COMPLY, SEE EGRESS PLAN
	PARKING	1106.1	WHERE PARKING IS PROVIDED ACCESSIBLE SPACES MUST BE PROVIDED	ACCESSIBLE PARKING IS PROVIDED, SEE SITE / CIVIL DRAWINGS
	PARKING ACCESS AISLE	1106.1.1	ACCESS AISLES TO BE A MIN. OF 8 FEET WIDE	PARKING ACCESS AISLES COMPLY, SEE SITE / CIVIL PLANS
	INTNVL PARKING ACCESSIBILITY SIGNAGE	1106.8	EACH ACCESS AISLE SHALL BE PROVIDED WITH SIGNAGE READING "NO PARKING ANYTIME"	ACCESSIBLE PARKING IS PROVIDED - COMPLIES
	DWELLING AND SLEEPING UNITS	1107.6	NOT REQUIRED	N/A
	TYPE B UNIT DOORS	1107.2.1	NOT REQUIRED	N/A
	REQUIRED TYPE B UNIT TOILET	1107.2.2	NOT REQUIRED	N/A
	TOILET ROOMS	1109.2	REQUIRED	EXISTING TOILET ROOMS REMAIN
	PLATFORM LIFTS	1109.8	NOT REQUIRED	N/A
	ACCESSIBILITY SIGNAGE LOCATIONS	1111.1	REQUIRED	ALL ACCESSIBLE ELEMENTS CONTAIN ACCESSIBLE SIGNAGE
16	INTERIOR ENVIRONMENT	1201		
	VENTILATION 'R' OCCUPANCIES	1203	NOT REQUIRED	N/A
	VENTILATION COMMERCIAL OCCUPANCIES	IMC 401.2, IMC 403.3.1, IECC C403.2.6	REQUIRED	PROVIDED, SEE MECHANICAL ENGINEERING DRAWINGS

NO:	TOPIC	CODE SECTION U.O.N.	REQUIRED / ALLOWED	ACTUAL (PROVIDED)
16 CONT.	UNVENTED ATTIC & ENCLOSED RAFTERS	1203.3	NOT REQUIRED	N/A
	LIGHT: NATURAL/ARTIFICIAL	1204	EVERY SPACE INTENDED FOR HUMAN OCCUPANCY SHALL BE PROVIDED WITH NATURAL LIGHT OR ARTIFICIAL LIGHT	PROVIDED, SEE REFLECTED CEILING PLANS AND AND ELECTRICAL ENGINEERING DRAWINGS
	SOUND TRANSMISSION	1206	APPLIED TO INTERIOR WALLS, PARTITIONS, FLOORS/CEILINGS, BETWEEN ADJ. DWELLING, SLEEPING UNITS, AND OTHER SPACES	N/A
	CEILING HEIGHTS	1207	OCCUPIABLE, HABITABLE SPACES, AND CORRIDORS: 7'-6" MIN TOILET ROOMS, KITCHENS, STORAGE, AND LAUNDRY: 7'-0"	7'-6" MIN. HEIGHT PROVIDED FOR ALL OCCUPIED AND HABITABLE SPACES
	TOILET AND BATHROOM REQ.	1209	NOT REQUIRED	N/A - INTENTION IS TO PROVIDE CORE & SHELL WAREHOUSE BUILDING FOR FUTURE TENANT FIT-OUT, TOILETS SHALL BE PROVIDED WITH THE FUTURE FIT-OUT APP.
17	ENERGY CONSERVATION	2017 NYSECCC	ENERGY CODE COMPLIANCE - PROVIDE INFORMATION IN ATTACHMENT 2. AS PRESCRIPTIVE Ua ALTERNATE COMPLIANCE, LATEST VERSION OF COMCHECK AND/OR RESCHECK OR OTHER AS APPROVED BY NYS FOR ENVELOPE COMPLIANCE ONLY. COMPLY WITH ENERGY CODE PATHS AND ALL MANDATORY COMPLIANCE. BUILDING SYSTEMS FOR HEATING, COOLING, HOT WATER AND ELECTRIC ENERGY CODE COMPLIANCE REQUIRED. SEE TOIBES	ENERGY COMPLIANCE PROVIDED, SEE COMCHECKS ON CONSTRUCTION DRAWING SETS FOR MORE INFORMATION
17a	ROOF DRAINAGE	1502	DESIGN AND INSTALLATION OF ROOF DRAINAGE SYSTEMS SHALL COMPLY WITH SECTION 1502 AND SECTIONS 1106 AND 1108 AS APPLICABLE OF THE PLUMBING CODE OF NEW YORK STATE	PROPOSED ROOF DRAINAGE SYSTEM COMPLIES, SEE ARCHITECTURAL ROOF PLAN AND PLUMBING ENGINEERING DRAWINGS
17b	ROOF VENTING	1503.4	ATTIC AND RAFTER VENTILATION - NOT REQUIRED	N/A
18	ROOF ASSEMBLY FIRE CLASSIFICATION	TABLE 1505.1	CONSTRUCTION TYPE IIB: CLASS C ROOF COVERING REQUIRED	CLASS C MINIMUM ROOF COVERING PROVIDED
	ROOF COVERING	1507.1	ROOF COVERINGS SHALL BE APPLIED IN ACCORDANCE WITH THIS SECTION AND MANUFACTURERS INSTALLATION INSTRUCTIONS	PROPOSED ROOFING ASSEMBLY AND SCHEDULED UNDERLAYMENT COMPLIES WITH THIS SECTION
	REROOFING	1511.3	NOT REQUIRED	N/A
	PHOTOVOLTAIC PANELS	1512	PHOTOVOLTAIC PANELS AND MODULES INSTALLED UPON A ROOF OR AS AN INTEGRAL PART OF A ROOF ASSEMBLY SHALL COMPLY WITH THE REQUIREMENTS OF THIS CODE AND THE INTERNATIONAL FIRE CODE.	N/A
19	STRUCTURAL REQUIREMENTS	1603.1	CONSTRUCTION DOCUMENTS SHALL SHOW THE SIZE, SECTION, LOCATION, AND DESIGN LOADS.	SEE STRUCTURAL ENGINEERING DRAWINGS FOR ALL DESIGN LOADS, PLANS, DETAILS AND STRUCTURAL INFORMATION
	STRUCTURAL REQUIREMENTS	1604.5	EACH BUILDING AND STRUCTURE SHALL BE ASSIGNED A RISK CATEGORY IN ACCORDANCE WITH TABLE 1604.5.	RISK CATEGORY I - LOW HAZARD RISK OCCUPANCY PROPOSED STORAGE WAREHOUSE OCCUPANCY
	GROUND SNOW LOADS	1608	SNOW LOADS SHALL BE DETERMINED IN ACCORDANCE WITH CHAPTER 7 OF ASCE 7, DESIGN LOAD NOT LESS THAN THAT DETERMINED BY SECTION 1607	COMPLIES - SEE STRUCTURAL ENGINEERING DRAWINGS FOR ALL DESIGN LOADS
	FLOOD LOADS AND DESIGN ELEVATION	1612	WITHIN FLOOD HAZARD AREAS AS ESTABLISHED IN SECTION 1612.3 ALL NEW CONSTRUCTION SHALL BE DESIGNED TO RESIST EFFECTS OF FLOOD HAZARDS AND FLOOD LOADS	PROJECT DOES NOT LIE WITHIN A FLOOD ZONE, SEE SITE / CIVIL DRAWINGS FOR MORE INFORMATION
	CONVENTIONAL WOOD FRAME CONSTRUCTION	2308.1 & 2308.2	NOT REQUIRED	N/A
	TRUSS TYPE, PRE-ENG WOOD OR TIMBER CONST.	PART 1264/1265	NOT REQUIRED	N/A
20	FOUNDATION	1803-1810	GEOTECHNICAL INVESTIGATIONS AND REPORTS CONDUCTED IN ACCORDANCE WITH SECTIONS 1803.3 THROUGH 1803.5	GEOTECHNICAL INFORMATION PROVIDED, SEE SITE / CIVIL DRAWINGS FOR MORE INFORMATION
21	GLAZING IDENTIFICATION	2403.1	EACH PANE SHALL BEAR THE MANUF. MARK DESIGNATING THE TYPE AND THICKNESS ...SS OR GLAZING MATERIAL.	PROPOSED PROJECT GLAZING SHALL COMPLY WITH GLAZING IDENTIFICATION REQUIREMENTS
	SAFETY GLAZING	2406...	...ZED AREAS, INCLUDING GLASS MIRRORS, IN HAZARDOUS LOCATIONS AS DE... SECTION 2406.4 SHALL COMPLY WITH SECTIONS 2406.1.1 THROUGH 2406.1.4.	N/A
22	FOAM PLASTIC ...TION	2...	THIS SECTION SHALL GOVERN THE REQ. AND USES OF FOAM PLASTIC INSULATION IN BUILDINGS AND STRUCTURES.	N/A
	THE... ...RRIER	26...		N/A
23	ELECTRICAL	2701.1		
	EMERGENCY ...	2701.2	NOT REQUIRED	N/A
	ELEVATOR & PLATFORM LIFTS	2702.2.2	NOT REQUIRED	N/A
	EXIT SIGNS	2702.2.6	REQUIRED	EXIT SIGNS ARE PROVIDED WITH EMERGENCY POWER, SEE ELECTRICAL ENGINEERING DRAWINGS
	HIGH RISE ...	2702.2.9	NOT REQUIRED	N/A
	MEANS OF EGRESS	2702.2.11	NOT REQUIRED	N/A
	SMOKE CONTROL SYSTEMS	2702.2.16	NOT REQUIRED	N/A
24	MECHANICAL SYSTEMS	2801.1		
	FIRE & SMOKE DAMPERS	716	REQUIRED	FIRE & SMOKE DAMPERS PROVIDED, SEE MECHANICAL ENGINEERING DRAWINGS FOR LOCATIONS AND DETAILS
	FAN SHUTDOWN	NYSMC 606.4	REQUIRED	COMPLIES, SEE MECHANICAL ENGINEERING DRAWINGS
	COMBUSTION AIR	NYSMC 701.1 & NYSFGC 304.1	REQUIRED	COMPLIES, SEE MECHANICAL ENGINEERING DRAWINGS
	CHIMNEYS, FLUES, & GAS VENTS	NYSMC 801.1 & NYSSFGC 501.1	REQUIRED	COMPLIES, SEE MECHANICAL ENGINEERING DRAWINGS
25	GAS PIPING SIZING MATERIAL	IFGC 402 & 403	REQUIRED	COMPLIES, SEE PLUMBING ENGINEERING DRAWINGS
26	PLUMBING	2901.1		
	FIXTURE COUNT	2901.2	PER TABLE 2901.1	N/A - INTENTION IS TO PROVIDE CORE & SHELL WAREHOUSE BUILDING FOR FUTURE TENANT FIT-OUT, TOILETS SHALL BE PROVIDED WITH THE FUTURE FIT-OUT APP.
	BUILDING SUPPLY SYSTEM DESIGN & STREET PRESSURE	IPC 604 (ALL)	REQUIRED	COMPLIES, SEE PLUMBING ENGINEERING DRAWINGS
	WATER SUPPLY MATERIALS	IPC 605	REQUIRED	COMPLIES, SEE PLUMBING ENGINEERING DRAWINGS
	FIXTURE UNITS	IPC 709,1	REQUIRED	COMPLIES, SEE PLUMBING ENGINEERING DRAWINGS
	BACKWATER PREVENTION	IPC 715	REQUIRED	COMPLIES, SEE PLUMBING ENGINEERING DRAWINGS
	DRAIN PIPE SIZING	IPC 710	REQUIRED	COMPLIES, SEE PLUMBING ENGINEERING DRAWINGS
	VENT PIPE SIZING	IPC 906	REQUIRED	COMPLIES, SEE PLUMBING ENGINEERING DRAWINGS
	VENT EXTENSION ABOVE ROOF	IPC 903,1	REQUIRED	COMPLIES, SEE PLUMBING ENGINEERING DRAWINGS
	HOUSE TRAPS	IPC 1002.6	NOT REQUIRED	N/A
	SANITARY PIPING MATERIAL	IPC 702	REQUIRED	COMPLIES, SEE PLUMBING ENGINEERING DRAWINGS
27	ELEVATOR & CONVEYING SYSTEMS	3001.1		
	ELEVATOR CAR TO ACCOMMODATE STRETCHER	3002.4	NOT REQUIRED	N/A
	ELEVATOR EMERGENCY OPERATION	3003.2	NOT REQUIRED	N/A
	MACHINE ROOM FIRE RATING	3005.4	NOT REQUIRED	N/A
	ELEVATOR LOBBIES	3006.1	NOT REQUIRED	N/A
	FIRE SERVICE ACCESS ELEVATORS	3007.1	NOT REQUIRED	N/A
	OCCUPANT EVACUATION ELEVATORS	3008.1	NOT REQUIRED	N/A
	ESCALATORS	3004.2	NOT REQUIRED	N/A
28	SPECIAL CONSTRUCTION TEMPORARY STRUCTURES MEMBRANE STRUCTURES	3101.1 3102 3103	NOT REQUIRED	N/A
	PEDESTRIAN WALKWAYS/ TUNNELS	3104	NOT REQUIRED	N/A
	AWNING AND CANOPIES	3105	NOT REQUIRED	N/A
	SWIMMING POOL ENCLOSURES	3109	NOT REQUIRED	N/A
	SWIMMING POOL ACCESSIBILITY	1110.2, 1110.4.14	NOT REQUIRED	N/A
	SWIMMING POOL ALARMS	3109.5	NOT REQUIRED	N/A

PROGRESS

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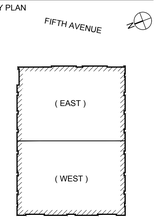
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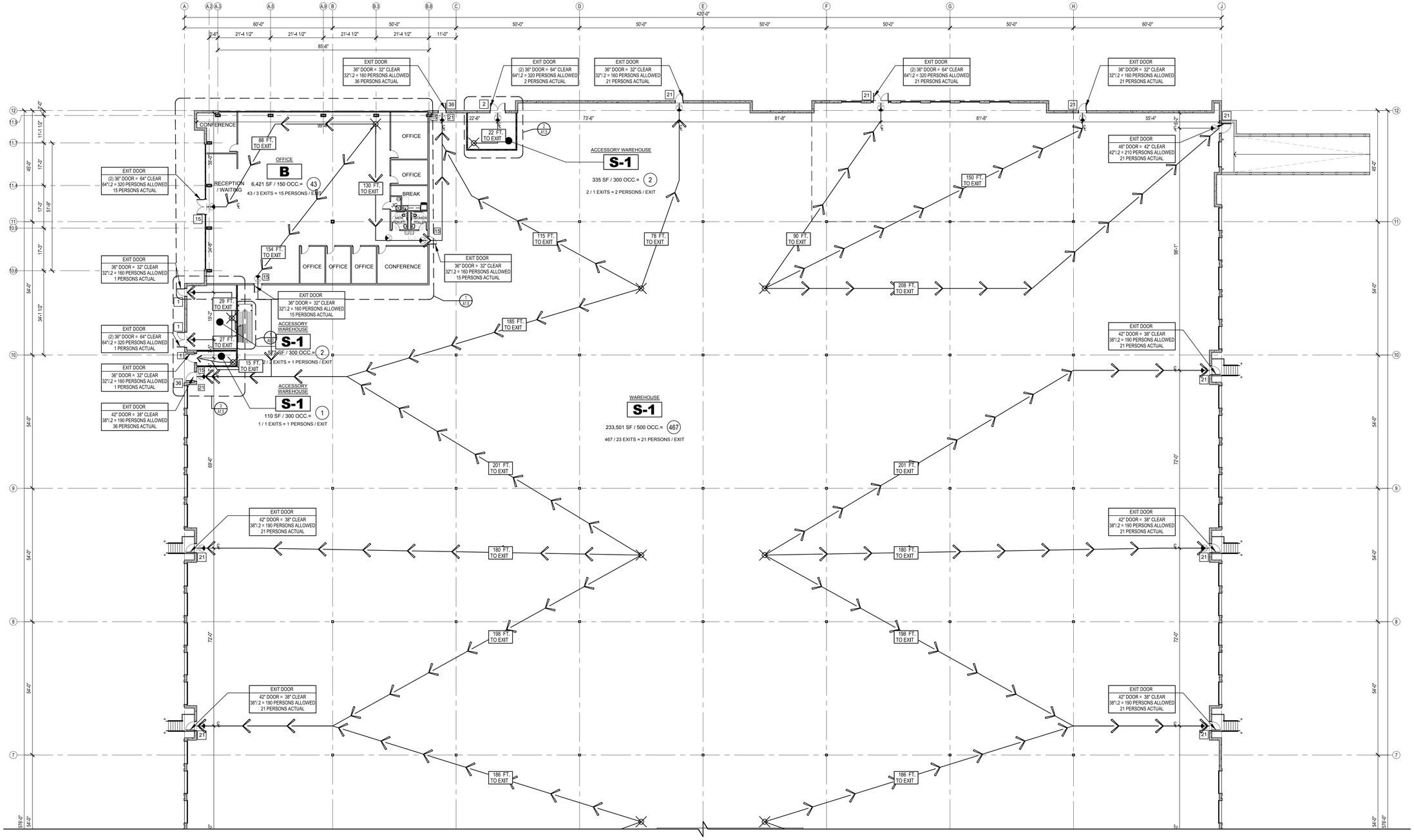
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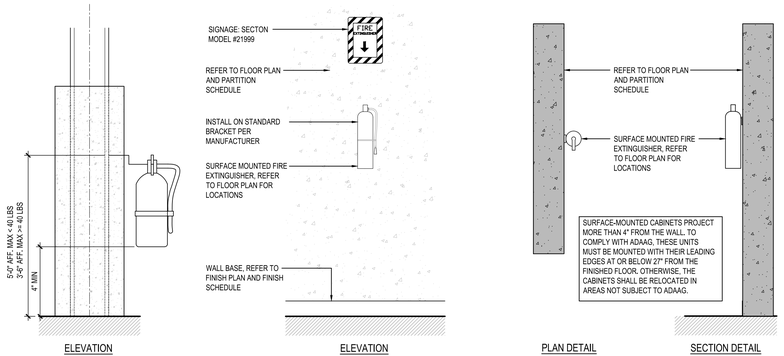


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1 EGRESS FLOOR PLAN - EAST
SCALE: 1/16"=1'-0"



2 TYPICAL FIRE EXTINGUISHER DETAILS
SCALE: 3/4"=1'-0"

OCCUPANCY CALCULATIONS				
FLOOR	GROUP / USE	REQUIREMENT	AREA	OCCUPANTS
WAREHOUSE AREA	STORAGE S-1 / WAREHOUSE	1 PER 500 GROSS SF	233,400 SF	467 OCCUPANTS
OFFICE AREA	BUSINESS B / OFFICE	1 PER 150 GROSS SF	6,421 SF	43 OCCUPANT
ACCESSORY WAREHOUSE AREA	STORAGE S-1 / ACCESSORY WAREHOUSE	1 PER 300 GROSS SF	577 SF	2 OCCUPANT
ACCESSORY WAREHOUSE AREA	STORAGE S-1 / ACCESSORY WAREHOUSE	1 PER 300 GROSS SF	110 SF	1 OCCUPANT
ACCESSORY WAREHOUSE AREA	STORAGE S-1 / ACCESSORY WAREHOUSE	1 PER 300 GROSS SF	335 SF	1 OCCUPANT
		TOTAL ALL FLOORS:	240,843 SF	514 OCCUPANTS

EGRESS NOTES

1612 5TH AVENUE,
BAY SHORE, NEW YORK 11706
APPLICABLE CODES

2020 BUILDING CODE AS ADOPTED BY NEW YORK STATE

CODE REVIEW

OCCUPANCY: GROUP B, BUSINESS
GROUP S-1, STORAGE

BUILDING IS FULLY SPRINKLERED WITH ESFR TYPE

CONSTRUCTION CLASSIFICATION IIB (TABLE 601)

ALLOWED BUILDING AREA = BC 507 UNLIMITED AREA BUILDINGS 60FT CLEAR MINIMUM WIDTH PROVIDED.

COMPLIES
BUILDING HEIGHT 48 FT. PROVIDED < 75 FT. ALLOWED PER TABLE 504.3. COMPLIES

EGRESS LEGEND

1 HOUR PARTITION
2 HOUR PARTITION
XX FT. TO EXIT — TRAVEL DISTANCE TO EXIT
TRAVEL DISTANCE START POINT AND PATH
CPT XX FT. — COMMON PATH OF TRAVEL DISTANCE

MAX. ALLOWABLE TRAVEL DISTANCE

OCCUPANCY B: 300 FT. — B
OCCUPANCY S-1:250 FT. — S-1

X — SPACE OCCUPANCY
XX — EXIT REQUIREMENT
EXIT XX XX XX — REQ. EXIT DOOR EGRESS WIDTH PER OCCUPANCY & WIDTH PROV.

EXIT SIGNS

EXIT LIGHT FIXTURE WITH DIRECTIONAL ARROW - CLG. MTD.
EXIT LIGHT FIXTURE - WALL MTD.
F.E.C. — FIRE EXTINGUISHER CABINET
F.E. — FIRE EXTINGUISHER WALL MTD.

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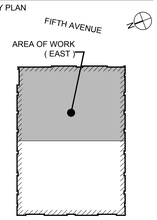
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EGRESS FLOOR PLAN - EAST

SCALE:	SEE PLAN
DRAWN BY:	FRD

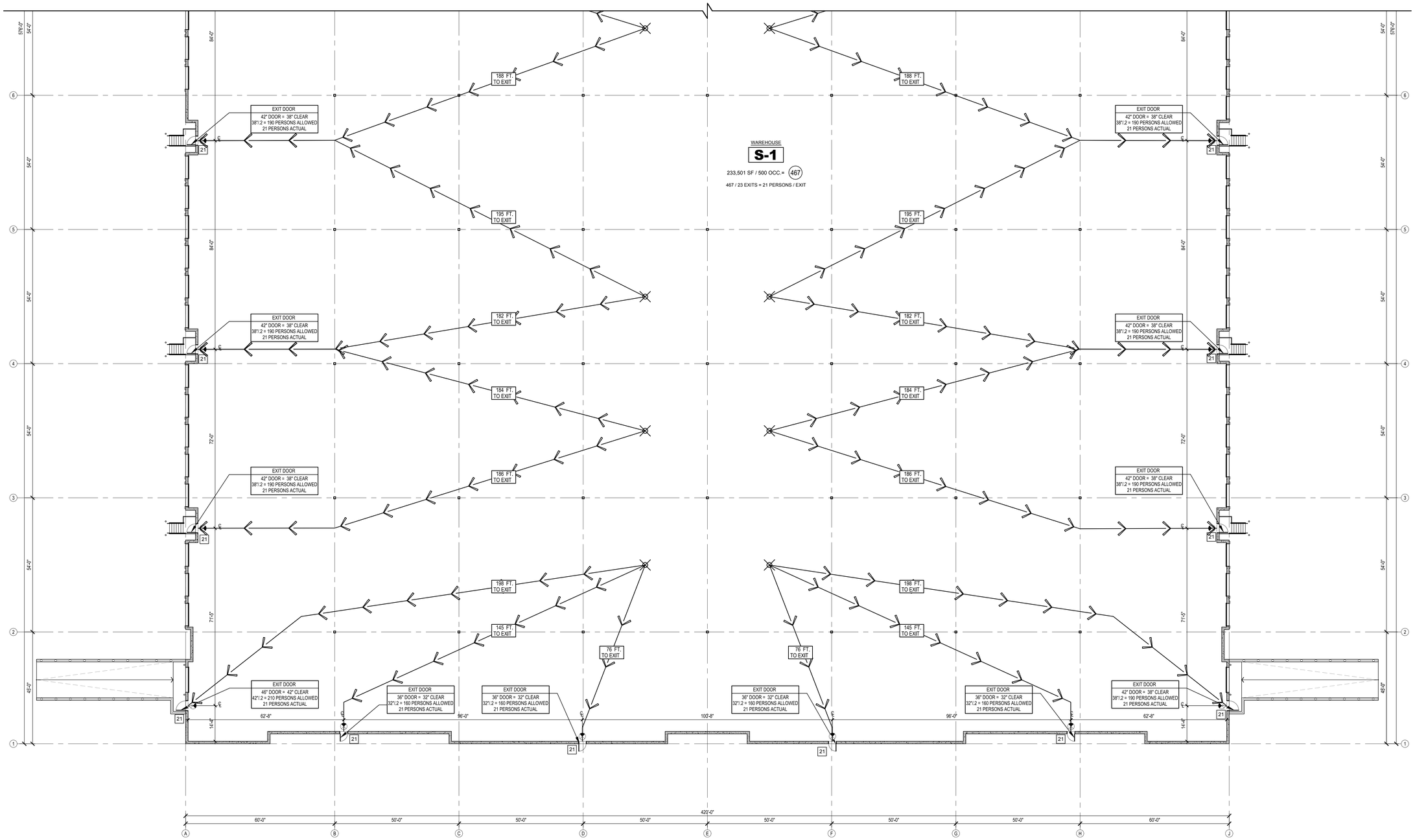
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1 EGRESS FLOOR PLAN - WEST
SCALE: 1/16"=1'-0"

OCCUPANCY CALCULATIONS				
FLOOR	GROUP / USE	REQUIREMENT	AREA	OCCUPANTS
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		TOTAL ALL FLOORS:	240,843 SF	514 OCCUPANTS

EGRESS NOTES

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BAY SHORE, NEW YORK 11706
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- 2 HOUR PARTITION
- XX FT. TO EXIT — TRAVEL DISTANCE TO EXIT
- TRAVEL DISTANCE START POINT AND PATH
- CPT XX FT. — COMMON PATH OF TRAVEL DISTANCE

MAX. ALLOWABLE TRAVEL DISTANCE

OCCUPANCY B:	300 FT.	B
OCCUPANCY S-1:	250 FT.	S-1

- X — SPACE OCCUPANCY
- XX — EXIT REQUIREMENT
- EXIT XX XX — REQ. EXIT DOOR EGRESS WIDTH PER OCCUPANCY & WIDTH PROV.

EXIT SIGNS

- EXIT LIGHT FIXTURE WITH DIRECTIONAL ARROW - CLG. MTD.
- EXIT LIGHT FIXTURE - WALL MTD.
- F.E.C. — FIRE EXTINGUISHER CABINET
- F.E. — FIRE EXTINGUISHER WALL MTD.

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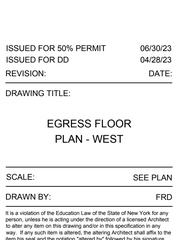
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EGRESS FLOOR
PLAN - WEST

SCALE:	SEE PLAN
DRAWN BY:	FRD

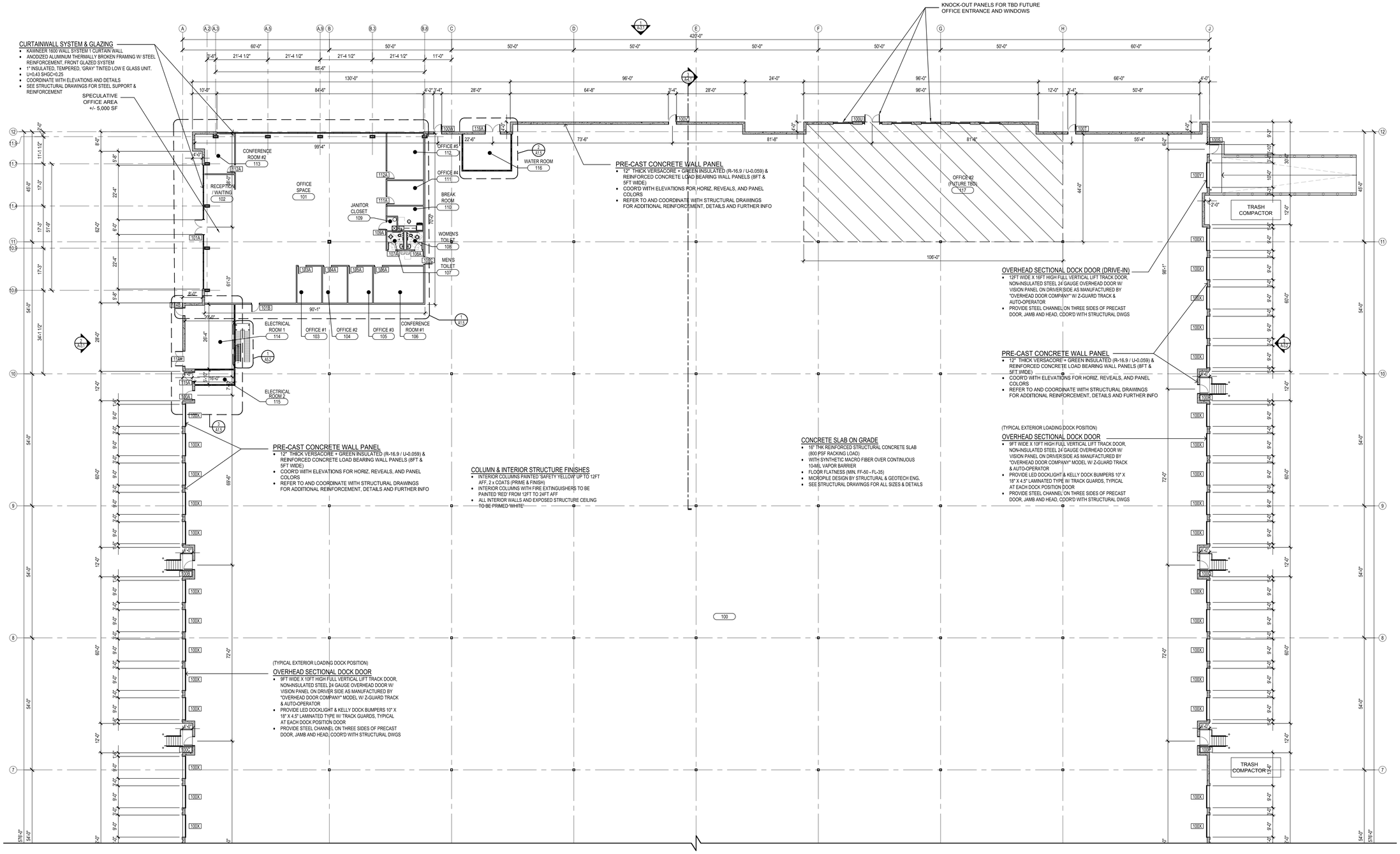
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1 CONSTRUCTION FLOOR PLAN - EAST
SCALE: 1/16"=1'-0"

INTERIOR WALL TYPE LEGEND

- NON-RATED MASONRY PARTITION
- 2 HR. FIRE RATED MASONRY PARTITION
- PROPOSED GYPSUM BOARD PARTITION
- PROPOSED 2 HR. FIRE RATED GYPSUM BOARD PARTITION

OPENINGS

NEW DOOR / OPENING

D.S. DOWNSPOUT

DIMENSION & REFERENCE NOTES

1. ALL DIMENSIONS TO NEW WALL CONSTRUCTION ARE TO FACE OF WALL SHEATHING, IF NOTED AS FINISH OR HOLD, THE ARE CRITICAL DIMENSIONS TO HOLD TO FACE OF FINISHED WALL SURFACE.
2. ALL EXTERIOR DIMENSIONS ARE TO FACE OF EXTERIOR SHEATHING U.O.N.
3. ALL DIMENSIONS TO THE FACE OF EXISTING WALLS ARE TO THE FACE OF EXISTING FINISH SURFACE.
4. ALL WINDOW AND DOOR DIMENSIONS ARE TO THE CENTERLINE OF THE ROUGH OPENING / MASONRY OPENING UNLESS NOTED R.O. OR M.O. REFER TO THE WINDOW & DOOR SCHEDULES FOR ROUGH OPENING INFORMATION.

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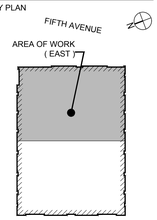
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CONSTRUCTION FLOOR PLAN - EAST

SCALE: SEE PLAN

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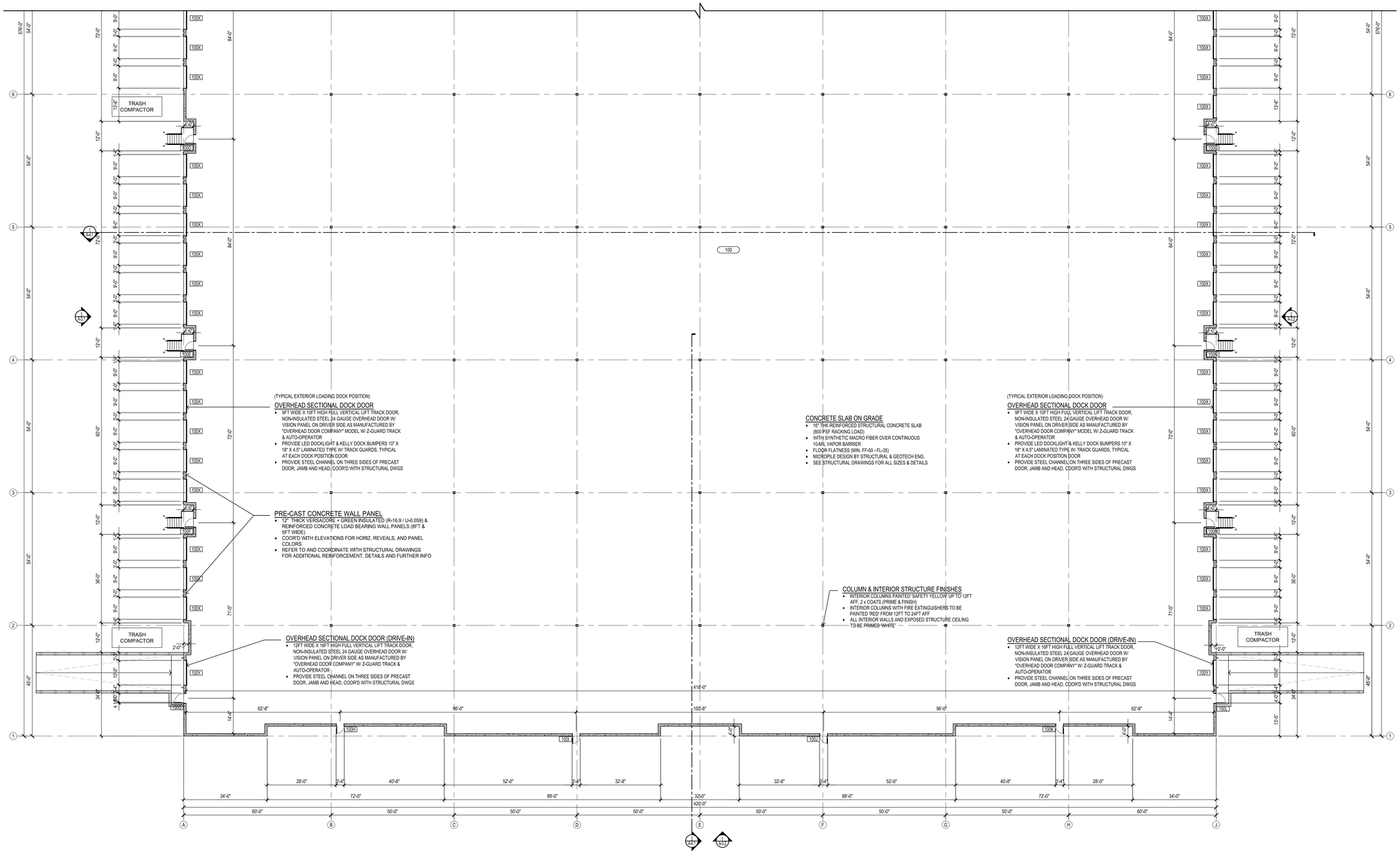
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1 CONSTRUCTION FLOOR PLAN - WEST
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INTERIOR WALL TYPE LEGEND

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- PROPOSED GYPSUM BOARD PARTITION
- PROPOSED 2 HR. FIRE RATED GYPSUM BOARD PARTITION

OPENINGS

NEW DOOR / OPENING

D.S. DOWNSPOUT

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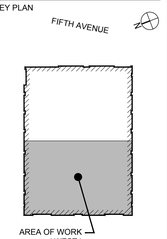
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CONSTRUCTION FLOOR PLAN - WEST

SCALE: SEE PLAN

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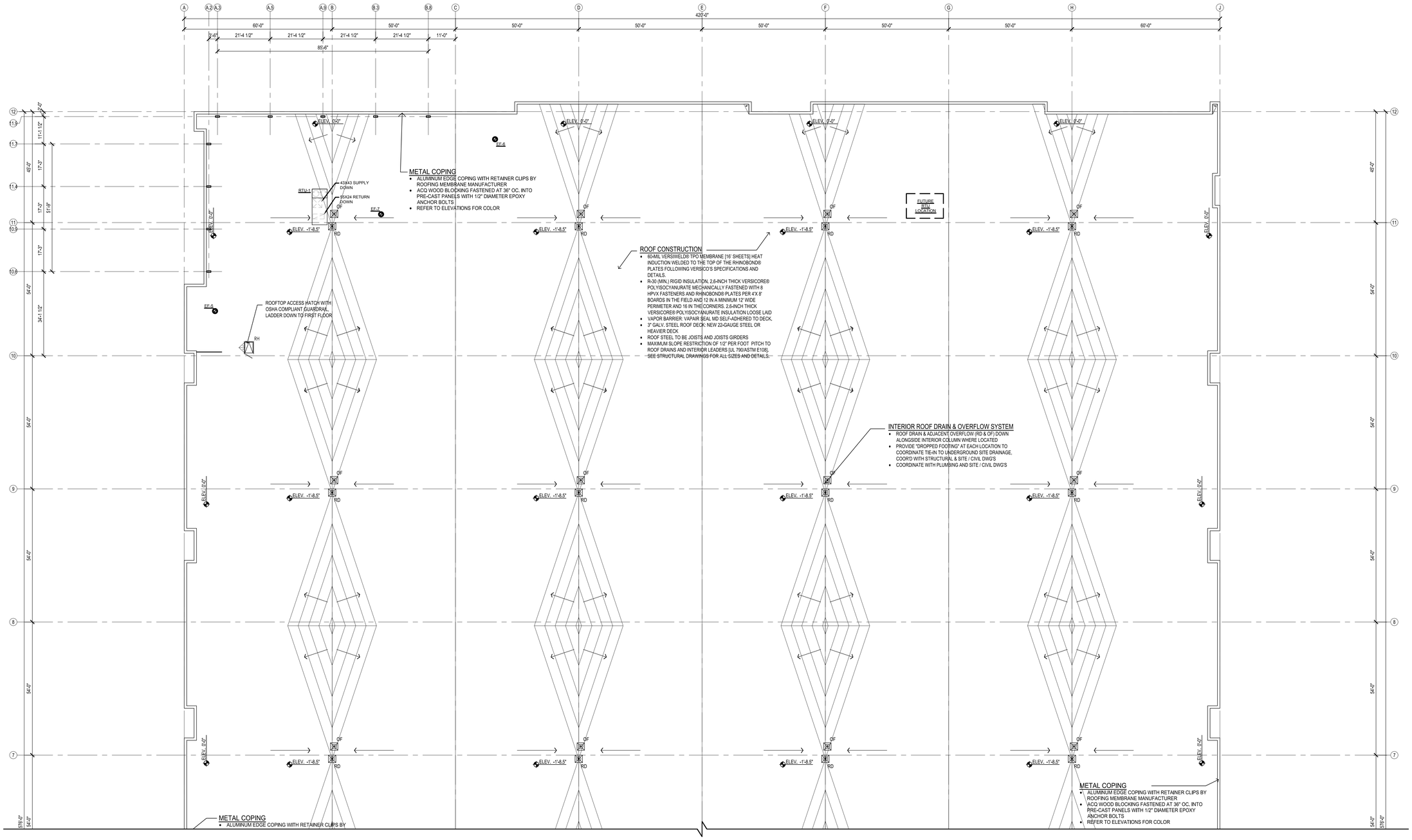
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1 BUILDING ROOF PLAN - EAST
SCALE: 1/16"=1'-0"

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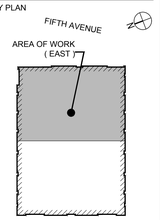
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BUILDING
ROOF PLAN - EAST

SCALE: SEE PLAN

DRAWN BY: FRD

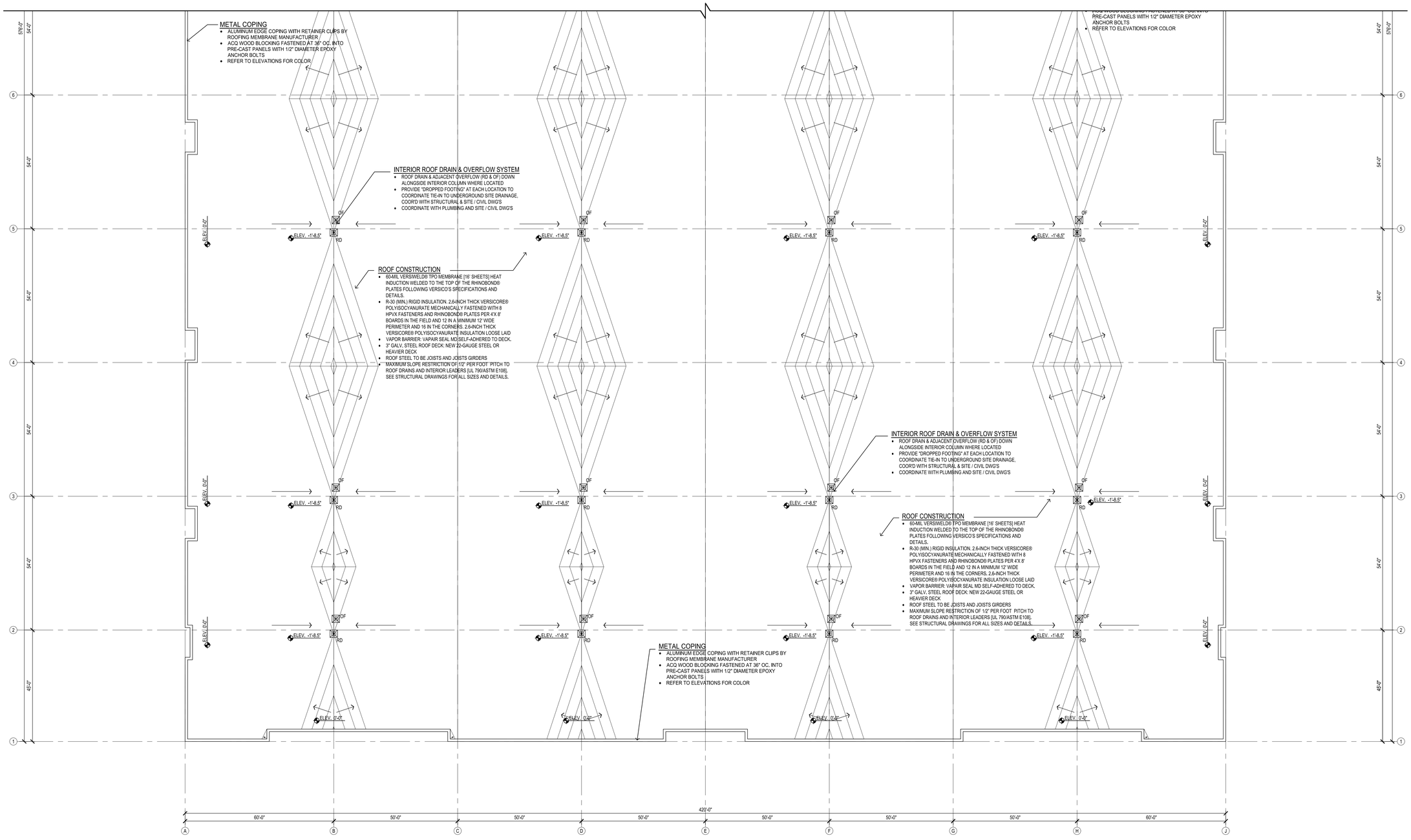
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BAY SHORE, NY 11706



1 BUILDING ROOF PLAN - WEST

SCALE: 1/16"=1'-0"

XEBEC

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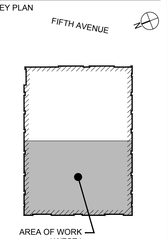
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KEY PLAN



ISSUED FOR 50% PERMIT	06/30/23
ISSUED FOR DD	04/28/23
REVISION:	DATE:

DRAWING TITLE:

BUILDING
ROOF PLAN - WEST

SCALE: SEE PLAN

DRAWN BY: FRD

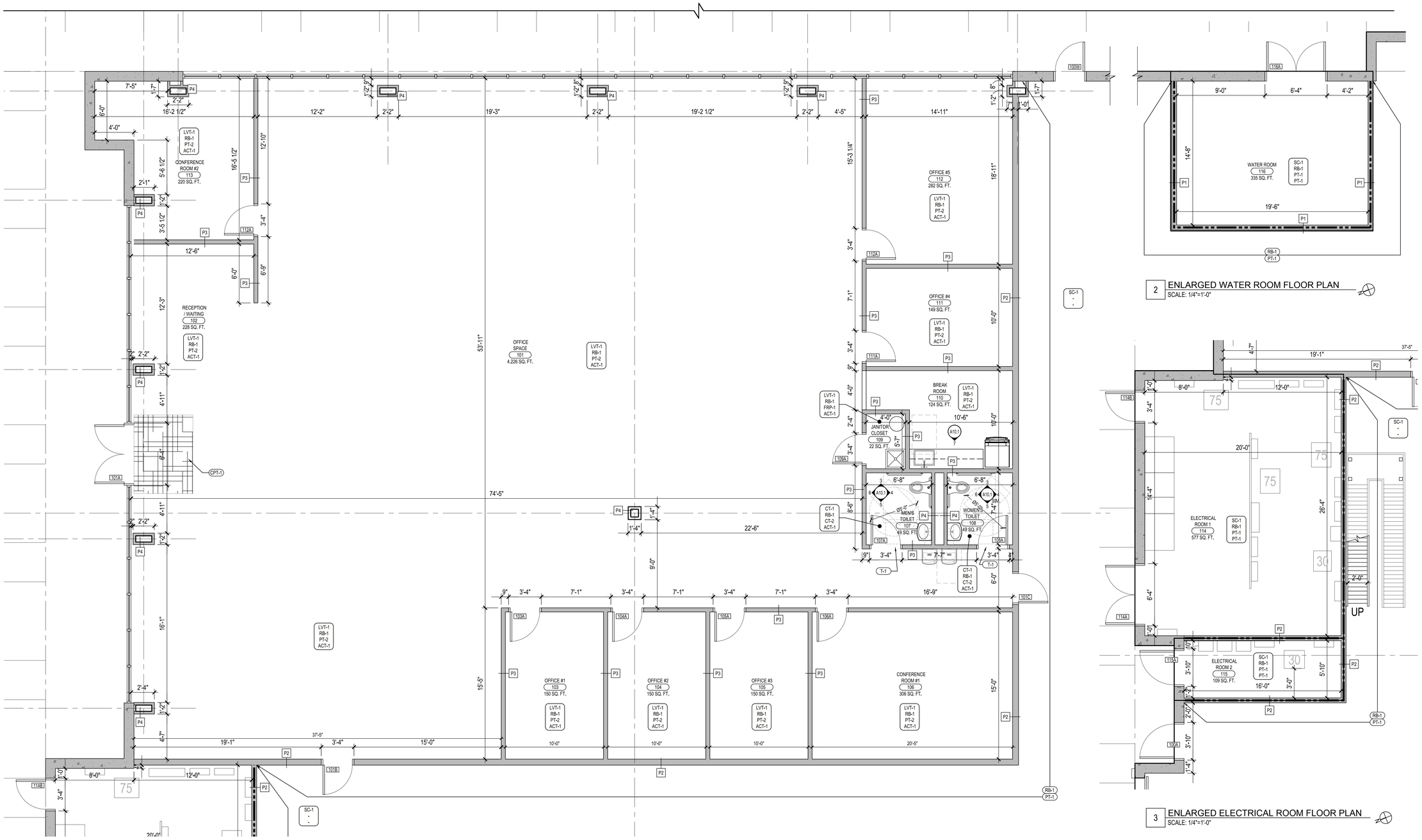
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A1.4

22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706



1 ENLARGED OFFICE PLAN
SCALE: 1/4"=1'-0"

2 ENLARGED WATER ROOM FLOOR PLAN
SCALE: 1/4"=1'-0"

3 ENLARGED ELECTRICAL ROOM FLOOR PLAN
SCALE: 1/4"=1'-0"

FINISH KEY

SC-1	
WPV-1	
CP-01	
PCT-1	
PCT-2	

GENERAL NOTES:
1. ALL FINISH SAMPLES TO BE SUBMITTED TO ARCHITECT FOR APPROVAL OF COLOR AND MATERIAL.

FINISH LEGEND

ACT	ACOUSTIC CEILING TILE
CPT	CARPET
GL	GLASS
LVT	LUXURY VINYL TILE
M	METAL FINISH
PT	PAINTED FINISH
PL	PLASTIC LAMINATE
SC	SEALED CONCRETE FLOOR
SP	SPECIALTY FINISH
ST	STONE FINISH
SVF	SHEET VINYL
T	PORCELAIN/CERAMIC TILE
VCT	VINYL COMPOSITE TILE
VEF	VINYL ENHANCED TILE
WC	WALLCOVERING
WD	WOOD

FINISH GENERAL NOTES

1. ALL FINISH SAMPLES TO BE SUBMITTED TO ARCHITECT FOR APPROVAL OF COLOR AND MATERIAL.
2. SEE DRAWING A10.1 FOR FINISH SCHEDULE SPECIFICATIONS.
3. REVIEW REFLECTED CEILING PLAN FOR CEILING FINISHES ON DRAWING A2.1.

SYMBOLS LEGEND

FLOOR FINISH
BASE FINISH
WALL FINISH
CEILING FINISH

DENOTES EXTENT OF A SPECIFIC WALL FINISH — CPT-0

DENOTES COUNTERTOP AND BACKSPLASH FINISH ON CASEWORK — PL / PL

DENOTES UPPER AND LOWER CABINET FINISH ON CASEWORK

ROOM FINISH GENERAL NOTES

1. ALL FINISH SAMPLES TO BE SUBMITTED TO ARCHITECT FOR APPROVAL OF COLOR AND MATERIAL.
2. REFER TO PLANS, ELEVATIONS, AND DETAILS FOR EXTENT OF FINISHES WHEN MULTIPLE FINISHES ARE INDICATED IN THE SCHEDULE.
3. OWNER TO APPROVE ALL FINISHES PRIOR TO CONSTRUCTION. GENERAL CONTRACTOR & SUB-CONTRACTORS TO SUBMIT SAMPLES FOR APPROVAL.
4. ALL FLOOR TRANSITIONS TO OCCUR BELOW THE CENTER OF DOORS UNLESS OTHERWISE NOTED. PROVIDE STONE THRESHOLD BETWEEN CARPET AND TILE/EXPOSED CONCRETE LOCATIONS. PROVIDE RESILIENT TRANSITION STRIP BETWEEN CARPET AND TILE / EXPOSED CONCRETE LOCATIONS. GSRA TO APPROVE TRANSITION STRIP PRIOR TO CONSTRUCTION.
5. ALL FLOOR TILE TO BE FLUSH AND NON-SLIP. PROVIDE TRANSITION MATERIALS AS DIRECTED BY ARCHITECT.
6. ALL CARPET TILES IS MONOLITHIC TYPICAL, UNLESS OTHERWISE NOTED.
7. PAINT ALL INTERIOR METAL DOORS AND FRAMES PNT-1 IN WAREHOUSE IN WAREHOUSE AREAS AND PNT-3 IN OFFICE AREAS
8. PAINT ALL INTERIOR WALLS (FACING WAREHOUSE) PNT-1
9. PROVIDE RESILIENT BASE (RB-1) AND PAINT (PNT-1) AT ALL GYP. BD. WALLS FACING WAREHOUSE SIDE.
10. INSIDE FACE OF TILT WALL PANELS TO BE UNFINISHED.

INTERIOR WALL TYPE LEGEND

- NON-RATED MASONRY PARTITION
- 2 HR. FIRE RATED MASONRY PARTITION
- PROPOSED GYPSUM BOARD PARTITION
- PROPOSED 2 HR. FIRE RATED GYPSUM BOARD PARTITION

OPENINGS
- NEW DOOR / OPENING
- D.S. — DOWNSPOUT

DIMENSION & REFERENCE NOTES
1. ALL DIMENSIONS TO NEW WALL CONSTRUCTION ARE TO FACE OF WALL SHEATHING, IF NOTED AS FINISH OR HOLD, THE ARE CRITICAL DIMENSIONS TO HOLD TO FACE OF FINISHED WALL SURFACE.
2. ALL EXTERIOR DIMENSIONS ARE TO FACE OF EXTERIOR SHEATHING U.O.N.
3. ALL DIMENSIONS TO THE FACE OF EXISTING WALLS ARE TO THE FACE OF EXISTING FINISH SURFACE.
4. ALL WINDOW AND DOOR DIMENSIONS ARE TO THE CENTERLINE OF THE ROUGH OPENING / MASONRY OPENING UNLESS NOTED R.O. OR M.O. REFER TO THE WINDOW & DOOR SCHEDULES FOR ROUGH OPENING INFORMATION.

XEBEC

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KEY PLAN
FIFTH AVENUE
(EAST)
(WEST)

ISSUED FOR 50% PERMIT	06/30/23
ISSUED FOR DD	04/28/23
REVISION:	DATE:

DRAWING TITLE:
ENLARGED FLOOR PLANS

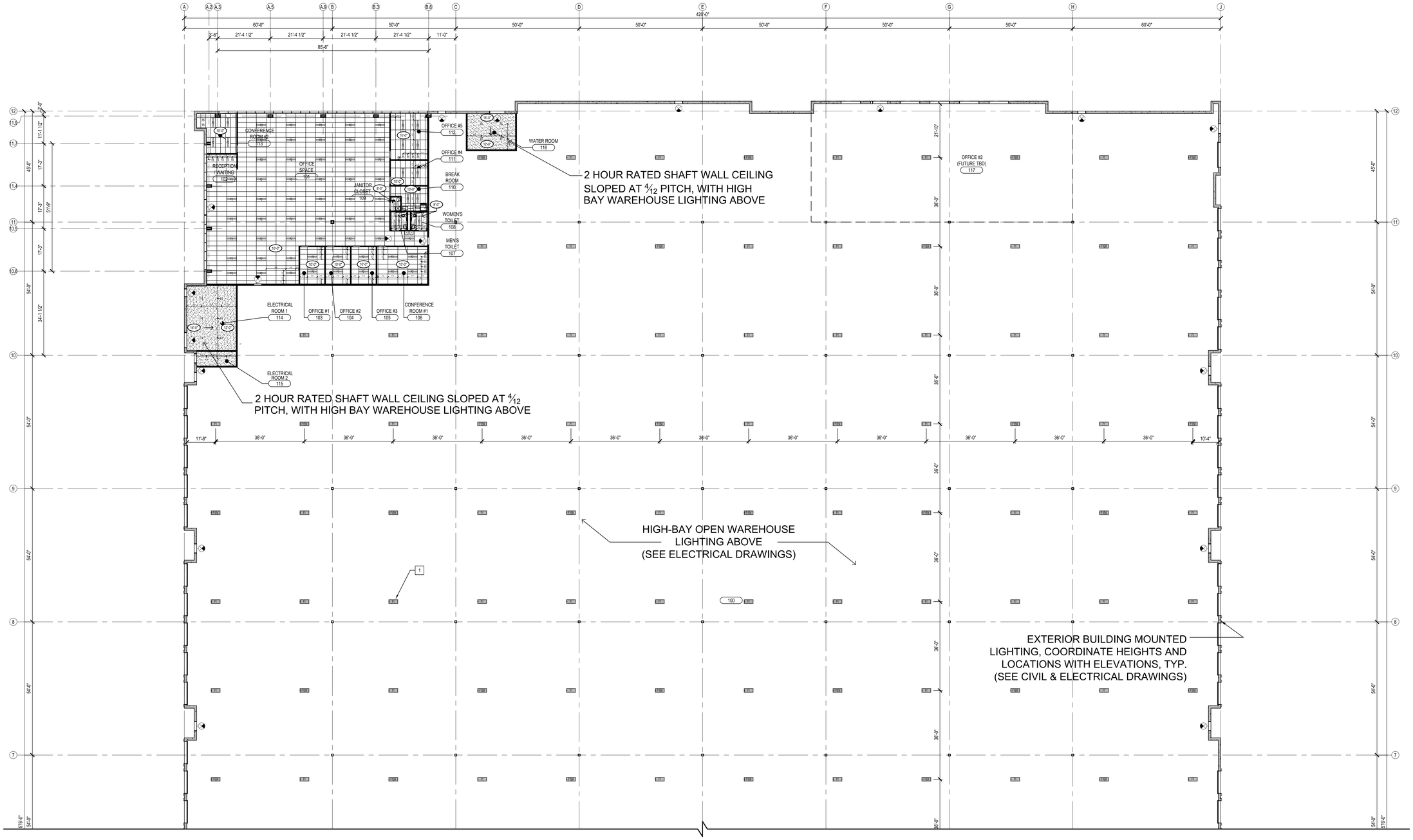
SCALE: SEE PLAN
DRAWN BY: FRD

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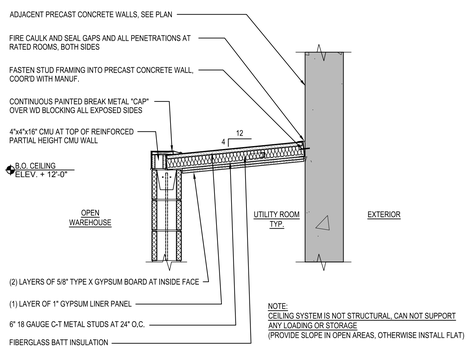
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22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706



1 REFLECTED CEILING PLAN - EAST
SCALE: 1/16"=1'-0"



2 2-HOUR RATED HORIZONTAL SHAFT WALL CEILING
SCALE: 3/4"=1'-0"

LIGHTING KEY NOTES

1 HIGH BAY LIGHT FIXTURES TO BE MOUNTED WITH 10FT WHIPS FOR FUTURE TENANT BUILD-OUTS

CEILING LEGEND

- NEW GYPSUM BOARD CEILING
- NEW 2x4 ACOUSTICAL CEILING TILE IN 15/16" SUSPENDED CEILING GRID
- X'-X" — INDICATES FINISHED CEILING HEIGHT

LIGHTING FIXTURE LEGEND

- F1 — HIGH BAY LIGHT FIXTURE
- F2 — 2x4 RECESSED INDIRECT-DIRECT LIGHT FIXTURE
- F3 — 2x2 RECESSED INDIRECT-DIRECT LIGHT FIXTURE
- F4 — 4' LINEAR LIGHT FIXTURE
- F5 — RECESSED DOWNLIGHT FIXTURE
- EXIT SIGN WITH SIGN FACING AND DIRECTIONAL ARROWS AS INDICATED (COOR'D WITH EGRESS PLAN)

REFLECTED CEILING NOTES

1. ALL CEILING TILES, GRIDS AND CEILING MOUNTED LIGHTS ARE TO BE CENTERED IN THE ROOM, U.O.N.
2. ALL CEILING MOUNTED APPARATUS ARE TO BE CENTERED IN THE TILE IN WHICH THEY ARE INSTALLED, U.O.N.
3. PROVIDE FLANGELESS FLUSH ACCESS PANELS IN GYP. BD. CEILINGS. COORDINATE LOCATIONS WITH M.E.P. DRAWINGS.
4. REFER TO REFLECTED CEILING PLANS FOR ALL CEILING HEIGHTS. MINIMUM CEILING HEIGHT SHALL BE 9'-0" A.F.F.
5. SEE STRUCTURAL DRAWINGS FOR SEISMIC CLASSIFICATION OF BUILDING. PROVIDE GRID SYSTEM TO MEET THIS CLASSIFICATION.
6. FOR EMERGENCY LIGHTING LOCATIONS SEE ELECTRICAL DRAWINGS.
7. SEE ELECTRICAL DRAWINGS FOR ALL FIXTURE TYPES AND SPECIFICATIONS
8. SEE DRAWING A-201 WITHIN THIS SET FOR ADDITIONAL CEILING DETAILS

XEBEC

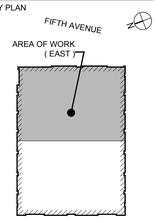
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KEY PLAN



ISSUED FOR 50% PERMIT 06/30/23
ISSUED FOR DD 04/28/23
REVISION: DATE:

DRAWING TITLE:

REFLECTED CEILING PLAN - EAST

SCALE: SEE PLAN

DRAWN BY: FRD

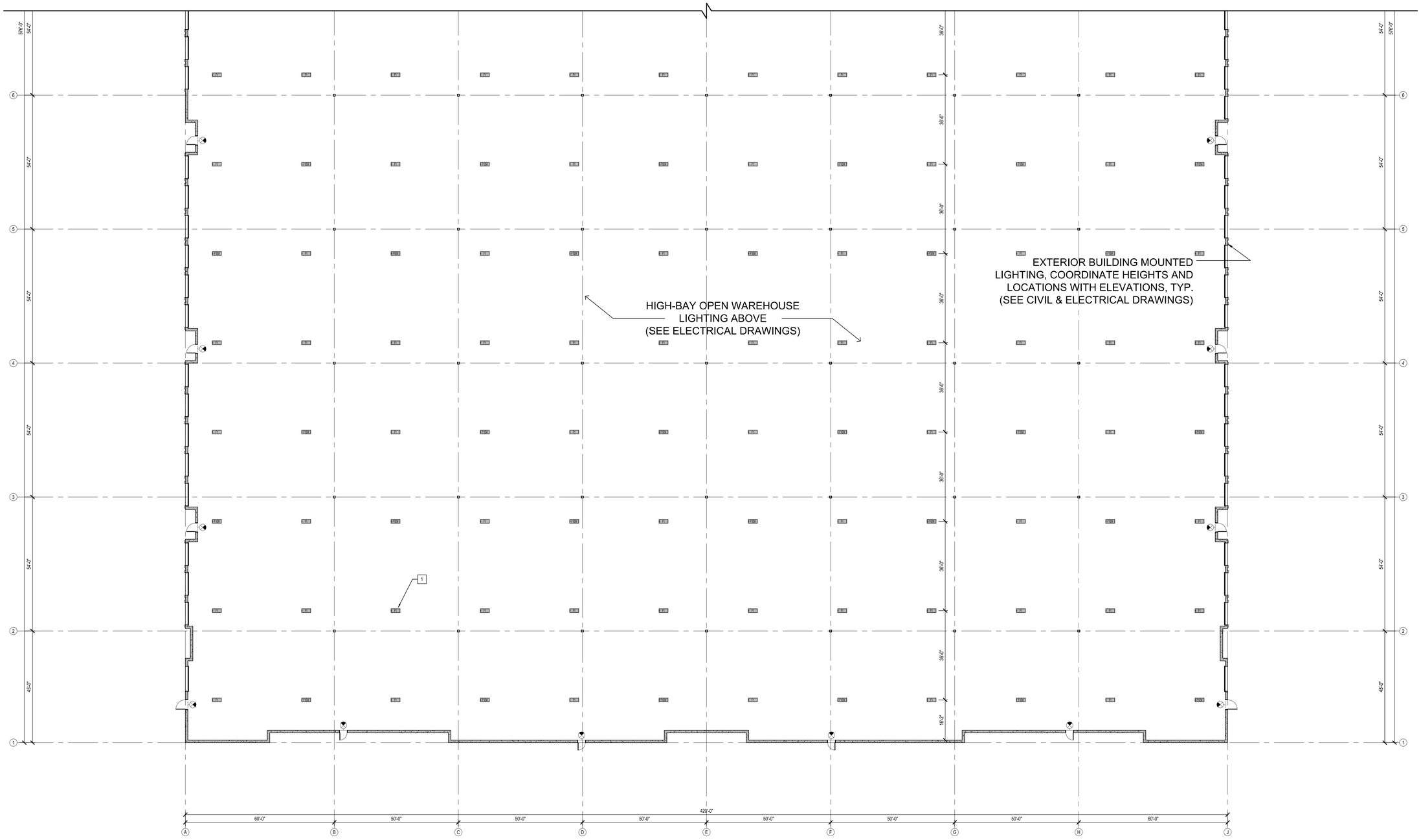
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A2.1

22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706



1 REFLECTED CEILING PLAN - WEST
SCALE: 1/16"=1'-0"

LIGHTING KEY NOTES

1 HIGH BAY LIGHT FIXTURES TO BE MOUNTED WITH 10FT WHIPS FOR FUTURE TENANT BUILD-OUTS

CEILING LEGEND

- NEW GYPSUM BOARD CEILING
- NEW 2x4 ACOUSTICAL CEILING TILE IN 15/16" SUSPENDED CEILING GRID
- X'-X" — INDICATES FINISHED CEILING HEIGHT

LIGHTING FIXTURE LEGEND

- F1 — HIGH BAY LIGHT FIXTURE
- F2 — 2x4 RECESSED INDIRECT-DIRECT LIGHT FIXTURE
- F3 — 2x2 RECESSED INDIRECT-DIRECT LIGHT FIXTURE
- F4 — 4' LINEAR LIGHT FIXTURE
- F5 — RECESSED DOWNLIGHT FIXTURE
- EXIT SIGN WITH SIGN FACING AND DIRECTIONAL ARROWS AS INDICATED (COORD WITH EGRESS PLAN)

REFLECTED CEILING NOTES

1. ALL CEILING TILES, GRIDS AND CEILING MOUNTED LIGHTS ARE TO BE CENTERED IN THE ROOM, U.O.N.
2. ALL CEILING MOUNTED APPARATUS ARE TO BE CENTERED IN THE TILE IN WHICH THEY ARE INSTALLED, U.O.N.
3. PROVIDE FLANGELESS FLUSH ACCESS PANELS IN GYP. BD. CEILINGS. COORDINATE LOCATIONS WITH M.E.P. DRAWINGS.
4. REFER TO REFLECTED CEILING PLANS FOR ALL CEILING HEIGHTS. MINIMUM CEILING HEIGHT SHALL BE 9'-0" A.F.F.
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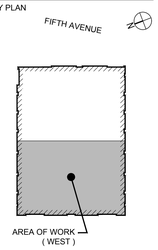
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KEY PLAN



ISSUED FOR 50% PERMIT	06/30/23
ISSUED FOR DD	04/28/23
REVISION:	DATE:

DRAWING TITLE:

REFLECTED CEILING PLAN - WEST

SCALE: SEE PLAN

DRAWN BY: FRD

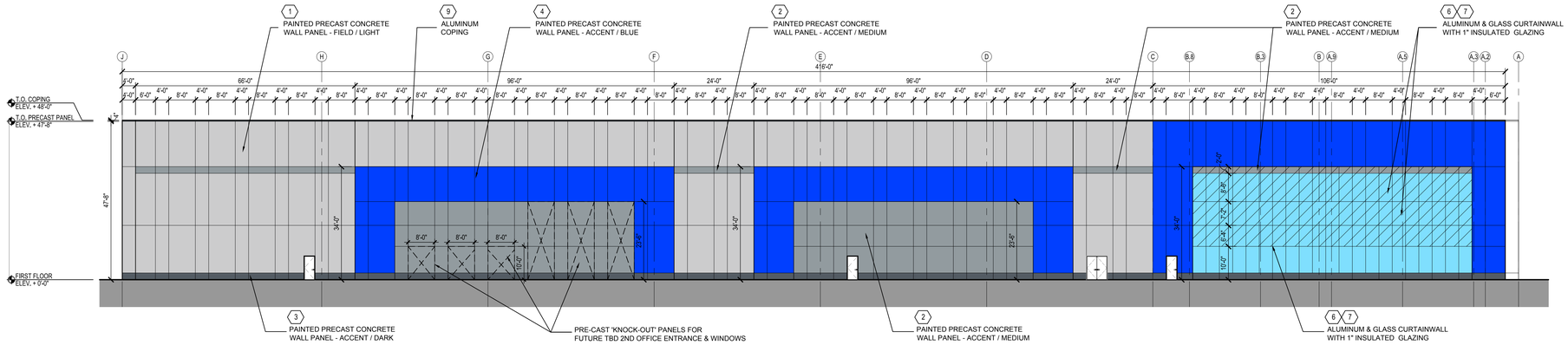
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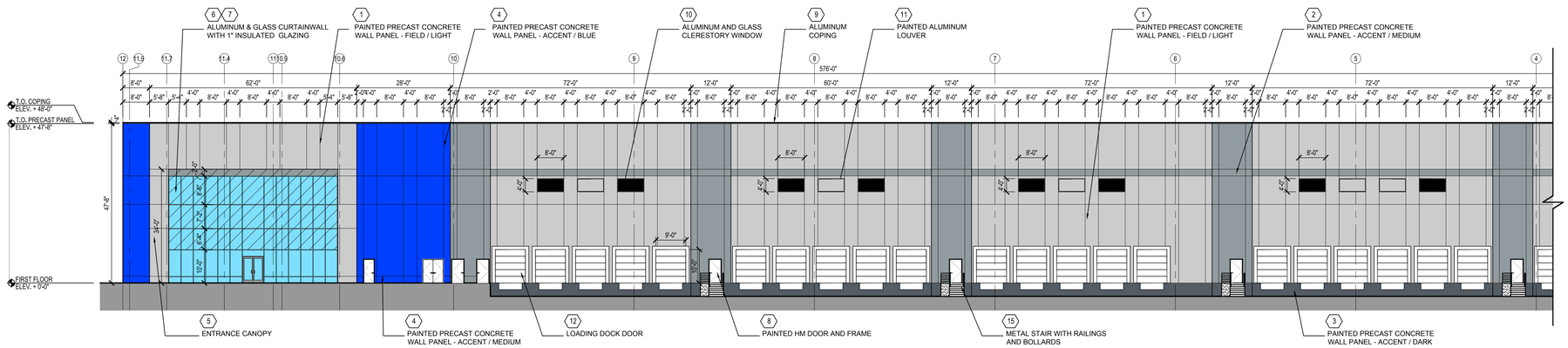
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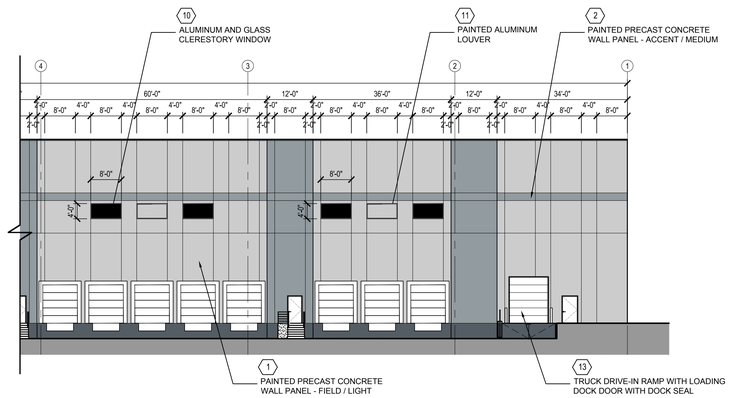
22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706



1 ELEVATION - EAST FACADE
SCALE: 1/16"=1'-0"



2 ELEVATION - NORTH FACADE
SCALE: 1/16"=1'-0"



3 ELEVATION - NORTH FACADE - CONTINUED
SCALE: 1/16"=1'-0"

ELEVATION MATERIALS LEGEND

1. PRE-CAST CONCRETE PANEL - FIELD (LIGHT)
COLOR: SHERWIN WILLIAMS 'SPARE WHITE SW-6203'
2. PRE-CAST CONCRETE PANEL - ACCENT (MEDIUM)
COLOR: SHERWIN WILLIAMS 'ARGOS SW-7065'
3. PRE-CAST CONCRETE PANEL - ACCENT (DARK)
COLOR: SHERWIN WILLIAMS 'CITYSCAPE SW-2067'
4. PRE-CAST CONCRETE PANEL - ACCENT (BLUE)
COLOR: SHERWIN WILLIAMS 'COMMODORE SW-7067'
5. ENTRANCE CANOPY
COLOR: SHERWIN WILLIAMS 'SPARE WHITE SW-6203'
6. STOREFRONT SYSTEM / CURTAINWALL
CLEAR ANODIZED THERMALLY BROKEN ALUMINUM FRAMING
7. INSULATED WINDOW GLAZING
LOW-E 'PACIFICA BLUE' GLASS BY 'VITRO ARCHITECTURAL GLAZING'
8. EXTERIOR METAL DOOR AND FRAME
COLOR: TO MATCH ADJACENT WALL PANEL
9. ALUMINUM COPING
PRE-FINISHED METAL CAP TO MATCH SHERWIN WILLIAMS 'SPARE WHITE SW-6203'
10. CLERESTORY WINDOW
LOW-E 'PACIFICA BLUE' GLASS BY 'VITRO ARCHITECTURAL GLAZING' IN CLEAR ANODIZED ALUMINUM FRAMING
11. METAL LOUVER
FACTORY FINISHED TO MATCH CLEAR ANODIZED ALUMINUM FRAME
12. LOADING DOCK DOOR
9 FT WIDE x 10 FT HIGH ROLL-UP DOOR PAINTED WHITE
13. DRIVE-IN RAMP DOCK DOOR
10 FT WIDE x 12 FT HIGH ROLL-UP DOOR PAINTED 'WHITE'
14. SCUPPER AND LEADER
COLOR: PAINTED TO MATCH ADJACENT WALL PANEL
15. EXTERIOR METAL STAIR W/ RAILINGS & BOLLARDS
GALVANIZED AND PAINTED TO MATCH SHERWIN WILLIAMS 'ARGOS SW-7065'
BOLLARD COLOR: SHERWIN WILLIAMS 'SAFETY YELLOW' SW-4084

INSULATED GLAZING
*ALL DOOR & TRANSOM GLAZING AND GLAZING WITHIN 18" OF FLOOR SHALL BE TEMPERED

INDICATES INSULATED GLAZING WITH GYPSUM BOARD FRAMED 'SHADOWBOX' SET BEHIND CLEAR GLAZING

XEBEC

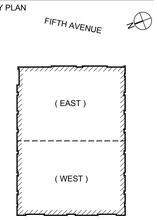
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KEY PLAN



ISSUED FOR 50% PERMIT 06/30/23
ISSUED FOR DD 04/28/23
REVISION: DATE:

DRAWING TITLE:

BUILDING ELEVATIONS

SCALE: 1/16" = 1'-0"

DRAWN BY: FRD

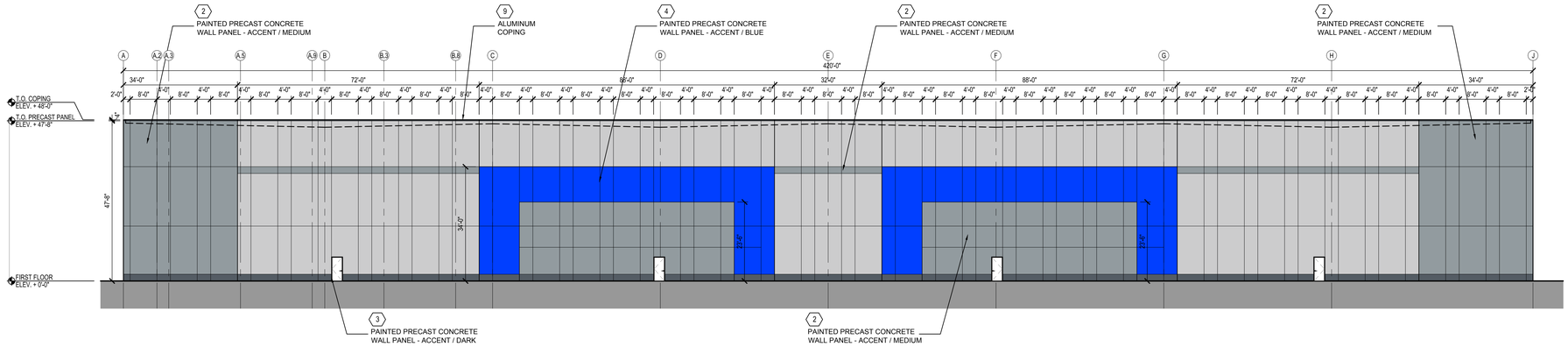
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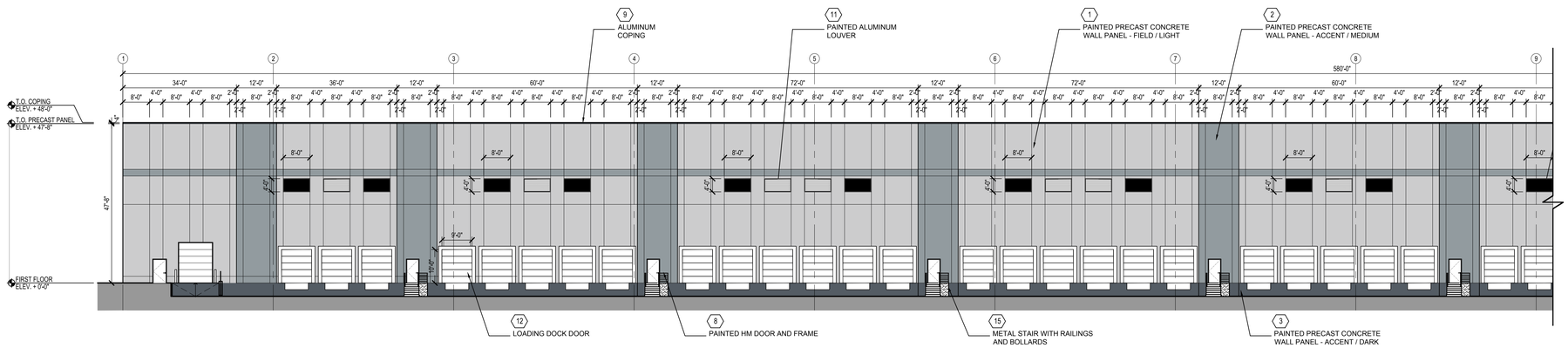
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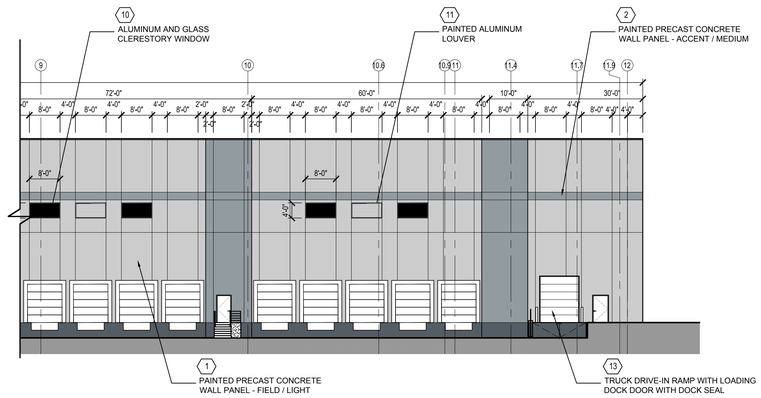
22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706



1 ELEVATION - WEST FACADE
SCALE: 1/16"=1'-0"



2 ELEVATION - SOUTH FACADE
SCALE: 1/16"=1'-0"



3 ELEVATION - SOUTH FACADE - CONTINUED
SCALE: 1/16"=1'-0"

ELEVATION MATERIALS LEGEND

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   COLOR: SHERWIN WILLIAMS 'SPARE WHITE SW-6203'
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7. INSULATED WINDOW GLAZING
   LOW-E 'PACIFICA BLUE' GLASS BY 'VITRO ARCHITECTURAL GLAZING'
8. EXTERIOR METAL DOOR AND FRAME
   COLOR: TO MATCH ADJACENT WALL PANEL
9. ALUMINUM COPING
   PRE-FINISHED METAL CAP TO MATCH SHERWIN WILLIAMS 'SPARE WHITE SW-6203'
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    LOW-E 'PACIFICA BLUE' GLASS BY 'VITRO ARCHITECTURAL GLAZING' IN CLEAR ANODIZED ALUMINUM FRAMING
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INSULATED GLAZING
*ALL DOOR & TRANSOM GLAZING AND GLAZING WITHIN 18" OF FLOOR SHALL BE TEMPERED

INDICATES INSULATED GLAZING WITH GYPSUM BOARD FRAMED 'SHADOWBOX' SET BEHIND CLEAR GLAZING

XEBEC

PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NEW YORK 11706

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bld architecture, dpc
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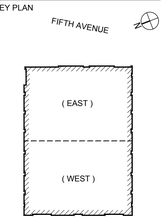
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Website: rmengineering.com

KEY PLAN



ISSUED FOR 50% PERMIT	06/30/23
ISSUED FOR DD	04/28/23
REVISION:	DATE:

DRAWING TITLE:

BUILDING ELEVATIONS

SCALE: 1/16" = 1'-0"

DRAWN BY: FRD

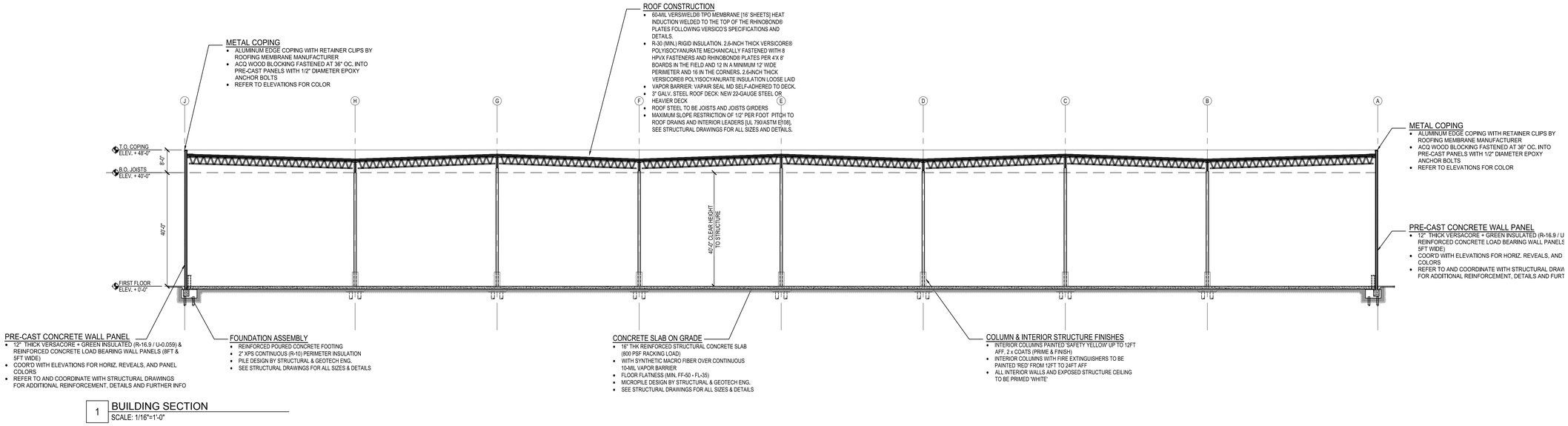
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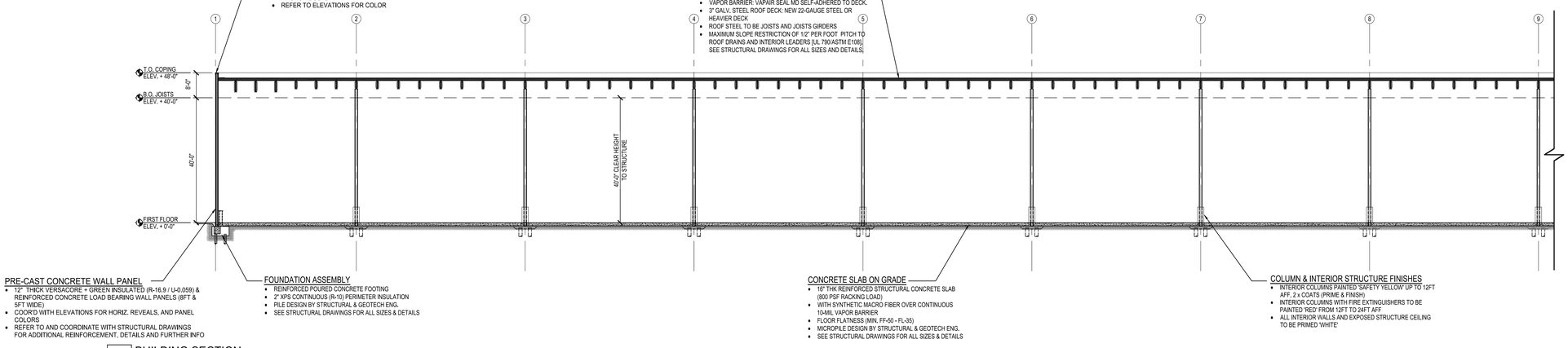
DWG. NO.

A3.2

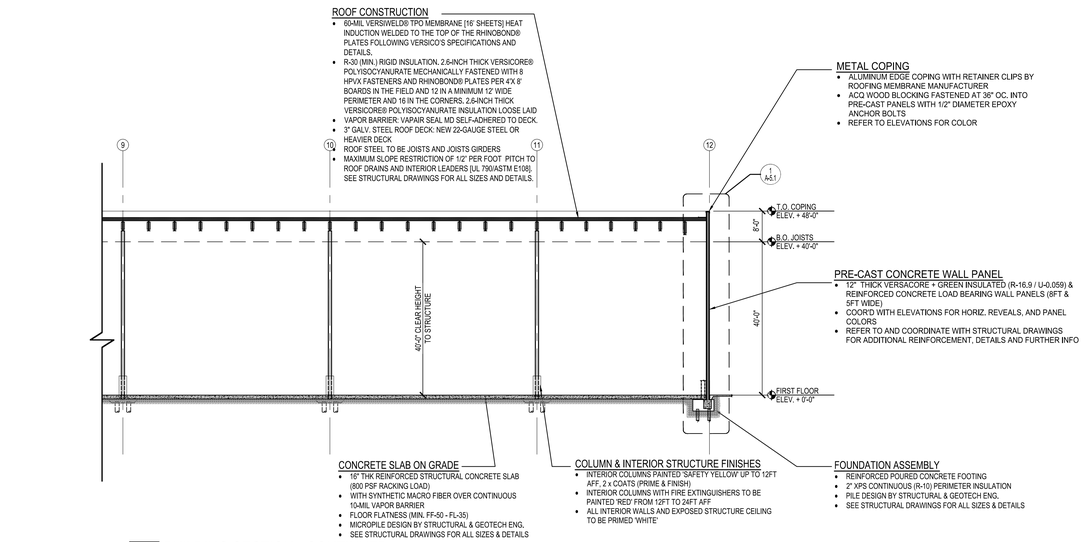
22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706



1 BUILDING SECTION
SCALE: 1/16"=1'-0"



2 BUILDING SECTION
SCALE: 1/16"=1'-0"



2 BUILDING SECTION - CONTINUED
SCALE: 1/16"=1'-0"

XEBEC

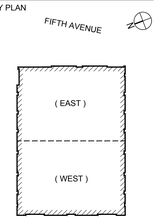
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KEY PLAN



ISSUED FOR 50% PERMIT	06/30/23
ISSUED FOR DD	04/28/23
REVISION:	DATE:

DRAWING TITLE:

BUILDING SECTIONS

SCALE: 1/16" = 1'-0"

DRAWN BY: FRD

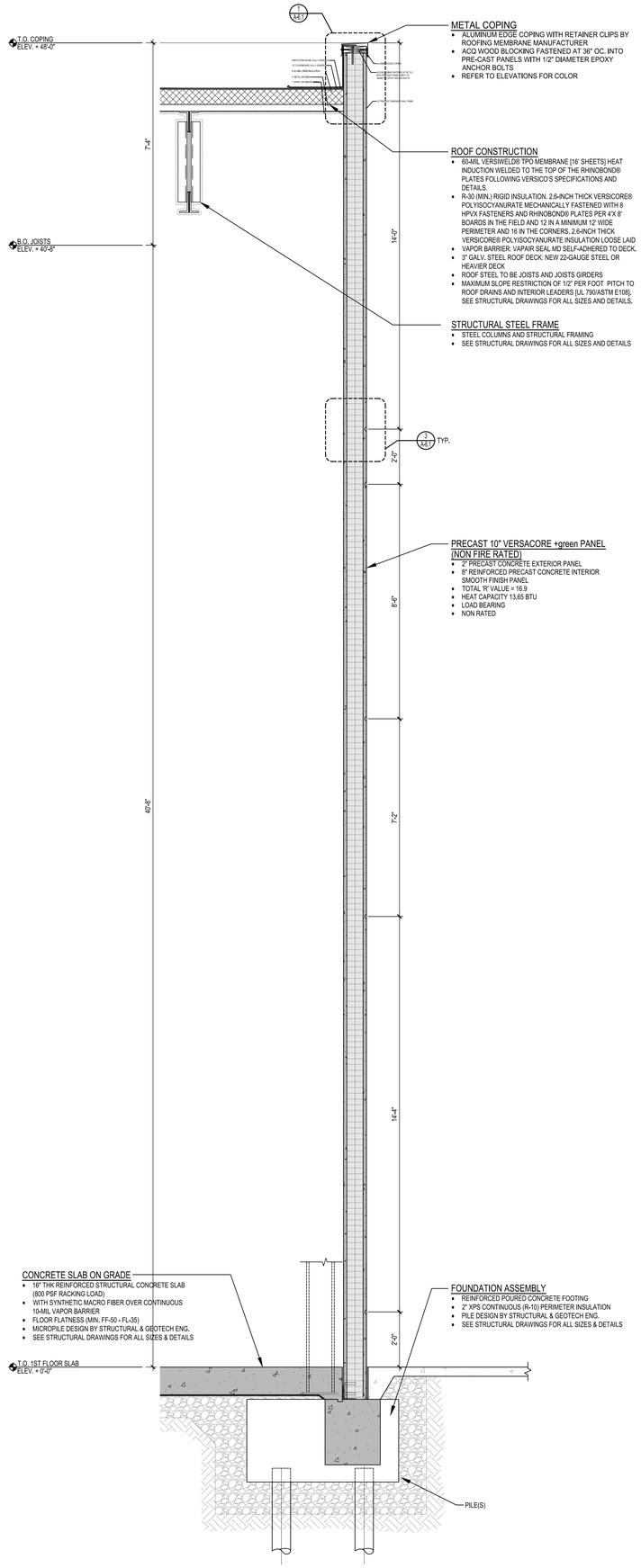
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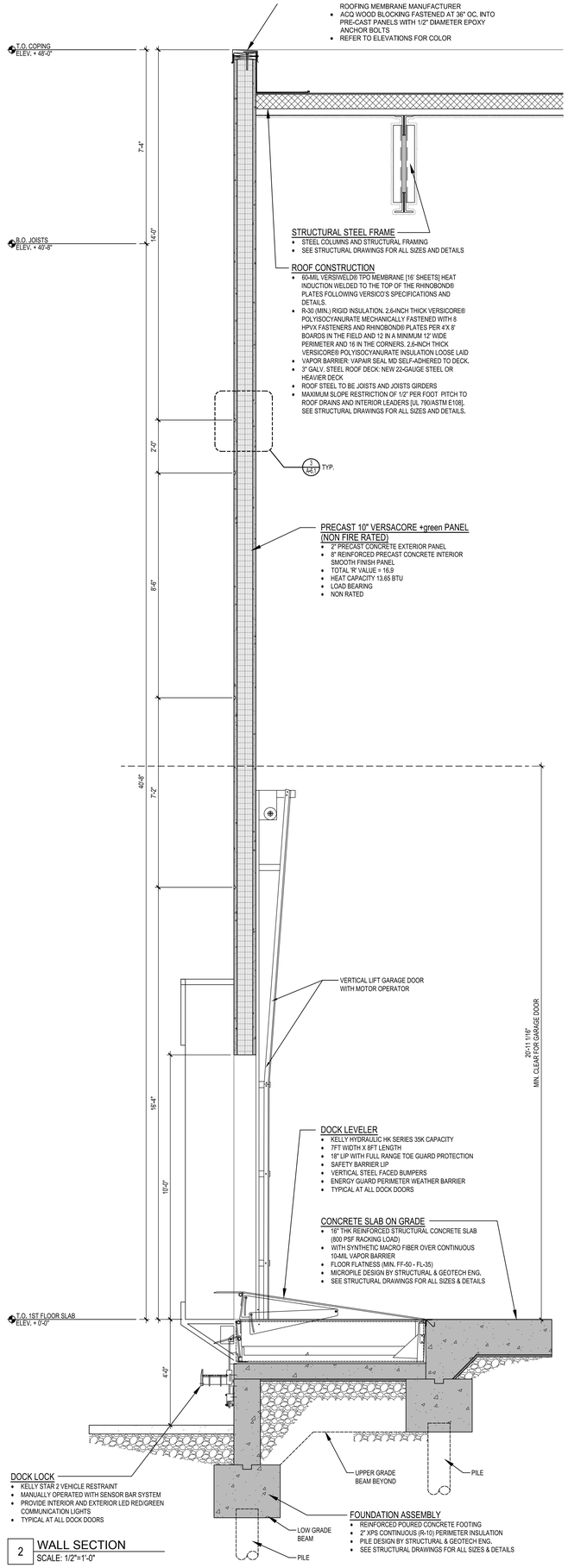
DWG. NO.

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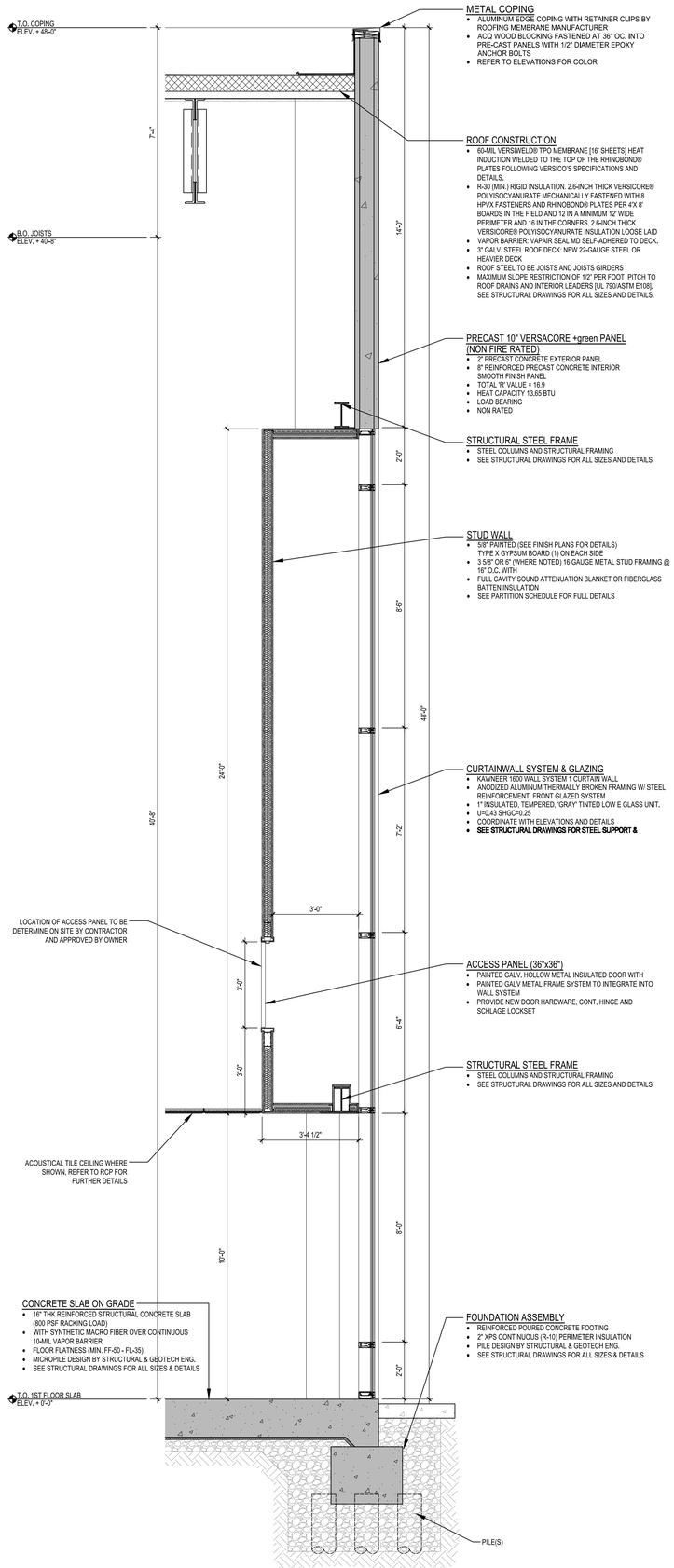
22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706



1 WALL SECTION
SCALE: 1/2"=1'-0"



2 WALL SECTION
SCALE: 1/2"=1'-0"



3 WALL SECTION
SCALE: 1/2"=1'-0"

XEBEC

PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NEW YORK 11706

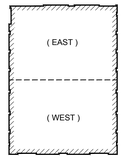
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KEY PLAN

FIFTH AVENUE



ISSUED FOR 50% PERMIT	06/30/23
ISSUED FOR DD	04/28/23
REVISION:	DATE:

DRAWING TITLE:

WALL SECTIONS

SCALE:	SEE PLAN
DRAWN BY:	FRD

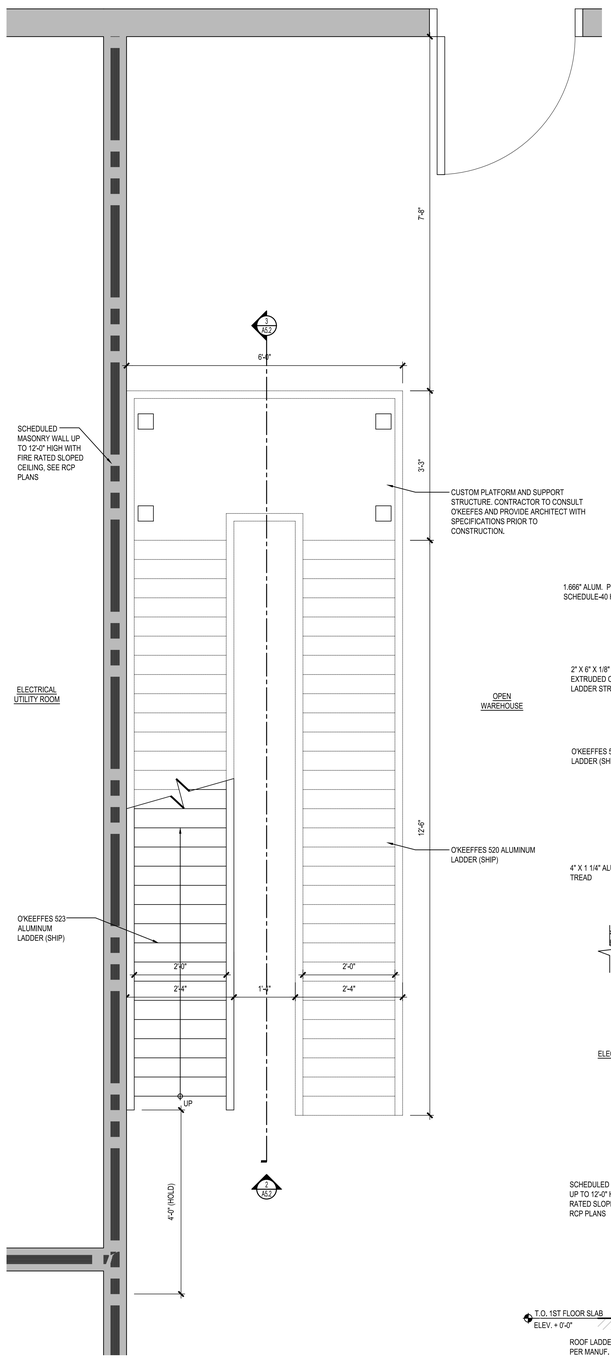
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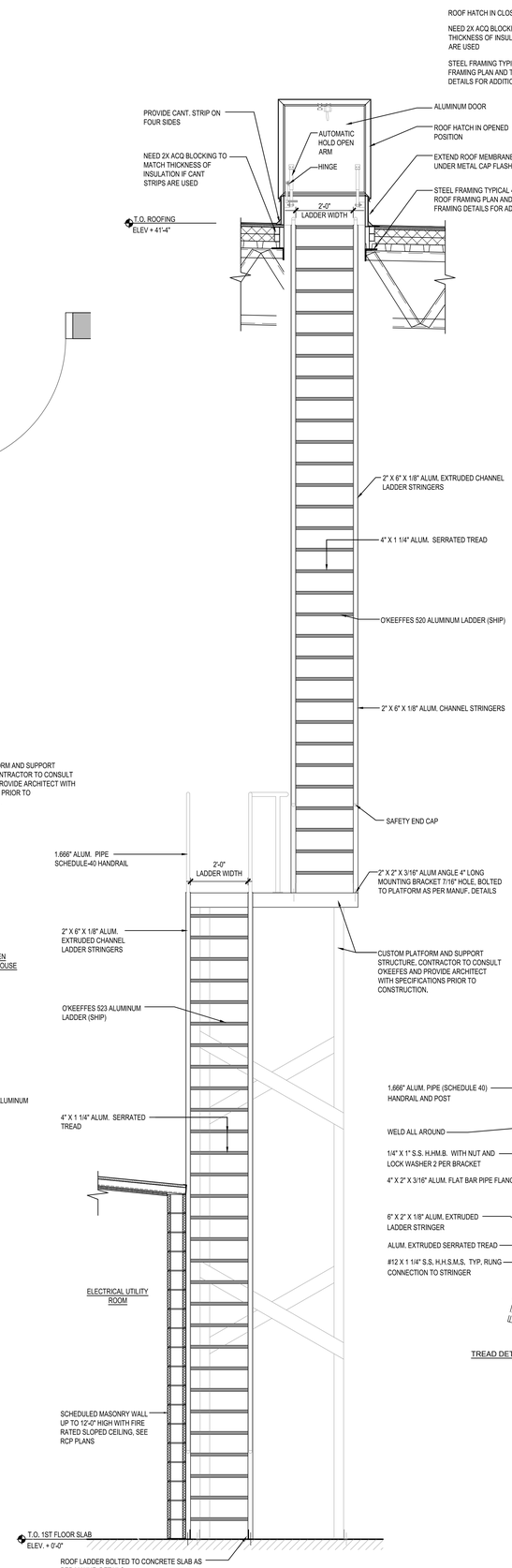
DWG. NO.

A5.1

22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706

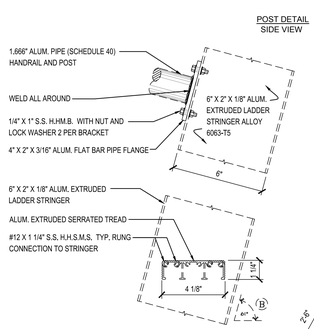


1 SHIP LADDER PLAN
SCALE: 3/4"=1'-0"

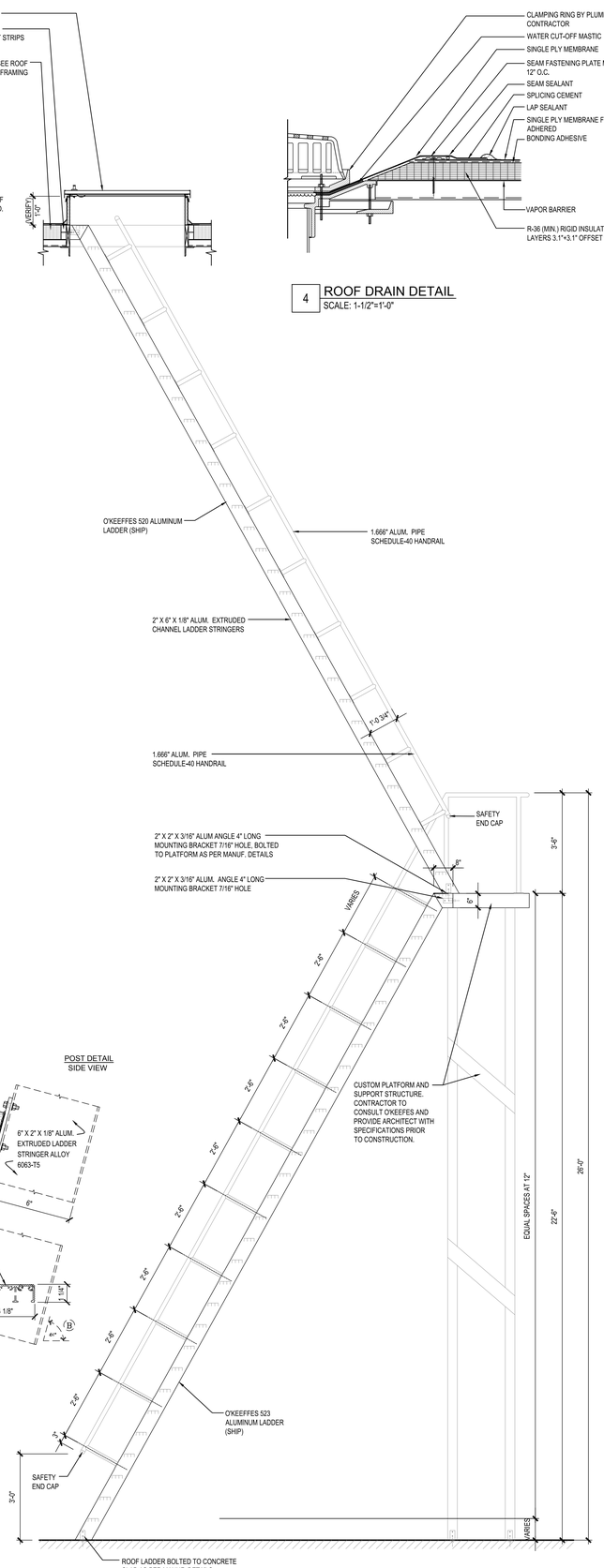


2 ROOF LADDER - FRONT ELEVATION
SCALE: 1/2"=1'-0"

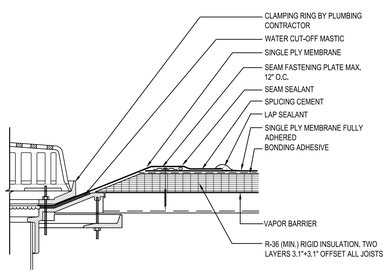
POST DETAIL
SIDE VIEW



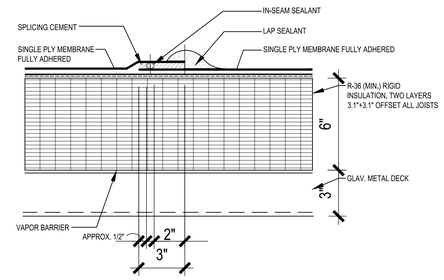
TREAD DETAIL



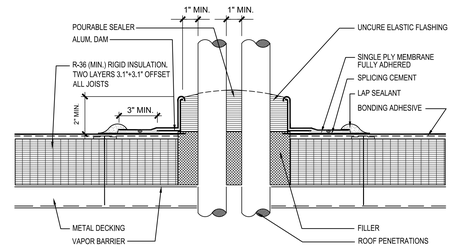
3 ROOF LADDER - SECTION DETAIL
SCALE: 1/2"=1'-0"



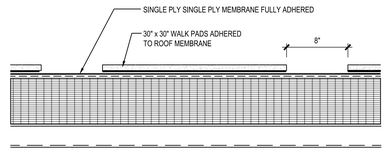
4 ROOF DRAIN DETAIL
SCALE: 1-1/2"=1'-0"



5 MEMBRANE SPLICE DETAIL
SCALE: 1-1/2"=1'-0"

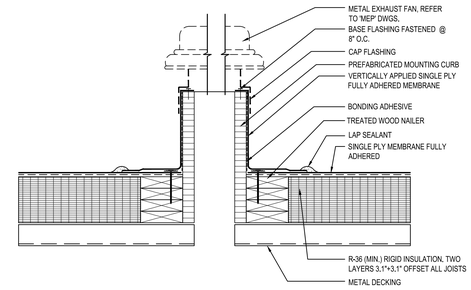


6 PITCH POCKET DETAIL
SCALE: 1-1/2"=1'-0"

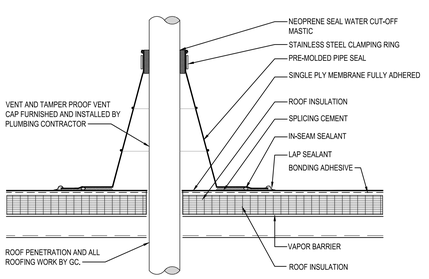


NOTE: FOR ACCESS TO ALL MECH. EQUIPMENT ON ROOF REFER TO MECH., ELEC., AND PLUMBING DWGS FOR EQUIPMENT LOCATION

7 WALKING PAD DETAIL
SCALE: 1-1/2"=1'-0"



8 EXHAUST FAN DETAIL
SCALE: 1-1/2"=1'-0"



9 PRE-MOLDED VENT PIPE FLASHING
SCALE: 1-1/2"=1'-0"

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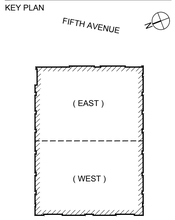
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KEY PLAN



ISSUED FOR 50% PERMIT	06/30/23
ISSUED FOR DD	04/28/23
REVISION:	DATE:

DRAWING TITLE:

ROOF LADDER DETAILS

SCALE: SEE PLAN

DRAWN BY: FRD

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A5.2

22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706

FINISH LEGEND

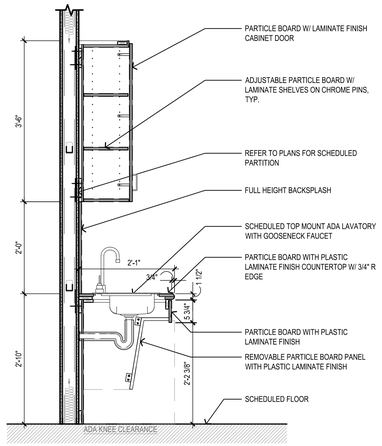
FINISH	MANUFACTURER	PRODUCT	MODEL	COLOR/FINISH	SIZE	INSTALL	COMMENTS
GROUND FLOOR							
SC-1	ASHFORD FORUMULA OR EQUAL	SEALED CONCRETE	-	CLEAR FLOOR SEALANT	-	-	-
WD-1	VT INDUSTRIES	WHITE OAK	-	RAVINE RA48	-	-	-
CT-1	TRENDS IN TILE	OVERALL	-	CASHMERE	12" x 24"	1/3 OFFSET	FLOOR TILE
CT-2	TRENDS IN TILE	OVERALL	-	CASHMERE	12" x 24"	HORIZONTALLY STACKED	WALL TILE
CTB-1	TRENDS IN TILE	OVERALL	-	CASHMERE	6" x 24"	FIELD CUT TILE	BASE WITH NO WALL TILE
LVT-1	INTERFACE	STEADY STRIDE CONCRETE	-	IRON (B00202)	19.69" x 19.69"	ASHLAR	-
T-1	CORIAN	DOUBLE BELVEL THERESHOLD	-	ARTISTA BEIGE	2"W x 36"L x 3/8" H	-	FLOOR TRANISITION AT RESTROOM ENTRY
T-2	SCHLUTER	JOLLY	-	AE STAIN ANDOZIZED ALUMINUM	HEIGHT AS REQUIRED		FINISHING TRIM AT WALL AND BASE TILE
ACT-1	ARMSTRONG	MESA SECOND LOOK	-	WHITE	24" x 48" TILE	FLAT LAY IN	GRID: PRELUDE | GRID SIZE: 15/16"
VB-1	TARKETT	COVE	-	BURNT UMBER 63	4"	-	-
CPT-1	INTERFACE	SR899	-	IRON 104940	19.685" x 19.685"	MONOLITHIC	WALK OFF TILE
CPT-2	INTERFACE	NET EFFECT - B702	-	BLACK SEA 102896	19.685" x 19.685"	ASHLAR	GENERAL CARPET TILE
FRP-1	CRANE COMPOSITES-GLASBORD	GLASS FIBER REINFORCED PLASTIC	-	WHITE	-	-	JANITOR T113 WALLS
PT-1	SHERWIN WILLIAMS	SW 7007	-	CEILING BRIGHT WHITE	-	-	GYP CEILINGS, UON
PT-2	SHERWIN WILLIAMS	SW 7064	-	PASSIVE	-	-	GENERAL AND HOLLOW METAL DOOR FFRAMES UON
PT-3	SHERWIN WILLIAMS	SW 7669	-	SUMMIT GRAY	-	-	ACCENT
TP-1	ASI ACCURATE PARTITIONS	POWDER COATED STEEL	-	CHARCOAL # 945	-	-	-

GENERAL NOTES:
1. ALL FINISH SAMPLES TO BE SUBMITTED TO ARCHITECT FOR APPROVAL OF COLOR AND MATERIAL.

INTERIOR FINISH SELECTION SUMMARY

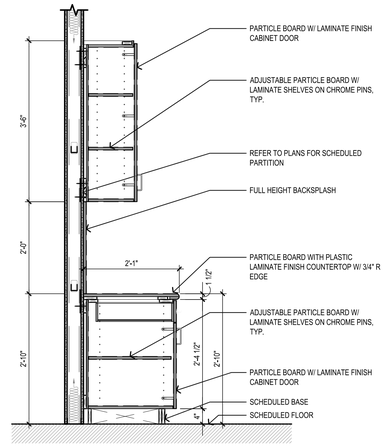
FINISH:	FINISH SUMMARY:
RESILIENT BASE RB-1	RESILIENT BASE RUBBER BASE JOHNSONITE 48 GREY WG
CONCRETE SC-1	SEALED CONCRETE
PAINT PNT-1 PNT-2 (FIELD) PNT-3 (ACCENT) PNT-4 (HM FRAME)	SHERWIN WILLIAMS: NEBULOUS WHITE SW7063 SHERWIN WILLIAMS: LAZY GRAY SW6254 SHERWIN WILLIAMS: AFRICAN GRAY SW9162 SHERWIN WILLIAMS: TURKISH COFFEE SW6076
FIBER REINFORCED PLASTIC FRP-1	SPECIAL-LITE, SANDSTONE TEXTURED - LIGHT GREY # 5597
PLASTIC LAMINATE PL-1 (COUNTER TOPS) PL-2 (UPPER CABINETS) PL-3 (BASE CABINETS)	WILSONART, WHITE CASCADE 5003-38 WILSONART - COLUMBIAN WALNUT 7943-07 WILSONART - COLUMBIAN WALNUT 7943-07
DOORS WD-1	MASONITE ARCHITECTURAL COCOA BEAN (ROTARY NATURAL BIRCH)
CARPET CPT-01	MOHAWK GROUP, PURE GENIUS II, ARTIST II, 983 MATHEMATICIAN
MINIBLINDS MB-1	LEVELOR RIVIERA 1" BRUSHED ALUMINUM
TOILET PARTITIONS TP-1	ACCURATE PARTITIONS STAINLESS #304
PORCELAIN TILE PCT-1	ACME BRICK, TILE AND STONE, SIMPLY MODERN, SIMPLY CREME 12"X24"
VINYL COMPOSITE TILE VCT-1 VCT-2	ARMSTRONG, STANDARD EXCELON, 51915 CHARCOAL 12"X12" ARMSTRONG, STANDARD EXCELON, 51941 POLAR WHITE, 12"X12"
CEILING TILE ACT-1	ARMSTRONG-CORTEGA SQUARE LAY-IN 747, 24X48X5/8" (SECOND LOOK)

FINISH NOTES:
- ALL BATHROOM SHEET VINYL FLOORING TO BE CHEMICAL WELD CORNER COVE 4"H, (U.O.N.), WOOD/PLASTIC COVE STICK AND STAINLESS STEEL CAP STRIP ARE REQUIRED.



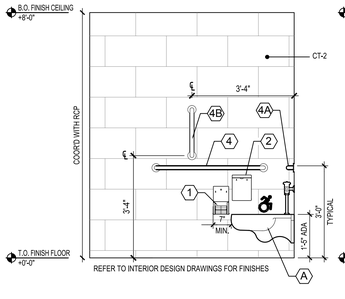
NOTE:
- 6 WAY ADJUSTABLE HINGES. TYPICAL.
- ALL CABINETS ARE PLASTIC LAMINATE FINISHED - REFER TO FINISHED SCHEDULE
- G.C. TO PROVIDE CONTINUOUS 8" WIDE 16 GA. STEEL PLATE GROUND.
- 3/4" x 2' PLASTIC LAMINATE BACKSPLASH AND WIRE PULL, TYP.

1 MILLWORK DETAIL - AT SINK
SCALE: 3/4"=1'-0"

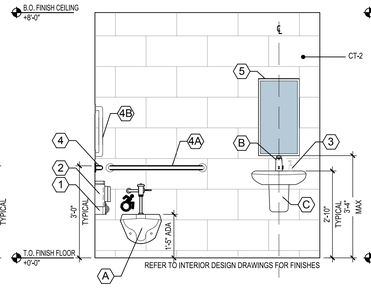


NOTE:
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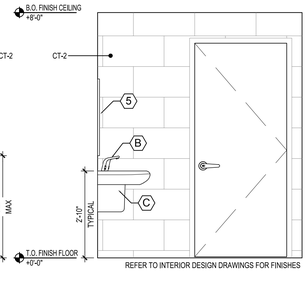
2 MILLWORK DETAIL
SCALE: 3/4"=1'-0"



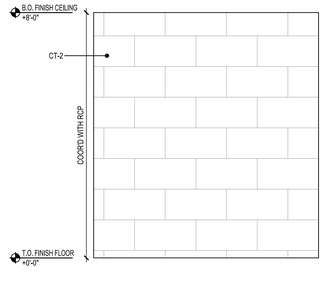
3 TOILET RM. ELEVATION
SCALE: 1/2"=1'-0"



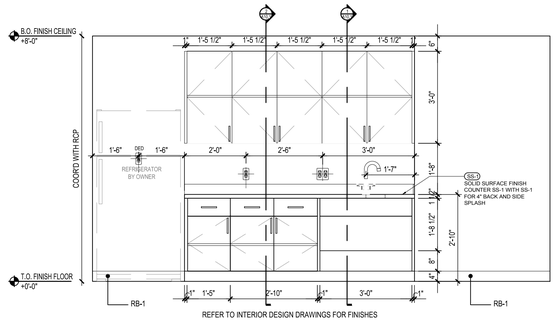
4 TOILET RM. ELEVATION
SCALE: 1/2"=1'-0"



5 TOILET RM. ELEVATION
SCALE: 1/2"=1'-0"



6 TOILET RM. ELEVATION
SCALE: 1/2"=1'-0"



7 BREAK ROOM ELEVATION
SCALE: 1/2"=1'-0"

TYPICAL TOILET FINISH NOTES

1. ALL TOILETS:
   WALLS: REFER TO AND COORDINATE WITH FINISH SCHEDULE
   FLOORS: REFER TO AND COORDINATE WITH FINISH SCHEDULE
2. ALL TOILETS OVER OCCUPIED SPACE FLOOR, SHALL RECEIVE LIQUID APPLIED MEMBRANE WATERPROOFING AND SHALL EXTEND A MIN. OF 8" UP VERTICAL SURFACE OF WALLS

GENERAL NOTES

1. ALIGN WALL TILE JOINTS WITH JOINTS IN FLOOR TILE.
2. ALL "OUT" CORNERS AT WALL AND BASE TILE TO BE CONSTRUCTED WITH FINISH TRIM - SCHLUTER JOLLY, AE STAIN ANODOZIZED ALUMINUM
3. ALL BASE TO BE COVE BASE TILE, SEE FINISH PLANS
4. REFER TO PLUMBING DWG's FOR PLUMBING FIXTURES AND PIPING.
5. REFER TO ELECTRICAL DWG's FOR STROBES, POWER ETC.
6. REFER TO FINISH SCHEDULE FOR TILE SIZE AND TYPE.
7. ALL TOILET ACCESSORIES SHALL BE LINE POWERED WHERE SPECIFIED. COORDINATE INSTALLATION LOCATIONS WITH ACCESSORY REQUIREMENTS AND WITH ELECTRICAL DRAWINGS.

TOILET ACCESSORY LEGEND

TAG #	DESCRIPTION
1	TOILET TISSUE DISPENSER - SURFACE MOUNTED, MULTI-ROLL BOBRICK : B-4288
2	SANITARY NAPKIN DISPOSAL UNIT - SURFACE MOUNTED (FOR WOMEN'S) BOBRICK: B-270
3	SOAP DISPENSER - AUTOMATIC LAVATORY-MOUNTED BOBRICK: B-826 (BATTERY POWERED)
4	STAINLESS STEEL GRAB BAR (3'-6" x 1-1/4" DIA.) BOBRICK: B-5806 x42 WITH .99 PEENED GRIPPING SURFACE
4A	STAINLESS STEEL GRAB BAR (3'-0" x 1-1/4" DIA.) BOBRICK: B-5806 x36 WITH .99 PEENED GRIPPING SURFACE
4B	STAINLESS STEEL GRAB BAR - VERTICAL (1'-6" x 1-1/4" DIA.) BOBRICK: B-5806 x18 WITH .99 PEENED GRIPPING SURFACE
5	MIRROR WITH STAINLESS STEEL FRAME (18"x30") BOBRICK: B-165 1830, USE MODEL B-293 1830 AT ALL ADA SINK LOCATIONS (UNISEX RESTROOMS AND (1 GANG SINK LOCATION EACH RESTROOM)
	SYMBOL DENOTES DESIGNATED ACCESSIBLE FIXTURE OR TOILET ACCESSORY

PLUMBING FIXTURE LEGEND

NOTE: PLUMBING FIXTURES AND TOILET ACCESSORIES SHALL BE MOUNTED AT AN ACCESSIBLE HEIGHT WHERE INDICATED. A MINIMUM OF ONE (1) FIXTURE OF EACH TYPE AND EACH TYPE OF ACCESSORY SHALL BE MOUNTED AT AN ACCESSIBLE HEIGHT AT EACH TOILET ROOM

TAG #	DESCRIPTION
A	WATER CLOSET - TOP SPUD WALL HUNG, WITH BATTERY POWERED FLUSH VALVE AND WALL CARRIER, FURNISHED AND INSTALLED BY P.C. REFER TO PLUMBING DWGS FOR ADDITIONAL INFO
B	MANUAL FAUCET - CHINA MOUNTED, AMERICAN STANDARD' CENTERSET FAUCET #6114.110.002, REFER TO PLUMBING DWGS FOR ADDITIONAL INFO .
C	BATHROOM SINK - WALL HUNG REFER TO PLUMBING DWGS FOR ADDITIONAL INFO
D	ADA COMPLIANT DRINKING FOUNTAIN 'ELKAY' WALL MOUNTED BI-LEVEL ADA WATER COOLER, W/ IN-WALL CARRIER #WLP200, WALL PLATE #1000004539 REFER TO PLUMBING DWGS FOR ADDITIONAL INFO
E	JANITORS SINK WITH FAUCET AND ACCESSORIES: 'MUSTEE' SERVICE SINK #63M, W/ FAUCET #63.600A, HOSE & HOLDER #65.700, MOP HANGER #65.600, GUARDS #63.401, WALL PANEL GUARDS #67.2424 REFER TO PLUMBING DWGS FOR ADDITIONAL INFO

XEBEC
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Huntington, NY 11743
Phone: (631) 271-0576
Fax: (631) 271-0592
Website: rmengineering.com

KEY PLAN
FIFTH AVENUE
(EAST)
(WEST)

ISSUED FOR 50% PERMIT	06/30/23
ISSUED FOR DD	04/28/23
REVISION:	DATE:

DRAWING TITLE:
INTERIOR TOILET ELEVATIONS, MILLWORK DETAILS AND FINISH LEGEND

SCALE: AS NOTED
DRAWN BY: CM

It is a violation of the Education Law of the State of New York for any person, unless he is acting under the direction of a licensed Architect to alter any item on this drawing and/or in this specification in any way. If any such item is altered, the altering Architect shall affix to the item his seal and the notation "altered by" followed by his signature and the date of such alteration together with a specific description of the alteration.

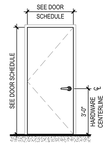
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DWG. NO.

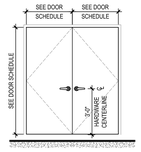
A10.1

22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706

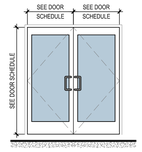
DOOR ELEVATIONS



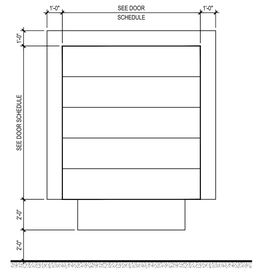
ELEV.-1
PAINTED FLUSH H.M. DOOR



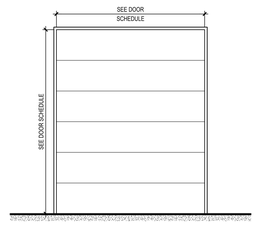
ELEV.-2
PAINTED FLUSH H.M. DOUBLE DOOR



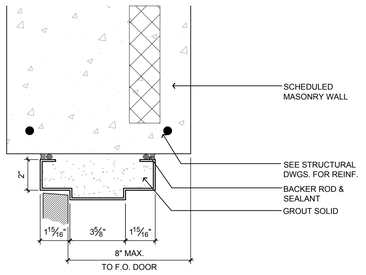
ELEV.-2A
ALUM./TEMPERED GLASS DOUBLE DOOR WITH PULL AND/OR PUSH HANDLE, MED STYLE



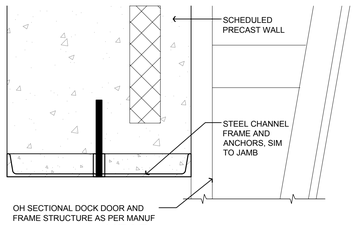
ELEV.-3
LOADING DOCK DOOR



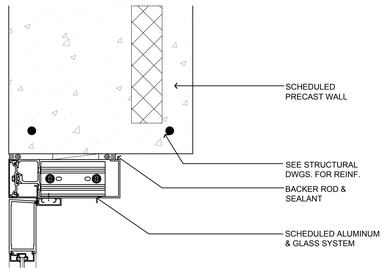
ELEV.-4
DRIVE-IN DOCK DOOR



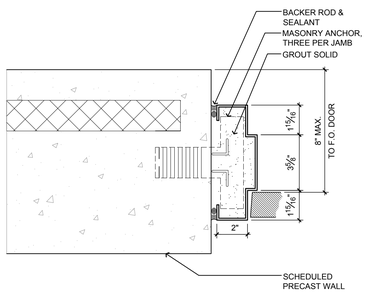
HEAD



HEAD



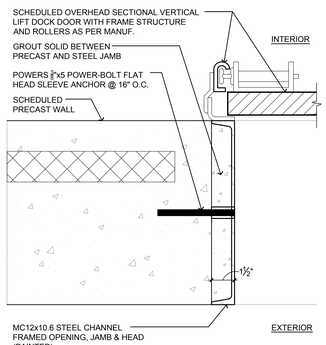
HEAD



JAMB

(AT PRECAST WALL)

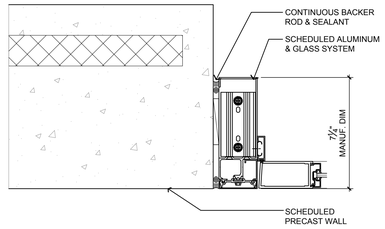
H1/J1 FRAME DETAIL
SCALE: 3"=1'-0"



JAMB

(AT PRECAST WALL)

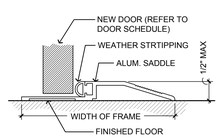
H2/J2 OH DOOR FRAME DETAIL
SCALE: 3"=1'-0"



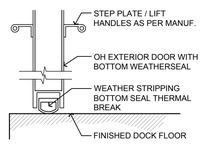
JAMB

(AT ALUM & GLASS SYSTEM)

H3/J3 FRAME DETAIL
SCALE: 3"=1'-0"



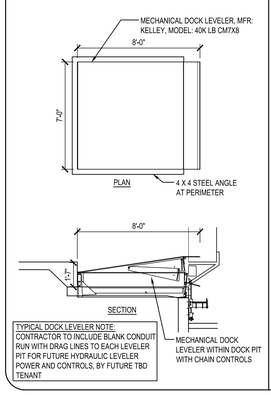
S1 SADDLE DETAIL - W/ WEATHERSTOP
SCALE: 3"=1'-0"



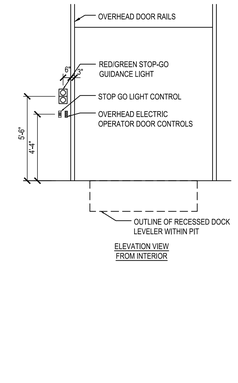
S2 SADDLE DETAIL - DOCK DOOR
SCALE: 3"=1'-0"

LOADING DOCK DETAILS

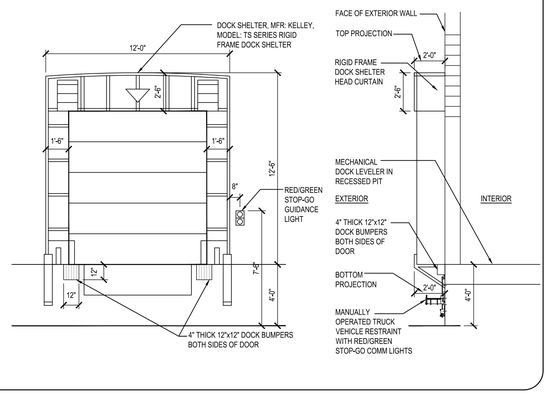
MECHANICAL DOCK LEVELER



INTERIOR CONTROLS



TS SERIES RIGID FRAME DOCK SHELTER



DOOR SCHEDULE

	DOOR NUMBER	ROOM NAME	DOOR TYPE	DOOR SIZE	DOOR MATERIAL	FRAME MATERIAL	FRAME HEAD / JAMB	SADDLE	RATING	HDWR SET NO.	REMARKS
*	100A	OPEN WAREHOUSE	1	3'-6" X 7'-0"	HM	HM	H1/J1	S2	-	01	-
*	100B	OPEN WAREHOUSE	1	3'-6" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100C	OPEN WAREHOUSE	1	3'-6" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100D	OPEN WAREHOUSE	1	3'-6" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100E	OPEN WAREHOUSE	1	3'-6" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100F	OPEN WAREHOUSE	1	3'-6" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100G	OPEN WAREHOUSE	1	3'-10" X 7'-0"	HM	HM	H1/J1	S2	-	01	-
*	100H	OPEN WAREHOUSE	1	3'-0" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100I	OPEN WAREHOUSE	1	3'-0" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100J	OPEN WAREHOUSE	1	3'-0" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100K	OPEN WAREHOUSE	1	3'-0" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100L	OPEN WAREHOUSE	1	3'-10" X 7'-0"	HM	HM	H1/J1	S2	-	01	-
*	100M	OPEN WAREHOUSE	1	3'-6" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100N	OPEN WAREHOUSE	1	3'-6" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100O	OPEN WAREHOUSE	1	3'-6" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100P	OPEN WAREHOUSE	1	3'-6" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100Q	OPEN WAREHOUSE	1	3'-6" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100R	OPEN WAREHOUSE	1	3'-6" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100S	OPEN WAREHOUSE	1	3'-10" X 7'-0"	HM	HM	H1/J1	S2	-	01	-
*	100T	OPEN WAREHOUSE	1	3'-0" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100U	OPEN WAREHOUSE	2A	(2) 3'-0" X 7'-0"	AL GL	AL GL	H3/J3	S2	-	AL01	COOR'D WITH STOREFRONT MANUF.
*	100V	OPEN WAREHOUSE	1	3'-0" X 7'-0"	HM	HM	H1/J1	S2	-	02	-
*	100W	OPEN WAREHOUSE	1	3'-0" X 7'-0"	HM	HM	H1/J1	S2	-	01	-
*	100X	OPEN WAREHOUSE	3	9'-0" X 10'-0"	STEEL	STEEL	H2/J2	S2	-	XX	OH VERTICAL LIFT DOOR
*	100Y	OPEN WAREHOUSE	4	10'-0" X 12'-0"	STEEL	STEEL	H2/J2	S2	-	XX	OH VERTICAL LIFT DOOR - DRIVE IN
*	101A	OFFICE SPACE	2A	(2) 3'-0" X 7'-0"	AL GL	AL GL	H3/J3	S1	-	AL01	COOR'D WITH STOREFRONT MANUF.
	101B	OFFICE SPACE	1	3'-0" X 7'-0"	HM	HM	H4/J4	S3	-	05A	-
	101C	OFFICE SPACE	1	3'-0" X 7'-0"	HM	HM	H4/J4	S3	-	05A	-
	103A	OFFICE #1	1	3'-0" X 7'-0"	HM	HM	H4/J4	S3	-	05	-
	104A	OFFICE #2	1	3'-0" X 7'-0"	HM	HM	H4/J4	S3	-	05	-
	105A	OFFICE #3	1	3'-0" X 7'-0"	HM	HM	H4/J4	S3	-	05	-
	106A	CONFERENCE RM. #1	1	3'-0" X 7'-0"	HM	HM	H4/J4	S3	-	05	-
	107A	MEN'S TOILET RM.	1	3'-0" X 7'-0"	HM	HM	H4/J4	S3	-	06	-
	108A	WOMEN'S TOILET RM.	1	3'-0" X 7'-0"	HM	HM	H4/J4	S3	-	06	-
	109A	JANITOR CLOSET	1	3'-0" X 7'-0"	HM	HM	H4/J4	S3	-	07	-
	111A	OFFICE #4	1	3'-0" X 7'-0"	HM	HM	H4/J4	S3	-	05	-
	112A	OFFICE #5	1	3'-0" X 7'-0"	HM	HM	H4/J4	S3	-	05	-
	113A	CONFERENCE RM. #2	1	3'-0" X 7'-0"	HM	HM	H4/J4	S3	-	05	-
*	114A	ELECTRICAL ROOM 1	2	(2) 3'-0" X 7'-0"	HM	HM	H1/J1	S1	-	03	-
*	114B	ELECTRICAL ROOM 1	1	3'-0" X 7'-0"	HM	HM	H1/J1	S1	-	01	-
*	115A	ELECTRICAL ROOM 2	1	3'-0" X 7'-0"	HM	HM	H1/J1	S1	-	01	-
*	116A	WATER ROOM	2	3'-0" X 7'-0"	AL GL	AL GL	H1/J1	S1	-	08	-
*	117A	OFFICE SPACE #2 (TBD)	3	(2) 3'-0" X 7'-0"	AL GL	AL GL	H1/J1	S1	-	AL01	-

* INDICATES EXTERIOR DOORS PED = PANIC EXIT DEVICE ALL EXTERIOR DOORS TO BE INSULATED AND SELF CLOSING ALL RATED DOORS TO BE SELF CLOSING

DOOR HARDWARE SETS

94404 OPT0330913 Version 1

HARDWARE SET NO. 01 - SINGLE EXIT EXTERIOR - KEYED ENTRY
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	PANIC HARDWARE	22-NL	689	VON
1	EA	RIM CYLINDER	20-057 ICX	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4050A SCUSH ST-5013	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	SET	GASKETING	328AA-S @ HEAD AND JAMBS	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	546A	A	ZER
2	EA	MOUNTING BRACKET	328SPB		ZER

NOTE:
328SPB MOUNTING BRACKETS ARE INSTALLED OVER WEATHERSTRIPPING TO PROVIDE A MOUNTING SURFACE FOR RIM EXIT STRIKE AND CLOSER BRACKET. THE INTENTION IS TO PROVIDE A CONTINUOUS SEAL AROUND DOOR. MOUNT BRACKETS PRIOR TO MOUNTING EXIT DEVICE AND CLOSER ON DOOR AND ADJUST TEMPLATING ACCORDINGLY.

HARDWARE SET NO. 02 - SINGLE EXIT EXTERIOR - EXIT ONLY
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	PANIC HARDWARE	22-EO	689	VON
1	EA	SURFACE CLOSER	4050A SCUSH ST-5013	689	LCN
1	SET	GASKETING	328AA-S @ HEAD AND JAMBS	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	546A	A	ZER
2	EA	MOUNTING BRACKET	328SPB		ZER

NOTE:
328SPB MOUNTING BRACKETS ARE INSTALLED OVER WEATHERSTRIPPING TO PROVIDE A MOUNTING SURFACE FOR RIM EXIT STRIKE AND CLOSER BRACKET. THE INTENTION IS TO PROVIDE A CONTINUOUS SEAL AROUND DOOR. MOUNT BRACKETS PRIOR TO MOUNTING EXIT DEVICE AND CLOSER ON DOOR AND ADJUST TEMPLATING ACCORDINGLY.

HARDWARE SET NO. 03 - PAIR EXTERIOR - EXIT ONLY
Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	REMOVABLE MULLION	4954	689	VON
2	EA	PANIC HARDWARE	22-EO	689	VON
2	EA	SURFACE CLOSER	4050A SCUSH ST-5013	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	SET	GASKETING	328AA-S @ HEAD AND JAMBS	AA	ZER
2	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	546A	A	ZER
2	EA	MOUNTING BRACKET	328SPB		ZER

NOTE:
328SPB MOUNTING BRACKETS ARE INSTALLED OVER WEATHERSTRIPPING TO PROVIDE A MOUNTING SURFACE FOR CLOSER BRACKET. THE INTENTION IS TO PROVIDE A CONTINUOUS SEAL AROUND DOOR. MOUNT BRACKETS PRIOR TO CLOSER ON DOORS AND ADJUST TEMPLATING ACCORDINGLY.

HARDWARE SET NO. 05 - SINGLE OFFICE
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ALX50T RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64 (OMIT WHERE SMOKE/FIRE SEALS ARE PROVIDED)	GRY	IVE

HARDWARE SET NO. 05A - SINGLE OFFICE
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ALX50T RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	1461 CUSH FC	689	LCN
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64 (OMIT WHERE SMOKE/FIRE SEALS ARE PROVIDED)	GRY	IVE

HARDWARE SET NO. 06 - SINGLE PRIVACY
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY LOCK	ALX40 RHO	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64 (OMIT WHERE SMOKE/FIRE SEALS ARE PROVIDED)	GRY	IVE

HARDWARE SET NO. 07 - SINGLE STOREROOM
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ALX50T RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	1461 HCUSH FC	689	LCN
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64 (OMIT WHERE SMOKE/FIRE SEALS ARE PROVIDED)	GRY	IVE

HARDWARE SET NO. 08 - PAIR STOREROOM EXTERIOR
Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	AUTO FLUSH BOLT	FB31P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	L9080T LLLA 10-072 7/8" LIP LOCK SPECIFIED LESS OUTSIDE LEVER	630	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	DOOR PULL	VR904	630	IVE
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	MOUNTING BRACKET	MB	689	IVE
2	EA	SURFACE CLOSER	4050A SCUSH ST-5013	689	LCN
1	SET	GASKETING	328AA-S @ HEAD AND JAMBS	AA	ZER
1	EA	MEETING STILE	383AA	AA	ZER
2	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	546A	A	ZER
2	EA	MOUNTING BRACKET	328SPB		ZER

HARDWARE SET NO. AL01 - PAIR ALUMINUM AND GLASS
Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	628	IVE
2	EA	DEADBOLT	MS1850, TO SUIT DOOR	628	ADA
2	EA	MORTISE CYLINDER	20-062 ICX X K510-711 36-082-018 36-082-037	626	SCH
2	EA	FSIC CORE	23-030	626	SCH
2	EA	PUSH/PULL BAR	9190HD-10"-NO	630	IVE
2	EA	OH STOP	410S	630	GLY
2	EA	SURFACE CLOSER	1461 FC MOUNT CLOSER TOP JAMB	689	LCN
1	EA	FC MOUNTING PLATE	1460-18FC SRT DROP PLATE TO CLEAR OVERHEAD STOP	689	LCN
1	EA	PERIMETER GASKETING	BY DOOR MANUFACTURER		
1	EA	THRESHOLD	545A	A	ZER

HARDWARE SET NO. XX - ROLL UP DOOR
Provide each RU door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	ALL HARDWARE	BY MANUFACTURER		

DOOR HARDWARE BASIS-OF DESIGN BY ALLEGION, PLC
CONTACT: JIM LENOX, CSI, CDT
ARCHITECTURAL SERVICES CONSULTANT
EMAIL: JAMES.LENOX@ALLEGION.COM
PHONE: (516) 214-3601

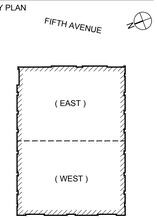
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NEW YORK 11706

ARCHITECT
bld architecture
bld architecture, dpc
31 West Main Street, Suite 205
Patchogue, NY 11772
TEL: 631 580 2100
FAX: 631 580 9760
www.bldnow.com

MEP & STRUCTURAL CONSULTANT
CAMERON ENGINEERING & ASSOCIATES, LLP
177 Crossways Park Drive,
Woodbury, NY 11797
Phone: (516) 827-4900
Website: www.cameroneningineering.com

CIVIL ENGINEER CONSULTANT
ROBINSON & MULLER ENGINEERS, P.C.
50 Elm Street
Huntington, NY 11743
Phone: (631) 271-0576
Fax: (631) 271-0592
Website: rmengineering.com

KEY PLAN



ISSUED FOR 50% PERMIT	06/30/23
ISSUED FOR DD	04/28/23
REVISION:	DATE:

DRAWING TITLE:

DOOR & LOADING DOCK DETAILS, SCHEDULE & ELEVATIONS

SCALE: NTS

DRAWN BY: KT

It is a violation of the Education Law of the State of New York for any person, unless he is acting under the direction of a licensed Architect to alter any item on this drawing and/or in this specification in any way. If any such item is altered, the altering Architect shall affix to the item his seal and the notation "altered by" followed by his signature and the date of such alteration together with a specific description of the alteration.

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DWG. NO.

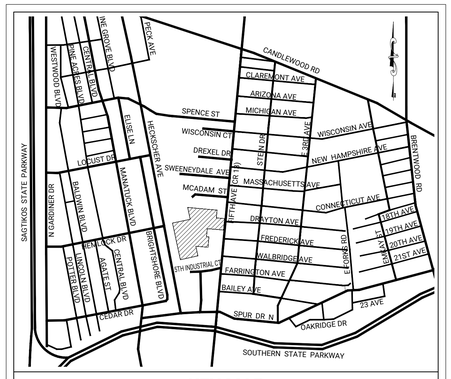
A-11.1

22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706

SITE DEVELOPMENT PLANS

FOR

1612 FIFTH AVENUE



KEY MAP
SCALE: 1" = 1,500'

SITUATED IN

BAY SHORE
TOWN OF ISLIP
SUFFOLK COUNTY, NEW YORK

UTILITY CONTACTS

SANITARY:	TELEPHONE:
SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES	VERIZON
BUREAU OF WASTEWATER MANAGEMENT	501 NORTH OCEAN AVE.
360 YAPHANK AVE.	PATCHOGUE, NY 11772
YAPHANK, NY 11980	PHONE: (631) 687-8446
PHONE: (631) 852-5700	
	ROADS:
WATER:	TOWN OF ISLIP PUBLIC WORKS
SUFFOLK COUNTY WATER AUTHORITY	HIGHWAY DIVISION
4060 SUNRISE HIGHWAY	401 MAIN STREET
OAKDALE, NY 11769	ISLIP, NY 11751
PHONE: (631) 589-5200	PHONE: (631) 224-5600
	SUFFOLK COUNTY DEPARTMENT OF PUBLIC WORKS
GAS:	HIGHWAY DEPARTMENT
NATIONAL GRID	335 YAPHANK AVE.
1393 VETERANS HIGHWAY	YAPHANK, NY 11980
HAUPPAUGE, NY 11788	PHONE: (631) 852-4079
PHONE: 1-800-GAS-2001	
	SITE PLAN:
ELECTRIC:	TOWN OF ISLIP
PSEG	ENGINEERING DEPARTMENT
175 EAST OLD COUNTRY ROAD	655 MAIN STREET. ISLIP, NY 11751
HICKSVILLE, NY 11801	PHONE: (631) 224-5360
PHONE: (800) 490-0025	

CIVIL ENGINEERING DRAWINGS

SHEET No.	TITLE
SP-1	COVER SHEET
SP-2	OVERALL ALIGNMENT PLAN
SP-3A	PARTIAL ALIGNMENT PLAN
SP-3B	PARTIAL ALIGNMENT PLAN
SP-4A	PARTIAL DEMOLITION PLAN
SP-4B	PARTIAL DEMOLITION PLAN
SP-5A	PARTIAL GRADING & DRAINAGE PLAN
SP-5B	PARTIAL GRADING & DRAINAGE PLAN
SP-5C	UNSUITABLE FILL DEPTH PLAN
SP-6A	PARTIAL UTILITY PLAN
SP-6B	PARTIAL UTILITY PLAN
SP-7A	PARTIAL LANDSCAPE & IRRIGATION PLAN
SP-7B	PARTIAL LANDSCAPE & IRRIGATION PLAN
SP-8A	PARTIAL PHOTOMETRIC PLAN
SP-8B	PARTIAL PHOTOMETRIC PLAN
SP-9A	PARTIAL SWPPP PLAN
SP-9B	PARTIAL SWPPP PLAN
SP-10	CONSTRUCTION DETAILS
SP-10.1	CONSTRUCTION DETAILS
SP-11	DRAINAGE DETAILS
SP-12	SANITARY DETAILS
SP-13	SANITARY DETAILS
SP-14	WATER & UTILITY DETAILS
SP-15	SWPPP DETAILS
RW-1	RETAINING WALL DETAILS
WZTC-1	WORK ZONE TRAFFIC CONTROL PLAN

TOWN OF ISLIP NOTES

1. CONTACT THE ENGINEERING INSPECTOR (631-224-5360) AT LEAST 48 HOURS PRIOR TO START OF ANY WORK. WORK PERFORMED WITHOUT INSPECTION SHALL BE CERTIFIED TO THE TOWN ENGINEER'S SATISFACTION AT APPLICANT'S EXPENSE.
2. COORDINATE AND COMPLETE ALL UTILITY RELOCATIONS. ALL UTILITIES SHALL BE INSTALLED BELOW GRADE.
3. OBTAIN A TOWN RIGHT-OF-WAY WORK PERMIT PRIOR TO CONSTRUCTION WITHIN THE TOWN RIGHT-OF-WAY (631-224-5610)
4. CLEARING LIMIT LINES SHALL BE STAKED OUT BY A LICENSED LAND SURVEYOR, AND EITHER SNOW FENCING OR CONSTRUCTION FENCING SHALL BE ERECTED TO PROTECT AREAS FROM DISTURBANCE OR ENCROACHMENT PRIOR TO THE START OF ANY ACTIVITIES ON SITE. FENCING SHALL NOT BE REMOVED PRIOR TO COMPLETION OF FINAL SITE GRADING OPERATIONS.
5. PLACEMENT OF FILL, INSTALLATION OF RETAINING WALLS, DUMPING OF MATERIAL, EXCAVATION, MINING, OR SIMILAR DISTURBANCE OF LAND REQUIRES AN APPROVED SITE PLAN. COMMENCEMENT OF ANY LEGAL ACTION OF THE ABOVE WITHOUT APPROVAL IS PROHIBITED AND SUBJECT TO LEGAL ACTION.
6. CONTRACTOR SHALL CONTACT FIRE MARSHALL'S OFFICE (631-224-5477) PRIOR TO INSTALLATION OF ANY FIRE SERVICE WATER LINES TO PROVIDE PROPER INSPECTION COORDINATION.
7. ALL EXISTING OR PROPOSED SUBSURFACE ELECTRIC, TELEPHONE, OR CABLE SERVICES SHALL BE INSTALLED IN APPROPRIATE CONDUIT SLEEVES WHEN PERMANENT, IMPROVED SURFACES ARE PROPOSED OVER THE ROUTING PATH.
8. ALL RECYCLED PORTLAND CEMENT CONCRETE AGGREGATE (RCA) AND FILL MATERIALS ARE TO BE FROM AN APPROVED SOURCE. RECYCLED PORTLAND CEMENT CONCRETE AGGREGATE IS TO BE CERTIFIED. DOCUMENTATION IS TO BE PROVIDED SHOWING THAT THE MATERIAL OBTAINED IS FROM A NYSDEC REGISTERED OR PERMITTED CONSTRUCTION AND DEMOLITION (C&D) DEBRIS PROCESSING FACILITY AS SPECIFIED IN SECTION 360-16.1 OF 6NYCRR PART 360, 'SOLID WASTE MANAGEMENT FACILITIES'.
9. LOAD TICKETS REQUIRED FOR ALL FILL MATERIALS BROUGHT ON SITE, IDENTIFYING THE SOURCE AND QUANTITY OF MATERIALS. ALL FILL TO SATISFY THE REQUIREMENTS OF ISLIP ITEM 28F OR ITEM 25B.
10. ALL CONSTRUCTION AND DEMOLITION MATERIAL EXPORTED FROM THE SUBJECT PARCEL SHALL BE TRANSFERRED TO AN APPROVED NYSDEC FACILITY, LOAD/TRANSFER TICKETS TO BE RETAINED AND COPIES PROVIDED TO THE TOWN OF ISLIP ENGINEERING INSPECTOR FOR THE RECORD.
11. THE TOWN OF ISLIP SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, SECTION P, 5 SHALL BE FOLLOWED.
12. APPLICATIONS REQUIRING THE PROVISION OF A STABILIZED CONSTRUCTION ENTRANCE SHALL FOLLOW THE CONSTRUCTION SPECIFICATIONS AS STATED WITHIN THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL PAGES 5A.75 AND 5A.76. CONSTRUCTION AND DEMOLITION DEBRIS MATERIALS SHALL NOT BE CONSIDERED FOR USE WITH STABILIZED CONSTRUCTION ENTRANCE INSTALLATIONS.
13. REFUSE FACILITIES SHALL BE MAINTAINED BY THE APPLICANT/OWNER SO AS NOT TO OFFER ANY NOXIOUS OR OFFENSIVE ODORS AND/OR FUMES. APPLICANT/OPERATOR SHALL MAINTAIN REFUSE ENCLOSURE GATES IN A CLOSED POSITION EXCEPT AT TIMES UNITS ARE BEING ACCESS FOR LOADING OR UNLOADING OF DUMPSTERS.
14. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE DEDICATION(S) TO THE TOWN OF ISLIP MUST BE RECORDED WITH THE SUFFOLK COUNTY CLERK.
15. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE LIGHTING CONTRACTOR OR ELECTRICIAN SHALL PROVIDE AN UNDERWRITER'S LABORATORY CERTIFICATE AND LETTER STATING THE LIGHTS HAVE BEEN ENERGIZED.

GENERAL NOTES

1. R&M ENGINEERING SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, OR PROCEDURES UTILIZED BY THE CONTRACTOR, OR THE SAFETY OF PUBLIC OR CONTRACTOR'S EMPLOYEES; OR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. ALL EXISTING STRUCTURES SPECIFIED TO BE REMOVED, SHALL BE REMOVED AND BACKFILLED. BACKFILL TO BE SELECT GRANULAR FILL, COMPACTED TO 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT, AS DETERMINED BY MODIFIED PROCTOR TEST.
3. ALL FILL SHALL BE SELECT GRANULAR MATERIAL COMPACTED TO 95% OF THE MAXIMUM DENSITY AT THE OPTIMUM MOISTURE CONTENT, AS DETERMINED BY THE MODIFIED PROCTOR TEST.
4. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY CONTRACTOR PRIOR TO EXCAVATION.
5. ALL SITE WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWN, COUNTY, STATE OR AS SPECIFIED HEREIN, LATEST EDITIONS.
6. PROPOSED ELECTRIC AND TELEPHONE SERVICE LOCATIONS SUBJECT TO P.S.E.G. AND VERIZON DESIGN AND APPROVAL, AND SUBJECT TO TOWN PERMITS.
7. INSTALLATION OF ELECTRIC AND GAS SERVICE IS THE RESPONSIBILITY OF THE CONTRACTOR, BY WHICH ALL WORK SHALL CONFORM, AS A MINIMUM TO THE REQUIREMENTS OF PSEG LONG ISLAND.
8. INSTALLATION OF TELEPHONE SERVICE IS THE RESPONSIBILITY OF THE CONTRACTOR, BY WHICH ALL WORK SHALL CONFORM, AS A MINIMUM, TO THE REQUIREMENTS OF VERIZON.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS NECESSARY FOR INSTALLATION OF ALL UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL REQUIREMENTS FOR THE PRECONSTRUCTION OF ANY SANITARY SYSTEM FROM ALL GOVERNING AGENCIES. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF ALL THE UTILITY OR MUNICIPAL AGENCY HAVING JURISDICTION. CONTRACTOR SHALL COORDINATE THE REQUIRED UTILITY AND MUNICIPAL INSPECTIONS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS NECESSARY AND FOR THE INSTALLATION OF SIGNS.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS NECESSARY TO REMOVE ANY EXCAVATED MATERIALS.
12. UNSUITABLE MATERIAL, AS DEFINED IN SECTION 203 OF N.Y.S.D.O.T. STANDARD SPECIFICATIONS EDITION, UNDER PAVEMENT, WALKS AND CONCRETE SLABS SHALL BE REMOVED AND REPLACED WITH SELECT GRANULAR MATERIAL.
13. SELECT GRANULAR MATERIAL SHALL BE AS DEFINED IN SECTION 203 OF THE N.Y.S.D.O.T. STANDARD SPECIFICATIONS.
14. COMPACTION SHALL CONFORM TO N.Y.S.D.O.T. SECTION 203.
15. ALL CONCRETE CURBING, SIDEWALK, AND DRAINAGE STRUCTURES SHALL CONFORM TO THE TOWN OF ISLIP SUBDIVISION AND LAND DEVELOPMENT REGULATIONS (AMENDED JUNE 2020 EDITION)
16. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL UNSUITABLE MATERIAL AND DEBRIS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL TOWN, COUNTY, STATE AND FEDERAL LAWS AND APPLICABLE CODES.
17. ELEVATIONS REFER TO NAVD 88.
18. ALL DRAINAGE STRUCTURES SHALL BE PRECAST, WITH PRECAST OPENINGS FOR DRAINAGE PIPE(S) AND SHALL CONFORM TO THE TOWN STANDARD DETAILS AND SPECIFICATIONS.
19. THE BUILDING SHALL BE CONNECTED TO THE SANITARY SYSTEM UNDER THE REQUIRED TOWN AND COUNTY SEWER PERMITS.
20. CONSTRUCTION OF APPLICABLE WATER AND SEWAGE FACILITIES IN THE SITE SHALL CONFORM TO PART 74, TITLE 10 AND PART 653, TITLE 6 OF THE OFFICIAL COMPILATION OF CODES, RULES AND REGULATIONS OF THE STATE OF NEW YORK.
21. ALL EXISTING SANITARY STRUCTURES, SPECIFIED TO BE ABANDONED, SHALL BE PUMPED EMPTY AND FILLED WITH CLEAN, COMPACTED SAND, EXCEPT WHERE NOTED, IN FULL CONFORMANCE W/SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES GUIDELINES FOR ABANDONMENT OF SEWER STRUCTURES.
22. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULE, SLOPED PAVING, EXIT PORCHES, ROOF DRAINS, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
23. ALL PARKING LOT LIGHTING POLES, LIGHTING FIXTURE CONFIGURATIONS, AND COLOR SHALL BE APPROVED BY OWNER OR OWNER'S REPRESENTATIVE, PRIOR TO INSTALLATION. INSTALLATION SHALL CONFIRM TO THE DESIGN DOCUMENTS APPROVED FOR PERMIT BY THE TOWN.
24. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF TEMPORARY TRAFFIC CONTROLS WITHIN THE SITE AND ALONG SURROUNDING ROADWAYS AS REQUIRED TO CONTROL CONSTRUCTION TRAFFIC. THE INSTALLATION OF ALL TEMPORAY TRAFFIC CONTROLS SHALL CONFORM TO NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
25. THE CONTRACTOR, AT HIS EXPENSE, SHALL ALSO BE RESPONSIBLE FOR THE REPAIR AND MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES WITHIN THE SITE AND SHALL NOT AMEND THE SIGNAGE AND/OR PAVEMENT MARKINGS WITHOUT HAVING A NEW YORK STATE PROFESSIONAL ENGINEER PREPARE AND SUBMIT A TRAFFIC PLAN TO THE ISLIP ENGINEERING DIVISION.
26. THE CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY SHEETING, SHORING AND BRACING OF EXCAVATIONS AS REQUIRED TO CONSTRUCT THE IMPROVEMENTS AND TO PREVENT DISTURBANCE TO ADJOINING PROPERTIES.
27. TEMPORARY FENCING SHALL BE INSTALLED PRIOR TO THE START CONSTRUCTION TO ASSURE PROTECTION TO NATURALLY WOODED AREAS TO REMAIN. SAID FENCING IS TO BE INSPECTED PRIOR TO ANY CONSTRUCTION OR DISTURBANCE ON-SITE.

LEGEND

- EXISTING CONTOURS
- (104) PROPOSED CONTOURS
- PROPOSED CURB (6" REVEAL)
- PROPOSED HIGH CURB (18" REVEAL)
- EXIST CURB (TO REMAIN)
- EXIST CURB (TO BE REMOVED)
- W EXIST WATER MAIN
- E EXIST UNDERGROUND ELECTRIC
- T EXIST TELEPHONE LINE
- G EXIST GAS MAIN
- EXIST DRAIN MANHOLE
- EXIST DRAIN MANHOLE (OPEN GRATE)
- x 101.2 EXIST SPOT ELEVATION
- EXIST HYDRANT
- EXIST FENCE
- EXIST CATCH BASIN
- EXIST UTILITY POLE
- (S) PROP SANITARY LINE
- (D) PROP DRAIN LINE
- PROP HOUSE CONNECTION
- (W) PROP WATER SERVICE
- (RD) PROP ROOF DRAIN
- (E) PROP UNDERGROUND ELECTRIC
- (T) PROP TELEPHONE LINE
- (G) PROP GAS MAIN
- PROPOSED HYDRANT
- T PROP TRANSFORMER
- PROP CATCH BASIN
- x (123.45) PROP SPOT ELEVATION
- PROPOSED 6' CHAINLINK FENCE
- PROP LEACHING POOL W/OPEN GRATE
- PROP. LEACHING POOL WITH SOLID COVER
- PROP SEPTIC TANK
- PROP SANITARY LEACHING POOL W/SOLID COVER
- TC TOP OF CURB
- BC PAVEMENT ELEVATION
- DRAIN FLOW ARROW
- PROPOSED CONCRETE WALK
- PROPOSED REINFORCED CONCRETE LOADING AREA
- PROPOSED STANDARD DUTY ON-SITE PAVEMENT
- PROPOSED HEAVY DUTY ON-SITE PAVEMENT
- PROPOSED STANDARD DUTY OFF-SITE PAVEMENT

No.	REVISION DESCRIPTION	DATE	BY
13.	REVISED PER TOWN MEETING	02-05-26	JB
12.	REVISED PER TOI COMMENTS	06-16-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	REVISED PER SCDPW COMMENTS	04-12-24	CB
9.	REVISED PER TOI COMMENTS	01-10-24	CB
8.	GENERAL REVISIONS	11-08-23	CB
7.	GENERAL REVISIONS	08-25-23	CB
6.	REVISED PER SURVEY UPDATE	08-08-23	CB
5.	REVISED PER SCWA COMMENTS	07-17-23	AR
4.	REVISED PER SCDHS COMMENTS	06-16-23	CB
3.	REVISED PER SCWA COMMENTS	05-10-23	CB
2.	GENERAL REVISIONS	04-21-23	MJM
1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
1612 FIFTH AVENUE LLC/ SMITOHEN-KENDRICK
2323 VICTORY AVENUE, SUITE 895
DALLAS, TX 75201
PHONE: 201-620-0401
EMAIL: NEDD@XEBECREALTY.COM

COVER SHEET

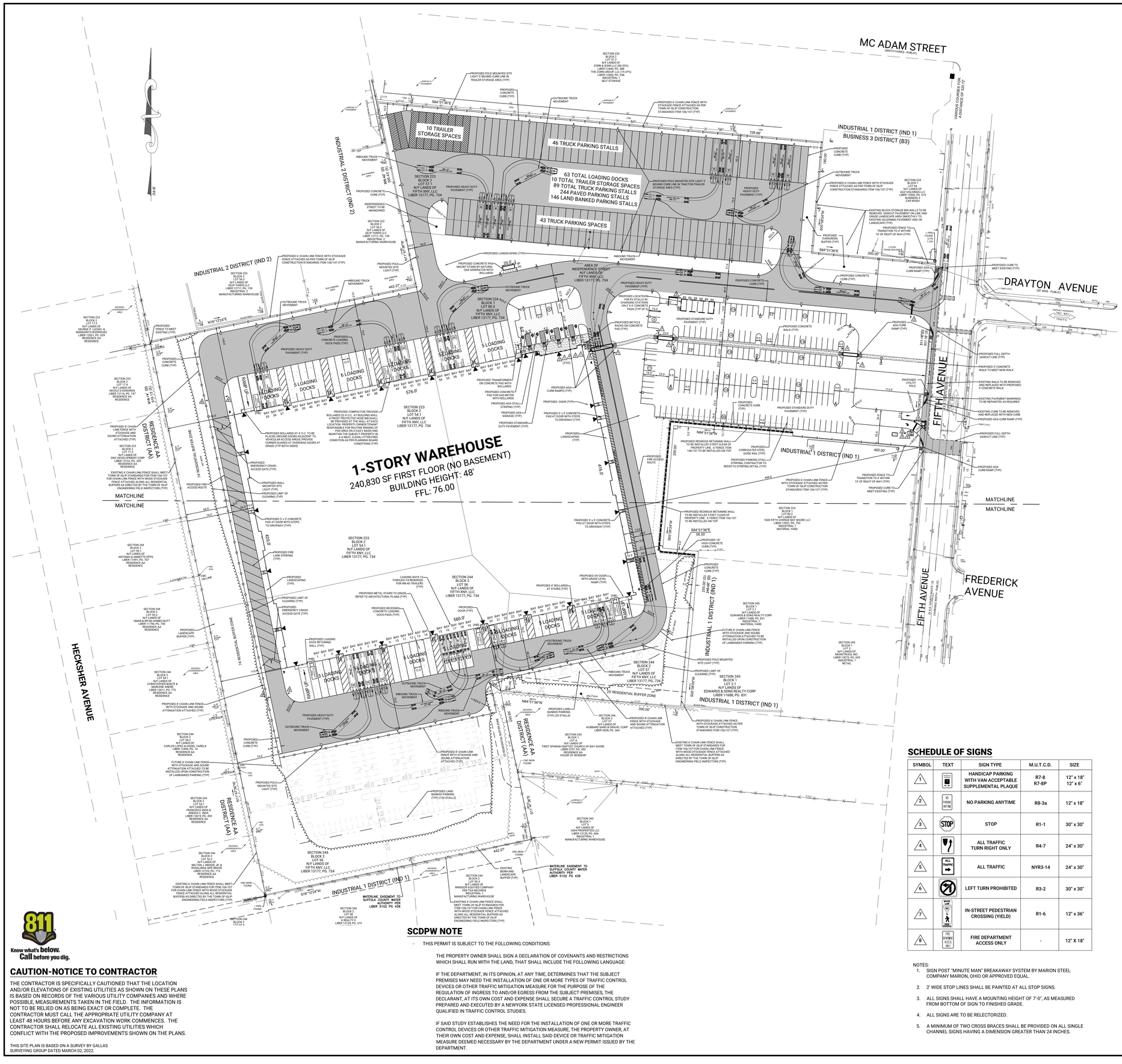
1612 FIFTH AVENUE
SITUATED IN
BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK
SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

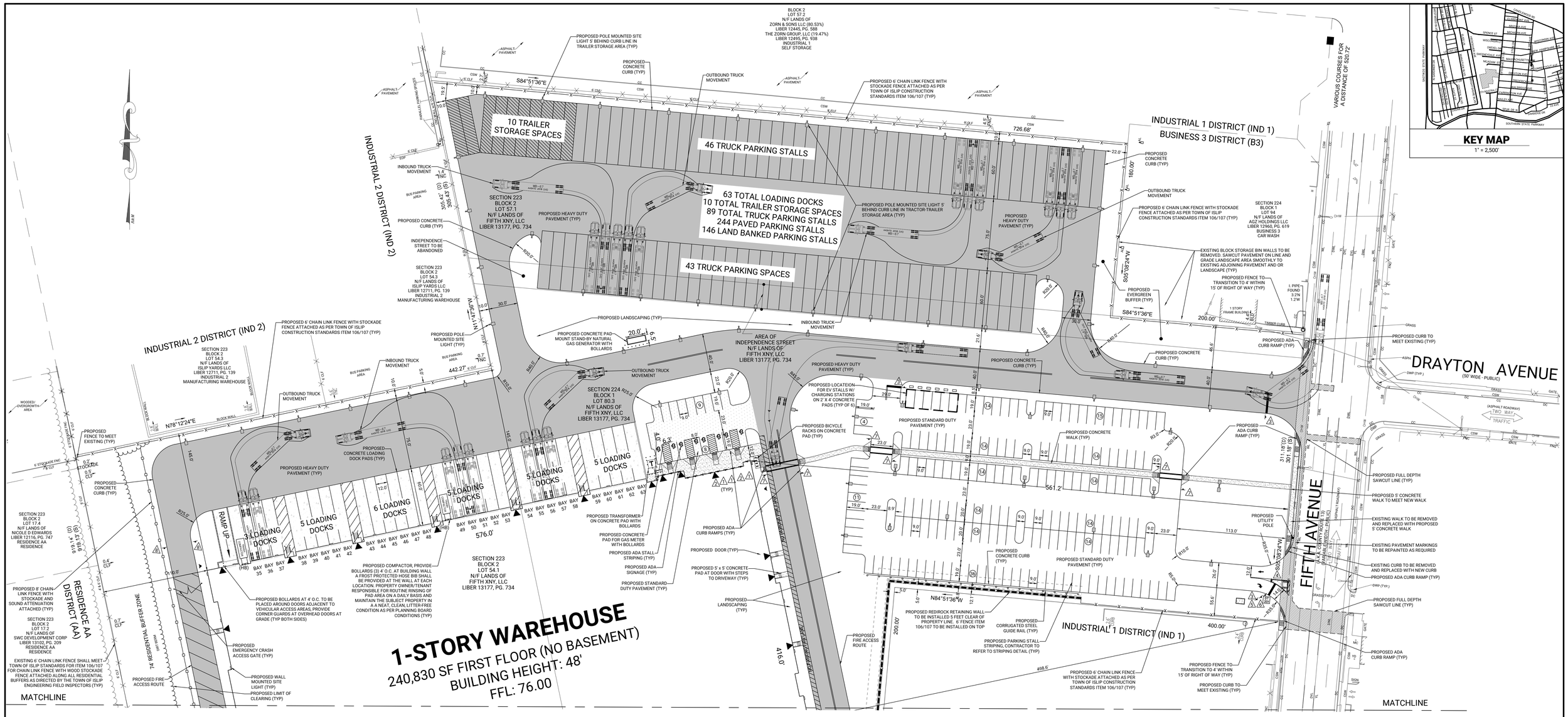
Christopher W. Robinson, P.E.
NY State License No. 067519

Robinson & Muller Engineers, P.C.
50 Elm Street
Huntington, NY 11743
Office: (631) 271-0576
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DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	AS NOTED	SHEET:	SP-1
DATE:	08-09-22	DATE:	08-20-22	JOB No.:	2022-001		

Drawing Name: P:\2022 Projects\2022-001\R&M\2026-02-02 (2022-001) 5th Avenue Site Plan (24by) Rev 13.dwg Last Modified: Feb 05, 2026 - 3:41pm Plotted on: Feb 05, 2026 - 4:40pm by jbrebnerdsn


MC ADAM STREET
(MEDINA RAMOS - PUBLIC)
DRAYTON AVENUE
(50' WIDE - PUBLIC)
FIFTH AVENUE
(A.K.A. CODDLE POINT RD.)
(66' WIDE - PUBLIC)
FREDERICK AVENUE
HECKSHER AVENUE
(A.K.A. HECKSHER WATER STONE)
(66' WIDE - PUBLIC)
INDUSTRIAL 1 DISTRICT (IND 1)
BUSINESS 3 DISTRICT (B3)
INDUSTRIAL 2 DISTRICT (IND 2)
RESIDENCE AA DISTRICT (AA)
INDUSTRIAL 1 DISTRICT (IND 1)
10 TRAILER STORAGE SPACES
46 TRUCK PARKING STALLS
63 TOTAL LOADING DOCKS
10 TOTAL TRAILER STORAGE SPACES
89 TOTAL TRUCK PARKING STALLS
244 PAVED PARKING STALLS
146 LAND BANKED PARKING STALLS
43 TRUCK PARKING STALLS
1-STORY WAREHOUSE
240,830 SF FIRST FLOOR (NO BASEMENT)
BUILDING HEIGHT: 48'
FFL: 76.00
AREA OF INDEPENDENCE STREET N/F LANDS OF FIFTH XNY, LLC LIBER 13177, PG. 734
SECTION 223 BLOCK 2 LOT 54.1 N/F LANDS OF FIFTH XNY, LLC LIBER 13177, PG. 734
SECTION 223 BLOCK 2 LOT 57.1 N/F LANDS OF FIFTH XNY, LLC LIBER 13177, PG. 734
SECTION 224 BLOCK 1 LOT 80.3 N/F LANDS OF FIFTH XNY, LLC LIBER 13177, PG. 734
SECTION 224 BLOCK 1 LOT 80.2 N/F LANDS OF 1600 FIFTH AVENUE BAY SHORE LLC LIBER 13925, PG. 782 INDUSTRIAL 1 MATERIAL YARD
SECTION 224 BLOCK 1 LOT 84 N/F LANDS OF ACE HOLDINGS LLC LIBER 13888 PG. 619 BUSINESS 3 CAR WASH
SECTION 223 BLOCK 2 LOT 53.2 N/F LANDS OF ISLIP YARDS LLC LIBER 12711, PG. 139 INDUSTRIAL 2 MANUFACTURING WAREHOUSE
SECTION 223 BLOCK 2 LOT 54.2 N/F LANDS OF ISLIP YARDS LLC LIBER 12711, PG. 139 INDUSTRIAL 2 MANUFACTURING WAREHOUSE
SECTION 223 BLOCK 2 LOT 53.3 N/F LANDS OF NICOLE D EDWARDS LIBER 13784, PG. 12 RESIDENCE AA RESIDENCE
SECTION 223 BLOCK 2 LOT 53.4 N/F LANDS OF SWC DEVELOPMENT CORP LIBER 13784, PG. 209 RESIDENCE AA RESIDENCE
SECTION 223 BLOCK 2 LOT 54.3 N/F LANDS OF GEORGE P. LOCKEL & MARGARITA RODRIGUEZ LIBER 12601, PG. 629 RESIDENCE AA RESIDENCE
SECTION 244 BLOCK 2 LOT 55.1 N/F LANDS OF ANTONIO & ANNETTE EPPS LIBER 11991, PG. 707 RESIDENCE AA RESIDENCE
SECTION 244 BLOCK 2 LOT 55.2 N/F LANDS OF UNKNOWN OWNER BUTT LIBER 11794, PG. 736 RESIDENCE AA RESIDENCE
SECTION 244 BLOCK 2 LOT 54.1 N/F LANDS OF CHRISTOPHER BOUTS & MARIA T. ROSARIO LIBER 13211, PG. 775 RESIDENCE AA RESIDENCE
SECTION 244 BLOCK 2 LOT 56.2 N/F LANDS OF CARLOS LOPEZ & ROSEL YARELA LIBER 13496, PG. 12 RESIDENCE AA RESIDENCE
SECTION 244 BLOCK 2 LOT 53.1 N/F LANDS OF FRANCISCO A. & ENDOLA C. INGA LIBER 13515, PG. 459 RESIDENCE AA RESIDENCE
SECTION 244 BLOCK 2 LOT 53.3 N/F LANDS OF MICHAEL J. & ROSALINDA SIPE BROCK LIBER 13733, PG. 713 RESIDENCE AA RESIDENCE
SECTION 244 BLOCK 2 LOT 56 N/F LANDS OF K REALTY II LIBER 13124, PG. 319
SECTION 244 BLOCK 2 LOT 56 N/F LANDS OF WINDSOR EQUITIES COMPANY LIBER 11655, PG. 870 INDUSTRIAL 1 MANUFACTURING WAREHOUSE
SECTION 244 BLOCK 2 LOT 57 N/F LANDS OF FIFTH XNY, LLC LIBER 13177, PG. 734
SECTION 245 BLOCK 1 LOT 2 N/F LANDS OF EDWARDS & SONS REALTY CORP LIBER 11688, PG. 831 INDUSTRIAL 1 MATERIAL YARD
SECTION 245 BLOCK 1 LOT 3 N/F LANDS OF EDWARDS & SONS REALTY CORP LIBER 13672, PG. 839 INDUSTRIAL 1 RETAIL
SECTION 245 BLOCK 1 LOT A N/F LANDS OF FIRST SPANISH PENTECOSTAL CHURCH OF BAY SHORE LIBER 5757, PG. 452 RESIDENCE AA HOUSE OF WORSHIP
SECTION 245 BLOCK 1 LOT 5 N/F LANDS OF ASSEMBLY PARK LLC LIBER 13720, PG. 609 INDUSTRIAL 1 MANUFACTURING WAREHOUSE
SECTION 244 BLOCK 2 LOT 54.2 N/F LANDS OF HUBBARD SAND & GRAVEL CORP LIBER 5658, PG. 344
PROPOSED 6' CHAIN LINK FENCE WITH STOCKADE FENCE ATTACHED AS PER TOWN OF ISLIP CONSTRUCTION STANDARDS ITEM 106/107 (TYP)
PROPOSED POLE MOUNTED SITE LIGHT 5' BEHIND CURB LINE IN TRACTOR TRAILER STORAGE AREA (TYP)
PROPOSED CONCRETE CURB (TYP)
OUTBOUND TRUCK MOVEMENT
INBOUND TRUCK MOVEMENT
PROPOSED HEAVY DUTY PAVEMENT (TYP)
PROPOSED STANDARD DUTY PAVEMENT (TYP)
PROPOSED LANDSCAPING (TYP)
PROPOSED CONCRETE PAD FOR GAS METER WITH BOLLARDS
PROPOSED CONCRETE LOADING DOCK PADS (TYP)
PROPOSED LOCATION FOR EV STALLS W/ CHARGING STATIONS ON 2' X 4' CONCRETE PADS (TYP OF 4)
PROPOSED BICYCLE RACKS ON CONCRETE PAD (TYP)
PROPOSED CONCRETE RAMP (TYP)
PROPOSED CONCRETE WALK (TYP)
PROPOSED FULL DEPTH SAWCUT LINE (TYP)
PROPOSED 5' CONCRETE WALK TO MEET NEW WALK
EXISTING WALK TO BE REMOVED AND REPLACED WITH PROPOSED 5' CONCRETE WALK
EXISTING PAVEMENT MARKINGS TO BE REPAINTED AS REQUIRED
EXISTING CURB TO BE REMOVED AND REPLACED WITH NEW CURB
PROPOSED ADA CURB RAMP (TYP)
PROPOSED UTILITY POLE
PROPOSED CONCRETE CURB (TYP)
PROPOSED ADA CURB RAMPS (TYP)
PROPOSED DOOR (TYP)
PROPOSED 5' x 5' CONCRETE PAD AT DOOR WITH STEPS TO DRIVEWAY (TYP)
PROPOSED ADA SIGNAGE (TYP)
PROPOSED ADA STALL STRIPING (TYP)
PROPOSED TRANSFORMER ON CONCRETE PAD WITH BOLLARDS
PROPOSED CONCRETE PAD FOR GAS METER WITH BOLLARDS
PROPOSED COMPACTOR, PROVIDE BOLLARDS (3) 4' O.C. AT BUILDING WALL AND (2) 4' O.C. AT CURB LINE, GATES TO BE PROVIDED AT THE WALL AT EACH LOCATION. PROPERTY OWNER/TENANT RESPONSIBLE FOR HAVING COMPACTOR CONTAINER ON A DAILY BASIS AND MAINTAIN THE SUBJECT PROPERTY IN A NEAT, CLEAN, LITTER-FREE CONDITION AS PER PLANNING BOARD CONDITIONS (TYP)
PROPOSED BOLLARDS AT 4' O.C. TO BE PLACED AROUND DOORS ADJACENT TO LOADING AREAS, PROVIDE CORNER GUARDS AT OVERHEAD DOORS AT GRADE (TYP BOTH SIDES)
PROPOSED EMERGENCY CRASH ACCESS GATE (TYP)
PROPOSED WALL MOUNTED SITE LIGHT (TYP)
PROPOSED LIMIT OF CLEARING (TYP)
PROPOSED FIRE ACCESS ROUTE
PROPOSED 5' x 5' CONCRETE PAD AT DOOR WITH STEPS TO DRIVEWAY (TYP)
PROPOSED FIRE LANE STRIPING (TYP)
PROPOSED LANDSCAPING (TYP)
PROPOSED LANDSCAPE BUFFER (TYP)
PROPOSED LOADING DOCK RETAINING WALL (TYP)
PROPOSED METAL STAIRS TO GRADE, REFER TO ARCHITECTURAL PLANS (TYP)
PROPOSED RECESSED CONCRETE LOADING DOCK PADS (TYP)
PROPOSED DOOR (TYP)
PROPOSED 4' BOLLARDS AT STAIRS (TYP)
PROPOSED OH DOOR WITH GRADE LEVEL RAMP (TYP)
PROPOSED LAND BANKED PARKING (TYP) (126 STALLS)
PROPOSED 6' CHAIN LINK FENCE WITH SOUND ATTENUATION ATTACHED (TYP)
PROPOSED 6' CHAIN LINK FENCE WITH STOCKADE AND SOUND ATTENUATION ATTACHED (TYP)
PROPOSED REDROCK RETAINING WALL TO BE INSTALLED 5 FEET CLEAR OF PROPERTY LINE. 6' FENCE ITEM 106/107 TO BE INSTALLED ON TOP
PROPOSED CORRUGATED STEEL GUIDE RAIL (TYP)
PROPOSED PARKING STALL STRIPING, CONTRACTOR TO REFER TO STRIPING DETAIL (TYP)
PROPOSED FENCE TO TRANSITION TO 4' WITHIN 15' OF RIGHT OF WAY (TYP)
PROPOSED CURB TO MEET EXISTING (TYP)
EXISTING BLOCK STORAGE BIN WALLS TO BE REMOVED. SAWCUT PAVEMENT ON LINE AND REMOVE PAVEMENT AS NECESSARY TO EXISTING ADJOINING PAVEMENT AND OR LANDSCAPE (TYP)
PROPOSED EVERGREEN BUFFER (TYP)
PROPOSED POLE MOUNTED SITE LIGHT (TYP)
PROPOSED LIMIT OF CLEARING (TYP)
PROPOSED 6' CHAIN LINK FENCE WITH STOCKADE ATTACHED AS PER TOWN OF ISLIP CONSTRUCTION STANDARDS ITEM 106/107 (TYP)
EXISTING 6' CHAIN LINK FENCE SHALL MEET TOWN OF ISLIP STANDARDS FOR ITEM 106/107 FOR CHAIN LINK FENCE WITH WOOD STOCKADE FENCE ATTACHED AS PER ENGINEERING FIELD INSPECTORS (TYP)
EXISTING 6' CHAIN LINK FENCE SHALL MEET TOWN OF ISLIP STANDARDS FOR ITEM 106/107 FOR CHAIN LINK FENCE WITH WOOD STOCKADE FENCE ATTACHED ALONG ALL RESIDENTIAL BUFFERS AS DIRECTED BY THE TOWN OF ISLIP ENGINEERING FIELD INSPECTORS (TYP)
EXISTING 6' CHAIN LINK FENCE SHALL MEET TOWN OF ISLIP STANDARDS FOR ITEM 106/107 FOR CHAIN LINK FENCE WITH WOOD STOCKADE FENCE ATTACHED ALONG ALL RESIDENTIAL BUFFERS AS DIRECTED BY THE TOWN OF ISLIP ENGINEERING FIELD INSPECTORS (TYP)
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FUTURE 6' CHAIN LINK FENCE WITH STOCKADE AND SOUND ATTENUATION ATTACHED TO BE INSTALLED UPON CONSTRUCTION OF LANDBANKED PARKING (TYP)
PROPOSED POLE MOUNTED SITE LIGHT (TYP)
PROPOSED FIRE LANE STRIPING (TYP)
PROPOSED EMERGENCY CRASH ACCESS GATE (TYP)
PROPOSED LIMIT OF CLEARING (TYP)
PROPOSED LANDSCAPE BUFFER (TYP)
PROPOSED LOADING DOCK RETAINING WALL (TYP)
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FUTURE 6' CHAIN LINK FENCE WITH STOCKADE AND SOUND ATTENUATION ATTACHED TO BE INSTALLED UPON CONSTRUCTION OF LANDBANKED PARKING (TYP)
PROPOSED POLE MOUNTED SITE LIGHT (TYP)
PROPOSED LIMIT OF CLEARING (TYP)
PROPOSED LANDSCAPING (TYP)
PROPOSED CONCRETE CURB (TYP)
PROPOSED CONCRETE RAMP (TYP)
PROPOSED CURB TO MEET EXISTING (TYP)
PROPOSED ADA CURB RAMP (TYP)
PROPOSED FULL DEPTH SAWCUT LINE (TYP)
PROPOSED ADA CURB RAMPS (TYP)
PROPOSED 5' x 5' CONCRETE PAD AT DOOR WITH STEPS TO DRIVEWAY (TYP)
PROPOSED LANDSCAPING (TYP)
PROPOSED FIRE ACCESS ROUTE
PROPOSED 6' CHAIN LINK FENCE WITH STOCKADE ATTACHED AS PER TOWN OF ISLIP CONSTRUCTION STANDARDS ITEM 106/107 (TYP)
PROPOSED REDROCK RETAINING WALL TO BE INSTALLED 5 FEET CLEAR OF PROPERTY LINE. 6' FENCE ITEM 106/107 TO BE INSTALLED ON TOP
PROPOSED 18" HIGH CONCRETE CURB (TYP)
PROPOSED CONCRETE CURB (TYP)
PROPOSED 6' CHAIN LINK FENCE WITH STOCKADE ATTACHED AS PER TOWN OF ISLIP CONSTRUCTION STANDARDS ITEM 106/107 (TYP)
PROPOSED FENCE TO TRANSITION TO 4' WITHIN 15' OF RIGHT OF WAY (TYP)
PROPOSED CURB TO MEET EXISTING (TYP)
FUTURE 6' CHAIN LINK FENCE WITH STOCKADE AND SOUND ATTENUATION ATTACHED TO BE INSTALLED UPON CONSTRUCTION OF LANDBANKED PARKING (TYP)
PROPOSED POLE MOUNTED SITE LIGHT (TYP)
PROPOSED LIMIT OF CLEARING (TYP)
PROPOSED 6' CHAIN LINK FENCE WITH STOCKADE ATTACHED AS PER TOWN OF ISLIP CONSTRUCTION STANDARDS ITEM 106/107 (TYP)
EXISTING 6' CHAIN LINK FENCE SHALL MEET TOWN OF ISLIP STANDARDS FOR ITEM 106/107 FOR CHAIN LINK FENCE WITH WOOD STOCKADE FENCE ATTACHED AS DIRECTED BY THE TOWN OF ISLIP ENGINEERING FIELD INSPECTORS (TYP)
PROPOSED LAND BANKED PARKING (TYP) (126 STALLS)
PROPOSED 6' BOLLARDS AT STAIRS (TYP)
PROPOSED OH DOOR WITH GRADE LEVEL RAMP (TYP)
PROPOSED 5' x 5' CONCRETE PAD AT DOOR WITH STEPS TO DRIVEWAY (TYP)
PROPOSED DOOR (TYP)
PROPOSED CONCRETE PAD FOR GAS METER WITH BOLLARDS
PROPOSED TRANSFORMER ON CONCRETE PAD WITH BOLLARDS
PROPOSED ADA STALL STRIPING (TYP)
PROPOSED ADA SIGNAGE (TYP)
PROPOSED STANDARD DUTY PAVEMENT (TYP)
PROPOSED ADA CURB RAMPS (TYP)
PROPOSED 5' x 5' CONCRETE PAD AT DOOR WITH STEPS TO DRIVEWAY (TYP)
PROPOSED CONCRETE WALK (TYP)
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PROPOSED CONCRETE CURB (TYP)
PROPOSED CONCRETE WALK (TYP)
PROPOSED CONCRETE RAMP (TYP)
PROPOSED CURB TO MEET EXISTING (TYP)
PROPOSED ADA CURB RAMP



1-STORY WAREHOUSE
240,830 SF FIRST FLOOR (NO BASEMENT)
BUILDING HEIGHT: 48'
FFL: 76.00

SITE DATA

EXISTING PARCEL AREA:	937,503 S.F. (21.5221 Ac.)
EXISTING USE:	OUTDOOR SAND AND GRAVEL SUPPLIER
PROPOSED FOOTPRINT:	240,830 S.F.
PROPOSED LOT COVERAGE: (240,830/937,503) =	25.69%
PROPOSED GROSS FLOOR AREA:	240,830 S.F.
PROPOSED FLOOR AREA RATIO (FAR): (240,830/937,503) =	0.2569
PROPOSED USE:	WAREHOUSE
EXISTING ZONE:	INDUSTRIAL 1
S.C.T.M.:	DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1, 57.1 DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET) DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56, 57
DATUM:	NAVD 88

ZONING COMPLIANCE (INDUSTRIAL 1)

		REQUIRED	PROVIDED
§ 68-343.A	BUILDING HEIGHT (MAX)	60'	48.0'
§ 68-344.A	FLOOR AREA RATIO (MAX)	0.35	0.2569
§ 68-345.A	AREA DENSITY (MIN)	20,000 SF	937,503 SF
§ 68-346.A	LOT WIDTH (MIN)	100'	301.18'
§ 68-347.A	FRONT YARD (MIN)	50'	498.60'
§ 68-348	SIDE YARD (MIN)	10'	57.70'
§ 68-348	SIDE YARD (RESIDENTIAL - MIN)	50'	108.20'
§ 68-349.A	REAR YARD (RESIDENTIAL - MIN)	50'	110.00'

LOT COVERAGE

PROPOSED BUILDING AREA	240,830 S.F.	=	25.69%
PROPOSED IMPERVIOUS AREA	402,137 S.F.	=	42.89%
PROPOSED LANDBANK PARKING AREA	44,288 S.F.	=	04.72%
PROPOSED LANDSCAPE AREA (INCLD. BUFFER)	250,248 S.F.	=	26.70%
TOTAL SITE AREA	937,503 S.F.	=	100.00%

LANDSCAPE CALCULATIONS

REQUIRED LANDSCAPING

TOTAL AREA		=	937,503 SF
TOTAL REQUIRED LANDSCAPING	(20% MIN.) (0.20 X 937,503 SF)	=	187,500.60 SF
REQUIRED FRONT YARD LANDSCAPING	(50% OF REQUIRED) (0.50 X 187,500.60 SF)	=	93,750.30 SF

LANDSCAPING PROVIDED

TOTAL LANDSCAPE AREA (NOT INCLD. BUFFER)	215,330 SF	>	187,500.60 SF
FRONT YARD LANDSCAPING	94,177 SF	>	93,750.30 SF

PARKING CALCULATIONS

PARKING REQUIRED

OFFICE	240,830 X 15% = 36,124.50 S.F. @ 1 STALL / 200 S.F.	= 180.6 STALLS
WAREHOUSE	240,830 X 85% = 204,705.50 S.F. @ 1 STALL / 1,000 S.F.	= 204.7 STALLS
TOTAL STALLS REQUIRED		= 385.3 STALLS (386 STALLS)

PARKING PROVIDED

PAVED STALLS PROVIDED	= 209 STALLS
LAND BANKED STALLS PROVIDED	= 146 STALLS
TOTAL STALLS PROVIDED (INCLUDING 8 ADA STALLS)	= 355 STALLS*

RELIEF GRANTED: PB 2023-003 (11-08-23)

§68-340.1.C (PLANNING BOARD SPECIAL PERMIT FOR OUTDOOR OR OVERNIGHT PARKING OF REGISTERED VEHICLES AS AN ACCESSORY USE TO A PERMITTED PRINCIPAL USE)

§68-340.1.P (PLANNING BOARD SPECIAL PERMIT FOR OUTSIDE PARKING OF UNATTACHED BOX TRAILERS - MAX. 10 TRAILERS)

* PLANNING BOARD WAIVER FOR DEFICIENCY OF PARKING

(32 STALLS OR 8.3% RELAXATION)

* PLANNING BOARD WAVIER TO ELIMINATE DUMPSTER ENCLOSURES

(SDLDR'S K. 4)

SCHEDULE OF SIGNS

SYMBOL	TEXT	SIGN TYPE	M.U.T.C.D.	SIZE
1		HANDICAP PARKING WITH VAN ACCEPTABLE SUPPLEMENTAL PLAQUE	R7-8 R7-8P	12" x 18" 12" x 6"
2	NO PARKING ANYTIME	NO PARKING ANYTIME	R8-3a	12" x 18"
3	STOP	STOP	R1-1	30" x 30"
4		ALL TRAFFIC TURN RIGHT ONLY	R4-7	24" x 30"
5	ALL TRAFFIC	ALL TRAFFIC	NYR3-14	24" x 30"
6		LEFT TURN PROHIBITED	R3-2	30" x 30"
7	BUS LANE ONLY	IN-STREET PEDESTRIAN CROSSING (YIELD)	R1-6	12" x 36"
8	FIRE DEPARTMENT ACCESS ONLY	FIRE DEPARTMENT ACCESS ONLY	-	12" X 18"

NOTES:
1. SIGN POST "MINUTE MAN" BREAKAWAY SYSTEM BY MARION STEEL COMPANY MARION, OHIO OR APPROVED EQUAL.
2. 2' WIDE STOP LINES SHALL BE PAINTED AT ALL STOP SIGNS.
3. ALL SIGNS SHALL HAVE A MOUNTING HEIGHT OF 7'-0", AS MEASURED FROM BOTTOM OF SIGN TO FINISHED GRADE.
4. ALL SIGNS ARE TO BE RELECTORIZED.
5. A MINIMUM OF TWO CROSS BRACES SHALL BE PROVIDED ON ALL SINGLE CHANNEL SIGNS HAVING A DIMENSION GREATER THAN 24 INCHES.

SCDPW NOTE

- THIS PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS:

  THE PROPERTY OWNER SHALL SIGN A DECLARATION OF COVENANTS AND RESTRICTIONS WHICH SHALL RUN WITH THE LAND, THAT SHALL INCLUDE THE FOLLOWING LANGUAGE:

  IF THE DEPARTMENT, IN ITS OPINION, AT ANY TIME, DETERMINES THAT THE SUBJECT PREMISES MAY NEED THE INSTALLATION OF ONE OR MORE TYPES OF TRAFFIC CONTROL DEVICES OR OTHER TRAFFIC MITIGATION MEASURE FOR THE PURPOSE OF THE REGULATION OF INGRESS TO AND/OR EGRESS FROM THE SUBJECT PREMISES, THE DECLARANT, AT ITS OWN COST AND EXPENSE SHALL SECURE A TRAFFIC CONTROL STUDY PREPARED AND EXECUTED BY A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER QUALIFIED IN TRAFFIC CONTROL STUDIES.

  IF SAID STUDY ESTABLISHES THE NEED FOR THE INSTALLATION OF ONE OR MORE TRAFFIC CONTROL DEVICES OR OTHER TRAFFIC MITIGATION MEASURE, THE PROPERTY OWNER, AT THEIR OWN COST AND EXPENSE, SHALL INSTALL SAID DEVICE OR TRAFFIC MITIGATION MEASURE DEEMED NECESSARY BY THE DEPARTMENT UNDER A NEW PERMIT ISSUED BY THE DEPARTMENT.

CAUTION-NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION WORK COMMENCES. THE CONTRACTOR SHALL RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

THIS SITE PLAN IS BASED ON A SURVEY BY GALLAS SURVEYING GROUP DATED MARCH 02, 2022.

811 Know what's below. Call before you dig.

0 40 80
SCALE: 1" = 40'

No.	REVISION DESCRIPTION	DATE	BY
13.	REVISED PER TOWN MEETING	02-05-26	JB
12.	REVISED PER TOI COMMENTS	06-16-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	REVISED PER SCDPW COMMENTS	04-12-24	CB
9.	REVISED PER TOI COMMENTS	01-10-24	CB
8.	GENERAL REVISIONS	11-08-23	CB
7.	GENERAL REVISIONS	08-25-23	CB
6.	REVISED PER SURVEY UPDATE	08-08-23	CB
5.	REVISED PER SCWA COMMENTS	07-17-23	AR
4.	REVISED PER SCDHS COMMENTS	06-16-23	CB
3.	REVISED PER SCWA COMMENTS	05-10-23	CB
2.	GENERAL REVISIONS	04-21-23	M,JM
1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
FIFTH XNY, LLC., C/O GRETCHEN KENDRICK
2100 ROSS AVENUE, SUITE 895
DALLAS, TX 75201
PHONE: 203-600-0401
EMAIL: NEDD@EXEBCREALTY.COM

PARTIAL ALIGNMENT PLAN

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

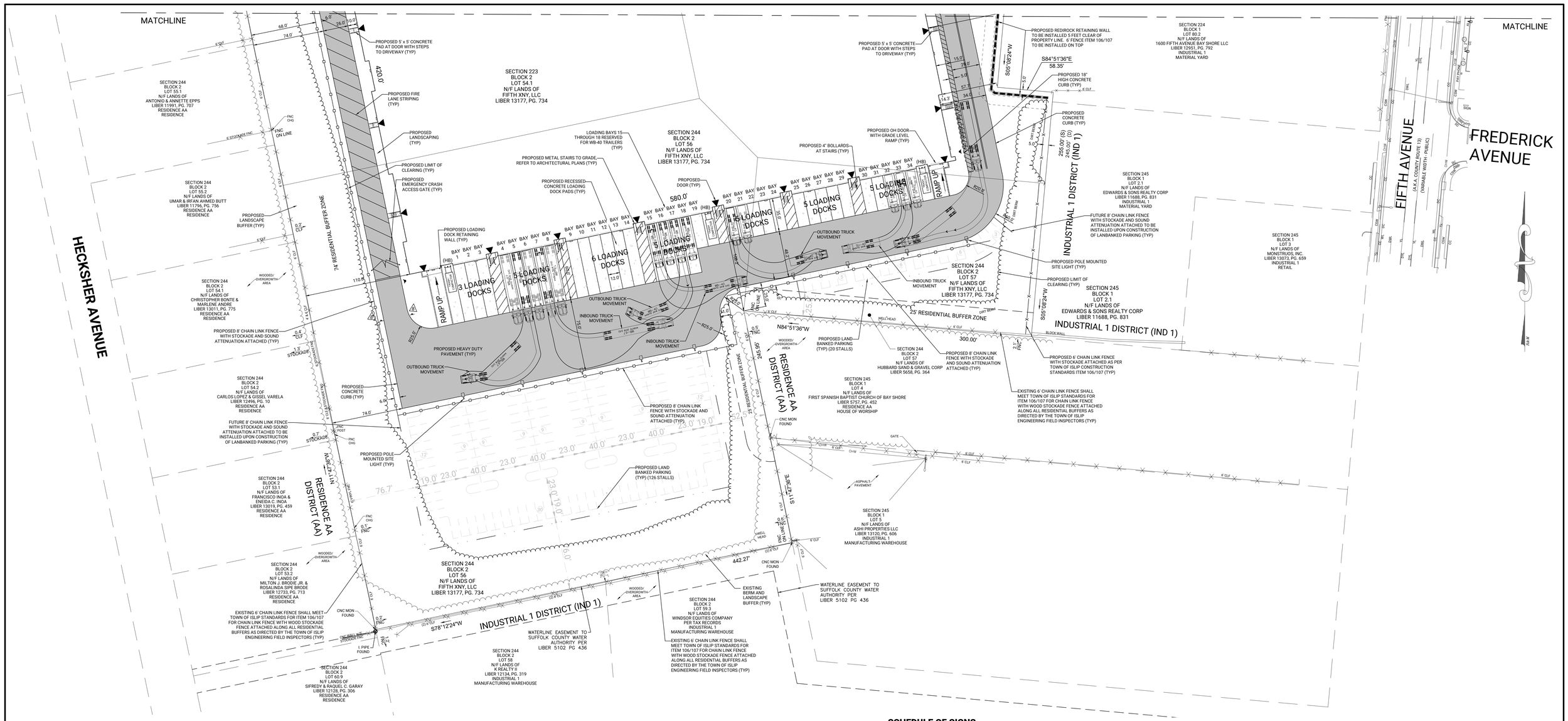
Christopher W. Robinson, P.E.
NY State License No. 067519

Robinson & Muller Engineers, P.C.
50 Elm Street
Huntington, NY 11743
Office: (631) 271-0576
Fax: (631) 271-0592
www.rmengineering.com

DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	1" = 40'
DATE:	08-20-22	DATE:	09-12-22	JOB No.:	2022-001

SHEET: **SP-3A**

Drawing Name: P:\2022 Projects\2022-001\R&M\2026-02-02 (2022-001) 5th Avenue Site Plan (2426) Rev.13.dwg Last Modified: Feb 05, 2026 - 3:41pm Plotted on: Feb 05, 2026 - 4:45pm by jbretenstein



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TOTAL SITE AREA	937,503 S.F.	= 100.00%

LANDSCAPE CALCULATIONS

REQUIRED LANDSCAPING

TOTAL AREA		= 937,503 SF
TOTAL REQUIRED LANDSCAPING	(20% MIN.)	
	(0.20 X 937,503 SF)	= 187,500.60 SF
REQUIRED FRONT YARD LANDSCAPING	(50% OF REQUIRED)	
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		(386 STALLS)

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5	ALL TRAFFIC	ALL TRAFFIC	NYR3-14	24" x 30"
6		LEFT TURN PROHIBITED	R3-2	30" x 30"
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T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

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DALLAS, TX 75201
PHONE: 201-600-0401
EMAIL: NICK@NEBCREALTY.COM

PARTIAL ALIGNMENT PLAN

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

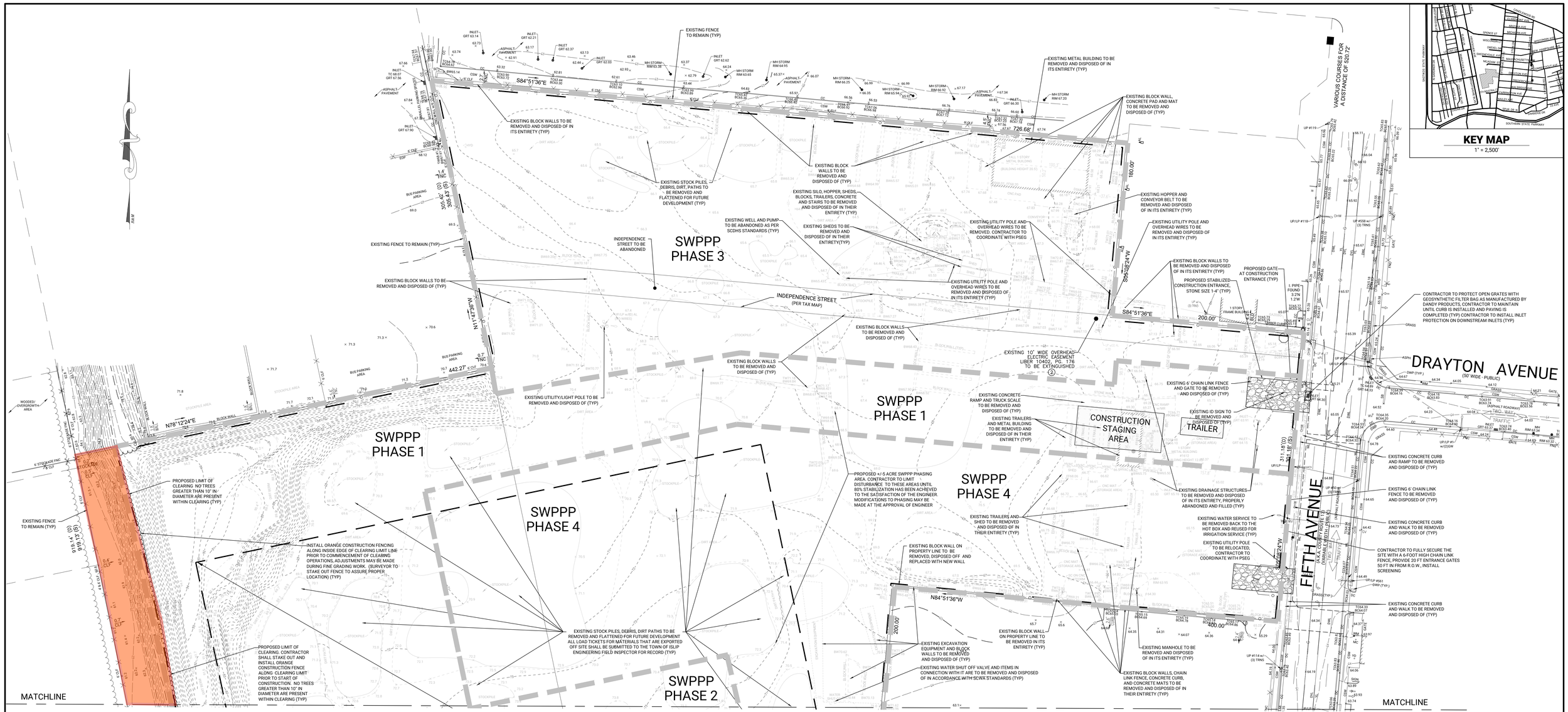
SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
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DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	1" = 40'	SHEET:	SP-3B
DATE:	08-20-22	DATE:	09-12-22	JOB No.:	2022-001		

Drawing Name: F:\2022 Projects\2022-001\V&A\2026-02-02 (2022-001) 5th Avenue Site Plan (240x).Rev.13.dwg Last Modified: Feb 05, 2026 - 2:34pm Plotted on: Feb 05, 2026 - 2:45pm by jbenkenstein



0 40 80

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SITUATED IN

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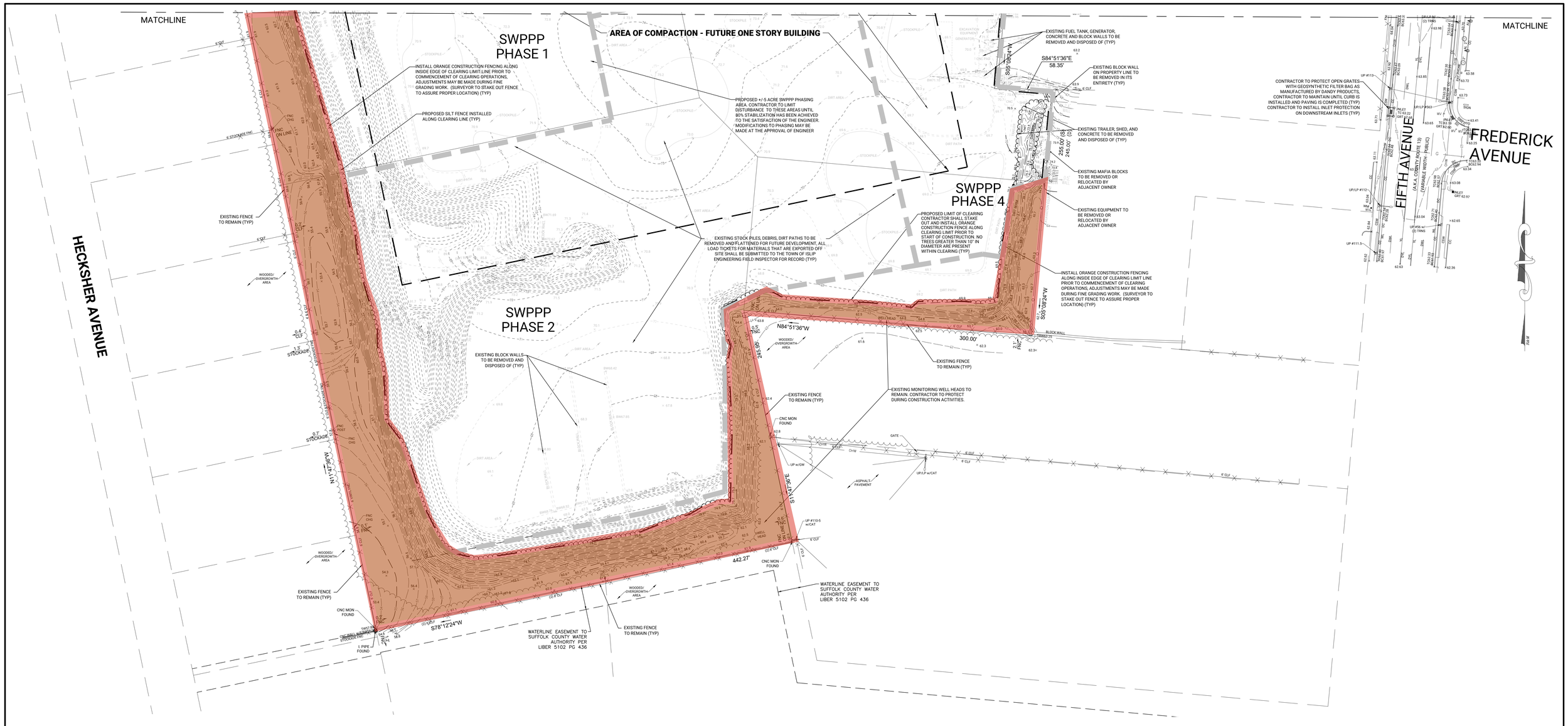
STATE OF NEW YORK — CHRISTOPHER W. ROBINSON — 067519 — LICENSED PROFESSIONAL ENGINEER

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Drawing Name: P:\2022 Projects\2022-001\V&A\PLOTS-02-02 (2022-001) 5th Avenue Site Plan (24x36) Rev.13.dwg Last Modified: Feb 04, 2026 - 6:17pm Plotted on: Feb 05, 2026 - 1:03pm by jbohlensen



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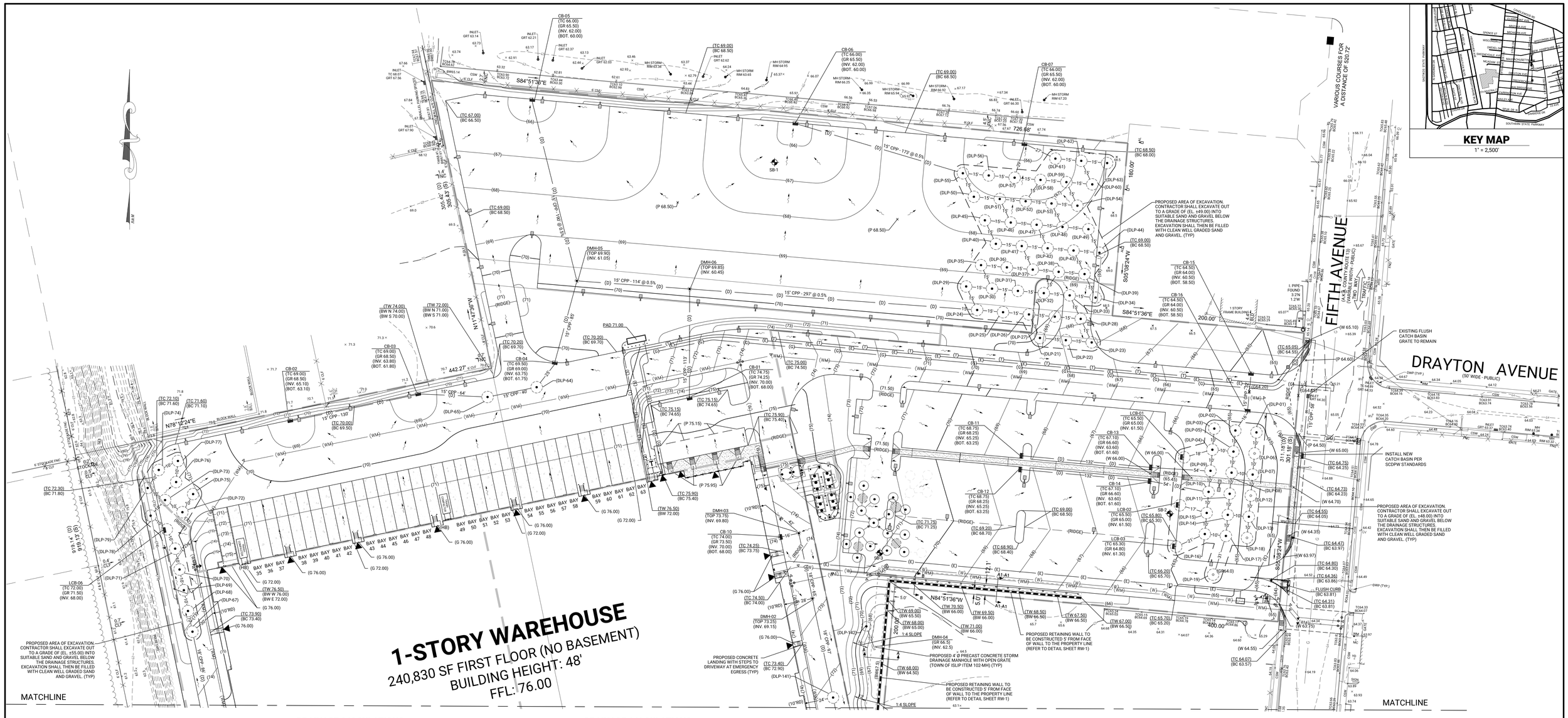
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DRAINAGE CALCULATIONS

ON-SITE DRAINAGE AREA 1 (153,054.40 SF)

DRAINAGE REQUIRED

IMPERVIOUS AREA	92,470.15 SF X 3/12 FT X 1.0	=	23,117.54 CF
LANDSCAPE AREA	60,584.25 SF X 3/12 FT X 0.2	=	3,029.21 CF
	TOTAL VOLUME REQUIRED	=	26,146.75 CF

DRAINAGE PROVIDED

PROPOSED: (22) - 12' DIA. x 12.0 FT EFFECTIVE DEPTH LEACHING POOLS
22 EA x 100.88 CF/FT x 12.0 FT ED = 26,632.32 CF
TOTAL VOLUME PROVIDED IN LEACHING POOLS = 26,632.32 CF
TOTAL VOLUME REQUIRED = 26,146.75 CF < 26,632.32 CF

ON-SITE DRAINAGE AREA 2 (249,690.90 SF)

DRAINAGE REQUIRED

IMPERVIOUS AREA	208,786.00 SF X 3/12 FT X 1.0	=	52,196.50 CF
LANDSCAPE AREA	40,904.90 SF X 3/12 FT X 0.2	=	2,045.25 CF
	TOTAL VOLUME REQUIRED	=	54,241.75 CF

DRAINAGE PROVIDED

PROPOSED: (45) - 12' DIA. x 12.0 FT EFFECTIVE DEPTH LEACHING POOLS
45 EA x 100.88 CF/FT x 12.0 FT ED = 54,475.20 CF
TOTAL VOLUME PROVIDED IN LEACHING POOLS = 54,475.20 CF
TOTAL VOLUME REQUIRED = 54,241.75 CF < 54,475.20 CF

ON-SITE DRAINAGE AREA 3 (74,710.60 SF)

DRAINAGE REQUIRED

ROOF AREA	60,207.50 SF X 3/12 FT X 1.0	=	15,051.88 CF
IMPERVIOUS AREA	7,264.50 SF X 3/12 FT X 1.0	=	1,816.13 CF
LANDSCAPE AREA	7,238.60 SF X 3/12 FT X 0.2	=	361.93 CF
	TOTAL VOLUME REQUIRED	=	17,229.94 CF

DRAINAGE PROVIDED

EXISTING: (15) - 12' DIA. x 12 FT EFFECTIVE DEPTH LEACHING POOLS
15 EA x 100.88 CF/FT x 12 FT ED = 18,158.40 CF
TOTAL VOLUME PROVIDED IN LEACHING POOLS = 18,158.40 CF
TOTAL VOLUME REQUIRED = 17,229.94 CF < 18,158.40 CF

DRAINAGE CALCULATIONS

COMBINED ON-SITE DRAINAGE AREA 4 & DRAINAGE AREA 5 (362,792.65 SF)

ON-SITE DRAINAGE AREA 4 (187,601.85 SF)

DRAINAGE REQUIRED

ROOF AREA	120,415.00 SF X 3/12 FT X 1.0	=	30,103.75 CF
IMPERVIOUS AREA	42,619.25 SF X 3/12 FT X 1.0	=	10,654.81 CF
LANDSCAPE AREA	24,567.60 SF X 3/12 FT X 0.2	=	1,228.38 CF
	TOTAL VOLUME REQUIRED	=	41,986.94 CF

DRAINAGE PROVIDED

EXISTING: (5) - 12' DIA. x 12 FT EFFECTIVE DEPTH LEACHING POOLS
5 EA x 100.88 CF/FT x 12 FT ED = 6,052.80 CF
TOTAL VOLUME PROVIDED IN LEACHING POOLS = 6,052.80 CF

ON-SITE DRAINAGE AREA 5 (175,190.80 SF)

DRAINAGE REQUIRED

ROOF AREA	60,207.50 SF X 3/12 FT X 1.0	=	15,051.88 CF
IMPERVIOUS AREA	50,793.50 SF X 3/12 FT X 1.0	=	12,698.38 CF
LANDSCAPE AREA	64,189.80 SF X 3/12 FT X 0.2	=	3,209.49 CF
	TOTAL VOLUME REQUIRED	=	30,959.75 CF

DRAINAGE PROVIDED

EXISTING: (57) - 12' DIA. x 12 FT EFFECTIVE DEPTH LEACHING POOLS
57 EA x 100.88 CF/FT x 12 FT ED = 69,001.92 CF
TOTAL VOLUME PROVIDED IN LEACHING POOLS = 69,001.92 CF

COMBINED ON-SITE DRAINAGE AREA 4 & DRAINAGE AREA 5 (362,792.65 SF)

DRAINAGE REQUIRED

ROOF AREA	180,622.50 SF X 3/12 FT X 1.0	=	45,155.63 CF
IMPERVIOUS AREA	93,412.75 SF X 3/12 FT X 1.0	=	23,353.19 CF
LANDSCAPE AREA	88,757.40 SF X 3/12 FT X 0.2	=	4,437.87 CF
	TOTAL VOLUME REQUIRED	=	72,946.69 CF

DRAINAGE PROVIDED

EXISTING: (5) - 12' DIA. x 12 FT EFFECTIVE DEPTH LEACHING POOLS
5 EA x 100.88 CF/FT x 12 FT ED = 6,052.80 CF
EXISTING: (57) - 12' DIA. x 12 FT EFFECTIVE DEPTH LEACHING POOLS
57 EA x 100.88 CF/FT x 12 FT ED = 69,001.92 CF
TOTAL VOLUME PROVIDED IN LEACHING POOLS = 75,054.72 CF
TOTAL VOLUME REQUIRED = 72,946.69 CF < 75,054.72 CF

ON-SITE DRAINAGE AREA 6 (9,440 SF)

DRAINAGE REQUIRED

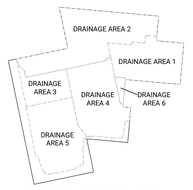
LANDSCAPE AREA	9,440 SF X 3/12 FT X 0.2	=	472 CF
	TOTAL VOLUME REQUIRED	=	472 CF

DRAINAGE PROVIDED

PROPOSED: (1) - 8' DIA. x 12 FT EFFECTIVE DEPTH LEACHING POOLS
1EA x 42.2 CF/FT x 12 FT ED = 506 CF
TOTAL VOLUME PROVIDED IN LEACHING POOLS = 42,369.60 CF
TOTAL VOLUME REQUIRED = 472 CF < 506 CF

GRADING AND DRAINAGE NOTES

1. ALL DRAINAGE PIPE SHALL BE 15" DIAMETER CPP - HDPE @ 1.0% MINIMUM UNLESS OTHERWISE SPECIFIED.
2. ALL ROOF DRAINAGE PIPE (RD) LEAVING THE BUILDING SHALL BE 10" DIAMETER PVC DR-18 PIPIING @ 1.0% MINIMUM UNLESS OTHERWISE SPECIFIED.
3. REPAIR EXISTING PAVEMENT, SIDEWALK AND CURBING AS ORDERED BY TOWN ENGINEER.
4. ALL EXISTING DRAINAGE POOLS SHALL BE CLEANED OF DEBRIS TO THE SATISFACTION OF THE ENGINEER. EXISTING DRAINAGE PIPE INTERCONNECTING POOLS TO BE CLEANED.
5. PRIOR TO COMMENCING ANY EXCAVATION WORK, THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH THE "DIG SAFE" NOTIFICATION PROCEEDURES PROMOTED BY THE RESPECTIVE UTILITY COMPANIES.
6. CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING PROVIDING VERTICAL CURVES OR ROUNDINGS AT ALL TOP AND BOTTOM OF SLOPES.
7. PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MINIMUM SLOPE OF 1.00 % (1/8" PER FOOT) AND MAXIMUM SLOPE OF 5% (1:20). ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE OWNER PRIOR TO CONTINUING WORK.
8. WHERE NEW PAVING OR EARTHWORK MEETS EXISITNG PAVING OR EARTHWORK, SMOOTHLY BLEND LINE AND GRADE OF EXISTING WITH NEW. WHERE EXISTING VEGETATION IS TO REMAIN, MEET EXISTING GRADES; DO NOT FILL ABOVE BASAL FLARE OF EXISTING TREES.
9. CONTRACTOR SHALL ADJUST EXISTING CASTINGS TO PROPOSED GRADE AS REQUIRED. PAVEMENT GRADES TO BE MAINTAINED BETWEEN 1% MINIMUM AND 5% MAXIMUM.
10. ELEVATIONS ARE IN NAVD 88 DATUM.
11. ALL STORM DRAINAGE STRUCTURES ON SITE FRONTAGES TO BE INSPECTED DURING WORK AND CLEANED AT THE COMPLETION OF WORK. ANY ISSUES SHALL BE BROUGHT TO THE ATTENTION OF THE COUNTY ENGINEERING FIELD INSPECTORS FOR RESOLUTION INSTRUCTION.
12. CONTRACTOR TO PROVIDE 18" OIL/DEBRIS SNOUT FOR ALL CATCH BASINS AND INLET STRUCTURES AS MEANS OF NON-POINT SOURCE POLLUTION MITIGATION TECHNIQUES.



DRAINAGE AREA MAP

LEGEND

- PROP. CATCH BASIN (CB)
- PROP. LEACHING POOL (LP) W/SOLID COVER
- PROP. LEACHING POOL (LP) W/GRATE
- X (P##.XX) / X (G##.XX) — PROPOSED P'VMT/GRADE ELEV.'S
- X (TC##.XX) / X (BC##.XX) — PROPOSED TOP OF CURB/ BOTTOM OF CURB ELEV.'S
- + ##.XX — DENOTES EXISTING GRADE
- 100 — EXIST. CONTOUR
- (100) — PROP. CONTOUR
- EXISTING UTILITY POLE
- EXIST. CATCH BASIN
- B-1 — SOIL BORING LOCATION

REFER TO SHEET SP-13 SANITARY DETAILS FOR SOIL BORING LOGS

SCALE: 1" = 40'

No.	REVISION DESCRIPTION	DATE	BY
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12.	REVISED PER TOI COMMENTS	06-16-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	REVISED PER SCDPW COMMENTS	04-12-24	CB
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T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
FIFTHAVE, LLC C/O SIRETCHEN/KENDRICK
1 MAIN STREET, SUITE 895
DALLAS, TX 75201
PHONE: 201-620-0401
EMAIL: NEDD@XEBECREALTY.COM

PARTIAL GRADING & DRAINAGE PLAN

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

Christopher W. Robinson, P.E.
NY State License No. 067519

Robinson & Muller Engineers, P.C.
50 Elm Street
Huntington, NY 11743
Office: (631) 271-0576
Fax: (631) 271-0592
www.rmengineering.com

DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	1" = 40'
DATE:	08-20-22	DATE:	09-12-22	JOB No.:	2022-001

SHEET: SP-5A

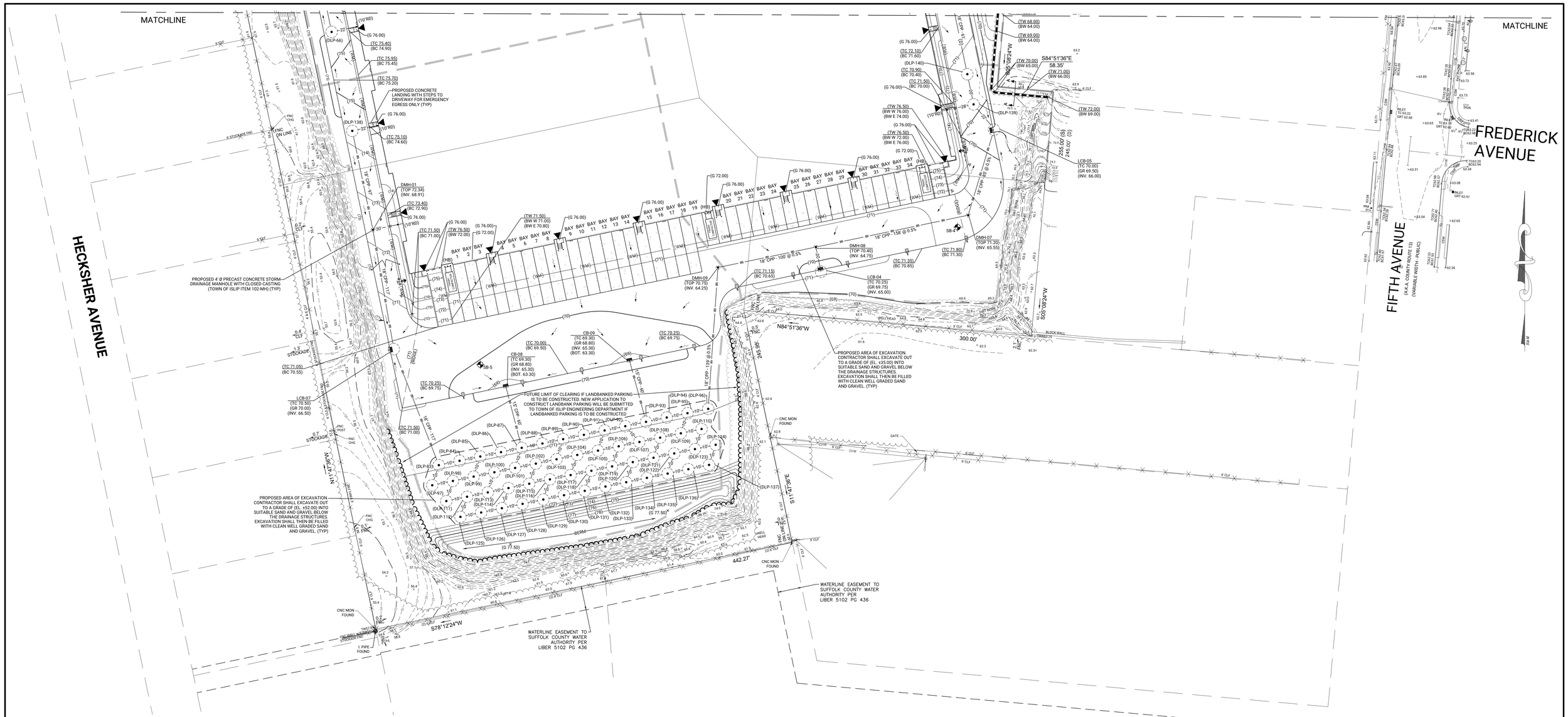
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THIS SITE PLAN IS BASED ON A SURVEY BY GALLAS SURVEYING GROUP DATED MARCH 02, 2022.

811 Know what's below. Call before you dig.

Drawing Name: P:\2022 Projects\2022-001\M&M\2026-02-02 (2022-001) 5th Avenue Site Plan (24x36) Rev-13.dwg Last Modified: Feb 09, 2026 - 2:39pm Plotted on: Feb 09, 2026 - 3:46pm by jbrebnstein



DRAINAGE CALCULATIONS

ON-SITE DRAINAGE AREA 1 (153,054.40 SF)

DRAINAGE REQUIRED

IMPERVIOUS AREA	92,470.15 SF X 3/12 FT X 1.0	=	23,117.54 CF
LANDSCAPE AREA	60,584.25 SF X 3/12 FT X 0.2	=	3,029.21 CF
	TOTAL VOLUME REQUIRED	=	26,146.75 CF

DRAINAGE PROVIDED

PROPOSED: (22) - 12' DIA. x 12.0 FT EFFECTIVE DEPTH LEACHING POOLS

22 EA x 100.88 CF/FT x 12.0 FT ED	=	26,632.32 CF
TOTAL VOLUME PROVIDED IN LEACHING POOLS	=	26,632.32 CF

TOTAL VOLUME REQUIRED = 26,146.75 CF < 26,632.32 CF

ON-SITE DRAINAGE AREA 2 (249,690.90 SF)

DRAINAGE REQUIRED

IMPERVIOUS AREA	208,786.00 SF X 3/12 FT X 1.0	=	52,196.50 CF
LANDSCAPE AREA	40,904.90 SF X 3/12 FT X 0.2	=	2,045.25 CF
	TOTAL VOLUME REQUIRED	=	54,241.75 CF

DRAINAGE PROVIDED

PROPOSED: (45) - 12' DIA. x 12.0 FT EFFECTIVE DEPTH LEACHING POOLS

45 EA x 100.88 CF/FT x 12.0 FT ED	=	54,475.20 CF
TOTAL VOLUME PROVIDED IN LEACHING POOLS	=	54,475.20 CF

TOTAL VOLUME REQUIRED = 54,241.75 CF < 54,475.20 CF

ON-SITE DRAINAGE AREA 3 (74,710.60 SF)

DRAINAGE REQUIRED

ROOF AREA	60,207.50 SF X 3/12 FT X 1.0	=	15,051.88 CF
IMPERVIOUS AREA	7,264.50 SF X 3/12 FT X 1.0	=	1,816.13 CF
LANDSCAPE AREA	7,238.60 SF X 3/12 FT X 0.2	=	361.93 CF
	TOTAL VOLUME REQUIRED	=	17,229.94 CF

DRAINAGE PROVIDED

EXISTING: (15) - 12' DIA. x 12 FT EFFECTIVE DEPTH LEACHING POOLS

15 EA x 100.88 CF/FT x 12 FT ED	=	18,158.40 CF
TOTAL VOLUME PROVIDED IN LEACHING POOLS	=	18,158.40 CF

TOTAL VOLUME REQUIRED = 17,229.94 CF < 18,158.40 CF

DRAINAGE CALCULATIONS

COMBINED ON-SITE DRAINAGE AREA 4 & DRAINAGE AREA 5 (362,792.65 SF)

ON-SITE DRAINAGE AREA 4 (187,601.85 SF)

DRAINAGE REQUIRED

ROOF AREA	120,415.00 SF X 3/12 FT X 1.0	=	30,103.75 CF
IMPERVIOUS AREA	42,619.25 SF X 3/12 FT X 1.0	=	10,654.81 CF
LANDSCAPE AREA	24,567.60 SF X 3/12 FT X 0.2	=	1,228.38 CF
	TOTAL VOLUME REQUIRED	=	41,986.94 CF

DRAINAGE PROVIDED

EXISTING: (5) - 12' DIA. x 12 FT EFFECTIVE DEPTH LEACHING POOLS

5 EA x 100.88 CF/FT x 12 FT ED	=	6,052.80 CF
TOTAL VOLUME PROVIDED IN LEACHING POOLS	=	6,052.80 CF

ON-SITE DRAINAGE AREA 5 (175,190.80 SF)

DRAINAGE REQUIRED

ROOF AREA	60,207.50 SF X 3/12 FT X 1.0	=	15,051.88 CF
IMPERVIOUS AREA	50,793.50 SF X 3/12 FT X 1.0	=	12,698.38 CF
LANDSCAPE AREA	64,189.80 SF X 3/12 FT X 0.2	=	3,209.49 CF
	TOTAL VOLUME REQUIRED	=	30,959.75 CF

DRAINAGE PROVIDED

EXISTING: (57) - 12' DIA. x 12 FT EFFECTIVE DEPTH LEACHING POOLS

57 EA x 100.88 CF/FT x 12 FT ED	=	69,001.92 CF
TOTAL VOLUME PROVIDED IN LEACHING POOLS	=	69,001.92 CF

COMBINED ON-SITE DRAINAGE AREA 4 & DRAINAGE AREA 5 (362,792.65 SF)

DRAINAGE REQUIRED

ROOF AREA	180,622.50 SF X 3/12 FT X 1.0	=	45,155.63 CF
IMPERVIOUS AREA	93,412.75 SF X 3/12 FT X 1.0	=	23,353.19 CF
LANDSCAPE AREA	88,757.40 SF X 3/12 FT X 0.2	=	4,437.87 CF
	TOTAL VOLUME REQUIRED	=	72,946.69 CF

DRAINAGE PROVIDED

EXISTING: (5) - 12' DIA. x 12 FT EFFECTIVE DEPTH LEACHING POOLS

5 EA x 100.88 CF/FT x 12 FT ED	=	6,052.80 CF

EXISTING: (57) - 12' DIA. x 12 FT EFFECTIVE DEPTH LEACHING POOLS

57 EA x 100.88 CF/FT x 12 FT ED	=	69,001.92 CF
TOTAL VOLUME PROVIDED IN LEACHING POOLS	=	75,054.72 CF

TOTAL VOLUME REQUIRED = 72,946.69 CF < 75,054.72 CF

ON-SITE DRAINAGE AREA 6 (9,440 SF)

DRAINAGE REQUIRED

LANDSCAPE AREA	9,440 SF X 3/12 FT X 0.2	=	472 CF
	TOTAL VOLUME REQUIRED	=	472 CF

DRAINAGE PROVIDED

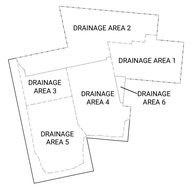
PROPOSED: (1) - 8' DIA. x 12 FT EFFECTIVE DEPTH LEACHING POOLS

1EA x 42.2 CF/FT x 12 FT ED	=	506 CF
TOTAL VOLUME PROVIDED IN LEACHING POOLS	=	42,369.60 CF

TOTAL VOLUME REQUIRED = 472 CF < 506 CF

GRADING AND DRAINAGE NOTES

1. ALL DRAINAGE PIPE SHALL BE 15" DIAMETER CPP - HDPE @ 1.0% MINIMUM UNLESS OTHERWISE SPECIFIED.
2. ALL ROOF DRAINAGE PIPE (RD) LEAVING THE BUILDING SHALL BE 10" DIAMETER PVC DR-18 PIPING @ 1.0% MINIMUM UNLESS OTHERWISE SPECIFIED.
3. REPAIR EXISTING PAVEMENT, SIDEWALK AND CURBING AS ORDERED BY TOWN ENGINEER.
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DRAINAGE AREA MAP

LEGEND

- PROP. CATCH BASIN (CB)
- PROP. LEACHING POOL (LP) W/SOLID COVER
- PROP. LEACHING POOL (LP) W/GRATE
- X (P##.XX) / x (G##.XX) — PROPOSED P'VMT/GRADE ELEV.'S
- X (TC##.XX) / x (BC##.XX) — PROPOSED TOP OF CURB/ BOTTOM OF CURB ELEV.'S
- + ##.XX — DENOTES EXISTING GRADE
- 100 — EXIST. CONTOUR
- (100) — PROP. CONTOUR
- EXISTING UTILITY POLE
- EXIST. CATCH BASIN
- B-1 — SOIL BORING LOCATION

REFER TO SHEET SP-13 SANITARY DETAILS FOR SOIL BORING LOGS

0 40 80

SCALE: 1" = 40'

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T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
FIFTH XNY, LLC, C/O GRETCHEN KENDRICK
2100 ROSS AVENUE, SUITE 895
DALLAS, TX 75201
PHONE: 203-600-0401
EMAIL: NICO@ABBCREALTY.COM

PARTIAL GRADING & DRAINAGE PLAN

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

Christopher W. Robinson, P.E.
NY State License No. 067519

Robinson & Muller Engineers, P.C.
50 Elm Street
Huntington, NY 11743
Office: (631) 271-0576
Fax: (631) 271-0592
www.rmengineering.com

DWN. BY:	CB	CHK'D. BY:	GT
DATE:	08-20-22	DATE:	09-12-22
SCALE:	1" = 40'		
JOB No.:	2022-001	SHEET:	SP-5B

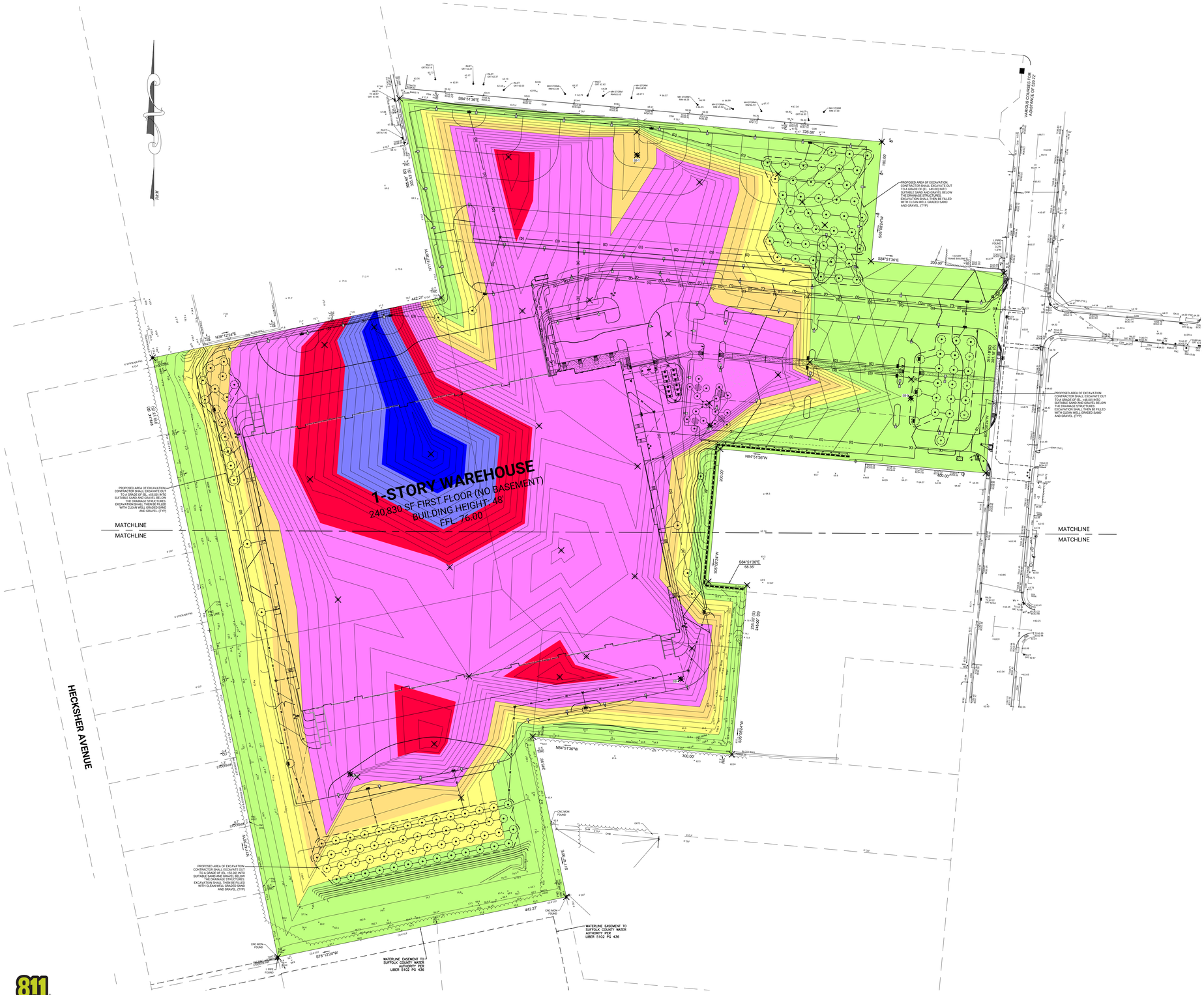
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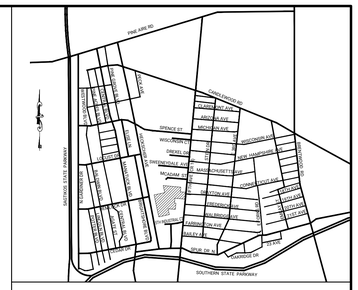
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Drawing Name: P:\2022 Projects\2022-001\R&M\2022-001-02 (2022-001) 5th Avenue Site Plan (2400) Rev.13.dwg Last Modified: Feb 04, 2026 - 6:17pm Plotted on: Feb 05, 2026 - 2:21pm by jbohlenstein





KEY MAP
1" = 2,500'

UNSUITABLE FILL DEPTH CHART

COLOR	DESCRIPTION
	UNSUITABLE FILL FROM ±EL. -66.00 TO ± EL. -55.00 BELOW EXISTING GRADE
	UNSUITABLE FILL FROM ±EL. -55.00 TO ± EL. -45.00 BELOW EXISTING GRADE
	UNSUITABLE FILL FROM ±EL. -45.00 TO ± EL. -35.00 BELOW EXISTING GRADE
	UNSUITABLE FILL FROM ±EL. -35.00 TO ± EL. -20.00 BELOW EXISTING GRADE
	UNSUITABLE FILL FROM ±EL. -20.00 TO ± EL. -15.00 BELOW EXISTING GRADE
	UNSUITABLE FILL FROM ±EL. -15.00 TO ± EL. -10.00 BELOW EXISTING GRADE
	UNSUITABLE FILL FROM ±EL. -10.00 TO ± EL. -2.00 BELOW EXISTING GRADE

* UNSUITABLE FILL DEPTH PLAN BASED ON THE RESULTS FROM MULTIPLE SOIL BORINGS AND TEST PITS PERFORMED BY GZA GEOENVIRONMENTAL, INC. BETWEEN FEBRUARY 19, 2022 AND DECEMBER 3, 2025

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0 60 120
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UNSUITABLE FILL DEPTH PLAN

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

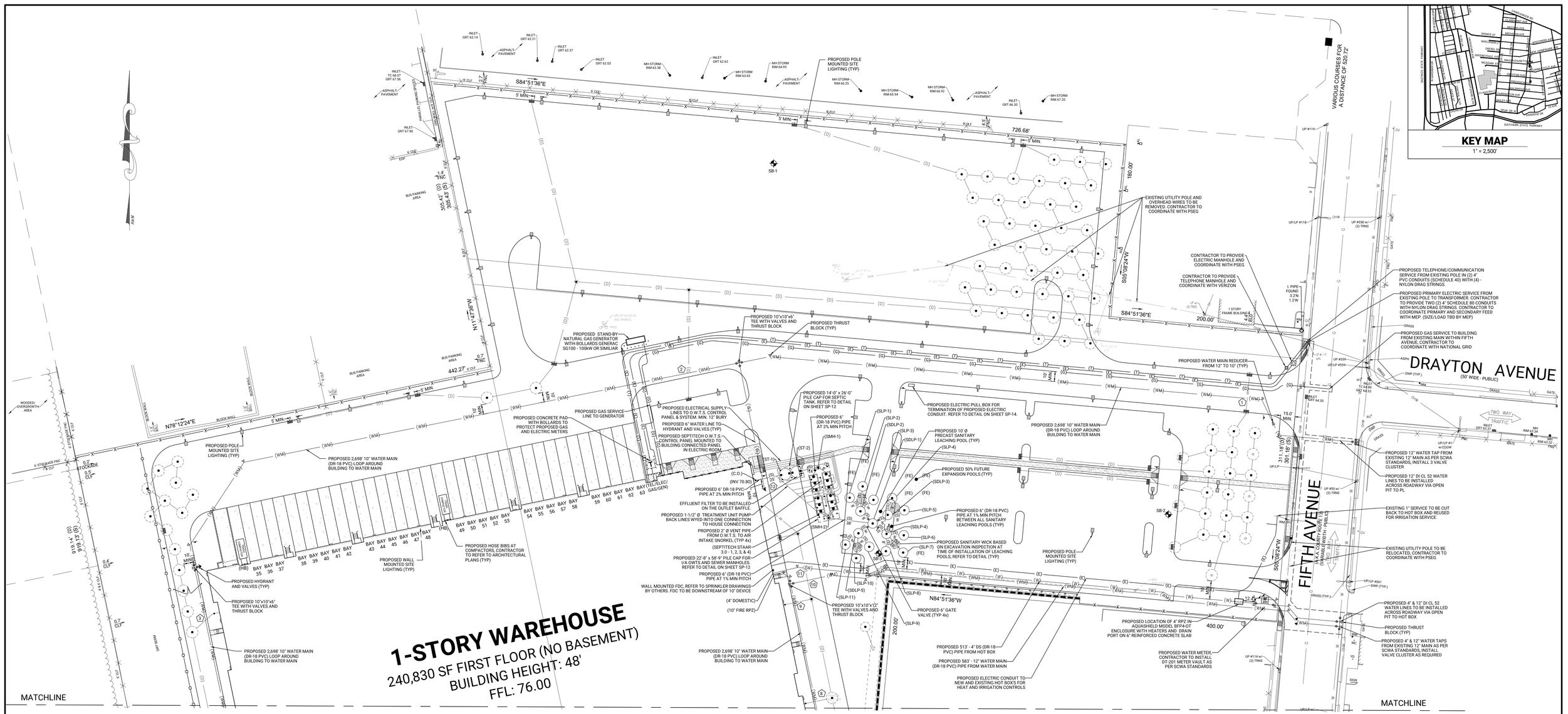
STATE OF NEW YORK — CHRISTOPHER W. ROBINSON — LICENSED PROFESSIONAL ENGINEER — 067519

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DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	1" = 60'	SHEET:	SP-5C
DATE:	08-20-22	DATE:	09-12-22	JOB No.:	2022-001		

Drawing Name: P:\2022 Projects\2022-001\KMP\2026-02-02 (2022-001) 5th Avenue Site Plan (24x24) Rev.13.dwg Last Modified: Feb 05, 2026 - 2:55pm Plotted on: Feb 05, 2026 - 3:30pm by jkerkenstein



GENERAL UTILITY NOTES:

1. REFER TO ARCHITECTURAL PLANS FOR DETAILED LOCATIONS OF ALL UTILITY CONNECTIONS AT BUILDING WALL.
2. CONTRACTOR IS RESPONSIBLE FOR THE REPLACEMENT AND INSTALLATION OF ANY DAMAGED UTILITIES WITHIN THE WORK AREA.
3. THE CONTRACTOR SHALL COMPLY WITH THE LAWS, RULES AND REGULATIONS OF THE STATE, MUNICIPAL AND DISTRICT DEPARTMENTS HAVING JURISDICTION.
4. ALL UTILITY CROSSINGS (IF ANY) ARE TO HAVE A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN PIPES.
5. ALL UTILITIES SHALL BE UNDERGROUND.
6. ALL DRAINAGE PIPES MUST HAVE A MINIMUM OF 2' OF COVER FROM THE TOP OF PIPE TO FINISHED GRADE.
7. ALL SANITARY SEWER PIPES MUST HAVE A MINIMUM OF 2' OF COVER FROM THE TOP OF PIPE TO FINISHED GRADE.
8. ELECTRICAL AND COMMUNICATIONS SERVICES PLACED UNDER IMPROVED SURFACES TO BE SITUATE IN APPROPRIATE CONDUITS.

TELEPHONE SERVICE NOTE

1. GENERAL CONTRACTOR TO PROVIDE AND INSTALL TWO (2) 4" PVC CONDUIT AND TWO (2) NYLON DRAG STRINGS WITH PULL CORD FROM BUILDING(S) TO UTILITY POLE.
2. TELEPHONE, CABLE & FIOS SHALL BE UNDERGROUND. NO OVERHEAD WIRES PERMITTED

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CAUTION-NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION WORK COMMENCES. THE CONTRACTOR SHALL RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

THIS SITE PLAN IS BASED ON A SURVEY BY GALLAS SURVEYING GROUP DATED MARCH 02, 2022.

ELECTRIC AND GAS NOTES

1. THE CONTRACTOR SHALL BE IN ACCORDANCE WITH THE LATEST RULES OF THE NATIONAL ELECTRICAL CODE, PSEG LONG ISLAND RULES AND REGULATIONS AND GOVERNING LOCAL ORDINANCES.
2. CONTRACTOR SHALL NOT USE POWER EXCAVATING EQUIPMENT CLOSER THAN 6 INCHES IN ANY DIRECTION FROM STAKED, MARKED OR OTHERWISE DESIGNATED PERIMETER OF ANY UNDERGROUND UTILITY.
3. ALL ELECTRICAL EQUIPMENT BEING INSTALLED SHALL BE UL APPROVED AND LABELED, WHERE APPLICABLE.
4. UPON COMPLETION OF WORK AN UNDERWRITERS CERTIFICATE SHALL BE SUBMITTED.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL TRADES, AND THE MAINTENANCE AND PROTECTION OF ALL EXISTING UTILITIES TO REMAIN.
6. FINAL LOCATIONS OF ELECTRIC AND GAS SERVICES SHALL BE DETERMINED BY PSEG LONG ISLAND AND NATIONAL GRID.
7. CONTRACTOR SHALL SUPPLY AND INSTALL THE CONCRETE TRANSFORMER PAD AND IN ADDITION THE SERVICE LATERALS AND THEIR COMPONENTS FROM THIS POINT TO THE BUILDING. COORDINATE PRIMARY FEED WITH PSEG AND SECONDARY FEED WITH MEP.
8. NATIONAL GRID REPRESENTATIVE: ROBERT ALLGOR (Robert.Allgor@nationalgrid.com)

WATER SERVICE NOTES

1. REDUCED PRESSURE BACKFLOW PREVENTION DEVICE TO BE TESTED ANNUALLY.
2. WATER SERVICE PIPE SHALL BE UNOBSTRUCTED AND UNBRANCHED FROM WATER MAIN TO BACKFLOW PREVENTION DEVICE.
3. INSTALLATION TO CONFORM TO S.C.W.A. & N.Y.S.H.D.
4. DEVICE IS NOT TO BE SUBJECTED TO FREEZING OR FLOODING.
5. SHUT OFF VALVES TO BE BALL TYPE OR RESILIENT-WEDGE GATE VALVES.
6. CONTRACTOR SHALL INSURE RPZ DEVICES AND EXPOSED PIPING ARE PROTECTED WITHIN A HEATED ENVIRONMENT.
7. DRAIN TO BE SCREENED.
8. UNIONS AS NECESSARY FOR REMOVAL.
9. POSITION TEST COCKS TO FACILITATE TESTING.
10. PROVIDE LEAD FREE FITTINGS, GASKETS & RPZ DEVICE ON ALL POTABLE WATER AS PER FEDERAL REGULATIONS OF JANUARY 4, 2014.
11. CONTRACTOR SHALL NOTIFY R&M ENGINEERING 48 HOURS IN ADVANCE OF INSTALLATION FOR INSPECTION (631) 271-0576.
12. CONTRACTOR SHALL CONTACT THE ISLIP FIRE MARSHAL'S OFFICE, (631) 224-5477, PRIOR TO INSTALLATION OF ANY FIRE SERVICE WATER LINES TO PROVIDE FOR PROPER INSPECTION COORDINATION.

WATER MAIN AND SERVICE NOTES

1. THE SITE IS LOCATED WITHIN THE SUFFOLK COUNTY WATER AUTHORITY.
2. CONTRACTOR SHALL COORDINATE LOCATION OF FIRE CONNECTION WITH THE TOWN OF ISLIP FIRE MARSHALL & BRENTWOOD FIRE DISTRICT.
3. BACK FLOW DEVICES SHALL BE INSTALLED FOR ALL WATER SERVICE LINES FEEDING DIRECTLY OFF PUBLIC MAIN AND ARE SUBJECT TO APPROVAL BY SUFFOLK COUNTY WATER AUTHORITY (REFER TO APPROVED PLANS).

SITE DATA

EXISTING PARCEL AREA:	940,927 S.F. (21.6007 Ac.)
EXISTING USE:	OUTDOOR SAND AND GRAVEL SUPPLIER
PROPOSED FOOTPRINT:	240,830 S.F.
PROPOSED LOT COVERAGE: (240,830/940,927) =	25.60%
PROPOSED GROSS FLOOR AREA:	240,830 S.F.
PROPOSED FLOOR AREA RATIO (FAR): (240,830/940,927) =	0.2560
PROPOSED USE:	WAREHOUSE
EXISTING ZONE:	INDUSTRIAL 1
S.C.T.M.:	DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1, 57.1 DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56, 57
DATUM:	NAVD 88
ELEV. OF HIGHEST GROUNDWATER:	+/- 43.0 (SEE SOIL BORINGS ON DETAIL SHEET)

SANITARY CALCULATIONS

GROUNDWATER MANAGEMENT ZONE VII
PARCEL AREA = 940,927 S.F. (21.6007 Ac.)

SCDHS ALLOWABLE SANITARY FLOW = 21.6007 Ac X 600 GPD/Ac = 12,960.42 GPD
PROPOSED FLOW RATE: 240,830 SF X 0.04 GPD/SF = 9,633.20 GPD
SANITARY FLOW: 9,633.20 GPD < 12,960.42 GPD
*THEREFORE SEPTIC PERMITTED

SANITARY DENSITY

PROPOSED WAREHOUSE (15% MAX OFFICE SPACE)

	240,830 SF x 0.04 GPD/SF	= 9,633.20 GPD
TOTAL:	240,830 SF	= 9,633.20 GPD

SEPTIC TANK DESIGN

REQUIRED: 9,633.20 GPD x 1 DAY = 9,633.20 GAL
PROPOSED: (2) 12' DIA. x 7' LIQUID DEPTH TANK = 10,500.00 GAL

I/A O.W.T.S. DESIGN

REQUIRED: I/A OWTS RATED AT MINIMUM 9,633.20 GPD
PROPOSED: SEPTITECH STAAR 12.0 COMMERCIAL SYSTEM RATED AT 12,000 GPD

SANITARY LEACHING POOL DESIGN

REQUIRED:	9,633.20 GPD / (1.5 GPD/SF/DAY) =	6,422.13 SF
	6,422.13 SF / (31.4 SF/FT) =	204.53 FT
PROPOSED:	(16) 10' DIA. x 13' E.D. SLP =	208.00 FT

SANITARY STRUCTURE TABLE

STRUCTURE TYPE-#	TOP / CASTING	INVERT	BOTTOM ELEVATION	EFFECTIVE DEPTH	STRUCT. SIZE
(ST-1)	74.75	IN 70.30	62.80	7 FT	12' Ø
(ST-2)	74.75	OUT 69.80	62.80	7 FT	12' Ø
(SMH-1)	75.00	IN 69.50 / OUT 69.40	69.40	-	4' Ø
(I/A-1)	75.00	IN 69.22 / OUT 69.76	61.72	-	STAAR 3.0
(I/A-2)	75.00	IN 69.22 / OUT 69.76	61.72	-	STAAR 3.0
(I/A-3)	75.00	IN 69.22 / OUT 69.76	61.72	-	STAAR 3.0
(I/A-4)	75.00	IN 69.22 / OUT 69.76	61.72	-	STAAR 3.0
(SMH-2)	75.00	IN 69.68 / OUT 69.58	69.58	-	4' Ø
(SDLP-1)	71.60	IN 69.20 / OUT 68.95	55.95	13 FT	10' Ø
(SDLP-2)	71.80	IN 68.85 / OUT 68.60	55.60	13 FT	10' Ø
(SDLP-3)	71.70	IN 68.85 / OUT 68.60	55.60	13 FT	10' Ø
(SDLP-4)	71.70	IN 68.85 / OUT 68.60	55.60	13 FT	10' Ø
(SDLP-5)	71.80	IN 68.85 / OUT 68.60	55.60	13 FT	10' Ø
(SLP-1)	72.05	68.50	55.50	13 FT	10' Ø
(SLP-2)	71.80	68.44	55.44	13 FT	10' Ø
(SLP-3)	71.60	68.50	55.50	13 FT	10' Ø
(SLP-4)	71.25	68.50	55.50	13 FT	10' Ø
(SLP-5)	71.10	68.50	55.50	13 FT	10' Ø
(SLP-6)	71.25	68.50	55.50	13 FT	10' Ø
(SLP-7)	71.30	68.44	55.44	13 FT	10' Ø
(SLP-8)	71.50	68.50	55.50	13 FT	10' Ø
(SLP-9)	71.75	68.50	55.50	13 FT	10' Ø
(SLP-10)	71.90	68.44	55.44	13 FT	10' Ø
(SLP-11)	72.05	68.50	55.50	13 FT	10' Ø

UTILITY CROSSINGS TABLE

No.	ELEV.		DRAINAGE	WATER	SEWER	CLEARANCE
1	64.00	INVERT	60.50	58.08	-	1.50'
		TOP	62.00	59.00	-	
2	71.95	INVERT	67.70	65.28	-	1.50'
		TOP	69.20	66.20	-	
3	73.10	INVERT	70.00	67.58	-	1.50'
		TOP	70.83	68.50	-	
4	74.55	INVERT	71.50	69.08	-	1.50'
		TOP	72.33	70.00	-	
5	74.35	INVERT	71.30	68.88	-	1.50'
		TOP	72.13	69.80	-	
6	72.50	INVERT	69.50	67.08	-	1.50'
		TOP	70.33	68.00	-	
7	70.40	INVERT	67.40	64.98	-	1.50'
		TOP	68.23	65.90	-	
8	72.00	INVERT	68.00	65.58	-	1.50'
		TOP	68.83	66.50	-	
9	73.40	INVERT	69.30	66.88	-	1.50'
		TOP	70.13	67.80	-	
10	73.50	INVERT	69.35	66.93	-	1.50'
		TOP	71.10	67.85	-	
11	73.60	INVERT	69.45	67.37	-	1.50'
		TOP	71.20	67.95	-	
12	75.00	INVERT	-	68.60	70.60	1.50'
		TOP	-	69.10	71.10	

SANITARY NOTES

1. THERE MUST BE A 10' MINIMUM SEPARATION BETWEEN ANY LEACHING POOL (STORM OR SANITARY) AND THE WATER MAIN.
2. MINIMUM CLEARANCE BETWEEN ALL SANITARY STRUCTURES IS 8 FT.
3. ALL SANITARY PIPE SHALL BE 6" PVC (DR-18). UNLESS OTHERWISE SPECIFIED. PITCH AS PER PLAN.
4. MINIMUM CLEARANCE BETWEEN UTILITY LINES AND SANITARY STRUCTURES IS 5'.
5. THERE ARE NO NEIGHBORING WELLS WITHIN 150' OF THE PROPERTY. THERE ARE EXISTING SEPTIC SYSTEMS SERVICING THE SURROUNDING PROPERTIES.
6. THERE MUST BE A 20' MINIMUM SEPARATION BETWEEN ALL SANITARY AND DRAINAGE STRUCTURES.
7. PURSUANT TO THE ARTICLE VII OF THE SUFFOLK COUNTY CODE, "SEPTIC INDUSTRY BUSINESS," REQUIRES THAT ALL INSTALLERS OF SEPTIC SYSTEMS WITHIN SUFFOLK COUNTY SHALL POSSESS A VALID LICENSE FROM THE SUFFOLK COUNTY OFFICE OF CONSUMER AFFAIRS. THE OFFICE OF WASTE WATER MANAGEMENT MAY REFUSE TO PERFORM INSPECTIONS OR GRANT FINAL APPROVAL FOR PROJECTS THAT WERE CONSTRUCTED BY UNLICENSED INDIVIDUALS/COMPANIES.
8. THE CONTRACTOR OR HIS REPRESENTATIVES SHALL NOTIFY THE SCDHS PRIOR TO WORK BEGINS AND AT THE COMPLETION OF ALL PORTIONS OF THE SANITARY SYSTEM BUILD AND IN ACCORDANCE WITH THEIR STANDARDS AND PERMIT CONDITIONS TO SATISFY ALL INSPECTION REQUIREMENTS.
9. THE CONTRACTOR IS RESPONSIBLE FOR FILLING OUT ALL REQUIRED SCDHS FORMS.
10. WATER LINES MUST BE EXPOSED 10' ON EACH SIDE OF CROSSING WITH SANITARY PIPING FOR INSPECTOR TO VERIFY NO JOINTS.
11. ALL SANITARY PIPING THAT CROSSES OVER DRAINAGE OR WATER MUST BE DUCTILE IRON PIPING.
12. FUTURE EXPANSION POOLS TO BE THE SAME SIZE AND EFFECTIVE DEPTH AS THE EXISTING POOLS.
13. SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES SHALL BE NOTIFIED FOR EXCAVATION INSPECTION PRIOR TO CONSTRUCTING IMPROVEMENTS.
14. THERE MUST BE A MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER/FIRE LINE AND DRAINAGE CROSSINGS.
15. CONTRACTOR SHALL NOTIFY R&M ENGINEERING 48 HOURS PRIOR TO COMMENCEMENT OF ANY UTILITY WORK.

SCDHS CROSSING NOTE

1. ALL SEWER AND WATER CROSSINGS MUST MEET THE SCDHS STANDARD AND BE ACCEPTABLE TO THE SCDHS INSPECTOR UPON INSTALLATION.

0 40 80
SCALE: 1" = 40'

No.	REVISION DESCRIPTION	DATE	BY
13.	REVISED PER TOWN MEETING	02-05-26	JB
12.	REVISED PER TOI COMMENTS	06-16-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	REVISED PER SCDPW COMMENTS	04-12-24	CB
9.	REVISED PER TOI COMMENTS	01-10-24	CB
8.	GENERAL REVISIONS	11-08-23	CB
7.	GENERAL REVISIONS	08-25-23	CB
6.	REVISED PER SURVEY UPDATE	08-08-23	CB
5.	REVISED PER SCWA COMMENTS	07-17-23	AR
4.	REVISED PER SCDHS COMMENTS	06-16-23	CB
3.	REVISED PER SCWA COMMENTS	05-10-23	CB
2.	GENERAL REVISIONS	04-21-23	MJM
1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
FIFTH AVE LLC C/O DIETCHEN-KENDRICK
1700 PACIFIC AVENUE, SUITE 895
DALLAS, TX 75201
PHONE: 201-620-0401
EMAIL: NEDD@XEBECREALTY.COM

PARTIAL UTILITY PLAN

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
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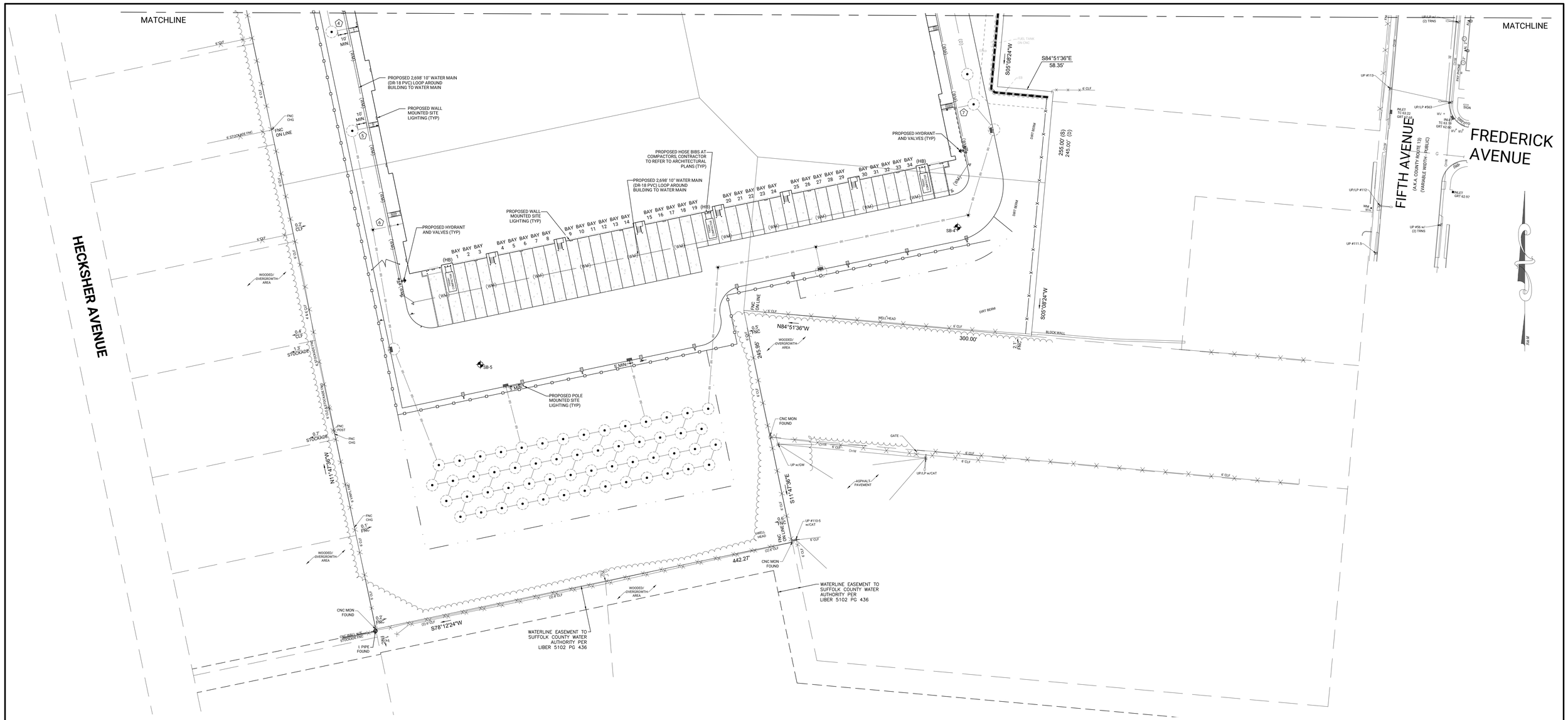
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Drawing Name: P:\2022 Projects\2022-001\R&M\2026-02-02 (2022-001) 5th Avenue Site Plan (24Ax).dwg Last Modified: Feb 09, 2026 - 2:39pm Plotted on: Feb 09, 2026 - 3:40pm by jbrebnstein



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(I/A-2)	75.00	IN 69.22 / OUT 69.76	61.72	-	STAAR 3.0
(I/A-3)	75.00	IN 69.22 / OUT 69.76	61.72	-	STAAR 3.0
(I/A-4)	75.00	IN 69.22 / OUT 69.76	61.72	-	STAAR 3.0
(SMH-2)	75.00	IN 69.68 / OUT 69.58	69.58	-	4' Ø
(SDLP-1)	71.60	IN 69.20 / OUT 68.95	55.95	13 FT	10' Ø
(SDLP-2)	71.80	IN 68.85 / OUT 68.60	55.60	13 FT	10' Ø
(SDLP-3)	71.70	IN 68.85 / OUT 68.60	55.60	13 FT	10' Ø
(SDLP-4)	71.70	IN 68.85 / OUT 68.60	55.60	13 FT	10' Ø
(SDLP-5)	71.80	IN 68.85 / OUT 68.60	55.60	13 FT	10' Ø
(SLP-1)	72.05	68.50	55.50	13 FT	10' Ø
(SLP-2)	71.80	68.44	55.44	13 FT	10' Ø
(SLP-3)	71.60	68.50	55.50	13 FT	10' Ø
(SLP-4)	71.25	68.50	55.50	13 FT	10' Ø
(SLP-5)	71.10	68.50	55.50	13 FT	10' Ø
(SLP-6)	71.25	68.50	55.50	13 FT	10' Ø
(SLP-7)	71.30	68.44	55.44	13 FT	10' Ø
(SLP-8)	71.50	68.50	55.50	13 FT	10' Ø
(SLP-9)	71.75	68.50	55.50	13 FT	10' Ø
(SLP-10)	71.90	68.44	55.44	13 FT	10' Ø
(SLP-11)	72.05	68.50	55.50	13 FT	10' Ø

UTILITY CROSSINGS TABLE

No.	ELEV.		DRAINAGE	WATER	SEWER	CLEARANCE
1	64.00	INVERT	60.50	58.08	-	1.50'
		TOP	62.00	59.00	-	
2	71.95	INVERT	67.70	65.28	-	1.50'
		TOP	69.20	66.20	-	
3	73.10	INVERT	70.00	67.58	-	1.50'
		TOP	70.83	68.50	-	
4	74.55	INVERT	71.50	69.08	-	1.50'
		TOP	72.33	70.00	-	
5	74.35	INVERT	71.30	68.88	-	1.50'
		TOP	72.13	69.80	-	
6	72.50	INVERT	69.50	67.08	-	1.50'
		TOP	70.33	68.00	-	
7	70.40	INVERT	67.40	64.98	-	1.50'
		TOP	68.23	65.90	-	
8	72.00	INVERT	68.00	65.58	-	1.50'
		TOP	68.83	66.50	-	
9	73.40	INVERT	69.30	66.88	-	1.50'
		TOP	70.13	67.80	-	
10	73.50	INVERT	69.35	66.93	-	1.50'
		TOP	71.10	67.85	-	
11	73.60	INVERT	69.45	67.37	-	1.50'
		TOP	71.20	67.95	-	
12	75.00	INVERT	-	68.60	70.60	1.50'
		TOP	-	69.10	71.10	

SANITARY NOTES

1. THERE MUST BE A 10' MINIMUM SEPARATION BETWEEN ANY LEACHING POOL (STORM OR SANITARY) AND THE WATER MAIN.
2. MINIMUM CLEARANCE BETWEEN ALL SANITARY STRUCTURES IS 8 FT.
3. ALL SANITARY PIPE SHALL BE 6" PVC (DR-18). UNLESS OTHERWISE SPECIFIED. PITCH AS PER PLAN.
4. MINIMUM CLEARANCE BETWEEN UTILITY LINES AND SANITARY STRUCTURES IS 5'.
5. THERE ARE NO NEIGHBORING WELLS WITHIN 150' OF THE PROPERTY. THERE ARE EXISTING SEPTIC SYSTEMS SERVICING THE SURROUNDING PROPERTIES.
6. THERE MUST BE A 20' MINIMUM SEPARATION BETWEEN ALL SANITARY AND DRAINAGE STRUCTURES.
7. PURSUANT TO THE ARTICLE VII OF THE SUFFOLK COUNTY CODE, "SEPTIC INDUSTRY BUSINESS," REQUIRES THAT ALL INSTALLERS OF SEPTIC SYSTEMS WITHIN SUFFOLK COUNTY SHALL POSSESS A VALID LICENSE FROM THE SUFFOLK COUNTY OFFICE OF CONSUMER AFFAIRS. THE OFFICE OF WASTE WATER MANAGEMENT MAY REFUSE TO PERFORM INSPECTIONS OR GRANT FINAL APPROVAL FOR PROJECTS THAT WERE CONSTRUCTED BY UNLICENSED INDIVIDUALS/COMPANIES.
8. THE CONTRACTOR OR HIS REPRESENTATIVES SHALL NOTIFY THE SCDHS PRIOR TO WORK BEGINS AND AT THE COMPLETION OF ALL PORTIONS OF THE SANITARY SYSTEM BUILD AND IN ACCORDANCE WITH THEIR STANDARDS AND PERMIT CONDITIONS TO SATISFY ALL INSPECTION REQUIREMENTS.
9. THE CONTRACTOR IS RESPONSIBLE FOR FILLING OUT ALL REQUIRED SCDHS FORMS.
10. WATER LINES MUST BE EXPOSED 10' ON EACH SIDE OF CROSSING WITH SANITARY PIPING FOR INSPECTOR TO VERIFY NO JOINTS.
11. ALL SANITARY PIPING THAT CROSSES OVER DRAINAGE OR WATER MUST BE DUCTILE IRON PIPING.
12. FUTURE EXPANSION POOLS TO BE THE SAME SIZE AND EFFECTIVE DEPTH AS THE EXISTING POOLS.
13. SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES SHALL BE NOTIFIED FOR EXCAVATION INSPECTION PRIOR TO CONSTRUCTING IMPROVEMENTS.
14. THERE MUST BE A MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER/FIRE LINE AND DRAINAGE CROSSINGS.
15. CONTRACTOR SHALL NOTIFY R&M ENGINEERING 48 HOURS PRIOR TO COMMENCEMENT OF ANY UTILITY WORK.

SCDHS CROSSING NOTE

1. ALL SEWER AND WATER CROSSINGS MUST MEET THE SCDHS STANDARD AND BE ACCEPTABLE TO THE SCDHS INSPECTOR UPON INSTALLATION.

0 40 80
SCALE: 1" = 40'

No.	REVISION DESCRIPTION	DATE	BY
13.	REVISED PER TOWN MEETING	02-05-26	JB
12.	REVISED PER TOI COMMENTS	06-16-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	REVISED PER SCDPW COMMENTS	04-12-24	CB
9.	REVISED PER TOI COMMENTS	01-10-24	CB
8.	GENERAL REVISIONS	11-08-23	CB
7.	GENERAL REVISIONS	08-25-23	CB
6.	REVISED PER SURVEY UPDATE	08-08-23	CB
5.	REVISED PER SCWA COMMENTS	07-17-23	AR
4.	REVISED PER SCDHS COMMENTS	06-16-23	CB
3.	REVISED PER SCWA COMMENTS	05-10-23	CB
2.	GENERAL REVISIONS	04-21-23	MJM
1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
FIFTH XXV, LLC, C/O GRETCHEN KENDRICK
2100 ROSS AVENUE, SUITE 895
DALLAS, TX 75201
PHONE: 201-600-0401
EMAIL: NEID@AXEBECREALTY.COM

PARTIAL LOT PLAN

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE

TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

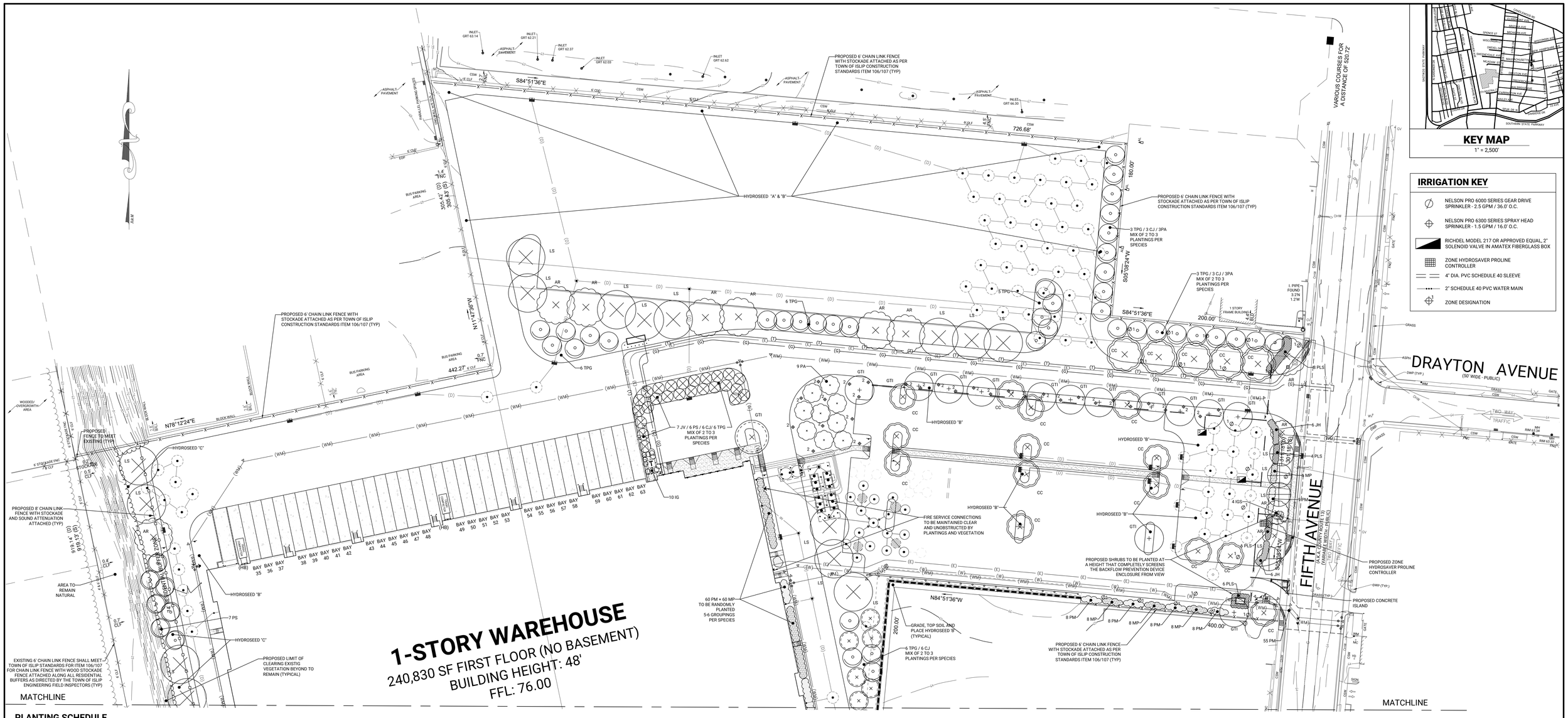
STATE OF NEW YORK — CHRISTOPHER W. ROBINSON — 067519 — LICENSED PROFESSIONAL ENGINEER

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NY State License No. 067519

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DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	1" = 40'	SHEET:	SP-6B
DATE:	08-20-22	DATE:	09-12-22	JOB No.:	2022-001		

Drawing Name: P:\2022 Projects\2022-001\V&M\2026-02-02 (2022-001) 5th Avenue Site Plan (2426) Rev.13.dwg Last Modified: Feb 04, 2026 - 6:17pm Plotted on: Feb 05, 2026 - 2:21pm by jbrotenstein



IRRIGATION KEY

- NELSON PRO 6000 SERIES GEAR DRIVE SPRINKLER - 2.5 GPM / 36.0' O.C.
- NELSON PRO 6300 SERIES SPRAY HEAD SPRINKLER - 1.5 GPM / 16.0' O.C.
- RICHDEL MODEL 217 OR APPROVED EQUAL, 2" SOLENOID VALVE IN AMATEX FIBERGLASS BOX
- ZONE HYDROSAVER PROLINE CONTROLLER
- 4" DIA. PVC SCHEDULE 40 SLEEVE
- 2" SCHEDULE 40 PVC WATER MAIN
- ZONE DESIGNATION

PLANTING SCHEDULE

	SYM.	QUA.	BOTANICAL NAME	COMMON NAME	SIZE/SP.
DECIDUOUS TREES	AR	13	ACER RUBRUM OCTOBER GLORY	OCTOBER GLORY MAPLE	2.5 - 3" DBH. - 20' O.C.
	CC	20	CARPINUS CAROLINIANA	IRON WOOD	2.5 - 3" DBH.-AS SHOWN
	GTI	14	GLEDITSIA TRIANCANTHOS INERMIS	THORNLESS HONEY LOCUST	2.5 - 3" DBH. - 20' O.C.
	LS	21	LIQUIDAMBAR STYRACIFLUA	SWEETGUM	2.5 - 3" DBH. - 20' O.C.
SHRUBS	IG	10	ILEX GLABRA	INK BERRY	2 - 3' HT. - 3' O.C.
	MP	220	MYRICA PENSYLVANICA	NORTHERN BAYBERRY	18 - 24" SP. - 3' O.C.
	PM	201	PRUNUS MARITIMA	BEACH PLUM	18 - 24" SP. - 3' O.C.
	RT	160	RHUS TYPHINA	STAGHORN SUMAC	18 - 24" SP. - 3' O.C.
	IGS	4	ILEX GLABRA SHAMROCK	SHAMROCK HOLLY	3 - 4' HT. - 3' O.C.
	PLS	24	PRUNUS LAUROCERASUS SCHIPKAENSIS	SKIP LAUREL	5 - 6' HT. - 5' O.C.
	JH	12	JUNIPERUS HORIZONTALIS	CREEPING JUNIPER	18 - 24" SP. - 3' O.C.
EVERGREEN TREES	CJ *	18	CRYPTOMERIA JAPONICA	JAPANESE CEDAR	6 - 8' HT. - 8' O.C.
	JV*	11	JUNIPERUS VIRGINIANA	E. RED CEDAR	5 - 6' HT. - 6' O.C.
	PA*	15	PICEA ABIES	NORWAY SPRUCE	6 - 8' HT. - 8' O.C.
	PS*	17	PINUS STROBUS	E. WHITE PINE	6 - 8' HT. - 8' O.C.
	TPG*	35	THUJA PLICATA GREEN GIANT	WESTERN ARBORVITAE	6 - 8' HT. - 8' O.C.

HYDROSEED "A" @ 4#/AC.

(NORHTERN WILDFLOWER MIX)

BACHELOR BUTTON, LANCE-LEAVED COREOPSIS, BABY'S BREATH, BABY SNAPDRAGON, SCARLET FLAX, LEWIS FLAX, EVENING PRIMROSE, CORN POPPY, CATCHFLY, BLACK EYED SUSAN, PURPLE CONEFLOWER, AND OXEYE DAISY

HYDROSEED "B" @ 170#/AC.

(ECOLOGY MIX)

80% RELIANT HARD FESCUE
20% JAMESTOWN II CHEWINGS FESCUE

HYDROSEED "C" @ 150#/AC.

(RECLAIM CONSERVATION MIX-DRY FORMULA)

40% REBEL II TALL FESCUE
20% WEEPING LOVEGRASS
10% RELIANT HARD FESCUE
10% JAMESTOWN II CHEWINGS FESCUE
10% PALMER II PERENNIAL RYEGRASS
5% WHITE CLOVER
5% BLACKWELL SWITCHGRASS

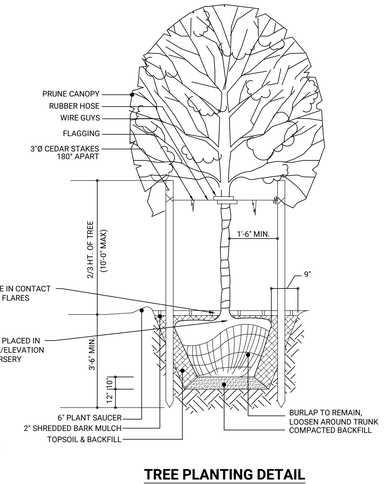
PLANTING NOTES:
1. GROUPING MIX OF 2 TO 3 PLANTINGS PER SPECIES WHEN 7 OR MORE PROPOSED.
2. NURSERY PLANT IDENTIFICATION TAGS ARE NOT TO BE REMOVED UNTIL AUTHORIZED BY THE ISLIP ENGINEERING FIELD INSPECTORS. REFER TO THE TOWN OF ISLIP SUBDIVISION AND LAND DEVELOPMENT REGULATIONS

Know what's below. Call before you dig.

CAUTION-NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION WORK COMMENCES. THE CONTRACTOR SHALL RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

THIS SITE PLAN IS BASED ON A SURVEY BY GALLAS SURVEYING GROUP DATED MARCH 02, 2022.



SHRUB PLANTING DETAIL

NTS

TREE PLANTING DETAIL

NTS

LANDSCAPE NOTES

1. ALL PLANT MATERIAL GUARANTEED FOR A PERIOD OF ONE YEAR FOLLOWING ACCEPTANCE BY OWNER.
2. ALL PLANTING BEDS TO BE MULCHED WITH 2" OF SHREDDED BARK.
3. ALL LANDSCAPED AREAS TO RECEIVE 6" OF SCREENED TOPSOIL PRIOR TO PLANT INSTALLATION.
4. NO PLANT MATERIAL, EXCEPT LAWN OR GROUND COVER, IS TO BE LOCATED WITHIN 2' OF ANY PARKING LOT CURBS.
5. LANDSCAPING SHALL BE PLANTED AND MAINTAINED IN COMPLIANCE WITH THE TOWN OF ISLIP SITE IMPROVEMENT SPECIFICATIONS.
6. THERE SHALL BE NO PLANT SUBSTITUTIONS UNLESS AUTHORIZED BY STAFF OF THE ISLIP PLANNING AND ENVIRONMENTAL DEPARTMENT.
7. ALL DECIDUOUS TREES TO BE SECURED WITH TWO 3" DIA. CEDAR STAKES, 180 DEGREES APART.
8. ALL ROPES AND WIRES SURROUNDING ROOT BALL TO BE REMOVED PRIOR TO BACKFILLING OF TREE PITS/TREE TRUNK WRAP TO BE REMOVED.
9. NO TREES TO BE LOCATED WITHIN 10' OF DRYWELLS, WALLS, OR PIPING AND DRAINAGE STRUCTURES AS PER TOWN OF ISLIP STANDARDS.
10. ALL PROPOSED STREET TREES TO BE LIMBED UP TO A HEIGHT OF 7 FEET TO AVOID ANY INTERFERENCE WITH PEDESTRIAN MOVEMENTS ALONG PROPOSED SIDEWALKS.
11. IRRIGATION COMPONENTS DAMAGED DURING CONSTRUCTION IS TO BE REPLACED BY THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER.
12. LANDSCAPING OUTSIDE CONSTRUCTION AREA DAMAGED OR DESTROYED IS TO BE REPLACED IN KIND BY THE CONTRACTOR.
13. NURSERY IDENTIFICATION LABELS/TAGS TO BE RETAINED ON ALL PLANTINGS PLACED UNTIL REMOVAL IS AUTHORIZED BY THE ISLIP FIELD INSPECTORS.
14. CONTRACTOR TO PROVIDE IRRIGATION SYSTEM TO ALL PLANTINGS.
15. LANDSCAPER AND IRRIGATION INSTALLER TO COORDINATE INSTALLATION OF PLANTS & IRRIGATION SYSTEM.

IRRIGATION NOTES

1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, SERVICES, EQUIPMENT AND APPLIANCES REQUIRED TO PROVIDE AN IN-GROUND AUTOMATIC IRRIGATION SYSTEM AND RELATED ITEMS NEEDED TO DELIVER OPTIMAL LEVELS OF WATER TO ALL PLANTING AREAS AS SHOWN ON THE DRAWINGS. THE IRRIGATION SYSTEM, AS INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN, SHALL INCLUDE, BUT IS NOT LIMITED TO: IRRIGATION COMPLETELY INSTALLED; ALL NECESSARY PIPING, VALVES, PIPE SLEEVES, SPRINKLER HEADS, METER PIT, VALVE BOXES, CONTROLLER, WIRE AND WATERPROOF CONNECTIONS, RAIN SWITCH, BACKFLOW PREVENTER, WATER METER AND OTHER APPURTENANCES; AND CONNECTIONS TO WATER AND ELECTRICAL SERVICE SYSTEMS.
2. THE DRAWINGS AND SPECIFICATION MAY NOT SHOW ALL THE DETAILS OF CONSTRUCTION, BUT THE CONTRACTOR SHALL BE REQUIRED TO FURNISH AND INSTALL ALL MATERIALS NECESSARY TO COMPLETE THE IRRIGATION SYSTEM IN ACCORDANCE WITH APPLICABLE CODES, THE BEST PRACTICES AND TO THE FULL INTENT OF THE DRAWINGS AND SPECIFICATIONS.
3. PRIOR TO CONSTRUCTION THE IRRIGATION CONTRACTOR SHALL VISIT THE SITE AND EVALUATE THE AVAILABLE WATER PRESSURE AND PIPE SIZE SERVICING THE IRRIGATION SYSTEM. THE CONTRACTOR SHALL MODIFY, OR IF A DETAILED DESIGN DOES NOT EXIST, PREPARE THE IRRIGATION DESIGN BASED ON SITE CONDITIONS. THE IRRIGATION SYSTEM SHALL BE DESIGNED WITH INDEPENDENT ZONES FOR LAWNS AND PLANT BEDS AND PROVIDE A MINIMUM OF TWO QUICK COUPLING VALVES. PRIOR TO INSTALLATION THE CONTRACTOR SHALL SUBMIT THE IRRIGATION DESIGN FOR APPROVAL BY THE OWNER.
4. THE IRRIGATION SYSTEM SHALL BE GUARANTEED FOR A YEAR BEGINNING AT THE TIME OF ACCEPTANCE OF THE PROJECT BY THE OWNER. AT THE TIME OF ACCEPTANCE, THE CONTRACTOR SHALL PROVIDE THE OWNER WITH MAINTENANCE INSTRUCTIONS FOR THE IRRIGATION SYSTEM. DURING THE ONE YEAR GUARANTEE PERIOD THE CONTRACTOR SHALL PROVIDE, AT NO ADDITIONAL COST, MAINTENANCE INCLUDING FALL BLOW OUT AND SPRING ACTIVATION. THE CONTRACTOR SHALL PROVIDE AN ALTERNATE FOR THE MAINTENANCE/GUARANTEE FOR THE IRRIGATION SYSTEM TO THE OWNER.
5. CONTRACTOR SHALL INSTALL CONDUIT FOR IRRIGATION MAINLINE PIPING 2" OR LARGER AT 16" MINIMUM DEPTH, AND CONDUIT FOR 1 1/2" OR SMALLER ZONE LINE PIPING AT 12" DEPTH UNDER ALL PAVEMENT AREAS TO CONNECT ALL LANDSCAPE AREAS.

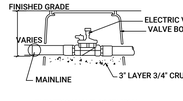
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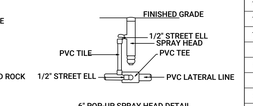
1. ZONE LINES TO BE POLYETHYLENE 100 LBS. VACUUM SEALED WITH UNDERGROUND WIRING 14/1 UF.
2. CONTRACTOR RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND INSPECTIONS.
3. HEAD AND LINE LOCATIONS ARE SCHEMATIC AND MAY REQUIRE FIELD ADJUSTMENTS, CONTRACTOR SHALL COORDINATE WITH LANDSCAPE CONTRACTOR PRIOR TO CONSTRUCTING IMPROVEMENTS
4. IRRIGATION CONTRACTOR SHALL CONSULT WITH GENERAL CONTRACTOR TO INSURE IRRIGATION SYSTEM DOES NOT CONFLICT WITH ANY SITE IMPROVEMENTS.

IRRIGATION SCHEDULE

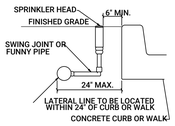
ZONE	QUA.	HEAD TYPE	GPM	TOTAL GPM
1	21	NELSON PRO 6000	2.5	52.5
2	29	NELSON PRO 6300	1.5	43.5

IRRIGATION SYSTEM DETAILS

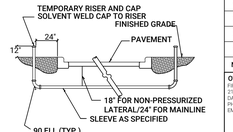




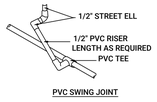
ELECTRIC VALVE ASSEMBLY



6" POP-UP SPRAY HEAD DETAIL

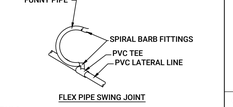


IRRIGATION HEAD AT CURB OR WALK



PVC SWING JOINT

SLEEVE INSTALLATION DETAIL



FLEX PIPE SWING JOINT

JOINT DETAILS

0 40 80

SCALE: 1" = 40'

No.	REVISION DESCRIPTION	DATE	BY
13.	REVISED PER TOWN MEETING	02-05-26	JB
12.	REVISED PER TOI COMMENTS	06-16-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	REVISED PER SCDPW COMMENTS	04-12-24	CB
9.	REVISED PER TOI COMMENTS	01-10-24	CB
8.	GENERAL REVISIONS	11-08-23	CB
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T.O.I. REF.# PB 2023-003
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2100 ROSS AVENUE, SUITE 895
DALLAS, TX 75201
PHONE: 207-600-0401
EMAIL: NICO@ASSECREALTY.COM

PARTIAL LANDSCAPE & IRRIGATION PLAN

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE

TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

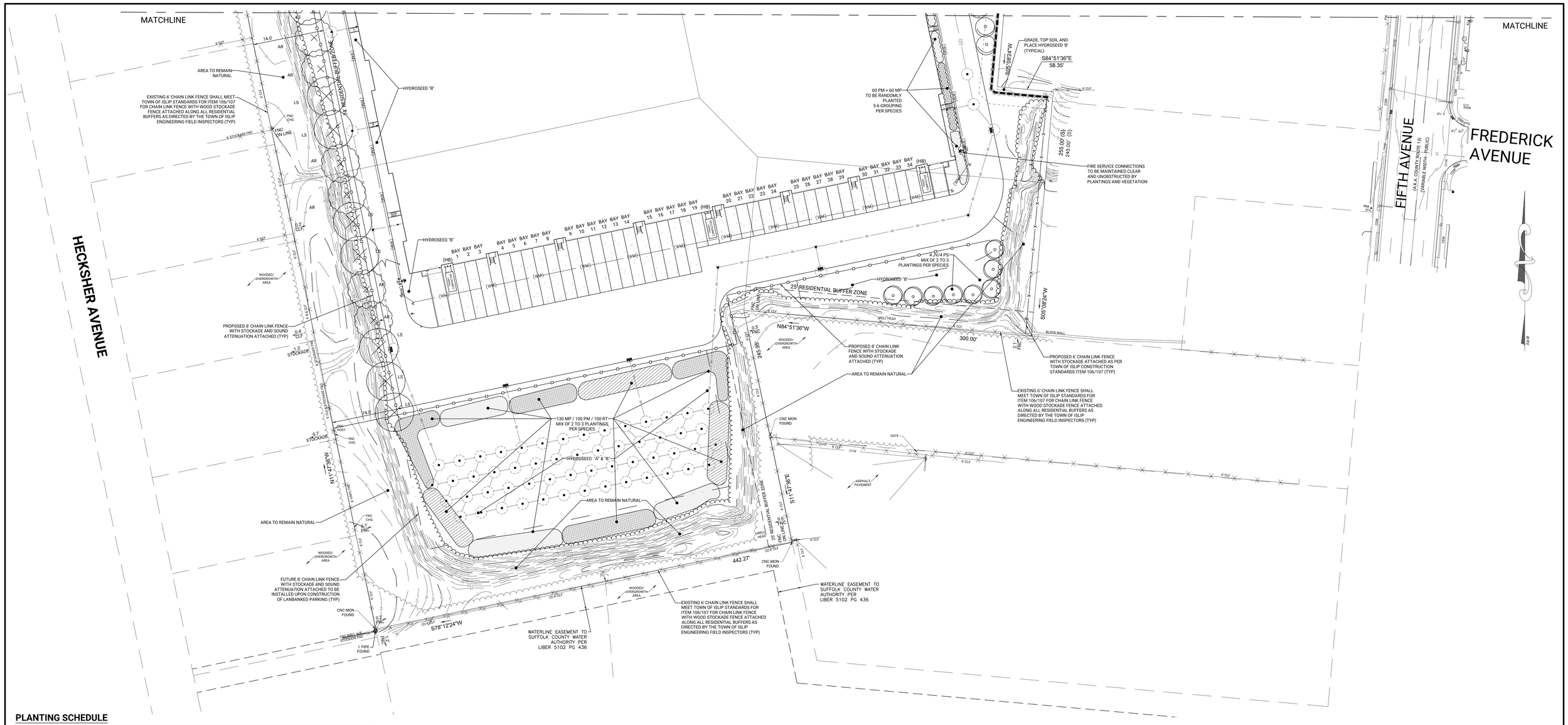
SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
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DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	1" = 40'	SHEET:	SP-7A
DATE:	08-20-22	DATE:	09-12-22	JOB No.:	2022-001		

Drawing Name: P:\2022\2022-001\V&A\2025-02-02 (2022-001) 5th Avenue Site Plan (2425) Rev.13.dwg Last Modified: Feb 09, 2026 - 2:39pm Plotted on: Feb 09, 2026 - 3:41pm by jbottenstein



PLANTING SCHEDULE

	SYM.	QUA.	BOTANICAL NAME	COMMON NAME	SIZE/SP.
DECIDUOUS TREES	AR	13	ACER RUBRUM OCTOBER GLORY	OCTOBER GLORY MAPLE	2.5 - 3" DBH. - 20' O.C.
	CC	20	CARPINUS CAROLINIANA	IRON WOOD	2.5 - 3" DBH.-AS SHOWN
	GTI	14	GLEDITSIA TRIANCANTHOS INERMIS	THORNLESS HONEY LOCUST	2.5 - 3" DBH. - 20' O.C.
	LS	21	LIQUIDAMBAR STYRACIFLUA	SWEETGUM	2.5 - 3" DBH. - 20' O.C.
SHRUBS	IG	10	ILEX GLABRA	INK BERRY	2 - 3' HT. - 3' O.C.
	MP	220	MYRICA PENSYLVANICA	NORTHERN BAYBERRY	18 - 24" SP. - 3' O.C.
	PM	201	PRUNUS MARITIMA	BEACH PLUM	18 - 24" SP. - 3' O.C.
	RT	160	RHUS TYPHINA	STAGHORN SUMAC	18 - 24" SP. - 3' O.C.
	IGS	4	ILEX GLABRA SHAMROCK	SHAMROCK HOLLY	3 - 4' HT. - 3' O.C.
	PLS	24	PRUNUS LAUROCERASUS SCHIPKAENSIS	SKIP LAUREL	5 - 6' HT. - 5' O.C.
	JH	12	JUNIPERUS HORIZONTALIS	CREEPING JUNIPER	18 - 24" SP. - 3' O.C.
EVERGREEN TREES	CJ *	18	CRYPTOMERIA JAPONICA	JAPANESE CEDAR	6 - 8' HT. - 8' O.C.
	JV*	11	JUNIPERUS VIRGINIANA	E. RED CEDAR	5 - 6' HT. - 6' O.C.
	PA*	15	PICEA ABIES	NORWAY SPRUCE	6 - 8' HT. - 8' O.C.
	PS*	17	PINUS STROBUS	E. WHITE PINE	6 - 8' HT. - 8' O.C.
	TPG*	35	THUJA PLICATA GREEN GIANT	WESTERN ARBORVITAE	6 - 8' HT. - 8' O.C.

HYDROSEED "A" @ 4#/AC.

(NORHTERN WILDFLOWER MIX)

BACHELOR BUTTON, LANCE-LEAVED COREOPSIS, BABY'S BREATH, BABY SNAPDRAGON, SCARLET FLAX, LEWIS FLAX, EVENING PRIMROSE, CORN POPPY, CATCHFLY, BLACK EYED SUSAN, PURPLE CONEFLOWER, AND OXEYE DAISY

HYDROSEED "B" @ 170#/AC.

(ECOLOGY MIX)

80% RELIANT HARD FESCUE
20% JAMESTOWN II CHEWINGS FESCUE

HYDROSEED "C" @ 150#/AC.

(RECLAIM CONSERVATION MIX-DRY FORMULA)

40% REBEL II TALL FESCUE
20% WEEPING LOVEGRASS
10% RELIANT HARD FESCUE
10% JAMESTOWN II CHEWINGS FESCUE
10% PALMER II PERENNIAL RYEGRASS
5% WHITE CLOVER
5% BLACKWELL SWITCHGRASS

PLANTING NOTES:

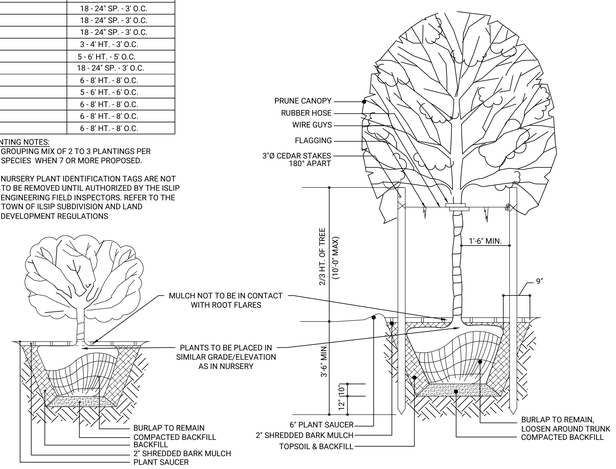
1. GROUPING MIX OF 2 TO 3 PLANTINGS PER SPECIES WHEN 7 OR MORE PROPOSED.
2. NURSERY PLANT IDENTIFICATION TAGS ARE NOT TO BE REMOVED UNTIL AUTHORIZED BY THE ISLIP ENGINEERING FIELD INSPECTORS. REFER TO THE TOWN OF ILSIP SUBDIVISION AND LAND DEVELOPMENT REGULATIONS

Know what's below. Call before you dig.

CAUTION-NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION WORK COMMENCES. THE CONTRACTOR SHALL RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

THIS SITE PLAN IS BASED ON A SURVEY BY GALLAS SURVEYING GROUP DATED MARCH 02, 2022.



SHRUB PLANTING DETAIL

NTS

TREE PLANTING DETAIL

NTS

LANDSCAPE NOTES

1. ALL PLANT MATERIAL GUARANTEED FOR A PERIOD OF ONE YEAR FOLLOWING ACCEPTANCE BY OWNER.
2. ALL PLANTING BEDS TO BE MULCHED WITH 2" OF SHREDDED BARK.
3. ALL LANDSCAPED AREAS TO RECEIVE 6" OF SCREENED TOPSOIL PRIOR TO PLANT INSTALLATION.
4. NO PLANT MATERIAL, EXCEPT LAWN OR GROUND COVER, IS TO BE LOCATED WITHIN 2' OF ANY PARKING LOT CURBS.
5. LANDSCAPING SHALL BE PLANTED AND MAINTAINED IN COMPLIANCE WITH THE TOWN OF ISLIP SITE IMPROVEMENT SPECIFICATIONS.
6. THERE SHALL BE NO PLANT SUBSTITUTIONS UNLESS AUTHORIZED BY STAFF OF THE ISLIP PLANNING AND ENVIRONMENTAL DEPARTMENT.
7. ALL DECIDUOUS TREES TO BE SECURED WITH TWO 3" DIA. CEDAR STAKES, 180 DEGREES APART.
8. ALL ROPES AND WIRES SURROUNDING ROOT BALL TO BE REMOVED PRIOR TO BACKFILLING OF TREE PITS/TREE TRUNK WRAP TO BE REMOVED.
9. NO TREES TO BE LOCATED WITHIN 10' OF DRYWELLS, WALLS, OR PIPING AND DRAINAGE STRUCTURES AS PER TOWN OF ISLIP STANDARDS.
10. ALL PROPOSED STREET TREES TO BE LIMBED UP TO A HEIGHT OF 7 FEET TO AVOID ANY INTERFERENCE WITH PEDESTRIAN MOVEMENTS ALONG PROPOSED SIDEWALKS.
11. IRRIGATION COMPONENTS DAMAGED DURING CONSTRUCTION IS TO BE REPLACED BY THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER.
12. LANDSCAPING OUTSIDE CONSTRUCTION AREA DAMAGED OR DESTROYED IS TO BE REPLACED IN KIND BY THE CONTRACTOR.
13. NURSERY IDENTIFICATION LABELS/TAGS TO BE RETAINED ON ALL PLANTINGS PLACED UNTIL REMOVAL IS AUTHORIZED BY THE ISLIP FIELD INSPECTORS.
14. CONTRACTOR TO PROVIDE IRRIGATION SYSTEM TO ALL PLANTINGS.
15. LANDSCAPER AND IRRIGATION INSTALLER TO COORDINATE INSTALLATION OF PLANTS & IRRIGATION SYSTEM.

IRRIGATION NOTES

1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, SERVICES, EQUIPMENT AND APPLIANCES REQUIRED TO PROVIDE AN IN-GROUND AUTOMATIC IRRIGATION SYSTEM AND RELATED ITEMS NEEDED TO DELIVER OPTIMAL LEVELS OF WATER TO ALL PLANTING AREAS AS SHOWN ON THE DRAWINGS. THE IRRIGATION SYSTEM, AS INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN, SHALL INCLUDE, BUT IS NOT LIMITED TO: IRRIGATION COMPLETELY INSTALLED; ALL NECESSARY PIPING, VALVES, PIPE SLEEVES, SPRINKLER HEADS, METER PIT, VALVE BOXES, CONTROLLER, WIRE AND WATERPROOF CONNECTIONS, RAIN SWITCH, BACKFLOW PREVENTER, WATER METER AND OTHER APPURTENANCES; AND CONNECTIONS TO WATER AND ELECTRICAL SERVICE SYSTEMS.
2. THE DRAWINGS AND SPECIFICATION MAY NOT SHOW ALL THE DETAILS OF CONSTRUCTION, BUT THE CONTRACTOR SHALL BE REQUIRED TO FURNISH AND INSTALL ALL MATERIALS NECESSARY TO COMPLETE THE IRRIGATION SYSTEM IN ACCORDANCE WITH APPLICABLE CODES, THE BEST PRACTICES AND TO THE FULL INTENT OF THE DRAWINGS AND SPECIFICATIONS.
3. PRIOR TO CONSTRUCTION THE IRRIGATION CONTRACTOR SHALL VISIT THE SITE AND EVALUATE THE AVAILABLE WATER PRESSURE AND PIPE SIZE SERVICING THE IRRIGATION SYSTEM. THE CONTRACTOR SHALL MODIFY, OR IF A DETAILED DESIGN DOES NOT EXIST, PREPARE THE IRRIGATION DESIGN BASED ON SITE CONDITIONS. THE IRRIGATION SYSTEM SHALL BE DESIGNED WITH INDEPENDENT ZONES FOR LAWNS AND PLANT BEDS AND PROVIDE A MINIMUM OF TWO QUICK COUPLING VALVES. PRIOR TO INSTALLATION THE CONTRACTOR SHALL SUBMIT THE IRRIGATION DESIGN FOR APPROVAL BY THE OWNER.
4. THE IRRIGATION SYSTEM SHALL BE GUARANTEED FOR A YEAR BEGINNING AT THE TIME OF ACCEPTANCE OF THE PROJECT BY THE OWNER. AT THE TIME OF ACCEPTANCE, THE CONTRACTOR SHALL PROVIDE THE OWNER WITH MAINTENANCE INSTRUCTIONS FOR THE IRRIGATION SYSTEM. DURING THE ONE YEAR GUARANTEE PERIOD THE CONTRACTOR SHALL PROVIDE, AT NO ADDITIONAL COST, MAINTENANCE INCLUDING FALL BLOW OUT AND SPRING ACTIVATION. THE CONTRACTOR SHALL PROVIDE AN ALTERNATE FOR THE MAINTENANCE/GUARANTEE FOR THE IRRIGATION SYSTEM TO THE OWNER.
5. CONTRACTOR SHALL INSTALL CONDUIT FOR IRRIGATION MAINLINE PIPING 2" OR LARGER AT 16" MINIMUM DEPTH, AND CONDUIT FOR 1 1/2" OR SMALLER ZONE LINE PIPING AT 12" DEPTH UNDER ALL PAVEMENT AREAS TO CONNECT ALL LANDSCAPE AREAS.

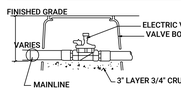
NOTES

1. ZONE LINES TO BE POLYETHYLENE 100 LBS. VACUUM SEALED WITH UNDERGROUND WIRING 14/1 UF.
2. CONTRACTOR RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND INSPECTIONS.
3. HEAD AND LINE LOCATIONS ARE SCHEMATIC AND MAY REQUIRE FIELD ADJUSTMENTS, CONTRACTOR SHALL COORDINATE WITH LANDSCAPE CONTRACTOR PRIOR TO CONSTRUCTING IMPROVEMENTS
4. IRRIGATION CONTRACTOR SHALL CONSULT WITH GENERAL CONTRACTOR TO INSURE IRRIGATION SYSTEM DOES NOT CONFLICT WITH ANY SITE IMPROVEMENTS.

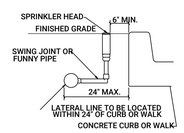
IRRIGATION SCHEDULE

ZONE	QUA.	HEAD TYPE	GPM	TOTAL GPM
1	20	NELSON PRO 6000	2.5	50.0
2	30	NELSON PRO 6300	1.5	45.0

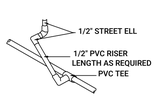
IRRIGATION SYSTEM DETAILS



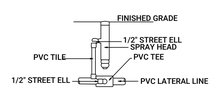
ELECTRIC VALVE ASSEMBLY



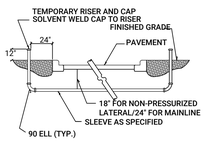
IRRIGATION HEAD AT CURB OR WALK



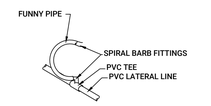
PVC SWING JOINT



6" POP-UP SPRAY HEAD DETAIL



SLEEVE INSTALLATION DETAIL



FLEX PIPE SWING JOINT

JOINT DETAILS

0 40 80

SCALE: 1" = 40'

No.	REVISION DESCRIPTION	DATE	BY
13.	REVISED PER TOWN MEETING	02-05-26	JB
12.	REVISED PER TOI COMMENTS	06-16-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	REVISED PER SCDPW COMMENTS	04-12-24	CB
9.	REVISED PER TOI COMMENTS	01-10-24	CB
8.	GENERAL REVISIONS	11-08-23	CB
7.	GENERAL REVISIONS	08-25-23	CB
6.	REVISED PER SURVEY UPDATE	08-08-23	CB
5.	REVISED PER SCWA COMMENTS	07-17-23	AR
4.	REVISED PER SCDHS COMMENTS	06-16-23	CB
3.	REVISED PER SCWA COMMENTS	05-10-23	CB
2.	GENERAL REVISIONS	04-21-23	MJM
1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
FIFTH NYK, LLC, C/O GRETCHEN KENDRICK
2100 ROSS AVENUE, SUITE 1915
DALLAS, TX 75201
PHONE: 207-600-0401
EMAIL: NICO@ATEBECREALTY.COM

PARTIAL LANDSCAPE & IRRIGATION PLAN

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

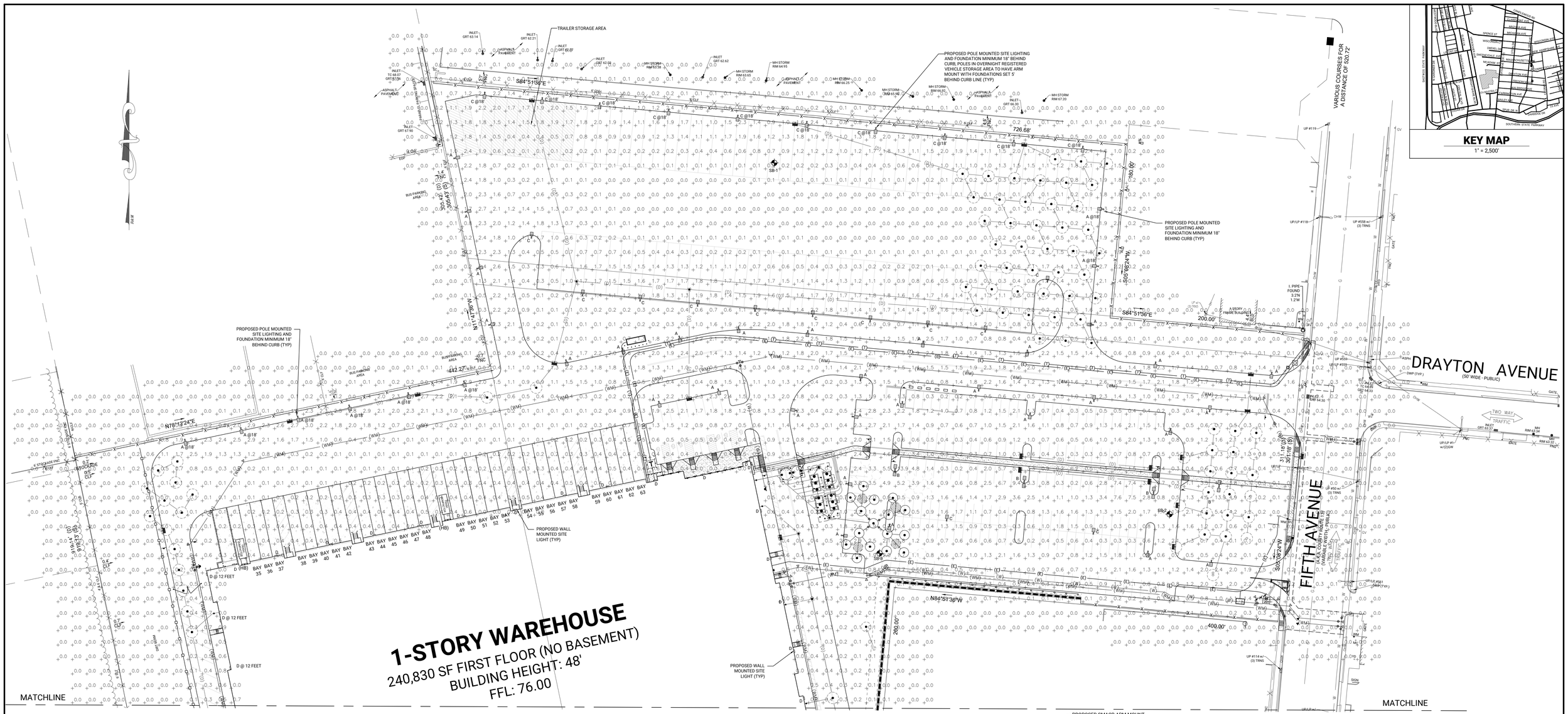
SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

Christopher W. Robinson, P.E.
NY State License No. 067519

Robinson & Muller Engineers, P.C.
50 Elm Street
Huntington, NY 11743
Office: (631) 271-0576
Fax: (631) 271-0592
www.rmengineering.com

DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	1" = 40'	SHEET:	SP-7B
DATE:	08-20-22	DATE:	09-12-22	JOB No.:	2022-001		

Drawing Name: P:\2022 Projects\2022-001\R&M\2025-02 (2022-001) 5th Avenue Site Plan (2425) Rev.13.dwg Last Modified: Feb 04, 2026 - 6:17pm Plotted on: Feb 05, 2026 - 1:11pm by jbiebesheim



1-STORY WAREHOUSE

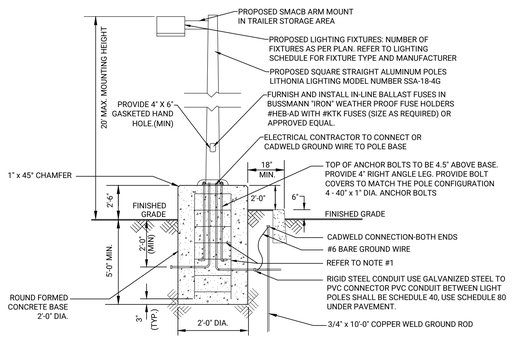
240,830 SF FIRST FLOOR (NO BASEMENT)
BUILDING HEIGHT: 48'
FFL: 76.00

LIGHTING NOTE

1. PRIOR TO BOND RELEASE OR ISSUANCE OF CERTIFICATE OF OCCUPANCY THE FOLLOWING SHALL BE REQUIRED TO BE SUBMITTED TO THE ENGINEERING DIVISION;
   - A LETTER FROM THE ELECTRICIAN OR CONTRACTOR STATING THE LIGHTS HAVE BEEN ENERGIZED, AND
   - THE PROVISION OF AN UNDERWRITERS CERTIFICATE.
2. LIGHT POLES SHALL BE IN ALIGNMENT WITH PARKING STALL STRIPING TO MINIMIZE POTENTIAL FOR VEHICULAR CONFLICT.
3. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL BY THE OWNER AND ENGINEER PRIOR TO ORDERING POLES AND FIXTURES.
4. ALL POLES SHALL BE CUT TO MEET SPECIFIED MOUNTING HEIGHTS.
5. LUMINAIRE SYMBOLS ARE NOT TO SCALE.
6. VARYING THE POSITION, MOUNTING HEIGHT, OR ORIENTATION FROM WHAT IS SPECIFIED IN THIS DRAWING WILL INVALIDATE THE CALCULATION PERFORMED.
7. REFER TO ELECTRICAL PLANS PREPARED BY OTHERS FOR FURTHER INFORMATION.
8. ALL LIGHTING FIXTURES ADJACENT TO PROPERTY LINES SHALL HAVE HOUSE-SIDE SHIELDS WITH FULL CUT OFF.
9. ALL EXISTING SITE LIGHTING POLES AND FIXTURES SHALL BE REMOVED.

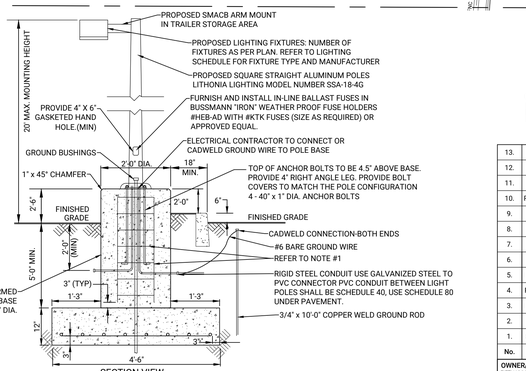
LUMINAIRE SCHEDULE

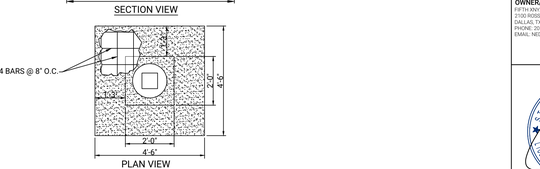
Symbol	Label	Qty	Catalog Number	Description	Mounting Height	Lumens	LLF	Watts
	A	47	DSX1 LED P1 30K T2M MVOLT HS	DSX1 LED P1 30K T2M MVOLT WITH HOUSESIDE SHIELD	20 feet OR AS NOTED	5,285	1.00	54
	B	4	DSX1 LED P1 30K T3M MVOLT	DSX1 LED P1 30K T3M MVOLT	20 feet	6,278	1.00	108
	C	23	DSX1 LED P1 30K TFTM MVOLT HS	DSX1 LED P1 30K TFTM MVOLT WITH HOUSESIDE SHIELD	20 feet OR AS NOTED	5,046	1.00	54
	D	42	DSXW1 LED 10C 350 30K T4M MVOLT	DSXW1 LED WITH (1) 10 LED LIGHT ENGINES TYPE T4M OPTIC 3000K @ 350mA.	20 feet OR AS NOTED	1,357	1.00	13.3



STANDARD LIGHTING FOUNDATION DETAIL

1. 4000 P.S.I. PRECAST CONCRETE BASE, PROVIDE (4) No. 5 RODS SET VERTICALLY, TIED WITH (7) No. 4 HOOPS AT 12" O.C. TOP OF FOUNDATION TO BE LEVEL.
2. ALL CONCRETE WORK AND REINFORCING SHALL BE BY GENERAL CONTRACTOR.
3. CONTRACTOR SHALL VERIFY INDIVIDUAL MANUFACTURER REQUIREMENTS PRIOR TO FABRICATING FOUNDATIONS. FOUNDATIONS SHALL BE COORDINATED WITH MANUFACTURER BY CONTRACTOR.
4. REFER TO PLAN FOR LIGHTING LAYOUT AND NUMBER OF FIXTURES.





ALTERNATE LIGHTING FOUNDATION IN UNSUITABLE SOIL DETAIL

1. 4000 P.S.I. PRECAST CONCRETE BASE, PROVIDE (4) No. 5 RODS SET VERTICALLY, TIED WITH (7) No. 4 HOOPS AT 12" O.C. TOP OF FOUNDATION TO BE LEVEL.
2. ALL CONCRETE WORK AND REINFORCING SHALL BE BY GENERAL CONTRACTOR.
3. CONTRACTOR SHALL VERIFY INDIVIDUAL MANUFACTURER REQUIREMENTS PRIOR TO FABRICATING FOUNDATIONS. FOUNDATIONS SHALL BE COORDINATED WITH MANUFACTURER BY CONTRACTOR.
4. COPPER WELD GROUND ROD 5/8" DIAMETER x 10'-0" LONG CAST IN FOUNDATION, OR INSTALLED IN 1" PVC SLEEVE. BOND TRANSFORMER BASE, CONDUIT BUSHINGS AND BALLAST CASING TO GROUND ROD BY MEANS OF No. 4 BARE STRANDED WIRE IN APPROVED MANNER.
5. REFER TO PLAN FOR LIGHTING LAYOUT AND NUMBER OF FIXTURES.

SCALE: 1" = 40'

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13.	REVISED PER TOWN MEETING	02-05-26	JB
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1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
FIFTH XNY, LLC., C/O GRETCHEN KENDRICK
2100 ROSS AVENUE, SUITE 895
DALLAS, TX 75201
PHONE: 201-600-0401
EMAIL: NEDD@XEBECREALTY.COM

PARTIAL PHOTOMETRIC PLAN

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

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DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	1" = 40'	SHEET:	SP-8A
DATE:	08-20-22	DATE:	09-12-22	JOB No.:	2022-001		

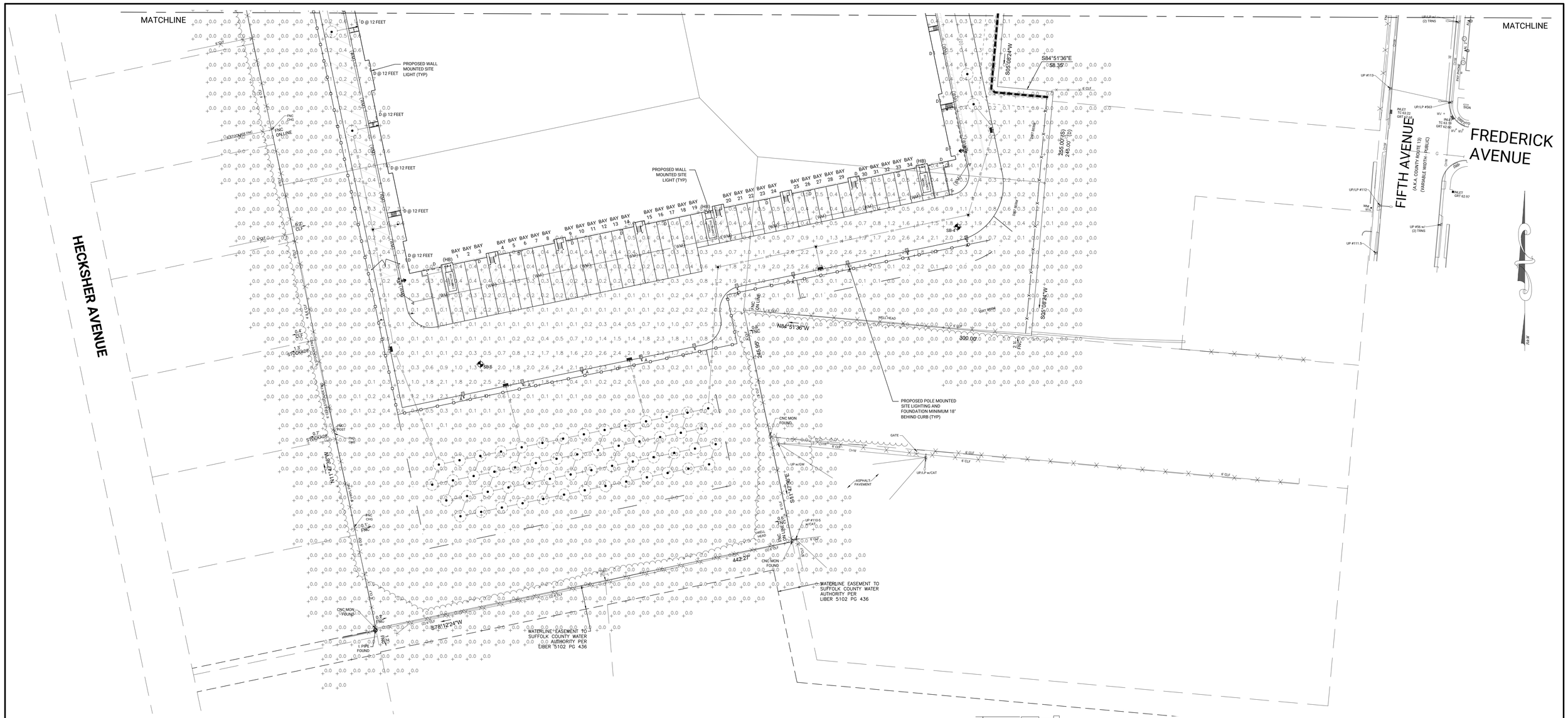
Know what's below. Call before you dig.

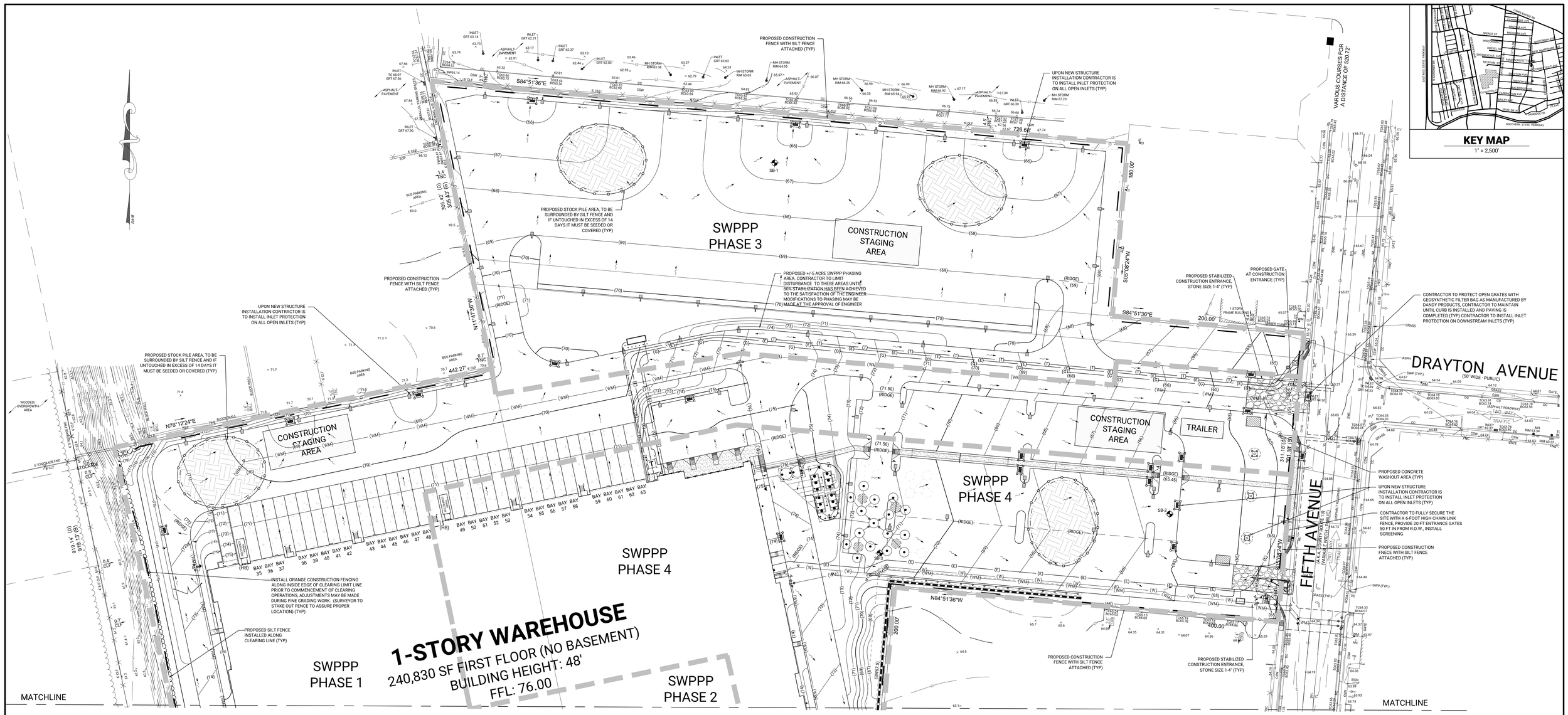
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THIS SITE PLAN IS BASED ON A SURVEY BY GALLAS SURVEYING GROUP DATED MARCH 02, 2022.

Drawing Name: P:\2022 Projects\V2022-001\R&M\2026-02-02 (2022-001) 5th Avenue Site Plan (24X36) Rev.13.dwg Last Modified: Feb 09, 2026 - 2:39pm Plotted on: Feb 09, 2026 - 3:41pm by jbrattenstein


MATCHLINE
MATCHLINE
HECKSHER AVENUE
FIFTH AVENUE
(A.K.A. COUNTY ROUTE 13)
(VARIABLE WIDTH - PUBLIC)
FREDERICK AVENUE
PROPOSED WALL MOUNTED SITE LIGHT (TYP)
PROPOSED POLE MOUNTED SITE LIGHTING AND FOUNDATION MINIMUM 18" BEHIND CURB (TYP)
D @ 12 FEET
BAY 1
BAY 2
BAY 3
BAY 4
BAY 5
BAY 6
BAY 7
BAY 8
BAY 9
BAY 10
BAY 11
BAY 12
BAY 13
BAY 14
BAY 15
BAY 16
BAY 17
BAY 18
BAY 19
BAY 20
BAY 21
BAY 22
BAY 23
BAY 24
BAY 25
BAY 26
BAY 27
BAY 28
BAY 29
BAY 30
BAY 31
BAY 32
BAY 33
BAY 34
(HB)
(NW)
SB-1
SB-2
SB-3
SB-4
N84°51'36"W
300.00'
S05°08'24"W
255.00'(S)
245.00'(D)
S84°51'36"E
58.35'
N11°47'36"W
S11°47'36"E
S78°12'24"W
442.27'
265.58'
WATERLINE EASEMENT TO SUFFOLK COUNTY WATER AUTHORITY PER LIBER 5102 PG 436
CNC MON FOUND
I. PIPE FOUND
GATE
ASPHALT PAVEMENT
UP w/CAT
UP w/OW
UP #113
UP/LP #563
UP/LP #112
UP #56 w/ (2) TRNS
UP/LP w/ (2) TRNS
UP #111.5
INLET TC 62.22 GRT 61.72
INLET TC 62.19 GRT 62.60
INLET GRT 62.97
SIGN
BUS STOP
BUS PARKING
WV
W
OHW
6' CLF
4' CLF
STOCKADE
STOCKADE FENCE
FNC ON LINE
FNC CNR
FNC POST
FNC CNG
FNC
0.7 CLF
0.4 CLF
1.3 STOCKADE
0.6 FNC
0.7 FNC
0.9 FNC
0.5 FNC
0.6 FNC
0.7 FNC
0.6 CLF
0.5 CLF
0.7 CLF
0.6 CLF
0.4 CLF
0.5 CLF
0.6 CLF
0.7 CLF
0.6 CLF
0.5



EROSION CONTROL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NEW YORK STATE DEC GUIDELINES FOR URBAN EROSION AND SEDIMENT CONTROL MANUAL AND THE NEW YORK STATE STORMWATER MANAGEMENT DESIGN MANUAL, LATEST EDITIONS. CONTRACTOR SHALL REFER TO THESE GUIDELINES FOR ADDITIONAL INFORMATION.
2. CONTRACTOR SHALL ONLY CLEAR AND GRUB AREAS WITHIN THE LIMITS OF CLEARING.
3. CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN EROSION CONTROL MEASURES FOR THE DURATION OF THE PROJECT AND/OR A.O.B.E. OR MUNICIPAL AGENCY HAVING JURISDICTION ON A DAILY BASIS.
4. PERIMETER SLOPES - ALL EMBANKMENT SIDE SLOPES SHALL NOT EXCEED A MAXIMUM 3:1 RATIO.
5. CONSTRUCTION AND WASTE MATERIALS SHALL BE STORED IN ROLL-OFF CONTAINERS TO BE CARTED OFF-SITE BY LICENSED WASTE HAULER WEEKLY.
6. DOUBLE CONTAINMENT TANKS SHALL BE UTILIZED BY THE CONTRACTOR WHEN STORING POTENTIAL POLLUTANTS ON-SITE TO MINIMIZE EXPOSURE OF THESE MATERIALS TO STORM WATER.
7. LANDSCAPING AS PER THE TOWN OF ISLIP APPROVED PLAN SHALL BE INSTALLED AND MAINTAINED AS A PERMANENT STRUCTURAL AND VEGETATIVE MEASURE FOR SOIL STABILIZATION, RUNOFF CONTROL AND SEDIMENT CONTROL.

SWPPP LEGEND

- FILTER FABRIC DROP INLET CONTROL (TO BE INSTALLED ON ALL ON-SITE OPEN INLETS) OPTION: STORM SOK AS MANUFACTURED BY STORMWATERWORKS OR APPROVED EQUAL
- STORM SOK, DANDY CURB SACK OR APPROVED EQUAL INLET CONTROL (TO BE INSTALLED ON OFF-SITE OPEN INLETS)
- SILT FENCE PROTECTION BARRIER
- SITE CONSTRUCTION FENCE
- CONSTRUCTION ENTRANCE
- CONSTRUCTION STAGING AREA
- PROPOSED FLOW ARROW
- (ODB) OIL & DEBRIS BLOCKER AS MANUFACTURED BY CAMPBELL FOUNDRY, (TO BE INSTALLED ON ALL CATCH BASINS)

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THIS SITE PLAN IS BASED ON A SURVEY BY GALLAS SURVEYING GROUP DATED MARCH 02, 2022.

SEQUENCE OF CONSTRUCTION

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PUT IN PLACE PRIOR TO THE START OF ANY GROUND DISTURBANCES. THE INSTALLATION OF THE TEMPORARY CONTROL DEVICES WILL BE COMPLETED IN ACCORDANCE WITH BOTH THE INFORMATION AND DETAILS SHOWN ON THE CIVIL-SITE PLANS FOR THE PROJECT.
2. INSTALL IN ACCORDANCE WITH THE MANUAL OF NEW YORK GUIDELINES FOR URBAN EROSION AND SEDIMENT CONTROL, ANY REQUIRED ADDITIONAL EROSION CONTROL DEVICES THAT MAY BE REQUIRED BY THE ENGINEER.
3. TEMPORARILY STABILIZE ALL LANDSCAPING AREAS BY SEEDING AND PROVIDE SILT FENCING ALONG BOTTOM OF ALL SLOPES.
4. TEMPORARILY STABILIZE ALL STOCKPILED MATERIALS BY SEEDING AND/OR SILT FENCES AROUND THE BASE OF THE STOCKPILED MATERIALS.
5. COMPLETE FINAL STABILIZATION OF DISTURBED AREAS.
6. MAINTAIN ALL EROSION CONTROL DEVICES FOR THE DURATION OF THE CONSTRUCTION WORK BY CLEANING, REPAIRING AND/OR REPLACING THE CONTROL MEASURES AS MAY BE NECESSARY OR AS DIRECTED BY THE ENGINEER.
7. IMMEDIATELY CLEANUP MATERIALS SPILLED, DROPPED, WASHED OR TRACKED ONTO ANY PAVED SURFACES BEYOND THE LIMITS OF THE PROJECT.
8. THE APPLICANT OR DEVELOPER OR HIS OR HER REPRESENTATIVE SHALL BE ON SITE AT ALL TIMES WHEN CONSTRUCTION OR GRADING ACTIVITY TAKES PLACE AND SHALL INSPECT AND DOCUMENT THE EFFECTIVENESS OF ALL EROSION AND SEDIMENT CONTROL PRACTICES. INSPECTION REPORTS SHALL BE COMPLETED EVERY SEVEN DAYS AND WITHIN 24 HOURS OF ANY STORM EVENT PRODUCTING 0.5 INCHES OF PRECIPITATION OR MORE. WHEN AREA OF DISTUBANCE IS 5 ACRES INSPECTIONS SHALL TAKE PLACE TWICE AT TWO DAY INTERVALS. THE REPORTS SHALL BE DELIVERED TO THE ENGINEERING DIVISION AND ALSO COPIED TO THE SITE LOG BOOK.
9. FOR PURPOSES OF TOWN OF ISLIP CODE COMPLIANCE, TOWN PERSONNEL, INCLUDING BUT NOT LIMITED TO BUILDING INSPECTORS, ORDINANCE INSPECTORS, ENGINEERING INSPECTORS, HIGHWAY/DPW PERSONNEL, PLANNING PERSONNEL, AND/OR REPRESENTATIVES FROM THE DEPARTMENT OF ENVIRONMENTAL CONTROL, ARE AUTHORIZED TO ACCESS CONSTRUCTION SITE.
10. THE SWPPP WILL BE AVAILABLE ON-SITE AT ALL TIMES ALONG WITH RELATED PLANS. THE PROJECT SPONSOR SHALL EXPLAIN THE SWPPP REQUIREMENTS TO ALL CONSTRUCTION PERSONNEL AND SUBCONTRACTORS. A SIGN SHALL BE PLACED ON THE SITE INDICATING WHERE THE SWPPP CAN BE VIEWED.
11. NO VEGETATION AND/OR TREES MAY BE CLEARED WITHOUT FIRST RECEIVING A MARKOUT FROM PLANNING AND/OR ENGINEERING INSPECTORS. EXISTING VEGETATION AND TREES SHALL REMAIN IN PLACE UNTIL AFTER CONSTRUCTION IS COMPLETE. ONLY VEGETATION AND TREES SPECIFICALLY IN THE PATH OF CONSTRUCTION ACTIVITY MAY BE REMOVED.
12. NO EARTH, FILL OR CONSTRUCTION MATERIAL SHALL BE ALLOWED TO MIGRATE OFF SITE FROM THIS PROJECT ON TO THE TOWN OF ISLIP ROADWAY AND/OR STORM DRAIN SYSTEM OR AN ADJACENT PROPERTY.
13. NO FILL SHALL BE BROUGHT INTO A SITE WITHOUT THE EXPRESS APPROVAL OF A BUILDING OR ENGINEERING INSPECTOR. PILES OF FILL SHALL BE STABILIZED AND/OR CONTAINED WITH GRASS SEED, SILT FENCES, OR OTHER APPROVED METHODS.
14. AT THE END OF EACH WORKDAY THE ADJACENT ROADWAY AND/OR STORM DRAIN SYSTEM SHALL BE SELF-INSPECTED FOR MATERIAL. ALL CONSTRUCTION SITES AND ADJACENT ROADWAYS SHALL BE CLEARED OF SOIL AND OTHER MATERIAL AT THE END OF EACH DAY.
15. ALL CONSTRUCTION AND DEMOLITION DEBRIS AND MATERIALS, INCLUDING WET CONCRETE, SHALL BE DISPOSED OF AT AN APPROPRIATE FACILITY IN ACCORDANCE WITH ALL TOWN OF ISLIP AND NYSDEC SOLID WASTE MANAGEMENT REGULATIONS. THE DISCHARGE OF ANY LIQUID, SEMI-LIQUID, OR OTHER MATERIALS FROM A CONSTRUCTION SITE INTO STORM DRAINS, ROADWAYS, OR VACANT PROPERTY IS GROUNDS FOR A VIOLATION. ON-SITE CONCRETE WASHOUT FACILITY TO BE PROVIDED AND UTILIIZED. APPROPRIATE TRASH ROLL-OFF CONTAINERS TO BE USED FOR DEBRIS HOLDING, SEE GENERAL STORMWATER PREVENTION NOTE 11.
16. LITTER SHALL BE PICKED UP ON A DAILY BASIS FROM THE SITE, ADJACENT PROPERTIES AND/OR THE ROAD SYSTEM.
17. TOILET FACILITIES (EITHER PORTABLE OR EXISTING) SHALL BE PROVIDED FOR THE WORKERS ON THE SITE DURING THE CONSTRUCTION PERIOD.
18. ALL MUNICIPAL OR PRIVATE DRAINAGE INLETS ADJACENT TO AREA OF CONSTRUCTION SHALL BE PROTECTED FROM POLLUTANTS THROUGH THE USE OF PRODUCTS/SPONGES DESIGNED FOR THIS PURPOSE. SEE PLAN AND SWPPP LEGEND FOR SPECIFIC PRODUCTS.
19. ON AREAS, OF STEEP SLOPES AND AREAS CLEARED OF VEGETATION, SUITABLE STABILIZATION METHODS, AS SHOWN ON APPROVED SITE PLANS AND STORMWATER POLLUTION PREVENTION PLANS (SWPPP), SHALL BE EMPLOYED TO PREVENT SOIL MIGRATION AND STORMWATER RUNOFF.
20. SLOPES THAT ERODE EASILY OR WILL NOT BE DISTURBED FOR MORE THAN 14 DAYS SHALL BE TEMPORARY SEEDED AS THE WORK PROGRESSES WITH A WHEAT, RYE, OATS APPLICATION, OR AS OTHERWISE ORDERED BY ENGINEER.
21. THE APPLICANT OR DEVELOPER OF THE LAND DEVELOPMENT ACTIVITY SHALL AT ALL TIMES PROPERLY OPERATE AND MAINTAIN ALL FACILITIES AND SYSTEMS OF TREATMENT AND CONTROL (AND RELATED APPURTENANCES) WHICH ARE INSTALLED OR USED BY THE APPLICANT OR DEVELOPER TO ACHIEVE COMPLIANCE WITH THE CONDITIONS OF THIS CHAPTER. SEDIMENT SHALL BE REMOVED FROM STORMWATER STRUCTURES WHENEVER THEIR DESIGN CAPACITY HAS BEEN REDUCED BY 50%. STREET SWEEPING BY BROOM OR MACHINE OR OTHER SUITABLE MEANS OF CLEANUP SHALL BE CONDUCTED DAILY AS NECESSARY FOR ANY SEDIMENT OR MATERIAL THAT HAS INADVERTENTLY MIGRATED OFF SITE. LITTER SHALL ALSO BE REMOVED ON A DAILY BASIS FROM THE SITE OR OFF SITE.
22. ALL STORM DRAINAGE SYSTEMS PROTECTED OR IMPACTED BY THIS CONSTRUCTION ACTIVITY SHALL BE CLEANED AND INSPECTED AT THE CONCLUSION OF CONSTRUCTION TO THE SATISFACTION OF THE ISLIP ENGINEERING FIELD INSPECTOR.

GENERAL STORMWATER PREVENTION NOTES

1. THE CONTRACTOR SHALL MAINTAIN THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) ON SITE IN ACCORDANCE WITH PROVISION OF THE NEW YORK STATE STORMWATER MANAGEMENT PROGRAM AS ADMINISTERED BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
2. THE CONTRACTOR SHALL REVIEW SITE CONDITIONS THROUGHOUT DURATION OF PROJECT, MONITOR, MODIFY AND UPDATE ONGOING EROSION PROTECTION MEASURES AS NECESSARY.
3. ALL REQUIRED MODIFICATIONS TO THE SWPPP MUST BE COMPLETED WITHIN SEVEN (7) DAYS OF NOTIFICATION. CONTRACTOR SHALL KEEP DISTURBED AREAS TO A MINIMUM REQUIRED TO ADEQUATELY PERFORM THE WORK. AT ALL TIMES THE CONTRACTOR SHALL MAINTAIN THE SITE IN SUCH A MANNER THAT MINIMIZES EROSION OF THE SITE. PLACE EROSION CONTROL SYSTEMS IN ACCORDANCE WITH SOUND JUDGMENT AND GOOD CONSTRUCTION PRACTICE OR AS ORDERED BY THE TOWN, DEC OR ENGINEER.
4. THE OWNER AND/OR ENGINEER HAS THE AUTHORITY TO LIMIT THE SURFACE AREA OF ERODABLE EARTH MATERIAL EXPOSED BY CLEARING AND GRUBBING, EXCAVATION, BORROW AND EMBANKMENT OPERATIONS AND TO DIRECT THE CONTRACTOR TO PROVIDE IMMEDIATE PERMANENT OR TEMPORARY POLLUTION CONTROL MEASURES. THE CONTRACTOR WILL BE REQUIRED TO INCORPORATE ALL PERMANENT EROSION CONTROL FEATURES INTO THE PROJECT AT THE EARLIEST PRACTICAL TIME TO MINIMIZE THE NEED FOR TEMPORARY CONTROLS. CUT SLOPES SHALL BE PERMANENTLY SEEDED AND MULCHED AS THE EXCAVATION PROCEEDS TO THE EXTENT CONSIDERED DESIRABLE AND PRACTICAL.
5. THE TEMPORARY EROSION CONTROL SYSTEMS INSTALLED BY THE CONTRACTOR SHALL BE MAINTAINED AS DIRECTED BY THE OWNER AND/OR ENGINEER TO CONTROL SILTATION AT ALL TIMES DURING THE LIFE OF THE CONTRACT. THE CONTRACTOR MUST RESPOND TO ANY MAINTENANCE OR ADDITIONAL WORK ORDERED BY THE OWNER WITHIN A 48-HOUR PERIOD.
6. SLOPES THAT ERODE EASILY OR WILL NOT BE DISTURBED FOR MORE THAN 14 DAYS SHALL BE TEMPORARY SEEDED AS THE WORK PROGRESSES WITH A WHEAT, RYE, OATS APPLICATION, OR AS OTHERWISE ORDERED BY ENGINEER.
7. ALL PERIMETER EROSION CONTROL BARRIERS REQUIRED UNDER THE PROJECT SWPPP SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY.
8. THE BARRIERS SHALL BE SILT FENCE, OR BIO BAGS PLACED AS SHOWN ON THE DRAWINGS AND DETAILS.
9. BARRIERS SHALL BE MAINTAINED IN GOOD WORKING CONDITION AND REPLACED WHEN DAMAGED.
10. FILTER FABRIC INLET PROTECTION SHALL BE PLACED AT ALL CATCH BASINS AND DRAINAGE INLETS WHERE SITE DRAINAGE IS DIRECTED.
11. CONSTRUCTION AND WASTE MATERIALS SHALL BE STORED IN 5 CUBIC YARD MINIMUM CONTAINERS TO BE CARTED OFF-SITE BY LICENSED WASTE HAULER.
12. DOUBLE CONTAINMENT TANKS SHALL BE UTILIZED BY THE CONTRACTOR WHEN STORING POTENTIAL POLLUTANTS ON-SITE TO MINIMIZE EXPOSURE OF THESE MATERIALS TO STORM WATER.
13. PERMANENT LANDSCAPING IN ACCORDANCE WITH THE APPROVED LANDSCAPE PLAN SHALL BE INSTALLED AND MAINTAINED AS SOON AS PRACTICABLE AS A PERMANENT STRUCTURAL AND VEGETATIVE MEASURE FOR SOIL STABILIZATION, RUNOFF CONTROL AND SEDIMENT CONTROL.
14. THE CONTRACTOR SHALL BE BOUND BY THE PROVISIONS OUTLINED IN THE SWPPP NARRATIVE REPORT AS PREPARED BY R&M ENGINEERING AND THE NYSDEC SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY (GP-20-001).
15. THE CONTRACTOR WILL BE PROVIDED WITH A COPY OF THE REPORT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE REPORT MUST BE AVAILABLE ON SITE AND UPDATED IN ACCORDANCE WITH REVISIONS WITHIN.
16. CONTRACTOR TO PROVIDE 18" OIL/DEBRIS SNOUT WITH BIO-SKIRT FOR ALL CATCH BASINS IN DEPRESSED LOADING AREAS AS MEANS OF NON-POINT SOURCE POLLUTION MITIGATION TECHNIQUES AS REQUIRED BY TC5064(3)b.2.

SCALE: 1" = 40'

No.	REVISION DESCRIPTION	DATE	BY
13.	REVISED PER TOWN MEETING	02-05-26	JB
12.	REVISED PER TOI COMMENTS	06-16-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	REVISED PER SCDPW COMMENTS	04-12-24	CB
9.	REVISED PER TOI COMMENTS	01-10-24	CB
8.	GENERAL REVISIONS	11-08-23	CB
7.	GENERAL REVISIONS	08-25-23	CB
6.	REVISED PER SURVEY UPDATE	08-08-23	CB
5.	REVISED PER SCWA COMMENTS	07-17-23	AR
4.	REVISED PER SCDHS COMMENTS	06-16-23	CB
3.	REVISED PER SCWA COMMENTS	05-10-23	CB
2.	GENERAL REVISIONS	04-21-23	M,JM
1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
FIFTH AVENUE, LLC, C/O GRETCHEN KENDRICK
2100 ROSS AVENUE, SUITE 895
DALLAS, TX 75201
PHONE: 203-600-0401
EMAIL: NEDD@KEBCREALTY.COM

PARTIAL SWPPP PLAN

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

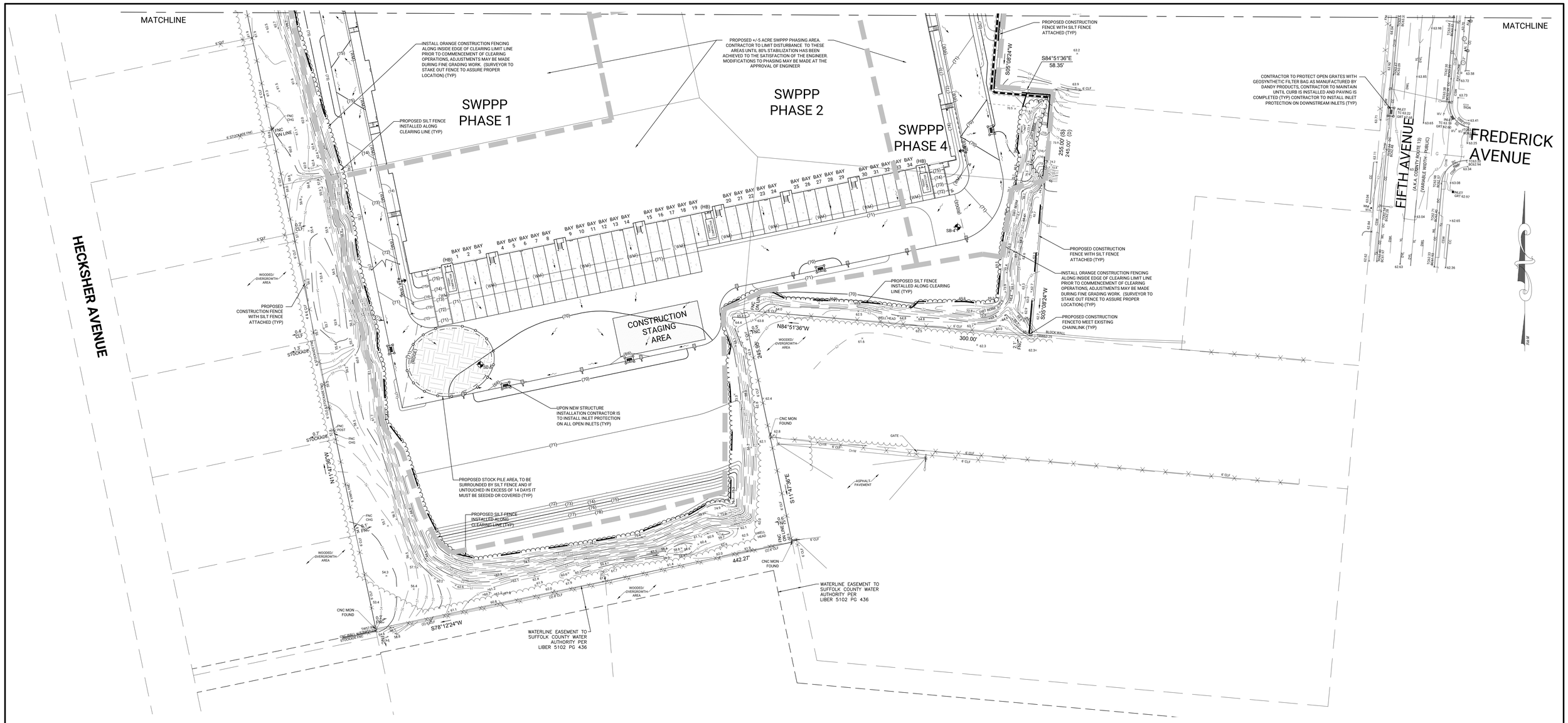
SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

Christopher W. Robinson, P.E.
NY State License No. 067519

Robinson & Muller Engineers, P.C.
50 Elm Street
Huntington, NY 11743
Office: (631) 271-0576
Fax: (631) 271-0592
www.rmengineering.com

DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	1" = 40'	SHEET:	SP-9A
DATE:	08-20-22	DATE:	09-12-22	JOB No.:	2022-001		

Drawing Name: P:\2022 Projects\2022-001\R&M\2026-02-09 (2022-001) 5th Avenue Site Plan (2426).dwg Last Modified: Feb 09, 2026 - 2:39pm Plotted on: Feb 09, 2026 - 3:47pm by jbrotenstein



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5. THE TEMPORARY EROSION CONTROL SYSTEMS INSTALLED BY THE CONTRACTOR SHALL BE MAINTAINED AS DIRECTED BY THE OWNER AND/OR ENGINEER TO CONTROL SILTATION AT ALL TIMES DURING THE LIFE OF THE CONTRACT. THE CONTRACTOR MUST RESPOND TO ANY MAINTENANCE OR ADDITIONAL WORK ORDERED BY THE OWNER WITHIN A 48-HOUR PERIOD.
6. SLOPES THAT ERODE EASILY OR WILL NOT BE DISTURBED FOR MORE THAN 14 DAYS SHALL BE TEMPORARY SEEDED AS THE WORK PROGRESSES WITH A WHEAT, RYE, OATS APPLICATION, OR AS OTHERWISE ORDERED BY ENGINEER.
7. ALL PERIMETER EROSION CONTROL BARRIERS REQUIRED UNDER THE PROJECT SWPPP SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY.
8. THE BARRIERS SHALL BE SILT FENCE, OR BIO BAGS PLACED AS SHOWN ON THE DRAWINGS AND DETAILS.
9. BARRIERS SHALL BE MAINTAINED IN GOOD WORKING CONDITION AND REPLACED WHEN DAMAGED.
10. FILTER FABRIC INLET PROTECTION SHALL BE PLACED AT ALL CATCH BASINS AND DRAINAGE INLETS WHERE SITE DRAINAGE IS DIRECTED.
11. CONSTRUCTION AND WASTE MATERIALS SHALL BE STORED IN 5 CUBIC YARD MINIMUM CONTAINERS TO BE CARTED OFF-SITE BY LICENSED WASTE HAULER.
12. DOUBLE CONTAINMENT TANKS SHALL BE UTILIZED BY THE CONTRACTOR WHEN STORING POTENTIAL POLLUTANTS ON-SITE TO MINIMIZE EXPOSURE OF THESE MATERIALS TO STORM WATER.
13. PERMANENT LANDSCAPING IN ACCORDANCE WITH THE APPROVED LANDSCAPE PLAN SHALL BE INSTALLED AND MAINTAINED AS SOON AS PRACTICABLE AS A PERMANENT STRUCTURAL AND VEGETATIVE MEASURE FOR SOIL STABILIZATION, RUNOFF CONTROL AND SEDIMENT CONTROL.
14. THE CONTRACTOR SHALL BE BOUND BY THE PROVISIONS OUTLINED IN THE SWPPP NARRATIVE REPORT AS PREPARED BY R&M ENGINEERING AND THE NYSDEC SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY (GP-20-001).
15. THE CONTRACTOR WILL BE PROVIDED WITH A COPY OF THE REPORT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE REPORT MUST BE AVAILABLE ON SITE AND UPDATED IN ACCORDANCE WITH REVISIONS WITHIN.
16. CONTRACTOR TO PROVIDE 18" OIL/DEBRIS SNOUT WITH BIO-SKIRT FOR ALL CATCH BASINS IN DEPRESSED LOADING AREAS AS MEANS OF NON-POINT SOURCE POLLUTION MITIGATION TECHNIQUES AS REQUIRED BY TC5064(3)b.2.

No.	REVISION DESCRIPTION	DATE	BY
13.	REVISED PER TOWN MEETING	02-05-26	JB
12.	REVISED PER TOI COMMENTS	06-16-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	REVISED PER SCDPW COMMENTS	04-12-24	CB
9.	REVISED PER TOI COMMENTS	01-10-24	CB
8.	GENERAL REVISIONS	11-08-23	CB
7.	GENERAL REVISIONS	08-25-23	CB
6.	REVISED PER SURVEY UPDATE	08-08-23	CB
5.	REVISED PER SCWA COMMENTS	07-17-23	AR
4.	REVISED PER SCDHS COMMENTS	06-16-23	CB
3.	REVISED PER SCWA COMMENTS	05-10-23	CB
2.	GENERAL REVISIONS	04-21-23	M.JM
1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
FIFTH NYK, LLC. C/O GRETCHEN KENDRICK
2100 ROSS AVENUE, SUITE 895
DALLAS, TX 75201
PHONE: 203-600-0401
EMAIL: NICO@JEBCEREALTY.COM

PARTIAL SWPPP PLAN

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

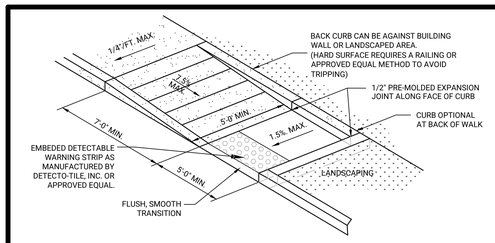
SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

Christopher W. Robinson, P.E.
NY State License No. 067519

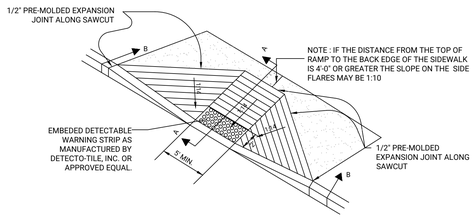
Robinson & Muller Engineers, P.C.
50 Elm Street
Huntington, NY 11743
Office: (631) 271-0576
Fax: (631) 271-0592
www.rmengineering.com

DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	1" = 40'	SHEET:	SP-9B
DATE:	08-20-22	DATE:	09-12-22	JOB No.:	2022-001		

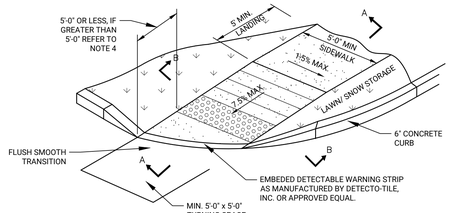
Drawing Name: P:\2022 Projects\2022-001\R&M\2026-02-02 (2022-001) 5th Avenue Site Plan (2400) Rev.13.dwg Last Modified: Feb 04, 2026 - 6:17pm Plotted on: Feb 05, 2026 - 11:12am by jbrebenstein



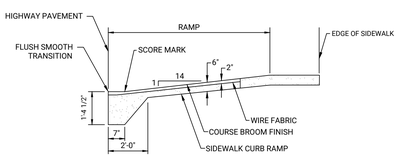
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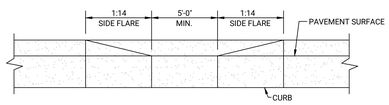
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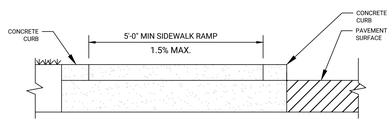
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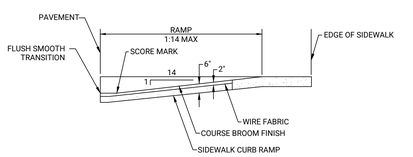
SECTION A-A



SECTION B-B



SECTION A-A



SECTION B-B

SIDEWALK CURB RAMP DETAILS

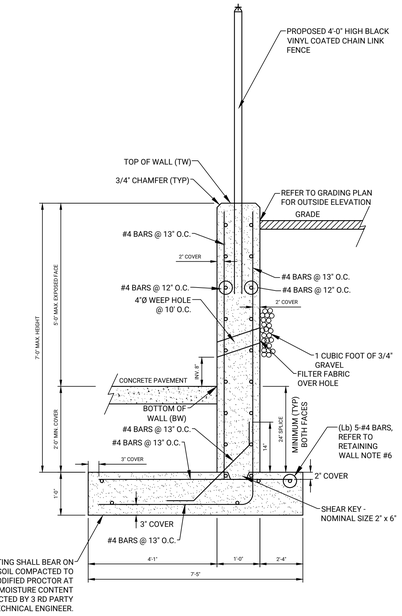
NOTES:

1. THE MAXIMUM SLOPE OF A SIDEWALK CURB RAMP IN NEW CONSTRUCTION SHALL BE 1:14. IF SPACE LIMITATIONS ON EXISTING SITES PROHIBIT THE USE OF 1:14 THE FOLLOWING SLOPES AND RISES MAY BE USED:
   1.1. STEEPER THAN 1:14 (7.14%) BUT NO STEEPER THAN 1:10 (10%) 6" MAX. RISE, 5' MAX. RUN.
   1.2. STEEPER THAN 1:10 (10%) BUT NOT STEEPER THAN 1:8 (12.5%) 3" MAX. RISE, 2' MAX. RUN.
   1.3. A SLOPE STEEPER THAN 1:8 (12.5%) IS NOT ALLOWED.
2. ALL SIDEWALK CURB RAMPS SHALL HAVE FLUSH, SMOOTH TRANSITIONS TO THE ADJACENT STREET OR HIGHWAY SURFACE.
3. THE SURFACE OF ALL SIDEWALK CURB RAMPS SHALL BE STABLE, FIRM, AND SLIP RESISTANT. (E.G. A COURSE BROOM FINISH PERPENDICULAR TO THE RAMP SLOPE IS ACCEPTABLE ON CEMENT CONCRETE CURB RAMPS.)
4. EXISTING CONCRETE SHALL BE SAWCUT FULL DEPTH.
5. THE HANDICAP RAMP SIZE, COLOR, AND SURFACE TREATMENT SHALL CONFORM TO THE CURRENT FEDERAL AND STATE HANDICAP REQUIREMENTS.
6. ALL HANDICAP RAMPS SHALL BE IN CONFORMANCE WITH THE NEW YORK STATE BUILDING CODE, CABO/ANSI A117.1, AND NYSDOT SPECIFICATIONS.

RETAINING WALL NOTES

1. CONTRACTION JOINTS SHALL BE PROVIDED AT 20' ON CENTER (MAX).
2. KEYED EXPANSION JOINTS CONSISTING OF 1/2" BITUMINOUS JOINT FILLER SHALL BE PROVIDED AT 60' ON CENTER (MAX).
3. KEYED CONSTRUCTION JOINTS SHALL BE PROVIDED WHEN FRESH CONCRETE IS PLACED AGAINST HARDEN CONCRETE OR AGAINST SUBSEQUENT CONCRETE POURING OPERATION.
4. REINFORCED CONCRETE WALL CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" BY THE AMERICAN CONCRETE INSTITUTE (ACI).
5. CONCRETE: fc=4,000 PSI; REINFORCEMENT: GRADE 60 STEEL.
6. (Lb) BAR PLACEMENT

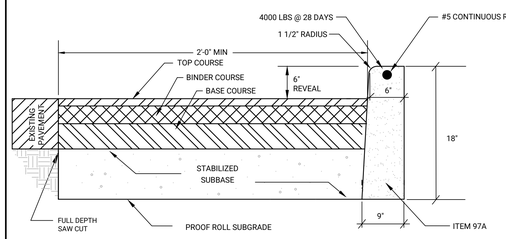
TOTAL BARS	TOP BARS	BOTTOM BARS
4	2	2
5	3	2
6	3	3
7	4	3
8	5	3
9	5	4
10	6	4



LOADING DOCK RETAINING WALL DETAIL

NOTE:

THE CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY SHEETING, SHORING AND BRACING OF EXCAVATIONS AS REQUIRED TO CONSTRUCT THE IMPROVEMENTS AND TO PREVENT DISTURBANCE TO ADJOINING PROPERTIES. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS FOR APPROVAL OF THE BRACING SYSTEM. DESIGN CALCULATIONS TO BE SIGNED AND SEALED BY AN ENGINEER LICENSED TO PRACTICE IN THE STATE OF NEW YORK.



ON-SITE PAVEMENT SECTION (STANDARD DUTY)

TOP COURSE:
1-1/2" COMPACTED ASPHALT TOP COURSE, NYSDOT TYPE 6F

BINDER COURSE:
2" COMPACTED ASPHALT BINDER COURSE, NYSDOT TYPE 3

BASE COURSE:
6" COMPACTED RECYCLED CONCRETE AGGREGATE NYSDOT 45-RCA WITH A MINIMUM 12" COMPACTED SUBBASE

ON-SITE PAVEMENT SECTION (HEAVY DUTY)

TOP COURSE:
2" COMPACTED ASPHALT TOP COURSE, NYSDOT TYPE 6F

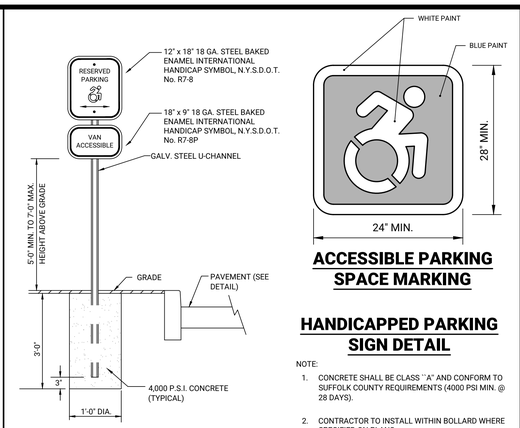
BINDER COURSE:
4" COMPACTED ASPHALT BINDER COURSE, NYSDOT TYPE 3

BASE COURSE:
6" COMPACTED RECYCLED CONCRETE AGGREGATE NYSDOT 45-RCA WITH A MINIMUM 12" COMPACTED SUBBASE

ON SITE CONC. CURB & PAVEMENT DETAIL

NOTES:

1. ALL WORK SHALL CONFORM TO TOWN OF ISLIP SPECIFICATIONS EXCEPT WHERE NOTED.
2. PROVIDE 1/2" PREMOLDED BITUMINOUS EXPANSION JOINTS ALONG CURB AT 20' O.C. MIN., AT ALL CURB P.C.'S; P.T.'S AND AT BOTH ENDS OF CURB CUTS.
3. PROVIDE 1/2" PREMOLDED BITUMINOUS EXPANSION JOINTS ALONG CONCRETE SIDEWALK AT 20' O.C. MIN., AT ALL INTERSECTIONS WITH OTHER WALKS AND CONCRETE HANDICAP RAMPS.
4. ACCESIBLE RAMPS SHALL CONFORM TO THE LATEST N.Y.S. STANDARDS.
5. ALL CONCRETE FOR CURB SHALL BE TOWN OF ISLIP ITEM 97A, 4,000 PSI MIN.
6. CURB REVEAL SHALL BE 6" TYPICAL, UNLESS WHERE NOTED ON PLAN.
7. DAMAGED BASE AND BINDER COURSE SHALL BE REMOVED AND REPLACED PRIOR TO PLACEMENT OF TOP COURSE.
8. TOP COURSE SHALL BE PLACED AFTER CONSTRUCTION HAS BEEN SUBSTANTIALLY COMPLETED AS DETERMINED BY THE OWNER OR OWNERS REPRESENTATIVE.
9. SUBBASE MATERIAL SHALL BE PLACED AND SPREAD FROM AN APPROVED STOCKPILE. MATERIAL SHALL BE TESTED FROM THE STOCKPILE BY AN APPROVED SOIL TESTING LABORATORY PRIOR TO PLACEMENT.
10. THE SPECIFICATION FOR THE, DENSE GRADED AGGREGATE BASE COURSE, SHALL BE MODIFIED TO PERMIT MILLED ASPHALT AS AN ACCEPTABLE AGGREGATE, ONLY IF ACCEPTED BY THE TOWN ENGINEER. THE MODIFICATION SHALL NOT CAUSE A DEVIATION IN THE MECHANICAL GRADATION OF THIS ITEM.

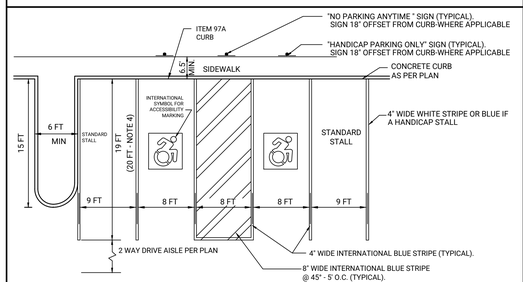


ACCESSIBLE PARKING SPACE MARKING

HANDICAPPED PARKING SIGN DETAIL

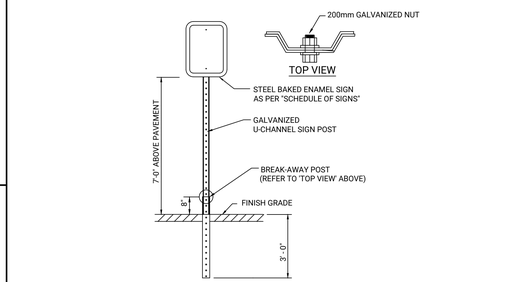
NOTE:

1. CONCRETE SHALL BE CLASS ``A" AND CONFORM TO SUFFOLK COUNTY REQUIREMENTS (4000 PSI MIN. @ 28 DAYS).
2. CONTRACTOR TO INSTALL WITHIN BOLLARD WHERE SPECIFIED ON PLANS.



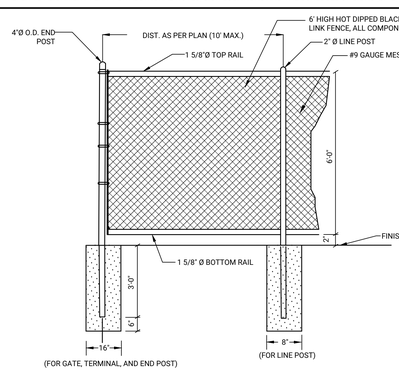
PARKING AREA STRIPING AND ALIGNMENT DETAIL

1. HANDICAP PARKING STALLS AND ACCESS RAMPS SHALL BE IN FULL COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT. PUBLIC LAN 101-336, EFFECTIVE JANUARY 26, 1992.
2. ALL STRIPING SHALL HAVE A MINIMUM OF TWO - (2) COATS OF PAINT.
3. ALL PARKING LOT STRIPING TO BE WHITE SHERWIN-WILLIAMS A-100 ACRYLIC EXTERIOR FLAT LATEX SERIES A6 PAINT OR EQUAL, EXCEPT HANDICAP STRIPING COLOR. TWO - (2) COATS
4. STALLS TO BE 20' IN LENGTH WHEN ABUTTING ADJACENT ROW OF PARKING STALLS OR BUILDING WALL/OBSTRUCTION NOT ALLOWING FOR BUMPER OVERHANG.



TYPICAL SIGN POST DETAIL

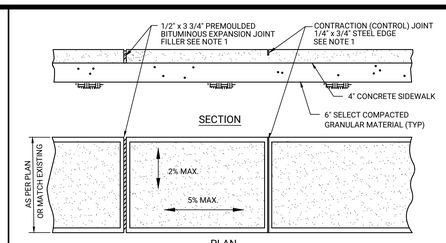
1. SIGN POSTS SHALL BE "MINUTE MAN" BREAKAWAY SYSTEM BY MARION STEEL COMPANY MARION, OHIO OR APPROVED EQUAL.
2. ALL SIGN SHALL HAVE A MOUNTING HEIGHT OF 7'-0" AS MEASURED FROM THE BOTTOM OF SIGN TO FINISHED GRADE.
3. SIGN BASIS SHALL BE THE NY15-1.
4. ALL SIGNS SHALL BE RELECTORIZED.
5. REFER TO NYSDOT STANDARD SHEETS 645-03 & 645-11
6. REFER TO ALIGNMENT PLAN FOR ADDITIONAL NOTES, SIGN LOCATIONS AND THE SCHEDULE OF SIGNS (SP-2)



CHAIN LINK FENCE DETAIL

(ITEM NO. 106)

1. CONCRETE SHALL BE CLASS ``A" AND CONFORM TO SUFFOLK COUNTY REQUIREMENTS (4000 PSI MIN. @ 28 DAYS).

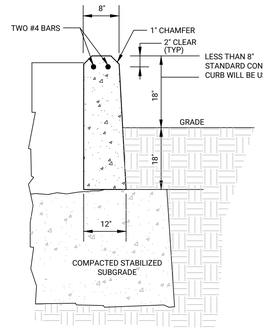


CONCRETE SIDEWALK DETAIL

(ITEM NO. 105)

NOTES:

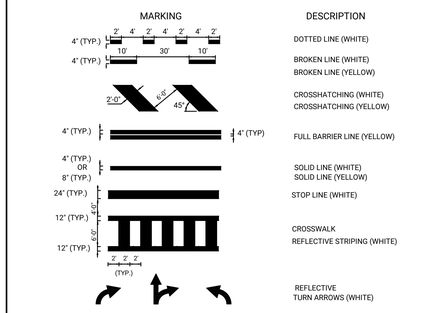
1. CONTROL JOINTS ARE TO BE PLACED EVERY 4'-0" AND EXPANSION JOINTS ARE TO BE PLACED EVERY 20', OR AS DIRECTED BY THE ENGINEER.
2. CONCRETE FOR SIDEWALKS AND CURB RAMPS SHALL BE CLASS "B" AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
3. SIDEWALKS AND CURB RAMPS SHALL HAVE A COARSEBROOM FINISH
4. SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% (1/4" PER FT) AND A MAXIMUM RUNNING SLOPE OF 5% (1:20)



HIGH CURB DETAIL

NOTES:

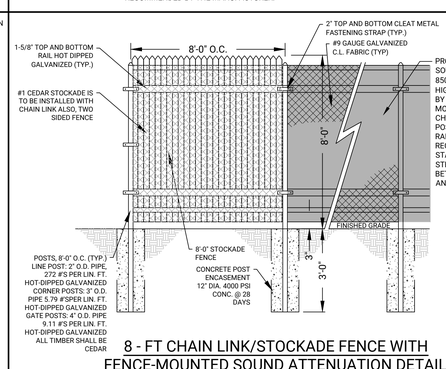
1. CONSTRUCTION JOINT EVERY 16'.
2. ALL CONCRETE SHALL HAVE AN UNCONFINED COMPRESSIVE STRENGTH OF AT LEAST 4,000 PSI AT 28 DAYS.



PAVEMENT MARKING LEGEND

ON-SITE

1. REFELCTIVE FILM: PLIANT POLYMER RETROREFLECTIVE FILM, STAMARK, MANUFACTURED BY 3M COMPANY, ST PAUL, MINNESOTA, OR APPROVED EQUAL.
2. LEGENDS AND SYMBOLS: SERIES SMS-900, WHITE. CONTACT CEMENT AS RECOMMENDED BY THE MANUFACTURER.

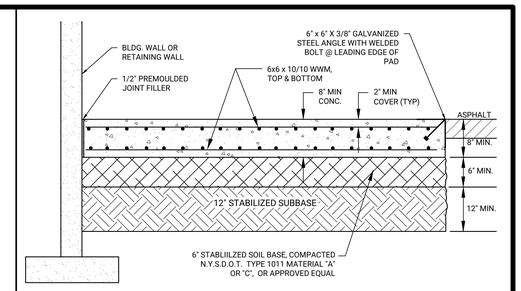


8 - FT CHAIN LINK/STOCKADE FENCE WITH FENCE-MOUNTED SOUND ATTENUATION DETAIL

(ITEM NO. 106/107 MODIFIED)

NOTES:

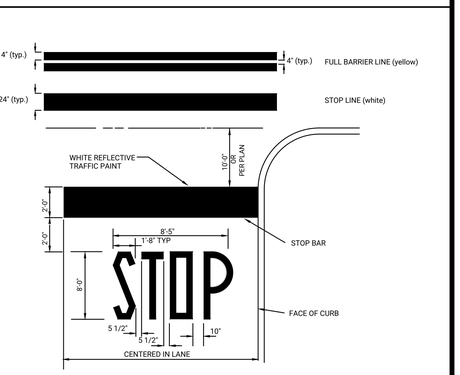
1. ALL TIMBER SHALL BE #1 GRADE WHITE MILLED CEDAR 5/8" PICKETS.
2. CHAIN LINK FENCE SHALL BE NO. 9 GA. GALVANIZED WIRE AND SCHEDULE 40 HARDWARE.



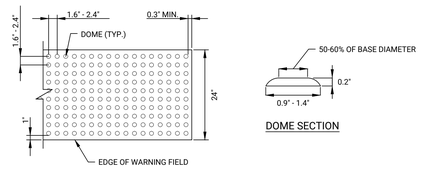
8" REINFORCED CONCRETE SLAB DETAIL

NOTES:

1. PROVIDE 1/2" BITUMINOUS EXPANSION JOINT @ 36' O.C. AND CONTROL JOINTS SAWCUT @ 12' O.C.
2. CONCRETE SHALL BE CLASS ``A" AND CONFORM TO TOWN REQUIREMENTS (4,000 PSI MIN. @ 28 DAYS).
3. REINFORCED CONCRETE TO BE INSTALLED AT ALL LOADING DOCK AREAS



PAVEMENT MARKING DETAIL



DOME SECTION

EMBEDDED DETECTABLE WARNING UNITS

NOTES:

1. THE SIZE OF THE DETECTABLE WARNING FIELD SHALL BE 24" IN THE DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH OF THE RAMP OR FLUSH SURFACE.
2. THE ROWS OF DOMES SHALL BE ALIGNED TO BE PERPENDICULAR OR RADIAL TO THE GRADE BREAK BETWEEN THE RAMP LANDING OR CURB RAMP AND THE STREET.
3. THE DETECTABLE WARNINGS SHALL BE LOCATED SO THAT THE EDGE OR CORNER OF THE WARNING FIELD NEAREST TO THE ROADWAY IS 5" TO 9" FROM THE FRONT OF THE CURB OR ROADWAY EDGE (12" WHERE TRAVERSABLE CURB IS USED).
4. THE DETECTABLE WARNING FIELD SHALL BE THE COLOR SPECIFIED IN THE CONTRACT DOCUMENTS OR MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

No.	REVISION DESCRIPTION	DATE	BY
13.	NO REVISIONS THIS SHEET	02-05-26	JB
12.	REVISED PER TOI COMMENTS	06-16-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	NO REVISIONS THIS SHEET	05-30-24	CB
9.	REVISED PER TOI COMMENTS	01-10-24	CB
8.	REVISED SOUND ATT. FENCE DETAIL	11-08-23	CB
7.	ADDED SOUND ATT. FENCE DETAIL	08-25-23	CB
6.	NO REVISIONS THIS SHEET	08-08-23	CB
5.	NO REVISIONS THIS SHEET	07-17-23	AR
4.	NO REVISIONS THIS SHEET	06-16-23	CB
3.	NO REVISIONS THIS SHEET	05-10-23	CB
2.	NO REVISIONS THIS SHEET	04-21-23	M.JM
1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
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DALLAS, TX 75201
PHONE: 201-600-0401
EMAIL: NICOLE@KBECREALTY.COM

CONSTRUCTION DETAILS

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

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www.rmengineering.com

DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	N.T.S.	SHEET:	SP-10
DATE:	08-09-22	DATE:	08-20-22	JOB No.:	2022-001		

Drawing Name: P:\2022 Projects\2022-001\MAP\2026-02-02 (2022-001) Details (30x42) Rev13.dwg Last Modified: Feb 04, 2026 - 6:14pm Plotted on: Feb 05, 2026 - 1:15pm by jbenbenstein

GENERAC | INDUSTRIAL POWER

SG100

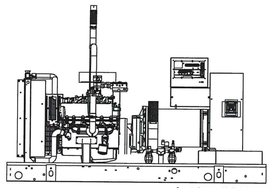
SG100 100kW

1 of 5

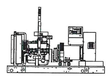
Industrial Gaseous Generator Set

EPA Certified Stationary Emergency

Standby Power Rating
125kVA 100kW 60 Hz



Generator image used for illustration purposes only









features benefits

Generator Set	
PROTOTYPE & TORSIONALLY TESTED	PROVIDES A PROVEN UNIT
UL2200 TESTED	ENSURES A QUALITY PRODUCT
RHINOCOAT PAINT SYSTEM	IMPROVES RESISTANCE TO ELEMENTS
WIDE RANGE OF ENCLOSURES	PROVIDES A SINGLE SOURCE SOLUTION
Engine	
EPA COMPLIANT	ENVIRONMENTALLY FRIENDLY
INDUSTRIAL TESTED, GENERAC APPROVED	ENSURES INDUSTRIAL STANDARDS
POWER-MATCHED OUTPUT	ENGINEERED FOR PERFORMANCE
INDUSTRIAL GRADE	IMPROVES LONGEVITY AND RELIABILITY
Alternator	
TWO-THIRDS PITCH	ELIMINATES HARMFUL 3RD HARMONIC
LAYER WOUND ROTOR & STATOR	IMPROVES COOLING
CLASS H MATERIALS	HEAT TOLERANT DESIGN
DIGITAL 3-PHASE VOLTAGE CONTROL	FAST AND ACCURATE RESPONSE
Controls	
ENCAPSULATED BOARD W/ SEALED HARNESS	EASY, AFFORDABLE REPLACEMENT
4-20mA VOLTAGE-TO-CURRENT SENSORS	NOISE RESISTANT 24/7 MONITORING
SURFACE-MOUNT TECHNOLOGY	PROVIDES VIBRATION RESISTANCE
ADVANCED DIAGNOSTICS & COMMUNICATIONS	HARDENED RELIABILITY

primary codes and standards

NEMA · UL 2200 LISTED · NFPA · CSA · ISO · EPA TIER 3

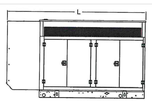
PROPOSED GENERATOR SPECIFICATION

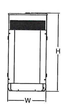
GENERAC | INDUSTRIAL POWER

SG100 100kW

5 of 5

dimensions, weights and sound levels





LEVEL 2 ACOUSTIC ENCLOSURE

L	W	H	WT	dBA*
145	41	81	3600	71

Note: Units upsized to 150 or 200kW alternators use a larger frame size.

*All measurements are approximate and for estimation purposes only. Sound levels measured at 23ft (7m) and does not account for ambient site conditions.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

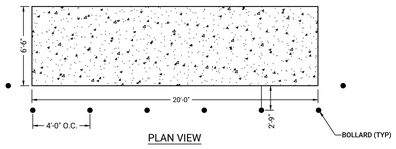
Generac Power Systems, Inc. • S45 W29290 HWY. 59, Waukesha, WI 53189 • generac.com

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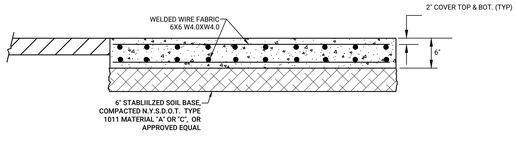
PROPOSED GENERATOR ENCLOSURE SPECIFICATION

NOTES:

GENERAC LEVEL 2 SOUND ATTENUATED ENCLOSURE REQUIRED PER TOWN OF ISLIP NOISE REQUIREMENTS §35 - ATTACHMENT 1



PLAN VIEW

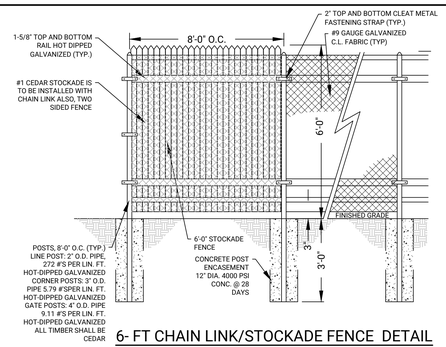


SECTION VIEW

GENERATOR PAD - CONCRETE SLAB DETAIL

NOTES: 1. PROVIDE 1/2" BITUMINOUS EXPANSION JOINT @ 36' O.C. AND CONTROL JOINTS SAWCUT @ 12' O.C.

2. CONCRETE SHALL BE CLASS "A" AND CONFORM TO TOWN REQUIREMENTS (4,000 PSI MIN. @ 28 DAYS).

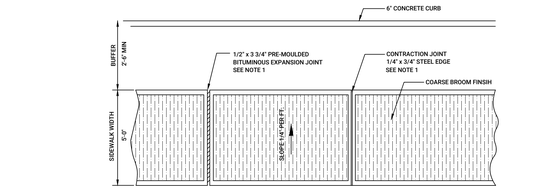


6- FT CHAIN LINK/STOCKADE FENCE DETAIL

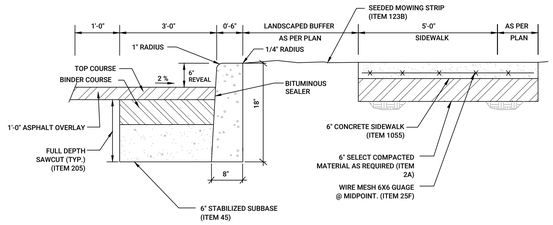
(ITEM NO. 106/107)

NOTES:

1. ALL TIMBER SHALL BE #1 GRADE WHITE MILLED CEDAR 5/8" PICKETS.
2. CHAIN LINK FENCE SHALL BE NO. 9 GA. GALVANIZED WIRE AND SCHEDULE 40 HARDWARE.



PLAN



OFF-SITE TYPICAL SIDEWALK, CURB AND PAVEMENT DETAIL (C.R.13)

N.T.S.

TOP COURSE: 2" ASPHALT CONCRETE TOP COURSE TYPE 1A - ITEM No. 51FX

BINDER COURSE: 4" ASPHALT CONCRETE DENSE BINDER COURSE TYPE 1B - ITEM No. 51FX COMPACTED IN TWO 2" LIFTS TO BOTTOM OF EXISTING PAVEMENT HEIGHT

SUBBASE COURSE: 6" RECYCLED CONCRETE AGGREGATE

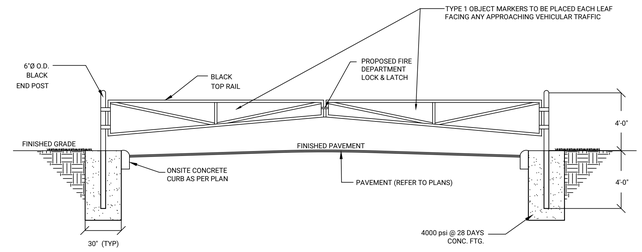
NOTES:
1. CONTRACTOR SHALL REFER TO THE SITE PLAN LATEST REVISION FOR ADDITIONAL INFORMATION.
2. IN ADDITION TO THE REQUIREMENTS OF ITEM No.97, 1/2" PREMOULDED BITUMINOUS JOINT FILLER SHALL BE PLACED IN JOINTS AT 16 FOOT INTERVALS ALONG THE LENGTH OF THE CURB AND WHERE THE CURB ABUTS DRAINAGE CASTINGS.
3. CONTRACTION JOINTS ARE TO BE PLACED EVERY 4'-0" AND EXPANSION JOINTS SHALL BE LOCATED EVERY 20' O.C.
4. SIDEWALK SHALL HAVE A COARSE BROOM FINISH.
5. ALL CONCRETE SHALL BE 4,000 PSI @ 28 DAYS

SCDPW NOTES:

1. CONTRACTOR SHALL OBTAIN ROAD OPENING PERMIT FROM SUFFOLK COUNTY DEPARTMENT OF PUBLIC WORKS.
2. ALL CONCRETE CURBING, SIDEWALK, ASPHALT PAVEMENT AND DRAINAGE STRUCTURES SHALL CONFORM TO THE LATEST SCDPW STANDARD DETAILS AND SPECIFICATIONS,
3. ALL DRAINAGE STRUCTURES ON THE EASTERLY AND WESTERLY SIDES OF FIFTH AVNUE (CR 13) WITHIN THE PROJECT LIMITS MUST BE MAINTAINED AND BE OPERABLE AT ALL TIMES DURING CONSTRUCTION. EROSION CONTROL MUST BE PROVIDED.
4. ALL DRAINAGE STRUCTURES ARE TO BE CLEANED OUT AFTER COMPLETION OF TYPICAL SECTION WORK (I.E. CONCRETE, PAVING, SEEDING, ETC.).
5. THE CONTRACTOR SHALL REMOVE EXISTING CURB AND ASHALT SIDEWALK. DRIVEWAY ALONG THE FULL FRONTAGES OF THE SITE ON FIFTH AVENUE (CR 13).
6. ALL ACCESSES AND SITE DRIVEWAYS SHALL REMAIN OPEN DURING ALL PHASES OF CONSTRUCTION.
7. RMS ENGINEERING SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, OR PROCEDURES UTILIZED BY THE CONTRACTOR, NOR FOR THE SAFETY OF PUBLIC OR CONTRACTOR'S EMPLOYEES; OR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
8. ALL CONCRETE CURBING, ASPHALT PAVEMENT, SIDEWALK, AND DRAINAGE STRUCTURES SHALL CONFORM TO THE TOWN/COUNTY STANDARD DETAILS AND SPECIFICATIONS.

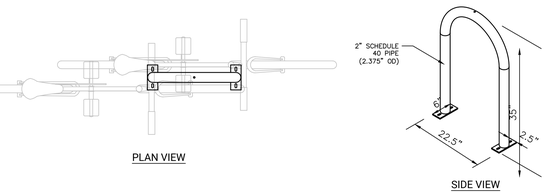
SUFFOLK COUNTY ITEM LEGEND

ITEM #	DESCRIPTION
51FX	2" ASPHALT CONCRETE TOP COARSE TYPE 1A
51FX	ASPHALT CONCRETE DENSE BINDER COARSE TYPE 1B
45SPX	4" ASPHALT CONCRETE BASE COURSE
4S	6" RECYCLED CONCRETE AGGREGATE
105S	CONCRETE SIDEWALKS-GRADING INCLUDED
8	PREPARE FINE GRADING
25F	STEEL FABRIC REINFORCEMENT
97A	CONCRETE CURB TYPE A
46	CONCRETE PAVEMENT
2A	UNCLASSIFIED EXCAVATION AND DISPOSAL
2A	GRANULAR FILL
205	SAW CUTTING ASPHALT CONCRETE
123B	SEEDED MOWING STRIP (GRADING INCLUDED)



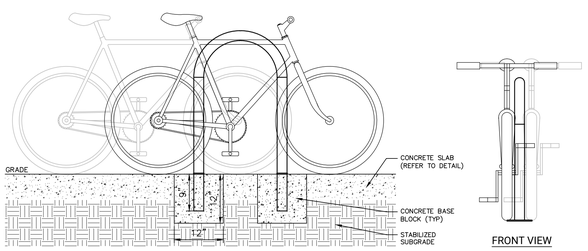
TUBULAR EMERGENCY ACCESS CRASH GATE DETAIL

* CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ACCESS GATE.



PLAN VIEW

SIDE VIEW



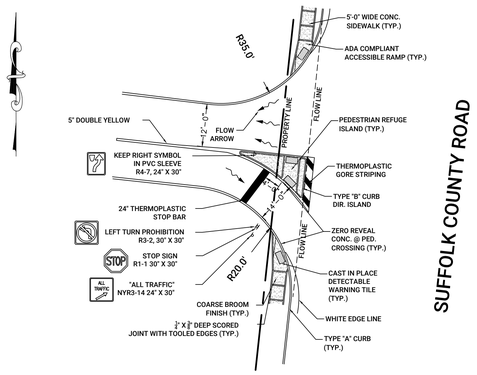
ELEVATION

FRONT VIEW

BICYCLE RACK DETAIL

NOTES:

1. BICYCLE RACK AS MANUFACTURED BY DERO OR APPROVED EQUAL.
2. BICYCLE RACK TO MEET "ASSOCIATION OF PEDESTRIAN AND BICYCLE PROFESSIONALS" (APBP) STANDARDS.
3. MOUNTING OPTIONS:
   -IN-GROUND (PREFERRED)
   -SURFACE
   -FOOT MOUNT HAS TWO (2) 2.5"x6"x.25" FEET WITH TWO ANCHORS PER FOOT.
4. BICYCLE RACKS SHALL BE SPACED 36" APART O.C. FOR MULTIPLE RACK SYSTEM.



STANDARD SUFFOLK COUNTY DPW "RIGHT IN/RIGHT OUT/LEFT IN" STREET TYPE ACCESS DETAIL

N.T.S.

No.	REVISION DESCRIPTION	DATE	BY
13.	NO REVISIONS THIS SHEET	02-05-26	JB
12.	REVISED PER TOI COMMENTS	06-16-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	REVISED PER SCDPW COMMENTS	05-30-24	CB
9.	REVISED PER TOI COMMENTS	01-10-24	CB
8.	REVISED SOUND ATT. FENCE DETAIL	11-08-23	CB
7.	ADDED SOUND ATT. FENCE DETAIL	08-25-23	CB
6.	NO REVISIONS THIS SHEET	08-08-23	CB
5.	NO REVISIONS THIS SHEET	07-17-23	AR
4.	NO REVISIONS THIS SHEET	06-16-23	CB
3.	NO REVISIONS THIS SHEET	05-10-23	CB
2.	NO REVISIONS THIS SHEET	04-21-23	MJM
1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
FIFTH WAY, LLC, C/O GRETCHEN KENDRICK
2100 ROSS AVENUE, SUITE 895
DALLAS, TX 75201
PHONE: 201-600-0401
EMAIL: NICK@ABCREALTY.COM

CONSTRUCTION DETAILS

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

STATE OF NEW YORK · CHRISTOPHER W. ROBINSON · 067519 · LICENSED PROFESSIONAL ENGINEER

Christopher W. Robinson, P.E.
NY State License No. 067519

Robinson & Muller Engineers, P.C.
50 Elm Street
Huntington, NY 11743
Office: (631) 271-0576
Fax: (631) 271-0592
www.rmengineering.com

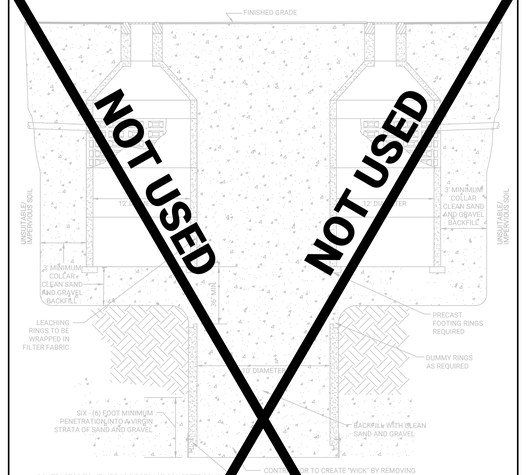
DWN. BY:	CB	CHK'D. BY:	GT
DATE:	08-09-22	DATE:	08-20-22
SCALE:	N.T.S.	SHEET:	SP-10.1
JOB No.:	2022-001		

Drawing Name: P:\2022 Projects\2022-001\M&M\2026-02-02 (2022-001) Details (30x42) Rev.13.dwg Last Modified: Feb 04, 2026 - 8:14pm Plotted on: Feb 05, 2026 - 1:19pm by jbrebenstein

DRAINAGE STRUCTURE TABLE

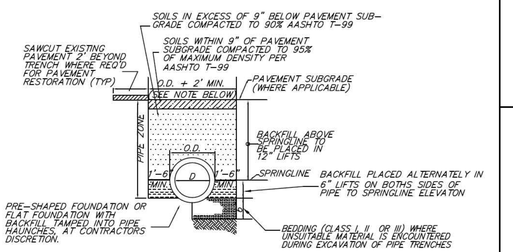
STRUCTURE TYPE-#	CASTING TOP / GRATE	INVERT	BOTTOM ELEVATION	EFFECTIVE DEPTH (LEACHING RING)	STRUCT. SIZE
(LCB-01)	(65.00)	(61.50)	(48.50)	12'	12' Ø
(LCB-02)	(65.00)	(61.50)	(48.50)	12'	12' Ø
(LCB-03)	(64.80)	(61.30)	(48.50)	12'	12' Ø
(DLP-01)	(64.90)	(61.00)	(48.50)	12'	12' Ø
(DLP-02)	(64.95)	(60.90)	(48.40)	12'	12' Ø
(DLP-03)	(65.30)	(61.00)	(48.50)	12'	12' Ø
(DLP-04)	(65.60)	(60.90)	(48.40)	12'	12' Ø
(DLP-05)	(65.20)	(61.00)	(48.50)	12'	12' Ø
(DLP-06)	(64.50)	(60.90)	(48.40)	12'	12' Ø
(DLP-07)	(64.90)	(61.00)	(48.50)	12'	12' Ø
(DLP-08)	(65.20)	(60.90)	(48.40)	12'	12' Ø
(DLP-09)	(65.70)	(61.00)	(48.50)	12'	12' Ø
(DLP-10)	(65.70)	(60.90)	(48.40)	12'	12' Ø
(DLP-11)	(65.20)	(61.00)	(48.50)	12'	12' Ø
(DLP-12)	(64.50)	(60.90)	(48.40)	12'	12' Ø
(DLP-13)	(64.90)	(61.00)	(48.50)	12'	12' Ø
(DLP-14)	(65.20)	(60.90)	(48.40)	12'	12' Ø
(DLP-15)	(65.70)	(61.00)	(48.50)	12'	12' Ø
(DLP-16)	(65.80)	(60.90)	(48.40)	12'	12' Ø
(DLP-17)	(65.20)	(61.00)	(48.50)	12'	12' Ø
(DLP-18)	(64.50)	(61.00)	(48.50)	12'	12' Ø
(DLP-19)	(64.00)	(60.50)	(48.00)	12'	12' Ø
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(DLP-21)	(69.45)	(62.50)	(50.00)	12'	12' Ø
(DLP-22)	(67.95)	(62.30)	(49.80)	12'	12' Ø
(DLP-23)	(67.55)	(62.50)	(50.00)	12'	12' Ø
(DLP-24)	(69.75)	(W. 58.95) (E. 62.30) (NW. 62.30)	(49.80)	12'	12' Ø
(DLP-25)	(69.75)	(62.50)	(50.00)	12'	12' Ø
(DLP-26)	(69.75)	(62.30)	(49.80)	12'	12' Ø
(DLP-27)	(68.95)	(62.50)	(50.00)	12'	12' Ø
(DLP-28)	(68.10)	(62.30)	(49.80)	12'	12' Ø
(DLP-29)	(69.30)	(62.50)	(50.00)	12'	12' Ø
(DLP-30)	(69.30)	(62.30)	(49.80)	12'	12' Ø
(DLP-31)	(69.30)	(62.50)	(50.00)	12'	12' Ø
(DLP-32)	(69.80)	(62.30)	(49.80)	12'	12' Ø
(DLP-33)	(68.65)	(62.50)	(50.00)	12'	12' Ø
(DLP-34)	(69.00)	(62.30)	(49.80)	12'	12' Ø
(DLP-35)	(68.80)	(62.50)	(50.00)	12'	12' Ø
(DLP-36)	(68.80)	(62.30)	(49.80)	12'	12' Ø
(DLP-37)	(68.80)	(62.50)	(50.00)	12'	12' Ø
(DLP-38)	(68.80)	(62.30)	(49.80)	12'	12' Ø
(DLP-39)	(68.85)	(62.50)	(50.00)	12'	12' Ø
(DLP-40)	(68.20)	(62.50)	(50.00)	12'	12' Ø
(DLP-41)	(68.25)	(62.30)	(49.80)	12'	12' Ø
(DLP-42)	(68.30)	(62.50)	(50.00)	12'	12' Ø
(DLP-43)	(68.45)	(62.30)	(49.80)	12'	12' Ø
(DLP-44)	(68.95)	(62.50)	(50.00)	12'	12' Ø
(DLP-45)	(67.65)	(62.30)	(49.80)	12'	12' Ø
(DLP-46)	(67.65)	(62.50)	(50.00)	12'	12' Ø
(DLP-47)	(67.70)	(62.30)	(49.80)	12'	12' Ø
(DLP-48)	(68.00)	(62.50)	(50.00)	12'	12' Ø
(DLP-49)	(68.25)	(62.30)	(49.80)	12'	12' Ø
(DLP-50)	(67.20)	(62.50)	(50.00)	12'	12' Ø
(DLP-51)	(67.05)	(62.30)	(49.80)	12'	12' Ø
(DLP-52)	(67.05)	(62.50)	(50.00)	12'	12' Ø
(DLP-53)	(67.20)	(62.30)	(49.80)	12'	12' Ø
(DLP-54)	(67.70)	(62.50)	(50.00)	12'	12' Ø
(DLP-55)	(67.05)	(W. 61.10) (E. 62.30) (SE. 62.30)	(49.80)	12'	12' Ø
(DLP-56)	(66.60)	(62.50)	(50.00)	12'	12' Ø
(DLP-57)	(66.45)	(62.30)	(49.80)	12'	12' Ø
(DLP-58)	(66.50)	(62.50)	(50.00)	12'	12' Ø
(DLP-59)	(66.90)	(62.30)	(49.80)	12'	12' Ø
(DLP-60)	(67.80)	(62.50)	(50.00)	12'	12' Ø
(DLP-61)	(66.40)	(62.30)	(49.80)	12'	12' Ø
(DLP-62)	(67.20)	(62.50)	(50.00)	12'	12' Ø
(DLP-63)	(68.50)	(62.30)	(49.80)	12'	12' Ø
(DLP-64)	(69.50)	(NE. 63.90) (W. 62.75)	(49.90)	12'	12' Ø
(DLP-65)	(69.85)	(63.15)	(51.20)	12'	12' Ø
(DLP-66)	(74.60)	(71.20)	(58.60)	12'	12' Ø
(DLP-67)	(73.15)	(68.10)	(56.10)	12'	12' Ø
(DLP-68)	(72.80)	(68.00)	(56.00)	12'	12' Ø
(DLP-69)	(72.50)	(67.90)	(55.90)	12'	12' Ø
(DLP-70)	(72.15)	(68.00)	(56.00)	12'	12' Ø
(DLP-71)	(71.85)	(67.90)	(55.90)	12'	12' Ø
(LCB-06)	(71.50)	(68.00)	(55.50)	12'	12' Ø
(DLP-72)	(71.80)	(67.90)	(55.40)	12'	12' Ø
(DLP-73)	(71.90)	(68.00)	(55.50)	12'	12' Ø
(DLP-74)	(71.60)	(68.00)	(55.50)	12'	12' Ø
(DLP-75)	(71.15)	(68.00)	(55.50)	12'	12' Ø
(DLP-76)	(71.35)	(68.00)	(55.50)	12'	12' Ø
(DLP-77)	(71.10)	(67.90)	(55.40)	12'	12' Ø
(DLP-78)	(74.00)	(67.90)	(55.40)	12'	12' Ø
(DLP-79)	(73.55)	(67.90)	(55.40)	12'	12' Ø
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	(N. 67.90) (SE. [illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(LCB-07)	(70.00)	(66.50)	(52.30)	12'	12' Ø
(DLP-83)	(70.95)	(64.70)	(52.20)	12'	12' Ø
(DLP-84)	(70.95)	(64.80)	(52.30)	12'	12' Ø
(DLP-85)	(70.95)	(64.70)	(52.20)	12'	12' Ø
(DLP-86)	(70.95)	(64.80)	(52.30)	12'	12' Ø
(DLP-87)	(70.95)	(64.70)	(52.20)	12'	12' Ø
(DLP-88)	(70.95)	(64.80)	(52.30)	12'	12' Ø
(DLP-89)	(70.95)	(64.87)	(52.20)	12'	12' Ø
(DLP-90)	(70.95)	(64.80)	(52.30)	12'	12' Ø
(DLP-91)	(70.95)	(64.70)	(52.20)	12'	12' Ø
(DLP-92)	(70.95)	(64.80)	(52.30)	12'	12' Ø
(DLP-93)	(70.95)	(64.70)	(52.20)	12'	12' Ø
(DLP-94)	(70.95)	(64.80)	(52.30)	12'	12' Ø
(DLP-95)	(70.95)	(64.70)	(52.20)	12'	12' Ø
(DLP-96)	(70.95)	(N. 63.55) (W. 64.80)	(52.30)	12'	12' Ø
(DLP-97)	(71.25)	(64.80)	(52.30)	12'	12' Ø
(DLP-98)	(71.25)	(64.70)	(52.20)	12'	12' Ø
(DLP-99)	(71.25)	(64.80)	(52.30)	12'	12' Ø
(DLP-100)	(71.25)	(64.70)	(52.20)	12'	12' Ø
(DLP-101)	(71.25)	(64.80)	(52.30)	12'	12' Ø
(DLP-102)	(71.25)	(64.70)	(52.20)	12'	12' Ø
(DLP-103)	(71.25)	(64.80)	(52.30)	12'	12' Ø
(DLP-104)	(71.25)	(64.70)	(52.20)	12'	12' Ø
(DLP-105)	(71.25)	(64.80)	(52.30)	12'	12' Ø
(DLP-106)	(71.25)	(64.70)	(52.20)	12'	12' Ø
(DLP-107)	(71.25)	(64.80)	(52.30)	12'	12' Ø
(DLP-108)	(71.25)	(64.70)	(52.20)	12'	12' Ø
(DLP-109)	(71.25)	(64.80)	(52.30)	12'	12' Ø
(DLP-110)	(71.25)	(64.70)	(52.20)	12'	12' Ø
(DLP-111)	(71.55)	(64.80)	(52.30)	12'	12' Ø
(DLP-112)	(71.55)	(64.70)	(52.20)	12'	12' Ø
(DLP-113)	(71.55)	(64.80)	(52.30)	12'	12' Ø
(DLP-114)	(71.55)	(64.70)	(52.20)	12'	12' Ø
(DLP-115)	(71.55)	(64.80)	(52.30)	12'	12' Ø
(DLP-116)	(71.55)	(64.70)	(52.20)	12'	12' Ø
(DLP-117)	(71.55)	(64.80)	(52.30)	12'	12' Ø
(DLP-118)	(71.55)	(64.70)	(52.20)	12'	12' Ø
(DLP-119)	(71.55)	(64.80)	(52.30)	12'	12' Ø
(LCB-04)	(69.75)	(64.95)	(53.00)	12'	12' Ø
(DLP-120)	(71.55)	(64.70)	(52.20)	12'	12' Ø
(DLP-121)	(71.55)	(64.80)	(52.30)	12'	12' Ø
(DLP-122)	(71.55)	(64.70)	(52.20)	12'	12' Ø
(DLP-123)	(71.55)	(64.80)	(52.30)	12'	12' Ø
(DLP-124)	(71.55)	(64.70)	(52.20)	12'	12' Ø
(DLP-125)	(71.90)	(64.80)	(52.30)	12'	12' Ø
(DLP-126)	(71.90)	(64.70)	(52.20)	12'	12' Ø
(DLP-127)	(71.90)	(64.80)	(52.30)	12'	12' Ø
(DLP-128)	(71.90)	(64.70)	(52.20)	12'	12' Ø
(DLP-129)	(71.90)	(64.80)	(52.30)	12'	12' Ø
(DLP-130)	(71.90)	(64.70)	(52.20)	12'	12' Ø
(DLP-131)	(71.90)	(64.80)	(52.30)	12'	12' Ø
(DLP-132)	(71.90)	(64.70)	(52.20)	12'	12' Ø
(DLP-133)	(71.90)	(64.80)	(52.30)	12'	12' Ø
(DLP-134)	(71.90)	(64.70)	(52.20)	12'	12' Ø
(DLP-135)	(71.90)	(64.80)	(52.30)	12'	12' Ø
(DLP-136)	(71.90)	(64.70)	(52.20)	12'	12' Ø
(DLP-137)	(71.90)	(64.80)	(52.30)	12'	12' Ø
(DLP-138)	(74.35)	(70.85)	(58.35)	12'	12' Ø
(LCB-05)	(69.50)	(66.00)	(54.00)	12'	12' Ø
(DLP-139)	(70.20)	(66.25)	(54.00)	12'	12' Ø
(DLP-140)	(70.66)	(66.45)	(54.00)	12'	12' Ø
(DLP-141)	(71.70)	(67.10)	(55.00)	12'	12' Ø
(DLP-142)	(70.00)	(62.30)	(50.30)	12'	8' Ø

NOT USED NOT USED NOT USED NOT USED



12' DIAMETER DRAINAGE LEACHING POOL & WICK DETAIL

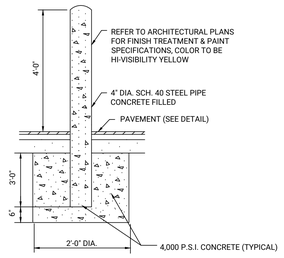
1. ALL DRAINAGE PIPE SHALL HAVE 2' MIN. COVER AND BE 15' MINIMUM DIAMETER CLIV [illegible]
2. AS PART OF THE LEACHING POOL CONSTRUCTION, IF UNSUITABLE MATERIAL, THE CONTRACTOR SHALL BE RESPONSIBLE TO EXCAVATE A MINIMUM OF 6'-0" INTO A VIRGIN STRATA OF SAND AND GRAVEL BELOW THE STRUCTURE. THE EXCAVATION SHALL THEN BE BACKFILLED WITH A CLEAN WELL GRADED SAND AND GRAVEL UP TO AND AROUND THE STRUCTURE AS SHOWN.
3. ALL PRECAST DRAINAGE STRUCTURES SHALL BE FURNISHED WITH PRECAST OPENINGS FOR DRAINAGE PIPE. [illegible] CONCRETE FOOTING RINGS.
4. ALL CONCRETE SHALL BE 4,000 PSI @ 28 DAYS.
5. PRECAST LEACHING RINGS OF VARYING DEPTH SHALL BE STACKED SO THAT RINGS OF GREATER HEIGHT ARE LOCATED UNDER RINGS OF LESS HEIGHT.
6. LEACHING POOL AND APPURTENANCES SHALL BE MANUFACTURED BY LONG ISLAND PRECAST INC. OR APPROVED EQUAL.
7. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIAL.
8. THE EFFECTIVE DEPTH (LEACHING AREA) OF THE POOL BELOW THE INLET PIPE, SHALL BE INSTALLED ENTIRELY IN CLEAN SAND AND GRAVEL.
9. THE BOTTOM AND SIDEWALL AREA SHALL BE FREE OF DEBRIS PRIOR TO BACKFILLING. CONTRACTOR SHALL FURNISH AND INSTALL "DUMMY" RINGS AS REQUIRED TO BRING THE TOP OF THE SLAB OR DOME TO WITHIN FOUR - (4) FEET OF FINISHED GRADE.
10. THE CONTRACTOR SHALL INSTALL THE LEACHING POOL PER THE MANUFACTURER'S STANDARDS AND RECOMMENDATIONS.
11. R&M ENGINEERING SHALL NOT BE RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, OR PROCEDURES UTILIZED BY THE CONTRACTOR, NOR FOR THE SAFETY OF THE PUBLIC OR CONTRACTOR'S EMPLOYEES, OR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE TOWN OF ISLIP STANDARDS AND INSPECTIONS.
12. DRAINAGE WICKS TO BE PROVIDED AT A RATE OF 1 WICK PER 4 POOLS PLACED MINIMUM.



NOTES

1. CLASS I, II, III OR IV COMPACTED BACKFILL MATERIAL REQUIRED IN ALL PIPE ZONES, PER USCS (UNIFIED SOIL CLASSIFICATION SYSTEM).
2. IF DEPTH OF TRENCH EXCEEDS 5', THE CONTRACTOR MUST PROVIDE SHEETING AND BRACING OR A SHEETING BOX IN ACCORDANCE WITH OSHA REGULATIONS. AS AN ALTERNATE, IF PERMITTED BY THE ENGINEER, THE TRENCH WALLS MAY BE CUT BACK TO A 2:1 SLOPE OR THE NATURAL ANGLE OF REPOSE FOR THE SOIL, WHICHEVER IS GREATER.
3. WHERE PIPE IS INSTALLED WITH LESS THAN 2' OF COVER, ALL BACKFILL MATERIAL THROUGHOUT THE PIPE ZONE IS TO BE CLASS I MATERIAL.

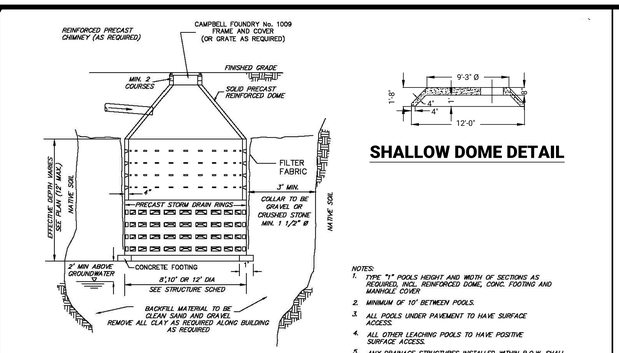
PIPE TRENCH DETAIL
N.T.S.



BOLLARD DETAIL

NOTE:

1. CONCRETE SHALL BE CLASS "A" AND CONFORM TO SUFFOLK COUNTY REQUIREMENTS (4000 PSI MIN. @ 28 DAYS).
2. BOLLARDS SHALL BE INSTALLED IN CONFORMANCE WITH INTERNATIONAL FIRE CODE (IFC) 312, VEHICLE IMPACT PROTECTION.

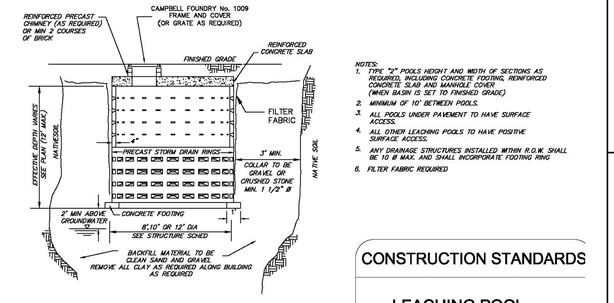


LEACHING BASIN
ITEM 100 – TYPE 1
N.T.S.

NOTES:

1. TYPE "1" POOLS HEIGHT AND WIDTH OF SECTIONS AS REQUIRED, INCL. REINFORCED DOME, CONC. FOOTING AND MANHOLE COVER.
2. MINIMUM OF 10' BETWEEN POOLS.
3. ALL POOLS UNDER PAVEMENT TO HAVE SURFACE ACCESS.
4. ALL OTHER LEACHING POOLS TO HAVE POSITIVE SURFACE ACCESS.
5. ANY DRAINAGE STRUCTURES INSTALLED WITHIN R.O.W. SHALL BE 10 Ø MAX. AND SHALL INCORPORATE FOOTING RING
6. FILTER FABRIC REQUIRED

SHALLOW DOME DETAIL



LEACHING BASIN
ITEM 100 – TYPE 2
N.T.S.

NOTES:

1. TYPE "2" POOLS HEIGHT AND WIDTH OF SECTIONS AS REQUIRED, INCLUDING CONCRETE FOOTING, REINFORCED CONCRETE SLAB AND MANHOLE COVER (WIDTH OF BASIN IS SET TO FINISHED GRADE).
2. MINIMUM OF 10' BETWEEN POOLS.
3. ALL POOLS UNDER PAVEMENT TO HAVE SURFACE ACCESS.
4. ALL OTHER LEACHING POOLS TO HAVE POSITIVE SURFACE ACCESS.
5. ANY DRAINAGE STRUCTURES INSTALLED WITHIN R.O.W. SHALL BE 10 Ø MAX. AND SHALL INCORPORATE FOOTING RING
6. FILTER FABRIC REQUIRED

CONSTRUCTION STANDARDS

LEACHING POOL
ITEM 100

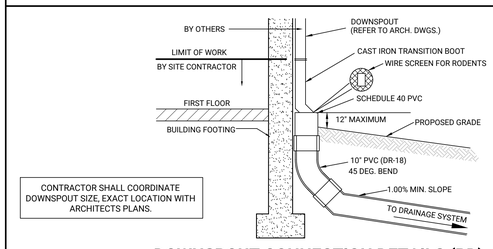
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Department of Planning and Development | 15

DRAINAGE LEACHING POOL DETAIL (DLP)

N.T.S.

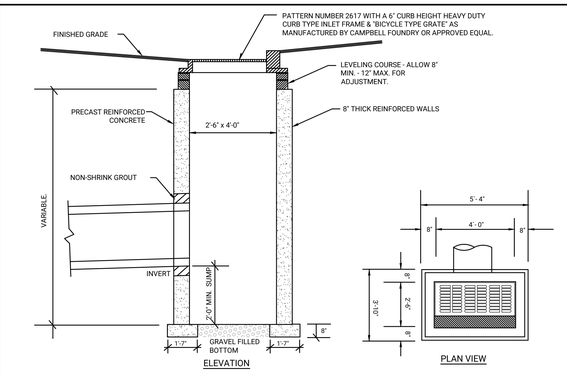
NOTES:

1. ALL DRAINAGE PIPE SHALL HAVE 2' MIN. COVER.
2. AS PART OF THE LEACHING POOL CONSTRUCTION, IF UNSUITABLE MATERIAL, THE CONTRACTOR SHALL BE RESPONSIBLE TO EXCAVATE A MINIMUM OF 6'-0" INTO A VIRGIN STRATA OF SAND AND GRAVEL BELOW THE STRUCTURE. THE EXCAVATION SHALL THEN BE BACKFILLED WITH A CLEAN WELL GRADED SAND AND GRAVEL UP TO AND AROUND THE STRUCTURE AS SHOWN.
3. ALL PRECAST DRAINAGE STRUCTURES SHALL BE FURNISHED WITH PRECAST OPENINGS FOR DRAINAGE PIPE.
4. ALL CONCRETE SHALL BE 4,000 PSI @ 28 DAYS.
5. PRECAST LEACHING RINGS OF VARYING DEPTH SHALL BE STACKED SO THAT RINGS OF GREATER HEIGHT ARE LOCATED UNDER RINGS OF LESS HEIGHT.



CONTRACTOR SHALL COORDINATE DOWNSPOUT SIZE, EXACT LOCATION WITH ARCHITECTS PLANS.

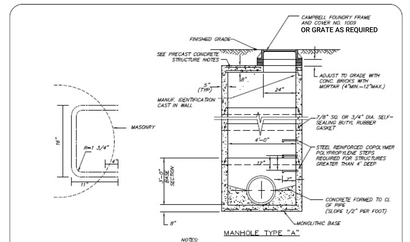
DOWNSPOUT CONNECTION DETAILS (RD)



CATCH BASIN DETAIL (CB)

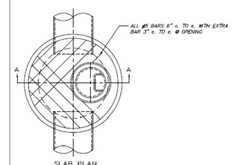
(ITEM NO. 102CB MODIFIED)

1. ALL PRECAST DRAINAGE STRUCTURES SHALL BE FURNISHED WITH PRECAST OPENINGS FOR DRAINAGE PIPE.
2. ALL DRAINAGE PIPE SHALL HAVE 2' MINIMUM COVER
3. ALL CONCRETE SHALL BE 4000 PSI @ 28 DAYS.



MANHOLE TYPE "A"

NOTES:
1 MANHOLE RISER SECTION TO BE FURNISHED IN 1,2,3 OR 4' HEIGHTS AS REQUIRED.



SLAB PLAN

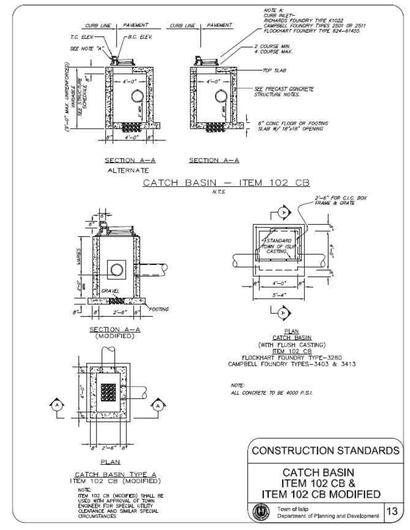
MANHOLE SIZE	PIPE SIZE	MAXIMUM ALLOWABLE PIPE DEFLECTION
4' DIA.	30" MAX.	20°
	30" MAX.	30°
	24" MAX.	75°

ITEM 102 MH A OR B

CONSTRUCTION STANDARDS

STORM DRAINAGE MANHOLE ITEM102-MH

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Department of Planning and Development | 17



SECTION A–A
ALTERNATE

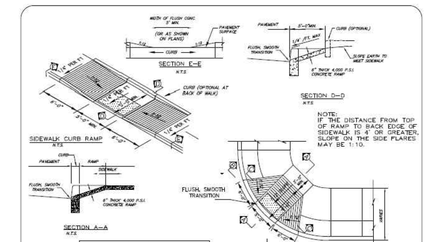
CATCH BASIN – ITEM 102 CB
N.T.S.

NOTE:
ITEM 102 CB (MODIFIED) SHALL BE USED WHERE THE CB IS NOT ENGINEER FOR SPECIAL FLOW CLEARANCE AND SIMILAR SPECIAL CIRCUMSTANCES

CONSTRUCTION STANDARDS

CATCH BASIN
ITEM 102 CB &
ITEM 102 CB MODIFIED

Town of Islip
Department of Planning and Development | 13



NOTES:
1. CURB CUT RAMP TYPE AND LOCATION ARE TO BE AS SHOWN.
2. SURFACE TEXTURE OF RAMP SHALL BE DEEP GROVE, ½" WIDE BY ½" DEEP, 1" CENTERS TRANSVERSE TO THE RAMP.
3. THE NORMAL PAVEMENT EDGE PROFILE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
4. WHEN THE INTERSECTION CONTAINS PEDESTRIAN ACTIVATED SIGNALS, MAKE PROVISIONS FOR A PERSON IN A WHEELCHAIR TO ACTIVATE SIGNAL WITHOUT STOPPING ON RAMP.
5. STOP LINES ARE TO BE PROVIDED IN ADVANCE OF WHEELCHAIR RAMPS.
6. WHERE FEASIBLE, PROVIDE FOR DRAINAGE PICK-UPS IMMEDIATELY UPSTREAM FROM THE RAMP. RETICULINE OR RECTANGULAR GRATES ARE TO BE USED IN THE AREA OF RAMPS.
7. MONOLITHIC CURB AND RAMP TO BE PROVIDED P.C. TO P.T.
8. TACTICLE WARNINGS REQUIRED AT ALL DISABILITY CURB CUTS.

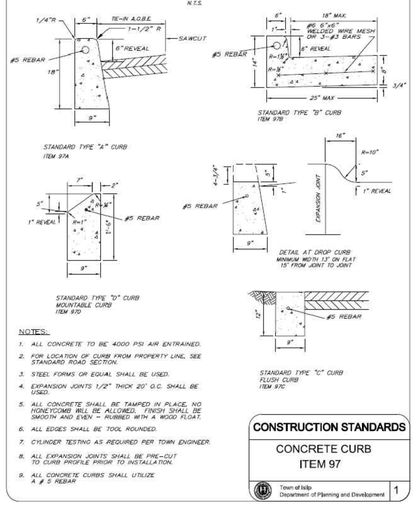
CONSTRUCTION STANDARDS

SIDWALK RAMP DETAIL

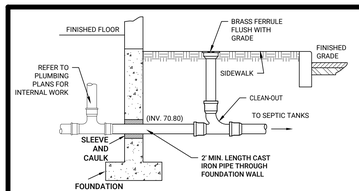
Town of Islip
Department of Planning and Development | 11

CONCRETE CURB DETAIL

N.T.S.



NOTES:
1. ALL CONCRETE TO BE 4000 PSI AIR ENTRAINED.
2. FOR LOCATION OF CURB FROM PROPERTY LINE, SEE STANDARD ROAD S



NOTES:

1) THE CAST IRON CLEAN-OUT FRAME AND COVER SHALL CONFORM TO ASTM A48 AND SHALL BE AS MANUFACTURED BY E.L. LEBARON CO. RICHARD FOUNDRY CORP. OR EQUAL.

2) THE IRON BODY FERRULE AND BRASS SCREW PLUS INSTALLED IN CONNECTION WITH A CLEAN-OUT ASSEMBLY SHALL CONFORM TO THE APPLICABLE SECTIONS OF ASTM A74.

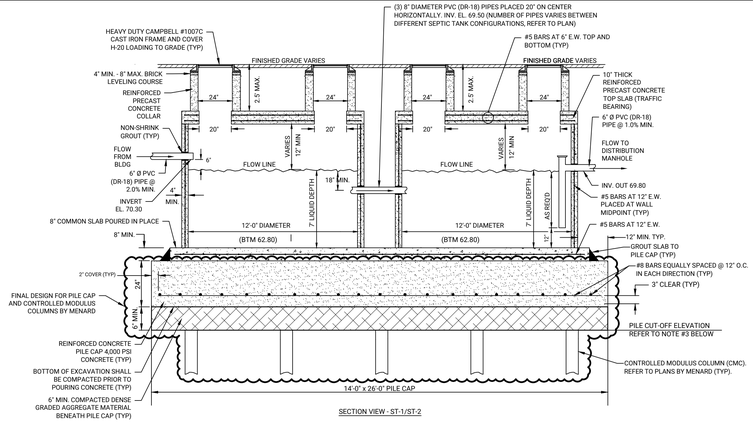
3) THE FRAME AND COVER SHALL BE SET ON A COMPACTED SUBGRADE, TRUE TO REQUIRED LINE AND GRADE. THE CASTING SHALL BE PLACED IN THE CONCRETE FLOOR SLAB.

4) CAST IRON TO PVC JOINT SHALL BE MADE WITH A FERNCO FITTING.

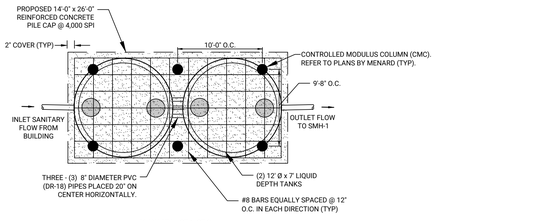
5) CLEAN OUTS SHALL BE SPACED 75' C-C MAXIMUM AND AT ALL BENDS GREATER THAN 23°

CLEAN-OUT DETAIL (CO)

N.T.S.



SECTION VIEW - ST-1/ST-2



PLAN VIEW - ST-1/ST-2

TWO UNIT CONCRETE SEPTIC TANK WITH PILES AND PILE CAP DETAIL

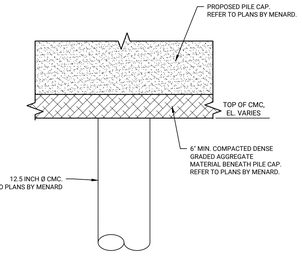
N.T.S.

SEPTIC TANK NOTES:

1. WHEN LOCATED IN TURF, LANDSCAPED OR EARTHEN SURFACE AREA, SET COVERS 1" ABOVE FINISHED GRADE.
2. WHERE SITE CONTRACTOR MEETS BLDG. PLUMBERS PIPE A MECHANICAL JOINT SHALL BE PROVIDED TO CONNECT THE PIPES TOGETHER.
3. CONCRETE COMPRESSIVE STRENGTH TO BE 4,000 P.S.I. AT 28 DAYS.
4. WELDED WIRE FABRIC TO MEET BOTH ASTM A-82 AND ASTM A-185 STANDARDS.
5. STEEL REINFORCING BARS TO MEET ASTM A-615 GRADE 60 STANDARDS.
6. THERE SHALL BE A MINIMUM ELEVATION DIFFERENCE OF 6 INCHES BETWEEN THE INLET INVERT AND THE OUTLET INVERT.
7. EACH COMPARTMENT SHALL BE CONSTRUCTED OF REINFORCED PRECAST CONCRETE SOLID RINGS, SOLID DOMES OR TOP SLABS.
8. CROSSOVER PIPES MUST BE OF 8" O.D. PIPE, 20" ON CENTER, WITH CENTER LINE 18" BELOW LIQUID LEVEL.
9. COVERS MUST BE PLACED OVER INLET AND OUTLET FOR SLAB TOPS OR IN CENTER FOR DOME TOPS.
10. SEPTIC TANK AS MANUFACTURED BY L.I. PRECAST OR APPROVED EQUAL IN ACCORDANCE WITH SCDHS REQUIREMENTS.
11. IF GROUNDWATER ENCOUNTERED, CONTRACTOR IS RESPONSIBLE FOR ANY DEWATERING OPERATIONS THAT ARE NECESSARY.

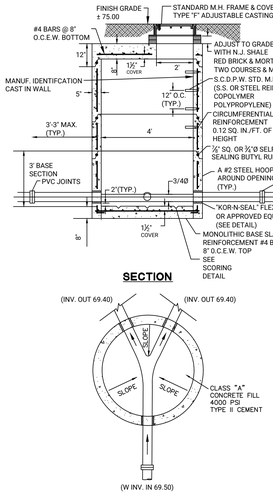
PILE AND PILE CAP NOTES:

1. CONTRACTOR SHALL REFER TO THE "PILE FOUNDATION" SPECIFICATIONS SECTION 02360 FOR PILE DRIVING TOLERANCES AND ESTIMATED LENGTH OF PILES.
2. ALL STEEL SHALL HAVE A MINIMUM YIELD STRESS OF 36,000 PSI AND CONFORM TO ASTM A-36, SPECIFICATION FOR STRUCTURAL STEEL.
3. CUT-OFF PILE TOPS SQUARE WITH PILE AXIS. CONTRACTOR SHALL FIELD VERIFY PILE CUT-OFF ELEVATIONS FOR INDIVIDUAL SANITARY STRUCTURES.
4. ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60.
5. REINFORCING BAR SUPPORTS SHALL BE ALL-GALVANIZED METAL WITH PLASTIC TIPS.
6. ALL REINFORCEMENT SHALL BE SECURELY TIED IN PLACE TO PREVENT DISPLACEMENT.
7. CONTRACTOR SHALL REFER TO THE SEPTIC TANK DETAIL FOR ADDITIONAL INFORMATION AND REQUIREMENTS.



CONTROLLED MODULUS COLUMN (CMC) DETAIL

N.T.S.



SECTION

PLAN

SANITARY MANHOLE NOTES:
1. ALL MANHOLES SECTIONS SHALL CONFORM TO A.S.T.M. C-478, LATEST REVISION STANDARD SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE M.H. SECTIONS.

2. MANHOLE RISER SECTION TO BE FURNISHED IN 1,2,3, OR 4' HEIGHTS AS REQUIRED.

3. MANUF. TO CERTIFY THAT MANHOLES DELIVERED MEET ALL REQUIREMENTS OF S.C.D.P.W. SPECS.

4. LOADING TO CONFORM T AASHTO H-20 LOADING

5. REBAR TO CONFORM TO ASTM A-615-60 Fs=60,000PSI

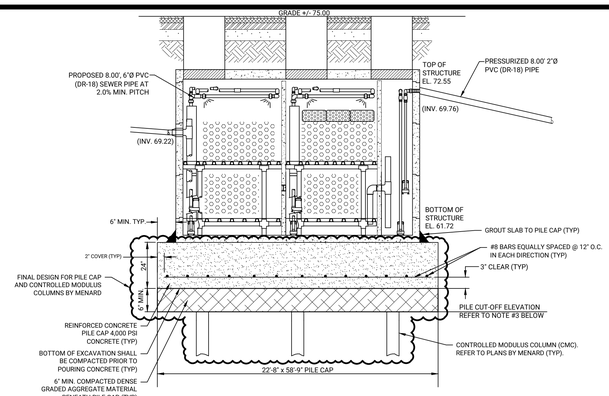
6. WELDED WIRE MESH TO CONFORM TO A.S.T.M. A185 Fs=65,000PSI
7. CONCRETE TO BE 4000PSI @ 28 DAYS

8. FLAT SLAB TOPS (NO JOINT) MUST HAVE TOP & BOTTOM STEEL.

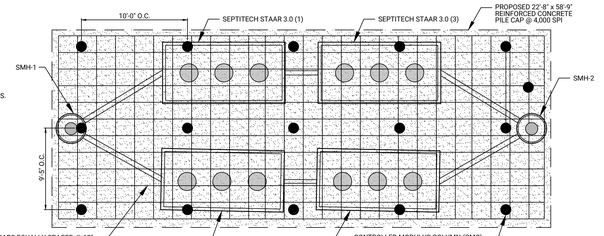
9. IF GROUNDWATER ENCOUNTERED, CONTRACTOR IS RESPONSIBLE FOR ANY DEWATERING OPERATIONS THAT ARE NECESSARY.

4' DIAMETER SANITARY SEWER MANHOLE - SMH-1

N.T.S.



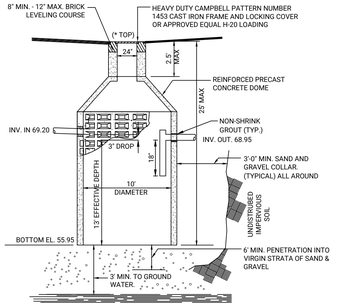
NOTES:
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN CONFORMS WITH 310 CMR 15.00, DEP TITLE 5 REGS. FOR SEPTIC TANKS.
3. ALL REINFORCEMENT TO BE ASTM A-615 GRADE 60.
4. WELDED WIRE FABRIC TO BE ASTM A-185
5. ALL PIPE PENETRATIONS UTILIZE KOR-N-SEAL BOOTS
6. DESIGNED FOR AASHTO HS-20 LOADING, 1 TO 5 FT COVER.
7. TONGUE & GROOVE JOINT SEALED WITH BUTYL RESIN
8. TEES AND BAFFLE SOLD SEPARATELY
9. OPTIONAL BAFFLES WALL HELD IN PLACE WITH ANGLE BRACKETS



FOUR UNIT - SEPTITECH STAAR 12.0 I/A OWTS

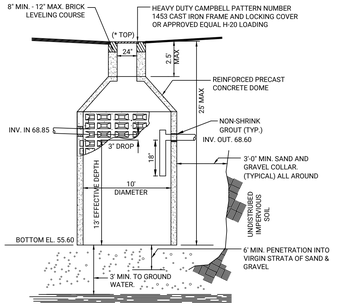
SCALE: N.T.S.

NOTE: DETAIL REFER TO NEXT SHEET



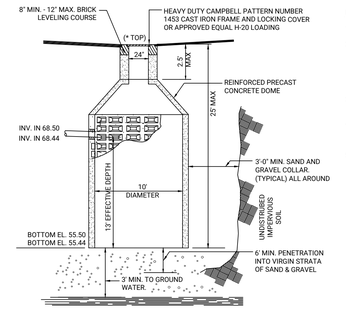
10' SANITARY DISTRIBUTION LEACHING POOL

N.T.S.



10' SANITARY DISTRIBUTION LEACHING POOL

N.T.S.

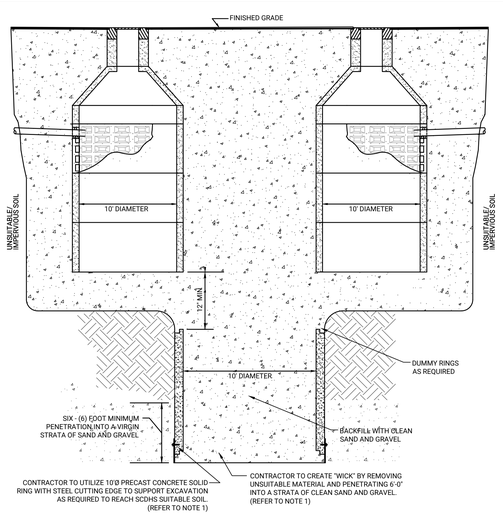


10' SANITARY LEACHING POOL

N.T.S.

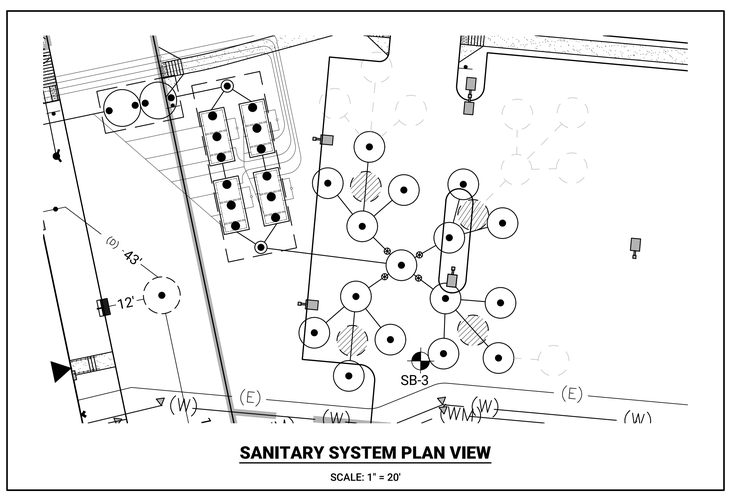
LEACHING POOL NOTES:

1. REFER TO SANITARY CALCULATIONS FOR SIZES.
2. AS PART OF THE INSTALLATION OF LEACHING POOLS, CONTRACTOR IS RESPONSIBLE TO EXCAVATE 6' INTO EXISTING SAND AND GRAVEL ACCEPTABLE TO HEALTH DEPT. AND ENGINEER AND BACKFILL WITH S.C.D.H.S. ACCEPTABLE CLEAN SAND AND GRAVEL TO INLET PIPE ELEVATION.
3. SAND AND GRAVEL COLLAR IS SUBJECT TO HEALTH DEPARTMENT FIELD APPROVAL.
4. CONTRACTOR TO PROVIDE DUMMY RINGS AS NECESSARY TO BRING LEACHING POOL COVERS TO GRADE.
5. EFFECTIVE DEPTH SHALL BE MEASURED, IN SANITARY LEACHING POOLS, AS THE VERTICAL DISTANCE FROM THE INVERT OF THE INLET PIPE TO THE BOTTOM OF THE LEACHING STRUCTURE. PRECAST DOMES WILL NOT BE CONSIDERED AS EFFECTIVE DEPTH, ONLY LEACHING RINGS WILL BE AS INDICATED ABOVE.



10' DIAMETER SANITARY LEACHING POOL & WICK DETAIL

1. CONTRACTOR IS RESPONSIBLE TO EXCAVATE SIX - (6) FEET INTO VIRGIN SAND AND GRAVEL ACCEPTABLE TO THE HEALTH DEPARTMENT AND THE ENGINEER AND BACKFILL WITH S.C.D.H.S. ACCEPTABLE CLEAN SAND AND GRAVEL.
2. PRECAST CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH 4,000 PSI AT 28 DAYS.
3. PRECAST CONCRETE CHIMNEY WITH PRECAST CONCRETE COVERS TO BE CONSTRUCTED A MINIMUM OF 12" BELOW FINISHED GRADE AND NOT DEEPER THAN 24" BELOW FINISHED GRADE.
4. LEACHING POOL AND APPURTENANCES SHALL BE MANUFACTURED BY LONG ISLAND PRECAST INC. OR APPROVED EQUAL.
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIAL.
6. THE EFFECTIVE DEPTH (LEACHING AREA) OF THE POOL BELOW THE INLET PIPE, SHALL BE INSTALLED ENTIRELY IN CLEAN SAND AND GRAVEL ACCEPTABLE TO THE HEALTH DEPARTMENT.
7. CONTRACTOR SHALL COORDINATE ALL INSPECTIONS DIRECTLY WITH THE SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES.
8. AT THE TIME OF COMPLETION, THE SYSTEM SHALL BE LEFT VISIBLE FOR INSPECTION BY THE SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES. THE PROPERTY LINES SHALL BE "STAKED" IN ORDER TO ASCERTAIN THAT THE SYSTEM IS LOCATED ON THE PROPERTY IN ACCORDANCE WITH THE HEALTH DEPARTMENT STANDARDS AND REQUIREMENTS.
9. THE BOTTOM AND SIDEWALL AREA SHALL BE FREE OF DEBRIS PRIOR TO BACKFILLING. CONTRACTOR SHALL FURNISH AND INSTALL "DUMMY" RINGS AS REQUIRED TO BRING THE TOP OF THE SLAB OR DOME TO WITHIN FOUR - (4) FEET OF FINISHED GRADE.
10. THE CONTRACTOR SHALL INSTALL THE LEACHING POOL PER THE MANUFACTURER'S STANDARDS AND RECOMMENDATIONS.
11. R&M ENGINEERING SHALL NOT BE RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, OR PROCEDURES UTILIZED BY THE CONTRACTOR, NOR FOR THE SAFETY OF THE PUBLIC OR CONTRACTOR'S EMPLOYEES; OR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE SUFFOLK COUNTY DEPARTMENT OF HEALTH'S STANDARDS AND REGULATIONS.



SANITARY SYSTEM PLAN VIEW

SCALE: 1" = 20'

No.	REVISION DESCRIPTION	DATE	BY
13.	REVISED PER TOWN MEETING	02-05-26	JB
12.	REVISED PER TOI COMMENTS	06-16-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	NO REVISIONS THIS SHEET	05-30-24	CB
9.	REVISED PER TOI COMMENTS	01-10-24	CB
8.	NO REVISIONS THIS SHEET	11-08-23	CB
7.	NO REVISIONS THIS SHEET	08-25-23	CB
6.	NO REVISIONS THIS SHEET	08-08-23	CB
5.	NO REVISIONS THIS SHEET	07-17-23	AR
4.	NO REVISIONS THIS SHEET	06-16-23	CB
3.	NO REVISIONS THIS SHEET	05-10-23	CB
2.	NO REVISIONS THIS SHEET	04-21-23	MJM
1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
FIFTH KNY, LLC, C/O GRETCHEN KENDRICK
2100 ROSS AVENUE, SUITE 895
DALLAS, TX 75201
PHONE: 201-600-0403
EMAIL: NEDD@XEBECREALTY.COM

SANITARY DETAILS

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

Christopher W. Robinson, P.E.
NY State License No. 067519

Robinson & Muller Engineers, P.C.
50 Elm Street
Huntington, NY 11743
Office: (631) 271-0576
Fax: (631) 271-0592
www.rmengineering.com

DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	N.T.S.	SHEET:	SP-12
DATE:	08-09-22	DATE:	08-20-22	JOB No.:	2022-001		

Drawing Name: P:\2022 Projects\2022-001\R&M\2026-02-02 (2022-001) Details (30x42) Rev.13.dwg Last Modified: Feb 05, 2026 - 4:59pm Plotted on: Feb 09, 2026 - 3:37pm by jbeckerstein

SOIL BORINGS

SB-1

(EL. 66.0±) GROUND SURFACE

FEET	NO	SOIL CLASSIFICATION
1–2		FILL - BROWN FINE-COARSE SAND, LITTLE SILT, LITTLE FINE GRAVEL (MOIST)
2–5		FILL - DARK BROWN/BLACK FINE-MEDIUM SAND, SOME SILT, TRACE FINE GRAVEL (MOIST)
5–10		FILL - DARK YELLOW-BROWN FINE-COARSE SAND, LITTLE SILT, LITTLE FINE GRAVEL, WITH WOOD FRAGMENTS (VERY MOIST)
6–15		FILL - 85% WOOD WITH SILTY SAND (VERY MOIST)
7–20		LIGHT BROWN FINE-COARSE SAND, LITTLE SILT, SOME FINE-COARSE GRAVEL (MOIST) (LOOSE) (SP/SM)
8–25		LIGHT BROWN FINE-COARSE SAND, TRACE SILT, TRACE FINE GRAVEL (WET) (VERY DENSE) (SW/SM) (MEDIUM DENSE)
		▽ G.W.T. 23.0' EL. +/-43.0'
		END OF BORING 25'-0"

SB-2

(EL. 65.0±) GROUND SURFACE

FEET	NO	SOIL CLASSIFICATION
1–2		6" ASPHALT PAVEMENT
1–3		FILL - YELLOW-BROWN FINE-MEDIUM SAND, SOME SILT, TRACE FINE GRAVEL (MOIST)
2–5		YELLOW-BROWN FINE-COARSE SAND, TRACE SILT, LITTLE FINE-COARSE GRAVEL (SLIGHTLY MOIST) (MEDIUM DENSE) (SP)
4–10		LIGHT YELLOW-BROWN FINE-COARSE SAND, TRACE SILT, LITTLE FINE GRAVEL (MOIST) (DENSE) (SP/SM) (VERY DENSE)
6–15		END OF BORING 15'-0"

SB-3

(EL. 70.0±) GROUND SURFACE

FEET	NO	SOIL CLASSIFICATION
1–5		FILL - CONCRETE AND BRICK FRAGMENTS WITH CRUSHED STONE
2–10		FILL - DARK BROWN - GRAY FINE-COARSE SAND, SOME SILT, LITTLE FINE-COARSE GRAVEL, WITH BRICK FRAGMENTS (MOIST)
5–15		GRADING WITH WOOD FRAGMENTS
6–20		FILL - 85% WOOD WITH SILTY SAND (MOIST)
7–25		FILL - BLACK SILT, SOME FINE-COARSE SAND, LITTLE FINE-COARSE GRAVEL, WITH ROOTS (MOIST)
8–30		FILL - YELLOW-BROWN FINE-COARSE SAND, TRACE SILT, SOME FINE-COARSE GRAVEL (SLIGHTLY MOIST)
10–35		GRAY FINE-COARSE SAND, AND FINE-COARSE GRAVEL, TRACE SILT (WET) (VERY DENSE) (SP-SM)
		▽ G.W.T. 30.0' EL. +/-40.0'
		END OF BORING 35'-0"

SB-4

(EL. 69.0±) GROUND SURFACE

FEET	NO	SOIL CLASSIFICATION
1–2		FILL - BROWN FINE-MEDIUM SAND, LITTLE SILT, SOME FINE-COARSE GRAVEL, WITH BRICK, ASPHALT AND CONCRETE (SLIGHTLY MOIST)
3–5		FILL - DARK BROWN/BLACK FINE-COARSE SAND, LITTLE SILT, AND FINE-COARSE GRAVEL, WITH ASPHALT AND BRICKS (SLIGHTLY MOIST)
6–10		FILL - 85% WOOD WITH SILTY SAND AND FINE GRAVEL, TRACES OF GLASS AND BRICK FRAGMENTS (MOIST)
9–30		GRAY FINE-COARSE SAND, LITTLE SILT, LITTLE FINE-COARSE GRAVEL (WET) (DENSE) (MEDIUM DENSE) (SP-SM)
		▽ G.W.T. 33.0' EL. +/-36.0'
12–40		GRAY FINE-MEDIUM SAND, TRACE SILT, TRACE FINE GRAVEL (WET) (LOOSE) (MEDIUM DENSE)
13–45		GRADING TO TRACE FINE-COARSE GRAVEL (SP)
14–50		GRAY FINE-COARSE SAND, LITTLE SILT, LITTLE FINE-COARSE GRAVEL (WET) (MEDIUM DENSE)
15–55		
16–60		
		END OF BORING 62'-0"

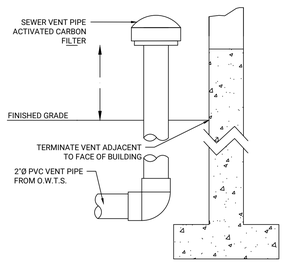
SB-5

(EL. 70.0±) GROUND SURFACE

FEET	NO	SOIL CLASSIFICATION
1–3		FILL - BROWN FINE-MEDIUM SAND, LITTLE SILT, LITTLE FINE-COARSE GRAVEL, WITH CONCRETE AND ASPHALT FRAGMENTS (SLIGHTLY MOIST)
3–5		FILL - CRUSHED CONCRETE (SLIGHTLY MOIST)
5–10		FILL - WOOD WITH TRACE FINE GRAVEL (MOIST)
6–15		FILL - DARK GRAY FINE-COARSE SAND, SOME SILT, LITTLE FINE-COARSE GRAVEL, WITH PLASTIC, GLASS AND WOOD FRAGMENTS (MOIST)
8–25		GRAY FINE-COARSE SAND, TRACE SILT, SOME FINE GRAVEL (WET) (MEDIUM DENSE) (SW-SM)
		▽ G.W.T. 28.5' EL. +/-41.5'
		END OF BORING 30'-0"

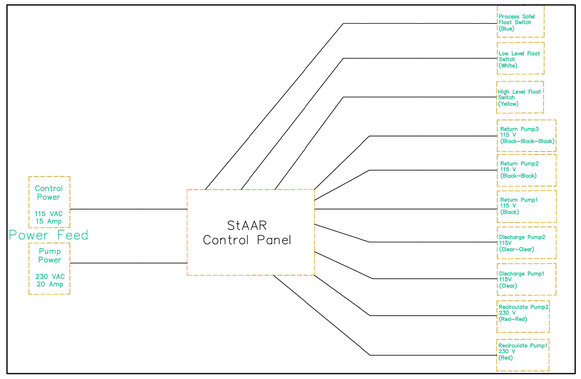
NOTES:

1. EXPLORATIONS WERE LOCATED IN THE FIELD BY A REPRESENTATIVE OF GZA GEOENVIRONMENTAL, INC. STANDARD PENETRATION TESTS (SPT) WERE PERFORMED WITHIN THE BORINGS IN GENERAL ACCORDANCE WITH ASTM D-1586.
2. THE EXPLORATION BORINGS WERE DRILLED BETWEEN NOVEMBER 16, 2022 AND NOVEMBER 17, 2022.



SEWER VENT PIPE ACTIVATED CARBON FILTER DETAIL

N.T.S.

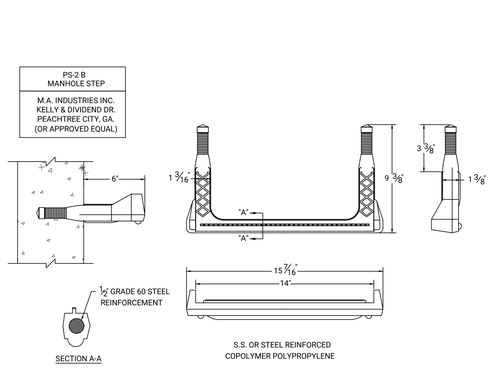


ONE LINE DIAGRAM (TYP OF 4)

N.T.S.

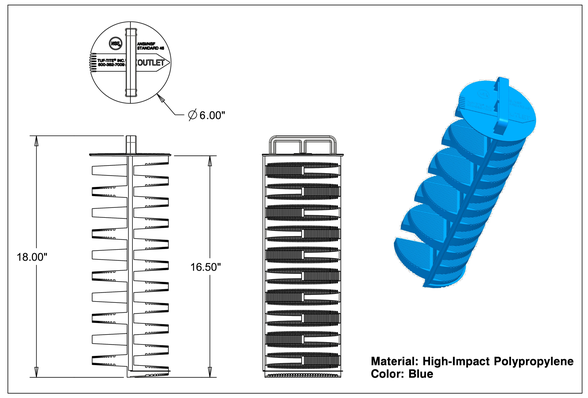
NOTES:

1. ALL WIRING TO THE TANK SHOULD BE MINIMUM #14 AWG THHN OR TFFN UNLESS OTHERWISE NOTED.



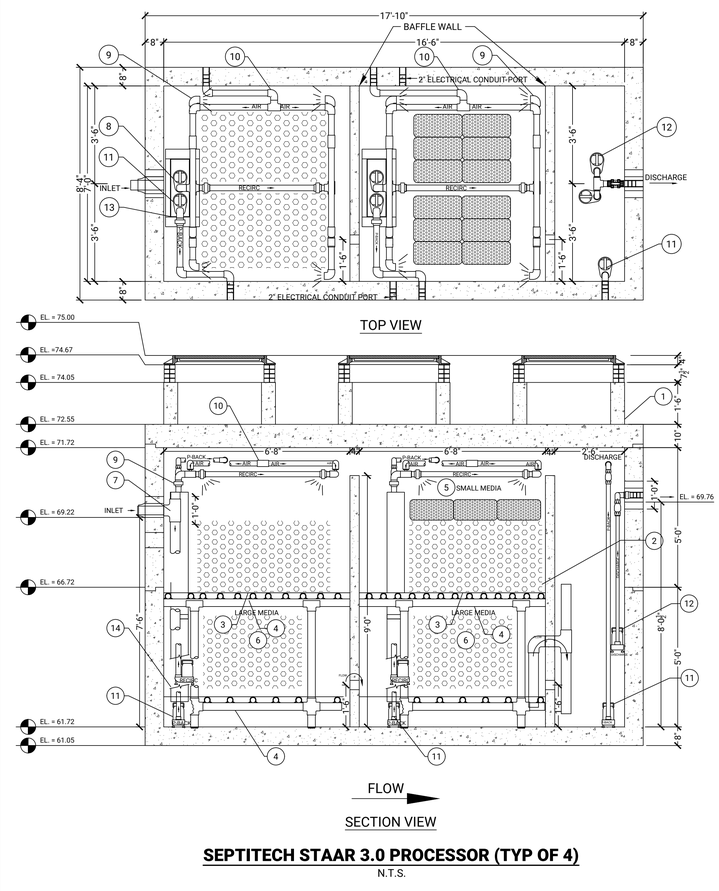
STRUCTURAL MANHOLE STEP DETAIL

N.T.S.



6 " EFFLUENT FILTER TUF-TITE MODEL EF-6

N.T.S.



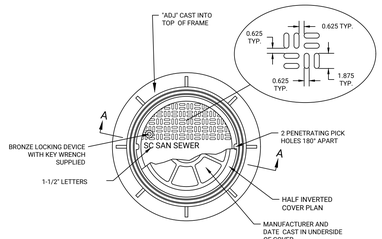
SEPTITECH STAAR 3.0 PROCESSOR (TYP OF 4)

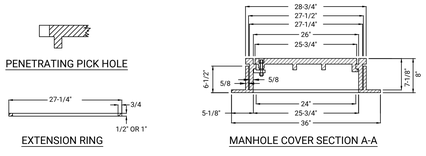
N.T.S.

ITEM	QTY.	DESCRIPTION
14	2	Pump Back Chute Assembly
13	2	Pump Chute Assembly
12	1	Duel Discharge Pump Assembly
11	3	Pump Back Pump
10	2	Blaster Air Header Assembly
9	2	Blaster Assembly
8	2	Recirc Pump
7	1	Inlet Piping Assembly
6	2	Large Media
5	2	Small Media
4	4	Support Structure
3	2	Screening Assembly
2	1	Interior Piping Assembly
1	1	6000 Gal. Concrete Tank

NOTES:

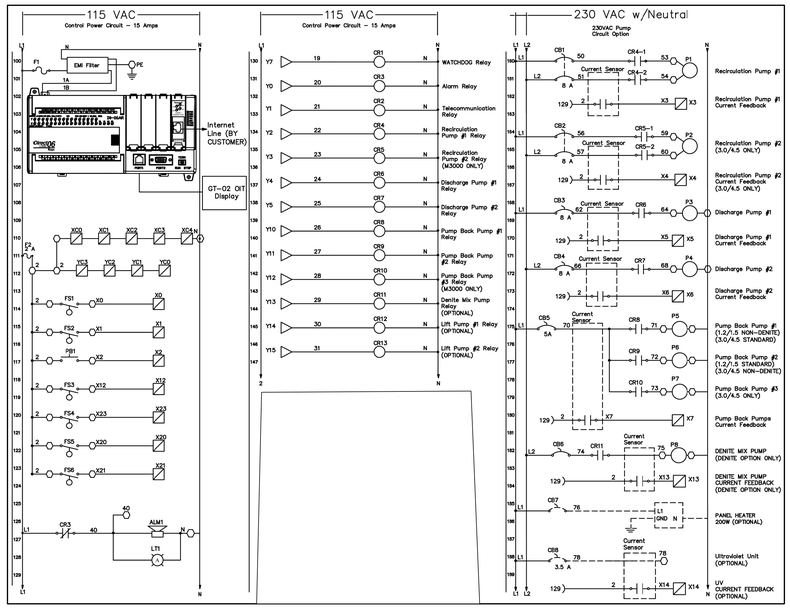
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2. DESIGN CONFORMS WITH 310 CMR 15.00. DEP TITLE 5 REGS. FOR SEPTIC TANKS.
3. ALL REINFORCEMENT TO BE ASTM A-615 GRADE 60.
4. WELDED WIRE FABRIC TO BE ASTM A-185
5. ALL PIPE PENETRATIONS UTILIZE KOR-N-SEAL BOOTS
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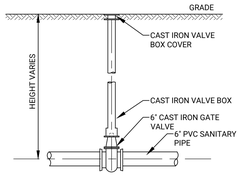
SUFFOLK COUNTY TYPE "F" ADJUSTABLE MANHOLE CASTING

MATERIAL GRAY CAST IRON PER ASTM A-48 (LATEST REVISION CLASS 30
CAMBELL FOUNDRY CO. HARRISON, N.J. 07029 (OR EQUAL) PATTERN NO. 17341010



SEPTITECH CONTROL PANEL (TYP OF 4)

N.T.S.



GATE VALVE DETAIL

NOTES:

1. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL BY ENGINEER.
2. CONTRACTOR TO SUPPLY OWNER WITH TWO (2) KEYS W EXTENSION RODS FOR OPENING & CLOSING OF VALVES FROM GRADE.

No.	REVISION DESCRIPTION	DATE	BY
13.	NO REVISIONS THIS SHEET	02-05-26	JB
12.	REVISED PER TOI COMMENTS	06-16-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	NO REVISIONS THIS SHEET	05-30-24	CB
9.	REVISED PER TOI COMMENTS	01-10-24	CB
8.	NO REVISIONS THIS SHEET	11-08-23	CB
7.	NO REVISIONS THIS SHEET	08-25-23	CB
6.	NO REVISIONS THIS SHEET	08-08-23	CB
5.	NO REVISIONS THIS SHEET	07-17-23	AR
4.	NO REVISIONS THIS SHEET	06-16-23	CB
3.	NO REVISIONS THIS SHEET	05-10-23	CB
2.	NO REVISIONS THIS SHEET	04-21-23	M.JM
1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
FIFTH AVN, LLC; C/O GRETCHEN KENDRICK
3100 ROSS AVENUE, SUITE 895
DALLAS, TX 75201
PHONE: 201-600-0401
EMAIL: NEOG@NEOCREALTY.COM

SANITARY DETAILS

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE

TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

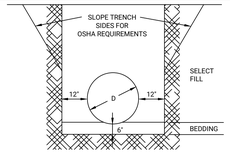
SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

Christopher W. Robinson, P.E.
NY State License No. 067519

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50 Elm Street
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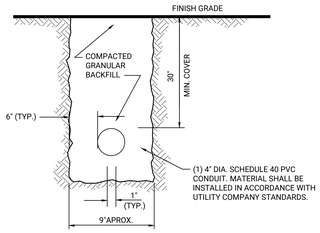
DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	N.T.S.	SHEET:	SP-13
DATE:	08-09-22	DATE:	08-20-22	JOB No.:	2022-001		

Drawing Name: F:\2022 Projects\2022-001\R&M\2026-02-02 (2022-001) Details (30x42) Rev.13.dwg Last Modified: Feb 04, 2026 – 6:14pm Plotted on: Feb 05, 2026 – 1:21pm by jbenkenstein



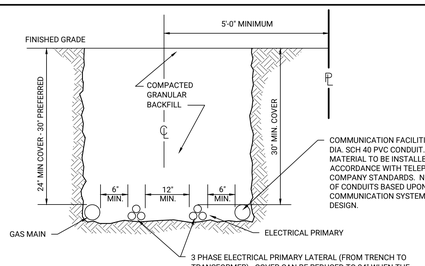
1. BEDDING SHALL BE COMPACTED SAND & GRAVEL AND SHALL BE SHAPED TO THE BOTTOM OF THE PIPE.
2. SELECT FILL SHALL BE SELECT MATERIAL, FREE OF ROCKS LARGER THAN 2" IN ANY DIMENSION AND SHALL BE PLACED IN 8" MAX. LOOSE LIFTS AND COMPACTED TO 95% STANDARD PROCTOR.

PIPE TRENCH AND BEDDING DETAILS

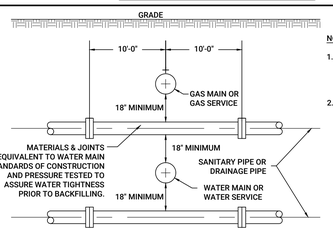


UTILITY TRENCH DETAIL

NOTES:
1. ALL CONDUIT SHALL BE SCHEDULE 40 PVC. ALL CONDUIT SHALL BE INSTALLED WITH (4) 3/8" NYLON DRAG LINES.
2. CONTRACTOR INSTALLING THE CONDUIT SHALL NOTIFY UTILITY COMPANY
3. ENGINEERING DEPT. 48 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, CONTRACTOR INSTALLING THE CONDUIT SHALL NOTIFY UTILITY COMPANY
4. ENGINEERING DEPT., 48 HOURS PRIOR TO FILLING IN THE TRENCH, IN ORDER TO ARRANGE INSPECTIONS.
5. ALL BENDS SHALL BE SCHEDULE 40 PVC, LONG SWEEP BENDS IN ACCORDANCE WITH UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE (4) 2" X 4" TIMBER STAKE LOCATING THE TERMINUS OF THE CONDUIT AT THE PROPERTY LINE.



CIPUD SERVICE TRENCH

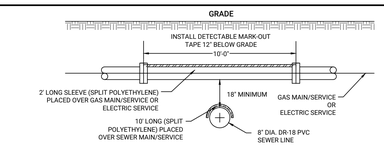


NOTE:

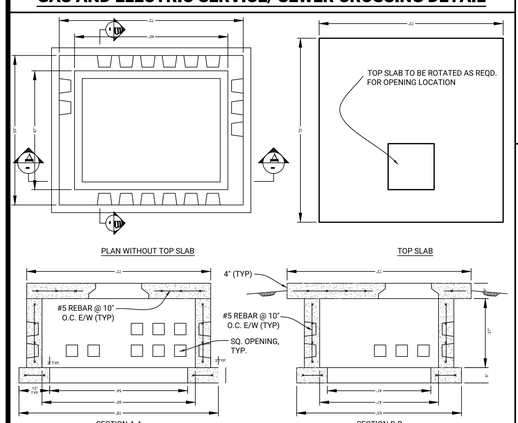
1. **HORIZONTAL SEPARATION BETWEEN SEWER AND WATER LINES MUST BE 10' MINIMUM.**
2. **FOR ALL UTILITY INSTALLATIONS THAT ARE TO CROSS TOWN R.O.W, THE INSTALLATIONS SHALL BE MADE BY DIRECTIONAL DRILLING TECHNIQUES. TRENCHING ACROSS PUBLIC R.O.W. SHALL NOT BE PERMITTED UNLESS APPROVED BY THE SMITHTOWN DEPARTMENT OF PUBLIC WORKS, HIGHWAY DIVISION.**

TYPICAL UTILITY CROSSING DETAIL

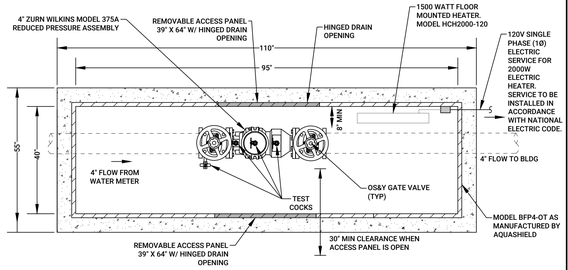
N.T.S.



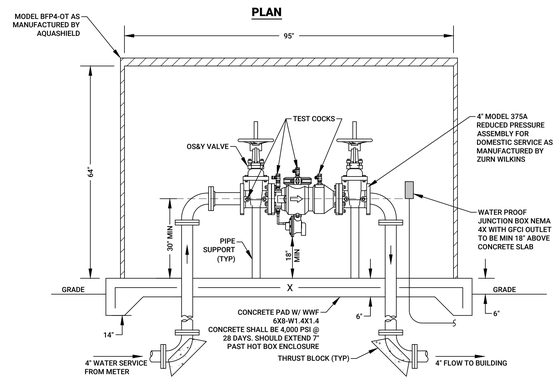
GAS AND ELECTRIC SERVICE/ SEWER CROSSING DETAIL



LIPA/PSE&G 3-PHASE TRANSFORMER DETAIL

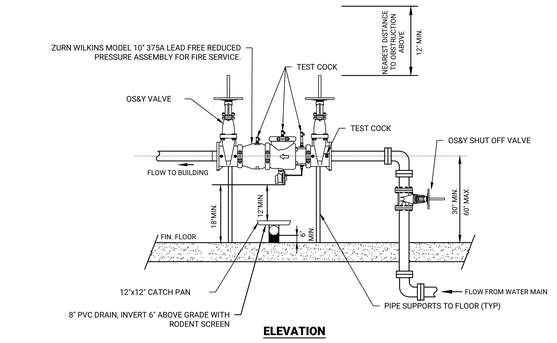


PLAN

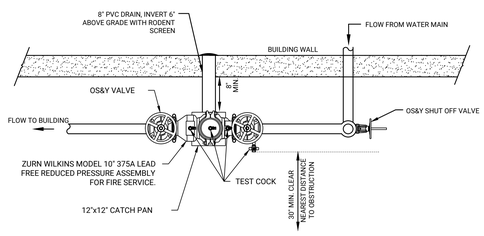


4" DOMESTIC SERVICE ELEVATION

ELEVATION

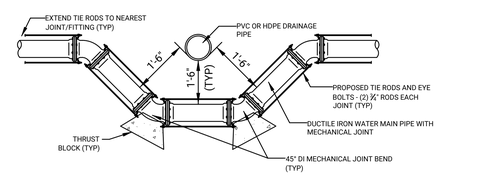


ELEVATION



PLAN

10" FIRE SERVICE REDUCED PRESSURE ZONE (RPZ) DETAIL



WATER MAIN-DRAINAGE CROSSING DETAIL

NOTES:

1. TIE RODS, INCLUDING NUTS WASHERS AND BOLTS TO BE 3/4" DIAMETER AND SHALL MEET ASTM DESIGNATION A302 CARBON STEEL REQUIREMENTS.
2. ALL TIE RODS, TIE BOLTS, NUTS AND WASHERS INSTALLED UNDERGROUND SHALL BE COATED WITH A BITUMINOUS SEAL COAT

WATER DISTRIBUTION SYSTEM NOTES

1. ALL WATER MAIN PIPE SHALL BE PVC (DR-18) UNLESS OTHERWISE NOTED ON PLANS.
2. GATE VALVES SHALL BE CAST IRON BODY, BRONZE MOUNTED DOUBLE DISC AWWA TYPE WITH MECHANICAL JOINTS. VALVES SHALL BE RATED FOR 125 PSI WORKING PRESSURE AND SHALL BE FITTED WITH A 2" OPERATING NUT AND CAST IRON ROADWAY BOX TO GRADE. PROVIDE ADAPTORS FOR PVC PIPE. VALVE SHALL CONFORM TO AWWA C 500 LATEST EDITION.
3. WATER MAINS AND SERVICE LINES ARE TO BE LOCATED A MINIMUM OF (10) TEN FEET FROM ANY STRUCTURE, INCLUDING BUILDINGS, PONDS, DRAINAGE AND SANITARY STRUCTURES.
4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH AWWA STANDARD C-600, LATEST EDITION. PIPE SHALL BE LAID STRAIGHT WITH NO DEFLECTIONS AT JOINTS AND NO DEFLECTION OF PIPE.
5. ON JANUARY 4, 2014 FEDERAL LAW MANDATES THE WETTED SURFACE OF EVERY PIPE, FIXTURE, AND FITTING SOLD FOR OR INSTALLED IN POTABLE WATER APPLICATIONS NOT CONTAIN MORE THAN 0.25% LEAD BY WEIGHT.
6. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES BY FIELD INVESTIGATION. THE ENGINEER SHALL BE NOTIFIED OF ANY CONFLICT BETWEEN EXISTING UTILITIES AND PROPOSED WORK.
7. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 48 HOURS PRIOR TO THE COMMENCEMENT OF WATER MAIN CONSTRUCTION.
8. THE CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING IF REQUIRED:

A. FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT FOR DEWATERING.
B. OBTAINING DESIGN SERVICES, APPROVALS, AND PERMITS.
C. PERFORMING AND MAINTAINING DEWATERING OPERATION.
D. REMOVAL AND REACTIVATION OF OPERATIONS AND FACILITIES AT COMPLETION OF PROJECT.
E. ALL THE COSTS RELATING TO THE DESIGN, APPROVAL, INSTALLATION, OPERATION, AND REMOVAL FOR DEWATERING OPERATIONS.

9. MATERIAL REQUIREMENTS FOR INSTALLATION OF WATER MAINS:

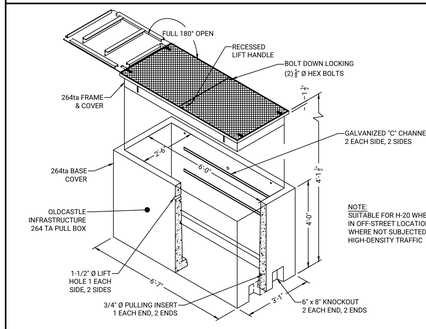
A. PVC (DR-18) WATER MAIN PIPE (4" AND LARGER).
B. TYPE "K" COPPER ON SERVICE LINES (2" AND UNDER).
C. SOLID SLEEVES COUPLINGS (NO WRAPAROUND TYPES).
D. FULL BODIED FITTINGS.
E. UNDERGROUND CLAMPS.
F. TIE RODS.
G. DUC LUGS.
H. POURED CONCRETE THRUST BLOCKS AT ALL PIPE BENDS.
I. EDDY TYPE FIRE HYDRANTS.
J. GATE VALVES (UNDER 12" WATER MAIN SIZE).
K. BUTTERFLY VALVES (12" AND OVER WATER MAIN SIZE).

TESTING

1. ALL WATER MAINS SHALL BE DISINFECTED AND PRESSURE TESTED IN ACCORDANCE WITH AWWA STANDARD C-600, LATEST EDITION, PRIOR TO USE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 48 HOURS PRIOR TO THE COMMENCEMENT OF WATER MAIN TESTING.
2. WATER MAINS SHALL BE FLUSHED AND FILLED WITH A CHLORINE SOLUTION COMPRISED OF A MINIMUM OF 50 PPM AVAILABLE CHLORINE AND ALLOWED TO STAND FOR 24 HOURS. VALVES SHALL BE OPERATED DURING THIS PERIOD. HEAVILY CHLORINATED WATER SHALL BE FLUSHED FROM THE MAINS PRIOR TO BACTERIOLOGICAL TESTING. BACTERIOLOGICAL TESTING SHALL BE IN ACCORDANCE WITH AWWA C-651-86. SAMPLES SHALL BE TAKEN IN ACCORDANCE WITH SCDHS REQUIREMENT OF AT LEAST ONE SAMPLE PER 1,000 LF OR PORTION THEREOF OF WATER MAIN OR AS DIRECTED BY THE HEALTH DEPT. OFFICIAL.

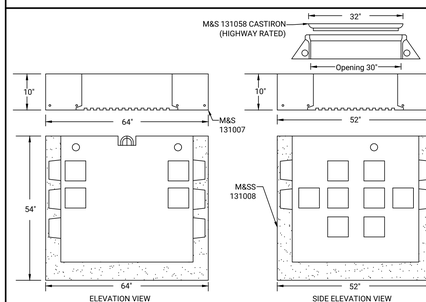
RPZ NOTES

1. IT IS A VIOLATION TO BY-PASS A RECOGNIZED BACKFLOW PREVENTER DEVICE.
2. DEVICE SHALL BE PROTECTED AGAINST FLOODING OR FREEZING AND ADEQUATE LIGHTING PROVIDED.
3. TEST COCKS REQUIRE A MINIMUM OF 30" CLEARANCE.
4. INSTALLATION OF RPZ ASSEMBLY SHALL BE AS SHOWN.
5. THERMAL EXPANSION TANK SHALL BE INSTALLED ON COLD WATER SUPPLY LINE LEADING TO HOT WATER HEATER.
6. INSTALLATION TO MEET ALL COUNTY & STATE HEALTH DEPARTMENT REQUIREMENTS.
7. PIPING TO BE UNBRANCED AND UNRESTRICTED FROM MAIN TO DEVICE EXCEPT FOR METER.
8. ALL VALVES TO OPEN COUNTER CLOCKWISE (RIGHT HANDED VALVES).
9. ALL INSTALLATIONS ARE TO CONFORM TO THE TOWN RULES AND REGULATIONS, PLUMBING CODES AND N.Y. STATE HEALTH DEPARTMENT REQUIREMENTS.
10. LAYOUT SHOWN IS APPROXIMATE. ADJUSTMENTS CAN BE MADE TO FIT FIELD CONDITIONS AND JOB REQUIREMENTS UPON THE WATER DISTRICTS APPROVAL.
11. ALL RPZ ASSEMBLIES SHALL BE TESTED ANNUALLY BY A NYS HEALTH DEPARTMENT APPROVED CERTIFIED TESTER.
12. MINIMUM CLEARANCES AND ORDER OF PARTS MUST BE MAINTAINED.
13. TEST REPORTS MUST BE SUBMITTED TO BOTH TOWN DEPARTMENT OF WATER AND THE COUNTY DEPARTMENT OF HEALTH.
14. INSTALLER TO NOTIFY TOWN AND/OR WATER DISTRICT UPON COMPLETION OF WORK.
15. THE INSTALLATION SHALL BE PERFORMED BY A LICENSED PLUMBING CONTRACTOR.
16. NO LEAD SOLDER SHALL BE USED FOR THE INSTALLATION.
17. THE TOWN AND/OR WATER DISTRICT SHALL HAVE UNRESTRICTED ACCESS TO THE METER AND BACKFLOW PREVENTION UNITS WITHIN THE BUILDING.
18. ALL BACKFLOW PREVENTERS SHALL BE LISTED IN THE CURRENT PUBLIC WATER SUPPLY ENVIRONMENTAL HEALTH MANUAL FOR THE STATE OF NEW YORK.
19. ALL APPURTENANCES TO BE FURNISHED AND INSTALLED MUST MEET THE SPECIFIED STANDARDS AND THE APPROVAL OF THE TOWN AND/OR WATER DISTRICT.
20. BALL VALVES SHALL BE ONE QUARTER TURN BALL VALVES CONFORMING TO AWWA STANDARD C-800 LATEST EDITION (ASTM B-62) AS MANUFACTURED BY FORD, HAYES, MC DONALD OR MUELLER.
21. DOMESTIC INSTALLATION UP TO 2 INCHES MUST EMPLOY TYPE 'K' COPPER PIPE. COPPER PIPING SHALL BE MADE UP WITH WROUGHT OR FORGED COPPER FITTINGS.
22. BACKFLOW PREVENTER SHALL BE ADEQUATELY SUPPORTED TO MAINTAIN THE SPECIFIED CLEARANCES.
23. DRAINS CANNOT BE SUBJECT TO FLOODING AND MUST BE SCREENED.
24. RPZ DEVICES MUST BE SUPPORTED TO THE FLOOR BENEATH THE DEVICE WITH PIPE STANCHIONS.
25. DRAINS MUST DISCHARGE 6" ABOVE GRADE.
26. ON JANUARY 4, 2014 FEDERAL LAW MANDATES THE WETTED SURFACE OF EVERY PIPE, FIXTURE, AND FITTING SOLD FOR OR INSTALLED IN POTABLE WATER APPLICATIONS NOT CONTAIN MORE THAN 0.25% LEAD BY WEIGHT.
27. ALL ASSEMBLIES MUST BE INSTALLED WITH THE MANUFACTURER SUPPLIED RESILIENT SEATED SHUT-OFF VALVES INTEGRAL TO THE ASSEMBLY



NOTE:
SUITABLE FOR H-20 WHEEL LOAD IN OFF-STREET LOCATIONS WHERE NOT SUBJECTED TO HIGH-DENSITY TRAFFIC

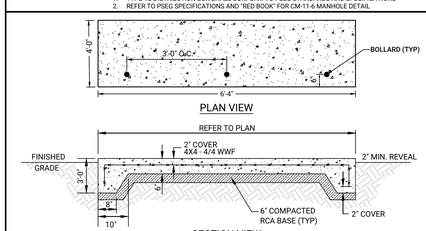
ELECTRICAL PULL BOX DETAIL



PSEG UTILITY MANHOLE

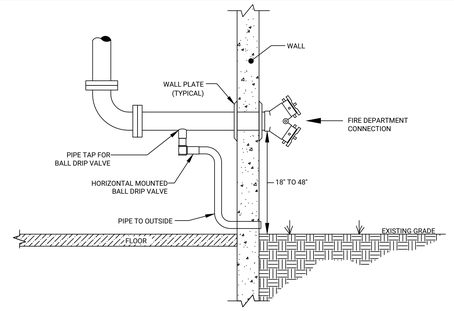
TYPE TS DISTRIBUTION BOX 4'-6" x 2'-0" x 4'-0"
PRECAST CONCRETE COMPONENTS

NOTES:
1. TYPE TS DISTRIBUTION BOX SHALL CONFORM TO PSEG STANDARDS AND SPECIFICATIONS
2. REFER TO PSEG SPECIFICATIONS AND "RED BOOK" FOR CM-11-6 MANHOLE DETAIL



GAS PAD DETAIL

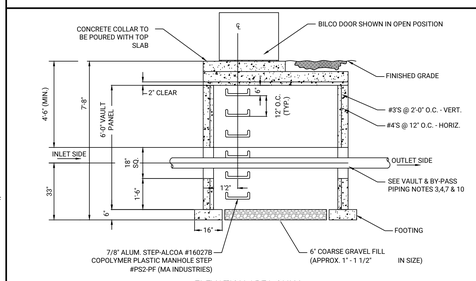
NOTES:
1. CONCRETE FOR GAS METER PAD SHALL BE 4,000 PSI COMPRESSIVE STRENGTH MIN.
2. REINFORCING STEEL SHALL CONFORM TO APPLICABLE ASTM STANDARDS UP TO GRADE 60.
3. GAS PAD LOCATION AND SIZE SHALL BE AGREED UPON BY NATIONAL GRID ENERGY PRIOR TO WORK.
4. ALL GAS WORK SHALL BE COORDINATED BY CONTRACTOR WITH NATIONAL GRID ENERGY.
5. CONTRACTOR SHALL REFER TO MEP AND CIVIL PLANS FOR FURTHER INFORMATION REGARDING GAS SERVICE INSTALLATION.



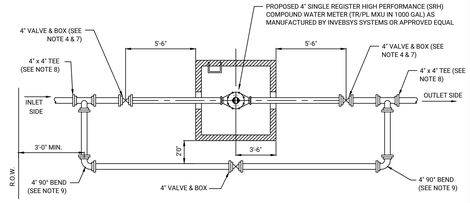
WALL MOUNTED FIRE DEPARTMENT CONNECTION DETAIL

N.T.S.

NOTE: CONTRACTOR TO REFER TO FIRE PROTECTION SPECIFICATIONS AND FIRE PROTECTION DRAWINGS FOR THE CONNECTION TO THE SPRINKLER SYSTEM (REFER FIRE PROTECTION PLANS BY OTHERS).



ELEVATION AREA ONLY



4" SCWA METER DT-201 VAULT DETAIL

GENERAL INFORMATION FOR VAULT CONSTRUCTION

1. CONCRETE: 4,000 P.S.I. AT 28 DAYS.
2. REINFORCING: ASTM A-615 - GRADE 40.
3. WELDED WIRE FABRIC: ASTM A-82 & A-85.
4. ALL FORMS TO BE OILED PRIOR TO POUR AND REMOVED. FINISHED WALLS TO HAVE CLEAN SURFACES AND FREE OF ANY SPLINTERS AND PROTRUSIONS.
5. FOOTING POUR TO BE SEPARATE FROM WALL POUR.
6. ALL LIFTING HOLES TO BE PROPERLY MORTARED FLUSH TO WALLS.
7. MA INDUSTRIES, INC. COPOLYMER POLYPROPYLENE PLASTIC MANHOLE STEP #PS2-PF. (DETAIL NOT SHOWN).
8. BILCO HATCH SHALL BE AS PER WATER DISTRICT (J SINGLE LEAF, CHANNEL FRAME, ALUMINUM, MODEL J-AL, AUTOMATIC HOLD OPEN AND OPERATING ARM, OR EQUAL)

VAULT AND BY-PASS PIPING NOTES

1. VAULT, VAULT PIPING AND BY-PASS TO BE INSTALLED BY OWNER AS SHOWN (SEE TYPICAL VAULT AND BY-PASS PIPING.)
2. ALL MECHANICAL JOINT BENDS AND FITTINGS MUST BE RETAINED WITH RETAINING GLANDS, THREADED RODDING AND SUFFICIENT BLOCKING.
3. ALL PIPING MUST BE DUCTILE IRON CLASS 52 PIPING.
4. INLET AND OUTLET VALVES, PLUS PIPING BETWEEN VALVES, MUST EQUAL SIZE OF METER. IF REDUCTION IS REQUIRED, OWNER IS RESPONSIBLE FOR SUPPLYING ADEQUATE SPACE SAVER FLANGES TO ACCOMMODATE METER. METER SIZE IS TO BE DETERMINED BY THE LOCAL WATER DISTRICT.
5. ALL VALVES TO OPEN COUNTERCLOCKWISE (RIGHT HANDED VALVES).
6. BY-PASS PIPING CAN BE ON EITHER SIDE OF VAULT DEPENDING ON FIELD CONDITIONS.
7. INLET AND OUTLET VALVES TO BE IN LINE WITH EACH OTHER AND AT THE SAME ELEVATION AS WINDOWS IN VAULT. IN ADDITION, PIPING MUST BE CENTERED THROUGH EIGHTEEN (18") INCH SQUARE WINDOW.
8. A FOUR (4") INCH BY-PASS WILL BE INSTALLED ON A FOUR (4") INCH SERVICE.
9. AFTER INSTALLING PIPING THROUGH METER VAULT, THE OWNER IS REQUIRED TO BRICK UP AND CEMENT BOTH WINDOWS OF VAULT.

MINIMUM THRUST BLOCKING BEARING AREAS

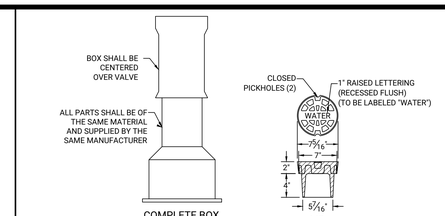
PIPE DIAMETER	DEAD END OR TEES Sq. Ft.	90° BEND Sq. Ft.	45° BEND Sq. Ft.	22 1/2° BEND Sq. Ft.	11 1/4° BEND Sq. Ft.
3"	1.0	1.0	1.0	1.0	1.0
4"	1.0	1.5	1.0	1.0	1.0
6"	2.0	3.0	2.0	1.5	1.0
8"	4.0	5.5	3.0	1.5	1.0
10"	6.0	8.5	4.5	2.5	1.0
12"	9.0	12.0	6.5	3.5	1.5
14"	15.0	22.0	12.0	6.0	2.0
16"	15.0	22.0	12.0	6.0	3.0
18"	15.0	22.0	12.0	6.0	4.0

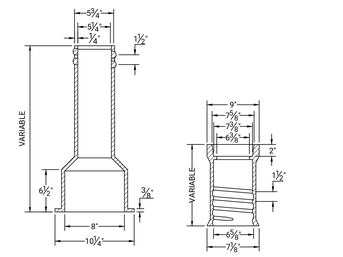
BEARING AREA = BEARING WIDTH x BEARING LENGTH

THRUST BLOCK DETAIL

N.T.S.

1. THRUST BLOCKS TO BEAR ON UNDISTURBED SOIL.
2. ALL CONCRETE SHALL BE 4,000 PSI AT 28 DAYS AND HAVE THE FOLLOWING BEARING AREAS BASED ON THE ANGLE OF THE PIPE.

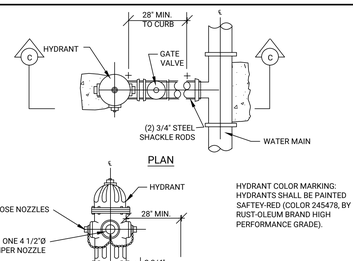




STANDARD VALVE BOX INSTALLATION

N.T.S.

NOTES:
1. VALVE BOX COVER SHALL WEIGH A MINIMUM 26 lbs.
2. ENTIRE VALVE BOX ASSEMBLY & COVER SHALL BE CAST FROM CLASS 35 GRAY IRON.
3. ASSEMBLY SHALL BE DOMESTICALLY MADE AND MANUFACTURED IN THE U.S.A.



HYDRANT COLOR MARKING: HYDRANTS SHALL BE PAINTED SAFTEY-RED (COLOR 245478, BY RUST-OLEUM BRAND HIGH PERFORMANCE GRADE).

SECTION

FIRE HYDRANT DETAIL

N.T.S.

NOTES:
1. PROVIDED HYDRANT SHALL BE CAPABLE OF PROVIDING NOT LESS THAN 1500 G.P.M., WITH NOT LESS THAN 20 P.S.I. RESIDUAL PRESSURE (INDIVIDUALLY, NOT SIMULTANEOUSLY) DURING TIMES OF NORMAL DOMESTIC CONSUMPTION.
2. HYDRANTS SHALL BE EQUIPPED WITH ONE 4 ½" PUMPER CONNECTION AND TWO 2 ½" OUTLETS, WITH THREADS TO MATCH THOSE OF THE LOCAL FIRE DEPARTMENT.
3. HYDRANTS SHALL BE LOCATED NOT MORE THAN SIX FEET FROM THE CURB AND SHALL BE FACED TO BE ACCESSIBLE TO FIRE APPARATUS.
4. HYDRANTS IN OR ADJACENT TO PARKING AREAS SHALL BE PROVIDED WITH MARKING, CURBING, STANCHIONS OR BOLLARDS TO PREVENT THE PARKING OF VEHICLES WITHIN TEN FEET IN ANY DIRECTION.
5. HYDRANTS SHALL BE LOCATED AWAY FROM THE BUILDING A DISTANCE EQUAL TO 133% OF THE HEIGHT OF THE NEAREST BUILDING WALL.
6. HYDRANTS SHALL BE CONNECTED "UPSTREAM" OF ALL FIRE DEPARTMENT CONNECTIONS FOR FIRE SPRINKLER OF FIRE STANDPIPE SYSTEMS.

No.	REVISION DESCRIPTION	DATE	BY
13.	NO REVISIONS THIS SHEET	02-05-26	JB
12.	REVISED PER TOI COMMENTS	06-16-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	NO REVISIONS THIS SHEET	05-30-24	CB
9.	REVISED PER TOI COMMENTS	01-10-24	CB
8.	NO REVISIONS THIS SHEET	11-08-23	CB
7.	NO REVISIONS THIS SHEET	08-25-23	CB
6.	NO REVISIONS THIS SHEET	08-08-23	CB
5.	REVISED PER SCWA COMMENTS	07-17-23	AR
4.	NO REVISIONS THIS SHEET	06-16-23	CB
3.	REVISED PER SCWA COMMENTS	05-10-23	CB
2.	NO REVISIONS THIS SHEET	04-21-23	MJM
1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
KEYHOMY LLC, C/O GRETCHEN KENDRICK
2100 ROSS AVENUE, SUITE 895
DALLAS, TX 75201
PHONE: 201-600-0401
EMAIL: NEDD@XEBECREALTY.COM

WATER & UTILITY DETAILS

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

Christopher W. Robinson, P.E.
NY State License No. 067519

Robinson & Muller Engineers, P.C.
50 Elm Street
Huntington, NY 11743
Office: (631) 271-0576
Fax: (631) 271-0592
www.rmengineering.com

DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	N.T.S.	SHEET:	SP-14
DATE:	08-09-22	DATE:	08-20-22	JOB No.:	2022-001		

Drawing Name: P:\2022 Projects\2022-001\V&M\2026-02-02 (2022-001) Details (3x42) Rev-13.dwg Last Modified: Feb 04, 2026 - 6:14pm Plotted on: Feb 05, 2026 - 1:57pm by jbentenstein

EROSION CONTROL AND LANDSCAPING NOTES

SPECIFICATIONS AND GUIDELINES

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NEW YORK STATE GUIDELINES FOR URBAN EROSION AND SEDIMENT CONTROL MANUAL, LATEST EDITION.

EROSION CONTROL

CONSTRUCT ALL SWALES AND BERMS AS SHOWN OR AS REQUIRED TO DIRECT AND CONTROL STORMWATER RUNOFF AND PREVENT EXCESS EROSION. 33% (3 :1) SLOPES STEEPER THAN (3:1) SHALL BE STABILIZED BY HYDROSEEDED WITH MULCH BINDER TYPE "AH", TYPE "A" OR BY USING JUTE MESH AS LISTED IN THE EROSION MANUAL OR AS SPECIFIED BY THE ENGINEER

TOPSOIL

ALL DISTURBED SOIL AREAS, EXCLUDING PAVED AREAS AND RECHARGE BASINS, MUST BE COVERED WITH A MINIMUM OF 6" (INCHES) OF NATIVE TOPSOIL PRIOR TO THE REMOVAL OF EXCESS TOPSOIL.

LIME AND FERTILIZER

ALL AREAS SPECIFIED TO BE SEEDED SHALL RECEIVE LIME AND SPECIFIED AS RECHARGE BASINS SHALL RECEIVE LIME AND FERTILIZER. FERTILIZER AS SPECIFIED BY EROSION CONTROL MANUAL OR AS ORDERED BY ENGINEER.

MULCHING

ALL AREAS RECEIVING SEED AND ELSEWHERE AS NOTED, SHALL BE MULCHED AND ANCHORED.

TYPE OF SEED, HYDROSEEDING OR ALTERNATE STABILIZATION

TYPE "A" NORMAL LAWN SEEDING

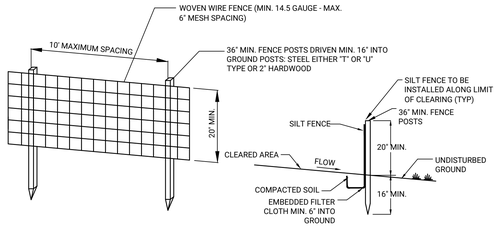
IN THE SPRING OR FALL USE A MIXTURE OF 30% OF MERION BLUE GRASS, 65% CREEPING RED FESCUE AND 5% REDTOP AT A RATE OF 3 LBS. MIN. PER 1,000 SQUARE FEET.

TYPE "B" - HYDROSEED MIX "B"

50% TALL FESCUE
20% SHEEP FESCUE
15% INTERMEDIATE WHEATGRASS
5% RED FESCUE
5% REUBENS CANADA BLUEGRASS
5% KENTUCKY BLUEGRASS

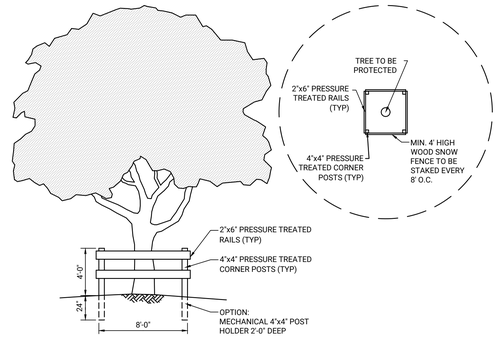
TREE AND SHRUB PLANTING

1. ALL TREES AND SHRUBS SHALL BE PLANTED IN CIRCULAR PITS 1 FOOT CLEAR ON ALL SIDES AND BOTTOM OF ROOT BALL AND BACKFILL WITH A MIXTURE OF 7 PARTS TOPSOIL, 1 PART ROTTED MANURE.
2. ALL PLANT MATERIAL SHALL HAVE VIGOROUS ROOT GROWTH AND BE FREE FROM ROOT INJURY AND DISEASE IN ANY FORM.
3. STREET TREES SHALL NOT BE PLANTED WITHIN 10' OF A FIRE HYDRANT, DRIVEWAY APRON OR STORMWATER PIPE/CATCH BASIN OR WITHIN 25' OF ANY STREET LIGHT, STREET SIGN OR POINT OF CURVATURE OR TANGENCY OF ANY CORNER.
4. ALL EXISTING TREES SHALL REMAIN EXCEPT AS NOTED.
5. A BRIGHTLY COLORED CONSTRUCTION FENCE SHALL BE ERECTED ALONG CONSTRUCTION CLEARING LIMITS AND AROUND EXISTING TREES TO MITIGATE THE IMPACT OF COMPACTION OVER CRITICAL ROOTS, INJURIES TO BARK AND LIMBS, SPILLS OF OIL, CONCRETE OR OTHER HARMFUL CHEMICALS.



SILT FENCE DETAIL

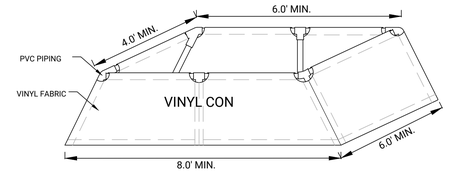
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO (2) SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX (6) INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE. FENCE.



TREE PROTECTION DETAIL

ALL PROTECTION MUST REMAIN UNTIL COMPLETION OF CONSTRUCTION. ANY GRADING (MINOR ONLY ALLOWED) DONE WITHIN THE PROTECTION ZONES SHALL BE DONE WITH ONLY HAND TOOLS.

EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH A MINIMUM 8' x 8' ENCLOSURE CONSTRUCTED AS PER THE ABOVE DETAIL & WITH A WOOD SNOW FENCE TO BE INSTALLED AT A DISTANCE IN FEET FROM THE TREE EQUAL TO THE DIAMETER OF THE TRUNK IN INCHES, MEASURED TWELVE (12) INCHES FROM GRADE.



CONCRETE WASH-OUT

NOTES:

1. CONTRACTOR SHALL PROVIDE A CONCRETE WASH-OUT MODEL VINYL-CON 810 BY RTC SUPPLY 1-530-589-2007 (WEBSITE www.rtcsupply.com) OR APPROVED EQUAL
2. LINERS FOR THE WASHOUT ARE AVAILABLE FROM RTC SUPPLY FOR MULTIBLE USES
3. CONTRACTOR SHALL MAINTAIN UNIT IN WORKING ORDER THROUGHOUT PROJECT DURATION. UNITS SHALL BE CLEANED ANS CONTENTS DISPOSED OF PER NYSDEC REQUIREMENTS. WASTE SHALL NOT EXCEED 75% OF UNIT CAPACITY.
4. UNIT SHALL BE REPLACED IF TORN OR DAMAGED.

DUST CONTROL NOTES

DEFINITION

THE CONTROL OF DUST RESULTING FROM LAND-DISTURBING ACTIVITIES.

PURPOSE

TO PREVENT SURFACE AND AIR MOVEMENT OF DUST FROM DISTURBED SOIL SURFACES THAT MAY CAUSE OFF-SITE DAMAGE, HEALTH HAZARDS AND TRAFFIC SAFETY PROBLEMS.

CONDITIONS WHERE PRACTICE APPLIES

ON CONSTRUCTION ROADS, ACCESS POINTS AND OTHER DISTURBED AREAS SUBJECT TO SURFACE DUST MOVEMENT AND DUST BLOWING WHERE OFF-SITE DAMAGE MAY OCCUR IF DUST IS NOT CONTROLLED.

DESIGN CRITERIA

CONSTRUCTION OPERATIONS SHOULD BE SCHEDULED TO MINIMIZE THE AMOUNT OF AREA DISTURBED AT ONE TIME. BUFFER AREAS OF VEGETATION SHOULD BE LEFT WHERE PRACTICAL. TEMPORARY MEASURES SHOULD BE INSTALLED. NO SPECIFIC DESIGN CRITERIA IS GIVEN; REFER TO CONSTRUCTION SPECIFICATIONS BELOW FOR COMMON METHODS OF DUST CONTROL.

CONSTRUCTION SPECIFICATIONS

VEGETATIVE COVER - FOR DISTURBED AREAS NOT SUBJECT TO TRAFFIC; VEGETATION PROVIDES THE MOST PRACTICAL METHOD OF DUST CONTROL. TEMPORARY SEEDING SHALL BE AS FOLLOWS:

A. RYE GRASS (ANNUAL OR PERENNIAL AT 20 POUNDS PER ACRE (0.7 LBS / 1,000 SF)
B. CERTIFIED "AROOSTOOK" WINTER RYE (CEREAL RYE) AT 100 POUNDS PER ACRE (2.5 LBS / 1,000 SF) USE WINTER RYE IF SEEDING IN OCTOBER OR NOVEMBER.
C. MULCH, INCLUDING GRAVEL MULCH, OFFERS A FAST EFFECTIVE MEANS OF CONTROLLING DUST.

SPRAY ADHESIVES - EXAMPLES OF SPRAY ADHESIVES FOR USE ON MINERAL SOILS ARE SHOWN IN THE FOLLOWING TABLE:

MATERIAL	WATER DILUTION	TYPE OF NOZZLE	APPLICATION GALLONS PER ACRE
ACRYLIC POLYMER	9:1	COURSE SPRAY	500
LATEX EMULSION	12.5:1	FINE SPRAY	235
RESIN IN WATER	4:1	FINE SPRAY	300

WATER QUALITY SHOULD BE CONSIDERED WHEN MATERIALS ARE SELECTED FOR DUST CONTROL.

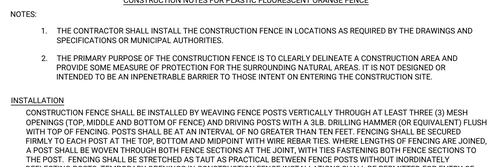
ROADS AND ACCESS ROUTES.

THE USE OF STONE FOR CONSTRUCTION ROADS IS ALSO EFFECTICE FOR DUST CONTROL.

BARRIERS - A FENCE OR SIMILAR BARRIER CAN CONTROL AIR CURRENTS AT INTERVALS EQUAL TO FIFTEEN TIMES THE BARRIER HEIGHT. PRESERVE EXISTING WIND BARRIER VEGETATION AS MUCH AS PRACTICAL.

MAINTENANCE

MAINTAIN DUST CONTROL MEASURES THROUGH DRY WEATHER PERIODS UNTIL ALL DISTURBED AREAS ARE STABILIZED.



CONSTRUCTION FENCE DETAIL

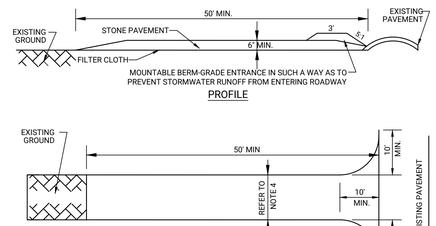
CONSTRUCTION NOTES FOR PLASTIC FLUORESCENT ORANGE FENCE

NOTES:

1. THE CONTRACTOR SHALL INSTALL THE CONSTRUCTION FENCE IN LOCATIONS AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS OR MUNICIPAL AUTHORITIES.
2. THE PRIMARY PURPOSE OF THE CONSTRUCTION FENCE IS TO CLEARLY DELINEATE A CONSTRUCTION AREA AND PROVIDE SOME MEASURE OF PROTECTION FOR THE SURROUNDING NATURAL AREAS. IT IS NOT DESIGNED OR INTENDED TO BE AN INPENETRABLE BARRIER TO THOSE INTENT ON ENTERING THE CONSTRUCTION SITE.

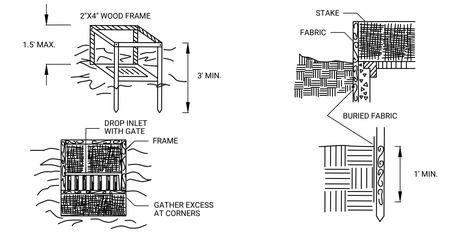
INSTALLATION

CONSTRUCTION FENCE SHALL BE INSTALLED BY WEAVING FENCE POSTS VERTICALLY THROUGH AT LEAST THREE (3) MESH OPENINGS (TOP, MIDDLE AND BOTTOM OF FENCE) AND DRIVING POSTS WITH A 3LB. DRILLING HAMMER (OR EQUIVALENT) FLUSH WITH TOP OF FENCING. POSTS SHALL BE AT AN INTERVAL OF NO GREATER THAN TEN FEET. FENCING SHALL BE SECURED FIRMLY TO EACH POST AT THE TOP, BOTTOM AND MIDPOINT WITH WIRE REBAR TIES. WHERE LENGTHS OF FENCING ARE JOINED, A POST SHALL BE WOVEN THROUGH BOTH FENCE SECTIONS AT THE JOINT, WITH TIES FASTENING BOTH FENCE SECTIONS TO THE POST. FENCING SHALL BE STRETCHED AS TAUT AS PRACTICAL BETWEEN FENCE POSTS WITHOUT INORDINATELY DEFLECTING POSTS. TEMPORARY OPENINGS IN CONSTRUCTION FENCE INSTALLATIONS SHALL BE PERMITTED FOR ENTRY OF WORKERS, MATERIALS AND EQUIPMENT. SUCH OPENINGS SHALL BE SECURED AT THE END OF EACH WORK DAY IN THE MANNER AFOREMENTIONED FOR JOINING FENCE SECTIONS.



STABILIZED CONSTRUCTION ENTRANCE DETAIL

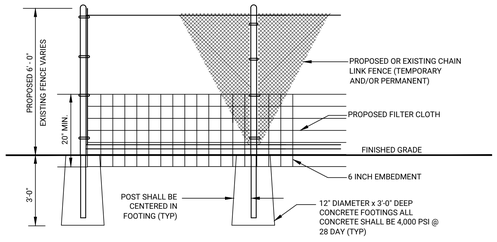
1. STONE SIZE - USE 2" CRUSHED STONE AGGREGATE OR CRUSHED CONCRETE, NO FINES.
2. LENGTH - NOT LESS THAN 50 FEET.
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN 24 FEET, THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT THE TRANSPORT OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT TRANSPORTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A WASH STATION IF EXCESSIVE MUD FROM VEHICLE TIRES IS TRACKED ONTO R.O.W.



FILTER FABRIC DROP INLET DETAIL

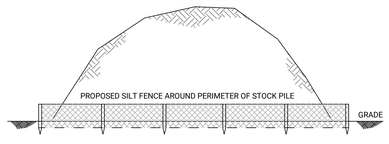
N.T.S.

ALTERNATE INLET PROTECTION. CONTRACTOR MAY USE IN LIEU OF STRAW BALE INLET PROTECTION.



SILT FENCE ATTACHED TO CHAIN LINK FENCE DETAIL

1. FILTER CLOTH TO BE FASTENED SECURELY TO CHAIN LINK FENCE WITH WIRE OR PLASTIC LOCKING TIES, SPACED EVERY 24" AT TOP AND BOTTOM SECTION.
2. WHEN TWO (2) SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX (6) INCHES AND FOLDED.
3. FILTER CLOTH SHALL BE IMBEDDED MIN. 6 INCHES INTO GROUND (REFER TO DETAIL SW-A FOR EMBEDMENT PROCEDURE)
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REPLACES EVERY 6 MONTHS OR AS DIRECTED BY ENGINEER.



TYPICAL STOCK PILE PROTECTION DETAIL

STOCKPILES NOTES:

1. STOCKPILES MANAGEMENT INCLUDES MEASURES TO MINIMIZE EROSION AND SEDIMENT TRANSPORT FROM SOILS OR OTHER ERODIBLE MATERIALS STORED AT THE CONSTRUCTION SITE. SPECIAL ATTENTION SHOULD BE GIVEN TO STOCKPILES IN CLOSE PROXIMITY TO NATURAL OR MANMADE STORM SYSTEMS. PROTECTION OF STOCKPILES IS A YEAR-ROUND REQUIREMENT.
2. THIS DETAIL DOES NOT APPLY TO CONTAMINATED MATERIALS WHICH REQUIRE ADDITIONAL MEASURES.
3. LOCATE STOCKPILES AS FAR AWAY FROM BODIES OF WATER, INFILTRATION AREAS, INLETS AND OTHER DRAINAGE SYSTEM COMPONENTS AS POSSIBLE SO AS NOT TO OBSTRUCT NATUAL DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE.
4. LOCATE STOCKPILES A MINIMUM 50 FEET AWAY FROM CONCENTRATED FLOWS OF STORMWATER, DRAINAGE AND INLETS.
5. WEEDS SHOULD NOT BE ALLOWED TO GROW ON STOCKPILES.
6. WHEN THE STOCKPILE IS NO LONGER NEEDED. PROPERLY DISPOSE OF EXCESS MATERIALS AND RE-VEGETATE OR OTHERWISE STABILIZE THE GROUND SURFACE WHERE THE STOCKPILE WAS LOCATED.
7. FOR STOCKPILES MAINTAINED FOR MORE THAN ONE DAY, A SEDIMENT CONTROL SYSTEM, CONSISTING OF SILT FENCING OR COIR LEG, SHALL BE INSTALLED AND MAINTAINED AROUND THE STOCKPILE TO CONTAIN MATERIAL.

   7.1 FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWN-GRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

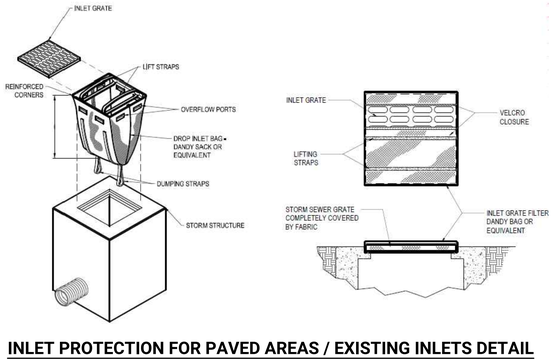
   7.2 PROTECT ALL STOCKPILES FROM STORMWATER RUN-ON.

   7.3 FOR STOCKPILES IN ACTIVE USE, PROVIDE A STABILIZED DESIGNATED ACCESS POINT ON THE UPGRADIENT SIDE OF THE STOCKPILE.

   7.4 SEDIMENTS SHALL BE REMOVED WHEN SEDIMENT ACCUMULATION REACHES ONE-THIRD (1/3) OF THE BARRIER HEIGHT.

   7.5 INSPECT STOCKPILE SEDIMENT CONTROL SYSTEM IMMEDIATELY AFTER MODIFYING STOCKPILE.

   7.6 REPAIR AND/OR REPLACE PERIMETER CONTROLS AND COVERS AS NEEDED, OR AS DIRECTED BY THE ENGINEER, TO KEEP THEM FUNCTIONING PROPERLY.
8. THE TOE OF STOCKPILES SHALL NOT BE WITHIN 10' OF SITE PERIMETER SEDIMENT CONTROL.
9. FOR STOCKPILES INACTIVE FOR MORE THAN 14 DAYS, STABILIZE THE STOCKPILE TO PREVENT SEDIMENT TRANSPORT USING AN EROSION CONTROL SYSTEM, CONSISTING OF TEMPORARY SEEDING AND MULCHING, PLASTIC/GEOTEXTILES COVERING, SOIL BINDERS, OR EROSION CONTROL BLANKETS. USE OF MULCH OR SOIL BINDERS ONLY IS ACCEPTABLE IF THE STOCKPILES WILL BE IN PLACE FOR NO MORE THAN 60 DAYS.
10. IMPLEMENT DUST CONTROL PRACTICES AS APPROPRIATE ON ALL STOCKPILED MATERIAL.



INLET PROTECTION FOR PAVED AREAS / EXISTING INLETS DETAIL

N.T.S.

No.	REVISION DESCRIPTION	DATE	BY
13.	NO REVISIONS THIS SHEET	02-05-26	JB
12.	REVISED PER TOI COMMENTS	06-16-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	NO REVISIONS THIS SHEET	05-30-24	CB
9.	REVISED PER TOI COMMENTS	01-10-24	CB
8.	NO REVISIONS THIS SHEET	11-08-23	CB
7.	NO REVISIONS THIS SHEET	08-25-23	CB
6.	NO REVISIONS THIS SHEET	08-08-23	CB
5.	NO REVISIONS THIS SHEET	07-17-23	AR
4.	NO REVISIONS THIS SHEET	06-16-23	CB
3.	NO REVISIONS THIS SHEET	05-10-23	MJM
2.	NO REVISIONS THIS SHEET	04-21-23	MJM
1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
FIFTH AVENUE, LLC, C/O GRETCHEN KENDRICK
1612 FIFTH AVENUE, SUITE 910
CAN ALTA 75201
PHONE: 201-600-0401
EMAIL: NEDD@NEDDCREALTY.COM

SWPPP DETAILS

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

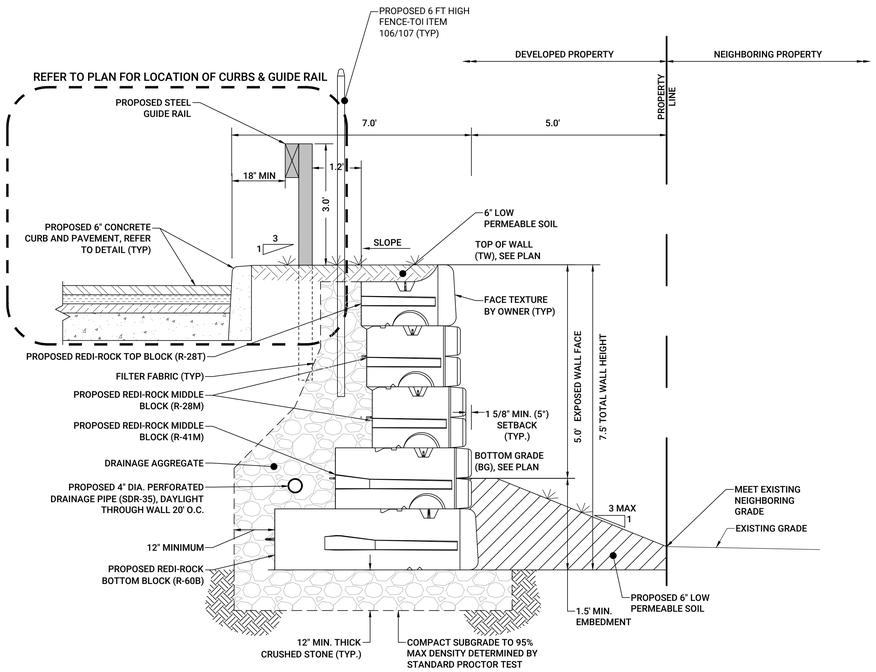
SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

Christopher W. Robinson, P.E.
NY State License No. 067519

Robinson & Muller Engineers, P.C.
50 Elm Street
Huntington, NY 11743
Office: (631) 271-0576
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www.rmengineering.com

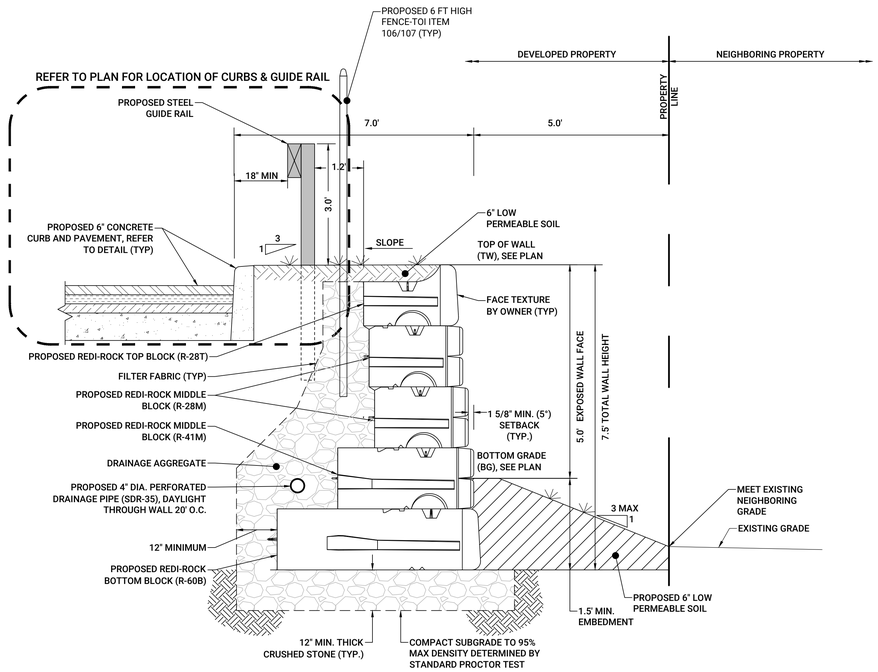
DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	N.T.S.	SHEET:	SP-15
DATE:	08-09-22	DATE:	08-20-22	JOB No.:	2022-001		

Drawing Name: P:\2022 Projects\2022-001\R&M\2026-02-05 (2022-001) Debbs (30x42) Rev.13.dwg Last Modified: Feb 04, 2026 - 6:14pm Plotted on: Feb 05, 2026 - 1:27pm by jbohemian



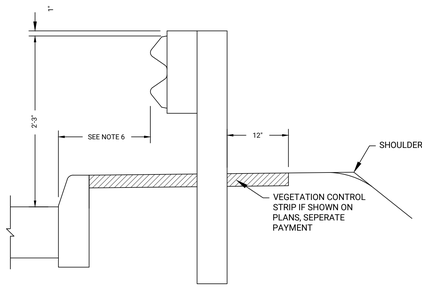
EAST RETAINING WALL - SECTION A-A

SCALE: NOT TO SCALE

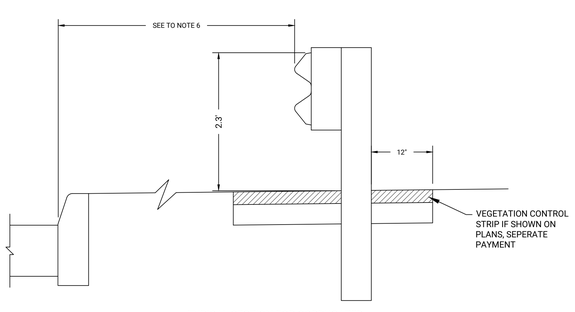


SOUTH EAST RETAINING WALL - SECTION B-B

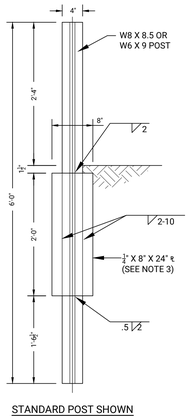
SCALE: NOT TO SCALE



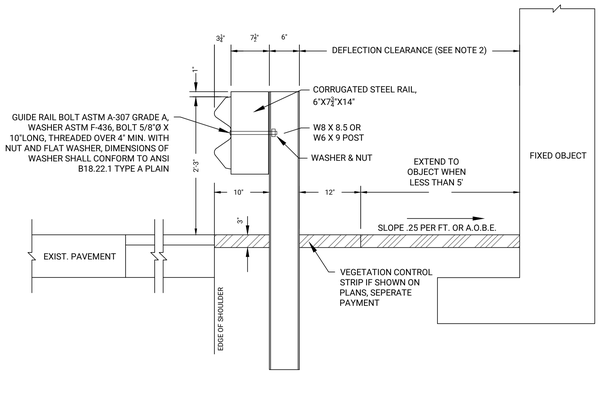
TYPICAL SECTION FOR CORRUGATED BLOCKED-OUT GUIDE RAIL (NEXT TO CURB)



TYPICAL SECTION FOR CORRUGATED BLOCKED-OUT GUIDE RAIL (WITH CURB AND 10' MIN OFFSET)



STANDARD POST SHOWN WITH SOIL PLATE



CORRUGATED STEEL GUIDE RAIL DETAIL

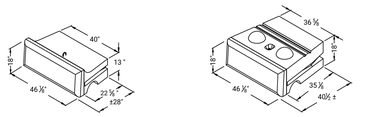
NTS

NOTES:

1. ALL RUNS OF GUIDE RAIL ARE TO BE ANCHORED AT BOTH ENDS.
2. THE POST SPACING FOR REDUCED DEFLECTION SHALL BE AS FOLLOWS:

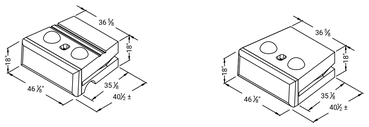
DEFLECTION CLEARANCE	POST SPACING
2'-0" MIN., 4'-0" MAX.	3'-1½"
OVER 4'-0"	6'-3"

3. STEEL SOIL PLATES SHALL BE USED ONLY IN AREAS OF 3-1.5" POST SPACING.
4. IF THERE IS INSUFFICIENT DEPTH BETWEEN THE SURFACE OF THE GROUND, AT THE GUIDERAIL, AND A CONCRETE FOOTING ONE OF THE FOLLOWING METHODS SHALL BE EMPLOYED DEPENDING ON THE AVAILABLE DEPTHS:
   A. 2'-3" TO 3'-2" SHORTEN THE POST TO THE REQUIRED DEPTH BY CUTTING THE BOTTOM OFF THE POST.
   B. 1'-6" TO 2'-3" SHORTEN THE POST TO THE REQUIRED DEPTH BY CUTTING THE BOTTOM OFF THE POST AND PLACE THE POST IN A 12" DIAMETER CONCRETE ENCASEMENT EXTENDING FROM THE TOP OF THE FOOTING TO THE GROUND SURFACE.
   C. LESS THAN 1'-6" EXCAVATE TO THE FOOTING, SHORTEN THE POST TO THE REQUIRED LENGTH BY CUTTING OFF THE LOWER END AND WELD THE 15½" X 9" BASE PLATE SHOWN ON THE DETAIL TITLED "BASE PLATE DETAIL" ON THE CURRENT EDITION OF THE STANDARD SHEET TITLED "HEAVY POST BLOCKED-OUT CORRUGATED BEAM MEDIAN BARRIER" TO THE TO THE FOOTING USING A METHOD APPROVED BY THE ENGINEER.
5. ONLY 12 GAUGE RAIL SHALL BE USED UNLESS OTHERWISE SHOWN ON THE PLANS.
6. THE OFFSET OF THE GUIDE RAIL OR MEDIAN BARRIER SHALL BE MEASURED FACE OF CURB TO FACE OF RAIL . THE RAIL MOUNTING HEIGHT OF ALL GUIDE RAIL OR MEDIANBARRIER PLACED BEHIND THE CURB (REGARDLESS OF CURB HEIGHT OR SPEED) SHALL BE MEASURED FROM THE PAVEMENT WHEN THE OFFSET IS 1'-0" OR LESS AND TO THE GROUND SURFACE UNDER THE FACE OF THE RAIL WHEN THE OFFSET IS GREATER RHAN 1'-0". OFFSETS BETWEEN 1'-0" AND 10'-0" SHOULD BE AVOIDED.
7. BEAMS TO BE ERECTED ON A RADIUS OF 14'-9" OR LESS SHALL BE SHOP WORKED TO THE REQUIRED CURVATURE. PAYMENT WILL BE MADE UNDER THE APPROPRIATE ITEM.



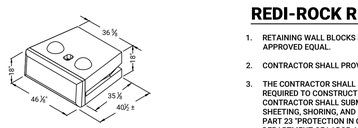
28" RETAINING WALL TOP BLOCK (R-28T)

VOLUME = 8.59 CF @ 143 LB/CF = 1230 LBS
CENTER OF GRAVITY = 14.9" FROM BACK OF BLOCK



41" RETAINING WALL MIDDLE BLOCK (R-41M)

VOLUME = 16.14 CF @ 143 LB/CF = 2310 LBS
CENTER OF GRAVITY = 20.4" FROM BACK OF BLOCK



41" RETAINING WALL BOTTOM BLOCK (R-41B)

VOLUME = 17.06 CF @ 143 LB/CF = 2440 LBS
CENTER OF GRAVITY = 20.7" FROM BACK OF BLOCK

REDI-ROCK BLOCK TYPES:
www.redi-rock.com

NOTES:

1. RETAINING WALL BLOCKS SHALL BE REDI-ROCK GRAVITY RETAINING WALL BLOCKS AS DESIGNATED ON SECTION, OR APPROVED EQUAL.
2. CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL MATERIALS TO THE ENGINEER FOR REVIEW AND APPROVAL.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY SHEETING, SHORING AND BRACING OF EXCAVATIONS AS REQUIRED TO CONSTRUCT THE IMPROVEMENTS AND TO PREVENT DISTURBANCE TO ADJOINING PROPERTIES. THE CONTRACTOR SHALL SUBMIT SIGNED AND SEALED SHOP DRAWINGS FOR APPROVAL OF THE BRACING SYSTEM. ALL SHEETING, SHORING AND BRACING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF INDUSTRIAL CODE RULE, PART 23 "PROTECTION IN CONSTRUCTION, DEMOLITION AND EXCAVATION OPERATIONS", OF THE STATE OF NEW YORK DEPARTMENT OF LABOR AND THE REQUIREMENTS OF THE FEDERAL GOVERNMENTS O.S.H.A.
4. REFER TO MANUFACTURER SPECIFICATIONS FOR INSTALLATION PROCEDURES AND ADDITIONAL INFORMATION.
5. RETAINING WALL SUBBASE AND BASE COURSE SHALL BE INSPECTED BY THE ENGINEER PRIOR TO INSTALLATION FO RETAINNG WALL BLOCKS.
6. BACKFILL WITH CLEAN WELL GRADED SAND AND GRAVEL COMPACTED TO 95% DENSITY PER MODIFIED PROCTOR AT OPTIMUM MOISTURE CONTENT. BACKFILL SHALL BE COMPACTED IN 12" MAXIMUM LIFTS.
7. BLOCKFACE TEXTURE SHALL BE SELECTED BY OWNER.
8. DESIGN CALCULATIONS PREPARED BY R&M ENGINEERING AVAILABLE UPON REQUEST.

REDI-ROCK TYPICAL DETAILS

REDI-ROCK RETAINING WALL NOTES:

1. RETAINING WALL BLOCKS SHALL BE REDI-ROCK GRAVITY RETAINING WALL BLOCKS AS DESIGNATED ON SECTION, OR APPROVED EQUAL.
2. CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL MATERIALS TO THE ENGINEER FOR REVIEW AND APPROVAL.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY SHEETING, SHORING AND BRACING OF EXCAVATIONS AS REQUIRED TO CONSTRUCT THE IMPROVEMENTS AND TO PREVENT DISTURBANCE TO ADJOINING PROPERTIES. THE CONTRACTOR SHALL SUBMIT SIGNED AND SEALED SHOP DRAWINGS FOR APPROVAL OF THE BRACING SYSTEM. ALL SHEETING, SHORING AND BRACING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF INDUSTRIAL CODE RULE, PART 23 "PROTECTION IN CONSTRUCTION, DEMOLITION AND EXCAVATION OPERATIONS", OF THE STATE OF NEW YORK DEPARTMENT OF LABOR AND THE REQUIREMENTS OF THE FEDERAL GOVERNMENTS O.S.H.A.
4. REFER TO MANUFACTURER SPECIFICATIONS FOR INSTALLATION PROCEDURES AND ADDITIONAL INFORMATION.
5. RETAINING WALL SUB-BASE AND BASE COURSE SHALL BE INSPECTED BY THE ENGINEER PRIOR TO INSTALLATION FOR RETAINING WALL BLOCKS.
6. BACKFILL WITH CLEAN, WELL GRADED, SAND AND GRAVEL COMPACTED TO 95% DENSITY PER MODIFIED PROCTOR AT OPTIMUM MOISTURE CONTENT. BACKFILL SHALL BE COMPACTED IN 12" MAXIMUM LIFTS.
7. BLOCK-FACE TEXTURE SHALL BE SELECTED BY OWNER.
8. DESIGN CALCULATIONS PREPARED BY R&M ENGINEERING AVAILABLE UPON REQUEST.

No.	REVISION DESCRIPTION	DATE	BY
13.	REVISED PER TOWN MEETING	02-05-26	JB
12.	REVISED PER TOI COMMENTS	06-16-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	NO REVISIONS THIS SHEET	05-30-24	CB
9.	REVISED PER TOI COMMENTS	01-10-24	CB
8.	NO REVISIONS THIS SHEET	11-08-23	CB
7.	GENERAL REVISIONS	08-25-23	CB
6.	NO REVISIONS THIS SHEET	08-08-23	CB
5.	NO REVISIONS THIS SHEET	07-17-23	AR
4.	NO REVISIONS THIS SHEET	06-16-23	CB
3.	NO REVISIONS THIS SHEET	05-10-23	CB
2.	NO REVISIONS THIS SHEET	04-21-23	MJM
1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
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RETAINING WALL DETAILS

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 234, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

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DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	N.T.S.	SHEET:	RW-1
DATE:	08-09-22	DATE:	08-20-22	JOB No.:	2022-001		

Drawing Name: P:\2022 Projects\2022-001\R&M\0500-02-02 (2022-001) Details (20x42) Rev.13.dwg Last Modified: Feb 05, 2026 - 3:47pm Plotted on: Feb 05, 2026 - 4:44pm by jbrehenstein

WORK ZONE TRAFFIC CONTROL (WZTC) NOTES:

1. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE NATIONAL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NYS SUPPLEMENT WHICH REQUIRES THAT WITH THE EXCEPTION OF THE RAILROAD ADVANCE WARNING SIGN, WARNING SIGNS USED IN CONJUNCTION WITH WORK ZONE ACTIVITIES SHALL HAVE FLUORESCENT ORANGE BACKGROUNDS CLASS D WITH BLACK LETTERING OR SYMBOLS. ALL TEMPORARY SIGNS FOR MPT SHALL BE COVERED UNDER – CONSTRUCTION SIGNS.

2. ALL PAVEMENT DROP-OFFS SHALL CONFORM TO THE NYSDOT STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL REFER TO SECTION 619-WORK ZONE TRAFFIC CONTROL, SUBSECTION K, PAVEMENT EDGE DROP-OFF PROTECTION, LATEST EDITION.

3. WORK ZONE TRAFFIC CONTROL (WZTC) SHALL CONFORM TO THE NATIONAL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NYS SUPPLEMENT AND SHALL BE SUBJECT TO THE APPROVAL OF NEW YORK STATE DEPARTMENT OF TRANSPORTATION. ADDITIONAL REQUIREMENTS ARE AS FOLLOWS:
   A) NO DRUMS, BARRICADES OR OTHER TRAFFIC CONTROL EQUIPMENT SHALL REMAIN IN A POSITION WHERE IT WILL INTERFERE WITH, OR BE DISTURBED BY A SNOW PLOWING OPERATION. THE WORK MUST BE SCHEDULED TO AFFORD THE SAFE REMOVAL OF SUCH DEVICES WHEN NECESSARY.
   B) THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE LANE CLOSURE SCHEMES PRESENTED IN THE PLANS. ALL LANE CLOSINGS ARE SUBJECT TO THE PRIOR APPROVAL FROM NYSDOT. CONTRACTOR SHALL REFER TO THE WORK ZONE TRAFFIC CONTROL TRAFFIC NOTES ON THIS SHEET FOR LANE CLOSURE INFORMATION.

4. PERMANENT PAVEMENT MARKINGS SHALL BE DONE IMMEDIATELY AFTER TOP COURSE PAVING OPERATIONS ARE COMPLETE.

5. PAVEMENT MARKING LOCATIONS, SIZES AND LENGTHS ON SHALL BE AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER RESPONSIBLE FOR CONSTRUCTION INSPECTION.

6. THE CONTRACTOR MUST ATTEMPT TO REOPEN ALL TRAVEL LANES AND INSTALL THE "NON-WORKING HOURS" SCHEME FOR OVERNIGHT PERIODS. CERTAIN EXCEPTIONS MAY APPLY FOR WHICH THE "WORK PERIOD CLOSURE" SCHEME MAY BE LEFT OVERNIGHT. THE CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FOR THESE OVERNIGHT LANE CLOSURES BY THE ENGINEER-IN-CHARGE RESPONSIBLE FOR CONSTRUCTION INSPECTION.

7. THE CONTRACTOR SHALL SUBMIT TO NEW YORK STAE DEPARTMENT OF TRANSPORTATION, FOR APPROVAL, SHOP DRAWINGS INDICATING PROPOSED METHOD OF REMOVAL OF EXISTING PAVEMENT MARKINGS. ALL METHODS SHALL CONFORM TO THE REQUIREMENTS OF CLEANING AND PREPARATION OF PAVEMENT SURFACE-LINES.

8. REFER TO THE NATIONAL MUTCD AND NYS SUPPLEMENT REGARDING SIGN NUMBERS.

9. EACH TRAVEL LANE SHALL BE SWEPT CLEAN BY THE CONTRACTOR BEFORE THE LANE IS REOPENED TO TRAFFIC.

10. THE CONTRACTOR SHALL SCHEDULE HIS OPERATIONS TO MINIMIZE THE INTERRUPTION OF PEDESTRIAN TRAFFIC. THE SIDEWALK SHALL REMAIN OPEN AND PASSABLE AT ALL TIMES. DURING THE RECONSTRUCTION OF SIDEWALKS, PEDESTRIAN SAFETY AND PROPERTY ACCESS MUST BE MAINTAINED AT ALL TIMES TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL PLACE ALL UNDERGROUND APPURTENANCES UNDER THE SIDEWALK FIRST. AT LOCATIONS WHERE EXISTING SIDEWALK IS CLOSED, THE CONTRACTOR SHALL PLACE A TYPE III BARRICADE WHERE FEDERAL MUTCD R5-8 "SIDEWALK CLOSED" SIGN SHALL BE INSTALLED.

11. THE CONTRACTOR SHALL NOT REMOVE MORE THAN 500 FEET OF EXISTING PAVEMENT PRIOR TO PLACING NEW PAVEMENT. NEW PAVEMENT AREAS MUST INCLUDE THE BINDER COURSE BEFORE ADDITIONAL PAVEMENT EXCAVATION CAN BEGIN.

12. NO LANE CLOSING WILL BE PERMITTED ON THE FOLLOWING DAYS:
    -VETERANS DAY;
    -FROM NOON ON THE DAY BEFORE THANKSGIVING DAY THROUGH THE SUNDAY FOLLOWING THANKSGIVING DAY;
    -THE DAY PRECEDING CHRISTMAS DAY;
    -CHRISTMAS DAY;
    -THE DAY PREDEDING NEWS YEARS DAY;
    -NEW YEARS DAY;
    -INDEPENDENCE DAY;
    -FROM NOON ON THE FRIDAY BEFORE MEMORIAL DAY THROUGH MEMORIAL DAY;
    -FROM NOON ON THE FRIDAY BEFORE LABOR DAY THROUGH LABOR DAY;

    ALL OTHER TIMES, LANE CLOSING RESTRICTIONS SHALL APPLY AS FOLLOWS:

    THE CONTRACTOR IS NOTIFIED THAT NO LANE CLOSURES WILL BE PERMITTED FOR ANY REASON BETWEEN THE FOLLOWING HOURS:

    FROM 3:00PM TO 10:00AM

    AT OTHER TIMES, ONE LANE MAY BE CLOSED IN EACH DIRECTION. THE CONTRACTOR WILL NOT BE PERMITTED TO CLOSE MORE THAN ONE LANE IN ANY DIRECTION

    EASTBOUND LANES BEFORE 10:00 AM AND AFTER 3:00 PM (MON-FRI)
    WESTBOUND LANES BEFORE 10:00 AM AND AFTER 3:00 PM (MON-FRI)

13. ALL INDICATED WARNING SIGNS MUST BE PROVIDED WITH TYPE B FLASHING HIGH INTENSITY WARNING LIGHTS. THESE LIGHTS MUST BE PLACED SUCH THAT ONE IS POSITIONED ABOVE, AND THE OTHER MOUNTED TO THE BACK SIDE OF THE SIGNS TO NOT INTERFERE WITH FRONT PANEL. THESES LIGHTS MUST BE PLACED IN ACCORDANCE WITH THE NATIONAL MUTCD AND NYS SUPPLEMENT.

14. THE CONTRACTOR MAY SUBMIT REVISIONS TO THIS PLAN FOR APPROVAL BY THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION ENGINEER-IN-CHARGE.

15. THE CONTRACTOR SHALL NOT WORK ON BOTH SIDES OF THE ROADWAY AT THE SAME TIME.

16. THE FOLLOWING SHALL APPLY WHEN LANES ARE CLOSED: THE CONTRACTOR SHALL PLACE TWO PLASTIC DRUMS AT A MAXIMUM OF 250 FEET INTERVALS ADJACENT TO EACH OTHER IN THE MIDDLE OF EACH CLOSED LANE TO DISCOURAGE THE USE OF THE LANE BY VEHICLES. PLACEMENT OF THESE DRUMS SHALL BE IN ADDITION TO THE DEVICES SHOWN IN THE WORK ZONE TRAFFIC CONTROL SCHEMES OF THE NATIONAL MUTCD AND THOSE SHOWN ON THE PLANS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR WORK ZONE TRAFFIC CONTROL.

17. THE CONTRACTOR SHALL NOTIFY NYSDOT, THE SUFFOLK COUNTY POLICE DEPARTMENT, THE **TOWN OF ISLIP** AND ALL PUBLIC AND PRIVATE EMERGENCY SERVICES AS WELL AS THE LOCAL SCHOOL DISTRICTS OF ALL DETOURS, PROPOSED STREET CLOSINGS, OR ANY WORK THAT MIGHT AFFECT THE MOBILITY OR ACCESS OF THE FIRE OR POLICE DEPARTMENT 72 HOURS IN ADVANCE OF THEIR IMPLEMENTATION. IN ADDITION, THE CONTRACTOR SHALL ENSURE THAT ALL HYDRANTS AND ALARM BOXES ARE KEPT CLEAR AND AVAILABLE.

18. VARIOUS MAINTENANCE AND CONSTRUCTION SIGNS SPECIFIED IN THE NATIONAL MUTCD AND NYS SUPPLEMENT ARE AVAILABLE IN THE STANDARD DIAMOND SHAPE AND AN ALTERNATE RECTANGULAR SHAPE. WHENEVER SUCH SIGNS ARE INCLUDED IN THIS CONTRACT, THE DIAMOND SHAPE SHALL BE USED.

19. THE CONTRACTOR SHALL PLACE W4-1 "BUMP" SIGNS, W4-2 "DIP" SIGNS AND/OR W4-4 "ROUGH ROAD" SIGNS WHERE DIRECTED BY THE ENGINEER-IN-CHARGE,

20. IN ADDITION TO THE SIGNING REQUIRED IN THE NATIONAL MUTCD AND NYS SUPPLEMENT, THE CONTRACTOR SHALL USE A FLASHING ARROW BOARD, POSITIONED AT THE BEGINNING OF TAPER FOR EACH TRAVEL LANE CLOSING IN CONJUNCTION WITH THE LANE CLOSURE SHOWN IN THE NATIONAL MUTCD AND NYS SUPPLEMENT. THE FLASHING ARROW BOARD WILL NOT BE REQUIRED IN CONNECTION WITH THE SHOULDER CLOSINGS OR SIDE STREET LANE CLOSINGS UNLESS THE ENGINEER ORDERS ITS USE.

21. ARROW BOARDS USING LIGHT EMITTING DIODES (LEDS) AS THE SOLE ILLUMINATING SOURCE WILL NOT BE PERMITTED.
    A) ARROW BOARDS SHALL DISPLAY FLASHING ARROWS FOR LANE CLOSURE MERGES ONLY AND FOUR (4) CORNER DOT CAUTION MODE WITHIN LANE/SHOULDER CLOSURES. OTHER OPERATIONAL MODES SUCH AS SEQUENTIAL CHEVRONS, SEQUENTIAL ARROWS OR STEM ARROWS, ARE EXPLICITLY PROHIBITED FOR THESE APPLICATIONS, AND SHALL NOT BE USED.

    B) ARROW BOARDS SHALL NOT BE USED FOR LANE SHIFTS. A LANE SHIFT IS DEFINED AS A LATERAL SHIFT IN THE TRAVEL PATH WITHOUT A REDUCTION IN THE NUMBER OF LANES.

22. THE PROVISIONS OF THE LAMPS OF FLASHING ARROW BOARDS TO BE EQUIPPED WITH AN AUTOMATIC SOLAR CELL CONTROLLED DIMMING SWITCH AND THAT THE DIMMING VOLTAGE BE MANUALLY CONTROLLABLE. AT NIGHT, FLASHING ARROW BOARDS MUST NOT BE PERMITTED TO OPERATE AT SUCH BRIGHTNESS THAT SIGNS, DRUMS, IMPACT ATTENUATION DEVICES OR OTHER TRAFFIC CONTROL DEVICES NEAR THE FLASHING ARROW BOARD CANNOT EASILY BE SEEN BY APPROACHING MOTORISTS. TO INSURE THAT FLASHING ARROW BOARDS ARE NOT TOO BRIGHT FOR NIGHTTIME OPERATION, THE CONTRACTOR SHALL MAKE AN ON-SITE INSPECTION OF EACH ARROW BOARD AT THE BEGINNING OF ITS OPERATION. IN THE EVENT THIS INSPECTION REVEALS THE ARROW BOARD IS TOO BRIGHT, THE CONTRACTOR SHALL TAKE IMMEDIATE ACTION TO REDUCE LAMP INTENSITIES. IN ADDITION, THE CONTRACTOR SHALL PROMPTLY REDUCE THE LAMP INTENSITY OF AN ARROW BOARD UPON BEING INFORMED BY THE ENGINEER THAT IT IS TOO BRIGHT.

23. PROVISION FOR SNOW AND ICE REMOVAL OPERATIONS:

    IN ORDER TO ALLOW FOR SNOW AND ICE CONTROL BY STATE FORCES ON THE STATE HIGHWAYS, THE CONTRACTOR SHALL SCHEDULE HIS WORK IN ACCORDANCE WITH THE FOLLOWING:

    A) INTERFERENCE WITH SNOW PLOWING OPERATIONS BY DRUMS, BARRICADES AND OTHER TRAFFIC CONTROL EQUIPMENT SHALL BE KEPT TO A MINIMUM. ANY DEVICES DISTURBED OR DAMAGED BY SNOW PLOWING OPERATIONS SHALL BE REPLACED AND/OR RESET AS NECESSARY AND AS SOON AS POSSIBLE BY THE CONTRACTOR.

    B) DRAINAGE FRAMES, GRATES AND COVERS AND OTHER CASTINGS SHALL NOT BE ADJUSTED IN A TRAVEL LANE UNLESS THE FINAL PAVEMENT COURSE IS TO BE PLACED PRIOR TO THE ONSET OF SNOW AND ICE WEATHER. STEEL PLATES, ETC. SHALL NOT PROTRUDE ABOVE THE ADJACENT PAVEMENT. IF ANY OF THESE PROTRUSIONS EXIST IN A NON-TRAVEL LANE PRIOR TO A SNOW AND ICE CONDITION THE TEMPORARY ASPHALT RAMPS MUST BE PLACED SO THAT FOR EVERY 1 mm OF RISE, THERE IS AN 80 mm RUN OF RAMP.

    B) ALL PAVEMENT CUTS SHALL BE RESTORED TO THE ADJACENT GRADE TO ELIMINATE RECESSED AREAS WHERE SNOW CANNOT BE PLOWED OR WHERE THE PLOWS MAY SNAG.

24. CONTRACTOR SHALL REFER TO ROAD IMPROVEMENT PLANS PREPARED RMS ENGINEERING FOR SPECIFIC CONSTRUCTION DETAILS.

25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ZONE TRAFFIC CONTROL (WZTC). WZTC SCHEMES SHALL BE IN ACCORDANCE WITH THE PLANS, THE NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND THE NEW YORK STATE SUPPLEMENT AS APPROVED OR DIRECTED BY THE ENGINEER. MPT SCHEMES SHOWN ON THE PLANS OR IN THE NATIONAL MUTCD AND NYS SUPPLEMENT ARE TO BE CONSIDERED MINIMUM REQUIREMENTS. THE ENGINEER MAY ORDER ADDITIONAL MPT DEVICES SUCH AS SIGNS, CONES, DRUMS, FLAGGERS, REFLECTORIZATION, SHADOW VEHICLES, FLASHING AND STEADY BURN LIGHTS, TEMPORARY CONCRETE BARRIER, LIGHTS FOR NIGHTTIME OPERATIONS, ETC., IF HE DEEMS IT NECESSARY.

26. THE FIRST TWO BARRELS IN SHOULDER CLOSURE TAPER REQUIRE TYPE B FLASHING WARNING LIGHTS IF OCCUPYING SPACE DURING NIGHTTIME HOURS.

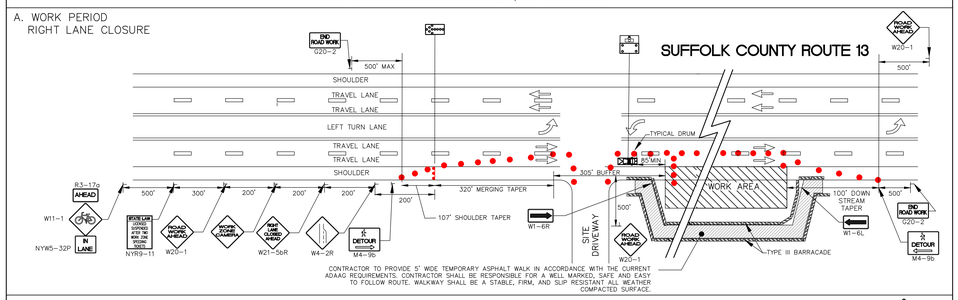
27. MPT SIDEWALK NOTE:

    THE CONTRACTOR SHALL SCHEDULE HIS OPERATIONS TO MINIMIZE THE INTERRUTION OF PEDESTRIAN TRAFFIC. THE SIDEWALK ON ONE SIDE OF THE ROADWAY SHALL REMAIN OPEN AND PASSABLE AT ALL TIMES DURING THE RECONSTRUCTION OF SIDEWALKS. THE PEDESTRIAN SAFETY AND PROPERTY ACCESS MUST BE MAINTAINED AT ALL TIMES TO SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL PLACE ALL UNDERGROUND APPURTENANCES UNDER THE SIDEWALK FIRST.

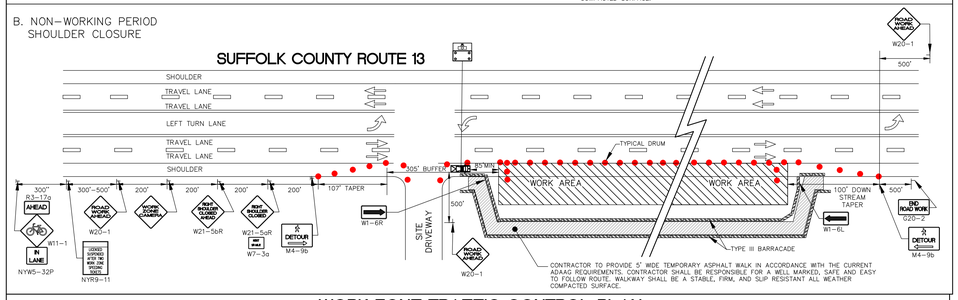
WORK ZONE TRAFFIC CONTROL PLAN FOR RIGHT LANE CLOSURE

NOTE: SIGNS SHOWN BELOW ARE FOR SHOULDER/RIGHT LANE CLOSURES.

A. WORK PERIOD
RIGHT LANE CLOSURE



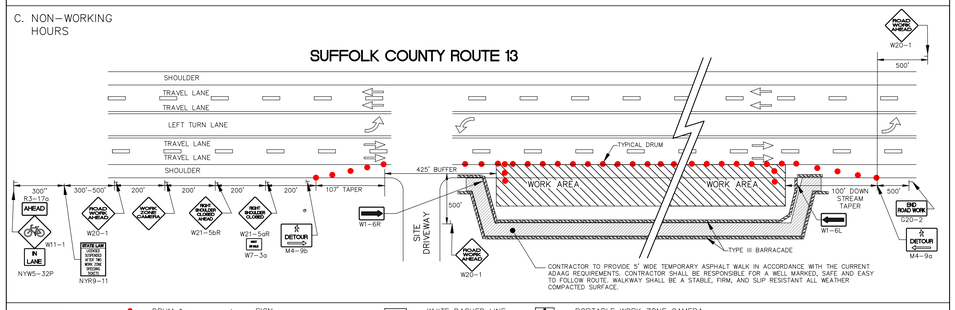
B. NON-WORKING PERIOD
SHOULDER CLOSURE



WORK ZONE TRAFFIC CONTROL PLAN FOR RIGHT LANE CLOSURE

NOTE: SIGNS SHOWN BELOW ARE FOR SHOULDER/RIGHT LANE CLOSURES.

C. NON-WORKING
HOURS

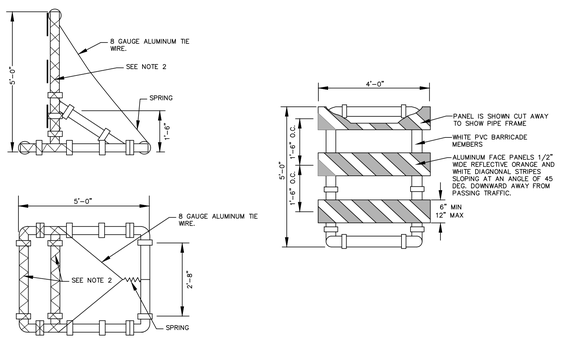


LEGEND:

- DRUM *
- FLAGTREE
- BARRICADE
- SIGN
- FLASHING ARROW BOARD
- WORK AREA
- FULL SIZED ARROW PANNEL
- WHITE DASHED LINE
- YELLOW DASHED LINE
- TYPE III BARRICADE
- BARRIER VEHICLE
- PORTABLE WORK ZONE CAMERA

NOTE:
* THE SPACING BETWEEN THE CONES AND DRUMS SHALL BE A MINIMUM OF 40' OR AS A.O.B.E.

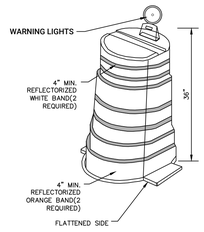
NOTES:
1. MINIMUM LANE WIDTH OF 11' MUST BE MAINTAINED
2. NO WORK ACTIVITY OR STORAGE OR EQUIPMENT, VEHICLES OR MATERIAL SHOULD OCCUR WITHIN A BUFFER SPACE.
3. CHANNELIZING DEVICE SPACING (CENTER TO CENTER) SHALL NOT EXCEED 40' IN THE ACTIVE WORK SPACE.
4. WORK AREA BUFFER DISTANCE SHALL BE SHORTENED IF BARRIER VEHICLE WITH TRUCK MOUNTED ATTENUATOR AND FLASHING ARROW BOARD IS UTILIZED.
5. FOR NIGHTTIME CLOSURES, FLASHING WARNING LIGHTS SHALL BE USED ON BARRICADES SUPPORTING SIGNS AND CLOSING SIDEWALKS.
6. SUFFOLK COUNTY MUST BE NOTIFIED AT LEAST ONE (1) WEEK IN ADVANCE OF A FULL/MULTILANE CLOSURE INFORMATION TO DISPLAY IT ON THE APPROPRIATE FIXED OVERHEAD ELECTRONIC VARIABLE MESSAGE SIGNS (VMS).
7. CONTRACTORS MUST PLACE PORTABLE VMS AT APPROPRIATE PLACE(S) WITHIN THE CONTRACT LIMIT, AT LEAST ONE (1) WEEK IN ADVANCE, TO PROVIDE ADVANCE NOTIFICATION TO MOTORISTS ABOUT POSSIBLE FULL OR MULTI LANE CLOSURES.
8. THE FIRST TWO BARRELS IN SHOULDER CLOSURE TAPER REQUIRE TYPE B FLASHING WARNING LIGHTS IF OCCUPYING SPACE DURING NIGHTTIME HOURS.



TYPICAL TYPE III CONSTRUCTION BARRICADE

NOT TO SCALE

NOTES:
1. BARRICADES TO BE FITTED WITH WARNING LIGHTS (NYS ITEM NO. 619.0502).
2. ALL JOINTS ON BARRICADE SHALL BE FREE TO SEPARATE UPON VEHICLE IMPACT. SHADED PIPES AND FITTINGS SHALL BE TIED TOGETHER WITH A NO. 6 SOLID BRAIDED NYLON ROPE, OR APPROVED EQUIVALENT THREADED INTO THE PIPE AND FITTING INTERIOR.
3. ALL PIPES AND FITTINGS SHALL BE SOLID WHITE PVC.
4. BARRICADES SHALL BE ANCHORED WITH A TOTAL OF 4 SAND BAGS PLACED ON THE BASE MEMBERS, 1 AT EACH CORNER OF THE BARRICADE.



TYPICAL DRUM

N.T.S.
ITEM No. 619.21

DRUMS MAY BE FITTED WITH WARNING LIGHTS

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1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
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WORK ZONE TRAFFIC CONTROL PLAN

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 234, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

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DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	N.T.S.	SHEET:	WZTC-1
DATE:	08-09-22	DATE:	08-20-22	JOB No.:	2022-001		

Drawing Name: P:\2022 Projects\2022-001\R&M\2026-02-02 (2022-001) Details (24x42) Rev.13.dwg Last Modified: Feb 04, 2026 - 6:14pm Plotted on: Feb 05, 2026 - 1:22pm by jbothenstein

GENERAL STRUCTURAL NOTES

1. ALL NEW WORK SHALL CONFORM WITH THE REQUIREMENTS OF THE 2020 BUILDING CODE OF NEW YORK STATE, INCLUDING LATEST ADDENDA, THE CONTRACT DOCUMENTS, AND ALL OTHER GOVERNING CODES. IN CASE OF CONFLICT, MOST STRINGENT REQUIREMENT SHALL GOVERN.

2. THE FOUNDATIONS AND STRUCTURES SHOWN ON THESE DRAWINGS HAVE BEEN DESIGNED IN CONFORMANCE WITH THE 2020 BUILDING CODE OF NEW YORK STATE.

3. THE STRUCTURES HAVE BEEN DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE CONSTRUCTION HAS BEEN COMPLETED. THE STABILITY OF THE STRUCTURE PRIOR TO COMPLETION IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. JOBSITE SAFETY AND CONSTRUCTION PROCEDURES, MEANS AND METHODS ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. LACK OF COMMENT BY THE ENGINEER IS NOT TO BE INTERPRETED AS APPROVAL OF THESE ASPECTS OF THE WORK.

4. IF FAULTY CONSTRUCTION PROCEDURES, OR MATERIAL, RESULT IN DEFECTIVE WORK THAT REQUIRES ADDITIONAL ENGINEERING TIME TO DEVISE CORRECTIVE MEASURES, PROFESSIONAL FEES MAY BE CHARGED TO THE CONTRACTOR AT THE STANDARD HOURLY RATE OF ADDITIONAL SERVICES. SUCH FEES MAY BE WITHHELD FROM THE GENERAL CONTRACTOR'S PAYMENT.

5. THE FOLLOWING MATERIALS AND METHODS OF CONSTRUCTION SHALL BE SUBJECT TO "SPECIAL INSPECTIONS" BY A CERTIFIED NYC SPECIAL INSPECTOR IN ACCORDANCE WITH THE BUILDING CODE OF NEW YORK CITY CHAPTER 17 AND AS NOTED:
   - CONCRETE - CAST-IN-PLACE : SECTION & TABLE 1704.4
   - CONCRETE - TEST CYLINDERS : SECTION 1704.4.1
   - CONCRETE - DESIGN MIX : SECTION 1704.4.1
   - SOIL - GROUND IMPROVEMENT AND FILL: SECTIONS 1705.6 & 1705.7 AND TABLES 1705.6 & 1705.7
   - STABILITY DURING CONSTRUCTION
   - STRUCTURAL STEEL: SECTION & TABLE 1704.3
   - WIND RESISTANCE: SECTION 1705.4
   - PRECAST LOAD - BEARING CONCRETE PANELS/CONTRACTOR RESPONSIBILITY: SECTION 1706

   A LICENSED PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT SHALL ACT AS THE SPECIAL INVESTIGATOR TO SUPERVISE THE TESTING AND INSPECTION OF THE ABOVE ITEMS. THE CONTRACTOR SHALL PROVIDE 48 HOURS ADVANCE NOTICE TO THE INSPECTOR FOR ALL ITEMS REQUIRING INSPECTION. THE SPECIAL INSPECTIONS PROGRAM SHALL BE PAID FOR BY THE OWNER.

6. COORDINATE ALL WORK REQUIRED ON THESE DRAWINGS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL/SITE DRAWINGS. EXISTING CONDITIONS SHOWN ON THESE DRAWINGS ARE PER INFORMATION PROVIDED BY THE ORIGINAL STRUCTURAL DRAWINGS OR ARE ASSUMED. THE OWNER, ARCHITECT AND STRUCTURAL ENGINEER ARE NOT RESPONSIBLE FOR ACCURACY OF THE INFORMATION.

7. PROVISIONS SHALL BE MADE FOR PLACEMENT OF MATERIALS IN COLD OR HOT WEATHER.

8. SUBMIT SAMPLES, SHOP DRAWINGS, PRODUCT DATA, TEST REPORTS AND DATA, MANUFACTURER'S NAMES, CERTIFICATIONS AND PROCEDURES FOR ALL SPECIFIED ITEMS AND AS REQUESTED. SHOP DRAWINGS SHALL CONFORM TO THE BEST STANDARDS OF THE CONSTRUCTION INDUSTRY, AND SHALL BE PREPARED BY AND UNDER THE SUPERVISION OF COMPETENT ENGINEERING PERSONNEL. SUBMIT REINFORCING STEEL, SHOP AND ERECTION DRAWINGS INCLUDING APPLICABLE CONNECTION DETAILS, SCHEDULES AND CERTIFIED MILL TEST REPORTS. THE CONTRACTOR SHALL ALLOW FOR 10 WORKING DAYS FOR SHOP DRAWING REVIEW. SUBMIT THE FOLLOWING:
   - REINFORCING BAR AND WELDED WIRE MESH MATERIAL CERTIFICATIONS AND SHOP DRAWINGS.
   - CONCRETE FORMWORK SHOP DRAWINGS AND SPECIFICATIONS INCLUDING FORM-TIES AND ALL REQUIRED HARDWARE.
   - CONCRETE REINFORCING SUPPORT CHAIRS, BOLSTERS, ETC.
   - CONCRETE REPAIR MATERIAL SPECIFICATIONS.
   - SHOP DRAWINGS AND SPECIFICATIONS FOR ALL CAST-IN SLEEVES, ANCHORS, STANDPIPES, FLOOR DRAINS, ETC.
   - POST INSTALLED ANCHORS SPECIFICATIONS AND IC-ESS REPORTS.
   - CONSTRUCTION ADHESIVE AND BONDING AGENT MATERIAL SPECIFICATIONS.
   - VAPOR BARRIER MATERIAL SPECIFICATIONS.
   - JOINT SEALANT(S) MATERIAL SPECIFICATIONS.
   - PRE-MOLDED JOINT FILLER(S) MATERIAL SPECIFICATIONS.
   - NON-SHRINK GROUT MATERIAL SPECIFICATIONS.
   - STRUCTURAL STEEL
   - OPEN WEB STEEL JOISTS AND TRUSSES
   - STEEL ROOF DECK
   - PRECAST CONCRETE WALL PANELS

9. CONTRACTOR SHALL PATCH AND REPAIR ALL PORTIONS OF THE EXISTING CONDITION, FACILITY TO REMAIN OR ANY EQUIPMENT OR UTILITIES HARMED DURING CONSTRUCTION.

10. BEFORE COMMENCEMENT OF ANY WORK, THE CONTRACTOR SHALL VISIT THE PREMISES OF THE PROPOSED WORK AND SHALL CAREFULLY EXAMINE THE ENGINEERING DRAWINGS, EXISTING CONDITIONS AND LIMITATIONS THEREOF. VERIFICATION SHALL BE MADE AS TO THE ACTUAL LOCATIONS WHERE NEW CONSTRUCTION AND/OR STRUCTURES WILL BE ROUTED, COORDINATING WITH NEW AND EXISTING WORK AND PROVIDING CLEARANCES WITH STRUCTURAL MEMBERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS PRIOR TO THE DEMOLITION AND/OR FABRICATION AND/OR CONSTRUCTION OF ALL ITEMS. DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE AND ENGINEER PRIOR TO DEMOLITION AND/OR FABRICATION.

11. THE DRAWINGS SHOW THE GENERAL ARRANGEMENT OF THE STRUCTURAL ELEMENTS AND INDICATE THE REQUIRED SIZES AND POINTS OF TERMINATION OF SAME. HOWEVER, IT IS NOT THE INTENTION OF THE DRAWINGS TO SHOW ALL NECESSARY OFFSETS, OBSTRUCTIONS OR STRUCTURAL CONDITIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL THE WORK SHOWN ON THESE DRAWINGS IN FULL COMPLIANCE WITH GOVERNING CODE IN SUCH A MANNER THAT IT WILL CONFORM TO THE STRUCTURAL DESIGN INTENT.

12. THE OWNER RESERVES THE RIGHT TO LET OTHER CONTRACTS IN CONNECTION WITH THE WORK OF THIS PROJECT. THE CONTRACTOR SHALL COOPERATE WITH OTHER CONTRACTORS AS REQUIRED TO CONFORM TO THE GENERAL CONSTRUCTION SCHEDULE AND SHALL AFFORD OTHER CONTRACTORS REASONABLE OPPORTUNITY FOR THE INTRODUCTION AND STORAGE OF THEIR MATERIALS AND EQUIPMENT AND TO EXECUTE THEIR WORK.

13. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND TEMPORARY CONSTRUCTION NECESSARY TO SAFEGUARD ALL PERSONS AND PROPERTY ON OR ADJACENT TO THE SITE. ALL MACHINERY, TOOLS, SERVICE LINES, AND CONDUIT SHALL BE GUARDED, SHIELDED OR BARRICADED TO PROVIDE SAFETY AND PREVENT CONTACT BY WORKERS AND THE PUBLIC IN ACCORDANCE WITH APPLICABLE REQUIREMENTS.

14. NO WORK SHALL COMMENCE UNTIL THE CONTRACTOR HAS OBTAINED AND SUBMITTED PROPER INSURANCE TO THE OWNER.

15. THE CONTRACTOR SHALL COMPLY WITH ALL SAFETY AND HEALTH LAWS AND REGULATIONS INCLUDING, BUT NOT LIMITED TO PROVISIONS, AND REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 (OSHA), AS AMENDED AND/OR THE CONSTRUCTION SAFETY ACT OF 1969, AS AMENDED, INCLUDING CONFINED SPACE ENTRY REQUIREMENTS.

16. ALL DETAILS SHALL BE CONSIDERED TYPICAL AT ALL SAME AND SIMILAR CONDITIONS.

17. COORDINATE ALL STRUCTURAL WORK WITH THE DRAWINGS OF ALL OTHER TRADES AND AS DIRECTED BY THE ENGINEER, OWNER, OR THE OWNER'S REPRESENTATIVE.

DESIGN LOADS:

1. DESIGN LOADS CONFORM TO THE FOLLOWING:
   - THE NEW YORK STATE BUILDING CODE 2020.
   - ANSI/ASCE 7-16 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

2. DEAD LOAD:

• ROOF (ROOFING, DECK, SPRINKLERS, LIGHTING, MECHANICAL / ELECTRICAL EQUIPMENT)	15 PSF
• PLUS/ SOLAR PV ALLOWANCE	10 PSF

3. LIVE LOAD:

• ROOF	20 PSF

4. SNOW LOAD:

• DRIFT LOADS ARE IN ACCORDANCE WITH THE NEW YORK STATE BUILDING CODE 2020 AND ASCE 7-16.	
• REFER TO DRAWING S-002 FOR ROOF SNOW LOADINGS.	
• GROUND SNOW LOAD	Pg = 30 PSF
• EXPOSURE FACTOR	Ce = 1.0 PSF
• IMPORTANCE FACTOR	Is = 1.0 PSF
• THERMAL FACTOR	Ct = 1.0
• FLAT ROOF	Pf = 20 PSF

5. WIND LOADS:

• PRESSURE COEFFICIENTS ARE IN ACCORDANCE WITH THE NEW YORK STATE BUILDING CODE 2020 / ASCE 7-16.	
• REFER TO DRAWING S-003 FOR ROOF WIND LOADINGS.	
• RISK CATEGORY	II
• BASIC WIND SPEED	125 MPH
• EXPOSURE CATEGORY EXPOSURE B	
• IMPORTANCE FACTOR	Iw = 1.0
• BASE SHEAR:	
• WIND (EAST-WEST LOADING)	SEE DRAWING S-003
• WIND (NORTH-SOUTH LOADING)	SEE DRAWING S-003

6. SEISMIC DESIGN DATA:

• SEISMIC IMPORTANCE FACTOR	1
• Ss	0.21
• S1	0.052
• Sds	0.224
• Sd1	0.08
• SITE CLASS	D
• SEISMIC DESIGN CATEGORY	B
• SEISMIC FORCE RESISTING SYSTEM BEARING WALL SYSTEM - ORDINARY PRECAST SHEAR WALLS	
• RESPONSE MODIFICATION FACTOR	R = 3
• ANALYSIS PROCEDURE USED EQUIVALENT FORCE PROCEDURE	
• BASE SHEAR:	
• SEISMIC (EAST-WEST LOADING)	SEE DRAWING S-003
• SEISMIC (NORTH-SOUTH LOADING)	SEE DRAWING S-003

FOUNDATION NOTES

1. THE GEOTECHNICAL STUDY WAS PERFORMED BY GZA GEOENVIROMENTAL INC. PRESENTED IN A REPORT SUBMITTED IN APRIL 2022, THEN UPDATED BY THE "REPORT ADDENDUM" "GROUND IMPROVEMENT" DATED MAY 17, 2024. THE REPORT AND ADDENDUM ARE AVAILABLE FROM THE OWNER. THE REPORT STATES THE SITE HAS FILL OF DEPTHS FROM 21 FEET TO 66 FEET BELOW GRADE AT THE TIME OF THE EXPLORATIONS. THE ADDENDUM DESCRIBES THE REQUIRED GROUND IMPROVEMENT BY RIGID INCLUSIONS SUCH AS CONTROLLED MODULUS COLUMNS (CMC) THAT SHALL BE INSTALLED IN CONJUNCTION WITH A LOAD TRANSFER PLATFORM TO SUPPORT CONVENTIONAL SHALLOW SOIL BEARING FOUNDATIONS AND THE SLAB-ON-GRADE. THE DESIGN OF THE GROUND IMPROVEMENT SHALL BE MADE BY OTHERS AND SUBMITTED WITH A NY STATE P.E. SIGNED AND SEALED STAMP.

2. THE INTERPRETIVE INFORMATION IN THE GEOTECHNICAL REPORT REPRESENTS THE OPINIONS, BASED ON FACTUAL DATA, BY QUALIFIED GEOTECHNICAL ENGINEERS AND/OR ENGINEERING GEOLOGISTS, THE PURPOSE OF MAKING THE REPORT AVAILABLE TO BIDDING CONTRACTORS IS TO CLARIFY GEOTECHNICAL ASPECTS OF THE PROJECT AND TO PROVIDE A UNIFORM BASIS FOR BIDING. THE INTERPRETATIVE INFORMATION PROVIDED SHALL NOT BE CONSTRUED AS A SUBSTITUTE FOR PERSONAL INTERPRETATION OF THE CONTRACTOR, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR DRAWING HIS/HER OWN CONCLUSIONS, BASED ON THE FACTUAL DATA OF THE GEOTECHNICAL DATA.

3. BASED ON INFORMATION PROVIDED IN THE "REPORT ADDENDUM" REFEREED TO ABOVE, THE FOUNDATIONS HAVE BEEN DESIGNED TO BEAR ON 2.5 TSF SOIL AND THE SLAB-ON-GRADE HAS BEEN DESIGNED TO REST ON SOIL WITH A MODULUS OF SUBGRADE REACTION OF 200 PCI.

4. THE HIGHEST GROUND WATER LEVEL IS ASSUMED TO BE BELOW FOUNDATION LEVEL. CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE WHEN THE EXCAVATION HAS BEEN STARTED SO THAT GROUND WATER CONDITION CAN BE REVIEWED. THE CONTRACTOR SHALL INCLUDE THE COST OF DEWATERING IN HIS SCOPE OF WORK AND PROPOSAL.

5. FOUNDATIONS AND SLABS SHALL NOT BE PLACED INTO OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST OR ICE. SHOULD WATER OR FROST ENTER AN EXCAVATION AFTER SUBGRADE APPROVAL, THE SUBGRADE SHALL BE RE-INSPECTED BY THE SPECIAL INSPECTOR AFTER REMOVAL OF WATER OR FROST.

6. DURING THE EXCAVATION AND INSTALLATION OF FOUNDATION WORK THE CONTRACTOR SHALL PROVIDE ALL SHEETING AND SHORING AS REQUIRED TO PREVENT MOVEMENT AND INSURE THE INTEGRITY OF ADJACENT EXISTING STRUCTURES AND UTILITY LINES WHICH ARE TO REMAIN. THE CONTRACTOR SHALL DETERMINE THE LOCATION, BOTH IN PLAN AND ELEVATION OF THE EXISTING UNDERGROUND UTILITY LINES WHICH ARE TO REMAIN. THIS INFORMATION SHALL BE SUBMITTED IN DRAWING FORM TO THE OWNER'S REPRESENTATIVE FOR REVIEW BEFORE PROCEEDING WITH WORK IN THIS AREA.

7. BACKFILL EVENLY ON BOTH SIDES OF FOUNDATION WALLS, UNLESS ADEQUATE BRACING IS INSTALLED. CONCRETE SHALL ACHIEVE 75% OF THE 28 DAY DESIGN STRENGTH PRIOR TO BACKFILLING.

8. WHERE ELEVATIONS CHANGE, FOOTINGS SHALL BE STEPPED ONE VERTICAL TO TWO HORIZONTAL EXCEPT AS OTHERWISE SHOWN. MAXIMUM STEP TO BE 1'-0". GRADE BEAMS SHALL BE STEPPED ACCORDING TO THE TYPICAL DETAILS.

9. JOINTS SHALL BE KEYED AND REINFORCEMENT CONTINUOUS, UNLESS OTHERWISE DETAILED ON THE DRAWINGS.

10. MINIMUM FROST DEPTH IS 4'-0".

CONCRETE NOTES

1. ALL CONCRETE SHALL CONFORM TO THE LATEST EDITION OF A.C.I. 318.

2. CONRETE MIXES:
   a. FOUNDATION CONCRETE SHALL BE OF NORMAL WEIGHT AGGREGATE CONFORMING TO ASTM C-33 AND SHALL DEVELOP A COMPRESSIVE MINIMUM 28 DAYS STRENGTH OF 4,000 PSI @ 28 DAYS UNLESS OTHERWISE NOTED. FOUNDATION CONCRETE SHALL BE AIR ENTRAINED AND CONFORM TO ASTM C-260 WITH A MAXIMUM W/C RADIO OF 0.45.
   b. SLAB-ON-GRADE CONCRETE SHALL BE NORMAL WEIGHT WITH A MINIMUM 28 DAYS COMPRESSIVE STRENGTH OF 5,000 PSI. AND HAVE A MAXIMUM W/C RATION OF 0.40. SLAB-ON-GRADE CONCRETE SHALL FIBER REINFORCED WITH SIKA FIBER MESH AC AT A DOSAGE OF 1 POUND PER CUBIC YARD.

3. ALL DETAILING FABRICATION, AND ERECTION OF REINFORCING BARS, UNLESS OTHERWISE NOTED, MUST FOLLOW THE LATEST ACI CODE AND THE LATEST ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".

4. CONCRETE DESIGN MIXES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW, TOGETHER WITH LABORATORY REPORTS ATTESTING THAT THE MIXES WILL ATTAIN THE MINIMUM STRENGTH REQUIRED IN ACCORDANCE WITH CHAPTER 5 OF ACI 318.

5. CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CHLORIDE SALTS SHALL NOT BE ADDED TO THE CONCRETE.

6. REINFORCEMENT SHALL BE DEFORMED BARS CONFORMING TO ASTM A-615 GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185.

7. CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED AND PLACED UNDER THE SUPERVISION OF AN APPROVED CONCRETE TESTING AGENCY.

8. FIVE (5) TEST CYLINDERS SHALL BE TAKEN FOR EACH DAYS POUR AND FOR EACH 50 CU. YDS. OF EACH CONCRETE TYPE; ONE TESTED @ 7 DAYS, 3 @ 28 DAYS, 1 @ 56 DAYS TO BE TESTED IF 28 DAYS TESTING DOES NOT REACH CAPACITY. RESULTS TO BE FORWARDED TO THE OWNER'S REPRESENTATIVE.

9. REINFORCING BARS SPLICED AT POINTS OF STRESS TO BE LAPPED A MINIMUM OF 40 DIAMETERS UNLESS OTHERWISE NOTED.

10. ALL HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS. LAPS TO BE 40 DIAMETERS MINIMUM.

11. PROVIDE SUPPORTS FOR REINFORCEMENT IN ACCORDANCE WITH A.C.I. AND CRSI STANDARDS.

12. OPENINGS IN THE SLAB OR FOUNDATION WALLS FOR UTILITIES NOT SHOWN ON PLANS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER IF THE AREA OF THE OPENINGS EXCEEDS 1'-0" X 1'-0". IF THE AREA IS LESS THAN 1 SQ. FT., BARS OCCURRING AT THE OPENINGS SHALL BE SHIFTED TO THE SIDES. (DO NOT CUT BARS.)

13. CONTRACTOR SHALL NOTE AND INSTALL ALL MISCELLANEOUS CAST-IN CURBS, SILLS, STOOLS, ANCHORAGES, EQUIPMENT AND MECHANICAL BASES THAT ARE REQUIRED BY THE ARCHITECTURAL, CIVIL/SITE AND MECHANICAL DRAWINGS.

14. WHERE CONSTRUCTION JOINTS ARE NOT SHOWN, DRAWINGS SHOWING LOCATION OF CONSTRUCTION JOINTS AND CONCRETE PLACING SEQUENCE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PREPARATION OF THE REINFORCEMENT SHOP DRAWINGS.

15. SIZE OF CONCRETE PLACEMENTS AND POURING INTERVALS SHALL, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, BE AS FOLLOWS:
   a. SLABS-ON-GRADE, 25 FT. MAXIMUM PANEL DIMENSION, OR AS SHOWN ON PLANS.
   b. WALLS BELOW GRADE, 30 FT. MAXIMUM PANEL LENGTH.

17. CONCRETE SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS EXCEPT WHERE SHOWN OR NOTED. VERTICAL CONSTRUCTION JOINTS AND STOPS IN CONCRETE WORK SHALL BE MADE AT MIDSPAN OR AT POINTS OF MINIMUM SHEAR.

18. CHAMFER ALL EXPOSED CORNERS OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

19. WHERE NEW CONCRETE IS TO BE POURED AGAINST EXISTING CONCRETE, ROUGHEN AND CLEAN EXISTING CONCRETE SURFACES THAT WILL BE IN CONTACT WITH NEW CONCRETE. PLACE NEW CONCRETE WITHIN TIME LIMIT OF BONDING AGENT. COAT ALL SURFACES WITH SIKA EPOCEM ARMATEC 110 RUST INHIBITIVE BONDING AGENT. INSTALL IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.

20. ALL EXISTING CONCRETE THAT IS CUT OR DAMAGED SHALL BE PATCHED AND FINISHED SMOOTH TO OWNER'S SATISFACTION.

21. ALL POST INSTALLED ANCHORS SHALL BE CODE APPROVED PER APPENDIX D OF ACI 318, INCLUDING THE REQUIRED ICC CODE REPORTS AND ACI 355.2 PRE QUALIFICATION TESTS.

22. THE SLAB FLOOR FLATNESS SHALL MEET OR EXCEED FF-50 AND FL-35 MEASURED IN ACCORDANCE WITH ASTM E1155.

23. THE FLOOR SLAB SHALL BE SEALED WITH ASHFORD FORMULA OR APPROVED EQUAL.

PRECAST CONCRETE ELEMENTS

1. SPECIFICATIONS AND STANDARDS:
   A. DESIGN PRECAST CONCRETE ELEMENTS IN ACCORDANCE WITH ACI 318-08, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, FOR THE LOADS SHOWN ON THE DRAWINGS.
   B. CONNECTIONS SHALL BE DESIGNED IN ACCORDANCE WITH PCI DESIGN HANDBOOK.

2. MATERIALS:
   A. CONCRETE STRENGTH (fc): 5000 PSI MINIMUM AT 28 DAYS.
   B. PRESTRESSING STEEL: MINIMUM TENSILE STRENGTH 250,000 PSI.
   C. DEFORMED REINFORCING BARS: MINIMUM TENSILE STRENGTH 60,000 PSI.
   D. STRUCTURAL STEEL HEADERS AND CONNECTIONS: ASTM A36 DESIGNED IN ACCORDANCE WITH AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.

3. MISCELLANEOUS REQUIREMENTS:
   A. ALIGN AND GROUT IN PLACE ALL PRECAST MATERIALS.
   B. PROVIDE OPENINGS FOR MECHANICAL TRADES WHEN OPENING SIZES EXCEED 6" DIAMETER. THE GENERAL CONTRACTOR SHALL COORDINATE THESE REQUIREMENTS WITH THE PRECAST SUPPLIER. PROVIDE FOR THESE OPENINGS IN THE DESIGN OF THE MEMBERS.
   C. DO NOT CUT PRESTRESSING STEEL AT FIELD CUT OPENINGS WITHOUT APPROVAL OF MANUFACTURER AND STRUCTURAL ENGINEER.

4. SUBMITTALS:
   A. DESIGN OF PRECAST MEMBERS AND THEIR CONNECTIONS SHALL BE THE SOLE RESPONSIBILITY OF THE PRECAST MANUFACTURER. PRECAST MEMBERS SHALL BE DESIGNED TO RESIST ALL OF THE LOADS NOTED ON THE DRAWINGS.
   B. SUBMIT, FOR APPROVAL, DETAILED SHOP DRAWINGS AND CALCULATIONS. THE CALCULATIONS SHALL INCLUDE COMPREHENSIVE ENGINEERING ANALYSIS THAT SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT.

5. PRECAST WALL PANELS:
   A. UNDER PRECAST WALL PANELS SUPPORTED ON FOOTINGS, USE 18" LONG GROUT PADS LOCATED AT 6'-0" o/c MAX, 3'-0" MAX FROM PANEL JOINTS, AND AT EACH SIDE OF PANEL OPENINGS. GROUT FULL LENGTH FOLLOWING PANEL ERECTION.
   B. SEE ARCHITECTURAL DRAWINGS FOR REVEALS AND FORMLINERS. VERIFY ALL OPENINGS WITH LATEST ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.
   C. ALL PANEL JOINTS ALONG EXTERIOR WALLS SHALL BE SEALED WITH A BACK UP ROD AND SEALANT AT INTERIOR AND EXTERIOR SEE ARCHITECTURAL DRAWINGS FOR INTERIOR WALL PANELS.
   D. PRECAST MANUFACTURER SHALL SUPPLY ALL PLATES, INSERTS, ANGLES, ETC. REQUIRED TO CONNECT PRECAST TO CAST-IN-PLACE OR STRUCTURAL STEEL MEMBERS.
   E. PRECAST CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND PLACEMENT OF ALL LIFTING INSERTS, CONNECTIONS AND STRONGBACKS TO ADEQUATELY LIFT THE PANEL WITHOUT CRACKING.
   F. PRECAST CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL TEMPORARY ERECTION BRACING. BRACING MUST STAY IN PLACE UNTIL ALL SUPPORTING ELEMENTS (ROOF DECK/SLAB) HAVE BEEN INSTALLED AND INSPECTED.

GROUT NOTES

1. HIGH STRENGTH, NON-SHRINK AND NON-METALLIC CEMENTITIOUS GROUT SHALL BE USED.

2. ACCEPTABLE GROUTS ARE SIKAGROUT 212 BY SIKADUR; MASTER FLOW 928 BY CHEMREX; HI-FLOW GROUT BY EUCLID; OR APPROVED EQUIVALENTS.

EPOXY ADHESIVE ANCHORS

1. EPOXY ADHESIVE ANCHORS SHALL BE STAINLESS STEEL THREADED ROD INSTALLED WITH ONE OF THE FOLLOWING SYSTEMS OR APPROVED EQUAL:
   A. HILTI HIT-HY 200-SD ADHESIVE.

STRUCTURAL STEEL NOTES

1. DESIGN FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS- ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN" AS ADOPTED ON 2005, BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.

2. MATERIALS:

• WIDE FLANGE SHAPES AND CHANNELS	ASTM A 992. Fy = 50KSI
• ANGLES, PLATES AND BARS	ASTM A 36
• SQUARE STRUCTURAL STEEL TUBING	ASTM A 500, GRADE B
• BOLTS	ASTM A 325
• EXPANSION/EPOXY BOLTS	HILTI OR APPROVED EQUAL
• WELDING ELECTRODE	ASTM A 233, E70X LOW HYDROGEN

3. CERTIFICATES OF COMPLIANCE ARE REQUIRED TO BE SUBMITTED TO THE ENGINEER FOR STRUCTURAL STEEL, BOLTS, NUTS, WASHERS AND WELD FILLER MATERIAL PRIOR TO THE FABRICATION OF ANY STEEL.

4. ALL BOLTS IN SLIP CRITICAL CONNECTIONS SHALL UTILIZE DIRECT TENSION INDICATOR WASHERS. DIRECT TENSION INDICATOR WASHERS SHALL COMPLY WITH ASTM F959 AND BE AS MANUFACTURED BY TURNASURE LLC. INSTALL PER RCSC AND MANUFACTURER'S RECOMMENDATIONS.

5. ALL WELDING SHALL CONFORM TO THE CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION OF THE AMERICAN WELDING SOCIETY AND BE PERFORMED BY A CERTIFIED WELDER IN ACCORDANCE WITH A.W.S. STANDARDS.

6. UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS, ALL CONNECTIONS SHALL BE DESIGNED AND DETAILED UNDER THE SUPERVISION OF A NEW YORK STATE REGISTERED PROFESSIONAL ENGINEER HIRED BY THE FABRICATOR. CALCULATIONS SHALL BEAR THE SEAL AND SIGNATURE OF THIS ENGINEER. DETAILING SHALL BE PERFORMED USING RATIONAL ENGINEERING DESIGN AND STANDARD PRACTICE, AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE GENERAL DETAILS SHOWN ON THE DRAWINGS ARE CONCEPTUAL ONLY AND DO NOT INDICATE THE REQUIRED NUMBER OF BOLTS OR WELD SIZES, UNLESS SPECIFICALLY NOTED.

7. ALL DIMENSIONS AND ELEVATION MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE STRUCTURAL STEEL IS FABRICATED.

8. CONNECTIONS NOT SHOWN ARE TO BE DETAILED BY THE FABRICATOR IN ACCORDANCE WITH A.I.S.C. SPECIFICATION REFERRED TO IN NOTE 1 ABOVE, FOR THE MAXIMUM SHEAR REACTION. DETAILS OF ALL CONNECTIONS MUST BE SHOWN ON THE SHOP DRAWINGS. MINIMUM CONNECTION ANGLE THICKNESS SHALL BE 5/16".

9. FOR MISCELLANEOUS ANCHORS, TIES, STRAPS, ETC. SEE ARCHITECTURAL DRAWINGS.

10. THE FABRICATOR/ERECTOR SHALL SUBMIT TO THE ENGINEER, FOR REVIEW, ENGINEERED AND CHECKED SHOP DRAWINGS SHOWING SHOP FABRICATION DETAILS, FIELD ASSEMBLY DETAILS AND ERECTION DIAGRAMS FOR ALL STRUCTURAL STEEL. ERECTION DRAWINGS AND JOB STANDARDS SHALL BE SUBMITTED FOR REVIEW PRIOR TO START OF PIECE DETAILING.

11. SHOP AND FIELD TESTING OF WELDS AND BOLTS SHALL BE AS FOLLOWS:
   A. ALL WELDS SHALL BE VISUALLY INSPECTED. FIFTEEN (15) PERCENT AT RANDOM SHALL BE MEASURED.
   B. FILLET WELDS FOR BEAM AND GIRDER SHEAR CONNECTION PLATES (15 PERCENT AT RANDOM) SHALL BE CHECKED BY MAGNETIC PARTICLE FOR FINAL PASS ONLY.
   C. ULTRASONICALLY TEST 100 PERCENT OF ALL FULL PENETRATION WELDS.
   D. CHECK ALL SLIP CRITICAL BOLTS WITH THE "DIRECT TENSION INDICATOR" METHOD. ALL BOLTS SHALL BE VISUALLY INSPECTED. MEASURE, WITH FEELER GAUGES, AT LEAST 15 PER CENT OF BOLTS IN EACH CONNECTION, BUT NOT LESS THAN TWO BOLTS PER CONNECTION.
   E. THE TESTING AGENCY SHALL PERFORM ALL SHOP AND FIELD INSPECTION AND TESTING AS OUTLINED ABOVE.
   F. THE STRUCTURAL STEEL FABRICATOR AND ERECTOR SHALL SCHEDULE ALL WORK TO ALLOW THE ABOVE TESTING REQUIREMENTS TO BE COMPLETED.

12. THERE SHALL BE NO FIELD CUTTING, DRILLING OR NOTCHING OF ANY TYPE OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES OR FOR FIELD CONDITIONS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

13. ALL STRUCTURAL STEEL, EXCEPT WHERE TO BE FIELD WELDED, TO RECEIVE SPRAY-ON FIREPROOFING AND AS NOTED BELOW SHALL RECEIVE ONE COAT OF SHOP PRIMER. COORDINATE COMPATIBILITY OF SHOP PRIMER WITH ELEMENTS O BE COATED/PAINTED IN THE FIELD. COORDINATE WITH ARCHITECTURAL DRAWINGS.

14. ALL EXTERIOR STRUCTURAL STEEL, STAIRS, RAILINGS, DUNNAGE FRAMING, POSTS, GRATINGS, ETC AND ALL LINTELS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153.

15. FIELD REPAIRS OF GALVANIZED STEEL COATING SHALL BE MADE IN ACCORDANCE WITH ASTM a 780/A78M-20 "STANDARD PRACTICE FOR REPAIR OF DAMAGED AND UNCOATED HOT DIPPED GALVANIZED COATINGS."

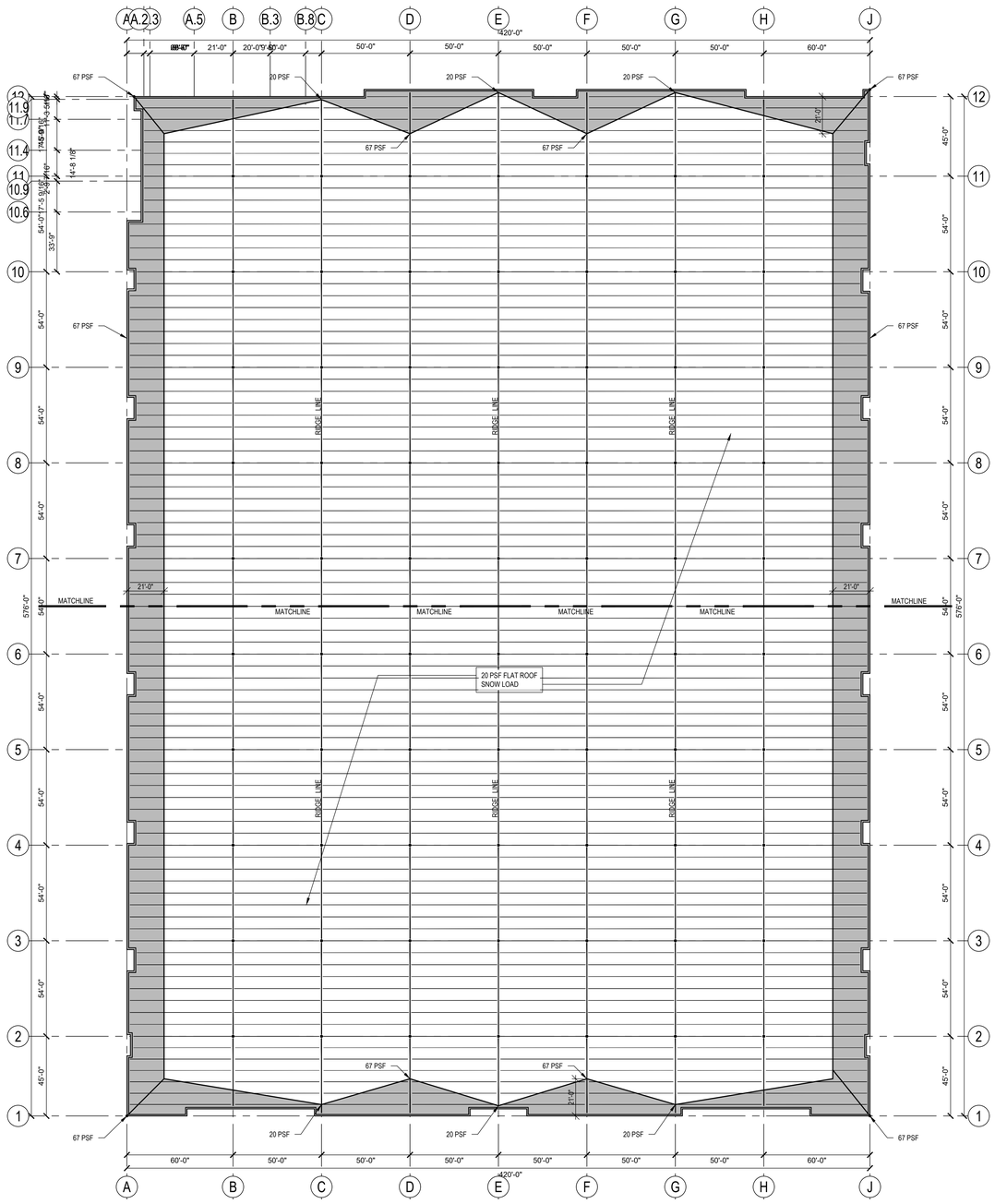
STEEL DECK NOTES

1. STEEL DECK SHALL BE DESIGNED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE CURRENT SPECIFICATION OF THE STEEL DECK INSTITUTE.

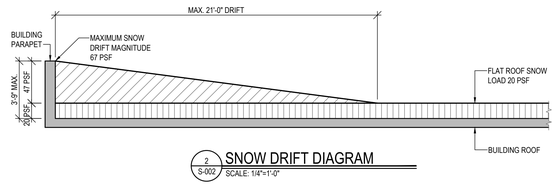
2. ROOF DECK SHALL BE GALVANIZED TYPE NS DECK, DEPTH AND GAGES NOTED ON PLAN, AS MANUFACTURED BY VULCRAFT, A DIVISION OF NUCOR CORPORATION OR APPROVED EQUAL.

3. THE STEEL DECK SHALL BE SUPPLIED WITH END CLOSURES, CLOSURES AT PENETRATIONS, AND ALL OTHER ACCESSORIES NECESSARY FOR A COMPLETE INSTALLATION ARE REQUIRED.

4. STEEL DECK SHALL BE WELDED TO SUPPORTING STEEL WITH ⅝" DIAMETER PUDDLE WELDS AT ALL EDGE RIBS PLUS A SUFFICIENT NUMBER OF INTERIOR RIBS TO LIMIT THE SPACING BETWEEN ADJACENT POINTS OF ATTACHMENT TO 12 INCHES. INTERMEDIATE SIDE CONNECTIONS SHALL BE MADE WITH BUTTON PUNCHES AT MID-SPAN OR 3'-0" ON CENTER, WHICHEVER IS SMALLER. END LAPS OF SHEETS SHALL BE A MINIMUM OF 2" AND SHALL OCCUR OVER SUPPORTS. USE WELDING WASHERS WITH DECK THINN



1 S-002 ROOF SNOW LOADING PLAN
SCALE: 1/32"=1'-0"



2 S-002 SNOW DRIFT DIAGRAM
SCALE: 1/4"=1'-0"

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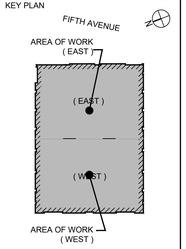
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KEY PLAN



REVISION:	DATE:
100% CD	08/04/23
50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23

DRAWING TITLE:
STRUCTURAL - ROOF SNOW LOADING PLAN

SCALE: AS SHOWN

DRAWN BY: ERS/LMB

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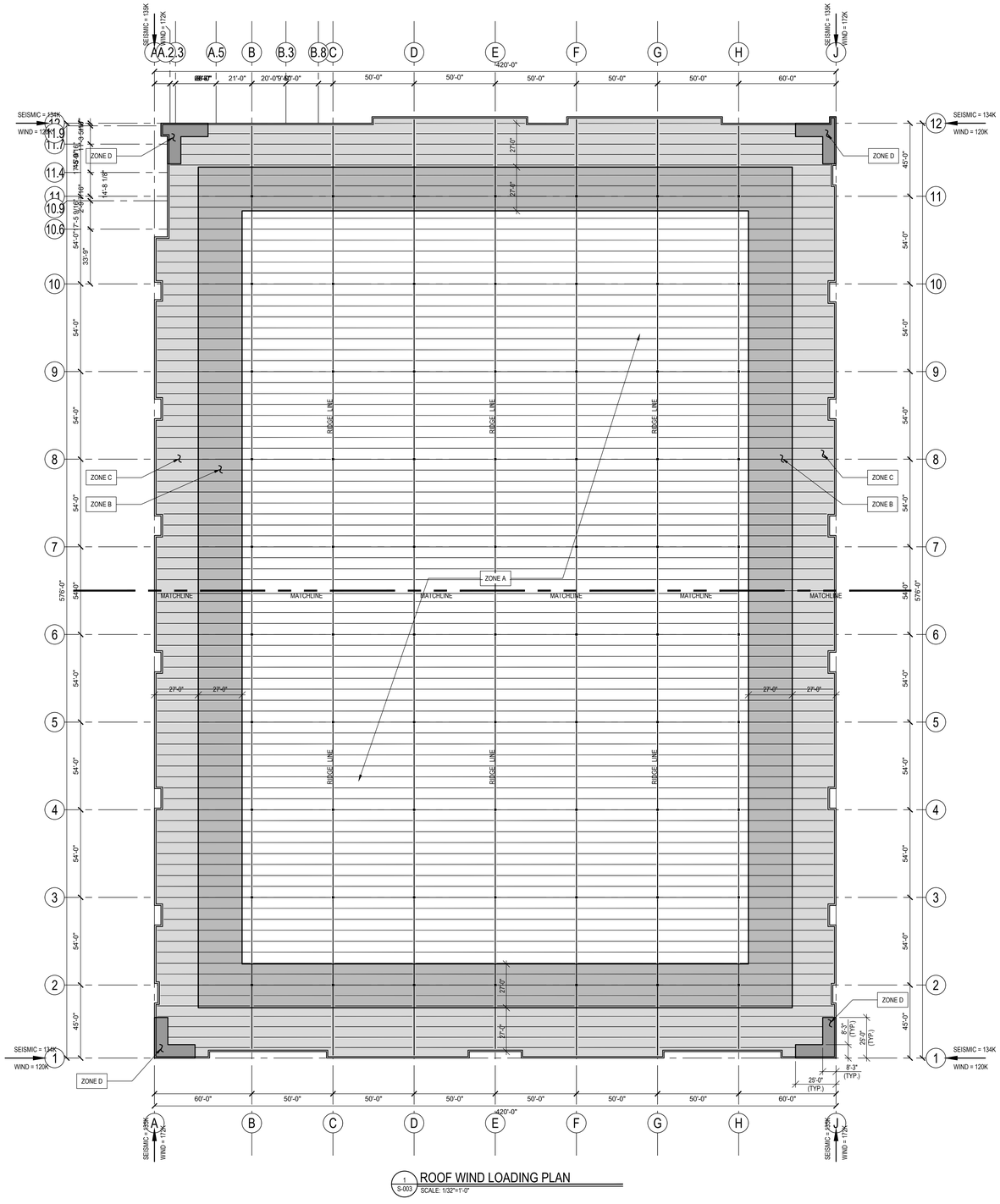
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1 S-003 ROOF WIND LOADING PLAN
SCALE: 1/32"=1'-0"

LEGEND FOR ROOF LRFD WIND LOAD DIAGRAM BUILDING 2

HATCHING	LABEL	NEGATIVE PRESSURE (PSF)	POSITIVE PRESSURE (PSF)
	ZONE A	32	16
		39	16
		52	25
		67	29

BASE SHEAR
Fx = 255.21K
Fy = 343.39K
Ex AND Ey = 257.54K

XEBEC

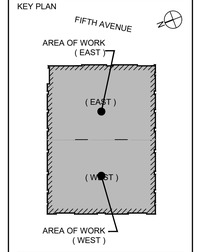
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KEY PLAN



100% CD	08/04/23
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PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
REVISION:	DATE:

DRAWING TITLE:
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SCALE: AS SHOWN

DRAWN BY: ERS/LMB

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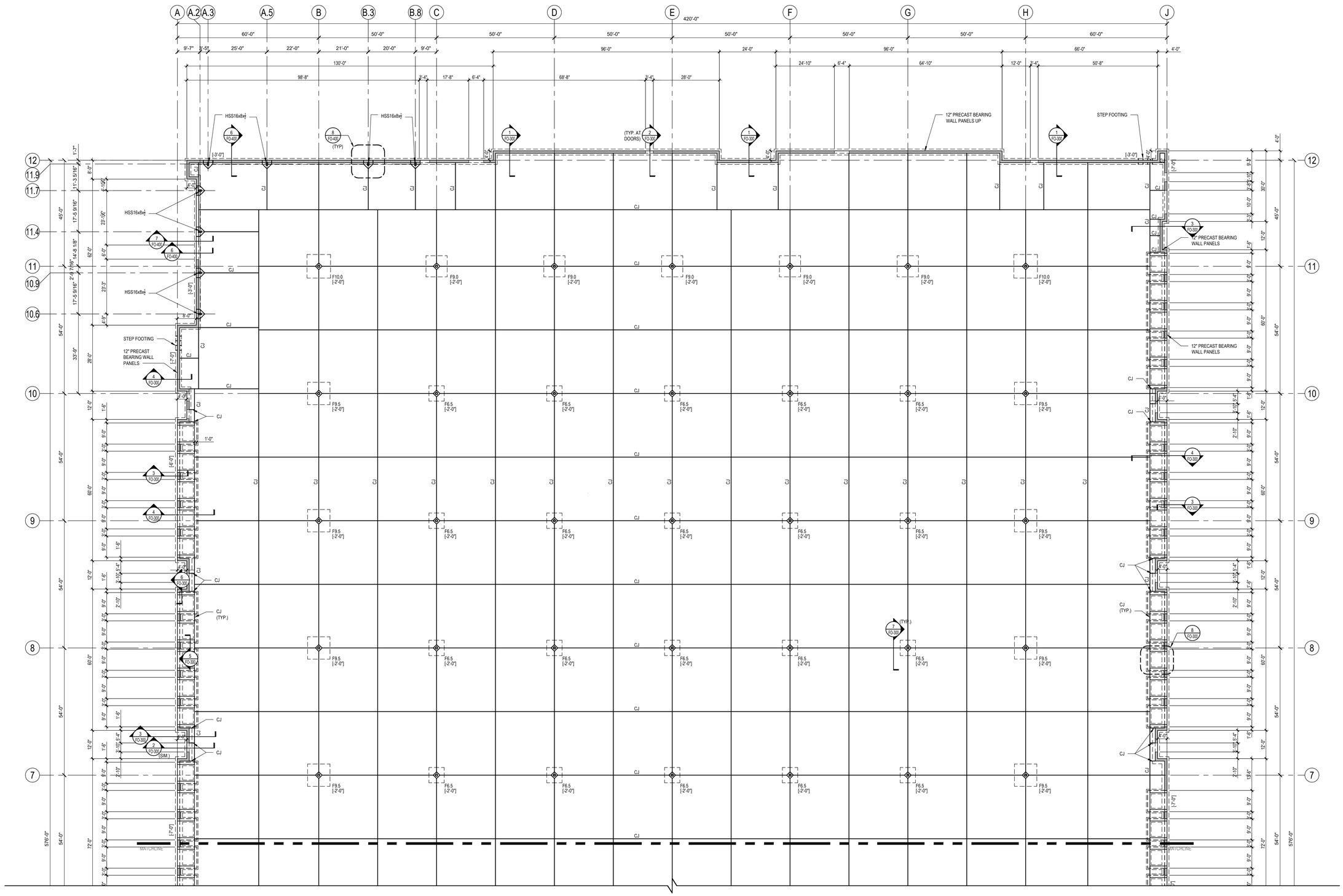
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1 FO-101 FOUNDATION PLAN - EAST

SCALE: 1/16"=1'-0"

- REFER TO DRAWING S-001 FOR GENERAL NOTES
- TOP OF SLAB ELEVATION 0'-0"
- TOP OF FOOTINGS NOTE [±XX'-X"] FROM TOP OF SLAB ELEVATION 0'-0"
- SEVEN INCH (7") THICK, FIBER REINFORCED SLAB-ON-GRADE THROUGHOUT. SEE DETAILS ON DRAWING FO-400
- SITE PREPARATION DESIGN BY OTHERS. SITE/ BEARING STRATA FOR ALL FOOTINGS SHALL BE IMPROVED FROM THE CURRENT UNCONTROLLED LOOSE FILL TO HAVE A MINIMUM ALLOWABLE SOIL BEARING CAPACITY OF 2.5 TSF. THE SLAB-ON-GRADE BEARING STRATA SHALL HAVE A SOIL MODULUS OF 200 PCI.
- SLAB-ON-GRADE DESIGN LIVE LOAD IS 800 PSF.

FOOTING SCHEDULE

MARK	SIZE	THICK.	REINFORCING EACH WAY	
			BOTTOM	TOP
F6.5	6'-6"x6'-6"	24"	(8)-#7	(7)-#7
F8.5	8'-6"x8'-6"	24"	(9)-#7	(8)-#7
F9.0	9'-0"x9'-0"	24"	(10)-#7	(9)-#7
F9.5	9'-6"x9'-6"	24"	(12)-#7	(10)-#7
F10.0	10'-0"x10'-0"	28"	(11)-#8	(9)-#8

XEBEC

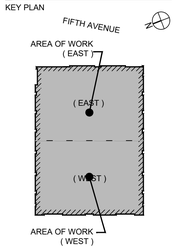
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KEY PLAN



100% CD	08/04/23
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PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
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DRAWING TITLE:
STRUCTURAL - FOUNDATION PLAN

SCALE: AS SHOWN

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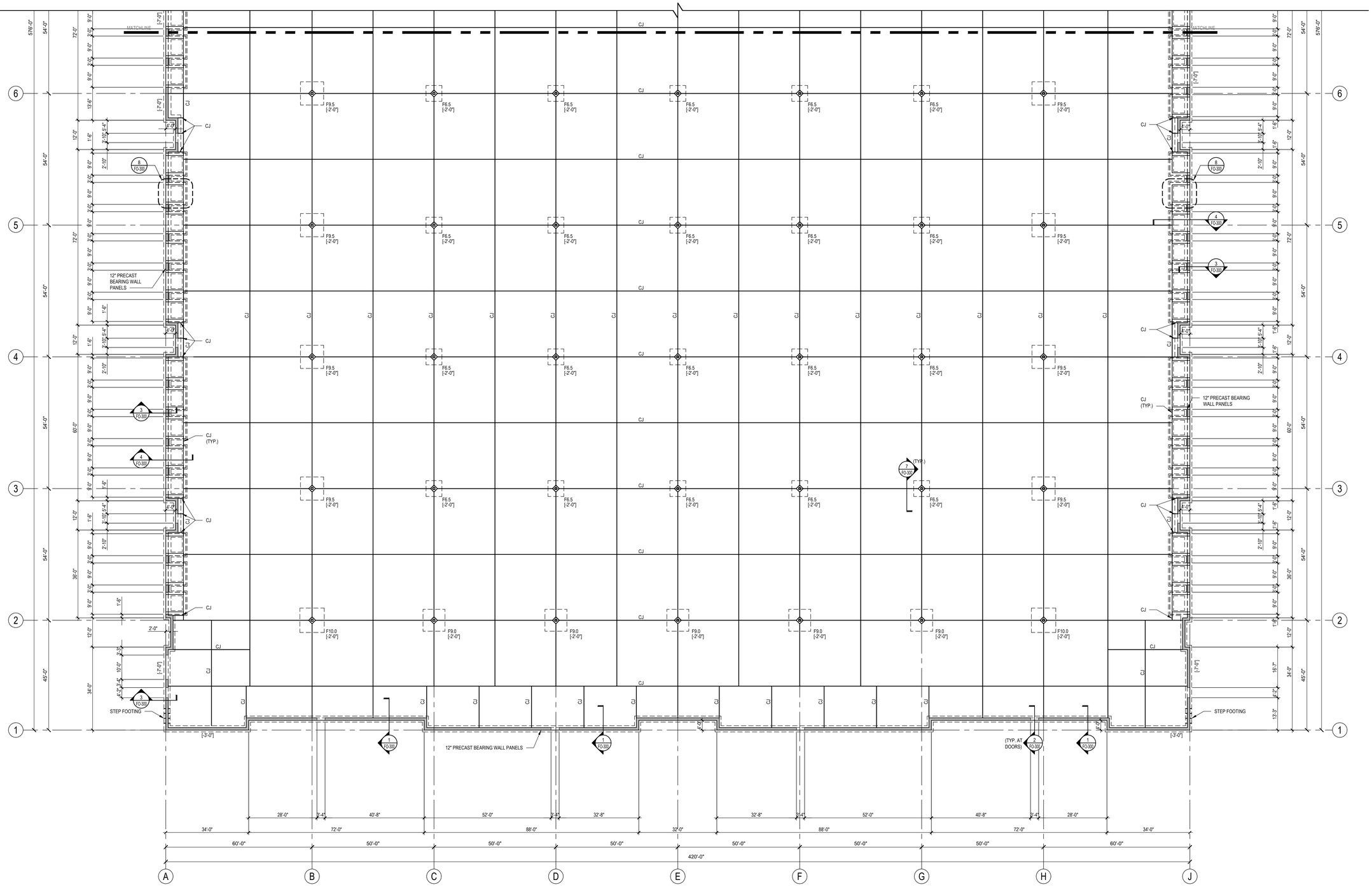
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1 FO-102 FOUNDATION PLAN - WEST

SCALE: 1/16"=1'-0"

- REFER TO DRAWING S-001 FOR GENERAL NOTES
- TOP OF SLAB ELEVATION 0'-0"
- TOP OF FOOTINGS NOTE [±XX'-X"] FROM TOP OF SLAB ELEVATION 0'-0"
- SEVEN INCH (7") THICK, FIBER REINFORCED SLAB-ON-GRADE THROUGHOUT. SEE DETAILS ON DRAWING FO-400
- SITE PREPARATION DESIGN BY OTHERS. SITE/ BEARING STRATA FOR ALL FOOTINGS SHALL BE IMPROVED FROM THE CURRENT UNCONTROLLED LOOSE FILL TO HAVE A MINIMUM ALLOWABLE SOIL BEARING CAPACITY OF 2.5 TSF. THE SLAB-ON-GRADE BEARING STRATA SHALL HAVE A SOIL MODULUS OF 200 PCI.
- SLAB-ON-GRADE DESIGN LIVE LOAD IS 800 PSF.

FOOTING SCHEDULE

MARK	SIZE	THICK.	REINFORCING EACH WAY	
			BOTTOM	TOP
F6.5	6'-6"x6'-6"	24"	(8)-#7	(7)-#7
F8.5	8'-6"x8'-6"	24"	(9)-#7	(8)-#7
F9.0	9'-0"x9'-0"	24"	(10)-#7	(9)-#7
F9.5	9'-6"x9'-6"	24"	(12)-#7	(10)-#7
F10.0	10'-0"x10'-0"	28"	(11)-#8	(9)-#8

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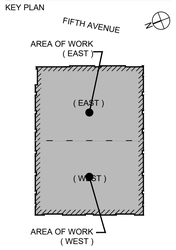
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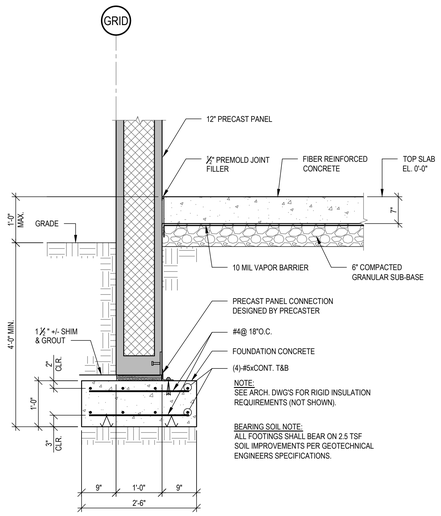
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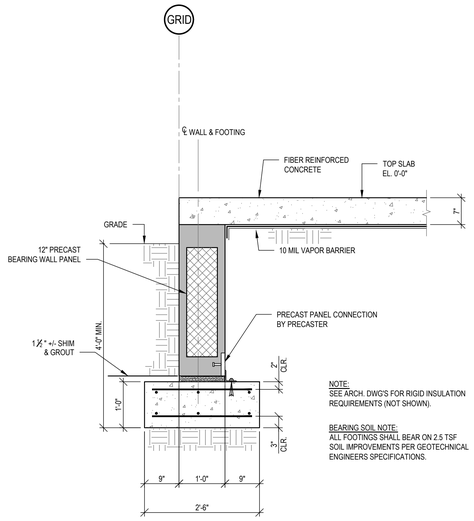
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NOTE:
SEE ARCH. DWG'S FOR RIGID INSULATION REQUIREMENTS (NOT SHOWN).

BEARING SOIL NOTE:
ALL FOOTINGS SHALL BEAR ON 2.5 TSF SOIL IMPROVEMENTS PER GEOTECHNICAL ENGINEERS SPECIFICATIONS.

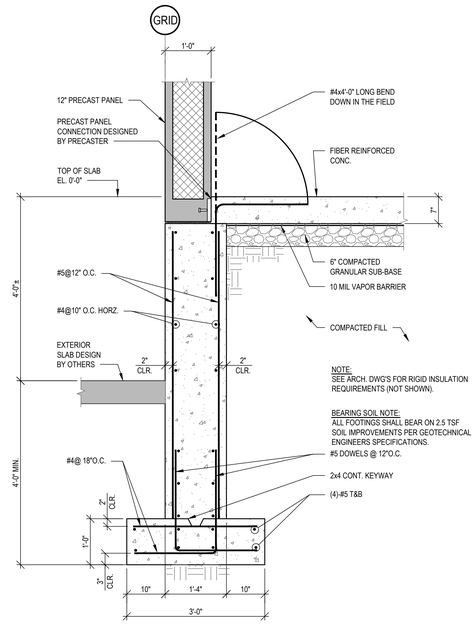
1 FO-300 **TYPICAL WALL FOOTING SECTION**
SCALE: 3/4"=1'-0"



NOTE:
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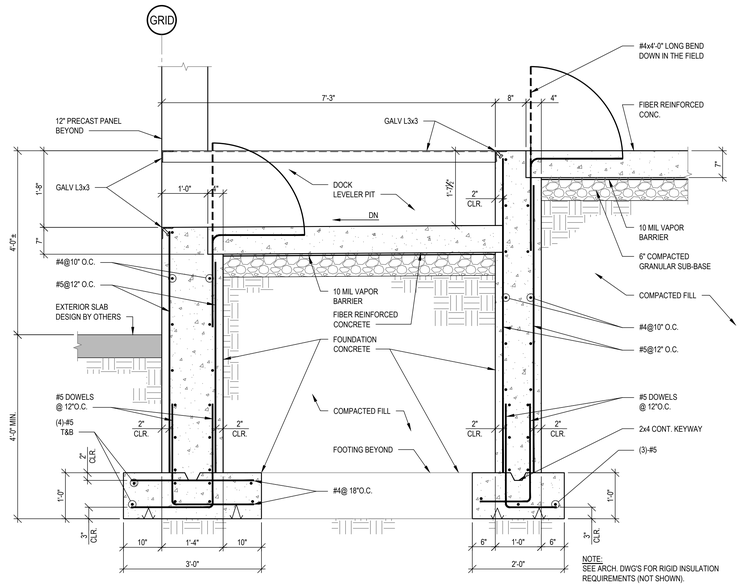
2 FO-300 **SLAB SECTION AT DOORS**
SCALE: 3/4"=1'-0"



NOTE:
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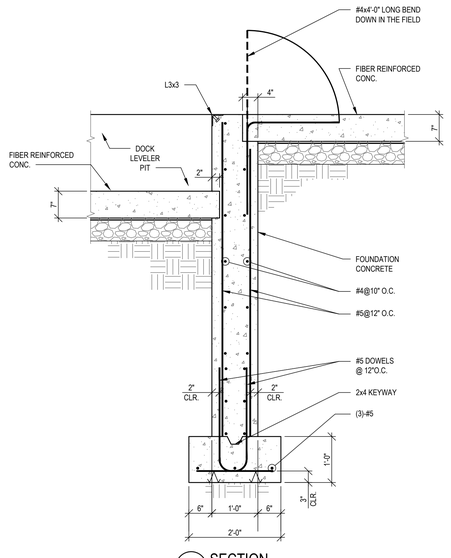
3 FO-300 **SECTION**
SCALE: 3/4"=1'-0"



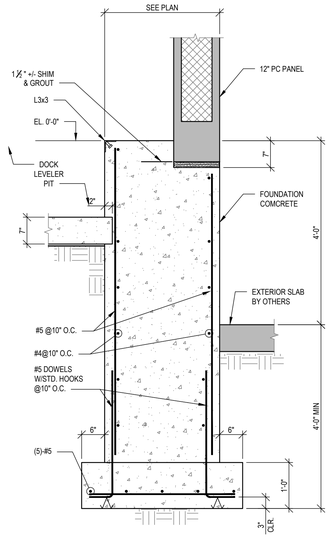
NOTE:
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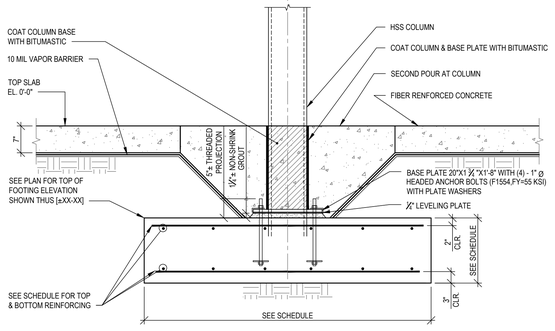
4 FO-300 **DOCK LEVELER PIT SECTION**
SCALE: 3/4"=1'-0"



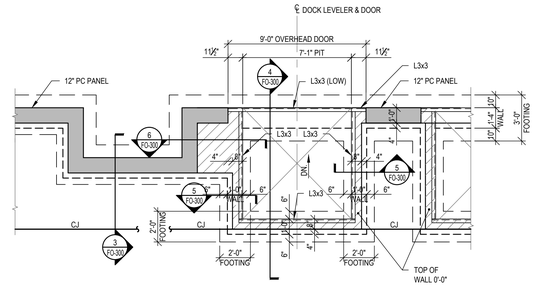
5 FO-300 **SECTION**
SCALE: 3/4"=1'-0"



6 FO-300 **SECTION**
SCALE: 3/4"=1'-0"



7 FO-300 **COLUMN/BASE FOOTING DETAIL**
SCALE: 3/4"=1'-0"



8 FO-300 **DOCK LEVELER PIT PLAN DETAILS**
SCALE: 1/4"=1'-0"

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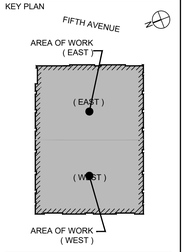
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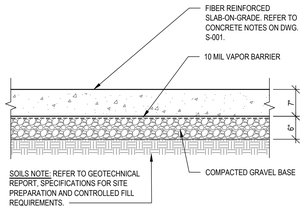
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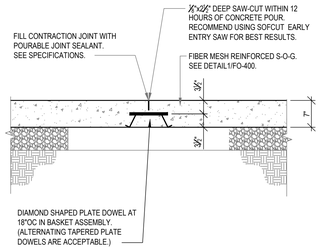
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FO-300

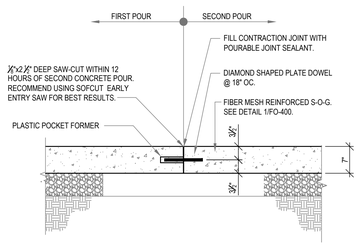
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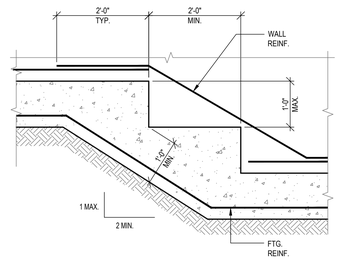
1 FO-400 TYPICAL SLAB-ON-GRADE DETAIL
SCALE: 3/4"=1'-0"



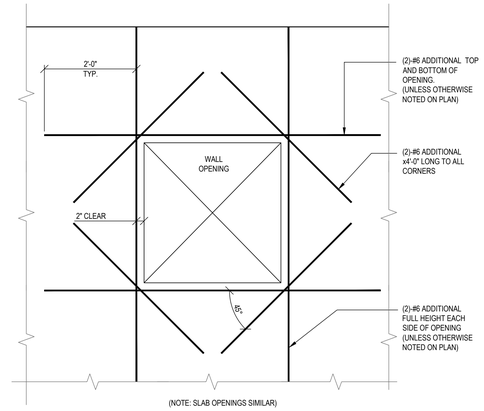
2 FO-400 TYPICAL SLAB-ON-GRADE CONTRACTION JOINT
SCALE: 3/4"=1'-0"



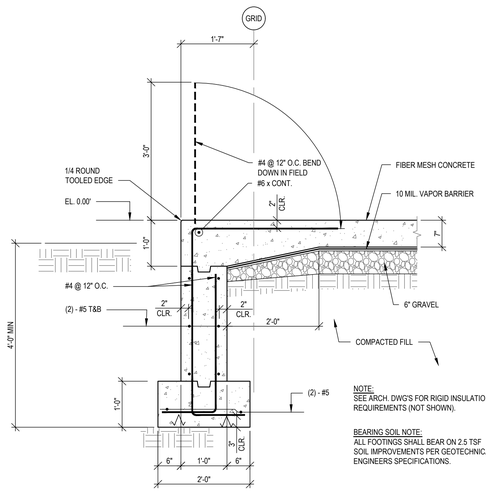
3 FO-400 TYPICAL SLAB-ON-GRADE CONSTRUCTION JOINT
SCALE: 3/4"=1'-0"



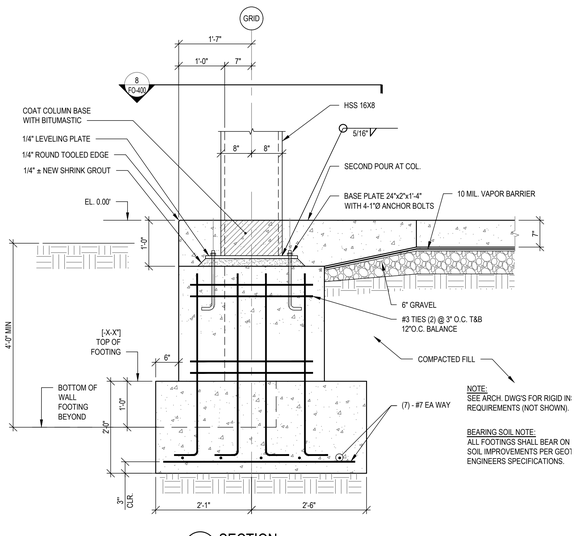
4 FO-400 TYPICAL STEPPED FOOTING DETAIL
SCALE: 3/4"=1'-0"



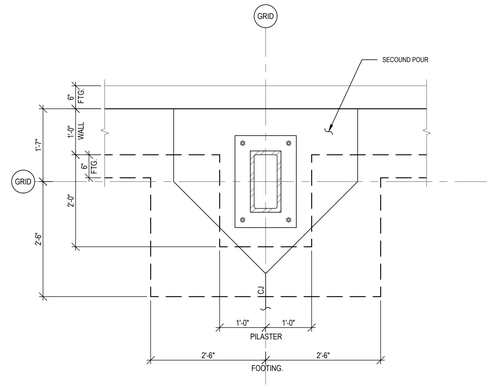
5 FO-400 TYPICAL FOOTING WALL OPENING DETAIL
SCALE: 3/4"=1'-0"



6 FO-400 SECTION
SCALE: 3/4"=1'-0"



7 FO-400 SECTION
SCALE: 3/4"=1'-0"



8 FO-400 PLAN DETAIL
SCALE: 3/4"=1'-0"

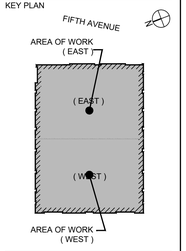
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KEY PLAN



100% CD	08/04/23
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PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
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DRAWING TITLE:
STRUCTURAL - FOUNDATION DETAILS

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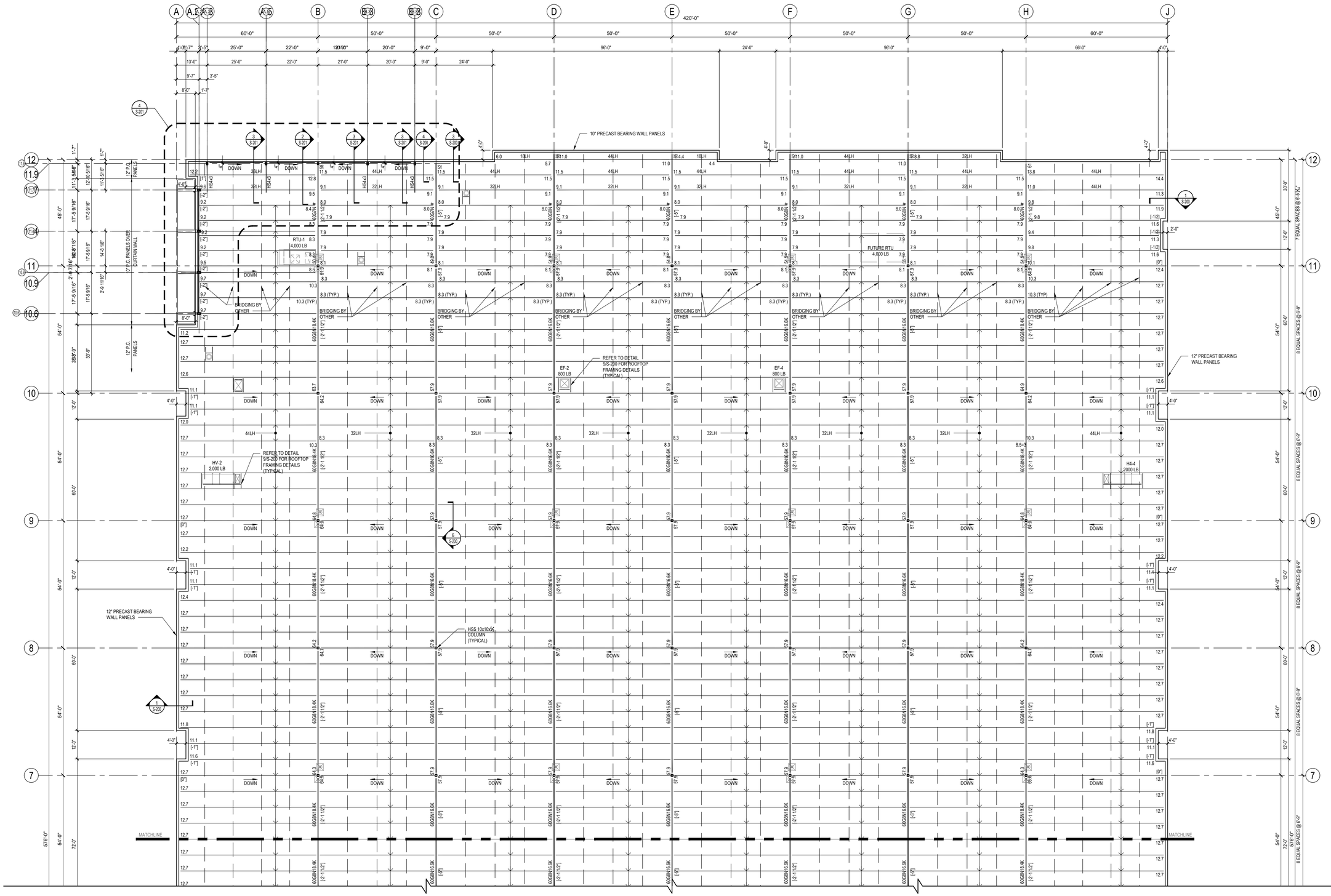
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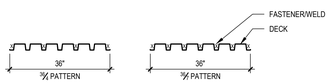
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1 S-101 ROOF FRAMING PLAN - EAST

SCALE: 1/16"=1'-0"



- REFER TO DRAWING S-001 FOR GENERAL NOTES.
- REFER TO DRAWINGS S-002 & S-003 FOR ROOF SNOW & WIND LOADINGS.
- TOP OF STEEL H.P. EL. SHALL BE 47'-1/2" ABOVE FLOOR UNLESS OTHERWISE NOTED [± XX'-X"] FROM H.P. EL. 47'-1/2".
- ALL COLUMNS SHALL BE HSS 10x10x5/8.
- ROOF DECK SHALL BE 3" DEEP, 20 GA. GALV. TYPE N.
- TRUSS MANUFACTURE TO DETERMINE AND SUPPLY THE REQUIRED UPLIFT BRIDGING TO BE INSTALLED BY STEEL ERECTOR.
- VULCRAFT GROUP 36" WIDE PANEL ROOF METAL DECK 1 1/2" DEEP X 18 GAUGE, GRADE 50 (FY=50 KSI) TYPE B (WIDE RIB) PAINTED, THREE (3) SPANS CONDITION (Ip=0.289 in4/ft, Sp=0.318 in3/ft, In=0.295 in4/ft, Sn=0.327 in3/ft), ATTACH ROOF DECK TO SUPPORTS WITH #12 SCREWS ON A 36/4 FASTENER PATTERN PERPENDICULAR TO SUPPORTS AND 12" ON CENTER PARALLEL TO THE SUPPORTS/JOISTS AND ALONG THE PERIMETER. SIDELAP CONNECTION SHALL BE FOUR (4) #12 SCREWS EQUALLY SPACED. PROVIDE A MINIMUM OF 2 1/2" DECK END BEARING. ALLOWABLE ROOF DECK CAPACITY (ASD): DIAPHRAGM SHEAR STRENGTH = 405 PLF, WIND SHEAR STIFFNESS G' = 46 KIP/IN, SEISMIC DIAPHRAGM SHEAR = 426 PLF.
- ROOF METAL DECK ATTACHMENT FASTENER PATTERN:



FRAMING MEMBER LEGEND

NOTE:
ALL JOISTS, GIRDERS, BRIDGING SYSTEMS, AND ASSOCIATED CONNECTIONS SHALL BE DESIGNED BY THE JOIST MANUFACTURER FOR THE DEAD AND LIVE LOADS NOTED ON DRAWING S-001 PLUS THE WIND AND SNOW LOADINGS SHOWN ON DRAWINGS S-002 AND S-003.

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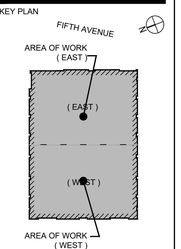
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DRAWING TITLE:
STRUCTURAL - ROOF FRAMING PLAN

SCALE: AS SHOWN

DRAWN BY: ERS/LMB

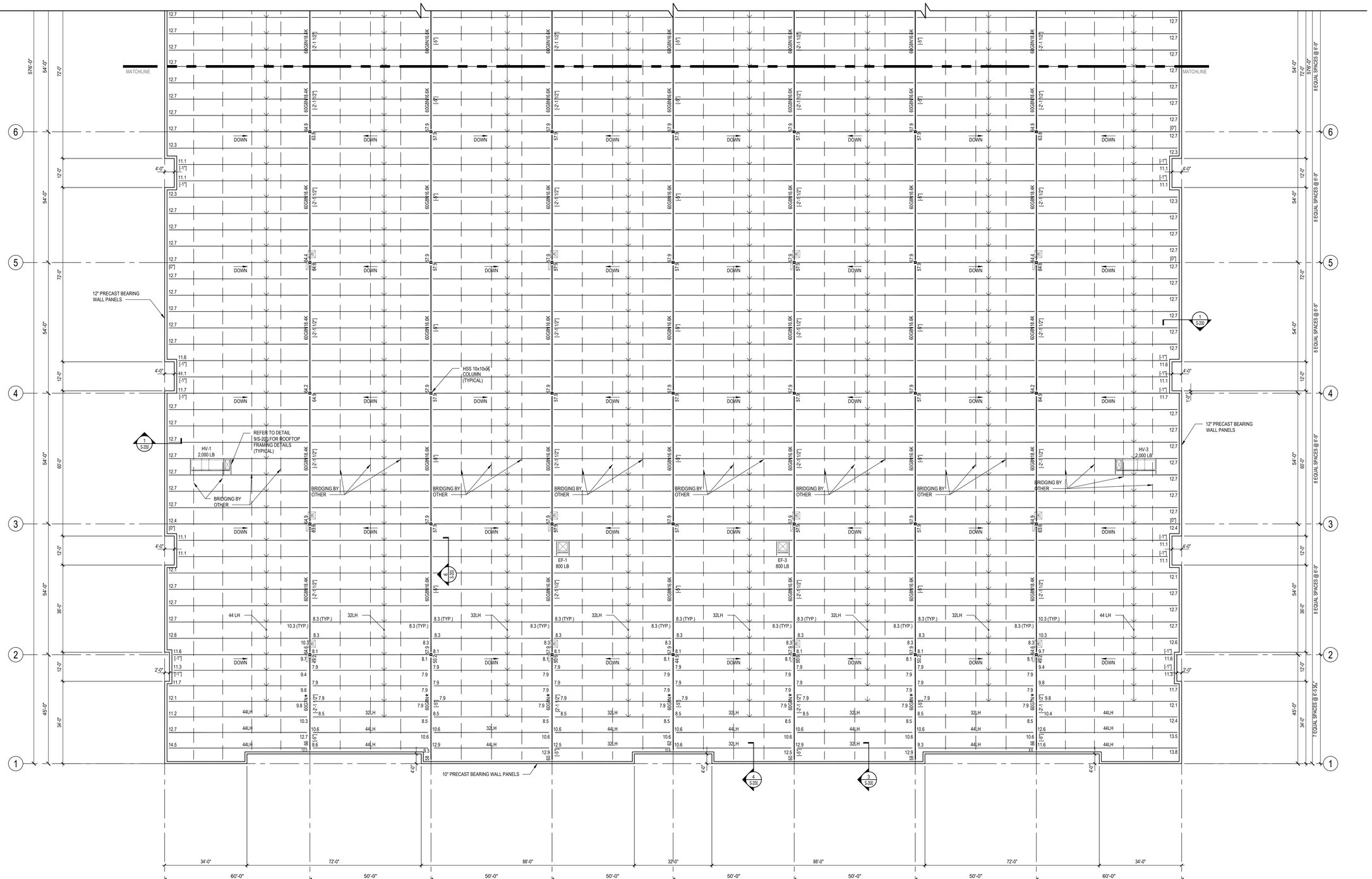
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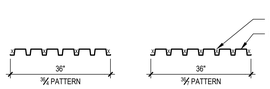
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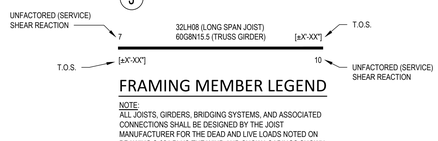


ROOF FRAMING PLAN - WEST

1 / S-102 — SCALE: 1/16"=1'-0"

- REFER TO DRAWING S-001 FOR GENERAL NOTES.
- REFER TO DRAWINGS S-002 & S-003 FOR ROOF SNOW & WIND LOADINGS.
- TOP OF STEEL H.P. EL. SHALL BE 47'-1/2" ABOVE FLOOR UNLESS OTHERWISE NOTED [± XX'-X"] FROM H.P. EL. 47'-1/2".
- ALL COLUMNS SHALL BE HSS 10x10x5/16.
- ROOF DECK SHALL BE 3" DEEP, 20 GA. GALV. TYPE N.
- TRUSS MANUFACTURE TO DETERMINE AND SUPPLY THE REQUIRED UPLIFT BRIDGING TO BE INSTALLED BY STEEL ERECTOR.
- VULCRAFT GROUP 36" WIDE PANEL ROOF METAL DECK 1 1/2" DEEP X 18 GAUGE, GRADE 50 (FY=50 KSI) TYPE B (WIDE RIB) PAINTED, THREE (3) SPANS CONDITION (lp=0.289 in4/ft, Sp=0.318 in3/ft, In=0.295 in4/ft, Sn=0.327 in3/ft). ATTACH ROOF DECK TO SUPPORTS WITH #12 SCREWS ON A 36/4 FASTENER PATTERN PERPENDICULAR TO SUPPORTS AND 12" ON CENTER PARALLEL TO THE SUPPORTS/JOISTS AND ALONG THE PERIMETER. SIDELAP CONNECTION SHALL BE FOUR (4) #12 SCREWS EQUALLY SPACED. PROVIDE A MINIMUM OF 2 1/2" DECK END BEARING. ALLOWABLE ROOF DECK CAPACITY (ASD): DIAPHRAGM SHEAR STRENGTH = 405 PLF, WIND SHEAR STIFFNESS G' = 46 KIP/IN, SEISMIC DIAPHRAGM SHEAR = 426 PLF.
- ROOF METAL DECK ATTACHMENT FASTENER PATTERN:





FRAMING MEMBER LEGEND

NOTE:
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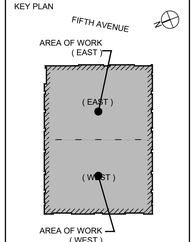
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SCALE: AS SHOWN

DRAWN BY: ERS/LMB

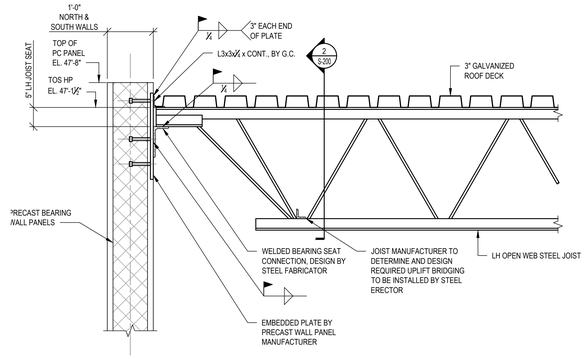
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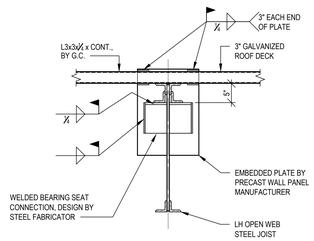
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S-102

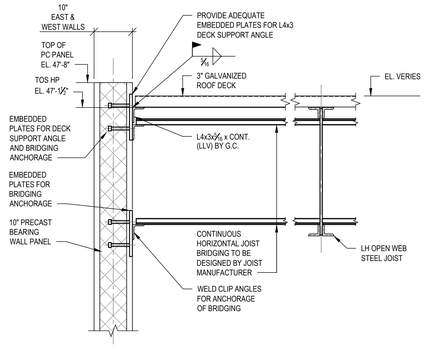
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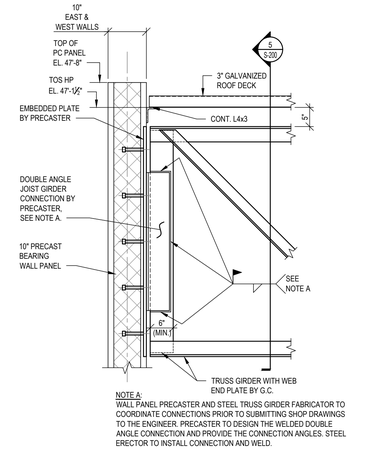
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SCALE: 3/4"=1'-0"



2 S-200 SECTION
SCALE: 3/4"=1'-0"

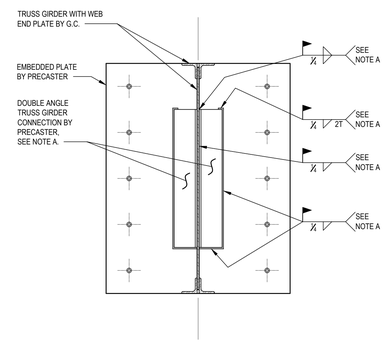


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SCALE: 3/4"=1'-0"



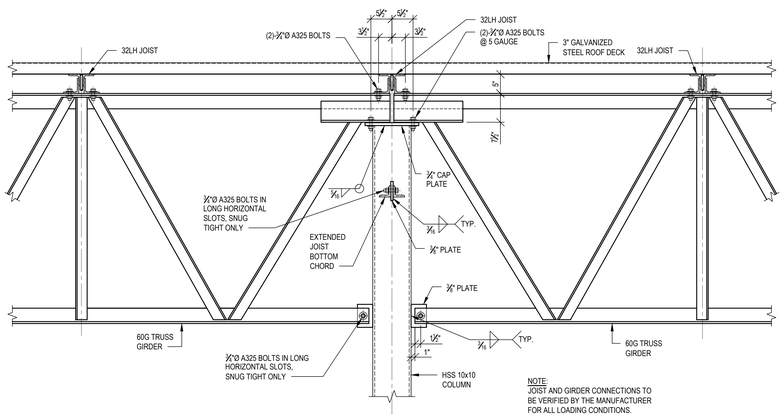
NOTE A:
WALL PANEL PRECASTER AND STEEL TRUSS GIRDER FABRICATOR TO COORDINATE CONNECTIONS PRIOR TO SUBMITTING SHOP DRAWINGS TO THE ENGINEER. PRECASTER TO DESIGN THE WELDED DOUBLE ANGLE CONNECTION AND PROVIDE THE CONNECTION ANGLES. STEEL ERECTOR TO INSTALL CONNECTION AND WELD.

4 S-200 TRUSS GIRDER CONNECTION DETAIL
SCALE: 3/4"=1'-0"



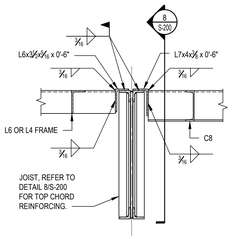
NOTE:
FOR LOADS GREATER THAN 80 KIPS, CONSULT WITH PRECASTER ENGINEERING DEPARTMENT.

5 S-200 TRUSS GIRDER CONNECTION ELEVATION
SCALE: 3/4"=1'-0"

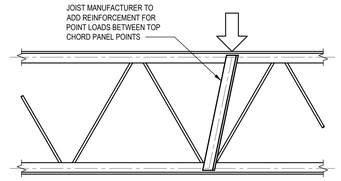


NOTE:
JOIST AND GIRDER CONNECTIONS TO BE VERIFIED BY THE MANUFACTURER FOR ALL LOADING CONDITIONS.

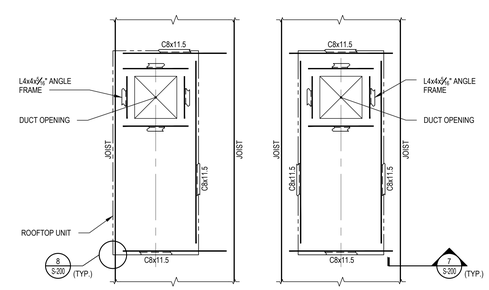
6 S-200 COLUMN CAP DETAIL
SCALE: 3/4"=1'-0"



7 S-200 TYPICAL ROOFTOP FRAMING DETAIL
SCALE: 3/4"=1'-0"

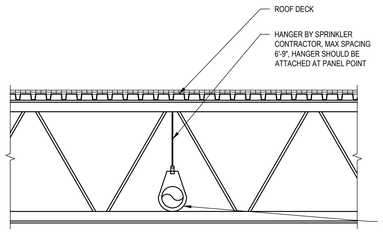


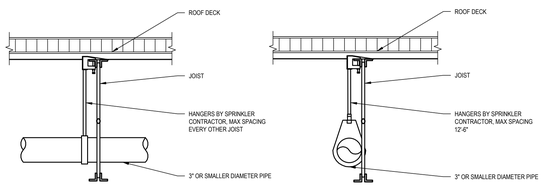
8 S-200 JOIST POINT LOAD REINFORCEMENT DETAIL
SCALE: 3/4"=1'-0"



9 S-200 ROOF TOP UNIT FRAMING DETAILS
SCALE: 1/4"=1'-0"

- COORDINATE DIMENSIONS AND LOCATIONS WITH MECHANICAL DRAWINGS.

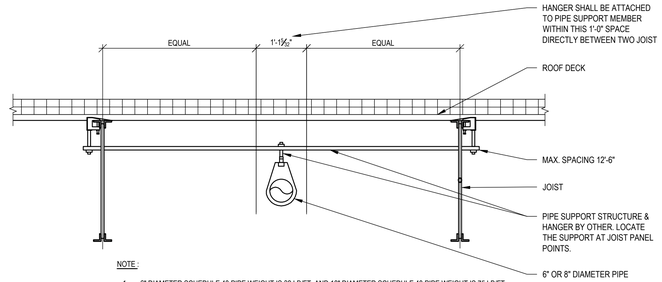




NOTE :

1. ALL JOIST BRIDGING SHALL BE LOCATED SUCH THAT THE LEADING EDGE OF ANY BRIDGING MEMBER IS A MINIMUM OF 1'-0" (MEASURED HORIZONTALLY) FROM THE CENTER LINE OF ANY SPRINKLER LOCATED ABOVE THE BOTTOM CHORD OF BAR JOISTS. COORDINATE EXACT LOCATIONS OF BRIDGING WITH THE DIMENSIONAL INFORMATION SHOWN ON THE AUTOMATIC SPRINKLER CONSTRUCTION DRAWINGS. NO VARIATION FROM THIS MINIMUM CLEARANCE WILL BE PERMITTED.
2. 3" DIAMETER SCHEDULE 40 PIPE WIGHT IS 11 LB/FT.
3. HANGERS SHALL BE ATTACHED AT JOIST PANEL POINTS, OTHERWISE USE JOIST WEB REINFORCEMENT AS SHOWN IN DETAIL.
4. EXACT LOCATION OF SPRINKLER PIPES TO BE COORDINATED WITH APPROVED SPRINKLER PIPE SHOP DRAWINGS.

10 S-200 DETAIL - 3" AND SMALLER DIAMETER SPRINKLER PIPES
SCALE: 3/4"=1'-0"



NOTE :

1. 6" DIAMETER SCHEDULE 40 PIPE WEIGHT IS 32 LB/FT, AND 10" DIAMETER SCHEDULE 40 PIPE WEIGHT IS 75 LB/FT.
2. IF HANGER IS NOT ATTACHED AT A PANEL POINT, USE JOIST WEB REINFORCEMENT AS SHOWN IN DETAIL
3. ADDITIONAL NOTES SEE DETAIL 11/S-201

11 S-200 DETAIL - 6" OR 10" DIAMETER SPRINKLER PIPES
SCALE: 3/4"=1'-0"

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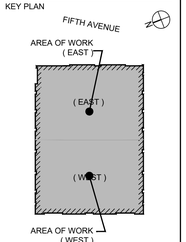
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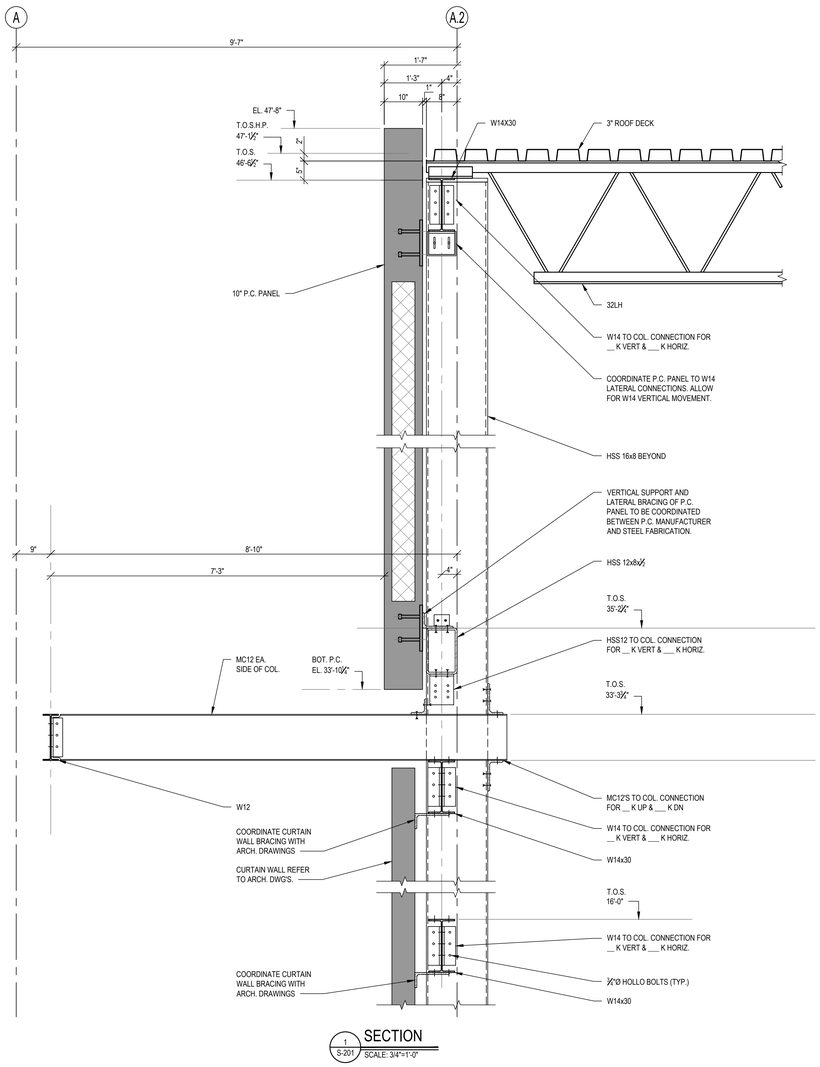
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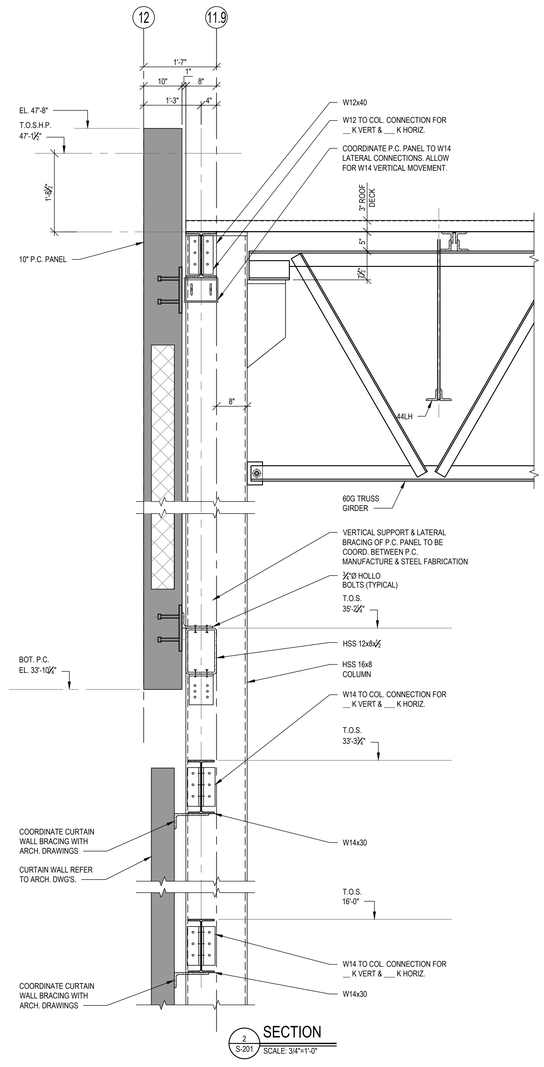
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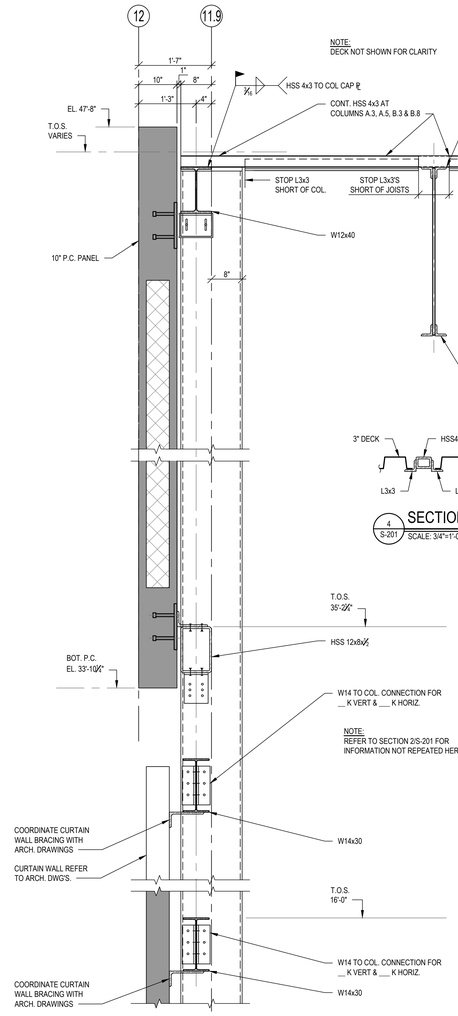
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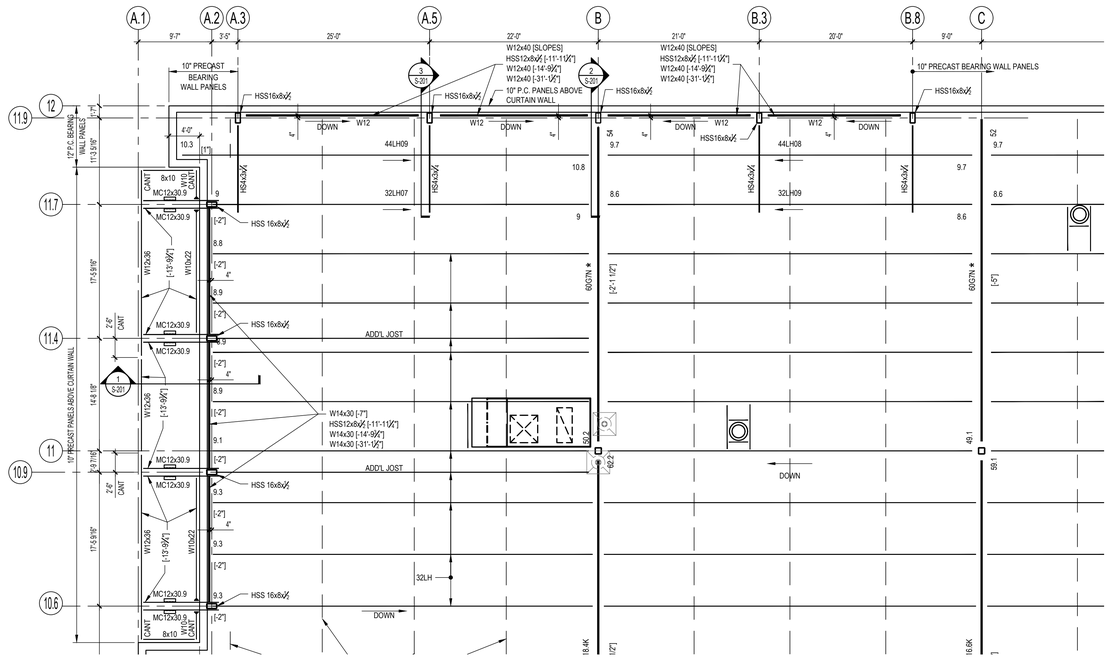


1 S-201 SECTION
SCALE: 3/4"=1'-0"



2 S-201 SECTION
SCALE: 3/4"=1'-0"





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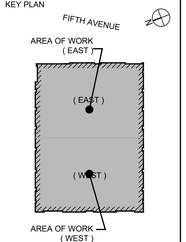
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O:\ss\2201 - 1612 Bld Ave - Xebec Warehouse\STRUCTS\S-201-STRUCTRAL - TYPICAL DETAILS.dwg, Date:June 21, 2024, Pmdgo — Plotted by:Robert W. Lazzaro

GENERAL NOTES

1. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL WORK SHOWN ON DRAWINGS WITH OTHER TRADES TO ASSURE THAT ALL SYSTEMS ARE COMPLETE AND OPERATIONAL. THIS CONTRACTOR SHALL COORDINATE ALL EQUIPMENT LOCATIONS AND CONDUIT RUNS SUPPLIED AND/OR INSTALLED UNDER THIS SECTION TO AVOID CONFLICTS OR OBSTRUCTIONS TO OTHER TRADES. THIS CONTRACTOR SHALL PROVIDE ALL NECESSARY PULLBOXES AND CONDUIT OFFSETS REQUIRED TO ACCOMPLISH THE ABOVE NOTED COORDINATION AT NO ADDITIONAL COST TO THE OWNER, WHETHER OR NOT INDICATED ON PLANS.

2. FURNISH AND INSTALL ALL NECESSARY CABLE SUPPORT BOXES, PULLBOXES AND CONDUIT SUPPORTS, WHERE NOTED AND AS REQUIRED BY APPLICABLE CODES. ALL LOW TENSION CONDUIT, FIRE ALARM CONDUIT, ETC. WHICH HAVE RUNS IN EXCESS OF 100 FEET IN LENGTH AND/OR CONSTRAINING BENDS IN EXCESS OF 180 DEGREES SHALL BE PROVIDED WITH A PULLBOX. ALL PULLBOXES SHALL BE LABELED FOR THEIR INTENDED USE OR VOLTAGE LEVEL, AND ALL WIRE AND CABLE PROVIDED UNDER THIS SECTION SHALL BE TAGGED AT ALL PULLBOXES.

3. UNLESS SPECIFICALLY APPROVED, NO WIRES SHALL BE PULLED IN UNTIL THE CONDUIT SYSTEM IS COMPLETED. NO GREASE OR OIL SHALL BE USED TO FACILITATE THE PULLING OF WIRES; ONLY APPROVED PULLING COMPOUND SHALL BE USED. ALL WIRES SHALL BE CONTINUOUS BETWEEN OUTLET AND OUTLET, OR FROM PANELBOARD TO THE FIRST OUTLET. JOINTS THAT BECOME NECESSARY IN CIRCUIT WORK AT THE OUTLETS SHALL BE MADE WITH APPROVED PRESSURE CONDUCTORS. APPROVED PRESSURE CONNECTORS, IDEAL WINGNUTS, SCOTCH-LOCK, BUCHANAN, OR AS APPROVED, MAY BE USED IN LIEU OF SOLDER AND TAPE.

4. EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL LIGHTING FIXTURES, SWITCHES, WALL OUTLETS, ETC, SHALL BE IN ACCORDANCE WITH ARCHITECTURAL DRAWINGS, ANY DEVICE OR OUTLET WHICH IS SHOWN ON THE ARCHITECTURAL DRAWINGS AS EXISTING TO REMAIN, WHICH IS NOT SHOWN ON THE ELECTRICAL DRAWINGS, SHALL BE LEFT AS EXISTING.

5. NO ELECTRICAL CONNECTIONS SHALL BE MADE TO, OR WORK PERFORMED ON, ENERGIZED EQUIPMENT. ELECTRICAL CONTRACTOR TO MAKE ALL FINAL CONNECTIONS TO EQUIPMENT ACCORDING TO VENDORS APPROVED SHOP DRAWINGS, EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.

6. ELECTRICAL CONTRACTOR SHALL VERIFY ELECTRICAL REQUIREMENTS OF ALL EXISTING AND NEW EQUIPMENT TO BE USED. ALL SPECIAL PURPOSE OUTLETS INDICATED ON PLAN SHALL BE VERIFIED WITH EQUIPMENT MANUFACTURER TO ENSURE PROPER WIRING AND COMPATIBILITY WITH ATTACHMENT PLUGS OR JUNCTION BOXES THAT MAY BE FURNISHED AS AN INTEGRAL PART OF THE EQUIPMENT.

7. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL LOCATIONS AND HEIGHTS OF STUB-UPS AND OUTLETS IN FIELD WITH VENDORS FURNITURE MANUFACTURERS APPROVED SHOP DRAWINGS. ALL RECEPTACLES, EXCEPT CONVENIENCE RECEPTACLES, THAT ARE TO BE CONCEALED BELOW COUNTERS OR BEHIND EQUIPMENT ARE TO BE ACCESSIBLE.

8. SUBMIT SHOP DRAWINGS TO THE ARCHITECT FOR REVIEW PRIOR TO START OF ANY WORK. ANY WORK OR EQUIPMENT INSTALLED PRIOR TO APPROVAL OF RELEVANT SHOP DRAWINGS FOUND TO BE UNACCEPTABLE SHALL BE REMOVED AND MODIFIED AT THE CONTRACTOR'S SOLE EXPENSE INCLUDING ANY RESULTANT SCHEDULING DELAYS EXPERIENCED BY ANY TRADE.

9. PREPARE AND FURNISH TO OWNER 'AS-BUILT' PLANS FOR ALL WORK INSTALLED.

10. ELECTRICAL CONTRACTOR SHALL VERIFY AVAILABILITY OF EXISTING CIRCUIT BREAKERS AFTER DEMOLITION OF EXISTING CONDITIONS TO MEET NEW REQUIREMENTS, AND REPORT TO ARCHITECT IMMEDIATELY ANY RESULTING DISCREPANCIES.

11. BRANCH CIRCUITS SHALL IN ALL CASES CONTAIN THE NECESSARY NUMBER OF WIRES TO AFFORD THE SWITCH CONTROL INDICATED. ALL LIGHTING CIRCUITS, WHICH ARE CONTROLLED BY DIMMERS SHALL NOT SHARE A NEUTRAL WITH ANOTHER CIRCUIT, BUT SHALL HAVE A SEPARATE NEUTRAL CONDUCTOR TO THE PANEL, WHETHER OR NOT INDICATED ON PLAN.

12. ALL RECEPTACLES EXCEPT CONVENIENCE RECEPTACLES ARE TO BE CONCEALED AND ACCESSIBLE BELOW COUNTERS OR BEHIND EQUIPMENT. CONTRACTOR IS TO COORDINATE EXACT LOCATION OF EQUIPMENT RECEPTACLES WITH EQUIPMENT MANUFACTURER'S LOCATION.

13. ELECTRICAL CONTRACTOR TO COORDINATE ALL DISCONNECT SWITCH REQUIREMENTS AND LOCATION WITH ELECTRICAL INSPECTOR, VENDORS APPROVED SHOP DRAWING AND FINAL EQUIPMENT LOCATION.

14. ELECTRICAL CONTRACTOR SHALL VERIFY PHASE LOAD BALANCING ON POWER PANELS UPON COMPLETION OF THE ELECTRICAL INSTALLATION.

15. ALL CONDUIT AND CABLE HOMERUNS' SHALL CONSIST OF THREE CIRCUITS MAXIMUM TO THE PANELBOARD, UNLESS OTHERWISE NOTED. COMBINING OF MULTIPLE HOMERUNS IN A SINGLE CONDUIT SHALL NOT BE PERMITTED.

16. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NEW LIFE SAFETY DEVICES AND ASSOCIATED CABLING. SPECIFICATIONS AND INSTALLATIONS OF ALL LIFE SAFETY DEVICES SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA).

17. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RECONNECTION OF ALL EXISTING LIFE SAFETY DEVICES. COORDINATE CHANGES IN LOCATION WITH ARCHITECT AND LEAVE IN AN OPERATIONAL STATE ACCORDING TO LOCAL CODES.

18. ALL EQUIPMENT AND MATERIALS SHALL BE NEW, UL LISTED AND SHALL CONFORM TO ANY ADDITIONAL TESTING AND CONSTRUCTION REQUIREMENTS ESTABLISHED BY THE GOVERNING AUTHORITIES. SAME SHALL BE GUARANTEED FOR 1 YEAR SUBSEQUENT TO FINAL ACCEPTANCE.

19. ALL EXISTING EQUIPMENT AND MATERIALS BEING REMOVED SHALL BE STORED OR DISPOSED OF AT THE DIRECTION OF THE OWNER OR ARCHITECT. ALL EXISTING EQUIPMENT TO BE RELOCATED, OR TO BE INSTALLED FROM STORAGE SHALL BE CLEANED. PROVIDE NEW LAMPS FOR ALL EXISTING FIXTURES WHICH HAVE BEEN RELOCATED.

20. ALL CONDUIT FOR LIGHTING AND POWER SYSTEMS SHALL BE 3/4" E.M.T. MINIMUM UNLESS OTHERWISE NOTED. TYPE HCF90" ARMORED CABLE MAY BE USED IN HUNG CEILINGS AND DRYWALL PARTITIONS.

21. ALL 120 VOLT OR 208 VOLT BRANCH CIRCUIT RUNS IN EXCESS OF 100 FEET FROM THE PANEL TO THE DEVICE SHALL BE PROVIDED WITH #10 MINIMUM AWG WIRE FOR ITS ENTIRE LENGTH.

22. ALL CABLE SHALL BE COPPER THWN OR THHN INSULATION EMPLOYED AT THE 75 DEGREES CELSIUS CODE RATED AMPACITY. NO SMALLER THAN No. 12 AWG. SHALL BE USED UNLESS SPECIFICALLY NOTED ON PLANS. COLOR CODING SHALL CONFORM TO CODE REQUIREMENTS.

23. ALL CABLING FURNISHED FOR INSTALLATION EXPOSED (NOT IN AN ENCLOSED RACEWAY) IN AN AIR PLENUM CEILING OR FLOOR SHALL BE APPROVED FOR THE PURPOSE BY GOVERNING AUTHORITIES, CONFORM TO UL 910 WITH A MINIMUM OF 125 DEGREES CELSIUS RATED JACKET.

24. OUTLET BOXES SHALL BE CODE GAUGE GALVANIZED STAMPED STEEL, GENERALLY 4 INCH SQUARE BY 1-1/2 INCHES DEEP, FIRMLY ANCHORED IN PLACE. BOX VOLUME SHALL BE AS REQUIRED BY GOVERNING CODES WITH BLANK COVERS PROVIDED FOR ALL BOXES USED FOR JUNCTION OR EXTENSION PURPOSES. GEM BOXES SHALL ONLY BE USED WHERE DIMENSIONAL RESTRAINTS EXIST.

25. DISCONNECT SWITCHES SHALL BE QMQB FUSIBLE OR NONFUSIBLE WITH CURRENT AND VOLTAGE RATING AS INDICATED ON PLANS. SWITCHES SHALL BE HORSEPOWER RATED, ENCLOSED TYPE, SUITABLE FOR PADLOCKING IN OPEN POSITION.

26. HORSEPOWER RATED SWITCHES SHALL BE USED FOR ALL MOTOR CIRCUITS. ELECTRICAL CONTRACTOR SHALL INSTALL WHERE APPLICABLE TOGGLE SWITCHES FOR USE AS DISCONNECT. THESE SWITCHES SHALL BE 'T' RATED FOR RESISTANCE LOADS AND 'M' RATED FOR MOTOR LOADS.

27. STANDARD DUPLEX CONVENIENCE RECEPTACLES SHALL BE NEMA 5-20R, 3 POLE, 2 WIRE, GROUNDED 20 AMPERE. COLOR SHALL BE AS SELECTED BY THE ARCHITECT. GROUND FAULT TYPE SHALL BE USED WHERE REQUIRED BY GOVERNING CODES.

28. SWITCHES SHALL BE FLUSH QUIET TUMBLER TYPE GROUNDED BEHIND COMMON PLATE WITH BARRIERED BACK BOX WHERE TWO OR MORE ARE GROUNDED AT ONE LOCATION. SINGLE POLE SWITCHES SHALL BE 20 AMPERES, 277 VOLT.

29. ALL LIGHTING FIXTURES SHALL BE CONNECTED USING MAXIMUM 6 FOOT LENGTH OF FLEXIBLE METAL CONDUIT FROM ACCESSIBLE CEILING OUTLET BOX USING LOCKNUT TYPE FITTINGS WITH GROUNDING AS REQUIRED BY GOVERNING CODES.

30. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT LIGHT FIXTURE SPECIFICATIONS ON ELECTRICAL DRAWINGS UNLESS OTHERWISE NOTED.

31. ALL COMPUTER EQUIPMENT CIRCUITS SHALL HAVE A SEPARATE NEUTRAL CONDUCTOR.

32. WHERE LIGHT FIXTURES ARE DENOTED AS EMERGENCY LIGHTS TO BE SWITCHED, A HOT LEG SHALL BE BROUGHT TO THE NEW EMERGENCY BATTERY BALLAST TO SIGNAL AND CHARGE THE BATTERY WHETHER THE SWITCH LEG IS 'ON' OR 'OFF'. THE FIXTURE SHALL BE SWITCHABLE.

33. WHERE WIRING CROSSES FIRE RATED PARTITION PROVIDE HILTI TWISTLOCK PENETRATIONS.

34. PROVIDE 20% SPARE FOR ALL DEVICES.

ABBREVIATIONS:

A	AMPS
ACC-1	AIR CONDITIONING CONDENSER #1
AFF	ABOVE FINISHED FLOOR
ARCH	ARCHITECTURAL
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
BC	BELOW COUNTER RECEPTACLE
C/B	CIRCUIT BREAKER
C	CONDUIT
C	COUNTERTOP RECEPTACLE
CKT	CIRCUIT
CLG	CEILING
CP-1	CIRCULATION PUMP #1
CUH-1	CABINET UNIT HEATER #1
DWG	DRAWING
EC	EMPTY CONDUIT
ELEC	ELECTRIC
EMT	ELECTRICAL METALLIC TUBING
EXIST	EXISTING
FL	FLOOR
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FCU	FAN COIL UNIT
FARA	FIRE ALARM REMOTE ANNUNCIATOR
FCO	FUSE CUT-OUT
FT	FEET
G	GROUND
GFI	GROUND FAULT INTERRUPTER
HD	HAND DRYER
HP	HORSEPOWER
HVAC	HEATING VENTILATING AND AIR CONDITIONING
HWH	HOT WATER HEATER
IN	INCHES
J	JUNCTION BOX
KAIC	THOUSAND AMPERES INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATT
LTG	LIGHTING
M	METER
MCM	THOUSAND CIRCULAR MILS
MECH	MECHANICAL
MDP	MAIN DISTRIBUTION PANEL
MISC	MISCELLANEOUS
N	NEUTRAL
NEC	NATIONAL ELECTRIC CODE
P	POLES
PB	PULL BOX
PH	PHASE
PNL	PANEL
PP	POWER PANEL
REC	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
SPECS	SPECIFICATIONS (CONTRACT DOCUMENTS)
SPD	SURGE PROTECTION DEVICE
TYP	TYPICAL
UH-1	UNIT HEATER #1
UG	UNDERGROUND
V	VOLTS
VA	VOLT - AMPS
VFD	VARIABLE FREQUENCY DRIVE
VM	VENDING MACHINE
W	WATTS
WP	WEATHERPROOF
Ø	PHASE
XFMR	TRANSFORMER

SYMBOL LIST:

- DUPLEX RECEPTACLE
- QUAD RECEPTACLE
- GFCI RECEPTACLE
C = COUNTER HEIGHT
#" = SPECIFIED HEIGHT AFF
RR = ROOFTOP GFCI
RECEPTACLES (SEE DETAILS)
- SWITCH
NONE = STANDARD LIGHT SWITCH
M = MOTOR HP RATED DISCONNCET SWITCH (COORDINATE RATINGS WITH MECHANICAL EQUIPMENT)
- ELECTRICAL EQUIPMENT - REFER TO ONE LINE
- JUNCTION BOX
- EMERGENCY LIGHTING RELAY TRANSFER SWITCH
- HOMERUN - CONCEALED IN WALLS OR CEILINGS.
- CONDUIT RUN UP
- CONDUIT RUN DOWN
- CONDUIT
- CONDUIT CONCEALED UNDERGROUND

ONE LINE DIAGRAM LEGEND

- UTILITY METER
- LOW VOLTAGE CIRCUIT BREAKER
- MOTOR – # INDICATES HORSEPOWER
- FUSE

XEBEC

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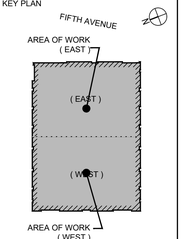
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KEY PLAN



100% CD	08/04/23
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PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
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ELECTRICAL - LEGEND AND ABBREVIATIONS

SCALE:

DRAWN BY: XXX

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DWG. NO.

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PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706

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ELECTRICAL SPECIFICATION

A. GENERAL

1. PERFORM ALL WORK IN ACCORDANCE WITH LOCAL ELECTRICAL CODE WITH AMENDMENTS, LOCAL BUILDING CODE, O.S.H.A., PERTINENT NFPA CODES, THE RULES AND REGULATIONS OF ALL LOCAL, STATE AND FEDERAL AUTHORITIES HAVING JURISDICTION, AND ALL STANDARDS APPLIED BY THE BUILDING MANAGEMENT.
2. OBTAIN ALL PERMITS, FILE DOCUMENTS, PAY ALL FEES AND PERFORM ALL TESTING AS REQUIRED BY ALL AUTHORITIES HAVING JURISDICTION. PROVIDE OWNER WITH CERTIFICATES OF INSPECTION.
3. DO ALL NECESSARY CUTTING AND ROUGH PATCHING INCLUDING CORE DRILLING OF CONCRETE FLOOR SLAB AND FIRESTOPPING FOR INSTALLATION OF NEW FEEDER CONDUIT AND BRANCH CIRCUITS.
4. THESE DRAWINGS INDICATE THE SIZE AND GENERAL LOCATION OF WORK. SCALED DIMENSIONS SHALL NOT BE USED. EXACT LOCATIONS, HEIGHTS, DOOR SWINGS, MOUNTING HEIGHTS, ETC OR ANY DIMENSIONS NOT SHOWN SHALL BE OBTAINED FROM THE ARCHITECTURAL DRAWINGS AND DETAILS.
5. COORDINATE WORK WITH OTHER TRADES INCLUDING HVAC, PLUMBING AND GENERAL CONTRACTOR AND/OR EXISTING CONDITIONS. CONFER WITH OTHER CONTRACTORS WHOSE WORK MIGHT AFFECT THIS INSTALLATION; AND ARRANGE ALL PARTS OF THIS WORK AND EQUIPMENT IN PROPER RELATION TO THE WORK AND EQUIPMENT OF OTHERS, WITH BUILDING CONSTRUCTION AND WITH ARCHITECTURAL FINISH SO THAT IT WILL HARMONIZE IN SERVICE AND APPEARANCE. EXTRA COMPENSATION WILL NOT BE GRANTED FOR MIS-COORDINATED WORK.
6. BEFORE SUBMITTING A PROPOSAL, VISIT AND EXAMINE CAREFULLY THE AREAS AFFECTED BY THIS WORK TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND WITH THE DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE; AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH EXAMINATION BEEN MADE.
7. ALL WORK SHALL BE GUARANTEED AGAINST DEFECTS FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE INSTALLATION, AND ANY PORTIONS OF THE WORK WHICH DEVELOP DEFECTS DURING THAT TIME SHALL BE REPLACED OR REPAIRED IN A MANNER SATISFACTORY TO THE OWNER.
8. FURNISH ADEQUATE LIABILITY INSURANCE AND BONDING AS REQUIRED BY THE OWNER.
9. PREPARE AND FURNISH TO THE OWNER "AS BUILT" PLANS FOR ALL WORK INSTALLED ON CD'S IN AUTOCAD 2011 OR HIGHER FORMAT AND ON REPRODUCIBLE PAPER AS APPROVED BY THE OWNER.
10. SUBMIT SHOP DRAWINGS TO THE OWNER AND/OR HIS ENGINEER FOR REVIEW. OBTAIN REVIEW COMMENTS BEFORE FABRICATION, PURCHASE, OR INSTALLATION OF ANY EQUIPMENT.
11. ALL WORK SHALL BE PERFORMED BY SKILLED LICENSED ELECTRICIANS.
12. ALL MATERIALS AND INSTALLATION SHALL CONFORM WITH THE REQUIREMENTS OF THE LATEST AMENDMENTS TO THE LOCAL ELECTRICAL CODE, ANY APPLICABLE ENERGY CONSERVATION CODES, AND ALL AUTHORITIES HAVING JURISDICTION.
13. PROVIDE MATERIALS AND EQUIPMENT LISTED BY UNDERWRITERS LABORATORIES, INC. EXCEPT IN THOSE CASES WHERE SUCH LISTING IS NOT AVAILABLE. COMPLY WITH THE LATEST APPLICABLE STANDARDS OF ANSI, ASTM, IEEE, AND NEMA.
14. "APPROVED EQUAL" MEANS ANY DEVICE, MATERIAL, SYSTEMS OR EQUIPMENT CONSIDERED BY THE ARCHITECT AND ENGINEER TO BE EQUIVALENT IN QUALITY, CONSTRUCTION, PERFORMANCE, FINISH AND APPEARANCE TO THAT SPECIFIED. "FURNISH" AND INSTALL" OR "PROVIDE" MEANS PURCHASE, ARRANGE DELIVERY OF, HANDLING AND INSTALLATION, TEST AND LEAVE READY FOR OPERATION.
15. COORDINATION OF ELECTRICAL INFRASTRUCTURE: PROVIDE ALL PANELS, FEEDERS, BRANCH CIRCUIT WIRING AND ALL ACCESSORIES AND SUPPORTS AS REQUIRED TO CONNECT THE NEW EQUIPMENT AND DEVICES TO THE BUILDING DISTRIBUTION SYSTEM. VERIFY THAT ALL WIRING AND EQUIPMENT BASED ON SELECTOR TYPE AND MANUFACTURER ARE SIZED PER CODE AND WILL FIT IN THE INFRASTRUCTURE AND SPACE AVAILABLE. COORDINATE WITH ALL EQUIPMENT TO CONFIRM POWER SUPPLY TO ELECTRICAL EQUIPMENT AND DEVICES ARE OF THE PROPER VOLTAGE, AMPACITY AND ARRANGEMENT.
16. ALL PARTS OF THE WORK AND ASSOCIATED EQUIPMENT SHALL BE TESTED AND ADJUSTED TO WORK PROPERLY AND BE LEFT IN PERFECT OPERATING CONDITION. THIS SHALL INCLUDE MEGGER TESTS BETWEEN PHASES AND BETWEEN EACH PHASE AND GROUND OF ALL EXISTING REUSED FEEDERS, SUBFEEDERS AND PANELBOARDS. REPEAT TESTS ON REPAIRED OR REPLACED WORK.
17. SHORT CIRCUIT INTERRUPTING CURRENT RATINGS OF ALL PANELS, SWITCHES, FUSES AND CIRCUIT BREAKERS SHALL BE SELECTIVELY COORDINATED WITH THE BUILDING DISTRIBUTION SYSTEM. ADDITION OF EQUIPMENT TO THE SYSTEM SHALL BE REEVALUATED AND PROPER SHORT CIRCUIT DEVICES BE PROVIDED TO MAINTAIN SHORT CIRCUIT PROTECTION. COORDINATE WITH EQUIPMENT MANUFACTURER AND ALL AGENCIES AND SUBMIT CALCULATION TO SUPPORT EQUIPMENT SELECTED WHERE DEVIATION FROM BUILDING SYSTEMS ARE PROPOSED.
18. CONTRACTOR SHALL FIELD VERIFY SHORT CIRCUIT PROTECTION AVAILABLE AT THE BUILDING DISTRIBUTION AND SUBMIT TO THE ENGINEER. FOR SHORT CIRCUIT INTERRUPTION AND PROPER SEQUENCE TRIPPING ALL PROTECTIVE DEVICES UNDER OVERLOAD CONDITIONS, THE DEVICE NEAREST TO THE FAULT OR OVERLOAD SHOULD TRIP FIRST.

B. CONDUIT AND RACEWAYS

1. ALL WIRING FROM THE PANELBOARD TO THE FIRST CONCEALED JUNCTION BOX IN THE HUNG CEILING, WALL, OR RAISED FLOOR AND EXPOSED, IN DRY LOCATIONS, IS TO BE RUN IN CONDUIT, 3/4" MINIMUM.
2. ALL ELECTRICAL DISTRIBUTION WIRING SHALL BE IN ELECTRICAL METALLIC TUBING (EMT) WITH COMPRESSION FITINGS.
3. METAL CLAD (MC) IS PERMISSIBLE FOR POWER WIRING CONCEALED IN CEILING, WALLS, OR RAISED FLOORS, FROM THE FIRST JUNCTION FORWARD, IF BUILDING STANDARD PERMITS THIS TYPE OF INSTALLATION.
4. HANGERS, SUPPORTS AND SLEEVES SHALL BE AS PER NEC OR AS ACCEPTABLE TO THE ENGINEER. SUPPORT CONDUIT INDEPENDENTLY FROM OTHER SERVICES ON EACH SIDE OF BENDS AND NOT GREATER THAN 10'-0" ON CENTERS.
5. COORDINATE CONDUIT RUNS WITH EXISTING AND NEW WORK AND WITH OTHER TRADES. RUN CONDUIT CLEAR OF SHAFTS, OPENINGS, CABLE SLOTS SLEEVES AND EQUIPMENT TO MATCH BUILDINGS GRID LINES.
6. TERMINATE EACH CONDUIT WITH TWO LOCKNUTS, ONE INSIDE AND ONE OUTSIDE AND A BUSHING. PROVIDE ELECTRICAL METALLIC TUBING (EMT) CONFORMING TO THE REQUIREMENTS OF ARTICLE 358 IN NFPA 70 (NEC) FOR MATERIALS AND USES, ANSI C80.3 AND UL 797. PROVIDE GALVANIZED STEEL TUBING CONDUIT LENGTHS BEARING THE MANUFACTURER'S TRADEMARK. BUSHINGS SHALL BE THE INSULATED PLASTIC TYPE, TB SERIES OR AS ACCEPTABLE. WHERE CONDUITS LARGER THAN 2" SIZE ARE TERMINATED LOCKNUTS SHALL BE THE BONDING TYPE TB SERIES L06, OR AS ACCEPTABLE.
7. WHERE CONDUITS LARGER THAN 1" SIZE TERMINATE IN CONCENTRIC KNOCKOUTS AND WHERE ALL OF THE KNOCKOUT RINGS HAVE NOT BEEN REMOVED, INSULATED GROUNDED BUSHING SHALL BE USED. INSULATED GROUNDED BUSHINGS SHALL BE CAST, THREADED TYPE EQUIPPED WITH A LUG FOR GROUNDING. UPPER EDGE SHALL HAVE A NYLON RING OR A BAKELITE RING WHICH IS MOLDED INTO THE BUSHING. GROUND LUG SHALL BE SIZED TO TAKE CONDUCTOR SIZED ACCORDING TO CODE WITH A MINIMUM SIZE OF #12 AWG.
8. WHERE ELECTRICAL METALLIC TUBING IS INSTALLED, THE CONNECTORS AND COUPLINGS SHALL BE THE NYLON INSULATED THROAT TYPE AS MANUFACTURED BY THE THOMAS BETTS CO., SERIES 5120 AND 5123 RESPECTIVELY, OR AS ACCEPTABLE. ON TUBING LARGER THAN 1" USE BONDING LOCKNUTS AS DESCRIBED ABOVE FOR RIGID CONDUIT.
9. WHERE FLEXIBLE METALLIC CONDUIT IS INSTALLED, CONNECTORS SHALL BE THE "TITE BITE" TYPE WITH NYLON INSTALLED THROATS AS MANUFACTURED BY THE THOMAS BETTS CO., SERIES 3110 OR AS ACCEPTABLE.
10. ALL FINAL CONNECTIONS TO VIBRATING EQUIPMENT OR ELECTRIFIED FURNITURE SYSTEMS SHALL BE MADE WITH FLEXIBLE GALVANIZED STEEL CONDUIT IN LENGTHS NOT EXCEEDING 18 INCHES. IN WET OR DAMP LOCATION USE LIQUID- TIGHT FLEXIBLE METAL CONDUIT.
11. FIRE RATINGS SHALL BE PROVIDED FOR EACH OPENING OF FIRE-RATED SLABS AND PARTITIONS. WHERE SLEEVES OR OTHER TYPES OF OPENINGS ARE PROVIDED FOR PENETRATIONS THROUGH FLOOR SLABS AND FIRE RATED WALLS, IT SHALL BE FILLED WITH AN APPROVED FIRE RESISTANT MATERIAL.

C. SWITCHBOARDS

1. NEW SWITCHBOARDS SHALL BE AS FOLLOWS:
   A. REFER TO SWITCHBOARD SPECIFICATION SHEETS FOR FURTHER INFORMATION

D. LOW-VOLTAGE DISTRIBUTION TRANSFORMERS

1. GENERAL TRANSFORMER REQUIREMENTS:
   1.1. COILS: COPPER CONTINUOUS WINDINGS WITHOUT SPLICES EXCEPT FOR TAPS.
   1.2. TRANSFORMERS RATED 15 KVA AND LARGER:
      A. COMPLY WITH 10 CFR 431 (DOE 2016) EFFICIENCY LEVELS.
      B. MARK AS COMPLIANT WITH DOE 2016 EFFICIENCY LEVELS.
2. DISTRIBUTION TRANSFORMER
   2.1. CORE: ONE LEG PER CHASE
   2.2. COILS: COPPER, CONTINUOUS WINDINGS WITHOUT SPLICES EXCEPT FOR TAPS.
   2.3. ENCLOSURE:
      A. VENTILATED
      B. TYPE 3R
   2.1. TAPS FOR TRANSFORMERS SMALLER THAN 3 KVA: NONE
   2.2. TAPS FOR TRANSFORMERS 7.5 TO 24 KVA: ONE 5 PERCENT TAP ABOVE AND ONE 5 PERCENT TAP BELOW NORMAL FULL CAPACITY.
   2.3. TAPS FOR TRANSFORMERS 25 KVA AND LARGER: TWO 2.5 PERCENT TAP ABOVE AND TWO 2.5 PERCENT TAP BELOW NORMAL FULL CAPACITY.
   2.4. INSULATION CLASS: 220 DEG C, WITH MAXIMUM 150 DEG C RISE ABOVE 40 DEG C.
   2.5. FEATURES:
      A. K-FACTOR RATING.
      B. ELECTROSTATIC SHIELDING.
      C. NEUTRAL: RATED 200 PERCENT OF FULL LOAD CURRENT FOR K-FACTOR-RATED TRANSFORMER.
      D. WALL BRACKETS.
      E. FUNGUS PROOFING.
      F. LOW SOUND LEVEL.
3. SOURCE QUALITY CONTROL
   3.1 TRANSFORMERS: FACTORY TESTED AND INSPECTED.
   3.2 FACTORY SOUND-LEVEL TESTS: CONDUCT PROTOTYPE SOUND-LEVEL TESTS ON PRODUCTION-LINE PRODUCTS.
4. FIELD QUALITY CONTROL
   4.1 TESTING: BY OWNER-ENGAGED AGENCY

E. CONDUCTORS

1. ALL WIRES AND CABLES FOR CONDUCTORS #2 AWG AND SMALLER FOR BRANCH CIRCUITS IN CONDUIT SHALL BE THHN. ALL WIRE AND CABLE FOR CONDUCTORS AWG #1 AND LARGER SHALL BE THWN. NO WIRE SMALLER THAN #12 AWG SHALL BE USED FOR LIGHT OR POWER SERVICES. ALL CONDUCTORS SHALL BE COPPER UNLESS SHOWN OTHERWISE. CONNECTIONS FOR WIRE #8 AND SMALLER SHALL BE MADE WITH TB "PIGGY PIGTAILS" OR APPROVED EQUAL.
2. ALL WIRE AND CABLES IN PULL, SPLICE AND CABLE SUPPORT BOXES, IN PANELS AND POINTS OF TERMINATION SHALL BE BUNDLED AND LACED BY CIRCUITS AND TAGGED USING NYLON TIEWRAP MATERIAL AND USING FLAME RESISTING TAGS OF ADHESIVE MATERIAL. TAGS SHALL IDENTIFY CABLES AND PIECES OF EQUIPMENT SERVED. TAGS SHALL BE TB "TY-RAP" OR "E-Z-CODE" OR AS ACCEPTABLE.
3. ALL #8 AWG WIRE AND LARGER SHALL BE STRANDED. ALL #10 AWG WIRE AND SMALLER SHALL BE SOLID. RATING OF INSULATION SHALL BE 600 VOLTS.
4. ALL LOW VOLTAGE CABLING INSTALLED EXPOSED IN HUNG CEILING SHALL BE TEFLON JACKETED AND PLENUM RATED.
5. FACTORY COLOR CODING FOR WIRE AND CABLE SHALL BE AS FOLLOWS:
   A. 120/208 VOLTS - BLACK, RED, BLUE AND WHITE FOR PHASES A, B, C, AND NEUTRAL, RESPECTIVELY. GROUND WIRE SHALL BE GREEN.
   B. 277/480 VOLTS - BROWN, ORANGE, YELLOW AND GRAY FOR PHASES A, B, C AND NEUTRAL, RESPECTIVELY. GROUND WIRE SHALL BE GREEN.
6. VOLTAGE DROP IN WIRING WHEN INSTALLED SHALL BE WITHIN LIMITATIONS OF ALL AGENCIES HAVING JURISDICTION. 120 VOLT BRANCH WIRING IN EXCESS OF 75 FEET TO THE FIRST OUTLET SHALL BE #10 AWG FOR THE ENTIRE LENGTH OF THE BRANCH CIRCUIT. SIZE OF ALL FEEDERS IN EXCESS OF 200 FEET SHALL BE INCREASED TO ACCOMMODATE VOLTAGE DROP.

F. POWER MATERIALS AND WIRING DEVICES

1. FURNISH AND INSTALL ALL BOXES, FITTINGS, DEVICES, RACEWAYS, CONDUCTORS, CONNECTIONS, MOUNTING ACCESSORIES, ADAPTERS AND ALL OTHER MATERIALS, EQUIPMENT AND LABOR NECESSARY FOR A COMPLETE ELECTRICAL INSTALLATION.
2. ELECTRICAL OUTLETS SHALL BE INSTALLED VERTICALLY UNLESS NOTED TO THE CONTRARY. THOSE LOCATED ON INTERIOR COLUMNS SHALL BE CENTERED LATERALLY.
3. MOUNTING HEIGHTS OF CONVENIENCE RECEPTACLES SHALL BE AS PER ARCHITECTURAL DRAWINGS. WHERE COUNTER AREAS CONFLICT WITH RECEPTACLES, MOUNT RECEPTACLES VERTICALLY ABOVE BACK SPLASH.
4. LOCAL SWITCHES EXCEPT AS OTHERWISE INDICATED SHALL BE ROCKER TYPE 20 AMPERE, 120-277V CAPACITY WITH FULLY ENCLOSED COMPOSITION CASES, SHALL CONFORM TO NEMA STANDARD WD-1 FOR HEAVY DUTY SWITCHES, COMMERCIAL GRADE AND SHALL BE LEVITON DECORA SERIES OR AS ACCEPTABLE.
5. DUPLEX WALL MOUNTED RECEPTACLES, INCLUDING GFI RECEPTACLES WHERE REQUIRED, SHALL BE 2 POLE, 3 WIRE, GROUNDED 20 AMPERE, COMMERCIAL GRADE, LEVITON DECORA SERIES OR AS DIRECTED BY ARCHITECT.

G. LIGHTING FIXTURES AND LAMPS

1. NEW LIGHT FIXTURES SHALL BE AS FOLLOWS:
   A. REFER TO ARCHITECTURAL DRAWINGS FOR FURTHER INFORMATION.
2. SPLICES IN INTERNAL WIRING SHALL BE MADE WITH APPROVED MECHANICAL CONNECTORS, SUITABLE FOR THE TEMPERATURE AND VOLTAGE CONDITIONS TO WHICH THEY ARE SUBJECTED. ALL INTERNAL SPLICE LOCATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE PERFORMING.
3. ALL STEM HANGERS SHALL BE EQUIPPED WITH SUITABLE ALIGNER BOX COVERS OR CANOPIES SO THAT STEMS HANG VERTICALLY IRRESPECTIVE OF THE ANGLE OF THE SURFACE THEY ARE MOUNTED FROM. PROVIDE A FINISH RING TO CONCEAL THE OUTLET BOX.
4. REMOTE BALLASTS, TRANSFORMER AND DRIVERS SHALL BE INSTALLED IN ACCESSIBLE SPACES TO ALLOW FOR PROPER VENTILATION AND IN ACCORDANCE WITH MANUFACTURER LIMITATIONS.

H. PANELBOARD/CIRCUIT BREAKERS

1. PANELBOARD SHALL BE OF THE ENCLOSED TYPE, FLUSH OR SURFACE MOUNTED AS INDICATED IN SCHEDULE. IN STEEL CABINETS - CODE GAUGE, WITH STEEL TRIM, CONCEALED HINGES, DOORS AND FLUSH TYPE LOCK. ALL LOCKS SHALL BE KEYED ALIKE.
2. ALL BUSSES, INCLUDING NEUTRAL BUS, SHALL BE MINIMUM 98 PERCENT CONDUCTIVITY, HARD-DRAWN COPPER, SILVER OR TIN PLATED JOINTS AND SIZED ON THE BASIS OF 1,000 AMPERES PER SQUARE INCH CROSS-SECTIONAL AREA. BUSSES SHALL BE ARRANGED FOR SEQUENCE PHASING.
3. PANELBOARDS SHALL BE EQUIPPED WITH BOLT-ON MOLDED CASE CIRCUIT BREAKERS OF THE TYPE, NUMBER OF POLES, TRIP SIZES AS INDICATED ON SCHEDULES.
4. CABINET SHALL BE SUFFICIENT SIZE TO ALLOW A GUTTER SPACE OF AT LEAST SIX INCHES ON SIDE TOP AND BOTTOM AND SHALL BE CONSTRUCTED OF CODE GAUGE SHEET STEEL, GALVANIZED FINISHED ELECTRIC GRAY. UNLESS OTHERWISE NOTED.
5. DOORS AND TRIM SHALL BE ONE PIECE SO DESIGNED THAT DOORS WILL OPEN 180 DEGREES. DOORS SHALL BE FASTENED TO TRIMS WITH SEMI-CONCEALED 5 KNUCKLE STEEL WITH NON-FERROUS PINS. TRIMS SHALL BE FASTENED TO BACK BOXES WITH CONCEALED HINGE (DOOR-IN-DOOR TYPE) WITH SCREWS ON OPPOSITE SIDE.
6. PANELS SHALL BE PROVIDED WITH:
   A. 10% LOCKING TABS (MINIMUM 4) FOR EACH PANEL. UNUSED TABS SHALL BE TURNED OVER TO THE OWNER.
   B. GFI BREAKERS IN LIEU OF GFI RECEPTACLES WHERE GFI DEVICES ARE REQUIRED.
   C. ARC FAULT CIRCUIT BREAKERS WHERE REQUIRED.
   D. HACR TYPE RATED BREAKER SERVING MOTOR LOADS AND HVAC EQUIPMENT.
7. A CIRCUIT DIRECTORY WITH METAL FRAMES AND GLASSINE PAGE SHALL BE PROVIDED ON THE INSIDE OF THE DOOR. UPON COMPLETION OF THE PROJECT, THE DIRECTORIES SHALL BE TYPEWRITTEN, INDICATING THE LOCATION AND SERVICE CONTROLLED BY EACH CIRCUIT. DIRECTORIES TO BE COMPLETELY FILLED IN TO CONFORM TO NEW FINAL ARRANGEMENT OF CIRCUITS.
8. LOADS ON PHASE LEGS OF ALL NEW PANELS SHALL BE BALANCED AT SUPPLY POINT TO WITHIN 10%. ANY PANEL FOUND WITH UNBALANCED LOADS SHALL HAVE ITS CIRCUITS REARRANGED AS REQUIRED TO BALANCE PHASE LEGS.

I. GROUNDING

1. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED TO PROVIDE AN ELECTRICAL GROUNDING PATH TO THE GROUNDING ELECTRODE IN A CODE APPROVED MANNER.
2. METAL RACEWAYS, METAL ENCLOSURES OF ELECTRICAL DEVICES AND EQUIPMENT, LIGHTING FIXTURES AND OTHER EQUIPMENT SHALL BE COMPLETELY GROUNDED.
3. PROPER HARDWARE REQUIRED FOR COMPLETE GROUNDING SYSTEM SHALL BE INSTALLED BY THE CONTRACTOR. USE EXOTHERMIC WELDING PROCESS FOR INACCESSIBLE CONNECTIONS.
4. USE AN INTERNAL BONDING CONDUCTOR WHERE FLEXIBLE METALLIC CONDUITS ARE INSTALLED.
5. GROUND MOTORS FROM GROUNDING BUSHING IN THE STARTER TO THE MOTOR FRAME.
6. GROUNDING CONDUCTOR SHALL BE RUN WITH THE CIRCUIT CONDUCTORS AND TERMINATED TO AN APPROVED GROUNDING TERMINAL.
7. GROUND RODS SHALL BE 3/4" BY 10'-0" COPPER CLAD STEEL.

J. DISCONNECT SWITCHES:

1. DISCONNECT SWITCHES SHALL CONFORM TO NEMA AND UL STANDARDS, AND BE INSTALLED WHERE REQUIRED BY CODE. THEY SHALL BE HORSEPOWER RATED UNITS TO MAXIMUM SIZES LISTED BY UL.
2. DISCONNECT SWITCHES SHALL BE LOCATED WHERE THEY ARE READILY ACCESSIBLE, AND CAPABLE OF BEING USED WITHOUT REACHING AROUND, ABOVE, UNDER, ETC., OTHER EQUIPMENT AND/OR OBSTRUCTIONS. COMPLY WITH NATIONAL ELECTRICAL CODE CLEARANCE REQUIREMENTS.
3. PROVIDE QUICK-MAKE, QUICK-BREAK MECHANISM WITH EXTERNAL OPERATING HANDLE MECHANICALLY INTERLOCKED WITH ENCLOSURE COVER TO PROVIDE NORMAL ACCESS TO INSIDE OF ENCLOSURE WHEN DISCONNECT IS IN THE "OFF" POSITION ONLY. PROVIDE MEANS TO LOCK THE HANDLE IN THE "OPEN" AND THE "CLOSED" POSITION. DESIGNATE ON THE ENCLOSURE THE "OPEN" AND "CLOSED" POSITION OF THE OPERATING HANDLE.
4. SWITCHES SHALL BE FUSED OR UNFUSED AS INDICATED ON THE DRAWINGS AND/OR AS REQUIRED.
5. SWITCHES SHALL BE NEMA 1 FOR DRY LOCATIONS AND NEMA 3R FOR DAMP/WET LOCATIONS AND TYPE AS SPECIFIED FOR OTHER INSTALLATIONS.
6. DISCONNECT SERVING EQUIPMENT OR RECEPTACLES WITH LOW AMPERAGE DRAW, 2 HP OR LESS WITHOUT INTERNAL OVERCURRENT DEVICES CAN BE TOGGLE SWITCH TYPE. DISCONNECT FOR EQUIPMENT PROTECTION CAN BE UNFUSED SWITCH OR CIRCUIT BREAKER TYPE. RATED TOGGLE SWITCH MAY BE USED FOR DRY LOCATIONS AS FOLLOWS:

   20A 120V SINGLE POLE
   20A 250V DOUBLE POLE
   30A 600V DOUBLE POLE
   30A 600V THREE POLE
   60A 600V THREE POLE

   PROVIDE TOGGLE DISCONNECT SWITCHED IN NEMA WEATHERPROOF ENCLOSURES WHERE REQUIRED.

K. PULLBOXES, JUNCTION BOXES AND WIREWAYS:

1. ALL JUNCTION BOXES, EXCEPT THOSE IN WET LOCATIONS, SHALL BE MADE OF SHEET STEEL OF CODE THICKNESS.
2. UNLESS OTHERWISE SPECIFIED, ALL COVERS, TRIMS AND DOORS ON SUCH BOXES AND ALL EXPOSED BOXES, INCLUDING DOORS AND TRIMS, SHALL BE BONDERIZED OR TREATED IN SOME EQUIVALENT MANNER TO RESIST RUSTING AND SHALL BE PAINTED WITH TWO COATS OF PROTECTIVE PRIMER PAINT GRAY IN COLOR. ALL FINISH PAINTING WILL BE DONE AS DIRECTED.
3. JUNCTION BOXES SHALL BE PROVIDED WHERE INDICATED ON PLANS AND WHEREVER ELSE SUCH BOXES MAY BE DEEMED NECESSARY, PROVIDING LOCATIONS ARE ACCEPTABLE TO THE ENGINEER, TO FACILITATE THE PULLING OF WIRES AND CABLES.
   a. ALL SUCH BOXES SHALL BE MADE ACCESSIBLE AND BUILT IN HEAVY GAUGE STEEL, UNLESS OTHERWISE SPECIFIED, AND SHALL BE BUILT ONLY FROM DETAIL WORKING DRAWINGS.
   b. THE COVERS OF THESE BOXES SHALL BE DESIGNED FOR QUICK REMOVAL WHEN THE SYSTEM IS FINISHED,
   c. THE BOXES SHALL CONTAIN NO OPENINGS, EXCEPT THAT INTO WHICH THE CONDUIT PASSED.
   d. JUNCTION BOXES SHALL NOT BE EXPOSED IN FINISHED SPACES AND MEET THE APPROVAL OF THE OWNER.
   e. JUNCTION BOXES OCCURRING IN FINISHED AREAS SHALL HAVE THE REMOVABLE COVER PLATES FLUSH WITH FINISHED CEILING SHALL BE LOCATED IN HUNG CEILING BEHIND READILY IDENTIFIABLE ACCESS DOORS.
   f. ALL CABLES WITHIN PULLBOXES SHALL BE PROPERLY TAGGED FOR IDENTIFICATION.
   g. SUITABLE INSULATED SUPPORTS SHALL BE PROVIDED IN ALL PULLBOXES TO SUPPORT FEEDERS PASSING THROUGH THE BOXES SO THAT THE CONDUCTORS WILL NOT REMAIN UNSUPPORTED FOR A DISTANCE GREATER THAN THREE FEET AS REQUIRED BY CODE.
4. SUPPORT JUNCTION BOXES INDEPENDENTLY TO BUILDING STRUCTURE WITH NO WEIGHT BEARINGS ON CONDUITS.

L. SUBMITALS

1. MANUFACTURERS AND SHOP DRAWINGS OF THE FOLLOWING APPARATUS, GIVING FULL FITNESS AND OTHER PERTINENT FACTS, SHALL BE SUBMITTED TO THE ENGINEER AND THEIR APPROVAL SECURED BEFORE APPARATUS IN QUESTION IS ORDERED, BUILT OR INSTALLED.

   A. LIGHT FIXTURES.
   B. DEVICES (RECEPTACLES, SWITCHES, ETC.).
   C. CONDUCTORS, CONDUIT AND CONDUIT SUPPORT SYSTEMS.
   D. FUSES AND CIRCUIT BREAKERS.
   E. NAME PLATES.
   F. GROUNDING BUSHINGS.
   G. PANELBOARDS, SWITCHBOARDS, TRANSFORMERS, DISCONNECT SWITCHES, AND ELECTRICAL BOXES.

M. PROCEDURES

1. ALL WIRING SHALL BE IDENTIFIED BY CIRCUIT NUMBERS IN ALL CABINETS, OUTLET BOXES, WIRING TROUGHS, OTHER ENCLOSURES, AT ALL SPLICES, TERMINATION POINTS, ETC. IDENTIFICATION METHODS SHALL BE APPROVED BY THE ENGINEER.
2. ALL ANCHORS, FASTENERS, CLAMPS, ETC. SHALL BE MADE OF GALVANIZED OR STAINLESS STEEL.
3. SECURE ALL SUPPORTS TO BUILDING STRUCTURE AS REQUIRED. SUPPORT HORIZONTAL RUNS OF METALLIC RACEWAYS NOT MORE THAN TEN FEET APART. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO WALLS AS DIRECTED BY THE ARCHITECT.
4. ALL CONDUITS RUN EXPOSED SHALL BE RUN TIGHT TO BUILDING SLAB ALONG BUILDING GRID LINES TO PROVIDE A NEAT APPEARANCE WITH EXISTING FINISHES. PAINT TO MATCH FINISH WHERE REQUIRED.
5. HORIZONTAL OR CROSS RUNS IN PARTITIONS AND WALLS SHALL BE AVOIDED EXCEPT FOR SHORT RUNS WHERE THE ARCHITECT PERMISSION IS OBTAINED.
6. CUT CONDUIT ENDS SQUARE, REAM SMOOTH. PAINT MALE THREADS OF FIELD THREADED RACEWAYS WITH GRAPHITE BASE PIPE COMPOUND. DRAW UP TIGHT WITH RACEWAYS COUPLING.
7. ALL FLEXIBLE CONDUITS SHALL BE RUN CONCEALED IN CEILING SPACES AND SHALL BE SUPPORTED AND BUNDLED IN A WORK-MAN-LIKE MANNER. DIAGONAL RUNS IN CEILINGS MUST BE AVOIDED.
8. ALL PENETRATIONS THROUGH FIRE RATED WALLS, FLOOR OR PARTITIONS SHALL BE SEALED TO PREVENT THE SPREAD OF SMOKE AND FIRE THROUGH THEM. THE FIRE RATING OF THE PENETRATION SEAL SHALL BE AT LEAST THAT OF THE FLOOR OR WALL INTO WHICH IT IS INSTALLED, SO THAT THE ORIGINAL FIRE RATINGS OF THE FLOOR OR WALL IS MAINTAINED AS REQUIRED BY APPLICABLE CODES. THE FOAM SEALANT SHALL MEET ALL OF THE FIRE TEST AND HOSE STREAM TEST REQUIREMENTS AND SHALL BE CLASSIFIED AS A WALL OPENING PROTECTIVE DEVICE. THE SEALANT SHALL BE MANUFACTURED BY 3M OR DOW CORNING AND SHALL HAVE THE APPROVAL CABLE AND A NUMBER.
9. WHEN CORE DRILLING, FLOOR CHASES AND POKE THROUGH IS PERMISSIBLE, CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL TIMES WITH THE BUILDING MANAGEMENT. PROVIDE MINIMUM 14 DAYS ADVANCE NOTICE IN WRITING TO BUILDING MANAGEMENT PRIOR TO COMMENCEMENT OF WORK. OVERTIME FOR THIS WORK WILL NOT BE RECOGNIZED AS AN EXTRA TO THE BASE PROPOSAL.
10. ALL PARTS OF THE WORK AND ASSOCIATED EQUIPMENT SHALL BE TESTED AND ADJUSTED TO WORK PROPERLY AND BE LEFT IN PERFECT OPERATING CONDITION. CORRECT DEFECTS DISCLOSED BY THESE TESTS WITHOUT ANY ADDITIONAL COST TO THE OWNER, REPEAT TESTS ON REPAIRED OR REPLACED WORK.
11. TESTS ALL CIRCUITS, OUTLETS, SWITCHES, LIGHTS, MOTORS, AND ANY OTHER ELECTRICAL ITEMS. ALL DEFECTIVE ITEMS SHALL BE IMMEDIATELY REPAIRED OR REPLACED WITH NEW EQUIPMENT AND THAT PART OF THE SYSTEM SHALL THEN BE RETESTED. ALL SUCH REPLACEMENT OR REPAIR SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
12. UPON COMPLETION OF INSTALLATION OF ALL SYSTEMS THE CONTRACTOR SHALL CERTIFY SUCH TO THE OWNER AND OR HIS REPRESENTATIVE AND PROVIDE TESTS IN THE PRESENCE OF MENTIONED REPRESENTATIVES.
13. CLEAN UP SHALL BE PERFORMED ON A DAILY BASIS TO KEEP SITE IN A WORK-MAN-LIKE MANNER. UNDER FINAL CLEAN UP, ALL ELECTRICAL CLOSETS AND ROOMS SHALL BE FREE OF ALL MATERIALS.
14. IMMEDIATELY PRIOR TO OCCUPANCY, THE CONTRACTOR SHALL CLEAN ALL REFLECTOR CONES, APERTURE PLATES, LENSES, DIFFUSERS, LOUVERS, LAMPS AND DECORATIVE ELEMENTS. UPON COMPLETION OF THE INSTALLATION OF LUMINARIES AND AT THE TIME OF FINAL INSPECTION, ALL LUMINARIES MUST BE FREE FROM DEFECTS, AND ANY PARTS BROKEN PRIOR TO THE FINAL INSPECTION SHALL BE REPLACED.
15. ALL NEW OR RELOCATED ELECTRIC DEVICES SHALL BE CLEARLY LABELED WITH PANEL AND CIRCUIT NUMBER ON FACE OF DEVICE.

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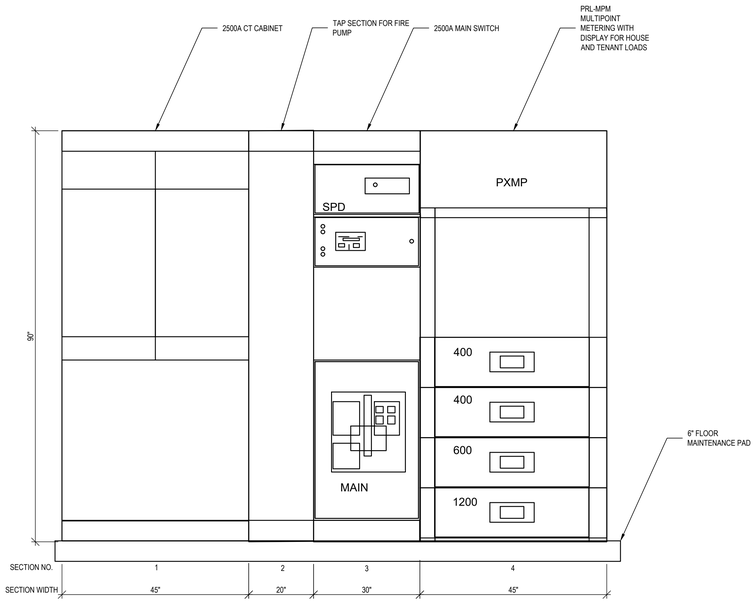
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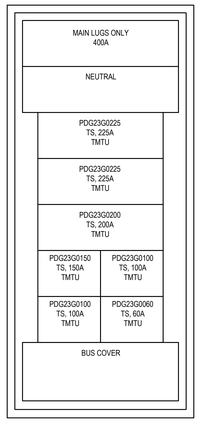
KEY PLAN



SWITCHBOARD UNITS INFORMATION:

1. HOT SEQ. 2000A UTILITY METERING
2. LINE SIDE TAP LUGS, MECHANICAL, TOP EXIT, (3) #4-500 KCMIL
3. MAIN BREAKER - IND MTD-2000A 3 POLE PDF63M BREAKER [2000A FRAME],100% RATED, TRIP 2000 A, PXR20 LSIGfA W/ ARMS, 100% RATED. ARMS OPERATION - LOCAL USING BLUE LIGHT / SWITCH ON FACE OF SWITCHBOARD. LOCKOFF DEVICES: PADLOCKABLE HASP. SURGE PROTECTIVE DEVICE - SPD SERIES 200KA SPD, PXSPD. PXM1200 METER, 2000 AMP CTS, COMM. EXPANSION CARD WITH DISPLAY
4. PRL-MPM MULTIPOINT METERING WITH DISPLAY
   BLANK COVER - 1X
   FEEDER BREAKER - CHASSIS MTD-400A, 3P PDG33M BREAKER [400A FRAME], TRIP 400A, PXR10 LSI TERMINALS, MECHANICAL, (1) 2/0-500 KCMIL. LOCKOFF DEVICES: PADLOCKABLE HASP. CURRENT SENSOR: PRL-MPM MULTIPOINT METERING CURRENT SENSOR. NEUTRAL TERMINAL, (1) #4-500KCMIL
   FEEDER BREAKER - CHASSIS MTD-400A, 3P PDG33M BREAKER [400A FRAME], TRIP 400A, PXR10 LSI TERMINALS, MECHANICAL, (1) 2/0-500 KCMIL. LOCKOFF DEVICES: PADLOCKABLE HASP. CURRENT SENSOR: PRL-MPM MULTIPOINT METERING CURRENT SENSOR. NEUTRAL TERMINAL, (1) #4-500KCMIL
   FEEDER BREAKER - CHASSIS MTD-600A, 3P PDG33M BREAKER [600A FRAME], TRIP 600A, PXR10 LSI TERMINALS, MECHANICAL, (2) #2-500 KCMIL. LOCKOFF DEVICES: PADLOCKABLE HASP. CURRENT SENSOR: PRL-MPM MULTIPOINT METERING CURRENT SENSOR. NEUTRAL TERMINAL, (2) #4-500KCMIL
   FEEDER BREAKER - CHASSIS MTD-1200A, 3P PDG33M BREAKER [1200A FRAME], TRIP 1200A, PXR20 LSIGfA W/ ARMS. ARMS OPERATION - LOCAL USING BREAKER INTERFACE. TERMINALS, MECHANICAL. (4) 4/0-500 KCMIL. LOCKOFF DEVICES: PADLOCKABLE HASP. CURRENT SENSOR: PRL-MPM MULTIPOINT METERING CURRENT SENSOR. NEUTRAL TERMINAL, (4) #4-500KCMIL

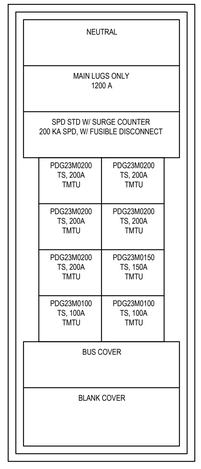
SPECIFICATIONS FOR MDP-1



DISTRIBUTION BOARD INFORMATION:

1. SERVICE VOLTAGE: 480Y/277V 3PH 4W
2. BUS RATING & TYPE: 400A COPPER
3. GROUND BAR: STD. BOLTED COPPER, CU CABLE ONLY
4. S.C RATING: 35K A.I.C FULLY RATED
5. MAIN DEVICE TYPE: MAIN LUGS ONLY - TOP CABLE ENTRY
6. MAIN TERMINALS: MECHANICAL - (2) #4-500 KCMIL (CU/AL)
7. NEUTRAL TERMINAL: MECHANICAL - (2) #4-500 KCMIL (CU/AL)
8. BOX CATALOG NO.: EZB2072R
9. TRIM: EZ TRIM, DOOR IN DOOR, CONCEALED HARDWARE (EZT2072S), SURFACE MOUNTED

SPECIFICATIONS FOR MDP-H



DISTRIBUTION BOARD INFORMATION:

1. SERVICE VOLTAGE: 480Y/277V 3PH 4W
2. BUS RATING & TYPE: 1200A COPPER
3. GROUND BAR: STD. BOLTED COPPER, CU CABLE ONLY
4. S.C RATING: 65K A.I.C FULLY RATED
5. MAIN DEVICE TYPE: MAIN LUGS ONLY - TOP CABLE ENTRY
6. MAIN TERMINALS: MECHANICAL - (4) #2-500 KCMIL (CU/AL)
7. NEUTRAL TERMINAL: MECHANICAL - (4) #2-500 KCMIL (CU/AL)
8. BOX CATALOG NO.: BX4490P
9. TRIM: STANDARD COVERS, SURFACE MOUNTED

SPECIFICATIONS FOR MDP-T

DRY-TYPE TRANSFORMER GENERAL INFORMATION:

1. STANDARD TRANSFORMER CATALOG NUMBER: V48M28T7516
2. TRANSFORMER TYPE: GENERAL PURPOSE VENTED
3. PHASE: 3
4. KVA: 75
5. PRIMARY VOLTAGE: 480
6. SECONDARY VOLTAGE: 208Y/120
7. TEMPERATURE RISE: 150C WITH 220C INSULATION SYSTEM
8. WINDING MATERIAL: ALUMINUM
9. ENCLOSURE TYPE: NEMA 2(FOR N3R, SELECT WEATHER SHIELD IN MODS TAB)
10. FREQUENCY (HZ): 60
11. FRAME: 942
12. WIRING DIAGRAM: 280B
13. WEIGHT (LBS): 570
14. IMPEDANCE (%): 3.61
15. UL LISTED: Y
16. MAX PRACTICAL INRUSH (AMPS): 270
17. X/R: 1.3
18. NO LOAD LOSSES (WATTS): 210
19. TOTAL LOSSES (WATTS): 1941
20. K-FACTOR: 1
21. TAPS: 2@+2.5%, 4@-2.5%
22. SOUND REDUCTION (dB): 0
23. NEMA ST20 SOUND LEVEL (dB): 50
24. DOE 10 CFR PART 431 (2016) EFFICIENT: Y
25. INFRARED VIEWING WINDOW: NONE
26. LUG KIT: NOT INCLUDED

DRY-TYPE TRANSFORMER GENERAL INFORMATION:

1. STANDARD TRANSFORMER CATALOG NUMBER: V48M28T3016
2. TRANSFORMER TYPE: GENERAL PURPOSE VENTED
3. PHASE: 3
4. KVA: 30
5. PRIMARY VOLTAGE: 480
6. SECONDARY VOLTAGE: 208Y/120
7. TEMPERATURE RISE: 150C WITH 220C INSULATION SYSTEM
8. WINDING MATERIAL: ALUMINUM
9. ENCLOSURE TYPE: NEMA 2 (FOR N3R, SELECT WEATHER SHIELD IN MODS TAB)
10. FREQUENCY (HZ): 60
11. FRAME: 940
12. WIRING DIAGRAM: 280B
13. WEIGHT (LBS): 360
14. IMPEDANCE (%): 3.91
15. UL LISTED: Y
16. MAX PRACTICAL INRUSH (AMPS): 342
17. X/R: 1.18
18. NO LOAD LOSSES (WATTS): 122
19. TOTAL LOSSES (WATTS): 984
20. K-FACTOR: 1
21. TAPS: 2@+2.55, 4@-2.5%
22. SOUND REDUCTION (dB) 0:
23. NEMA ST20 SOUND LEVEL (dB): 45
24. DOE 10 CFR PART 431 (2016) EFFICIENT: Y
25. INFRARED VIEWING WINDOW: NONE
26. LUG KIT: NOT INCLUDED

SPECIFICATIONS FOR TRANSFORMERS

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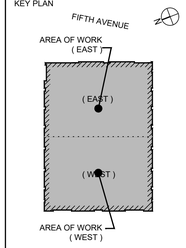
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KEY PLAN



100% CD	08/04/23
50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
REVISION:	DATE:

DRAWING TITLE:
ELECTRICAL - SWITCHBOARD SPECIFICATIONS

SCALE:

DRAWN BY: XXX

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DWG. NO.

E-003

22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706

Branch Panel: LP-T — NEW PANEL

Location: Elec Room
Supply From: MDP-T
Mounting: Surface
Enclosure: Type 1

Volts: 480/277V
Phase: 3
Wires: 4

A.I.C. Rating: 65K
Mains Type: MLO
Bussing: COPPER
Mains Rating: 200 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1	OFFICE 1 MAIN AREA F2, F5		20 A	1	2518 VA	1805 VA					1	20 A		OFFICE 1 ROOMS F2, F3, F5	2
3	WAREHOUSE LIGHTING F1, F1EM		20 A	1			2830 VA	2425 VA			1	20 A		WAREHOUSE LIGHTING F1, F1EM	4
5	WAREHOUSE LIGHTING F1, F1EM		20 A	1					2830 VA	2830 VA	1	20 A		WAREHOUSE LIGHTING F1, F1EM	6
7	WAREHOUSE LIGHTING F1, F1EM		20 A	1	3234 VA	3234 VA					1	20 A		WAREHOUSE LIGHTING F1, F1EM	8
9	WAREHOUSE LIGHTING F1, F1EM		20 A	1			3234 VA	3234 VA			1	20 A		WAREHOUSE LIGHTING F1, F1EM	10
11	WAREHOUSE LIGHTING F1, F1EM		20 A	1					3234 VA	3234 VA	1	20 A		WAREHOUSE LIGHTING F1, F1EM	12
13	WAREHOUSE LIGHTING F1, F1EM		20 A	1	3234 VA	3234 VA					1	20 A		WAREHOUSE LIGHTING F1, F1EM	14
15	WAREHOUSE LIGHTING F1, F1EM		20 A	1			3234 VA	3234 VA			1	20 A		WAREHOUSE LIGHTING F1, F1EM	16
17	WAREHOUSE LIGHTING F1, F1EM		20 A	1					3234 VA	3234 VA	1	20 A		WAREHOUSE LIGHTING F1, F1EM	18
19	WAREHOUSE LIGHTING F1, F1EM		20 A	1	3234 VA	3234 VA					1	20 A		WAREHOUSE LIGHTING F1, F1EM	20
21	WAREHOUSE LIGHTING F1, F1EM		20 A	1			3234 VA	3234 VA			1	20 A		WAREHOUSE LIGHTING F1, F1EM	22
23	WAREHOUSE LIGHTING F1, F1EM		20 A	1					3234 VA	3234 VA	1	20 A		WAREHOUSE LIGHTING F1, F1EM	24
25	WAREHOUSE LIGHTING F1, F1EM		20 A	1	3234 VA	3234 VA					1	20 A		WAREHOUSE LIGHTING F1, F1EM	26
27	EXIT SIGN LIGHTING		20 A	1			200 VA	-			1	20 A		SPARE	28
29	SPARE		20 A	1					-	-	1	20 A		SPARE	30
31	SPARE		20 A	1	-	-					1	20 A		SPARE	32
33	SPARE		20 A	1			-	-			1	20 A		SPARE	34
35	SPARE		20 A	1					-	-	1	20 A		SPARE	36
37	SPARE		20 A	1	-	-					1	20 A		SPARE	38
39	SPARE		20 A	1			-	-			1	20 A		SPARE	40
41	SPARE		20 A	1					-	-	1	20 A		SPARE	42
				Total VA Per Phase	30195 VA		24859 VA		25064 VA						
				Total VA	80118 VA										
				Total Amps	97 A										

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

Branch Panel: EQ-T — NEW PANEL

Location: North Wall
Supply From: MDP-T
Mounting: Surface
Enclosure: Type 1

Volts: 480/277V
Phase: 3
Wires: 4

A.I.C. Rating: 65K
Mains Type: MLO
Bussing: COPPER
Mains Rating: 100 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1					2000 VA	2000 VA									2
3	NW OVERHEAD DOOR OPERATOR		20 A	3			2000 VA	2000 VA			3	20 A		NORTH OVERHEAD DOOR OPERATOR	4
5									2000 VA	2000 VA					6
7					2000 VA	2334 VA									8
9	NE OVERHEAD DOOR OPERATOR		20 A	3			2000 VA	2334 VA			3	20 A		SW OVERHEAD DOOR OPERATOR	10
11									2000 VA	2334 VA					12
13					2334 VA	2334 VA									14
15	SOUTH OVERHEAD DOOR OPERATOR		20 A	3			2334 VA	2334 VA			3	20 A		SW OVERHEAD DOOR OPERATOR	16
17									2334 VA	2334 VA					18
19	SPARE		20 A	1	-	-					1	20 A		SPARE	20
21	SPARE		20 A	1			-	-			1	20 A		SPARE	22
23	SPARE		20 A	1					-	-	1	20 A		SPARE	24
25	SPARE		20 A	1	-	-					1	20 A		SPARE	26
27	SPARE		20 A	1			-	-			1	20 A		SPARE	28
29	SPARE		20 A	1					-	-	1	20 A		SPARE	30
31	SPARE		20 A	1	-	-					1	20 A		SPARE	32
33	SPARE		20 A	1			-	-			1	20 A		SPARE	34
35	SPARE		20 A	1					-	-	1	20 A		SPARE	36
37	SPARE		20 A	1	-	-					1	20 A		SPARE	38
39	SPARE		20 A	1			-	-			1	20 A		SPARE	40
41	SPARE		20 A	1					-	-	1	20 A		SPARE	42
				Total VA Per Phase	13002 VA		13002 VA		13002 VA						
				Total VA	39006 VA										
				Total Amps	47 A										

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

Branch Panel: HVAC-T — NEW PANEL

Location: Elec Room
Supply From: MDP-T
Mounting: Surface
Enclosure: Type 1

Volts: 480/277V
Phase: 3
Wires: 4

A.I.C. Rating: 65K
Mains Type: MLO
Bussing: COPPER
Mains Rating: 400 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1					3326 VA	3326 VA									2
3	SZ200 NORTH EAST		20 A	3			3326 VA	3326 VA			3	20 A		SZ200 NORTH WEST	4
5									3326 VA	3326 VA					6
7					3326 VA	3326 VA									8
9	SZ200 SOUTH EAST		20 A	3			3326 VA	3326 VA			3	20 A		SZ200 SOUTH WEST	10
11									3326 VA	3326 VA					12
13					1054 VA	1054 VA									14
15	EF-1		20 A	3			1054 VA	1054 VA			3	20 A		EF-2	16
17									1054 VA	1054 VA					18
19					1054 VA	1054 VA									20
21	EF-3		20 A	3			1054 VA	1054 VA			3	20 A		EF-4	22
23									1054 VA	1054 VA					24
25					17016 VA	700 VA					1	20 A		EF-5	26
27	RTU-1		90 A	3			17016 VA	550 VA			1	20 A		EF-6	28
29									17016 VA	5000 VA	2	30 A		OFFICE CEILING PLENUM EUH-3	30
31	OFFICE CEILING PLENUM EUH-4		30 A	2	5000 VA	5000 VA									32
33							5000 VA	-			1	20 A		SPARE	34
35	SPARE		20 A	1					-	-	1	20 A		SPARE	36
37	SPARE		20 A	1	-	-					1	20 A		SPARE	38
39	SPARE		20 A	1			-	-			1	20 A		SPARE	40
41	SPARE		20 A	1					-	-	1	20 A		SPARE	42
				Total VA Per Phase	45236 VA		40086 VA		39536 VA						
				Total VA	124858 VA										
				Total Amps	151 A										

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

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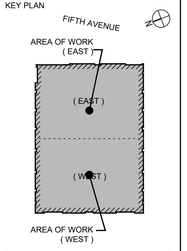
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BAY SHORE, NEW YORK 11706

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KEY PLAN



100% CD	08/04/23
50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
REVISION:	DATE:

DRAWING TITLE:
ELECTRICAL - BRANCH PANEL SCHEDULE

SCALE:

DRAWN BY: XXX

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E-010

22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706

Branch Panel: PP-1 — NEW PANEL

Location: Office 1 | **Supply From:** T-L | **Mounting:** Surface | **Enclosure:** Type 1
Volts: 120/208V | **Phase:** 3 | **Wires:** 4
A.I.C. Rating: 65K | **Mains Type:** MLO | **Bussing:** COPPER | **Mains Rating:** 100 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1	OFFICE RECEPTACLE		20 A	1	360 VA	360 VA					1	20 A		OFFICE RECEPTACLE	2
3	OFFICE RECEPTACLE		20 A	1			360 VA	360 VA			1	20 A		CONFERENCE RECEPTACLE	4
5	BREAK RECEPTACLE		20 A	1					360 VA	360 VA	1	20 A		OFFICE RECEPTACLE	6
7	OFFICE RECEPTACLE		20 A	1	360 VA	360 VA					1	20 A		CONFERENCE RECEPTACLE	8
9	RECEPTION RECEPTACLE		20 A	1			360 VA	720 VA			1	20 A		OFFICE AREA RECEPTACLE	10
11	MENS TOILET RECEPTACLE		20 A	1					360 VA	360 VA	1	20 A		WOMENS TOILET RECEPTACLE	12
13	OFFICE CIRCULATOR PUMP		20 A	1	132 VA	2250 VA					2	30 A		OFFICE 1 EHWH	14
15	DRINKING FOUNTAIN		20 A	1			720 VA	2250 VA							16
17	SPARE		20 A	1					-	-	1	20 A		SPARE	18
19	SPARE		20 A	1	-	-					1	20 A		SPARE	20
21	SPARE		20 A	1			-	-			1	20 A		SPARE	22
23	SPARE		20 A	1					-	-	1	20 A		SPARE	24
				Total VA Per Phase	3822 VA		4770 VA		1440 VA						
				Total VA	10032 VA										
				Total Amps	28 A										

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

Branch Panel: PP-2 — NEW PANEL

Location: Warehouse North Wall | **Supply From:** T-L | **Mounting:** Surface | **Enclosure:** Type 1
Volts: 120/208V | **Phase:** 3 | **Wires:** 4
A.I.C. Rating: 65K | **Mains Type:** MLO | **Bussing:** COPPER | **Mains Rating:** 100 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1	NORTH WALL RECEPT		20 A	1	540 VA	250 VA					1	20 A		EF-2 MOTORIZED DAMPER	2
3	NORTH EAST RECEPT		20 A	1			1080 VA	900 VA			1	20 A		NORTH EAST RECEPT	4
5	HV-2 ROOFTOP RECEPTACLE		20 A	1					180 VA	180 VA	1	20 A		EF-2 ROOFTOP RECEPTACLE	6
7	NORTH EAST VEHICLE RESTRAINTS		20 A	1	1050 VA	1050 VA					1	20 A		NORTH EAST VEHICLE RESTRAINTS	8
9	NORTH VEHICLE RESTRAINTS		20 A	1			1050 VA	-			1	20 A		SPARE	10
11	SPARE		20 A	1					-	-	1	20 A		SPARE	12
13	SPARE		20 A	1	-	-					1	20 A		SPARE	14
15	SPARE		20 A	1			-	-			1	20 A		SPARE	16
17	SPARE		20 A	1					-	-	1	20 A		SPARE	18
19	SPARE		20 A	1	-	-					1	20 A		SPARE	20
21	SPARE		20 A	1			-	-			1	20 A		SPARE	22
23	SPARE		20 A	1					-	-	1	20 A		SPARE	24
				Total VA Per Phase	2890 VA		3030 VA		360 VA						
				Total VA	6280 VA										
				Total Amps	18 A										

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

Branch Panel: PP-3 — NEW PANEL

Location: Warehouse North Wall | **Supply From:** T-L | **Mounting:** Surface | **Enclosure:** Type 1
Volts: 120/208V | **Phase:** 3 | **Wires:** 4
A.I.C. Rating: 65K | **Mains Type:** MLO | **Bussing:** COPPER | **Mains Rating:** 100 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1	NORTH WALL RECEPTACLE		20 A	1	540 VA	250 VA					1	20 A		EF-1 MOTORIZED DAMPER	2
3	NORTH WEST RECEPT		20 A	1			1260 VA	1080 VA			1	20 A		NORTH WEST RECEPT	4
5	HV-1 ROOFTOP RECEPTACLE		20 A	1					180 VA	180 VA	1	20 A		EF-1 ROOFTOP RECEPTACLE	6
7	NORTH VEHICLE RESTRAINTS		20 A	1	1050 VA	1050 VA					1	20 A		NORTH WEST VEHICLE RESTRAINTS	8
9	NORTH WEST VEHICLE RESTRAINTS		20 A	1			630 VA	-			1	20 A		SPARE	10
11	SPARE		20 A	1					-	-	1	20 A		SPARE	12
13	SPARE		20 A	1	-	-					1	20 A		SPARE	14
15	SPARE		20 A	1			-	-			1	20 A		SPARE	16
17	SPARE		20 A	1					-	-	1	20 A		SPARE	18
19	SPARE		20 A	1	-	-					1	20 A		SPARE	20
21	SPARE		20 A	1			-	-			1	20 A		SPARE	22
23	SPARE		20 A	1					-	-	1	20 A		SPARE	24
				Total VA Per Phase	2890 VA		2970 VA		360 VA						
				Total VA	6220 VA										
				Total Amps	18 A										

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

Branch Panel: PP-4 — NEW PANEL

Location: Warehouse West Wall | **Supply From:** T-L | **Mounting:** Surface | **Enclosure:** Type 1
Volts: 120/208V | **Phase:** 3 | **Wires:** 4
A.I.C. Rating: 65K | **Mains Type:** MLO | **Bussing:** COPPER | **Mains Rating:** 100 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1	WEST WALL RECEPTACLES		20 A	1	540 VA	-					1	20 A		SPARE	2
3	SPARE		20 A	1			-	-			1	20 A		SPARE	4
5	SPARE		20 A	1					-	-	1	20 A		SPARE	6
7	SPARE		20 A	1	-	-					1	20 A		SPARE	8
9	SPARE		20 A	1			-	-			1	20 A		SPARE	10
11	SPARE		20 A	1					-	-	1	20 A		SPARE	12
13	SPARE		20 A	1	-	-					1	20 A		SPARE	14
15	SPARE		20 A	1			-	-			1	20 A		SPARE	16
17	SPARE		20 A	1					-	-	1	20 A		SPARE	18
19	SPARE		20 A	1	-	-					1	20 A		SPARE	20
21	SPARE		20 A	1			-	-			1	20 A		SPARE	22
23	SPARE		20 A	1					-	-	1	20 A		SPARE	24
				Total VA Per Phase	540 VA		VA		VA						
				Total VA	540 VA										
				Total Amps	2 A										

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

Branch Panel: PP-5 — NEW PANEL

Location: Warehouse West Wall | **Supply From:** T-L | **Mounting:** Surface | **Enclosure:** Type 1
Volts: 120/208V | **Phase:** 3 | **Wires:** 4
A.I.C. Rating: 65K | **Mains Type:** MLO | **Bussing:** COPPER | **Mains Rating:** 100 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1	WEST WALL RECEPTACLES		20 A	1	360 VA	-					1	20 A		SPARE	2
3	SPARE		20 A	1			-	-			1	20 A		SPARE	4
5	SPARE		20 A	1					-	-	1	20 A		SPARE	6
7	SPARE		20 A	1	-	-					1	20 A		SPARE	8
9	SPARE		20 A	1			-	-			1	20 A		SPARE	10
11	SPARE		20 A	1					-	-	1	20 A		SPARE	12
13	SPARE		20 A	1	-	-					1	20 A		SPARE	14
15	SPARE		20 A	1			-	-			1	20 A		SPARE	16
17	SPARE		20 A	1					-	-	1	20 A		SPARE	18
19	SPARE		20 A	1	-	-					1	20 A		SPARE	20
21	SPARE		20 A	1			-	-			1	20 A		SPARE	22
23	SPARE		20 A	1					-	-	1	20 A		SPARE	24
				Total VA Per Phase	360 VA		VA		VA						
				Total VA	360 VA										
				Total Amps	1 A										

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

Branch Panel: PP-6 — NEW PANEL

Location: Warehouse South Wall | **Supply From:** T-L | **Mounting:** Surface | **Enclosure:** Type 1
Volts: 120/208V | **Phase:** 3 | **Wires:** 4
A.I.C. Rating: 65K | **Mains Type:** MLO | **Bussing:** COPPER | **Mains Rating:** 100 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1	SOUTH WALL RECEPTACLES		20 A	1	540 VA	250 VA					1	20 A		EF-3 MOTORIZED DAMPER	2
3	SOUTH WEST RECEPT		20 A	1			1260 VA	1260 VA			1	20 A		SOUTH WEST RECEPT	4
5	HV-4 ROOFTOP RECEPTACLE		20 A	1					180 VA	180 VA	1	20 A		EF-4 ROOFTOP RECEPTACLE	6
7	SOUTH VEHICLE RESTRAINTS		20 A	1	1260 VA	1050 VA					1	20 A		SOUTH WEST VEHICLE RESTRAINTS	8
9	SOUTH WEST VEHICLE RESTRAINTS		20 A	1			630 VA	-			1	20 A		SPARE	10
11	SPARE		20 A	1					-	-	1	20 A		SPARE	12
13	SPARE		20 A	1	-	-					1	20 A		SPARE	14
15	SPARE		20 A	1			-	-			1	20 A		SPARE	16
17	SPARE		20 A	1					-	-	1	20 A		SPARE	18
19	SPARE		20 A	1	-	-					1	20 A		SPARE	20
21	SPARE		20 A	1			-	-			1	20 A		SPARE	22
23	SPARE		20 A	1					-	-	1	20 A		SPARE	24
				Total VA Per Phase	3100 VA		3150 VA		360 VA						
				Total VA	6610 VA										
				Total Amps	19 A										

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

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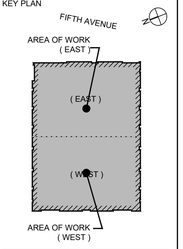
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KEY PLAN



100% CD	08/04/23
50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
REVISION:	DATE:

DRAWING TITLE:
ELECTRICAL - BRANCH PANEL SCHEDULE

SCALE:

DRAWN BY: XXX

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DWG. NO.

E-011

22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706

Branch Panel: PP-7 NEW PANEL

Location: Warehouse South Wall
Supply From: T-L
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phase: 3
Wires: 4

A.I.C. Rating: 65K
Mains Type: MLO
Bussing: COPPER
Mains Rating: 100 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1	SOUTH WALL RECEPTACLES		20 A	1	720 VA	250 VA					1	20 A		EF-4 MOTORIZED DAMPER	2
3	SOUTH EAST RECEPT		20 A	1			1260 VA	1440 VA			1	20 A		SOUTH EAST RECEPT	4
5	HV-3 ROOFTOP RECEPTACLE		20 A	1					180 VA	180 VA	1	20 A		EF-3 ROOFTOP RECEPTACLE	6
7	SOUTH EAST VEHICLE RESTRAINTS		20 A	1	1050 VA	1050 VA					1	20 A		SOUTH EAST VEHICLE RESTRAINTS	8
9	SOUTH EAST VEHICLE RESTRAINTS		20 A	1			1050 VA	1050 VA			1	20 A		SOUTH VEHICLE RESTRAINTS	10
11	SPARE		20 A	1					-	-	1	20 A		SPARE	12
13	SPARE		20 A	1	-	-					1	20 A		SPARE	14
15	SPARE		20 A	1			-	-			1	20 A		SPARE	16
17	SPARE		20 A	1					-	-	1	20 A		SPARE	18
19	SPARE		20 A	1	-	-					1	20 A		SPARE	20
21	SPARE		20 A	1			-	-			1	20 A		SPARE	22
23	SPARE		20 A	1					-	-	1	20 A		SPARE	24
			Total VA Per Phase		3070 VA		4800 VA		360 VA						
			Total VA		8230 VA										
			Total Amps		23 A										

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

Branch Panel: PP-8 NEW PANEL

Location: Warehouse East Wall
Supply From: T-L
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phase: 3
Wires: 4

A.I.C. Rating: 65K
Mains Type: MLO
Bussing: COPPER
Mains Rating: 100 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1	EAST WALL RECEPTACLES		20 A	1	360 VA	-					1	20 A		SPARE	2
3	SPARE		20 A	1			-	-			1	20 A		SPARE	4
5	SPARE		20 A	1					-	-	1	20 A		SPARE	6
7	SPARE		20 A	1	-	-					1	20 A		SPARE	8
9	SPARE		20 A	1			-	-			1	20 A		SPARE	10
11	SPARE		20 A	1					-	-	1	20 A		SPARE	12
13	SPARE		20 A	1	-	-					1	20 A		SPARE	14
15	SPARE		20 A	1			-	-			1	20 A		SPARE	16
17	SPARE		20 A	1					-	-	1	20 A		SPARE	18
19	SPARE		20 A	1	-	-					1	20 A		SPARE	20
21	SPARE		20 A	1			-	-			1	20 A		SPARE	22
23	SPARE		20 A	1					-	-	1	20 A		SPARE	24
			Total VA Per Phase		360 VA		VA		VA						
			Total VA		360 VA										
			Total Amps		1 A										

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

Branch Panel: PP-9 NEW PANEL

Location: Warehouse East Wall
Supply From: T-L
Mounting: Surface
Enclosure: Type 1

Volts: 120/208V
Phase: 3
Wires: 4

A.I.C. Rating: 65K
Mains Type: MLO
Bussing: COPPER
Mains Rating: 100 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1	EAST WALL RECEPTACLES		20 A	1	540 VA	720 VA					1	20 A		ROOFTOP RECEPTACLES	2
3	ROOFTOP EF-7		20 A	1			480 VA	250 VA			1	20 A		ROOFTOP EF-7 MOTORIZED DAMPER	4
5	ROOFTOP EF-5 MOTORIZED DAMPER		20 A	1					250 VA	250 VA	1	20 A		ROOFTOP EF-6 MOTORIZED DAMPER	6
7	SPARE		20 A	1	-	-					1	20 A		SPARE	8
9	SPARE		20 A	1			-	-			1	20 A		SPARE	10
11	SPARE		20 A	1					-	-	1	20 A		SPARE	12
13	SPARE		20 A	1	-	-					1	20 A		SPARE	14
15	SPARE		20 A	1			-	-			1	20 A		SPARE	16
17	SPARE		20 A	1					-	-	1	20 A		SPARE	18
19	SPARE		20 A	1	-	-					1	20 A		SPARE	20
21	SPARE		20 A	1			-	-			1	20 A		SPARE	22
23	SPARE		20 A	1					-	-	1	20 A		SPARE	24
			Total VA Per Phase		1260 VA		730 VA		500 VA						
			Total VA		2490 VA										
			Total Amps		7 A										

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

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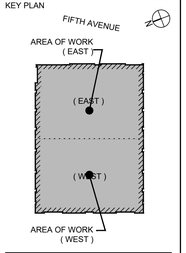
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KEY PLAN



REVISION:	DATE:
100% CD	08/04/23
50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23

DRAWING TITLE:
ELECTRICAL - BRANCH PANEL SCHEDULE

SCALE:

DRAWN BY: XXX

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DWG. NO.

E-012

22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706

Branch Panel: LP-H — NEW PANEL

Location: Elec Room
Supply From: MDP-H
Mounting: Surface
Enclosure: Type 1

Volts: 480/277V
Phase: 3
Wires: 4

A.I.C. Rating: 65K
Mains Type: MLO
Bussing: COPPER
Mains Rating: 100 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1	UTILITY ROOM F4		20 A	1	667 VA	567 VA					1	20 A		SOUTH SITE LIGHTING	2
3	SOUTH BUILDING LIGHTING		20 A	1			187 VA	140 VA			1	20 A		WEST BUILDING LIGHTING	4
5	NORTH BUILDING LIGHTING		20 A	1					187 VA	140 VA	1	20 A		EAST BUILDING LIGHTING	6
7	NORTH STREET LIGHTING		20 A	1	567 VA	737 VA					1	20 A		TRUCK PARKING NORTH LIGHTING	8
9	TRUCK PARKING SOUTH LIGHTING		20 A	1			567 VA	907 VA			1	20 A		NORTH EAST STREET LIGHTING	10
11	CAR PARKING LIGHTING		20 A	1					1303 VA	-	1	20 A		SPARE	12
13	SPARE		20 A	1	-	-					1	20 A		SPARE	14
15	SPARE		20 A	1			-	-			1	20 A		SPARE	16
17	SPARE		20 A	1					-	-	1	20 A		SPARE	18
19	SPARE		20 A	1	-	-					1	20 A		SPARE	20
21	SPARE		20 A	1			-	-			1	20 A		SPARE	22
23	SPARE		20 A	1					-	-	1	20 A		SPARE	24
25	SPARE		20 A	1	-	-					1	20 A		SPARE	26
27	SPARE		20 A	1			-	-			1	20 A		SPARE	28
29	SPARE		20 A	1					-	-	1	20 A		SPARE	30
31	SPARE		20 A	1	-	-					1	20 A		SPARE	32
33	SPARE		20 A	1			-	-			1	20 A		SPARE	34
35	SPARE		20 A	1					-	-	1	20 A		SPARE	36
37	SPARE		20 A	1	-	-					1	20 A		SPARE	38
39	SPARE		20 A	1			-	-			1	20 A		SPARE	40
41	SPARE		20 A	1					-	-	1	20 A		SPARE	42
			Total VA Per Phase		2538 VA		1801 VA		1603 VA						
			Total VA				5942 VA								
			Total Amps				8 A								

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

Branch Panel: EV-1 — NEW PANEL FOR FUTURE EV CIRCUITS

Location: Elec Room
Supply From: H-L
Mounting: Surface
Enclosure: Type 1

Volts: 208Y/120V
Phase: 3
Wires: 4

A.I.C. Rating: 65K
Mains Type: MLO
Bussing: COPPER
Mains Rating: 200 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1					TBD	TBD									2
3	FUTURE EV CHARGER		TBD	3			TBD	TBD			3	TBD		FUTURE EV CHARGER	4
5									TBD	TBD					6
7					TBD	TBD									8
9	FUTURE EV CHARGER		TBD	3			TBD	TBD			3	TBD		FUTURE EV CHARGER	10
11									TBD	TBD					12
13					TBD	TBD									14
15	FUTURE EV CHARGER		TBD	3			TBD	TBD			3	TBD		FUTURE EV CHARGER	16
17									TBD	TBD					18
19					TBD	TBD									20
21	FUTURE EV CHARGER		TBD	3			TBD	TBD			3	TBD		FUTURE EV CHARGER	22
23									TBD	TBD					24
25	SPARE		20 A	1	-	-					1	20 A		SPARE	26
27	SPARE		20 A	1			-	-			1	20 A		SPARE	28
29	SPARE		20 A	1					-	-	1	20 A		SPARE	30
31	SPARE		20 A	1	-	-					1	20 A		SPARE	32
33	SPARE		20 A	1			-	-			1	20 A		SPARE	34
35	SPARE		20 A	1					-	-	1	20 A		SPARE	36
37	SPARE		20 A	1	-	-					1	20 A		SPARE	38
39	SPARE		20 A	1			-	-			1	20 A		SPARE	40
41	SPARE		20 A	1					-	-	1	20 A		SPARE	42
			Total VA Per Phase		VA		VA		VA						
			Total VA				VA								
			Total Amps				A								

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

Branch Panel: EQ-H — NEW PANEL

Location: Elec Room
Supply From: MDP-H
Mounting: Surface
Enclosure: Type 1

Volts: 480/277V
Phase: 3
Wires: 4

A.I.C. Rating: 65K
Mains Type: MLO
Bussing: COPPER
Mains Rating: 200 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1					8314 VA	8314 VA									2
3	NORTH EAST TRASH COMPACTOR		30 A	3			8314 VA	8314 VA			3	30 A		NORTH WEST TRASH COMPACTOR	4
5									8314 VA	8314 VA					6
7					8314 VA	8314 VA									8
9	SOUTH WEST TRASH COMPACTOR		30 A	3			8314 VA	8314 VA			3	30 A		SOUTH TRASH COMPACTOR	10
11									8314 VA	8314 VA					12
13					8314 VA	2500 VA									14
15	SOUTH EAST TRASH COMPACTOR		30 A	3			8314 VA	2500 VA			2	20 A		ELECTRICAL ROOM UNIT HEATER EUH-1	16
17									8314 VA	2500 VA					18
19	SPARE		20 A	1	-	2500 VA					2	20 A		WATER ROOM UNIT HEATER EUH-2	20
21	SPARE		20 A	1			-	-			1	20 A		SPARE	22
23	SPARE		20 A	1					-	-	1	20 A		SPARE	24
25	SPARE		20 A	1	-	-					1	20 A		SPARE	26
27	SPARE		20 A	1			-	-			1	20 A		SPARE	28
29	SPARE		20 A	1					-	-	1	20 A		SPARE	30
31	SPARE		20 A	1	-	-					1	20 A		SPARE	32
33	SPARE		20 A	1			-	-			1	20 A		SPARE	34
35	SPARE		20 A	1					-	-	1	20 A		SPARE	36
37	SPARE		20 A	1	-	-					1	20 A		SPARE	38
39	SPARE		20 A	1			-	-			1	20 A		SPARE	40
41	SPARE		20 A	1					-	-	1	20 A		SPARE	42
			Total VA Per Phase		46570 VA		44070 VA		44070 VA						
			Total VA				134710 VA								
			Total Amps				163 A								

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

Branch Panel: PP-H — NEW PANEL

Location: North Wall
Supply From: H-L
Mounting: Surface
Enclosure: Type 1

Volts: 208Y/120V
Phase: 3
Wires: 4

A.I.C. Rating: 65K
Mains Type: MLO
Bussing: COPPER
Mains Rating: 100 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1	ELECTRICAL ROOM RECEPT		20 A	1	180 VA	180 VA					1	20 A		WATER ROOM RECEPT	2
3	SPARE		20 A	1			-	-			1	20 A		SPARE	4
5	SPARE		20 A	1					-	-	1	20 A		SPARE	6
7	SPARE		20 A	1	-	-					1	20 A		SPARE	8
9	SPARE		20 A	1			-	-			1	20 A		SPARE	10
11	SPARE		20 A	1					-	-	1	20 A		SPARE	12
13	SPARE		20 A	1	-	-					1	20 A		SPARE	14
15	SPARE		20 A	1			-	-			1	20 A		SPARE	16
17	SPARE		20 A	1					-	-	1	20 A		SPARE	18
19	SPARE		20 A	1	-	-					1	20 A		SPARE	20
21	SPARE		20 A	1			-	-			1	20 A		SPARE	22
23	SPARE		20 A	1					-	-	1	20 A		SPARE	24
25	SPARE		20 A	1	-	-					1	20 A		SPARE	26
27	SPARE		20 A	1			-	-			1	20 A		SPARE	28
29	SPARE		20 A	1					-	-	1	20 A		SPARE	30
31	SPARE		20 A	1	-	-					1	20 A		SPARE	32
33	SPARE		20 A	1			-	-			1	20 A		SPARE	34
35	SPARE		20 A	1					-	-	1	20 A		SPARE	36
37	SPARE		20 A	1	-	-					1	20 A		SPARE	38
39	SPARE		20 A	1			-	-			1	20 A		SPARE	40
41	SPARE		20 A	1					-	-	1	20 A		SPARE	42
			Total VA Per Phase		360 VA		VA		VA						
			Total VA				360 VA								
			Total Amps				1 A								

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

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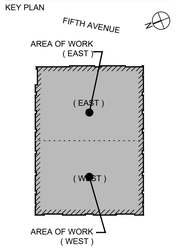
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KEY PLAN



100% CD	08/04/23
50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
REVISION:	DATE:

DRAWING TITLE:
ELECTRICAL - BRANCH PANEL SCHEDULE

SCALE:

DRAWN BY: XXX

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DWG. NO.

E-013

22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706

Branch Panel: LS-HL — NEW PANEL

Location: Elec Room
Supply From: T2
Mounting: Surface
Enclosure: Type 1

Volts: 208Y/120V
Phase: 3
Wires: 4

A.I.C. Rating: 65K
Mains Type: MCB
Bussing: COPPER
Mains Rating: 100 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1	FIRE ALARM SYSTEM	L	20 A	1	600 VA	-					1	20 A		SPARE	2
3	SPARE		20 A	1			-	-			1	20 A		SPARE	4
5	SPARE		20 A	1					-	-	1	20 A		SPARE	6
7	SPARE		20 A	1	-	-					1	20 A		SPARE	8
9	SPARE		20 A	1			-	-			1	20 A		SPARE	10
11	SPARE		20 A	1					-	-	1	20 A		SPARE	12
			Total VA Per Phase		600 VA		VA		VA						
			Total VA		600 VA										
			Total Amps		2 A										

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP
L = LOCKABLE BREAKER

Branch Panel: LS-HH — NEW PANEL

Location: Elec Room
Supply From: ATS-LS
Mounting: Surface
Enclosure: Type 1

Volts: 480/277V
Phase: 3
Wires: 4

A.I.C. Rating: 65K
Mains Type: MLO
Bussing: COPPER
Mains Rating: 100 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1	UTILITY ROOM FIXTURE F4		20 A	1	667 VA	13302 VA									
3	SPARE		20 A	1			-	13302 VA			3	60 A		TRANSFORMER 2 (30 KVA)	4
5	SPARE		20 A	1					-	13302 VA					6
7	SPARE		20 A	1	-	-					1	20 A		SPARE	8
9	SPARE		20 A	1			-	-			1	20 A		SPARE	10
11	SPARE		20 A	1					-	-	1	20 A		SPARE	12
			Total VA Per Phase		13969 VA		13302 VA		13302 VA						
			Total VA		40573 VA										
			Total Amps		49 A										

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

Branch Panel: RS-H — NEW PANEL

Location: Elec Room
Supply From: T3
Mounting: Surface
Enclosure: Type 1

Volts: 208Y/120V
Phase: 3
Wires: 4

A.I.C. Rating: 65K
Mains Type: MCB
Bussing: COPPER
Mains Rating: 100 A

CKT	Circuit Description	Tag	Trip	Poles	A		B		C		Poles	Trip	Tag	Circuit Description	CKT
1					1201 VA	1201 VA									2
3	SEPTITECH STAAR 3 POWER		20 A	3			1201 VA	1201 VA			3	20 A		SEPTITECH STAAR 3 POWER	4
5									1201 VA	1201 VA					6
7					1201 VA	1201 VA									8
9	SEPTITECH STAAR 3 POWER		20 A	3			1201 VA	1201 VA			3	20 A		SEPTITECH STAAR 3 POWER	10
11									1201 VA	1201 VA					12
13	SEPTITECH STAAR 3 CONTROLS		20 A	1	240 VA	240 VA					1	20 A		SEPTITECH STAAR 3 CONTROLS	14
15	SEPTITECH STAAR 3 CONTROLS		20 A	1			240 VA	240 VA			1	20 A		SEPTITECH STAAR 3 CONTROLS	16
17	SPARE		20 A	1					-	-	1	20 A		SPARE	18
19	SPARE		20 A	1	-	-					1	20 A		SPARE	20
21	SPARE		20 A	1			-	-			1	20 A		SPARE	22
23	SPARE		20 A	1					-	-	1	20 A		SPARE	24
			Total VA Per Phase		5284 VA		5284 VA		4804 VA						
			Total VA		15372 VA										
			Total Amps		43 A										

NOTES:

OPTION TAG:
LO = LOCK-ON CIRCUIT BREAKER
E = EXISTING CIRCUIT
G = GFCI BREAKER
H = HACR BREAKER
ST = SHUNT TRIP

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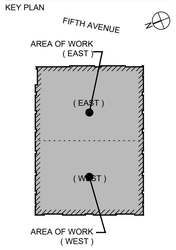
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KEY PLAN



100% CD	08/04/23
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PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
REVISION:	DATE:

DRAWING TITLE:
ELECTRICAL - BRANCH PANEL SCHEDULE

SCALE:

DRAWN BY: XXX

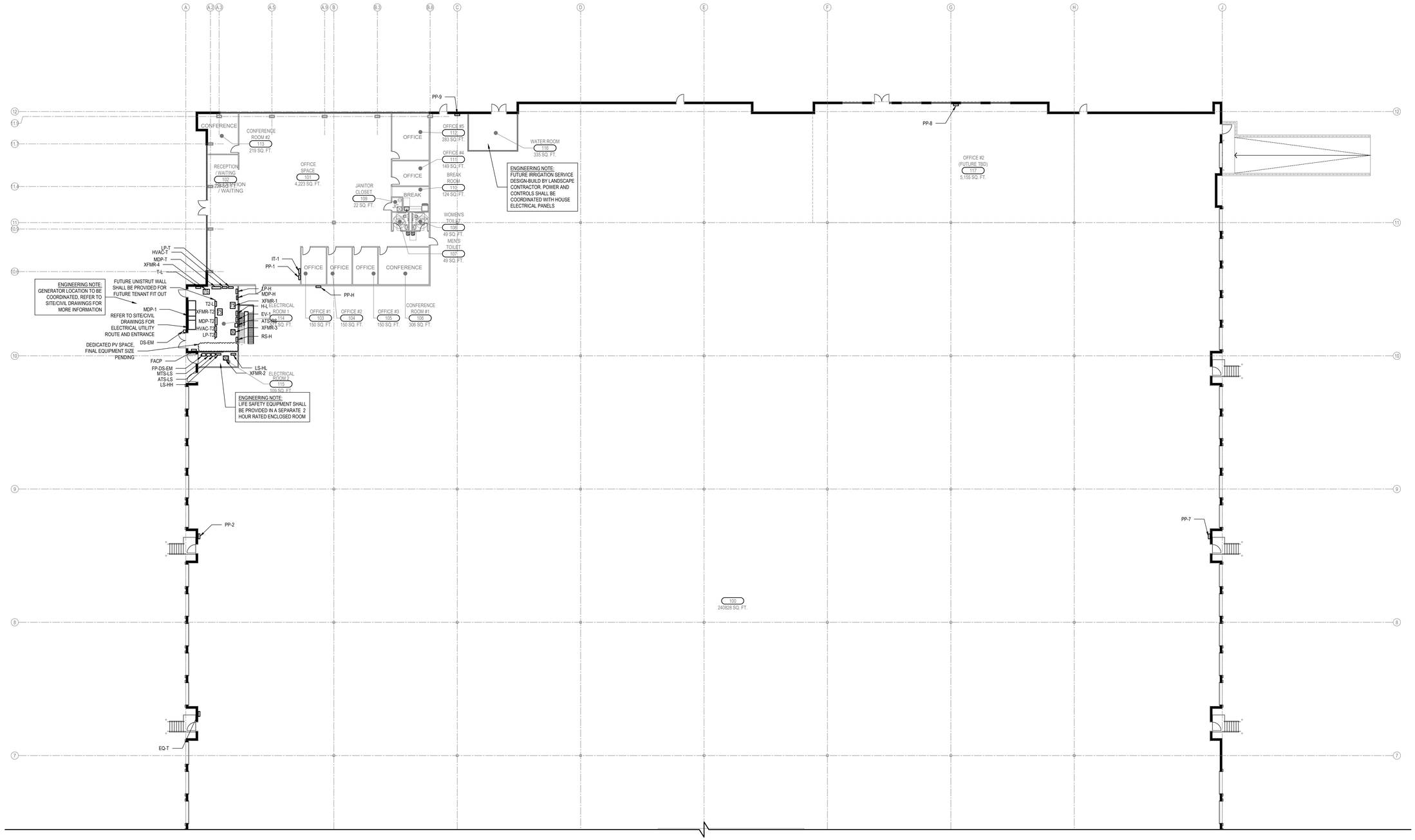
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22-1002
PROPOSED WAREHOUSE
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1 FLOOR PLAN - EAST
SCALE: 1/16"=1'-0"

ELECTRICAL GENERAL NOTES:

1. REFER TO ONE LINE DIAGRAMS FOR MORE DETAILED INFORMATION ON POWER EQUIPMENT, CONDUIT, CONDUCTORS, AND ETC.
2. ALL FOREIGN TRADES (MECHANICAL, PLUMBING, ETC.) SHALL NOT ROUTE DUCTS, PIPES, ETC. ABOVE ANY ELECTRICAL EQUIPMENT. THE CONTRACTOR SHALL COORDINATE TO ASSURE APPROPRIATE INSTALLATION IN THE FIELD AND MAINTAIN EQUIPMENT SPACE CLEARANCE.
3. CODE REQUIRED WORKING SPACE CLEARANCE SHALL BE MAINTAINED THROUGHOUT.
4. TRENCHING AND CORE DRILLING SHALL BE COORDINATED WITH GENERAL CONTRACTOR. ALL PENETRATIONS SHALL BE SEALS. FIRE RATED PENETRATIONS SHALL BE FIRE STOPPED TO MAINTAIN THE APPROPRIATE FIRE RATING.
5. CONDUIT RUNS FOR POWER FEEDERS AND/ OR BRANCH CIRCUITS SHALL MAINTAIN 360 DEGREES OF BENDING SPACE BETWEEN PULLING POINTS.
6. THE CONTRACTOR SHALL PROVIDE MINIMUM NUMBER OF PULL BOXES PER CODE REQUIREMENTS. PULL BOXES SHALL BE SIZED PER NEC.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD WALK THROUGH, INVESTIGATION, AND REQUEST FOR INFORMATION PRIOR TO BID.

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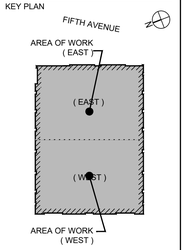
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KEY PLAN



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50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23

DRAWING TITLE:
ELECTRICAL - FIRST FLOOR POWER DISTRIBUTION PLAN

SCALE:

DRAWN BY: XXX

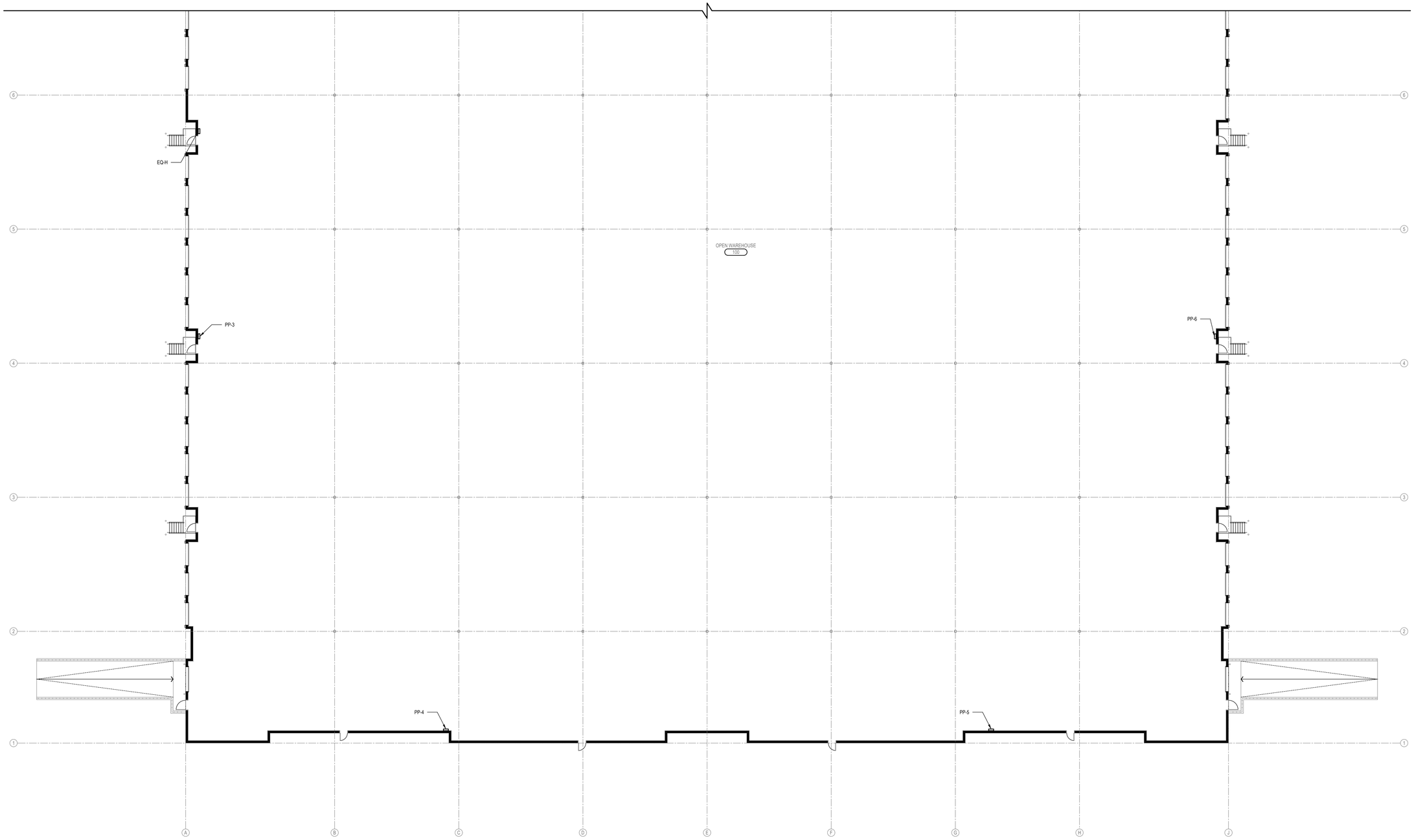
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1 FLOOR PLAN - WEST
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ELECTRICAL GENERAL NOTES:

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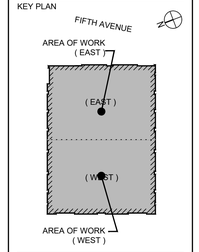
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KEY PLAN



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PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
REVISION:	DATE:

DRAWING TITLE:
ELECTRICAL - FIRST FLOOR POWER DISTRIBUTION PLAN

SCALE:

DRAWN BY: XXX

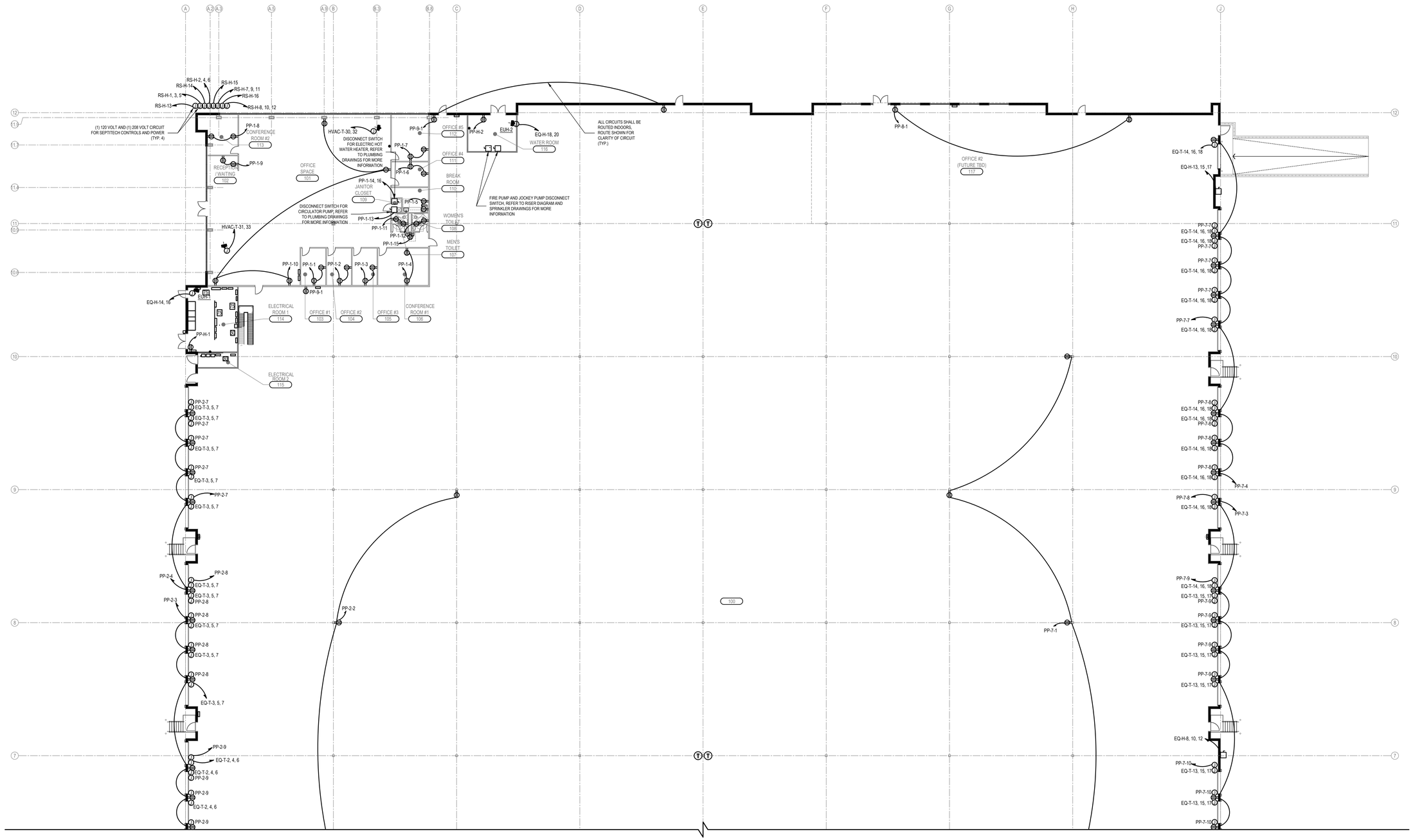
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1 FLOOR PLAN - EAST
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ELECTRICAL GENERAL NOTES:

1. CONTRACTOR SHALL TAKE OUT A CONTINGENCY OF 10 CIRCUITS FOR HVAC CONTROLS USING 3#10 AWG & 3/4" CONDUIT AT 150' EACH.
2. CONTRACTOR SHALL COORDINATE ALL WIRING DEVICE LOCATIONS, HEIGHTS, AND TYPES WITH ARCHITECT AND ARCHITECTURAL DRAWINGS PRIOR TO BID AND CONSTRUCTION.
3. CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT, DEVICES, AND COMPONENTS FOR A FULLY OPERATIONAL AND CODE COMPLIANT SYSTEM FOR ALL EQUIPMENT IN SCOPE OF WORK.
4. REFER TO ARCHITECTURAL PLAN FOR TYPICAL AND FINAL MOUNTING HEIGHTS OF DEVICES THROUGHOUT.
5. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONED LOCATIONS OF DEVICES THROUGHOUT.
6. CONDUIT RUNS FOR POWER FEEDERS AND / OR BRANCH CIRCUITS SHALL MAINTAIN 360 DEGREES OF BENDING SPACE BETWEEN PULLING POINTS.
7. THE CONTRACTOR SHALL PROVIDE THE MINIMUM NUMBER OF PULLBOXES PER CODE REQUIREMENTS. PULL BOXES SHALL BE SIZED PER NEC.
8. POWER DEVICES AND DISCONNECT SWITCHES SHALL BE RATED FOR THE ENVIRONMENT IN WHICH THEY ARE INSTALLED.
9. COORDINATE FINAL SELECTION OF ALL SPECIALTY EQUIPMENT, POWER CONNECTIONS, AND DISCONNECTS WITH THE MANUFACTURER.
10. CONTRACTOR SHALL TAKE OUT AN ALLOWANCE FOR (8) CIRCUITS FOR EV CHARGERS USING 4#4 AWG +#8 AWG G & 1-1/4" CONDUIT AT 300' EACH.
11. CONTRACTOR SHALL TAKE OUT AN ALLOWANCE FOR EMPTY CONDUIT WITH PULL BOXES TO BE RUN TO ALL DOCK LEVELERS FOR FUTURE CONVERSION OF MECHANICAL TO AUTO LEVELER.

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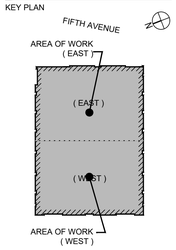
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KEY PLAN



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PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
REVISION:	DATE:

DRAWING TITLE:
ELECTRICAL - FIRST FLOOR POWER PLAN

SCALE:

DRAWN BY: XXX

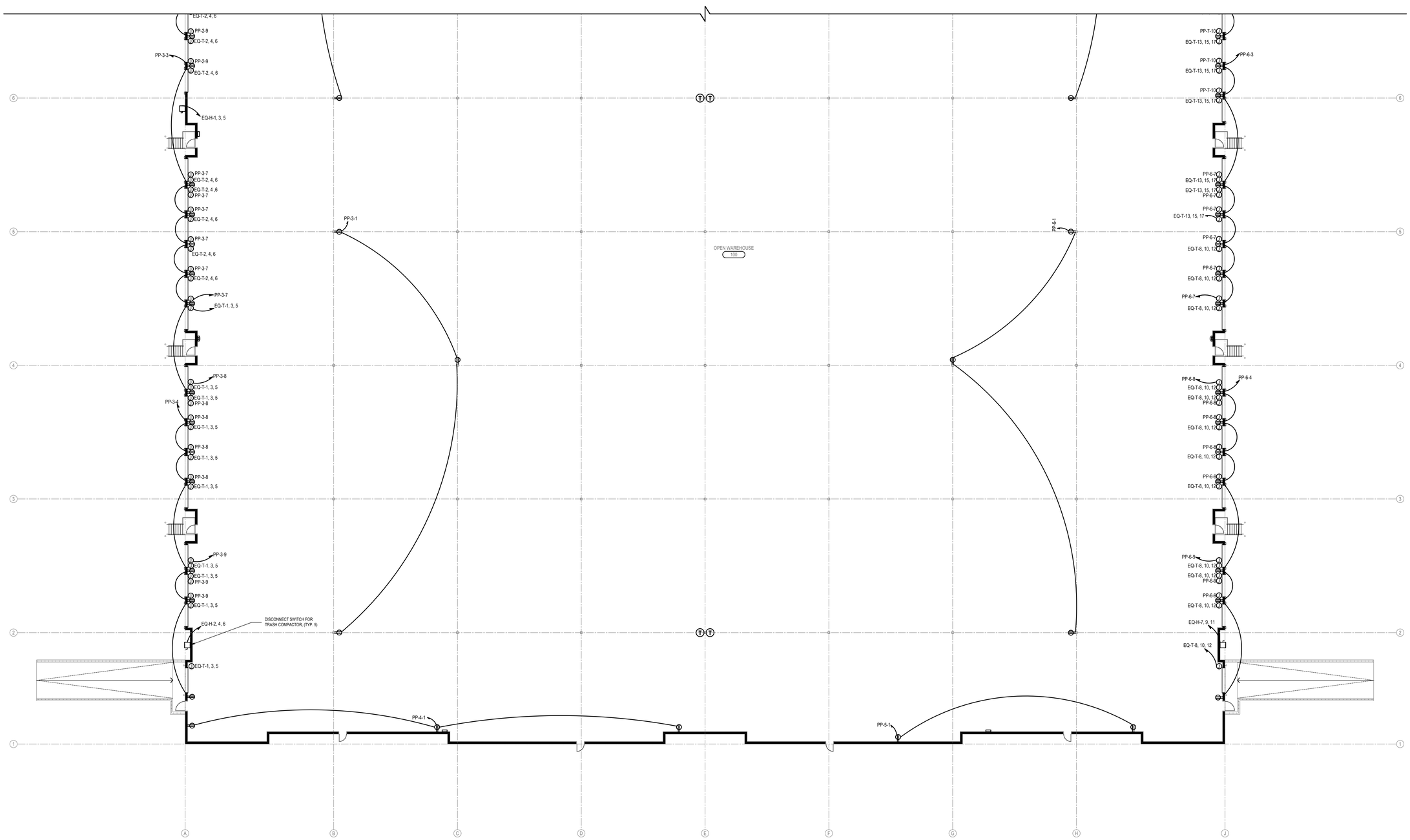
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1 FLOOR PLAN - WEST
SCALE: 1/16"=1'-0"

ELECTRICAL GENERAL NOTES:

1. CONTRACTOR SHALL TAKE OUT A CONTINGENCY OF 10 CIRCUITS FOR HVAC CONTROLS USING 3#10 AWG & 3/4" CONDUIT AT 150' EACH.
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9. COORDINATE FINAL SELECTION OF ALL SPECIALTY EQUIPMENT, POWER CONNECTIONS, AND DISCONNECTS WITH THE MANUFACTURER.
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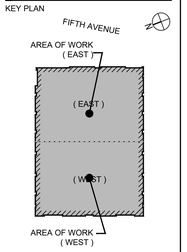
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PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
REVISION:	DATE:

DRAWING TITLE:
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DRAWN BY: XXX

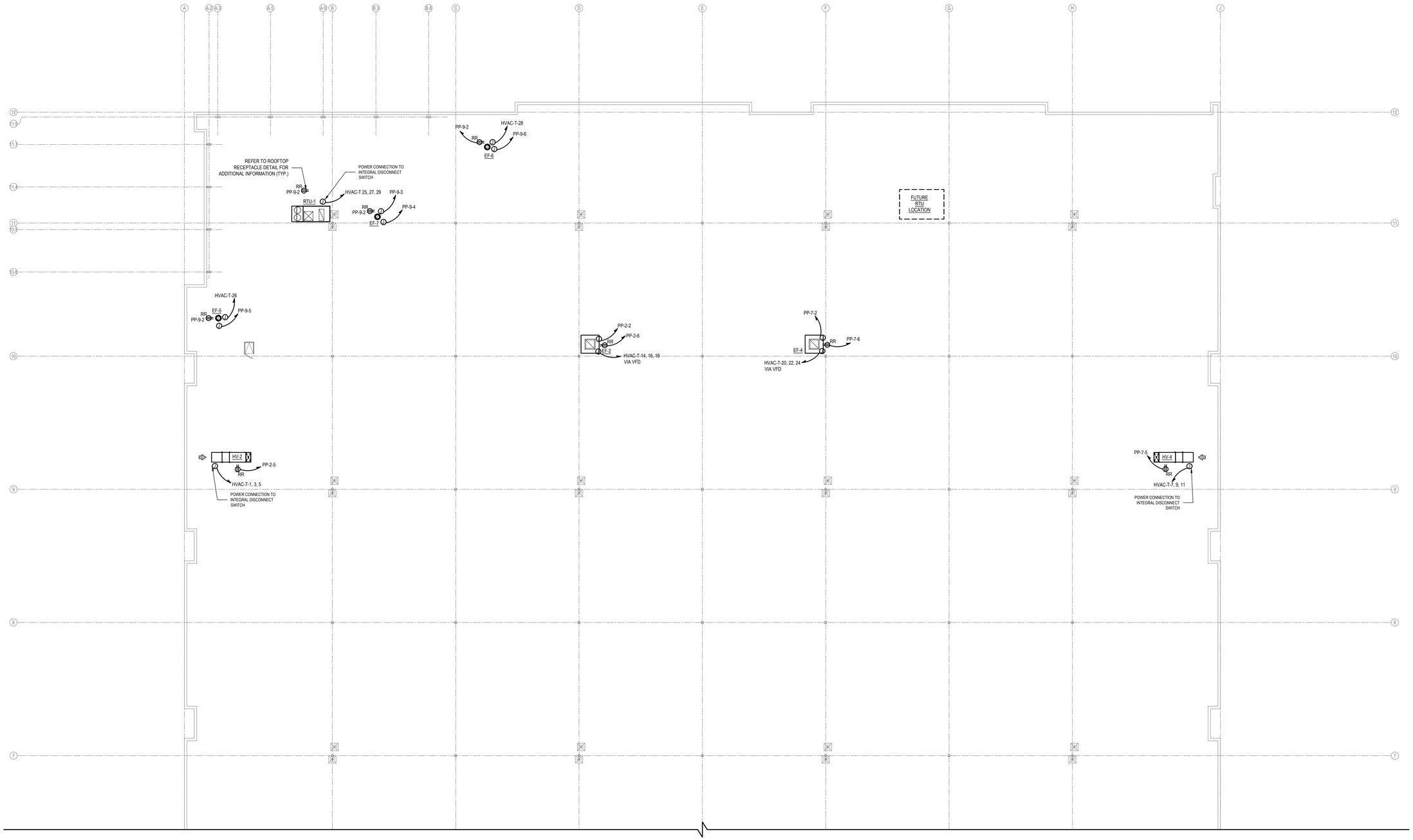
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1 ROOF PLAN - EAST
SCALE: 1/16"=1'-0"

ELECTRICAL GENERAL NOTES:

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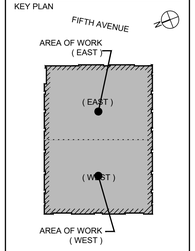
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PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
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SCALE:

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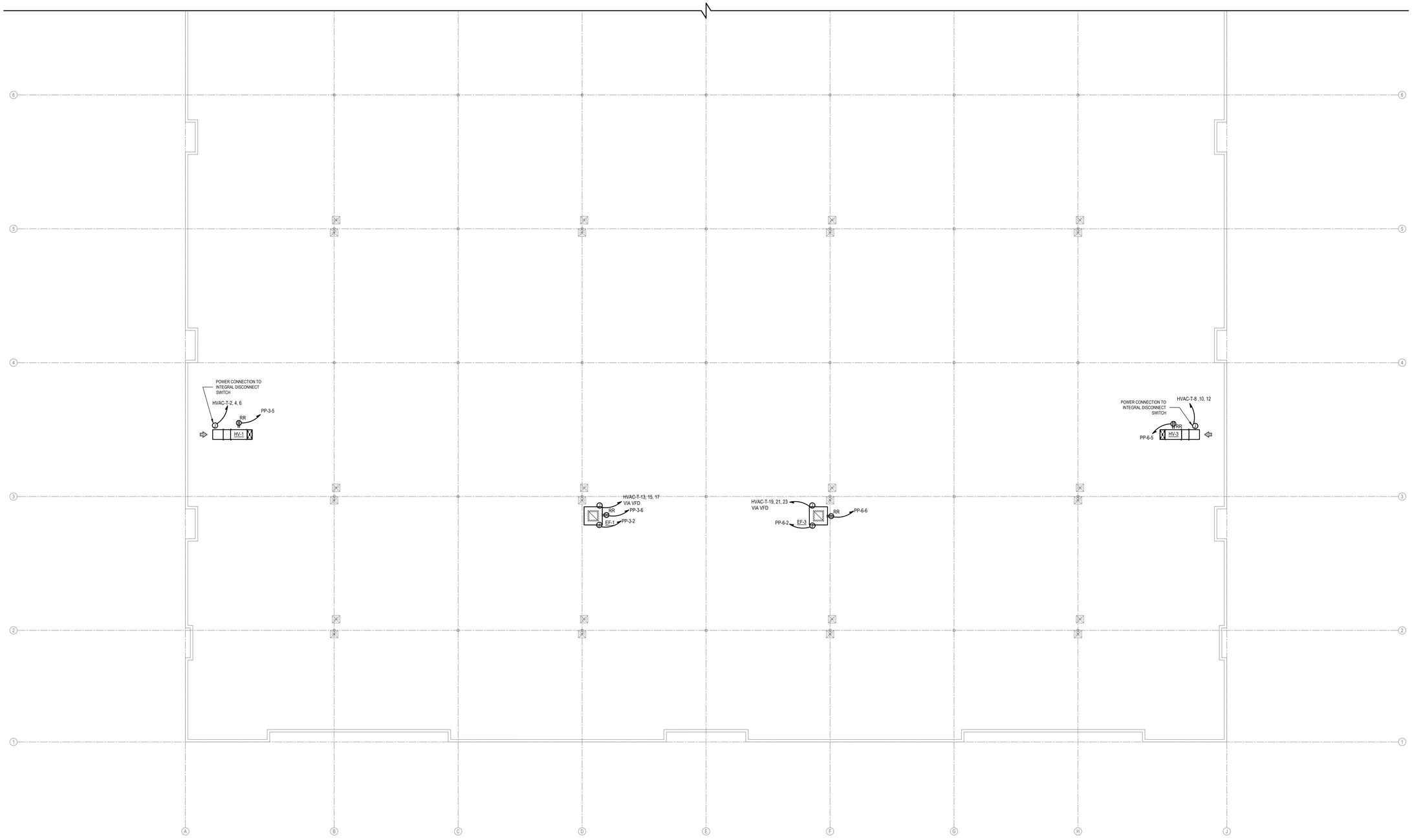
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1 ROOF PLAN - WEST
SCALE: 1/16"=1'-0"

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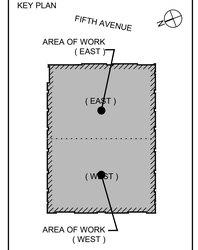
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PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23

DRAWING TITLE:
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SCALE:

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PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706

D:\ba2021 - 1612Th Ave - Xebec Warehouse\E\ECE 204 ELECTRICAL - ROOF POWER PLAN.dwg, Date:August 4, 2023, Penguy — Plotted by:Jason Mellin

PROPOSED POLE MOUNTED SITE LIGHTING AND FOUNDATION MINIMUM 18" BEHIND CURB LINE (TYP)

PROPOSED POLE MOUNTED SITE LIGHTING AND FOUNDATION MINIMUM 18" BEHIND CURB (TYP)

PROPOSED POLE MOUNTED SITE LIGHTING AND FOUNDATION MINIMUM 18" BEHIND CURB (TYP)

PROPOSED WALL MOUNTED SITE LIGHT (TYP)

PROPOSED WALL MOUNTED SITE LIGHT (TYP)

PROPOSED WALL MOUNTED SITE LIGHT (TYP)

PROPOSED POLE MOUNTED SITE LIGHTING AND FOUNDATION MINIMUM 18" BEHIND CURB (TYP)

1-STORY WAREHOUSE
240,830 SF FIRST FLOOR (NO BASEMENT)
BUILDING HEIGHT: 48'
FFL: 76.00

1 STORY FRAME BUILDING

L PIPE FOUND 3.2'N 1.2'W

DRAYTON AVENUE
(50' WIDE - PUBLIC)

TWO WAY TRAFFIC

FIFTH AVENUE
(AKA. COUNTY ROUTE 7)
(VARIABLE WIDTH - PUBLIC)

TWO WAY TRAFFIC

HECKSHER AVENUE

BLOCK WALL

FENCE CORNER

CNC. MON FOUND

CNC. MON FOUND

CNC. MON FOUND

WATERLINE EASEMENT TO SUFFOLK COUNTY WATER AUTHORITY PER LIBER 5102 PG 436

WATERLINE EASEMENT TO SUFFOLK COUNTY WATER AUTHORITY PER LIBER 5102 PG 436

1 PIPE FOUND

LIGHTING GENERAL NOTES:

1. CONTRACTOR SHALL TAKE OUT A CONTINGENCY OF 5 CIRCUITS FOR LIGHTING CONTROLS USING 3#10 AWG & 3/4" CONDUIT AT 20\0' EACH.
2. SITE LIGHTING FIXTURES SHALL BE SPECIFIED WITH 277V PHOTOCELL.
3. CONNECT ALL FIXTURES, SWITCHING, CONTROL TO CODE COMPLIANT LIGHTING CONTROL SYSTEM MINIMALLY INCLUDING YEARLY CALENDAR, AND TIME SETTINGS WITH REMOTE ACCESS.
4. PROVIDE LEGRAND BRAND LIGHTING RELAY CONTROL PANEL FOR ALL LIGHTING CIRCUITS (INTERIOR AND EXTERIOR) AND FOR FUTURE 25% GROWTH OF SEPARATE LOADS. ALL SENSORS SHALL BE COMPATIBLE WITH THE PANEL. ALL FIXTURES TO BE CONTROLLED BY: LOCAL SENSOR AND CONTROL PANEL WITH PROGRAMMABLE ASTRONOMIC TIME CLOCK FUNCTIONALITY.
5. CONTRACTOR SHALL UPSIZE WIRE FOR RUNS IN EXCESS OF 200 FEET DUE TO VOLTAGE DROP.

Lighting Fixture Schedule

Site Lighting							
Tag	Qty	Arrangement	Voltage	Watts/Fixture	Lumens	Manufacturer	Model Number
A	51	SINGLE POLE MOUNTED	120-277	51	7,203	LITHONIA LIGHTING	DSX1 LED P1 30K T2M MVOLT HS
B	4	DUAL POLE MOUNTED	120-277	102	7,287	LITHONIA LIGHTING	DSX1 LED P1 30K T3M MVOLT
C	23	SINGLE POLE MOUNTED	120-277	51	7,446	LITHONIA LIGHTING	DSX1 LED P1 30K TFTM MVOLT HS
D	42	WALL MOUNTED	120-277	14	1,357	LITHONIA LIGHTING	DSXW1 LED 10C 350 30K T4M MVOLT
Interior Lighting							
Tag	Qty	Arrangement	Voltage	Watts/Fixture	Lumens	Manufacturer	Model Number
F1	125	TILT WITH (4) BAYS	277	291	47,140	HOLOPHANE	PHV 45000LM FACL MD 277 GZ10 40K 80CRI SUSP OCS NLTAIR2 RMSOD45 TILT SCKL20 PHVAC120 DWHXD
F1EM	62	TILT WITH (4) BAYS	277	291	47,140	HOLOPHANE	PHV 45000LM FACL MD 277 GZ10 40K 80CRI IE3DWCPHER SUSP OCS NLTAIR2 RMSOD45 TILT SCKL20 PHVAC120 DWHXD RFO337999
F2	61	2' X 4' RECESSED	UNV	47.59	5,936	LITHONIA LIGHTING	2BLT4 60L ADPT EZ1 LP835 RES7POT
F3	1	2' X 2' RECESSED	UNV	42.5	4,951	LITHONIA LIGHTING	2BLT2 48L ADPT EZ1 LP835 RES7POT
F4	10	4' LED WRAPAROUND	UNV	40	5,137	LITHONIA LIGHTING	BLWP4 48L ADPT EZ1 LP835 RES7POT
F5	16	6" LED DOWNLIGHT	UNV	10.4	950	LITHONIA LIGHTING	LDN6 35/10 L06AR LSS MVOLT NLTAIR2

1 ELECTRICAL - SITE LIGHTING POWER PLAN
SCALE: 50'=1'-0"

© 2022 - 16129 dwg - [Date: Wednesday, August 3, 2022 - 8:51:07 PM] - [File: C:\Users\Jason\Desktop\16129 dwg\16129 ELECTRICAL - SITE LIGHTING POWER PLAN.dwg - Date: August 3, 2022 - Plotted by: Jason Mallon]

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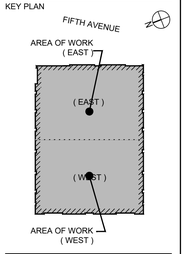
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KEY PLAN



REVISION:	DATE:
100% CD	08/04/23
50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23

DRAWING TITLE:
ELECTRICAL - SITE LIGHTING POWER PLAN

SCALE:

DRAWN BY: XXX

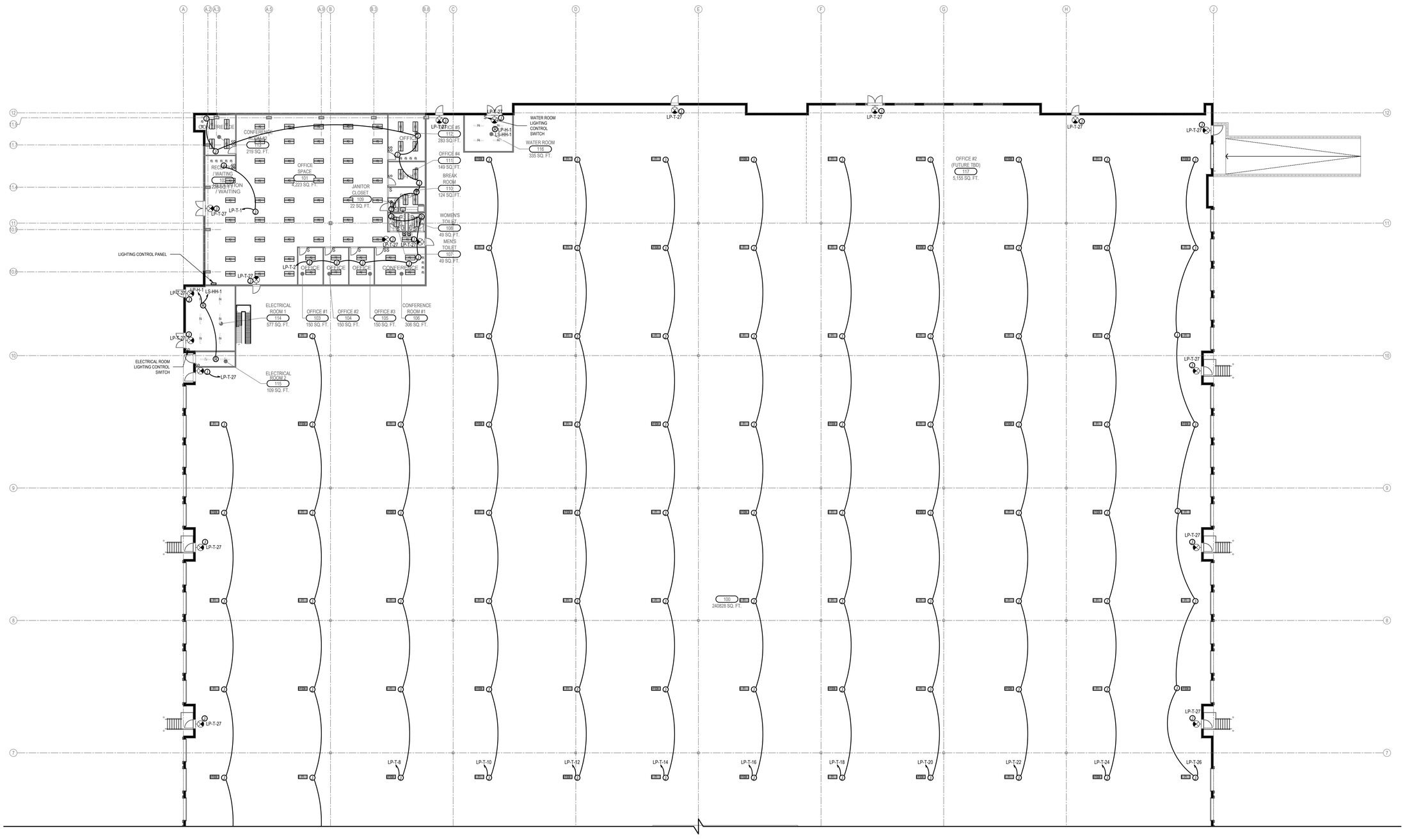
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E-300

22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706



1 FLOOR PLAN - EAST
SCALE: 1/16"=1'-0"

Lighting Fixture Schedule							
Site Lighting							
Tag	Qty	Arrangement	Voltage	Watts/Fixture	Lumens	Manufacturer	Model Number
A	51	SINGLE POLE MOUNTED	120-277	51	7,203	LITHONIA LIGHTING	DSX1 LED P1 30K T2M MVOLT HS
B	4	DUAL POLE MOUNTED	120-277	102	7,287	LITHONIA LIGHTING	DSX1 LED P1 30K T3M MVOLT
C	23	SINGLE POLE MOUNTED	120-277	51	7,446	LITHONIA LIGHTING	DSX1 LED P1 30K TFTM MVOLT HS
D	42	WALL MOUNTED	120-277	14	1,357	LITHONIA LIGHTING	DSXW1 LED 10C 350 30K T4M MVOLT
Interior Lighting							
Tag	Qty	Arrangement	Voltage	Watts/Fixture	Lumens	Manufacturer	Model Number
F1	125	TILT WITH (4) BAYS	277	291	47,140	HOLOPHANE	PHV 45000LM FACL MD 277 GZ10 40K 80CRI SUSP OCS NLTAIR2 RMSOD45 TILT SCK120 PHVAC120 DWHXD
F1EM	62	TILT WITH (4) BAYS	277	291	47,140	HOLOPHANE	PHV 45000LM FACL MD 277 GZ10 40K 80CRI IE30WCPHER SUSP OCS NLTAIR2 RMSOD45 TILT SCK120 PHVAC120 DWHXD RFD337999
F2	61	2' X 4' RECESSED	UNV	47.59	5,936	LITHONIA LIGHTING	2BLT4 60L ADPT EZ1 LP835 RES7PDT
F3	1	2' X 2' RECESSED	UNV	42.9	4,951	LITHONIA LIGHTING	2BLT2 48L ADPT EZ1 LP835 RES7PDT
F4	10	4' LED WRAPAROUND	UNV	40	5,137	LITHONIA LIGHTING	BLWP4 48L ADPT EZ1 LP835 RES7PDT
F5	16	6" LED DOWNLIGHT	UNV	10.4	950	LITHONIA LIGHTING	LDN6 35/10 LO6AR LSS MVOLT NLTAIR2

LIGHTING GENERAL NOTES:

1. CONTRACTOR SHALL TAKE OUT A CONTINGENCY OF (6) CIRCUITS FOR LIGHTING CONTROLS USING 3#10 AWG & 3/4" CONDUIT AT 200' EACH.
2. CONTRACTOR SHALL TAKE OUT AN ALLOWANCE OF (6) CIRCUITS FOR LIGHTING POWER USING 3#12 AWG & 3/4" CONDUIT AT 200' EACH.
3. CONTRACTOR SHALL TAKE OUT AN ALLOWANCE OF (20) CIRCUITS FOR SITE LIGHTING USING 3#12 AWG & 3/4" CONDUIT AT 200' EACH.
4. CONNECT ALL FIXTURES, SWITCHING, CONTROL TO CODE COMPLIANT LIGHTING CONTROL SYSTEM.
5. FIXTURES F1 AND F1EM PROVIDED WITH NLTAIR2 RMSOD 45, EMBEDDED 360 DEGREE HIGH MOUNT PIR SENSOR FOR LIGHTING CONTROL, DIMMING, OCCUPANCY DETECTION AND DAYLIGHT HARVESTING CAPABILITIES.
6. FIXTURES F2, F3, AND F4, PROVIDED WITH NLIGHT AIR CONTROL WITH PDT DUAL TECHNOLOGY INTEGRAL OCCUPANCY SENSOR AND AUTOMATIC DIMMING PHOTOCELL.
7. FIXTURE F5 PROVIDED WITH NLTAIR2 NLIGHT AIR
8. PROVIDE LEGRAND BRAND LIGHTING RELAY CONTROL PANEL FOR ALL LIGHTING CIRCUITS (INTERIOR AND EXTERIOR) AND FOR FUTURE 25% GROWTH OF SEPARATE LOADS. ALL SENSORS SHALL BE COMPATIBLE WITH THE PANEL. ALL FIXTURES TO BE CONTROLLED BY LOCAL SENSOR AND CONTROL PANEL WITH PROGRAMMABLE ASTRONOMIC TIME CLOCK FUNCTIONALITY.
9. EMERGENCY LIGHTING FIXTURE SHALL BE SPECIFIED WITH BATTERY BACKUP.
10. TENANT EMERGENCY LIGHTING FIXTURES WILL NOT BE BACKED UP BY GENERATOR.
11. LIGHT FIXTURE SELECTIONS, SPECIFICATIONS, AND LIGHTING LEVEL CALCULATIONS PER ARCHITECT.
12. THE LIGHTING POWER DRAWINGS INTEND TO PROVIDE NORMAL AND EMERGENCY POWER TO THE DESIGNATED LIGHT FIXTURES AND LIGHT FIXTURE CONTROLS THROUGHOUT THE BUILDING.
13. COORDINATE EXACT WIRING SCHEMATICS PROVIDED BY THE LIGHTING DESIGN DRAWINGS AND MANUFACTURER.
14. COORDINATE BRANCH CIRCUIT ROUTES TO ALL NECESSARY CONTROL RELAY LOCATIONS, AS WELL AS LIGHT FIXTURES.
15. FINAL COORDINATION OF LIGHTING CONTROLS, LIGHT FIXTURES, AND POWER CONNECTIONS WITH ALL TRADES SHALL BE PROVIDED FOR A FULLY OPERATIONAL AND CODE COMPLIANT SYSTEM.
16. LIGHT SWITCHES THAT REQUIRE LINE VOLTAGE POWER SHALL BE TIED INTO THE LIGHT FIXTURE CIRCUIT INDICATED FOR THE ROOM IT SERVES.
17. UPON ACTIVATION OF THE FIRE ALARM SYSTEM, ALL LIGHTING SERVING EGRESS PATHWAYS AND ASSEMBLY SPACE SHALL OVERRIDE TO 100%. PROVIDE ANCILLARY DEVICES AND COORDINATE WITH FIRE ALARM VENDOR.

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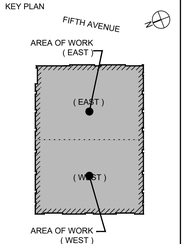
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Website: rmengineering.com

KEY PLAN



100% CD	08/04/23
50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
REVISION:	DATE:

DRAWING TITLE:
ELECTRICAL - FIRST FLOOR LIGHTING POWER PLAN

SCALE:

DRAWN BY: XXX

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E-301

22-1002
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BAY SHORE, NY 11706

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1 FLOOR PLAN - WEST
SCALE: 1/16"=1'-0"

LIGHTING GENERAL NOTES:

1. CONTRACTOR SHALL TAKE OUT A CONTINGENCY OF (6) CIRCUITS FOR LIGHTING CONTROLS USING 3#10 AWG & 3/4" CONDUIT AT 200' EACH.
2. CONTRACTOR SHALL TAKE OUT AN ALLOWANCE OF 6 CIRCUITS FOR LIGHTING POWER USING 3#12 AWG & 3/4" CONDUIT AT 200' EACH.
3. CONTRACTOR SHALL TAKE OUT AN ALLOWANCE OF (20) CIRCUITS FOR SITE LIGHTING USING 3#12 AWG & 3/4" CONDUIT AT 200' EACH.
4. CONNECT ALL FIXTURES, SWITCHING, CONTROL TO CODE COMPLIANT LIGHTING CONTROL SYSTEM.
5. FIXTURES F1 AND F1EM PROVIDED WITH NLTAIR2 RMSOD 45, EMBEDDED 360 DEGREE HIGH MOUNT PIR SENSOR FOR LIGHTING CONTROL, DIMMING, OCCUPANCY DETECTION AND DAYLIGHT HARVESTING CAPABILITIES.
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14. COORDINATE BRANCH CIRCUIT ROUTES TO ALL NECESSARY CONTROL RELAY LOCATIONS, AS WELL AS LIGHT FIXTURES.
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18. CONTRACTOR SHALL UPSIZE WIRE FOR RUNS IN EXCESS OF 200 FEET DUE TO VOLTAGE DROP.

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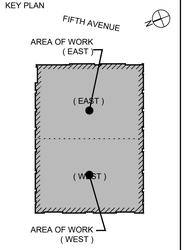
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KEY PLAN



100% CD	08/04/23
50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
REVISION:	DATE:

DRAWING TITLE:
ELECTRICAL - FIRST FLOOR LIGHTING POWER PLAN

SCALE:

DRAWN BY: XXX

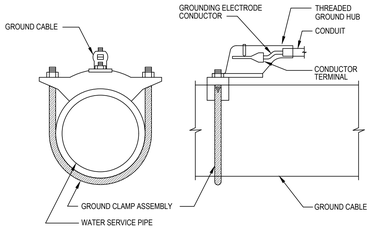
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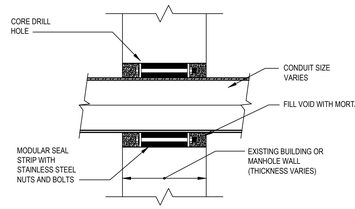
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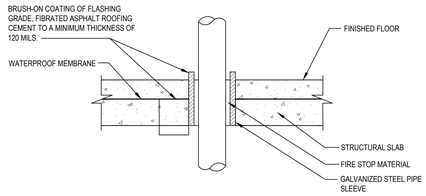
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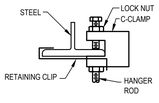
WATER PIPE ELECTRODE CONNECTION
SCALE: NOT TO SCALE



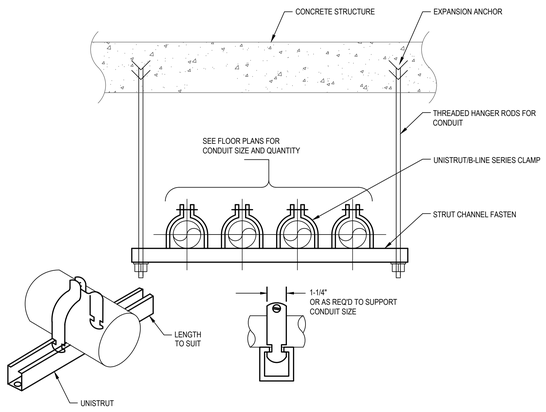
TYPICAL CONDUIT PENETRATION THROUGH EXISTING WALL
SCALE: NOT TO SCALE



WATERPROOF SLAB PENETRATION
SCALE: NOT TO SCALE



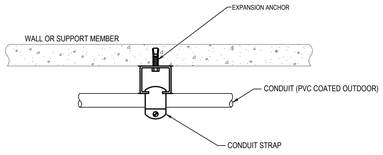
C-CLAMP WITH RETAINING CLIP
SCALE: NOT TO SCALE



TYPICAL CONDUIT SUPPORT DETAIL
SCALE: NONE

NOTES:

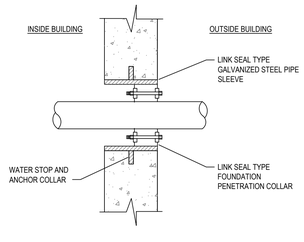
1. CONTRACTOR MAY USE A CONDUIT SUSPENSION SYSTEM EQUIVALENT TO THAT WHICH IS DETAILED, HAVING SIMILAR FEATURES SHOWN AND APPROVED IN ADVANCE BY THE ENGINEER.
2. CONDUIT SUSPENSION SYSTEM SHALL BE INDEPENDENT OF ANY OTHER SUSPENSION SYSTEM SHOP DRAWINGS DETAILING.
3. THE INSTALLATION AND LAYOUT OF CONDUIT SUPPORTING SYSTEM SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO START OF WORK.



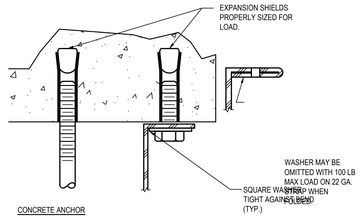
TYPICAL MULTIPLE CONDUIT SUPPORT DETAIL
SCALE: NOT TO SCALE

NOTES:

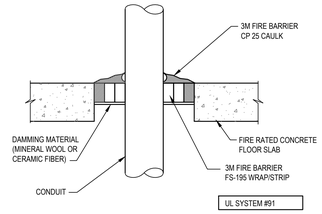
1. SPACE MOUNTING CHANNEL AT 4'-0" INTERVALS.
2. MOUNT CONDUITS AT HEIGHT SPECIFIED OR SHOWN IN PLANS.
3. USE FOR SURFACE MOUNT CONDUITS.
4. SUBMIT CONDUIT AND DUCT SUPPORT DETAILS DESIGNED BY A PROFESSIONAL ENGINEER.



CONDUIT PENETRATION FOUNDATION WALL
SCALE: NOT TO SCALE



TYPICAL UPPER ATTACHMENT DEVICE
SCALE: NOT TO SCALE



FIRESTOPPING FOR CONDUIT THROUGH FIRE RATED FLOOE SLAB
SCALE: NOT TO SCALE

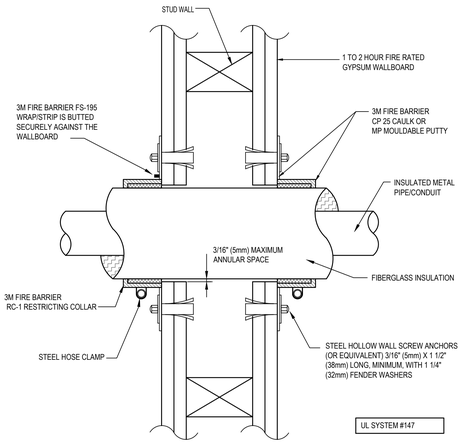
NOTE:

1. THE MAXIMUM ANNULAR SPACE TO BE FILLED IS 3", AND THE MINIMUM ANNULAR SPACE IS 3/4".
2. FS-195 WRAP/STRIPS ARE FRICTION FIT INTO THE OPENING OR SECURED WITH 16 GAUGE STEEL TIE WIRE OR ALUMINUM FOIL TAPE AND SLID INTO THE OPENING WITH A MINIMUM 1/4" BEAD OF CP 25 CAULK.
3. THE MINIMUM ANNULAR SPACE MUST ACCOMADATE THE MINIMUM NUMBER OF FS-195 WRAP/STRIPS REQUIRED PER INSULATION THICKNESS. SEE TABLE 1 BELOW.

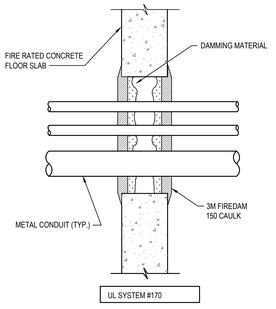
TABLE 1

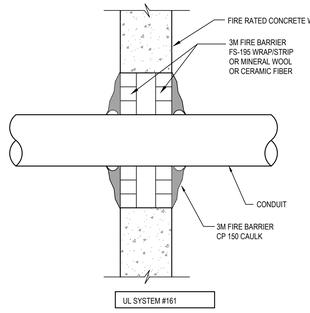
WRAP	CAULK	INSULATION
1 WRAP	1" DEPTH	1" THICK
2 WRAP	2" DEPTH	2" THICK
3 WRAP	3" DEPTH	3" THICK

4. REFER TO SPECIFICATION SECTION 07270-FIRESTOPPING



FIRESTOPPING FOR CONDUIT THROUGH GYPSUM BOARD
SCALE: NOT TO SCALE





FIRESTOPPING FOR CONDUIT THROUGH CONCRETE/BLOCK WALL
SCALE: NOT TO SCALE

NOTE:

1. A 1" (25mm) MIN. THICKNESS OF 3M FIREDAM 150 CAULK SHALL BE INSTALLED AROUND THE CONDUIT ON BOTH SIDES OF THE WALL. AN ADDITIONAL 1/4" (6mm) BEAD SHALL BE PLACED AROUND THE PERIMETER OF THE OPENING OVERLAPPING THE WALL 1/4" (6mm) MINIMUM.
2. A 1-1/2" (72mm) MIN. THICKNESS OF MINERAL WOOL DAMMING OR CERAMIC FIBER INSULATION IS REQUIRED IN THE PENETRATION AROUND THE CONDUIT AND RECESSED 2" (50mm) MIN. FROM EACH SIDE OF THE WALL.
3. A 1" (25mm) MIN. CLEARANCE IS REQUIRED BETWEEN ADJACENT CONDUIT AND THE PERIMETER OF THE THROUGH OPENING.
4. THESE RECOMMENDATIONS ARE BASED ON PRODUCT PERFORMANCE PER ASTME-814 (UL 1479) FIRE TEST AND UL THROUGH-PENETRATION FIRESTOP SYSTEM #170.

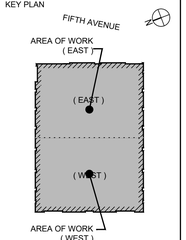
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KEY PLAN



REVISION:	DATE:
100% CD	08/04/23
50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23

DRAWING TITLE:
ELECTRICAL - DETAILS SHEET 1

SCALE:

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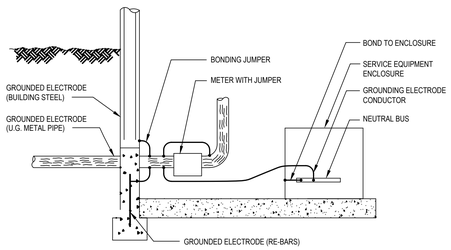
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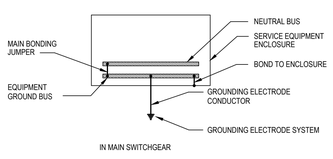
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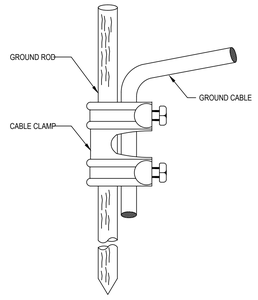
GROUNDING ELECTRODE : SYSTEM 2

SCALE: NOT TO SCALE



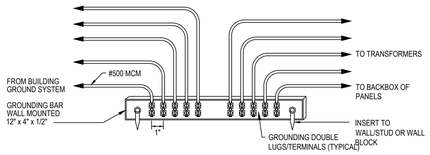
SYSTEM WITH GROUND & NEUTRAL BUS

SCALE: NOT TO SCALE



GROUND ROD CONNECTION

SCALE: NOT TO SCALE

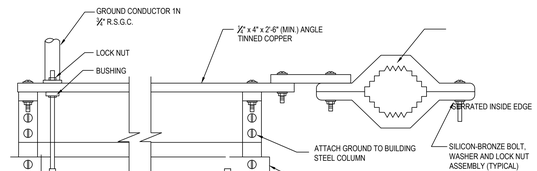


EQUIPMENT GROUNDING DETAIL

SCALE: NOT TO SCALE

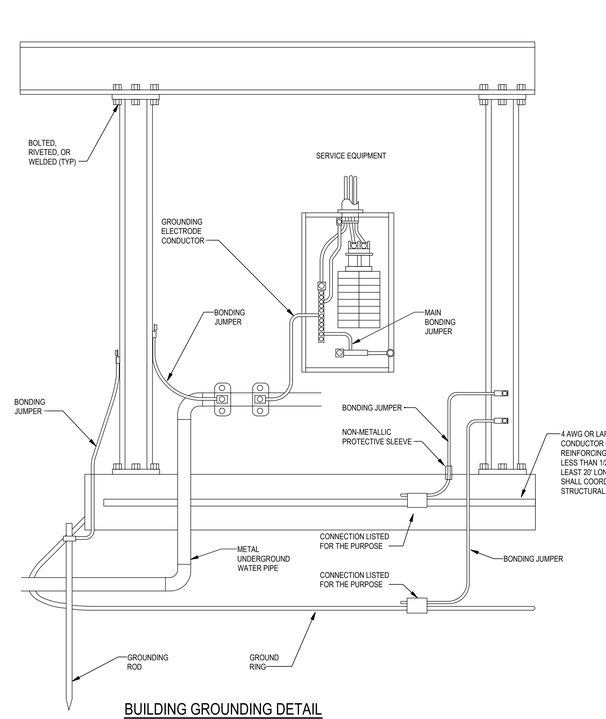
NOTES:

1. ALL GROUNDING CONDUCTORS SHALL BE #6 INSULATED (GREEN) TO FORM A CONTINUOUS LOOP WITHOUT SPLICING.
2. ALL GROUNDING CONDUCTORS SHALL BE INSTALLED IN CONDUIT.
3. GROUNDING BAR CONNECTION SHALL BE MADE WITH DOUBLE LUGS.



WATER PIPE GROUND CONNECTIONS AND GROUND BUS

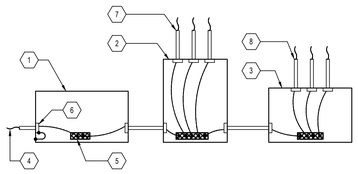
SCALE: NOT TO SCALE



BUILDING GROUNDING DETAIL

SCALE: NOT TO SCALE

NOTES:
1. ALL STEEL REBAR MUST BE BONDED THROUGHOUT.
2. IF STEEL REBAR IS NOT ABLE TO BONDED OR IS EPOXY COATED, THEN A BARE COPPER CONDUCTOR SHALL BE PROVIDED IN THE CONCRETE AS WELL AS A SAFETY MAT
3. AT MINIMUM EVERY OTHER STEEL COLUMN SHALL BE BONDED TO THE BONDING SYSTEM AND A GROUNDING ROD.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE ANY ADDITIONAL STEEL COLUMNS THAT DO NOT CREATE A CON



NOTES:

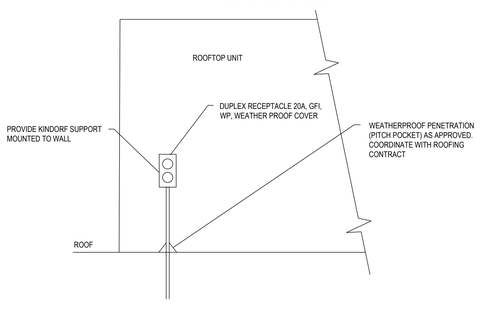
1. SERVICE EQUIPMENT ENCLOSURE
2. DISTRIBUTION PANELBOARD
3. LIGHTING/APPLIANCE PANELBOARD
4. SYSTEM GROUNDING ELECTRODE CONDUCTOR
5. GROUND BUS (TYPICAL)
6. GROUNDING BUSHING
7. FEEDER CONDUIT (TYPICAL)
8. BRANCH CIRCUIT CONDUIT (TYPICAL)

SEPARATE CONDUCTOR EQUIPMENT GROUNDING SYSTEM

SCALE: NOT TO SCALE

TYPICAL ENCLOSURE GROUNDING DETAIL

SCALE: NONE



ROOFTOP RECEPTACLE

SCALE: NTS

1. THE ABOVE DETAIL SHOWN IS FOR REFERENCE ONLY. ALL DIMENSIONS ARE CONSIDERED FROM FINISHED FLOOR AND, UNLESS NOTED OTHERWISE, SHALL NOT VARY. ALL NOTED DIMENSIONS ARE TO THE CENTERLINE OF THE DEVICE FROM THE FINISHED FLOOR.
2. ALL DIMENSIONS SHALL BE COORDINATED WITH THE FLOOR PLANS AND SHALL BE APPROVED BY OWNERS REP PRIOR INSTALLATION, DETAILS SHALL BE ADJUSTED TO CONFORM WITH ARCHITECTURAL REQUIREMENTS AS LONG AS NO CODE RESTRICTION IS VIOLATED.
3. ALL DEVICES INSTALLED (FORWARD AND SIDE REACH) SHALL CONFORM WITH ADA REQUIREMENTS. REFER TO ARCHITECTURAL CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
4. ALL DEVICES IN FINISHED AREAS SHALL BE INSTALLED IN FLUSH DEVICES BOXES. NO SURFACE BOXES SHALL BE ALLOWED WITHOUT PRIOIR APPROVAL OF THE OWNERS REP.
5. EXIT SIGNS SHALL NOT BE INSTALLED SO THAT IT BLOCKS FIRE ALARM VISUAL DEVICES.
6. CONTRACTOR SHALL VERIFY FINAL WORKBENCH, COUNTER. CABINET OR VANITY HEIGHTS INCLUDING BACK SPLASH, ON THE SITE PRIOR TO INSTALLATIONS OF BOXES.

TYPICAL MOUNTING HEIGHTS FOR ELECTRICAL DEVICES AND/OR APPURTENANCES

SCALE: NONE

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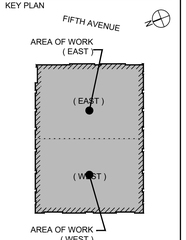
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50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
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FEEDER SCHEDULE

ALL CONDUITS ARE EMT, CONDUCTORS ARE COPPER THHN, XHHW, 600V GRADE U.O.N.

				EGC FOR MULTIPLE SETS						EGC FOR MULTIPLE SETS						EGC FOR MULTIPLE SETS							
TAG	CONDUIT & WIRE	TAG	CONDUIT & WIRE	X2	X3	X4	X5	TAG	CONDUIT & WIRE	X2	X3	X4	X5	TAG	CONDUIT & WIRE	X2	X3	X4	X5	X6	X8	X10	X12
P30A	3#10 - 3/4"C	P85A	3#3 - 1-1/4"C					P175A	3#2/0 - 2"C					P285A	(3)300kcmil - 3"C								
P30B	3#10 + #10G - 3/4"C	P85B	3#3 + #8G - 1-1/2"C					P175B	3#2/0 + #4G - 2"C	1#3G	1#1G	1#1/0G	1#2/0G	P285B	(3)300kcmil + #2G - 3"C	1#1G	1#2/0G	1#3/0G	1#4/0G	1#250G	1#250G	1#250G	1#250G
P30C	4#10 - 3/4"C	P85C	4#3 - 1-1/2"C					P175C	4#2/0 - 2"C					P285C	(4)300kcmil - 3"C								
P30D	4#10 + #10G - 3/4"C	P85D	4#3 + #8G - 1-1/2"C					P175D	4#2/0 + #4G - 2"C	1#3G	1#1G	1#1/0G	1#2/0G	P285D	(4)300kcmil + #2G - 3-1/2"C	1#1G	1#2/0G	1#3/0G	1#4/0G	1#250G	1#250G	1#250G	1#250G
P30E	3#10 + #6N - 3/4"C	P85E	3#3 + #3/0N - 1-1/2"C					P175E	3#2/0 + 2#2/0N - 2"C					P285E	(3)300kcmil + (2)300kcmil N- 3-1/2"C								
P30F	3#10 + #6N+10G - 3/4"C	P85F	3#3 + #3/0N+#8G - 1-1/2"C					P175F	3#2/0 + 2#2/0N+#4G- 2-1/2"C	1#3G	1#1G	1#1/0G	1#2/0G	P285F	(3)300kcmil + (2)300kcmil N+#2G- 4"C	1#1G	1#2/0G	1#3/0G	1#4/0G	1#250G	1#250G	1#250G	1#250G
P40A	3#8 - 1"C	P95A	3#2 - 1-1/2"C					P200A	3#3/0 - 2"C					P310A	(3)350kcmil - 3"C								
P40B	3#8 + #10G - 1"C	P95B	3#2 + #6G - 1-1/2"C					P200B	3#3/0 + #2G - 2"C	1#3G	1#1G	1#1/0G	1#2/0G	P310B	(3)350kcmil + #2G - 3"C	1#1/0G	1#2/0G	1#4/0G	1#4/0G	1#250G	1#350G	1#350G	1#350G
P40C	4#8 - 1"C	P95C	4#2 - 1-1/2"C					P200C	4#3/0 - 2"C					P310C	(4)350kcmil - 3"C								
P40D	4#8 + #10G - 1"C	P95D	4#2 + #6G - 1-1/2"C					P200D	4#3/0 + #2G - 2-1/2"C	1#3G	1#1G	1#1/0G	1#2/0G	P310D	(4)350kcmil + #2G - 3-1/2"C	1#1/0G	1#2/0G	1#4/0G	1#4/0G	1#250G	1#350G	1#350G	1#350G
P40E	3#8 + #3N - 1"C	P95E	3#2 + 2#2N - 1-1/2"C					P200E	3#3/0 + 2#3/0N - 2-1/2"C					P310E	(3)350kcmil + (2)350kcmil N - 3-1/2"C								
P40F	3#8 + #3N+#10G - 1"C	P95F	3#2 + 2#2N+#6G - 1-1/2"C					P200F	3#3/0 + 2#3/0N+#2G- 2-1/2"C	1#3G	1#1G	1#1/0G	1#2/0G	P310F	(3)350kcmil + (2)350kcmil N+#2G - 3-1/2"C	1#1/0G	1#2/0G	1#4/0G	1#4/0G	1#250G	1#350G	1#350G	1#350G
P55A	3#6 - 1-1/4"C	P110A	3#1 - 1-1/2"C					P230A	3#4/0 - 2-1/2"C					P335A	(3)400kcmil - 3-1/2"C								
P55B	3#6 + #8G - 1-1/4"C	P110B	3#1 + #6G - 1-1/2"C					P230B	3#4/0 + #2G - 2-1/2"C	1#2G	1#1/0G	1#2/0G	1#3/0G	P335B	(3)400kcmil + #1/0G - 3-1/2"C	1#1/0G	1#3/0G	1#4/0G	1#250G	1#350G	1#400G	1#400G	1#400G
P55C	4#6 - 1-1/4"C	P110C	4#1 - 1-1/2"C					P230C	4#4/0 - 2-1/2"C					P335C	(4)400kcmil - 3-1/2"C								
P55D	4#6 + #8G - 1-1/4"C	P110D	4#1 + #6G - 2"C					P230D	4#4/0 + #2G - 2-1/2"C	1#2G	1#1/0G	1#2/0G	1#3/0G	P335D	(4)400kcmil + #1/0G - 4"C	1#1/0G	1#3/0G	1#4/0G	1#250G	1#350G	1#400G	1#400G	1#400G
P55E	3#6 + #1/0N - 1-1/4"C	P110E	3#1 + 2#1N - 2"C					P230E	3#4/0 + 2#4/0N - 2-1/2"C					P335E	(3)400kcmil + (2)400kcmil N- 4"C								
P55F	3#6 + #1/0N+#8G - 1-1/4"C	P110F	3#1 + 2#1N+#6G - 2"C					P230F	3#4/0 + 2#4/0N+#2G - 2-1/2"C	1#2G	1#1/0G	1#2/0G	1#3/0G	P335F	(3)400kcmil + (2)400kcmil N+#1/0G- 4"C	1#1/0G	1#3/0G	1#4/0G	1#250G	1#350G	1#400G	1#400G	1#400G
P70A	3#4 - 1-1/4"C	P150A	3#1/0 - 2"C					P255A	(3)250kcmil - 2-1/2"C					P380A	(3)500kcmil - 3-1/2"C								
P70B	3#4 + #8G - 1-1/4"C	P150B	3#1/0 + #6G - 2"C	1#4G	1#2G	1#1G	1#1/0G	P255B	(3)250kcmil + #2G - 2-1/2"C	1#1G	1#1/0G	1#3/0G	1#4/0G	P380B	(3)500kcmil + #1/0G - 3-1/2"C	1#1/0G	1#3/0G	1#4/0G	1#250G	1#350G	1#500G	1#500G	1#500G
P70C	4#4 - 1-1/4"C	P150C	4#1/0 - 2"C					P255C	(4)250kcmil - 3"C					P380C	(4)500kcmil - 3-1/2"C								
P70D	4#4 + #8G - 1-1/4"C	P150D	4#1/0 + #6G - 2"C	1#4G	1#2G	1#1G	1#1/0G	P255D	(4)250kcmil + #2G - 3-1/2"C	1#1G	1#1/0G	1#3/0G	1#4/0G	P380D	(4)500kcmil + #1/0G - 4"C	1#1/0G	1#3/0G	1#4/0G	1#250G	1#350G	1#500G	1#500G	1#500G
P70E	3#4 + #2/0N - 1-1/4"C	P150E	3#1/0 + 2#1/0N - 2"C					P255E	(3)250kcmil + (2)250kcmil N - 3-1/2"C					P380E	(3)500kcmil + (2)500kcmil N- 4"C								
P70F	3#4 + #2/0N+#8G - 1-1/2"C	P150F	3#1/0 + 2#1/0N+#6G - 2"C	1#4G	1#2G	1#1G	1#1/0G	P255F	(3)250kcmil + (2)250kcmil N+#2G - 3-1/2"C	1#1G	1#1/0G	1#3/0G	1#4/0G	P380F	(3)500kcmil + (2)500kcmil N+#1/0G- 4"C	1#1/0G	1#3/0G	1#4/0G	1#250G	1#350G	1#500G	1#500G	1#500G

TRANSFORMER SCHEDULE

EQUIPMENT						PRIMARY						SECONDARY						SYSTEM	
EQUIPMENT TAG	KVA	TYPE	PRI VOLTAGE	SEC VOLTAGE	PHASE	CB TRIP	# OF SETS	WIRES PER SET	WIRE SIZE	EQUIP. GND	CONDUIT SIZE / SET	CB TRIP2	# OF SETS3	WIRES PER SET2	WIRE SIZE5	EQUIP. GND6	CONDUIT SIZE / SET2	SYS GND	SYS CONDUIT
T-1	75	DRY	480	208	3	150	1	3 + GND	1	6	2	225	1	4 + GND	250	2	2.5	2	1
T-2	30	DRY	480	208	3	60	1	3 + GND	6	10	1	100	1	4 + GND	1	6	2	6	1
T-3	30	DRY	480	208	3	60	1	3 + GND	6	10	1	100	1	4 + GND	1	6	2	6	1
T-4	75	DRY	480	208	3	150	1	3 + GND	1	6	2	225	1	4 + GND	250	2	2.5	2	1
						-	-	-	-	-	-	-	-	-	-	-	-	-	-
						-	-	-	-	-	-	-	-	-	-	-	-	-	-
						-	-	-	-	-	-	-	-	-	-	-	-	-	-
						-	-	-	-	-	-	-	-	-	-	-	-	-	-
						-	-	-	-	-	-	-	-	-	-	-	-	-	-
						-	-	-	-	-	-	-	-	-	-	-	-	-	-
						-	-	-	-	-	-	-	-	-	-	-	-	-	-
						-	-	-	-	-	-	-	-	-	-	-	-	-	-

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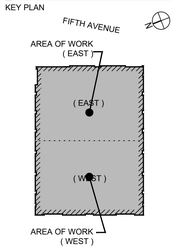
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ELECTRICAL - RISER SCHEDULES

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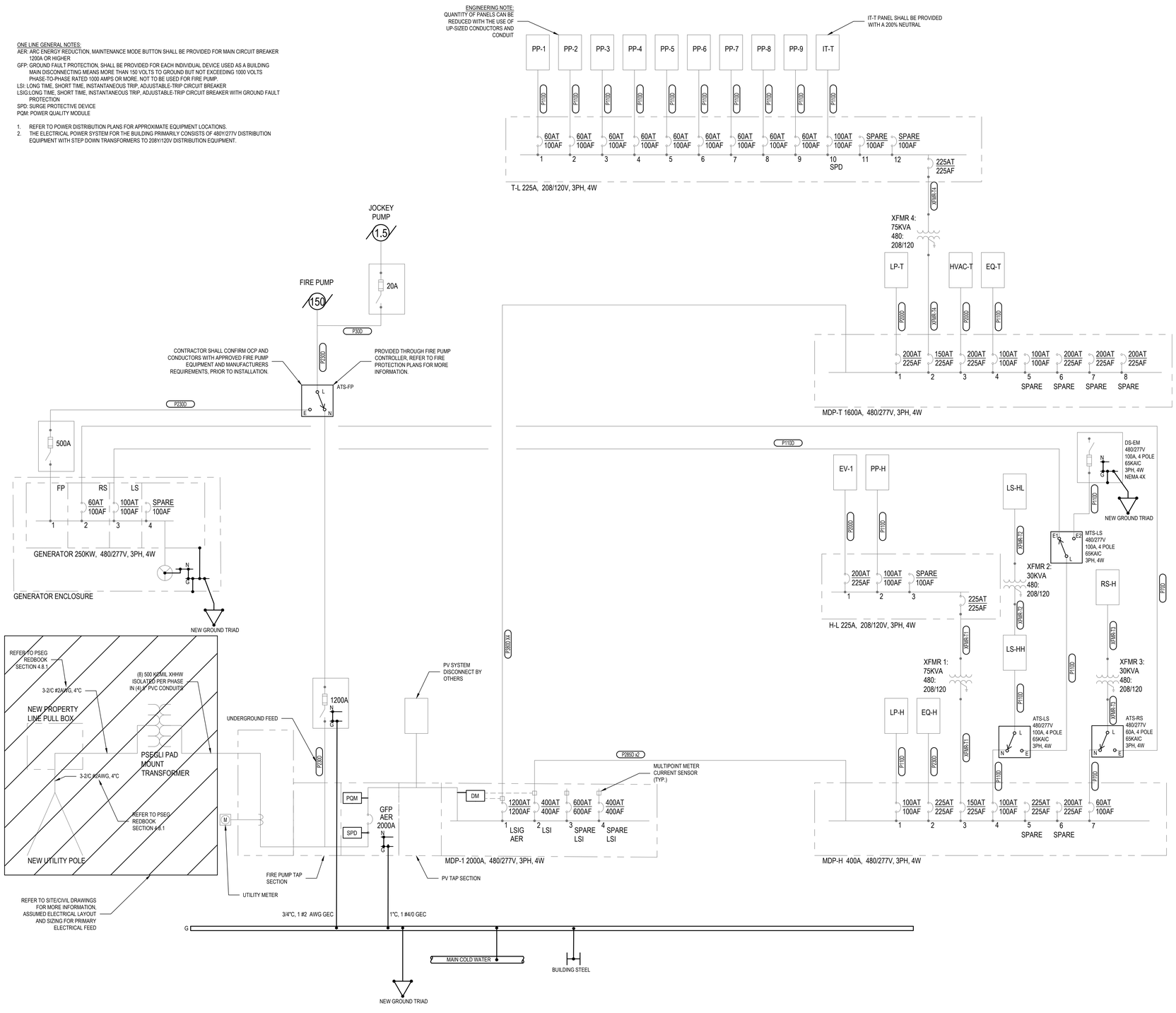
E-601

22-1002
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ONE LINE GENERAL NOTES:
AER: ARC ENERGY REDUCTION, MAINTENANCE MODE BUTTON SHALL BE PROVIDED FOR MAIN CIRCUIT BREAKER 1200A OR HIGHER
GFP: GROUND FAULT PROTECTION, SHALL BE PROVIDED FOR EACH INDIVIDUAL DEVICE USED AS A BUILDING MAIN DISCONNECTING MEANS MORE THAN 150 VOLTS TO GROUND BUT NOT EXCEEDING 1000 VOLTS PHASE-TO-PHASE RATED 1000 AMPS OR MORE. NOT TO BE USED FOR FIRE PUMP.
LSI: LONG TIME, SHORT TIME, INSTANTANEOUS TRIP, ADJUSTABLE-TRIP CIRCUIT BREAKER
LSIG:LONG TIME, SHORT TIME, INSTANTANEOUS TRIP, ADJUSTABLE-TRIP CIRCUIT BREAKER WITH GROUND FAULT PROTECTION
SPD: SURGE PROTECTIVE DEVICE
PQM: POWER QUALITY MODULE

1. REFER TO POWER DISTRIBUTION PLANS FOR APPROXIMATE EQUIPMENT LOCATIONS.
2. THE ELECTRICAL POWER SYSTEM FOR THE BUILDING PRIMARILY CONSISTS OF 480Y/277V DISTRIBUTION EQUIPMENT WITH STEP DOWN TRANSFORMERS TO 208Y/120V DISTRIBUTION EQUIPMENT.



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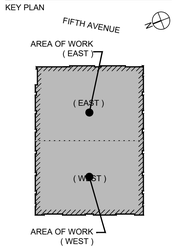
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KEY PLAN



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GENERAL NOTES:

1. ALL WORK SHOWN ON THESE PLANS SHALL BE PROVIDED UNDER THIS CONTRACT UNLESS SPECIFICALLY CALLED OUT OTHERWISE.
2. ALL WORK SHOWN ON THESE PLANS SHALL BE NEW.
3. THE DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL DUCTWORK, PIPING AND EQUIPMENT AND INDICATE THE REQUIRED SIZE AND POINTS OF TERMINATION OF THE DUCTWORK AND PIPING AND SUGGEST PROPER ROUTING OF SAME. HOWEVER, IT IS NOT THE INTENTION OF THE DRAWINGS TO SHOW ALL NECESSARY OFFSETS, OBSTRUCTIONS OR STRUCTURAL CONDITIONS. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO INSTALL HIS WORK IN SUCH A MANNER THAT IT WILL CONFORM TO THE STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR WITHOUT FURTHER CONSTRUCTION OR COST.
4. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATING, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES OF MAGNITUDE WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.
5. INVESTIGATE EACH SPACE THROUGH WHICH EQUIPMENT MUST BE MOVED. WHEN NECESSARY, EQUIPMENT SHALL BE SHIPPED FROM MANUFACTURER IN CRATED SECTIONS OF SIZE SUITABLE FOR MOVING THROUGH AREAS AVAILABLE. ASCERTAIN FROM BUILDING OWNER AT WHAT TIMES OF DAY EQUIPMENT COULD BE MOVED THROUGH THE BUILDING.
6. COORDINATE THE EXACT SIZE AND LOCATION OF THE NEW OPENINGS WITH STRUCTURE. PATCH AND INSULATE AS REQUIRED. THE CONTRACTOR SHALL FIRESTOP ALL PENETRATIONS OF NEW PIPING, CONDUIT, DUCTWORK, ETC. THROUGH EXISTING FIRE/ SMOKE BARRIERS. FIRE/SMOKE STOPPING SHALL BE 3M FIRE BARRIER CP 25 N/S CAULK UNLESS OTHERWISE NOTED.
7. IT IS THE INTENT OF THIS CONTRACT TO KEEP SYSTEMS LEFT IN GOOD WORKING ORDER, READY FOR OPERATION, INCLUDING NECESSARY LABOR AND MATERIALS.
8. THE CONTRACTOR SHALL TAKE PRECAUTIONS AGAINST DAMAGING OR DISRUPTING BUILDING SYSTEMS, WIRING, GAS PIPING OR CONTROL WIRING. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED AT THE CONTRACTOR'S COST, WITHIN COST, WITHIN THIS CONTRACT PERIOD FOR SUBSTANTIAL COMPLETION.
9. THE CONTRACTOR SHALL REPAIR AND RESTORE TO ORIGINAL CONDITION ANY EQUIPMENT OR MATERIALS DAMAGED IN THE PROCESS OF INSTALLATION, AND DEMOLITION TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
10. THE CONTRACTOR SHALL MAKE REPAIRS USING THE SAME MATERIALS, AT THE CONTRACTOR'S COST.
11. THE CONTRACTOR SHALL INCUR ALL COSTS AND BURDENS ASSOCIATED WITH LOST OR STOLEN EQUIPMENT AND MATERIALS.
12. DAILY, DURING THE CONSTRUCTION PERIOD, THE CONTRACTOR SHALL REMOVE ALL RUBBISH AND EXCESS MATERIAL ACCUMULATED AS A RESULT OF HIS OPERATIONS. ALL AREAS AND EQUIPMENT AFFECTED UNDER THIS CONTRACT SHALL BE CLEAN OF DUST AND DEBRIS BEFORE FINAL ACCEPTANCE BY THE OWNER.
13. PROVIDE FOR LEGAL REMOVAL AND DISPOSAL OF ALL RUBBISH AND DEBRIS FROM THE BUILDING AND SITE.
14. THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES. ALL MECHANICAL EQUIPMENT REQUIRING ELECTRICAL POWER/CONNECTION SHALL BE COORDINATED WITH ELECTRICAL CONTRACTOR
15. OBTAIN ALL PERMITS, PAY ALL FEES, CONNECTION CHARGES, ETC.
16. PAINT AND TOUCH-UP ALL SURFACES MARRED BY PERFORMANCE OF THE WORK.
17. COORDINATE ALL WORK WITH AUTHORITIES HAVING JURISDICTION AND LOCAL UTILITY COMPANIES, INCLUDING BUT NOT LIMITED TO APPLICATIONS, PERMITS, FEES, APPROVALS, AND SIGN OFFS.

APPLICABLE CODES:

- 2020 MECHANICAL CODE OF NEW YORK STATE
- 2020 BUILDING CODE OF NEW YORK STATE
- 2020 ENERGY CONSERVATION CODE OF NEW YORK STATE

LEGEND

- NEW DUCTWORK, SINGLE LINE
- NEW DUCTWORK, DOUBLE LINE
- 1" ACOUSTICAL LINING IN DUCT
- 1" ACOUSTICAL LINING IN DUCT
- RECTANGULAR SUPPLY DUCT DOWN
- RECTANGULAR SUPPLY DUCT UP
- RECTANGULAR RETURN DUCT DOWN
- RECTANGULAR RETURN DUCT UP
- DUCT TRANSITION SQUARE TO ROUND
- 4-WAY SUPPLY CEILING DIFFUSER
- RECTANGULAR ELBOW WITH TURNING VANES
- RETURN CEILING GRILLE
- EXHAUST CEILING GRILLE
- TRANSFER OPENING
- DIRECTION OF SUPPLY AIR FLOW
- DIRECTION OF RETURN/EXHAUST AIR FLOW
- THERMOSTAT/TEMPERATURE SENSOR
- FAN ON/OFF SWITCH
- HUMIDITY SENSOR
- VOLUME DAMPER
- 1" DOOR UNDERCUT
- PIPE DOWN
- PIPE UP
- (###) NUMBER IN PARENTHESIS INDICATES AIR FLOW RATE IN CFM
- MOTORIZED DAMPER
- BDD BACKDRAFT DAMPER
- FSD COMBINATION FIRE/SMOKE DAMPER
- DUCT MOUNTED SMOKE DETECTOR
- DEMOLITION
- EXISTING PIPING
- NEW PIPING
- PLAN ELBOW
- PLAN TEE
- TEE UP
- TEE DOWN
- PIPE DOWN
- PIPE UP
- CAPPED PIPE
- UNION
- FILTER
- BALL VALVE/DRAIN VALVE
- 2-WAY MOTORIZED CONTROL VALVE (ELEVATION VIEW)
- 2-WAY MOTORIZED CONTROL VALVE (PLAN VIEW)
- STRAINER
- SWING CHECK VALVE
- BUTTERFLY VALVE
- GATE VALVE ON SIDE AXIS
- ECCENTRIC PIPE REDUCER
- STOP VALVE
- GLOBE VALVE
- FLOAT AND THERMOSTATIC TRAP
- FLOAT & THERMOSTATIC STEAM TRAP

ABBREVIATIONS

AC	AIR CONDITIONING UNIT
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AL	ACOUSTICAL LINING
B	BOILER
BB	BASEBOARD
BDD	BACKDRAFT DAMPER
BHP	BRAKE HORSEPOWER
BOT.	BOTTOM
BTUH	BTU/HR
CAP.	CAPACITY
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CO	CLEAN OUT DOOR
COMPS.	COMPRESSOR
CONDS.	CONDENSING
CL	CENTER LINE
CV	CONVECTOR
DB	DRY BULB
DISCH.	DISCHARGE
DN.	DOWN
DTS	DUAL TEMPERATURE SUPPLY
DTR	DUAL TEMPERATURE RETURN
DX	DIRECT EXPANSION
EA.	EACH
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF.	EFFICIENCY
EXP.	EXPANSION
EXT.	EXTERNAL
°F	DEGREES FAHRENHEIT
F.A.	FRESH AIR
FC	FLEXIBLE CONNECTION
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FSD	FIRE SMOKE DAMPER
FT.	FEET
FT.W.G.	FEET WATER GAUGE
GC	GENERAL CONTRACTOR
GX	GENERAL EXHAUST
H	HEIGHT
HP	HORSEPOWER
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
HX	HEAT EXCHANGER
HZ	HERTZ
IN.	INCHES
IN.W.G.	INCHES WATER GAUGE
L	LENGTH
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LPS/C	LOW PRESSURE STEAM/CONDENSATE
LF	LINEAR FEET
MAX.	MAXIMUM
MBH	THOUSAND BTUH
MCA	MINIMUM CIRCUIT AMPACITY
MD	MOTORIZED DAMPER
MFA	MAXIMUM FUSE AMPACITY
MOP	MAXIMUM OVERCURRENT PROTECTION
MIN.	MINIMUM
MNTD	MOUNTED
MUA	MAKE UP AIR UNIT
NA	NOT APPLICABLE
NO	NUMBER
NC	NOISE CRITERIA
O.A.	OUTDOOR AIR
OPER.	OPERATING
P	PUMP
PD	PRESSURE DROP
PDCW	POTABLE DOMESTIC COLD WATER
PDHW	POTABLE DOMESTIC HOT WATER
PH	PHASE
PRESS.	PRESSURE
PSI	POUNDS PER SQUARE INCH
QNTY.	QUANTITY
R.A.	RETURN AIR
REFRIG.	REFRIGERANT
RET.	RETURN
RG	RETURN GRILLE
RP	RADIANT PUMP
RPM	REVOLUTIONS PER MINUTE
RH	RELATIVE HUMIDITY
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SP	STATIC PRESSURE
SPD	STATIC PRESSURE DROP
SQ.FT.	SQUARE FEET
SUP.	SUPPLY
SHWS	SOLAR HOT WATER SUPPLY
SHWR	SOLAR HOT WATER RETURN
ST	STORAGE TANK
TEMP.	TEMPERATURE
TG	TRANSFER GRILLE
T.O.	TRANSFER OPENING
TYP.	TYPICAL
UH	UNIT HEATER
V	VOLTS
VD	VOLUME DAMPER
VEL.	VELOCITY
VIF	VERIFY IN FIELD
VOL.	VOLUME
W	WIDTH
WB	WET BULB
WMS	WIRE MESH SCREEN

MECHANICAL SHEET LIST

SHEET #	SHEET TITLE
M-001	MECHANICAL - GENERAL NOTES
M-002	MECHANICAL - SPECIFICATION SHEET 1
M-003	MECHANICAL - SPECIFICATION SHEET 2
M-004	MECHANICAL - SPECIFICATION SHEET 3
M-010	MECHANICAL - DETAILS SHEET 1
M-011	MECHANICAL - DETAILS SHEET 2
M-020	MECHANICAL - SCHEDULES
M-101	MECHANICAL - FIRST FLOOR PLAN EAST
M-102	MECHANICAL - FIRST FLOOR PLAN WEST
M-103	MECHANICAL - FIRST FLOOR PART PLANS
M-104	MECHANICAL - ROOF PLAN EAST

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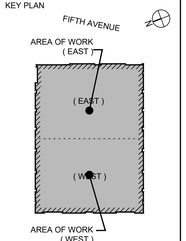
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M-001

22-1002
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SPECIFICATIONS

A. GENERAL

1. WORK SHALL CONFORM TO THE REQUIREMENTS OF APPLICABLE GOVERNMENTAL REGULATIONS AND SHALL BEAR APPROVAL CERTIFICATES AS APPLICABLE.
2. WORK SHALL CONFORM TO THE STANDARD OF THE BUILDING AND BE APPROVED BY THE BUILDING'S REPRESENTATIVE BEFORE COMMENCING WORK.
3. ALL WORK SHOWN ON THESE PLANS SHALL BE NEW UNLESS SPECIFICALLY CALLED OUT AS EXISTING.
4. PROVIDE ALL CUTTING, PATCHING, FLASHING, COUNTER FLASHING, SLEEVES AND SEALS REQUIRED FOR WORK UNDER THIS CONTRACT UNLESS OTHERWISE NOTED.
5. ROOF PENETRATIONS SHALL BE MINIMUM REQUIRED FOR DUCTWORK PENETRATION ONLY. DO NOT REMOVE ANY OTHER ROOFING MATERIAL. SEAL AROUND DUCTWORK PENETRATION TO LIMIT SOUND TRANSMISSION.
6. SEAL OPENINGS AROUND DUCTS AND PIPING THROUGH PARTITIONS AND WALLS WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIAL.
7. PROVIDE ALL MECHANICAL EQUIPMENT WITH A DISCONNECT SWITCH.

B. NOTICE TO BIDDERS

1. THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO SERVE JOINTLY AS A BASIS UPON WHICH THE CONTRACTOR SHALL SUBMIT A CONTRACT PRICE FOR THE MATERIAL AND LABOR PROVISIONS.
2. WHEN CONFLICTS OCCUR IN THE SPECIFICATIONS OR IN THE DRAWINGS, OR BETWEEN EITHER, THE ITEMS OF GREATER QUANTITY OR HIGHER COST SHALL BE PROVIDED. PROVIDE WRITTEN REQUEST TO THIS OFFICE IN A TIMELY FASHION FOR CLARIFICATION AS REQUIRED.
3. THE CONTRACTOR SHALL COORDINATE THE WORK OR ADJUST SAME TO THAT OF OTHER TRADES, IN ORDER THAT CONFLICTS IN SPACE LOCATIONS DO NOT OCCUR.
4. THE WORK UNDER THIS CONTRACT SHALL BE PERFORMED SIMULTANEOUSLY WITH THE WORK OF OTHER TRADES, SO AS NOT TO DELAY THE OVERALL PROGRESS OF WORK CONFLICTS IN SPACE LOCATIONS DO NOT OCCUR.
5. REMOVAL AND RELOCATION OF CERTAIN EXISTING WORK SHALL BE NECESSARY FOR THE PERFORMANCE OF GENERAL WORK. ALL EXISTING CONDITIONS ARE NOT COMPLETELY DETAILED ON THE DRAWINGS THIS CONTRACTOR SHALL SURVEY THE SITE AND MAKE ALL NECESSARY CHANGES REQUIRED BASED ON EXISTING CONDITIONS FOR PROPER INSTALLATION OF NEW WORK, AND INCLUDE ALL MATERIALS AND LABOR IN HIS BID PRICE. NO ALLOWANCE WILL BE MADE FOR FAILURE TO DO SO.
6. THE DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL ARRANGEMENT OF THE VENTILATION AND AIR CONDITIONING SYSTEMS. DETAILS OF CONSTRUCTION AND OF WORKMANSHIP WHERE NOT SPECIFICALLY DESCRIBED HEREIN OR INDICATED ON THE DRAWINGS SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL. IT IS THE INTENT OF THESE SPECIFICATIONS TO PROVIDE COMPLETE SYSTEMS, LEFT IN GOOD WORKING ORDER, READY FOR OPERATION, INCLUDING NECESSARY LABOR AND MATERIALS, WHETHER OR NOT SPECIFICALLY SHOWN ON THE DRAWINGS OR MENTIONED HEREIN. IT IS NOT THE INTENTION OF THESE DRAWINGS TO SHOW ALL NECESSARY OFFSETS, OBSTRUCTIONS OR STRUCTURAL CONDITIONS. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO INSTALL HIS WORK IN SUCH A MANNER TO AVOID OBSTRUCTIONS, PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR WITHOUT FURTHER COST OR INSTRUCTIONS.
7. BEFORE SUBMITTING PROPOSAL BIDDERS SHALL CAREFULLY EXAMINE FIELD CONDITIONS AND CONTRACT DRAWINGS OF ALL TRADES. SUBMISSION OF PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT REQUIRED EXAMINATION HAS BEEN MADE. LATER CLAIMS FOR EXTRA LABOR, EQUIPMENT AND MATERIALS REQUIRED DUE TO DIFFICULTIES WHICH COULD HAVE BEEN FORESEEN, WILL NOT BE RECOGNIZED.
8. CONNECT NEW WORK TO EXISTING WORK IN NEAT AND APPROVED MANNER. RESTORE EXISTING WORK DISTURBED WHILE INSTALLING NEW WORK TO A CONDITION ACCEPTABLE TO THE ENGINEER.
9. SEAL OPENINGS AROUND DUCTS AND PIPING THROUGH PARTITIONS AND WALLS WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIAL.
10. DAILY DURING CONSTRUCTION, THE MECHANICAL CONTRACTOR SHALL REMOVE ALL RUBBISH AND EXCESS MATERIAL ACCUMULATED AS A RESULT OF HIS OPERATIONS. ALL EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE WIPED CLEAN OF DUST AND DEBRIS BEFORE FINAL ACCEPTANCE BY THE OWNER.
11. BEFORE COMPLETION OF THIS PROJECT, THE MECHANICAL CONTRACTOR SHALL TEST ALL EQUIPMENT WHICH NORMALLY REQUIRES OPERATION. ALL EQUIPMENT SHALL BE OPERATED SUFFICIENTLY LONG TO PROVE TO THE OWNER THAT EACH UNIT PERFORMS SATISFACTORILY AND MEETS THE REQUIREMENTS SPECIFIED.
12. REVIEW WITH THE ENGINEER AND THE BUILDING MANAGER ANY CONDITION WHICH PREVENTS ADEQUATE ACCESSIBILITY FOR MAINTENANCE PRIOR TO INSTALLATION OF THE WORK. ALL EQUIPMENT AND/OR ACCESSORIES THAT ARE INSTALLED WITHOUT PROPER ACCESS, IN THE OPINION OF THE BUILDING MANAGER, AND INSTALLED WITHOUT THE BUILDING MANAGER'S AND/OR ENGINEER'S APPROVAL, SHALL BE REMOVED AND REVISED AS DIRECTED BY THE BUILDING MANAGER AND/OR ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
13. THIS CONTRACTOR SHALL REPAIR AND RESTORE TO ORIGINAL CONDITION ANY EXISTING EQUIPMENT OR MATERIALS DAMAGED IN THE PROCESS OF INSTALLATION, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVES.

C. SCOPE OF WORK

1. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND CONTRACTOR'S SERVICES NECESSARY FOR A COMPLETE SAFE INSTALLATION OF ALL WORK INDICATED IN CONTRACT DOCUMENTS, IN FULL CONFORMITY WITH REQUIREMENTS OF BUILDING CODES AND OF ALL AUTHORITIES HAVING JURISDICTION, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   a. NEW HVAC SYSTEMS INCLUDING HEATING/VENTILATION AND MAKE-UP AIR UNITS.
   b. NEW EXHAUST FANS SERVING WAREHOUSE VENTILATION.
   c. NEW LOW PRESSURE DUCTWORK AND ACCESSORIES.
   d. INSULATION OF NEW DUCTWORK SERVING THIS AREA.
   e. NEW DIFFUSERS AND GRILLES.
   f. NEW CONTROLS SYSTEM
   g. RECORD DRAWING
   h. TESTING AND BALANCING OF SYSTEMS AND FURNISHING BALANCING REPORT.
   i. STORING AND PROTECTION OF EQUIPMENT AND/OR APPURTENANCE SPECIFIED HEREIN.
   j. CUTTING AND ROUGH PATCHING REQUIRED FOR THE WORK OF THIS TRADE.

D. SHOP DRAWINGS AND EQUIPMENT SUBMISSIONS

1. PRIOR TO ORDERING EQUIPMENT OR START OF INSTALLATION OF SYSTEM COMPONENTS, SUBMIT REQUIRED OR REQUESTED SHOP DRAWINGS FOR ALL EQUIPMENT, INSULATION, PIPING, MATERIALS, SHOP STANDARDS, FITTINGS, ACCESSORIES AND SYSTEMS FOR REVIEW PRIOR TO INSTALLATION. SUBMIT FOUR (4) COPIES OF SHOP DRAWINGS. FOR DRAWINGS LARGER THAN 8 1/2" X 11" OR IF ADDITIONAL COPIES ARE REQUESTED AND/OR REQUIRED, A REPRODUCIBLE ORIGINAL SHALL BE SUBMITTED WITH PRINTS. ANY WORK INSTALLED WITHOUT SHOP DRAWING REVIEW BY ENGINEER SHALL BE REMOVED AND REPLACED WITH PROPER EQUIPMENT AT THIS CONTRACTOR'S EXPENSE.
2. SHEET METAL AND PIPING SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING:
   a. FIELD MEASURED DRAWINGS. ARCHITECTURAL/ENGINEERING BACKGROUNDS ARE NOT ACCEPTABLE.
   b. DRAWING SCALE SHALL BE MINIMUM 3/8" = 1'-0"
   c. BOTTOM OF DUCT ELEVATIONS
   d. INDICATE STEEL, BAR JOISTS, LIGHTING FIXTURES, DIFFUSERS, GRILLES, REGISTERS, SPRINKLER HEADS, ACCESS PANELS, ETC...
   e. DRAWINGS SHALL INDICATE ALL DIMENSIONS, SHOP STANDARDS, MATERIALS OF CONSTRUCTION AND METHODS OF ASSEMBLY.
3. EQUIPMENT, ASSOCIATED DEVICES AND MATERIALS SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING:
   a. EQUIPMENT CUT SHEETS AND DATA SHEETS THAT INDICATE CAPACITIES AND PERFORMANCE DATA.
   b. IN LETTER FORM, MANUFACTURER'S NAMES FOR ACCESSORIES AND INCIDENTALS NOT COVERED BY SHOP DRAWINGS.
   c. ELECTRIC WIRING DIAGRAMS AND AUTOMATIC CONTROL DIAGRAMS AND SEQUENCE OF OPERATION. THE WIRING DIAGRAMS MUST BE COMPLETE AND COORDINATED WITH THE EQUIPMENT ACTUALLY INSTALLED.
6. SUBMIT A SCHEDULE OF DIFFUSERS, GRILLES AND REGISTERS WITH MANUFACTURERS' MODELS, SIZES, AIR VOLUME, THROW, NOISE CRITERIA, ACCESSORIES, FINISHES, ETC.,
   a. IT IS THIS CONTRACTOR'S RESPONSIBILITY TO COORDINATE BORDER/FRAME TYPE OF AIR DEVICES SUCH THAT IT IS COMPATIBLE WITH CEILING AND/OR GRID INDICATED ON LATEST ARCHITECTURAL DRAWINGS.

E. SUBSTITUTIONS

1. BASE ALL BIDS ON THE EQUIPMENT AND MANUFACTURERS LISTED. IF SUBSTITUTION IS PROPOSED, MAKE APPLICATION TO THE OWNER IN WRITING STATING THE COST DIFFERENTIAL INVOLVED.
   a. IT IS THE INTENT OF THESE SPECIFICATIONS THAT WHEREVER A MANUFACTURE IS SPECIFIED AND SUBSTITUTIONS ARE MADE, THEY SHALL CONFORM IN ALL RESPECTS TO THE SPECIFIED ITEM. CRITERIA AS DELINEATED FOR EQUIPMENT SHALL BE INTERPRETED AS MINIMUM PERFORMANCE REQUIREMENTS.
   b. APPROVAL OF SUBMISSIONS DOES NOT CONSTITUTE A REMOVAL OF CONTRACTOR'S OBLIGATION TO PROVIDE A COMPLETE AND PROPERLY FUNCTIONING SYSTEM. CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SUITABLE CORRECTIONS TO INSTALLATIONS MADE IN ERROR DUE TO THEIR LACK OF COORDINATION WITH FIELD CONDITIONS, ACCESS REQUIREMENTS OF NEW AND EXISTING EQUIPMENT, NEW WORK OF OTHER TRADES OR LACK OF UNDERSTANDING OF PROPER SYSTEM FUNCTION.
   c. SUBMISSION OF ANY SUBSTITUTIONS NOT PREVIOUSLY APPROVED WITH BID SHALL BE ACCOMPANIED BY LETTER EXPLAINING REASON AND APPLICABLE CREDIT. CONTRACTOR SHALL BEAR ASSOCIATED COSTS FOR REVISING AND RE-FILING OF DRAWINGS AS A RESULT OF SUBSTITUTION.

F. AS-BUILT DRAWINGS

1. AT THE COMPLETION OF PROJECT PROVIDE "AS-BUILT" DRAWINGS CONSISTING OF A COMPLETE SET OF MYLAR TRANSPARENCIES, DEPICTING IN A NEAT AND ACCURATE MANNER, EXACTLY HOW ALL SYSTEMS WERE INSTALLED AND A COMPLETE RECORD OF ALL CHANGES MADE TO THE ORIGINAL DESIGN OF THE WORK. DUCT AND PIPING DRAWINGS SHALL BE DOUBLE LINE. DRAWINGS SHALL PROVIDE AN ACCURATE AND COMPLETE RECORD OF THE WORK AS INSTALLED.
2. TWO (2) COPIES OF CONTRACT CLOSE-OUT DOCUMENTS SHALL BE SUBMITTED IN A THREE-RING BINDER LABELED CLEARLY WITH PROJECT NAME AND ADDRESS. CONTENTS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
   a. A MINIMUM OF FOUR (4) SETS OF DETAILED CONSTRUCTION SHOP DRAWINGS FOR DUCTWORK LAYOUT, PIPING LAYOUT, EQUIPMENT AND SYSTEMS. DRAWINGS SHALL INDICATE ALL DIMENSIONS, SHOP STANDARDS, MATERIALS OF CONSTRUCTION AND METHODS OF ASSEMBLY. DRAWINGS SHALL BE AT A 3/8"=1'-0" SCALE.
   b. PIPING SHOP DRAWING PREFERABLY OVERLAID WITH SHEET METAL DRAWING. INCLUDE ELEVATIONS EQUIPMENT PIPED AND ISOLATION VALVE LOCATIONS.
   c. HVAC EQUIPMENT INCLUDING OPERATING AND MAINTENANCE INSTRUCTIONS, WARRANTIES AND ENGINEERING DATA.
   d. AIR AND WATER BALANCING REPORTS WITH RAISED STAMPED SEAL FROM LICENSED BALANCER.
   e. ALL OF THE ABOVE SHALL BE IN ACCORDANCE WITH ENGINEER'S COMMENTS DURING THE SUBMISSION PROCESS.

G. OPERATING AND MAINTENANCE INSTRUCTIONS

1. AFTER FINAL TEST AND ADJUSTMENTS FULLY INSTRUCT OWNER'S OPERATING PERSONNEL IN ALL DETAILS OF OPERATION FOR EQUIPMENT INSTALLED. A SIGNED RECEIPT THAT SHALL BE OBTAINED FROM THE OPERATOR SHALL BE CONSTRUED AS EVIDENCE THAT INSTRUCTIONS WERE SATISFACTORY.
2. OPERATING AND MAINTENANCE MANUAL SHALL INCLUDE THE FOLLOWING:
   a. FURNISH TWO (2) COPIES OF WRITTEN DESCRIPTIONS OF ALL SYSTEMS COVERING ALL MANUAL OPERATING AND MAINTENANCE PROCEDURES, AUTOMATIC CONTROL DESCRIPTIONS AND AUTOMATIC CONTROL TEMPERATURE AND PRESSURE SETTINGS. WRITTEN DESCRIPTIONS SHALL INCLUDE LUBRICATION SCHEDULES, PARTS LIST, PERFORMANCE SERVICE FOR EQUIPMENT, FILTER SIZE/QUANTITY SCHEDULE, ETC. WHEN MANUFACTURERS' STANDARD INSTRUCTIONS ARE UTILIZED, THEY SHALL BE CLEARLY MARKED.
   c. NEW EQUIPMENT INSTALLATION MANUALS THAT INCLUDE MANUFACTURER'S EQUIPMENT PARTS LIST OF ALL FUNCTIONAL COMPONENTS OF THE SYSTEM LISTED ON THE EQUIPMENT SCHEDULES, DRAWINGS, CONTROL DIAGRAMS AND WIRING DIAGRAMS OR CONTROLLERS. LIST SHALL GIVE SYSTEM NUMBER, UNIT NUMBER, MANUFACTURER'S MODEL NUMBER, AND MANUFACTURER'S DRAWING NUMBER.
   d. FURNISH ONE CLEAN COPY OF EACH FULLY CORRECTED AND PROCESSED SHOP DRAWING.

H. CODES, PERMITS AND INSPECTIONS

1. ALL WORK SHALL MEET OR EXCEED LATEST REQUIREMENT OF NATIONAL, STATE, COUNTY, MUNICIPAL AND OTHER AUTHORITIES HAVING JURISDICTION OF THE WORK OF THIS PROJECT.
2. ANY PORTION OF THE WORK WHICH IS NOT SUBJECT TO APPROVAL OF AN AUTHORITY HAVING JURISDICTION SHALL BE PROVIDED IN ACCORDANCE WITH NATIONAL FIRE PROTECTION ASSOCIATION REQUIREMENTS.
3. COMPLY WITH APPLICABLE UTILITY COMPANY RULES AND REGULATIONS.
4. COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) REQUIREMENTS.
5. ANY ELECTRICAL INSTALLATION PERFORMED UNDER THIS CONTRACT SHALL COMPLY WITH ALL LOCAL AND STATE CODES IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC).
6. SECURE PERMITS AND INSPECTION CERTIFICATES AND TRANSMIT SAME TO THE OWNER AT THE COMPLETION OF THE WORK.

I. CODE APPROVAL

1. UPON COMPLETION OF THIS VENTILATING SYSTEM, A TEST SHALL BE CONDUCTED IN THE PRESENCE AND UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT BEFORE THE SYSTEM IS APPROVED.
2. THE LICENSED PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT WHO CONDUCTS THE TEST SHALL CERTIFY THAT THE SYSTEM COMPLIES WITH APPLICABLE LAWS AND SHALL ALSO FILE WITH THIS CERTIFICATION A REPORT OF THE TEST. THE TEST AND REPORT SHALL BE MADE IN A MANNER SATISFACTORY TO THE OWNERS REPRESENTATIVE.
3. A STATEMENT SHALL BE FILED BY THE OWNER THAT THE VENTILATION SYSTEM WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING NORMAL OCCUPANCY OF THE STRUCTURE THAT'S PROVIDED IN THE APPLICABLE SECTIONS OF THE CODE.
4. FIRE DAMPERS SHALL BE APPROVED AND SHALL BEAR THE UNDERWRITER'S LABORATORIES (UL) SEAL AS REQUIRED.
5. VENTILATION SYSTEM INSTALLED WILL COMPLY WITH RULES OF THE BUILDING DEPARTMENT IN EFFECT.

J. GUARANTEE AND SERVICE

1. THIS CONTRACTOR SHALL GUARANTEE AND SERVICE THE ENTIRE INSTALLATION FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE FINAL ACCEPTANCE OF THE INSTALLATION.
2. THIS CONTRACTOR SHALL, DURING THE PERIOD OF THE GUARANTEE, REPLACE OR REPAIR AT CONTRACTORS EXPENSE ANY PIECE OF EQUIPMENT AND/OR MATERIAL THAT IS FOUND TO BE DEFECTIVE. THE REPLACEMENT OR REPAIR SHALL BE PERFORMED THE SAME DAY OF NOTIFICATION IN AN EMERGENCY FASHION WHEN NOTIFIED BY THE OWNER OR AUTHORIZED REPRESENTATIVE. THIS CONTRACTOR SHALL ALSO REPAIR ALL DAMAGE TO SURROUNDING WORK CAUSED BY THE FAILURE, REPAIR OR REPLACEMENT OF DEFECTIVE EQUIPMENT.
3. ALL REFRIGERATION COMPRESSORS SHALL HAVE A FACTORY GUARANTEE INCLUDING PARTS AND LABOR FOR FIVE YEARS TOTAL FROM DATE OF FINAL ACCEPTANCE.
4. THE FINAL ACCEPTANCE WILL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED THE EQUIPMENT, BALANCED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENT OF THE DRAWINGS AND SPECIFICATIONS, AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES OF INSPECTION AND APPROVALS.

K. SPECIAL CONDITIONS

1. THIS CONTRACTOR SHALL SCHEDULE CONNECTION TO EXISTING SYSTEMS AT A TIME THAT WILL BE CONVENIENT FOR THE OWNER AND CAUSE MINIMUM DISRUPTION TO ALL PARTIES INVOLVED.
2. EQUIPMENT DELIVERIES AND USE OF FREIGHT ELEVATORS SHALL BE SCHEDULED WITH MANAGEMENT TO AVOID INCONVENIENCE TO BUILDING OPERATION AND TO OWNER.
3. DURING CONSTRUCTION, ALL RETURN AIR OUTLETS SHALL BE COVERED WITH GAUZE MESH AND TAPED SECURELY TO PREVENT THE ENTRANCE OF DUST AND CONSTRUCTION DEBRIS INTO THE AIR DUCT SYSTEMS.
4. CLEAN, SERVICE, REPAIR OR REPLACE AS NECESSARY ALL VARIABLE AIR VOLUME BOXES, SUPPLY AIR PRV DAMPERS, BUILDING REHEAT COILS, ETC., SERVING THE INTENDED SPACE UNDER CONSTRUCTION.
5. DISCONNECT SMOKE DETECTORS AT EACH RETURN AIR INTAKE AS REQUIRED. WHEN WORK IS COMPLETED, REINSTALL AND RECONNECT TO BUILDING FIRE ALARM CONTROL PANEL.

L. WORK INCLUDED UNDER OTHER SECTIONS OF WORK

1. ITEMS OF WORK WHICH SHALL BE INCLUDED UNDER OTHER SECTIONS OF WORK ARE AS FOLLOWS:
2. ACCESS DOORS IN FINISHED CONSTRUCTION
3. ELECTRICAL WIRING FOR POWER
4. DUCT MOUNTED SMOKE DETECTORS SHALL BE FURNISHED AND WIRED BY ELECTRICAL CONTRACTOR. THIS CONTRACTOR SHALL INSTALL IN AIR SYSTEMS AS REQUIRED.
5. FINISH PAINTING OF EQUIPMENT (EXCEPT FACTORY SUPPLIED AND SPECIFIED).
6. CONCRETE FOUNDATIONS, BASES OR CURBS
7. SUB-FLASHING OF ROOF OPENINGS.

M. ACCESS DOORS IN FINISHED CONSTRUCTION

1. THIS CONTRACTOR SHALL PREPARE A LIST OF ALL ACCESS DOORS REQUIRED FOR PROPER OPERATION AND MAINTENANCE OF ALL CONCEALED EQUIPMENT, VALVES, DAMPERS, CONTROLS, AND OTHER SIMILAR DEVICES INSTALLED UNDER THIS CONTRACT, PRIOR TO INSTALLATION OF WALLS AND CEILINGS THIS CONTRACTOR SHALL SUITABLY FIELD TAG AND IDENTIFY ALL CONCEALED EQUIPMENT, VALVES, DAMPERS, ETC., WHICH REQUIRE ACCESS DOOR PROVISIONS. GENERAL CONTRACTOR SHALL PROVIDE ACCESS DOORS IN FINISHED CONSTRUCTION.
2. ACCESS DOORS SHALL BE AT LEAST 16"X16" WITH AIRTIGHT FOAM GASKETS. THE DOORS SHALL BE PIANO HINGED AND SHALL HAVE A FLUSH OPERATING CAM LATCH LOCKING DEVICE. THE DOORS SHALL BE AS MANUFACTURED BY KARP ASSOCIATION.
   a. FOR WALLS AND ACOUSTICAL CEILING TILES PROVIDE KARP DSC-214M
   b. FOR PLASTER CEILINGS PROVIDE KARP KSTDW
   c. FOR FIRE RATED INSTALLATIONS PROVIDE WITH FIRE RATED ACCESS DOOR
   d. COLOR, FINISH, SIZE AND EXACT LOCATION SHALL BE REVIEWED BY ARCHITECT

N. METAL DUCTS

1. SHEET METAL DUCTWORK
   a. FURNISH, INSTALL AND FABRICATE ALL DUCTWORK IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA LOW PRESSURE AND MEDIUM PRESSURE DUCT CONSTRUCTION STANDARD MANUALS, USING PRIME SHEETS OF GALVANIZED STEEL.
      1) GALVANIZED STEEL DUCTS SHALL COMPLY WITH: ASTM-A525 AND ASTM A527 GALVANIZED STEEL SHEET, LOCK-FORMING QUALITY, HAVING G60 ZINC COATING IN CONFORMANCE WITH ASTM A90.
      2) ALUMINUM DUCTS SHALL COMPLY WITH: ASTM B209; ALUMINUM SHEET, ALLOY 3003-H14. ALUMINUM CONNECTORS AND BAR STOCK: ALLOY 6061-T6 OR OF EQUIVALENT STRENGTH.
   b. CONSTRUCT T'S, BENDS, AND ELBOWS WITH A FULL RADIUS THROAT OF NOT LESS THAN 1-1/2 TIMES WIDTH OF DUCT ON CENTERLINE. WHERE NOT POSSIBLE DUE TO LIMITED SPACE AND WHERE RECTANGULAR ELBOWS ARE USED, PROVIDE DOUBLE AIR FOIL TURNING VANES ON MAXIMUM 4" CENTERS. WHERE ACOUSTICAL LINING IS INDICATED, PROVIDE TURNING VANES OF PERFORATED METAL WITH GLASS FIBER INSULATION. NO SHARP ANGLED FITTINGS (MORE THAN 15 DEGREES) SHALL BE USED.
   c. ALL DUCT SYSTEMS SHALL BE TIGHT AND FREE FROM LEAKS AND VIBRATION. ALL JOINTS IN DUCTWORK SHALL BE SEALED AIRTIGHT WITH APPROPRIATE DUCT SEALERS, WRAPPED WITH DUCT TAPE AND COATED WITH A SECOND COAT OF SEALER. THIS INCLUDES ALL SUPPLY, RETURN AND EXHAUST DUCTWORK. DUCT SEALER 3M NO.900 SHALL BE USED AND SHALL BE TESTED FOR AIR TIGHTNESS AFTER INSTALLATION. MAINTAIN A LEAKAGE RATE OF NO GREATER THAN 5%.
      1) TOTAL AIR VOLUME FOR LOW PRESSURE DUCT SYSTEMS SHALL BE AT LEAST 95% OF FAN SUPPLY WHEN MEASURED BY DUCT TRAVERSES TAKEN WITH A PITOT TUBE AND WATER MANOMETER.
   d. INCREASE DUCT SIZES GRADUALLY, NOT EXCEEDING 15 DEGREES DIVERGENCE UPSTREAM OF EQUIPMENT AND 45 DEGREES CONVERGENCE DOWNSTREAM.
   e. DUCTWORK LAYOUTS AND ROUTES AS SHOWN ON THE DRAWING ARE SCHEMATIC; THEREFORE, CHANGES IN DUCT SIZES AND/OR LOCATIONS SHALL BE MADE WHERE NECESSARY TO CONFORM TO SPACE CONDITIONS OR OBTAIN MAXIMUM HEADROOM CONDITIONS WITHOUT ADDITIONAL COST TO THE OWNER.
   f. AIR DIFFUSERS AND GRILLES SHALL BE LOCATED IN CONFORMANCE TO ARCHITECTURAL REFLECTED CEILING PLANS,
      1) CEILING DIFFUSERS, REGISTERS AND GRILLES SHALL BE LOCATED IN THE CENTER OF CEILING TILE. EXTEND DUCTWORK AS REQUIRED.
      2) CENTER AND LOCATE AIR OUTLETS/INLETS IN A NEAT AND SYMMETRICAL MANNER. EXTEND DUCTWORK AS REQUIRED.
   h. WHERE DUCTS ARE SPECIFIED OR INDICATED ON PLAN TO BE ACOUSTICALLY LINED, THE DUCT SHALL BE INCREASED IN SIZE SO THAT THE CLEAR INSIDE LINING DIMENSIONS MATCH THE DUCT SIZES ON THE DRAWINGS.

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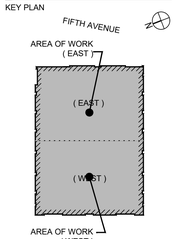
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KEY PLAN



100% CD	08/04/23
50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
REVISION:	DATE:

DRAWING TITLE:
MECHANICAL - SPECIFICATION SHEET 1

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2. DISHWASHER EXHAUST DUCTWORK - NOT USED

4. SHOWER EXHAUST - NOT USED

   a. PROVIDE ALUMINUM OR STAINLESS DUCTWORK FOR FIRST 6 FEET OF DUCT. PITCH ALUMINUM OR STAINLESS DUCTWORK A MINIMUM OF 1/4" PER FOOT BACK TOWARDS AIR OUTLET. AIR OUTLET SHALL BE THE SAME TYPE/MANUFACTURER AS SPECIFIED ON EXHAUST GRILLE SCHEDULE EXCEPT CONSTRUCTED OF ALUMINUM OR STAINLESS.

5. KITCHEN EXHAUST DUCTWORK - NOT USED

6. ROUND DUCTWORK

   a. ALL ROUND DUCTWORK SHALL BE CONSTRUCTED FROM A "PAINT GRIP" GALVANIZED STEEL WITH SPIRAL WOUND SEAM. DUCTWORK SHALL BE PROVIDE WITH ONE INCH THICK ACOUSTICAL FIBERGLASS BLANKET AND PERFORATED METAL LINER. ACOUSTICAL LINING SHALL HAVE THERMAL CONDUCTIVITY "K" FACTOR OF 0.27 BTU/HR/DEGREES F/SQ.FT.

   b. ALL ROUND DUCTWORK SHALL BE CONNECTED TO ONE ANOTHER WITH SLIP JOINTS AND POP RIVETED TOGETHER IN SYMMETRICAL ORDER. ALL DUCT TO DUCT JOINTS SHALL BE MADE WITH SPIRAL SEAM ROTATED SO THAT THE SEAM FORMS A CONTINUOUS HELICAL PATTERN ACROSS THE JOINT.

   c. ALL ELBOWS SHALL BE STANDING SEAM GORED ELBOWS ACOUSTICAL LINED WITH PERFORATED METAL LINER.

   d. ALL REDUCTIONS IN DUCT RUNS HALL BE MADE WITH CONCENTRIC REDUCERS.

   e. ALL TAPS FOR BRANCH DUCTWORK SHALL BE MADE WITH STRAIGHT BODY 90 DEGREE CONICAL TAP AND VOLUME DAMPER.

   f. ALL DIFFUSER COLLARS SHALL BE ATTACHED TO DUCTWORK WITH POP RIVETS WITH A FINISHING FILET OF ELASTOMER SEALER APPLIED TO THE COLLAR DUCT JUNCTION.

   g. ALL EXPOSED GALVANIZED ROUND DUCTWORK TO BE PAINTED SHALL BE PRIMED WITH GLIDDEN #5229 GALVANIZED PRIMER OR APPROVED EQUAL.

6. HIGH PRESSURE DUCTWORK

   a. HIGH PRESSURE DUCTWORK SHALL BE FABRICATED IN ACCORDANCE WITH SMACNA STANDARDS FOR 4" WG CONSTRUCTION TO MAINTAIN A LEAKAGE RATE OF NO HIGHER THAN 5% OF AIR VOLUME. APPLY DUCT SEALANT TO ALL TRANSVERSE SEAMS AND JOINTS. TOTAL AIR VOLUME FOR LOW PRESSURE DUCT SYSTEMS SHALL BE AT LEAST 95% OF FAN SUPPLY WHEN MEASURED BY DUCT TRAVERSES TAKEN WITH A PITOT TUBE AND WATER MANOMETER. DRIVE SLIPS AND SNAP LOCK CONNECTIONS ARE NOT PERMITTED.

O. DIFFUSERS, REGISTERS AND GRILLES

1. PROVIDE ALL AIR DISTRIBUTION DEVICES INCLUDING DIFFUSERS, GRILLES AND REGISTERS AS SPECIFIED ON DRAWING SCHEDULE. ALL SIZES, AIR DISTRIBUTION PATTERNS AND AIR VOLUME CAPACITIES SHALL BE AS SPECIFIED IN THE SCHEDULES AND/OR THE PLANS.
2. ALL DIFFUSERS, REGISTER, GRILLES AND LINEAR SLOTS SHALL HAVE A NOISE CRITERIA LESS THAN 27.
3. AIR SUPPLY REGISTERS SHALL BE PROVIDED WITH ADJUSTABLE DOUBLE DIRECTION BLADES WITH THE OUTER BLADES PARALLEL TO THE LONG/SHORT DIMENSION. PROVIDE KEY OPERATED OPPOSED BLADE DAMPERS FIXEDLY ATTACHED TO THE GRILLES.
4. AIR RETURN GRILLES AND REGISTERS SHALL BE PROVIDED WITH FIXED FACE LOUVERS PARALLEL TO THE LONG DIMENSION AND SET AT 45 DEGREE ANGLE. FOR REGISTERS, PROVIDE KEY OPERATED OPPOSED BLADE DAMPERS FIXEDLY ATTACHED TO THE GRILLES.
5. ALL AIR OUTLETS SHALL BE STEEL OR ALUMINUM CONSTRUCTION AND SHALL BE FACTORY PAINTED WITH ACRYLIC WHITE ENAMEL PAINT FINISH. COLOR AND FINISHES FOR ALL OUTLETS TO BE SELECTED BY ARCHITECT.
6. ALL CEILING TYPE AIR DIFFUSERS SHALL BE PROVIDED WITH EQUALIZING GRID AND ADJUSTABLE NECK VOLUME DAMPER. VOLUME DAMPER AT NECK IS IN ADDITION TO THAT REQUIRED AT BRANCH.
7. COORDINATE BORDER/FRAME TYPE OF AIR DEVICES SUCH THAT IT IS COMPATIBLE WITH CEILING AND/OR GRID INDICATED ON LATEST ARCHITECTURAL DRAWINGS.
8. DIFFUSER SHOWN ON DIFFUSER SCHEDULE SHALL BE CHANGED TO MATCH EXISTING DIFFUSER TYPE WHERE EXISTING DIFFUSERS ARE REMAINING. THIS CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING AND MUST ATTAIN APPROVAL.
9. WHERE INDICATED ON DRAWINGS, REGISTERS INDICATED AS UNDERWRITERS' APPROVED SHALL BE FURNISHED WITH A FUSIBLE LINK SELF-CLOSING REGISTER HAVING FUSIBLE LINK APPROVED BY UNDERWRITERS' LABORATORIES.
10. LINEAR GRILLES AND DIFFUSERS SHALL BE PROVIDED IN MILL FINISH OR PAINTED FINISHES AS DIRECTED BY THE ARCHITECT.
11. ALL LINEAR DIFFUSERS SHALL BE PROVIDED WITH PATTERN CONTROL VANES.
12. ALL UNUSED PORTIONS OF SUPPLY LINEAR DIFFUSERS SHALL BE BLANKED-OFF WITH SHEET METAL. PAINT BLANKED-OFF SHEET METAL SECTION FLAT BLACK.
13. PROVIDE ALL LINEAR DIFFUSERS WITH A REMOTE OPERATED OPPOSED BLADE DAMPER AND A 3-FOOT (MINIMUM) FLEXIBLE ADJUSTMENT CABLE WITH 1/8-INCH KEY OPERATOR BY YOUNG REGULATOR.
14. ALL AIR INLETS AND OUTLETS SHALL HAVE A NOISE CRITERIA LESS THAN 27.

P. DUCTWORK ACCESSORIES

1. ALL BRANCHES AND TAKE-OFFS SHALL BE EQUIPPED WITH OPPOSED BLADE TYPE VOLUME DAMPERS.
2. PROVIDE DAMPERS WHERE REQUIRED FOR PROPERLY BALANCING THE SYSTEM, WITH LOCKABLE, MARKED QUADRANT. DAMPERS SHALL BE OF THE SAME MATERIAL AS THE DUCT IN WHICH THEY ARE INSTALLED AND SHALL BE SUPPLIED AT THE JUNCTION OF A MAIN DUCT AND EACH BRANCH DUCT.
3. TURNING VANES: FABRICATE TO COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE".
4. FLEXIBLE CONNECTORS: GLASS FABRIC DOUBLE COATED WITH POLYCHLOROPRENE. MINIMUM WEIGHT: 26 OZ./SQ. YD.
5. DUCT SMOKE DETECTOR SHALL BE INSTALLED IN DUCT BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL FURNISH AND WIRE SMOKE DETECTOR. UPON ACTIVATION CORRESPONDING AIR HANDLER SHALL SHUT DOWN AND ALARM SIGNAL SHALL BE SENT TO BUILDING FACP.
6. WHERE SHOWN ON DRAWINGS AND UNLESS OTHERWISE SPECIFIED, OUTDOOR LOUVERS TO BE PROVIDED AS MANUFACTURED BY GREENHECK ESD SERIES OR RUSKIN INDUSTRIES ELF SERIES. LOUVERS SHALL BE AN EXTRUDED ALUMINUM STRUCTURE WITH AN ANODIZED ALUMINUM MILL FINISH OR FINISH AS SPECIFIED BY THE BUILDING MANAGEMENT AND/OR ARCHITECT. LOUVERS ARE ALSO TO BE PROVIDED WITH 1/2" WIRE MESH ALUMINUM BIRD SCREENS. UNLESS OTHERWISE NOTED OR SPECIFIED, LOUVERS SHALL HAVE A MINIMUM OF 50 PERCENT FREE AREA. LOUVER BLADE CONFIGURATION SHALL BE AT 45 DEGREE ANGLE DOWN. WHERE DISCHARGE INTERFERES WITH INTAKES LOUVERS SHALL BE 15 DEGREE ANGLE DOWN. CONTRACTOR SHALL SUBMIT ARRANGEMENT FOR REVIEW PRIOR TO FABRICATION. ALL LOUVER SECTIONS NOT IN USE SHALL BE BLANKED-OFF WITH AN INSULATED SHEET METAL PANEL. LOUVERS SHALL COMPLY WITH BUILDING STANDARDS AND SATISFY REQUIREMENTS OF LANDMARKS COMMISSION, IF APPLICABLE.
7. AUTOMATIC DAMPERS REQUIRING MODULATING CONTROL SHALL BE ARROW LOUVER AND DAMPER CO. MODELS OBDAF-207. DAMPERS SHALL BE CERTIFIED THAT LEAKAGE SHALL NOT EXCEED 1% WITH THE DAMPER CLOSED AND HOLDING 5" WG. PRESSURE ACROSS THE FACE. AUTOMATIC DAMPERS SHALL BE PROVIDED BY "AUTOMATIC TEMPERATURE CONTROL" MANUFACTURER WHERE SO SPECIFIED ELSEWHERE IN THESE SPECIFICATIONS.
8. FIRE DAMPERS
   a. PROVIDE FUSIBLE LINK FIRE DAMPERS AT LOCATIONS SHOWN ON DRAWINGS AND WHERE NECESSARY TO COMPLY WITH LOCAL OR OTHER AGENCIES OR JURISDICTIONS REQUIRING THEIR INSTALLATIONS AND IN COMPLIANCE WITH THEIR CONSTRUCTION REQUIREMENTS. FUSIBLE LINK FIRE DAMPERS SHALL BE AS MANUFACTURED BY RUSKIN MFG. CO., MODEL NO. 1BD2, TYPE "B" (BSA 292-72-SA) OR APPROVED EQUAL. FUSIBLE LINK DAMPERS SHALL BE UL RATED STEEL CURTAIN TYPE WITH RECESSED FRAMES. BLADES SHALL BE OUT OF AIRSTREAM AS REQUIRED.
9. COMBINATION FIRE/SMOKE DAMPERS
   a. FURNISH AND INSTALL COMBINATION FIRE/SMOKE DAMPERS WHERE SHOWN ON THE DRAWINGS IN ACCORDANCE WITH NFPA-90 AND WHERE NECESSARY TO COMPLY WITH LOCAL OR OTHER AGENCIES OR JURISDICTIONS REQUIRING THEIR INSTALLATIONS.
   b. SMOKE AND FIRE/SMOKE DAMPERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH NFPA-90A, UL LABELED, BSA APPROVED.
   c. COMBINATION FIRE AND SMOKE DAMPERS SHALL BE AS MANUFACTURED BY RUSKIN MFG. CO., IMPERIAL DAMPER AND LOUVER, OR APPROVED EQUAL.
      1) MODEL FSD36 OR 770/771 COMBINATION FIRE/SMOKE DAMPER WITH FACTORY STANDARD SLEEVE FOR INSTALLATION IN BUILDING STRUCTURE AS REQUIRED.
      2) PROVIDE UL LISTED FUSIBLE LINK WITH TEMPERATURE RATING NOT HIGHER THAN 212°F OR 50°F ABOVE HIGHEST AIR TEMPERATURE IN DUCT.
      3) INSTALL DUCT MOUNTED SMOKE DETECTOR AS REQUIRED TO ACTIVATE DAMPER IN ACCORDANCE WITH CODE.
      4) PROVIDE DAMPER POSITION INDICATOR.
      5) PROVIDE FACTORY WIRED DAMPER RESET SWITCH AND END SWITCH WITH OVERRIDE LIGHT INDICATIONS.
10. DUCT ACCESS DOORS
   a. IN ACCORDANCE WITH SMACNA STANDARDS, PROVIDE DUCTWORK ACCESS DOORS TO ALLOW ADEQUATE SERVICE ACCESS TO ALL CONCEALED CONTROLS, FUSIBLE LINKS OF DAMPERS, ETC. MINIMUM SIZE SHALL BE 16"X16" (OR MAXIMUM SIZE THAT WILL FIT IN DUCT). REFER TO ACCESS DOORS IN FINISHED CONSTRUCTION SECTION FOR ADDITIONAL ACCESS DOORS
   b. PROVIDE ACCESS DOORS WITH AIRTIGHT FOAM GASKETS AND SUITABLE FOR DUCT PRESSURE CLASS. THE DOORS SHALL BE PIANO HINGED AND SHALL HAVE A FLUSH OPERATING CAM LATCH LOCKING DEVICE.
   c. FOR DUCTS PROVIDE KARP ASSOCIATION KHD ACCESS DOORS WITH 2" INSULATION

Q. DUCT INSULATION

1. INSULATION SHALL BE APPLIED TO DUCTWORK OF MATERIALS AS SPECIFIED HEREIN AND FOR APPLICABLE SYSTEMS OF THIS PROJECT. INSULATION MATERIAL AND THICKNESS SHALL CONFORM TO THE LATEST ENERGY CODE HAVING JURISDICTION.
2. INSULATION SHALL BE CONTINUOUS THROUGH WALL AND SLAB OPENINGS.
3. INSULATION OF COLD SURFACES WHERE VAPOR BARRIER JACKETS ARE SPECIFIED SHALL BE APPLIED WITH AN UNBROKEN VAPOR SEAL. HANGERS AND SUPPORTS THAT ARE SECURED TO COLD SURFACES SHALL BE ADEQUATELY INSULATED TO PREVENT CONDENSATION.
4. NOTE THAT EQUIPMENT CASINGS WHICH ARE INTERNALLY AND ACOUSTICALLY INSULATED NEED NOT BE INSULATED ON THE EXTERIOR. ACOUSTIC LINED SUPPLY DUCTWORK SHALL BE INSULATED EXTERNALLY IN ADDITION TO INTERNAL ACOUSTIC LINING.
5. WHERE EXISTING INSULATED DUCTWORK IS PROVIDED WITH INSULATION OF SPECIFIED TYPE, INSTALLATION OF NEW INSULATION SHALL NOT BE REQUIRED. CONTRACTOR SHALL VERIFY THAT CONDITION OF EXISTING INSULATION IS ADEQUATE AND SHALL INFORM THE ENGINEER OF ANY INTENTION TO RETAIN EXISTING INSULATION IN THESE AREAS.
6. DUCTWORK INSULATION
   a. ALL NEW AND EXISTING SHEET METAL SUPPLY DUCTWORK SHALL BE INSULATED WITH 1-1/2" THICK FLEXIBLE DUCT INSULATION, 0.75 LB/CU.FT. DENSITY WITH A MAX. K FACTOR OF .30 AT 75° MEAN TEMPERATURE, WITH REINFORCED FOIL FACED, FLAME RESISTANT, ALUMINUM FOIL VAPOR BARRIER. INSULATION AND FACING WILL HAVE A COMBINED FLAME SPREAD RATING NO GREATER THAN 25 AND SMOKE DEVELOPED RATING NOT EXCEEDING 50. ALL INSULATION SHALL BE SECURED WITH DUCT ADHESIVE AND SEEMS SEALED BY TWO-INCH SEALING LIP WITH ADHESIVE AND FASTENED WITH 16 GAUGE RUST RESISTANT WIRE OR FIBERGLASS CORD ON 12" CENTERS. ON DUCTS OVER 24" WIDE, WELDED PINS AND CLIPS SHALL BE USED ON THE UNDERSIDE FOR FASTENING INSULATION.
   b. CONDENSER UNIT AIR INTAKE, CONDENSER AIR DISCHARGE, FRESH AIR INTAKE, MIXED AIR DUCTWORK AND LOUVER BLANK-OFF PANELS SHALL BE INSULATED WITH RIGID DUCT INSULATION 4.2 LBS/CU.FT. DENSITY WITH A MAX. K FACTOR OF .24 AT 75 DEGREE MEAN TEMPERATURE WITH WHITE VINYL FOIL REINFORCED FACING. INSULATION AND FACING WILL HAVE A COMBINED FLAME SPREAD RATING NO GREATER THAN 25 AND SMOKE DEVELOPED RATING NOT EXCEEDING 50. INSULATION SHALL BE IMPALED OVER WELDED PINS WITH CLIPS FIRMLY EMBEDDED INTO INSULATION. ALL JOINTS AND CLIPS SHALL BE SEALED WITH MATCHING STRIPS OF VINYL COATED VAPOR BARRIER LAMINATE SIMILAR TO OWENS CORNING 24 ASJ FOR DUCTS. INSULATION SHALL BE PITCHED TO ALLOW WATER TO RUN OFF. INSULATION SHALL BE WRAPPED IN WEATHERPROOF CLADDING.
   c. ALL OUTDOOR DUCTWORK SHALL BE INSULATED WITH RIGID DUCT INSULATION 4.2 LBS/CU.FT. DENSITY WITH A MAX. K FACTOR OF .24 AT 75 DEGREE MEAN TEMPERATURE WITH WHITE VINYL FOIL BARRIER FACING. INSULATION AND FACING WILL HAVE A COMBINED FLAME SPREAD RATING NO GREATER THAN 25 AND SMOKE DEVELOPED RATING NOT EXCEEDING 50. INSULATION SHALL BE IMPALED OVER WELDED PINS WITH CLIPS FIRMLY EMBEDDED INTO INSULATION. ALL JOINTS AND CLIPS SHALL BE SEALED WITH MATCHING STRIPS OF VINYL COATED VAPOR BARRIER LAMINATE SIMILAR TO OWENS CORNING 24 ASJ FOR DUCTS. INSULATION SHALL BE PITCHED TO ALLOW WATER TO RUN OFF. INSULATION SHALL BE WRAPPED IN WEATHERPROOF CLADDING.

R. ACOUSTICAL TREATMENT

1. FURNISH AND INSTALL ACOUSTICAL LINING IN DUCTWORK PLENUMS AND CASINGS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.
2. MANUFACTURER: OWENS CORNING FIBERGLASS DUCT LINERBOARD.
3. MATERIAL: SEMI-RIGID GLASS FIBER DUCTING WITH BINDER COAT ON AIR SIDE, MAXIMUM K FACTOR OF 0.26 AT 75 DEGREE F MINIMUM FOR USE AT AIR VELOCITIES UP TO 6000 FPM. ACOUSTICAL LINING SHALL HAVE A FLAME SPREAD RATING NO GREATER THAN 25 AND SMOKE DEVELOPED RATING NOT EXCEEDING 50. BINDER COAT TO BE BLACK FOR DETECTION OF DAMAGE TO BINDER SURFACE.
4. INSTALLATION: INSTALL LINER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. COMPLETELY COVER ALL PORTIONS OF DUCTWORK PLENUMS AND CASINGS WITH APPROVED ADHESIVE. INSTALL LINER WITH ALL TRAVERSE JOINTS NEATLY BUTTED HAVING NO INTERRUPTIONS OR GAPS. COVER ALL EXPOSED EDGES, JOINTS, MECHANICAL FASTENERS AND ANY DAMAGED AREAS WITH ADHESIVE. ADDITIONALLY; SECURE LINER WITH APPROVED MECHANICAL FASTENERS INSTALLED IN ACCORDANCE WITH SMACNA DUCT LINER APPLICATION STANDARD.
5. ALL AIR CONDITIONING SUPPLY AIR DUCTWORK SHALL BE ACOUSTICALLY LINED FOR A MINIMUM DISTANCE OF 15 FEET DOWNSTREAM OF A FAN DISCHARGE WITH A MINIMUM OF ONE INCH THICK ACOUSTICAL LINING.
6. ALL AIR CONDITIONING RETURN AIR DUCTWORK SHALL BE ACOUSTICALLY LINED FOR A MINIMUM DISTANCE OF 15 FEET OF THE AIR CONDITIONING UNITS MIXED AIR PLENUMMECHANICAL ROOM PLENUM.
7. ALL VARIABLE AIR VOLUME BOXES SUPPLY DUCTWORK SHALL BE LINED FOR A MINIMUM DISTANCE OF 10 FEET DOWNSTREAM OF BOX DISCHARGE WITH A MINIMUM OF ONE INCH THICK ACOUSTICAL LINING.
8. ALL RETURN/EXHAUST FAN DUCTWORK SHALL BE ACOUSTICALLY LINED FOR A MINIMUM DISTANCE OF 15 FEET OF THE FAN'S INTAKE AND DISCHARGE OPENINGS WITH A MINIMUM OF ONE INCH THICK ACOUSTICAL LINING.

S. HIGH TEMPERATURE BLOCK INSULATION FOR KITCHEN EXHAUST DUCTWORK - NOT USED

T. HYDRONIC PIPING

1. GENERAL PIPING REQUIREMENTS
   a. PROVIDE PIPING WHICH IS SCHEMATICALLY INDICATED AND SIZED ON DRAWINGS. PIPING TO BE INSTALLED TO MEET SPECIFIED HEADROOM OR FIELD CONDITIONS. PIPING SHALL CONFORM TO LATEST ASME CODES FOR PRESSURE PIPING.
   b. PIPING SHALL BE RUN TO MAXIMIZE HEADROOM AND TO MAINTAIN ADEQUATE SERVICE ACCESS AS PER EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
   c. PROVIDE PROPER PROVISION FOR EXPANSION AND CONTRACTION IN PIPE WORK TO PREVENT UNDUE STRAINS ON PIPING OR APPARATUS CONNECTED.
   d. UNIONS OR BOLTED FLANGES WITH REMOVABLE SECTIONS OF PIPING SHALL BE INSTALLED AT ALL EQUIPMENT TO PERMIT RAPID DISCONNECTION AND FOR EQUIPMENT SERVICE/REMOVALS WITHOUT DISMANTLING OF MAJOR PORTIONS OF CONNECTION PIPING.
   e. PROVIDE MANUAL AIR VENT VALVE FACILITIES AT ALL WATER PIPING HIGH POINTS, COIL, HEAT EXCHANGE APPARATUS, OTHER APPARATUS AND WHERE FLOW DIRECTION CHANGES FROM HORIZONTAL TO VERTICAL TO PREVENT AIR BINDING.
   f. MINIMUM 3/4" INCH GLOBE TYPE DRAIN VALVE FACILITIES FOR DRAINING ALL PROVIDE APPARATUS, INCLUDING AT HEELS OF ALL RISERS AND LOW POINTS OF PIPING. DRAIN VALVES TO HAVE A HOSE BIB CONNECTION AND PROVIDED WITH BRASS CAP AND CHAIN. PIPE ALL VALVES TO AN INDIRECT WASTE UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
   g. PITCH WATER PIPING UPWARD IN DIRECTION OF FLOW TO INSURE FLOW WITHOUT AIR BINDING. ALL LIFTS IN RETURN LINES SHALL BE INSTALLED WITH A GATE VALVE AND STRAINER UPSTREAM AND WITH AN AUTOMATIC AIR VENT AT THE HIGH POINT. VENT OUTLET TO BE PIPED TO AN OPEN SIGHT DRAIN.
   h. PROVIDE DOMESTIC WATER PIPING TO EQUIPMENT REQUIRING THE SAME FROM VALVED OUTLETS LEFT BY THE PLUMBING CONTRACTOR.
   i. PROVIDE TEES IN PIPING SYSTEM FOR INSTALLATIONS OF FLOW OR FLOAT SWITCHES, GAUGES, THERMOMETERS AND OTHER CONTROL DEVICES.
   j. PROVIDE FLOW MEASURING STATIONS IN RETURN WATER PIPING BRANCHES TO DIRECT (NON-REVERSE) RETURN MAINS FOR WATER BALANCING PURPOSES, EXCEPT FOR BRANCHES TO EQUIPMENT WHERE PRESSURE GAUGES ARE INSTALLED, TO PERMIT WATER PRESSURE DROP READINGS TO OBTAIN SPECIFIED FLOW RATE.
   k. FURNISH AND INSTALL AUTOMATIC PRESSURE RELIEF VALVES AND VACUUM BREAKERS TO PREVENT AGAINST PIPE RUPTURE OR SIPHONING ACTIONS. EXTEND DRAINS FROM RELIEF VALVES TO SPILL OVER FLOOR DRAINS.
   l. PROVIDE PIPING HANGERS, SUPPORTS, ANCHORS AND GUIDES HAVING A BUILT-IN SAFETY FACTOR OF FIVE (5); IN CONFORMANCE TO THE LATEST ANSI B31.9 CODE FOR PRESSURE PIPING AND MSS STANDARD PRACTICE SP-58 AND SP-69. ALL HANGER SPECIFICATIONS SHALL BE FURNISHED WITH ZINC CHROMATE PRIME PAINT FINISH.
   m. PROVIDE DIELECTRIC FITTINGS ON PIPING CONNECTIONS OF PIPE OF DISSIMILAR MATERIALS.
   n. WHERE BLACK STEEL SCREWED PIPE IS UTILIZED FOR CONDENSER WATER DISTRIBUTION, AN APPROVED THREAD COMPOUND SIMILAR TO PERMATEX SHALL BE APPLIED TO THE MALE THREAD ONLY. TEFLON TAPE WILL NOT BE ACCEPTED NOR PERMITTED.
   o. SLEEVES AND ESCUTCHEONS FOR PIPING
      1) PIPE PENETRATIONS THROUGH MASONRY/CONCRETE WALLS, FLOORS, ROOF CONSTRUCTION AND FRAMED PARTITIONS SHALL HAVE A TRIM OPENING CUT NOT GREATER THAN NECESSARY FOR THE INSTALLATION OF A SLEEVE SECURED THEREIN. THE SPACE BETWEEN ι". THE PIPE AND ITS SLEEVE SHALL NOT EXCEED.
      2) SLEEVES SHALL BE FLUSH WITH THE FINISHED WALL OR PARTITION SURFACE.
      3) ANNULAR SPACES BETWEEN PIPING AND SLEEVES OR CORE DRILLED FLOOR OPENINGS SHALL BE PACKED WITH MINERAL WOOL AND SEALED TO RETAIN THE FIRE INTEGRITY OF THE WALLS, PARTITIONS AND FLOORS WITH A NON-HARDENING COMPOUND SIMILAR TO DUXSEAL AS MANUFACTURED BY THE J.M CLIPPER CORPORATION.
      4) SLEEVES FOR PIPING THROUGH MASONRY WALL SHALL BE SCHEDULE 40, STANDARD THE GALVANIZED STEEL PIPE; IN FRAMED PARTITIONS SHALL BE 18 GAUGE SHEET METAL. SPACE BETWEEN THE PIPE AND ITS SLEEVE SHALL NOT EXCEED⅞".
      5) THE SLEEVE SHALL BE FLUSH WITH THE FINISHED WALL SURFACES. FLOOR OR ROOF SLEEVES SHALL BE MINIMUM 2" ABOVE FINISH ELEVATION.
      6) PIPING IN EXPOSED AREAS, PASSING THROUGH WALLS, FLOORS OR CEILINGS SHALL BE FITTED WITH CHROMIUM-PLATED CAST BRASS ESCUTCHEONS WITH FASTENING SETSCREWS.

U. PIPING MATERIALS AND FITTINGS

1. PIPING MATERIALS AND FITTINGS SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

SERVICE	PIPING MATERIAL	FITTINGS
REFRIGERANT	HARD TEMPER COPPER TYPE L	WROUGHT COPPER BRAZED
DOMESTIC COLD WATER MAKE-UP	85% RED BRASS SCHEDULE 40 125 LB. SWP	BRASS SCREWED 125 LB. SWP
CONDENSER, HOT OR CHILLED WATER TO 6" DIAMETER	HARD TEMPER COPPER TYPE L	WROUGHT COPPER BRAZED
CONDENSER, HOT OR CHILLED WATER OVER 6" DIAMETER	BLACK STEEL SEAMLESS SCHEDULE 40 250 LB. SWP	BLACK STEEL 250 LB. WELDED
CONDENSATE DRAIN LINES	HARD TEMPER COPPER TYPE L ASTM B-88	WROUGHT COPPER SOLDER ANSI B 16.18

V. STEAM AND CONDENSATE PIPING - NOT USED

W. VALVES

1. PROVIDE VALVES AS SPECIFIED HEREIN AND/OR NECESSARY FOR ISOLATION, BALANCING, AND EASY MAINTENANCE OF PIPING DISTRIBUTION SYSTEMS AND EQUIPMENT. PROVIDE VALVES AS MANUFACTURED BY HAMMOND, STOCKHAM, JENKINS, CRANE, MILWAUKEE OR MUELLER.
2. VALVES, STRAINERS, CHECK VALVES, ETC., SHALL BE SELECTED TO MEET THE WORKING PRESSURE AND TESTING REQUIREMENTS (1-1/2 TIMES THE RATED WORKING PRESSURE) FOR THE MATERIALS AND PIPE FITTINGS SPECIFIED FOR THE SERVICE. REGARDLESS OF SERVICE, VALVES SHALL NOT BE DESIGNED FOR LESS THAN 125 PSI STEAM WORKING PRESSURE.
3. ISOLATION/BALANCING VALVE
   a. UNLESS OTHERWISE SPECIFIED, ALL ISOLATION VALVES UP TO 2½ INCH SHALL BE BALL VALVE; 3" AND ABOVE SHALL BE BUTTERFLY LUG TYPE VALVES WITH LOCKING QUADRANT HANDLES.
   b. LUBRICATED, TAPERED PLUG VALVES WITH LOCKING FLOW PLATE SHALL BE PROVIDED IN THE DISCHARGE PIPING FROM WATER CIRCULATING PUMPS, IN THE LEAVING WATER PIPING BRANCHES FROM COILS, AND SIMILAR HEAT EXCHANGER TYPES OF EQUIPMENT TO SERVE AS DUAL ISOLATION AND BALANCING FACILITIES.
   c. LUBRICATED, TAPERED PLUG VALVES WITH LOCKING FLOW PLATE SHALL BE PROVIDED IN ALL RETURN WATER RISERS OR SUBMAINS THAT CONNECT TO HYDRONIC MAINS TO SERVE A DUAL ISOLATION AND BALANCING FACILITIES.
   d. COMBINATION ISOLATION-BALANCING VALVES WITH TAPPINGS THAT PERMIT PRESSURE (FLOW) MEASUREMENTS SHALL BE PROVIDED IN PIPING BRANCHES WHERE SPECIFIED OR SHOWN ON THE DRAWINGS. ONE (1) READOUT MEASURING GAUGE WITH ADAPTER HOSES AND HOSE COCKS SHALL BE FURNISHED BY THE MANUFACTURES OF THESE VALVES.
   e. BALL VALVES SHALL BE PROVIDED WITH STAINLESS STEEL BALL, STEM AND SEAT RING, BUSHING AND SEAT RING GASKET. BALL VALVES SHALL BE RATED FOR A MINIMUM OF 275 PSI @ 100°F. BALL VALVES SHALL BE PROVIDED AT SUPPLY AND RETURN LINES AS SHOWN ON DRAWING OR OTHERWISE SPECIFIED HEREIN.
4. CHECK VALVES
   a. CHECK VALVES AS SPECIFIED OR SHOWN IN PIPING DIAGRAMS SHALL GENERALLY BE PROVIDED WITH REMOVABLE CAP, REGRINDABLE DISC AND SEAT RING AND WITH OFFSET SWING FLAPPERS AND SHALL BE BRASS OR BRONZE FOR PIPING FROM HYDRONIC SYSTEM CIRCULATING PUMPS. PROVIDE SPRING LOADED, SILENT ACTION, NON-SLAM TYPE CHECK VALVE WITH REMOVABLE CAP, REGRINDING DISC AND SEAT RING IN ALL VERTICAL DISCHARGE PIPING FROM PUMPS.
5. STRAINERS - NOT USED
6. CONDENSER WATER REGULATING VALVES - NOT USED

X. METERS AND GAUGES - NOT USED

Y. REFRIGERANT PIPING

1. ALL REFRIGERANT TUBING SHALL BE TYPE AC&R CLEANED, DEHYDRATED AND CAPPED COPPER. TUBE SIZES SHOWN ARE OUTSIDE DIAMETERS. ALL FITTINGS ARE TO BE WROUGHT COPPER TYPE WHICH MEET ANSI B16.22 SPECIFICATIONS AND COMPLY WITH ASTM TEST PROCEDURES. ALL JOINTS ARE TO BE BRAZED WITH SILFOS-5 OR EQUIVALENT. AFTER PIPING IS COMPLETED, SYSTEM IS TO BE PRESSURE TESTED FOR LEAKS. HIGH SIDE REFRIGERANT LINES ARE TO BE NITROGEN TESTED TO 300 PSIG AND LOW SIDE TO 150 PSIG. TEST PRESSURES MUST HOLD FOR 30 MINUTES. ALL INTERCONNECTING REFRIGERANT LINES ARE TO BE DEHYDRATED AND EVACUATED TO 500 MICRONS. VACUUM PUMP TO BE SHUT DOWN AND VACUUM LEVEL TO BE MONITORED FOR A PERIOD OF SIX HOURS. IF VACUUM LEVEL RISE EXCEEDS THE LIMIT, THE SYSTEM SHOULD BE CHECKED FOR SMALL LEAKS, REPAIRED AND RETESTED.
2. DURING BRAZING OPERATIONS, FLOW AN INERT GAS SUCH AS NITROGEN THROUGH THE REFRIGERATION PIPING SYSTEM TO PREVENT SCALING AND CONTAMINATION OF INTERNAL PIPING WALLS.
3. TRAPS ARE TO BE PROVIDED AT THE BASE OF ALL SUCTION GAS RISERS TO INSURE THE POSITIVE RETURN OF OIL TO THE COMPRESSOR. OIL TRAPS SHALL BE CONSTRUCTED AS SHALLOW AS POSSIBLE TO MINIMIZE THE TRAPPED VOLUME TO AVOID THE CREATION OF LARGE SLUGS OF LIQUID.
4. INVERTED TRAPS SHALL BE INSTALLED AT THE TOP OF EACH SUCTION OR HOT GAS RISER TO CHECK THE BACKFLOW OF OIL DOWN THE RISER FROM THE HORIZONTAL RUN DOWNSTREAM.
5. WHENEVER THE LIFT OF A RISER WILL EXCEED APPROXIMATELY 20 FEET, PROVIDE INTERMEDIATE TRAPS TO ALLOW THE OIL TO TRAVEL UP IN STAGES.
6. ALL REFRIGERANT LINES EXPOSED TO OUTDOOR ELEMENTS AND ALL SUCTION LINES THROUGHOUT SHALL BE WRAPPED IN 1" THICK ARMAFLEX INSULATION. ALL JOINTS SHALL BE MITERED AND TAPED TO ENSURE PROPER VAPOR SEAL. ALL SEAMS ARE TO BE SEALED WITH MANUFACTURER'S RECOMMENDED ADHESIVE. REFER TO SPECIFICATION FOR OUTDOOR PIPING.
7. PROVIDE ADEQUATELY SIZED REFRIGERANT LINE SIGHT GLASS AND FILTER DRYERS AS REQUIRED.
8. REFRIGERANT PIPING TO BE INSTALLED AND SIZED IN ACCORDANCE TO EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUBMIT LAYOUT OF REFRIGERANT PIPING TO BE INSTALLED IN FIELD. INDICATE ACTUAL ROUTE, ELEVATIONS, LENGTHS, ELBOWS, DEVICES AND EQUIPMENT FOR VERIFICATION OF PIPE SIZE AND INSTALLATION.

Z. HYDRONIC PUMPS - NOT USED

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KEY PLAN

AA. PIPE INSULATION

1. INSULATION SHALL BE APPLIED TO PIPING OF MATERIALS AS SPECIFIED HEREIN AND FOR APPLICABLE SYSTEMS OF THIS PROJECT.

2. INSULATION SHALL BE CONTINUOUS THROUGH WALL AND SLAB OPENINGS.

3. INSULATION OF COLD SURFACES WHERE VAPOR BARRIER JACKETS ARE SPECIFIED SHALL BE APPLIED WITH AN UNBROKEN VAPOR SEAL. HANGERS AND SUPPORTS THAT ARE SECURED TO COLD SURFACES SHALL BE ADEQUATELY INSULATED TO PREVENT CONDENSATION.

4. WHERE INSULATION IS SPECIFIED FOR PIPING, INSULATE SIMILARLY ALL CONNECTIONS, VENTS, DRAINS, FLANGES, FITTINGS, VALVES, TANKS, PUMP CASINGS AND OTHER PARTS OF THE SYSTEM SUBJECT TO HEAT GAIN OR LOSS AND TO PREVENT CONDENSATION.

5. WHERE EXISTING INSULATED PIPING IS PROVIDED WITH INSULATION OF SPECIFIED TYPE, NEW INSULATION WILL NOT BE REQUIRED TO BE INSTALLED. CONTRACTOR SHALL VERIFY THAT CONDITION OF EXISTING INSULATION IS ADEQUATE AND SHALL INFORM THE ENGINEER OF HIS INTENTION TO RETAIN EXISTING INSULATION IN THESE AREAS.

6. PIPING SHALL BE INSULATED WITH 1" THICK MOLDED GLASS FIBER WITH A MAXIMUM K FACTOR OF .24 AT 75 DEGREE F MEAN TEMPERATURE AND FACTORY APPLIED VAPOR BARRIER JACKET. INSULATION AND JACKET WILL HAVE A COMBINED FLAME SPREAD RATING NO GREATER THAN 25 AND SMOKE DEVELOPED RATING NOT EXCEEDING 50.

7. FURNISH AND INSTALL PIPING INSULATION FOR THE FOLLOWING SYSTEMS:

   a. CITY COLD WATER MAKEUP PIPING

   b. CONDENSATE DRAIN PIPING

   c. REFRIGERANT PIPING FOR VRF SYSTEMS

8. ALL PIPING INSULATION TO BE INSTALLED WITH LONGITUDINAL LAP AND VAPOR BARRIER JOINT SEAL STRIPS WITH ADHESIVE OR SELF-SEALING LAPS. FITTINGS AND VALVES SHALL BE INSULATED WITH MOLDED FITTINGS MITERED SEGMENTS OR COMPRESSED BLANKET INSULATION.

9. FITTINGS AND VALVES SHALL BE INSULATED WITH SEGMENTS OF THE MOLDED INSULATION OR MOLDED FIBERGLASS FITTINGS WIRED SECURELY IN PLACE. FLANGES SHALL BE INSULATED WITH SECTIONAL PIPE INSULATION EXTENDING A MINIMUM OF 1" BEYOND THE END OF THE BOLTS. BOLT AREA TO BE FILLED WITH MINERAL WOOD CEMENT. THICKNESS OF FITTINGS, VALVE AND FLANGE INSULATION SHALL BE SAME AS ADJOINING PIPE INSULATION. CONCEALED FITTINGS, ETC., MAY BE INSULATED WITH 1 LB. FIBERGLASS BLANKET WRAPPED FIRMLY UNDER COMPRESSION, 2 TO 1 AND SECURED WITH COPPER-CLAD WIRE.

10. INSULATION PIPE HANGER SHIELD SHALL BE INSTALLED AT HANGERS FOR INSULATED PIPING. SHIELD LENGTH AND MINIMUM SHEET METAL GAUGE SHALL CONFORM TO THE FOLLOWING SCHEDULE:

PIPE SIZE	SHIELD LENGTH	MINIMUM GAUGE
1/2" TO 1-1/2"	4"	16
2" TO 6"	6"	20

FOR PIPING 2" DIAMETER AND GREATER, PROVIDE CALCIUM SILICATE BLOCK BETWEEN PIPE SADDLE SHIELD AND PIPING TO PREVENT DESTRUCTION OF INSULATION AND VAPOR BARRIER.

11. OUTDOOR PIPING

   a. ALL PIPING SHALL BE HEATED TRACED AND INSULATED WITH 2" THICK MOLDED GLASS FIBER. INSULATION SHALL BE PROTECTED WITH A .016 THICK CORRUGATED ALUMINUM JACKET THAT HAS A FACTORY APPLIED VAPOR BARRIER. EXTERNALLY SEALED ALL JOINTS AND SEAMS WATERTIGHT.

   b. METAL JACKETING SHALL BE APPLIED WITH 2" OVERLAP FACING DOWN FROM THE WEATHER AND SHALL BE SECURED WITH AN ALUMINUM BAND 1/2" X .020 AND SEALS APPLIED ON 12" CENTERS WITH BANDS APPLIED DIRECTLY OVER BUTT OVERLAPS.

   c. FITTINGS AND VALVES SHALL BE INSULATED AND FINISHED WITH MITERED SECTIONS OF THE INSULATION WITH FACTORY INSTALLED ALUMINUM JACKETS INSTALLED PER MANUFACTURER'S RECOMMENDATION. PRIOR TO INSTALLING COVERS, THE INSULATION SHALL BE COATED WITH A VAPOR BARRIER COATING.

   d. ALL MOTORIZED VALVES LOCATED OUTDOORS SHALL BE PROVIDED WITH MANUFACTURER'S WEATHERPROOF KITS.

12. ALL EXPOSED PIPING SHALL HAVE FACTORY ATTACHED PRE-SIZED GLASS CLOTH COVERED VAPOR BARRIER JACKET. FINISH EXPOSED PIPE FITTINGS WITH OPEN WEAVE FABRIC AND TWO COATS OF VAPOR BARRIER COATING. ALL EXPOSED PIPING SHALL BE PAINTED TO SUIT SERVICE OF PIPING.

AB. HANGERS AND SUPPORTS

1. PROVIDE ALL HANGERS, HANGER ROD SUPPORTS, INSERTS, ATTACHMENT, CLAMPS, GUIDES, BOLTS, RODS, NUTS, WASHERS, SUPPLEMENTAL STEEL, ANCHORS AND OTHER ACCESSORIES TO SUPPORT SYSTEM LOADS.

2. PROVIDE 2" VERTICAL ADJUSTMENT FOR ALL HANGERS. PROVIDE ADDITIONAL SUPPORTS AT CHANGES IN DIRECTION, BRANCH PIPING OVER 5 FEET AND AT LOADS DUE TO VALVES, STRAINERS AND OTHER ACCESSORIES.

3. HANGER ROD: ASTM A36; STEEL; THREADED BOTH ENDS; THREADED ALL ONE END OR CONTINUOUSLY THREADED. THREADED RODS SHALL BE GALVANIZED.

4. PROVIDE DUCT HANGERS IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA LOW PRESSURE AND MEDIUM PRESSURE DUCT CONSTRUCTION STANDARD MANUALS.

5. SUPPORT HORIZONTAL DUCTS WITH HANGERS SECURED TO STRUCTURAL STEEL ABOVE. INSTALL ADDITIONAL STEEL AS REQUIRED.

   a. PROVIDE HANGERS AND FASTENINGS ADEQUATE TO INSURE PERMANENT STABILITY AND IN COMPLIANCE WITH LOCAL CODE REQUIREMENTS. WHERE REQUIRED, PROVIDE SUPPLEMENTARY STEEL ANGLES OR CHANNELS. DO NOT HANG OR SUPPORT DUCTWORK FROM ANY EQUIPMENT, SUSPENDED CEILING SYSTEM OR ANY SUCH INSTALLATION OTHER THAN FROM SLAB, METAL DECK OR SUPPLEMENTAL SUPPORTS ORIGINATING FROM THE BUILDING STRUCTURE.

6. PIPE HANGERS AND SUPPORTS

   a. PROVIDE PIPE HANGERS IN ACCORDANCE WITH ANSI/MSS SP-69.

   b. PROVIDE PIPING HANGERS, SUPPORTS, ANCHORS AND GUIDES HAVING A BUILT-IN SAFETY FACTOR OF FIVE (5); IN CONFORMANCE TO THE LATEST ANSI B31.9 CODE FOR PRESSURE PIPING AND MSS STANDARD PRACTICE SP-58 AND SP-69. ALL HANGER SPECIFICATIONS SHALL BE FURNISHED WITH ZINC CHROMATE PRIME PAINT FINISH.

   c. SUPPORT HANGERS FROM BUILDING STEEL FRAMING WITH APPROVED TYPE CLAMP INSERT. PROVIDE ADDITIONAL STEEL SUPPORTS BETWEEN EXISTING FRAMING MEMBERS AS REQUIRED. ALL PIPE HANGING RODS, INSERTS AND CLAMPS SHALL BE U.L. APPROVED FOR THEIR RESPECTIVE USES. DO NOT HANG PIPING FROM ANY OTHER CONSTRUCTION OR CEILING SYSTEM SUPPORT. ONLY FROM BUILDING STEEL, INTERMEDIATE SUPPLEMENTAL STEEL OR SLAB.

   d. FURNISH AND INSTALL SPRING ISOLATED PIPE HANGERS WITHIN 20' DOWNSTREAM AND UPSTREAM OF ALL PUMPS AND EQUIPMENT TO BE PIPED.

   e. LOAD DISTRIBUTION: INSTALL HANGERS AND SUPPORTS SO THAT PIPING LIVE AND DEAD LOADS AND STRESSES FROM MOVEMENT WILL NOT BE TRANSMITTED TO CONNECTED EQUIPMENT.

   f. PROVIDE PROTECTIVE SADDLES TO SUPPORT INSULATED PIPING.

   g. PIPE SLOPES: INSTALL HANGERS AND SUPPORTS TO PROVIDE INDICATED PIPE SLOPES AND SO MAXIMUM PIPE DEFLECTIONS ALLOWED BY ASME B31.9, "BUILDING SERVICES PIPING", ARE NOT EXCEEDED.

   h. UNLESS OTHERWISE SPECIFICALLY APPROVED, HANGER SIZE AND SPACING SHALL BE AS FOLLOWS:

      1) STEEL PIPING

PIPE SIZES	MAXIMUM HANGER SPACING	MINIMUM ROD SIZES
" 1/2" TO 1"	7 FT. O.C.	3/8"
1-1/4" TO 2"	9 FT. O.C.	1/2" 2-1/2" TO 4"
5" TO 8"	10 FT. O.C	1/2" 1-1/4" TO 2"

      2) COPPER TUBING

PIPE SIZES	MAXIMUM HANGER SPACING	MINIMUM ROD SIZES
1/2" TO 1-1/4"	6 FT. O.C	3/8"
1-1/2" TO 2"	8 FT. O.C	3/8"
2-1/2" TO 3-1/2"	10 FT. O.C	3/8"
4" TO 6"		

   i. THE ABOVE HANGER SPACINGS APPLY TO STRAIGHT RUNS OF PIPE ONLY. AT POINTS WHERE VALVES, SPECIALTIES OR BRANCH CONNECTIONS ARE LOCATED, ADDITIONAL HANGERS OR SUPPORTS SHALL BE USED TO PROPERLY SUPPORT THE LOAD.

   j. HANGERS AND SUPPORTS SHALL BE MANUFACTURED BY GRINNEL, CARPENTER & PATTERSON, MICHIGAN HANGER CO., OR AN APPROVED EQUAL. SLEEVES AND ESCUTCHEONS FOR PIPING

7. EQUIPMENT SUPPORTS: FABRICATE STRUCTURAL STEEL STANDS TO SUSPEND EQUIPMENT FROM STRUCTURE ABOVE. CUT, DRILL, AND FIT MISCELLANEOUS METAL FABRICATIONS FOR HEAVY-DUTY STEEL TRAPEZES AND EQUIPMENT SUPPORTS.

AC. MECHANICAL VIBRATION AND SEISMIC CONTROLS

1. ALL ROTATING, REVOLVING OR RECIPROCATING EQUIPMENT, INCLUDING PIPING CONNECTIONS TO THIS EQUIPMENT SHALL BE FURNISHED WITH SPRING-TYPE VIBRATION ISOLATORS, TO PREVENT THE TRANSMISSION OF OBJECTIONABLE NOISES, SOUND OR VIBRATIONS TO THE OCCUPIED SPACES AND TO THE BUILDING STRUCTURES. FLEXIBLE HOSE CONNECTORS SHALL BE FULL LINE SIZE AND INSTALLED AT INLET AND DISCHARGE CONNECTIONS TO ALL PUMPS. SPRING-TYPE HANGERS SHALL BE PROVIDED FOR PIPING FOR A DISTANCE OF 20 FEET UP AND DOWNSTREAM OF ALL SUCH EQUIPMENT.

2. VIBRATION ISOLATORS FOR FLOOR OR CEILING SUPPORTED EQUIPMENT SHALL HAVE A MAXIMUM LATERAL MOTION UNDER EQUIPMENT START-UP OR SHUT-DOWN CONDITIONS OF 1/4". MOTIONS IN EXCESS SHALL BE RESTRAINED BY SPRING TYPE MOUNTINGS.

3. FLOOR MOUNTED EQUIPMENT

   a. PROVIDE SPRING TYPE BASE MOUNTED ISOLATOR HAVING A MINIMUM STATIC DEFLECTION OF ONE INCH, FACTORY SIZED TO 75% OF RATED LOAD SIMILAR TO MASON INDUSTRIES TYPE SLR, SLF OR EQUAL.
   b. WHEN REQUIRED, PROVIDE PREFABRICATED INERTIA BASE SIMILAR TO K SERIES AS MANUFACTURED BY MASON INDUSTRIES. INFILL WITH CONCRETE IN FIELD.

4. CEILING-HUNG FANS AND EQUIPMENT

   a. PROVIDE SPRING HANGER ROD ISOLATORS. STEEL COMPRESSION SPRING AND NEOPRENE SOUND PAD WITHIN A STEEL RETAINER BOX. SIMILAR TO MASON INDUSTRIES, INC., TYPE PCHS OR EQUAL.
   b. ONE (1) IN. MINIMUM STATIC DEFLECTION, 1/2 IN. MINIMUM RESERVE DEFLECTION, FACTORY-PRELOADED TO 75% OF A RATED LOAD.
   c. PROVIDE SUPPLEMENTAL STEEL AS REQUIRED WHERE EQUIPMENT OR STRUCTURE CANNOT SUPPORT POINT LOADS.

5. FLOOR MOUNTED EQUIPMENT HAVING INTERNAL ISOLATION

   a. PROVIDE 3/4 IN. THICK NEOPRENE ACOUSTICAL BASE PADS OF WAFFLE CONSTRUCTION. SIMILAR TO MASON INDUSTRIES INC. TYPE SUPER W PADS.

      A) 50 PSI MAXIMUM LOADING. PROVIDE STEEL BEARING PLATE TO DISTRIBUTE LOAD WHERE REQUIRED.
      B) ALL FLOOR MOUNTED EQUIPMENT SHALL BE ERECTED ON 4" CONCRETE PADS OVER THE COMPLETE FLOOR AREA OF THE EQUIPMENT, UNLESS INDICATED TO THE CONTRARY ON THE DRAWINGS.
   C) VIBRATION ISOLATOR SHALL BE PROVIDED BY ANY OF THE FOLLOWING MANUFACTURERS:
      1) MASON INDUSTRIES
      2) VIBRATION ELIMINATOR CO.
      3) CONSOLIDATED KINETICS CO.

AD. MECHANICAL IDENTIFICATION OF EQUIPMENT AND CONTROLS

1. ALL EQUIPMENT SHALL BE STENCILED OR LABELED WITH LAMACOID PLATES SCREWED THEREON WHICH SHALL INDICATE SYSTEMS SERVICE.

2. ALL PIPING SYSTEMS SHALL BE IDENTIFIED INDICATING THEIR SERVICE AND DIRECTION OF FLOW WITH PVC PIPING BANDS ON A MAXIMUM OF 30 FEET ON STRAIGHT RUNS AND VALVE LOCATIONS.

3. ALL VALVES SHALL BE TAGGED WITH 2" BRASS PLATED TAGS AND CHAINS AND VALVES CHART SCHEDULE FRAMED AND WALL MOUNTED WHERE DIRECTED.

4. MOTOR STARTERS SHALL BE PROVIDED WITH LAMACOID PLATES WHICH INDICATE SYSTEM SERVED.

AE. ELECTRICAL WIRING AND WIRING DIAGRAMS

1. ELECTRICAL WIRING FOR 120 VOLT POWER AND GREATER SHALL BE BY THE ELECTRICAL CONTRACTOR. WIRING FOR AUTOMATIC TEMPERATURE, SAFETY AND INTERLOCKING CONTROLS FOR MOTORS, MOTOR STARTER AND OTHER MECHANICAL AND CONTROL DEVICES SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNDER THIS CONTRACT WORK. AT TIME OF BID THIS CONTRACTOR IS REQUIRED TO INDICATE THE NUMBER OF 120 VOLT (AND GREATER) POINTS OF POWER CONNECTION REQUIRED FOR PRICING AND INSTALLATION BY THE ELECTRICAL CONTRACTOR.

2. THE MECHANICAL CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL TERMINAL POINT TO TERMINAL POINT, COMPLETELY COORDINATED AND INTEGRATED WIRING DIAGRAMS FOR ALL WIRING REQUIRING FIELD INSTALLATIONS IN ACCORDANCE WITH THE SEQUENCE OF OPERATION.

3. SPECIFIC WIRING DIAGRAMS OF FACTORY INSTALLED EQUIPMENT WIRING SHALL ALSO BE SUBMITTED FOR APPROVAL AND FURNISHED TO THE ELECTRICAL CONTRACTOR FOR INSTALLATION REQUIREMENTS AND OTHER USES.

AF. MOTOR STARTERS AND CONTROL DEVICES

1. FURNISH TO THE ELECTRICAL CONTRACTOR WHO SHALL INSTALL AND WIRE SUITABLE STARTING AND CONTROL EQUIPMENT FOR ALL MOTORS.

2. MOTOR STARTERS SHALL BE MANUFACTURED BY CUTLER HAMMER, WESTINGHOUSE OR ALLEN-BRADLEY AND SUITABLE FOR WALL OR ANGLE IRON FRAME MOUNTING.

3. GENERAL NOTES
   ALL STARTERS FOR MOTORS LESS THAN 1/2 HP SHALL BE 120 VOLT, SINGLE PHASE, 60 CYCLE, A.C. SERVICE. MANUAL STARTERS WITH OVERLOAD PROTECTION AND LOCKOUT TYPE DISCONNECT SWITCH OR BREAKER MAY BE USED TO CONTROL SUCH MOTORS. EXCEPT WHERE INTERLOCKS OR AUTOMATIC CONTROLS ARE REQUIRED. IN SUCH CASES, MAGNETIC ACROSS-THE-LINE STARTERS SHALL BE FURNISHED.

4. ALL STARTERS FOR MOTORS 1/2 HP TO 75 HP SHALL BE MAGNETIC ACROSS-THE-LINE TYPE WITH FUSIBLE SWITCH. SUCH STARTERS SHALL BE 208/480 VOLT, 3 PHASE, 60 CYCLE, AC. SERVICE.

5. CONTROLLERS FOR CONDENSATE PUMPS, DUPLEX AIR COMPRESSOR, SUMP AND EJECTOR PUMPS, ETC., SHALL BE FACTORY MOUNTED AND WIRED AS PART OF THE WORK OF THE HEATING, VENTILATING AND AIR CONDITIONING SECTION.

6. ALL MAGNETIC STARTERS SUBJECT TO MANUAL START AND IN DIRECT VIEW OF THE MOTORS THEY CONTROL SHALL HAVE MOMENTARY CONTACT START AND STOP BUTTONS AND PILOT LIGHT BUILT IN TO COVER. ALL MAGNETIC STARTERS SUBJECT TO ELECTRICAL INTERLOCK OR AUTOMATIC CONTROL SHALL HAVE HAND-OFF-AUTOMATIC SWITCHES AND PILOT LIGHT BUILT INTO COVER. ALL SELECTOR SWITCHES IN STARTERS SHALL BE OF THE MAINTAIN CONTACT TYPE.

7. WHERE STARTERS ARE NOT IN LINE OF SIGHT OF MOTORS THEY CONTROL, PROVIDE WITH ADDITIONAL LOCAL DISCONNECT SWITCH.

8. ALL STARTERS FOR 208/480 VOLT SERVICE SHALL HAVE (208/480)/120 VOLT TRANSFORMERS BUILT INTO EACH STARTER CASING. TRANSFORMERS SHALL SERVE ALL CONTROL CIRCUITS. EACH STARTER SUBJECT TO ELECTRICAL INTERLOCK AND/OR AUTOMATIC CONTROL SHALL HAVE THE NECESSARY AUXILIARY CONTACTS. ONE SET OF TERMINALS SHALL BE PROVIDED FOR EACH CONTROL CIRCUIT. CONTROL CENTERS SHALL BE PROVIDED WITH CONTROL TERMINAL BLOCKS.

9. ALL MAGNETIC STARTERS SHALL HAVE THERMAL OVERLOAD IN EACH PHASE LEG AND LOW VOLTAGE PROTECTION.

10. ALL COILS, CORES, RESISTANCE, INSULATION CONTACTS, TRIPPERS, ETC., OF STARTERS AND RELAYS SHALL BE OF THE APPROVED TYPE. ALL PARTS SUBJECT TO WEAR, ARCING, ETC., SHALL BE RENEWABLE.

11. ALL WIRING, STARTERS, SWITCHES, ETC., SHALL BE IN FULL ACCORDANCE WITH NEC AND ALL LOCAL INSURANCE UNDERWRITERS' CODE REQUIREMENTS.

12. FURNISH DETAILED COMPOSITE WIRING DIAGRAMS FOR THOSE INSTALLING ELECTRICAL WORK, AND FURNISH SUCH OTHER INFORMATION NECESSARY TO ASSURE THE PROPER CONNECTION, OPERATION AND CONTROL OF MOTORIZED EQUIPMENT, INCLUDING INTERLOCKS, AUTOMATIC OR SAFETY CONTROLS AND AUXILIARY CIRCUITS.

13. FURNISH THE PERTINENT INFORMATION SUCH AS STARTING TORQUE REQUIREMENTS OF HIGH INERTIA EQUIPMENT, SO THAT THE PROPER TYPE STARTER MAY BE PROVIDED BY THE STARTER MANUFACTURER. ALL INFORMATION IS SUBJECT TO THE REVIEW OF THE ARCHITECT.

14. PROVIDE LAMACOID NAMEPLATE ATTACHED TO EACH STARTER IDENTIFYING THE SYSTEM IT SERVES.

15. ALL FAN MOTORS SHALL HAVE A FAN SHUT DOWN RELAY INTERLOCKED WITH BUILDING FIRE ALARM CONTROL PANEL.

AG. MOTOR STARTERS AND CONTROL DEVICES

1. FURNISH TO THE ELECTRICAL CONTRACTOR WHO SHALL INSTALL AND WIRE SUITABLE STARTING AND CONTROL EQUIPMENT FOR ALL MOTORS.

2. MOTOR STARTERS SHALL BE CUTLER HAMMER, WESTINGHOUSE OR ALLEN BRADLEY MANUFACTURER, SUITABLE FOR WALL OR ANGLE IRON FRAME MOUNTING.

3. GENERAL NOTES

   a. ALL STARTERS FOR MOTORS LESS THAN 1/2 HP SHALL BE 120 VOLT, SINGLE PHASE, 60 CYCLE, A.C. SERVICE. MANUAL STARTERS WITH OVERLOAD PROTECTION AND LOCKOUT TYPE DISCONNECT SWITCH OR BREAKER MAY BE USED TO CONTROL SUCH MOTORS, EXCEPT WHERE INTERLOCKS OR AUTOMATIC CONTROLS ARE REQUIRED. IN SUCH CASES, MAGNETIC ACROSS- THE-LINE STARTERS SHALL BE FURNISHED.
   b. WHERE STARTERS ARE NOT IN SIGHT OF MOTORS THEY CONTROL, A LOCAL DISCONNECT SWITCH WILL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
   c. ALL COILS, CORES, RESISTANCE, INSULATION CONTACTS, TRIPPERS, ETC., OF STARTERS AND RELAYS SHALL BE OF THE APPROVED TYPE. ALL PARTS SUBJECT TO WEAR, ARCING, ETC., SHALL BE RENEWABLE.
   d. ALL WIRING, STARTERS, SWITCHES, ETC., SHALL BE IN FULL ACCORDANCE WITH NEC AND ALL LOCAL AND INSURANCE UNDERWRITER'S CODE REQUIREMENTS.
   e. FURNISH DETAILED COMPOSITE WIRING DIAGRAMS FOR THOSE INSTALLING ELECTRICAL WORK, AND FURNISH SUCH OTHER INFORMATION NECESSARY TO INSURE THE PROPER CONNECTION, OPERATION AND CONTROL OF MOTORIZED EQUIPMENT, INCLUDING INTERLOCKS, AUTOMATIC OR SAFETY CONTROLS AND AUXILIARY CIRCUITS.
   f. ALL FAN MOTORS SHALL HAVE A FAN SHUT DOWN RELAY INTERLOCKED WITH BUILDING FIRE ALARM CONTROL PANEL.

AH. ELECTRICAL AUTOMATIC TEMPERATURE CONTROL (ATC)

1. PROVIDE AS SPECIFIED AND SHOWN ON DRAWINGS A COMPLETE SYSTEM FOR AUTOMATIC TEMPERATURE CONTROLS AS MANUFACTURED BY HONEYWELL OR JOHNSON CONTROLS.

2. ALL LOW VOLTAGE (24 VOLTS AND LOWER) HVAC CONTROL WIRING SHALL BE BY THIS CONTRACTOR. PROVIDE TERMINAL POINT TO TERMINAL POINT ELECTRICAL WIRING DIAGRAMS FOR APPROVAL. THESE SHALL THEREAFTER BE UTILIZED BY THE ELECTRICAL CONTRACTOR WHO SHALL PROVIDE THE NECESSARY ELECTRICAL WIRING INSTALLATIONS. THESE DIAGRAMS SHALL BE COMPLETE IN ALL RESPECTS AND SHALL INCLUDE IDENTIFICATION OF MODELS AND TYPES OF CONTROLS THAT ARE TO BE WIRED.

3. CATALOG CUTS SHALL BE SUBMITTED FOR APPROVAL WITH DIMENSIONS AND TECHNICAL DATA FOR ALL CONTROLS. THESE SHALL BE TRANSMITTED TO THE ELECTRICAL CONTRACTOR FOR INFORMATION AND INSTALLATION USES AFTER APPROVAL HAS BEEN OBTAINED.

4. ALL TEMPERATURE CONTROLS AND AUTOMATIC VALVES OR DAMPERS SHALL BE OF THE FULLY MODULATED TYPE, EXCEPT WHERE OTHERWISE NOTED TO BE CYCLED "ON OR OFF". CONTROL TRANSFORMERS AND RELAYS REQUIRED FOR THE AUTOMATIC CONTROL SYSTEMS SHALL BE FURNISHED BY THIS CONTRACTOR

5. CONTROL PANELS SHALL BE MANUFACTURED OF NEMA RATED FURNITURE GRADE STEEL WITH A BAKED PRIME COAT ENAMEL FINISH AND SUITABLE FOR OUTDOOR USE WHERE REQUIRED. THE PANEL DOORS SHALL BE HINGED LOCKING TYPE. CONTROL PANELS SHALL CONTAIN ALL CENTRAL CONTROL DEVICES, SUCH AS CONTROLLERS, RELAYS, SWITCHES, PILOT LIGHTS, TERMINAL BLOCKS, AND ALL OTHER ACCESSORIES AS REQUIRED FOR A WORKABLE ENVIRONMENTAL CONTROL SYSTEM. ALL COMPONENTS WITHIN THE CONTROL PANELS SHALL BE PREWIRED TO NUMBERED TERMINAL TRIPS, READY FOR FIELD CONNECTION TO FIELD MOUNTED CONTROL COMPONENTS.

6. THIS CONTRACTOR SHALL BEAR THE RESPONSIBILITY FOR THE CORRECT INSTALLATIONS OR CONTROLS AND CONTROLLING DEVICES AND MAKE ALL NECESSARY CALIBRATIONS AND ADJUSTMENTS IN ORDER TO HAVE THEM OPERATE SATISFACTORILY TO OBTAIN THE SPECIFIED FUNCTIONS.

7. AUTOMATIC CONTROL WIRING DIAGRAM SHALL INCLUDE TYPED DESCRIPTION OF CONTROL SYSTEMS, CONTROL ACTIONS INCLUDING THE TEMPERATURE AND/OR PRESSURE SETTINGS OF ALL CONTROLLERS.

8. ALL WALL MOUNTED THERMOSTATS, SENSORS AND TIME SWITCHES SHALL BE FLUSH MOUNTED IN WALL. BACKBOXES AND WIRING MUST BE CONCEALED BEHIND FINISHED WALL. EXCEPTION: EXPOSED CONCRETE BLOCK WALLS CAN BE PROVIDED WITH SURFACE MOUNTED BACKBOXES AND SHALL BE PROVIDED WITH RIGID CONDUIT TO CONCEAL CONTROL WIRING. RIGID CONDUIT SHALL MATCH ELECTRICAL SPECIFICATIONS.

9. PROVIDE MOTORIZED CONTROL DAMPERS AND CONTROL VALVES WITH 120/24V TRANSFORMER AND TOGGLE DISCONNECT SWITCH.

AI. TESTING, ADJUSTING, AND BALANCING

1. REQUEST FROM BUILDING FACILITIES TIME FOR TESTING TO BE PERFORMED. REQUEST THAT BUILDING SYSTEMS BE SET AT 100 % CAPACITY. BALANCE AIR FLOW TO ALL OUTLETS TO PROVIDE AIR QUANTITIES NOTED. SUBMIT A DETAILED BALANCING REPORT, SHOWING INSTRUMENTS USED, VAV BOX INLET AND OUTLET STATIC PRESSURE AND EXHAUST FANS, SUPPLY, RETURN TEMPERATURES AND ACTUAL VERSUS DESIGN AIR QUANTITIES FROM DIFFUSERS, GRILLES, REGISTERS, ETC. AFTER ADJUSTMENTS.

2. MAKE ALL REQUIRED ADJUSTMENTS OF AIR AND WATER SYSTEM DEVICES UNTIL ALL SPECIFIED PERFORMANCES ARE MET.

3. AIR AND WATER SYSTEM BALANCING SHALL BE PERFORMED BY AN INDEPENDENT TESTING AND BALANCING FIRM CERTIFIED AND REGISTERED BY THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) HAVING A MINIMUM OF FIVE YEARS' EXPERIENCE. SUBMIT EVIDENCE OF QUALIFICATIONS. TESTING AND BALANCING REPORTS SHALL BEAR THE NEBB STAMP AND SEAL AS REQUIRED.

4. WITHIN 90 DAYS OF OWNER OCCUPANCY OR AS DIRECTED BY THE OWNER, THE TESTING AND BALANCING CONTRACTOR SHALL PERFORM ADDITIONAL TESTING AND BALANCING TO VERIFY THAT BALANCED CONDITIONS ARE BEING MAINTAINED THROUGHOUT AND TO CORRECT UNUSUAL CONDITIONS.

5. IF INITIAL TESTING AND BALANCING WAS NOT PERFORMED DURING PEAK SUMMER AND PEAK WINTER OUTDOOR CONDITIONS, THEN THE TESTING AND BALANCING CONTRACTOR SHALL PERFORM ADDITIONAL TESTING AND BALANCING DURING PEAK SUMMER AND PEAK WINTER OUTDOOR CONDITIONS.

6. AIR BALANCING
   a. PROVIDE VOLUME DAMPERS AS REQUIRED FOR FINAL BALANCING OF AIR SYSTEMS.
   b. EXISTING AIR VOLUME QUANTITIES AND TEMPERATURES AT THE POINTS OF CONNECTIONS OF NEW DUCTS WITH EXISTING DUCT RISERS AND OTHER SOURCES SHALL BE MEASURED AND RECORDED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE AND SHALL BE FORWARDED TO THE CONSULTING ENGINEER PRIOR TO COMMENCEMENT OF CONSTRUCTION.
   c. THE QUANTITY OF AIR DISCHARGED OR EXHAUSTED BY EACH OUTLET SHALL BE WITHIN 10% OF THE AMOUNT SHOWN ON DRAWINGS
   d. BALANCE ALL SUPPLY, RETURN, FRESH AIR INTAKE AND EXHAUST DUCTWORK TO THE QUANTITIES INDICATED ON THE DRAWINGS WITH FOLLOWING TOLERANCES:

      1) FANS - DESIGN VOLUME PLUS 5%.
      2) LEAKAGE - 5% MAXIMUM.
      3) OUTLETS - DESIGN VOLUME PLUS 5%

8. PERFORMANCE TESTING

   a. UPON COMPLETION OF THE INSTALLATION, TEST AND BALANCE ALL EQUIPMENT AND SYSTEMS UNDER FIELD OPERATING CONDITIONS TO DEMONSTRATE IT'S COMPLIANCE WITH SPECIFICATION REQUIREMENTS.
   b. SHOULD ANY PART OF THE SYSTEM FAIL TO MEET THE CONTRACT REQUIREMENTS, ADJUST, REPAIR OR REPLACE ALL DEFECTIVE OR INOPERATIVE PARTS AND AGAIN CONDUCT THE COMPLETE PERFORMANCE TEST.

SUBMIT TEST RESULTS TO THE OWNER AND ENGINEER.

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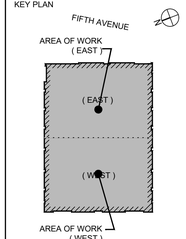
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KEY PLAN



100% CD	08/04/23
50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
REVISION:	DATE:

DRAWING TITLE:
MECHANICAL - SPECIFICATION SHEET 3

SCALE:

DRAWN BY: XXX

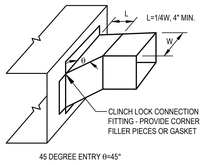
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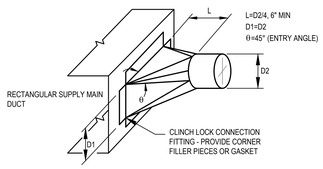
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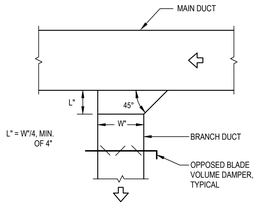
RECTANGULAR BRANCH CONNECTION DETAIL

SCALE: NONE



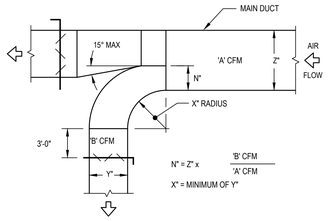
ROUND BRANCH CONNECTION DETAIL

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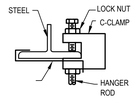
BRANCH DUCT CONNECTION

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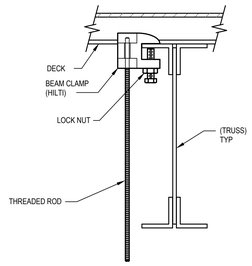


DIVIDED FLOW BRANCH

SCALE: NONE

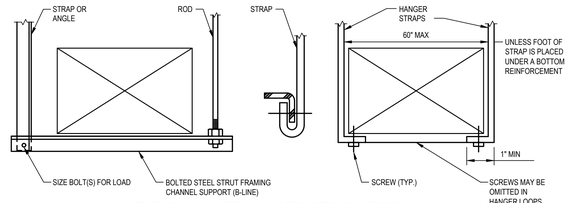


C-CLAMP WITH RETAINING CLIP



JOIST ATTACHMENT

(TYPICAL UPPER ATTACHMENTS)

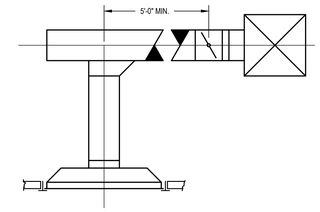


(TYPICAL LOWER HANGER ATTACHMENTS)

NOTE:
HANGER SPACING AND BRACING SHALL BE IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARDS.

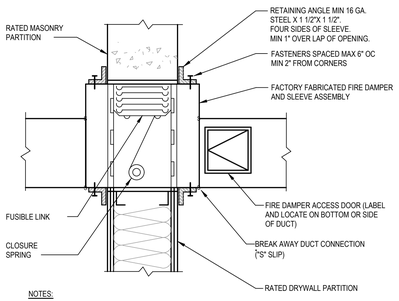
DUCT SUPPORT DETAIL

SCALE: NONE



CEILING DIFFUSER CONNECTION DETAIL- RECTANGULAR BRANCH TO ROUND NECK

SCALE: NONE

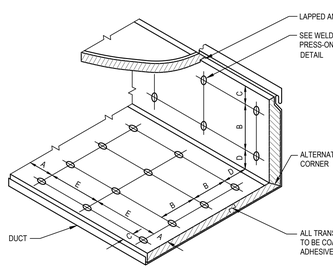


NOTES:

1. GREENHECK FIRE DAMPER WITH SLEEVE MODEL FD-150X TYPE B. UL LISTING R-13317.
2. FASTEN RETAINING ANGLE TO SLEEVE BY: TACK OR SPOT WELDS, No. 10 SHEETMETAL SCREWS, 1/4" BOLTS AND NUTS, 3/16 STEEL POP RIVETS. DO NOT FASTEN ANGLE TO WALL.
3. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS TO OBTAIN UL 555 LISTING.
4. MOUNTING DETAIL IS TYPICAL FOR COMBINATION FIRE/SMOKE DAMPERS.
5. HVAC CONTRACTOR SHALL CUT AND PATCH OPENINGS. HEADS OF MASONRY OPENINGS SHALL BE REINFORCED WITH 5x5x1/4 LINTELS BY HVAC CONTRACTOR.

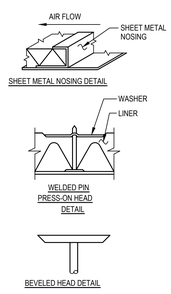
FIRE DAMPER MOUNTING DETAIL

SCALE: NONE



VELOCITY *	DIMENSIONS				
	A	B	C	D	E
0-2500 FPM	3"	12"	4"	6"	18"
2501-6000 FPM	3"	6"	4"	6"	16"

* UNLESS A LOWER LEVEL IS SET BY MANUFACTURER OR LISTING AGENCY.

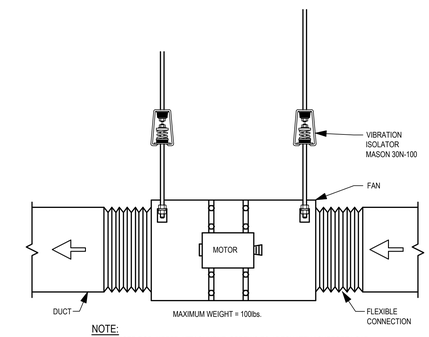


NOTES:

1. THE VELOCITY RATED SIDE OF LINER MUST FACE THE AIR FLOW.
2. PROVIDE SHEET METAL NOSING ON ALL EXPOSED EDGES. NOSING MAY BE FORMED ON DUCT OR BE CHANNEL OR ZEE ATTACHED BY SCREWS, RIVETS OR WELDS. SEE SHEET METAL NOSING DETAIL.
3. DETAIL INDICATES MAXIMUM SPACING FOR FASTENERS, ACTUAL INTERVALS ARE APPROXIMATE.
4. LINER ADHERED TO THE DUCT WITH 100% AREA COVERAGE OF ADHESIVE.
5. INTERIOR WIDTH OF 8" AND LESS DOES NOT REQUIRE PINS.
6. "A" PIN ROW MAY BE OMITTED WHEN METAL NOSING IS USED. "E" THEN STARTS FROM THE NOSING.

ACOUSTICAL DUCT LINER INSTALLATION DETAIL

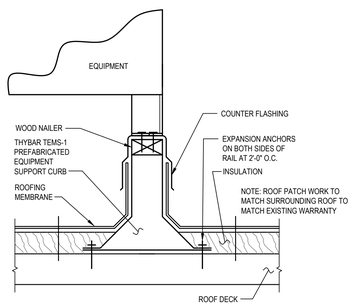
SCALE: NONE



NOTE:
SIZE HANGER ROD, UPPER ATTACHMENT, SCREWS TO ADEQUATELY SUPPORT LOAD.

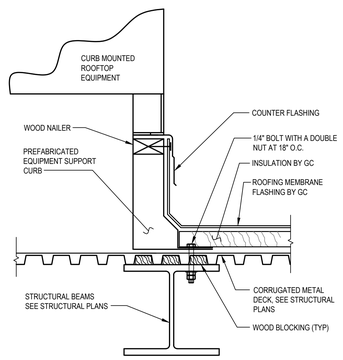
INLINE FAN HANGING INSTALLATION

SCALE: NONE



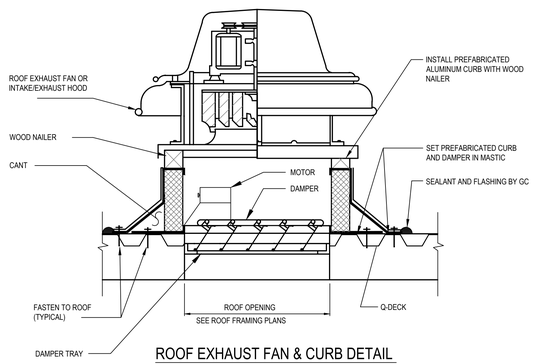
EQUIPMENT SUPPORT CURB DETAIL

SCALE: NONE



CURB MOUNTED ROOFTOP EQUIPMENT DETAIL

SCALE: NONE



ROOF EXHAUST FAN & CURB DETAIL WITH MOTORIZED BACKDRAFT DAMPER

SCALE: NONE

XEBEC

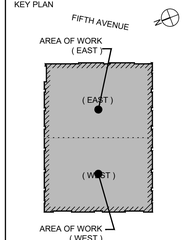
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KEY PLAN



REVISION:	DATE:
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50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23

DRAWING TITLE:
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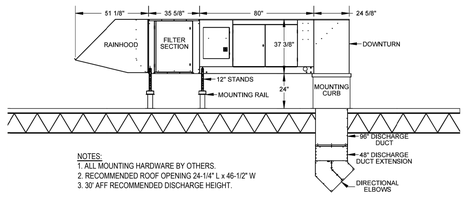
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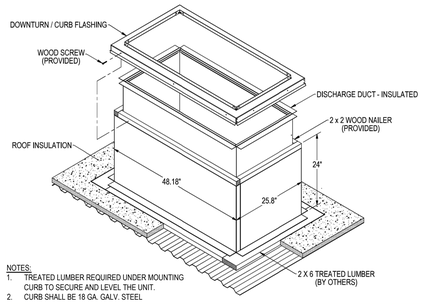
G:\22321 - 1612 5th Ave - XEBEC (Warehouse)\MECH\4-CAD\M-010 MECHANICAL - DETAILS SHEET 1.dwg, Date:August 4, 2023, Pentup Dox, 1, Plotted by Tom Penza



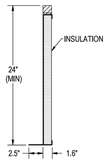
NOTES:
1. ALL MOUNTING HARDWARE BY OTHERS.
2. RECOMMENDED ROOF OPENING 24-1/4" L x 46-1/2" W
3. 30' AFF RECOMMENDED DISCHARGE HEIGHT.

HEATING AND VENTILATION UNIT SUPPORT DETAIL

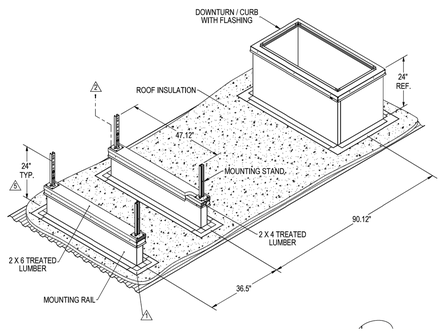
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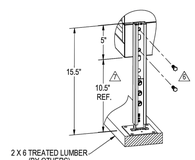


NOTES:
1. TREATED LUMBER REQUIRED UNDER MOUNTING CURB TO SECURE AND LEVEL THE UNIT.
2. CURB SHALL BE 18 GA. GALV. STEEL



CURB SECTION

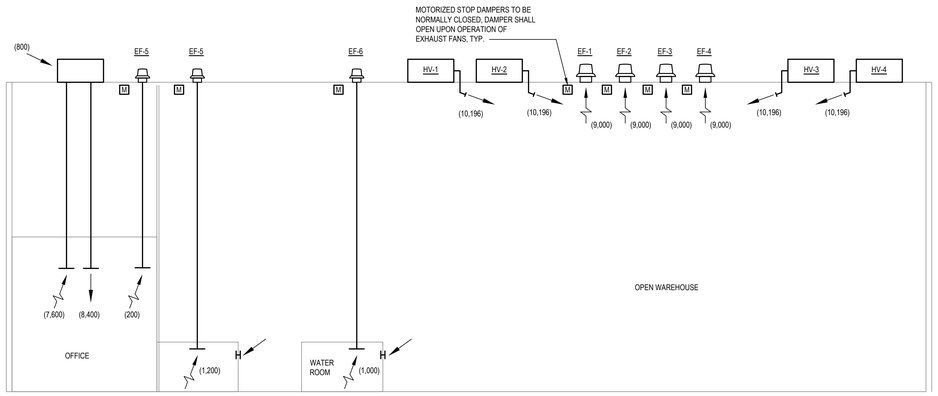




STAND DETAIL

HEATING AND VENTILATION MOUNTING CURB, STAND AND RAIL DETAIL

SCALE: NOT TO SCALE



AIRFLOW DIAGRAM

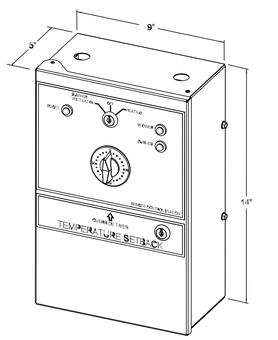
WAREHOUSE VENTILATION CALCULATIONS

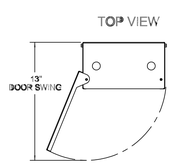
REQUIRED WAREHOUSE VENTILATION

TOTAL REQUIRED WAREHOUSE VENTILATION					=	**15,053 CFM**
	=	*234,218 SF*	*x*	*0.06 CFM/SF*	=	*14,053 CFM*
	=	*100 PERSONS*	*x*	*10 CFM/PERS*	=	*1,000 CFM*

ACTUAL WAREHOUSE VENTILATION

TOTAL SUPPLY	=	**10,196 CFM**	**x**	**4 UNITS**	=	**40,784 CFM (SUP)**
TOTAL WAREHOUSE EXHAUST	=				=	**38,200 CFM (EXH)**
WAREHOUSE EXHAUST	=	*9,000 CFM*	*x*	*4 FANS*	=	*36,000 CFM (EXH)*
UTILITY ROOM EXHAUST	=	*1,200 CFM*	*+*	*1,000 CFM*	=	*2,200 CFM (EXH)*





REMOTE CONTROL STATION DETAIL

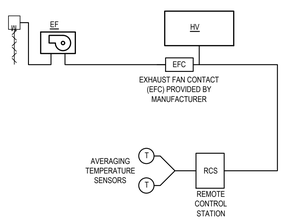
SCALE: NOT TO SCALE

SEQUENCE OF OPERATIONS

HVAC CONTRACTOR TO PROVIDE COMPLETE CONTROL SYSTEM BASED ON THE SEQUENCE AND SCHEMATIC SHOWN ON THIS SHEET READY FOR OWNER'S USE, INCLUDING BUT NOT LIMITED TO WIRING, CONTACTORS, RELAYS, TRANSFORMERS ETC. PROVIDE COMPLETE POINT TO POINT WIRING DIAGRAM SUBMITTED TO ENGINEER FOR REVIEW.

SUMMER OPERATION
MODE SWITCHED TO "SUMMER VENTILATION" MODE CALLS FOR VENTILATION. THE MOTORIZED DAMPER SHALL OPEN AND BLOWER MOTOR OPERATES CONTINUOUSLY UNTIL TURNED OFF. UPON OPERATION OF HV UNITS, ASSOCIATED EXHAUST FANS SHALL ENERGIZE.

WINTER OPERATION
WHEN SPACE TEMPERATURE DROPS BELOW THE HEATING SETPOINT OF 60°F (ADJ.) THE THERMOSTAT CALLS FOR HEAT . THE MOTORIZED DAMPER SHALL OPEN AND THE S-SERIES HEATING/VENTILATING UNIT BLOWER ENERGIZES. ONCE AIRFLOW IS PROVED, GAS VALVE OPENS AND BURNER LIGHTS. HV UNITS SHALL RUN 24/7 IN WINTER OPERATION MONTHS. UPON OPERATION OF HV UNITS , ASSOCIATED EXHAUST FANS SHALL ENERGIZE.



CONTROL SCHEMATIC

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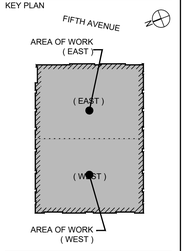
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HEATING & VENTILATING UNIT SCHEDULE

UNIT TAG	SERVICE	SUPPLY FAN				GAS HEATING					ELECTRICAL DATA		WEIGHT	MAUFACTURER & MODEL NO.
		TOTAL AIR QUANTITY (CFM)	TOTAL OUTDOOR AIR (CFM)	EXT. SP (IN WG)	HP	TOTAL INPUT (MBH)	TOTAL OUTPUT (MBH)	TEMPERATURE RISE (°F)	GAS PRESSURE (IN W.C.)	EFFICIENCY	V/φ/HZ	FLA	LBS	
HV-1	HEATING & VENTILATION	10,196	10,196	0.42	7.5	2,200	2,024	0-160	14"	92%	460/3/60	12.0	1840	CAMBRIDGE S2200
HV-2	HEATING & VENTILATION	10,196	10,196	0.42	7.5	2,200	2,024	0-160	14"	92%	460/3/60	12.0	1840	CAMBRIDGE S2200
HV-3	HEATING & VENTILATION	10,196	10,196	0.42	7.5	2,200	2,024	0-160	14"	92%	460/3/60	12.0	1840	CAMBRIDGE S2200
HV-4	HEATING & VENTILATION	10,196	10,196	0.42	7.5	2,200	2,024	0-160	14"	92%	460/3/60	12.0	1840	CAMBRIDGE S2200

NOTES:
1. ROOF TOP CONFIGURATION,
2. MOUNTED ON ROOF WITH MOUNTING CURB, MOUNTING RAILS AND STANDS.
3. PROVIDE RAIN HOOD WITH INTEGRATED BIRD SCREEN
4. ALL UNITS SHALL BE SUPPLIED WITH FACTORY MOUNTED DISCONNECT.
5. UNIT SHALL COMPRISE OF DOUBLE WALL CONSTRUCTION.
6. TWO FULL SET OF FILTERS SHALL BE PROVIDED. 2" WIDE MERV, 13
7. PROVIDE FIELD MOUNTED WEATHERPROOF115V GFI OUTLET. SHALL BE POWERED BY ITS OWN SEPARATE ELECTRICAL FEED.
8. PROVIDE INSULATED DOWNTURN FITTING WITH TURNING VANES.
9. PROVIDE DIRECTIONAL ELBOWS.
10. PROVIDE REMOTE CONTROL STATION INCLUDING ELECTRONIC SETBACK THERMOSTAT WITH AVERAGING TEMPERATURE SENSORS AND ELECTRONIC SETBACK THERMOSTAT. .
11. PROVIDE EDSM GAS CONTROLS.
12. PROVIDE EXHAUST FAN CONTACTOR.

FAN SCHEDULE

UNIT TAG	SERVICE	LOCATION	FAN DATA						ROOF OPENNING SQ.	WEIGHT (LB)	ELECTRICAL V/PH/HZ	MANUFACTURER AND MODEL #	NOTES
			AIR FLOW (CFM)	EXT SP IN WC	TYPE	HP	FAN RPM	MAX NOISE (SONES)					
EF-1	WAREHOUSE VENTILATION	ROOF	9000	0.50	BELT DRIVE INLINE	2	1,160	33	44"	708	460/3/60	COOLAIR PEDC36N11E8363	1,2,5,8
EF-2	WAREHOUSE VENTILATION	ROOF	9000	0.50	BELT DRIVE INLINE	2	1,160	33	44"	708	460/3/60	COOLAIR PEDC36N11E8363	1,2,5,8
EF-3	WAREHOUSE VENTILATION	ROOF	9000	0.50	BELT DRIVE INLINE	2	1,160	33	44"	708	460/3/60	COOLAIR PEDC36N11E8363	1,2,5,8
EF-4	WAREHOUSE VENTILATION	ROOF	9000	0.50	BELT DRIVE INLINE	2	1,160	33	44"	708	460/3/60	COOLAIR PEDC36N11E8363	1,2,5,8
EF-5	ELECTRICAL ROOM	ROOF	1200	-0.50	DIRECT DRIVE DOWNBLAST	1/4	1399	10.0	15-1/2"	64	277/1/60	COOK 120C17D (VF)	1,3,6,7,8,9,10
EF-6	WATER ROOM	ROOF	1000	0.50	DIRECT DRIVE DOWNBLAST	1/6	1725	8.2	15-1/2"	64	277/1/60	COOK 120C17D (VF)	1,3,6,7,8,9,10
EF-7	OFFICE	ROOF	250	0.75	DIRECT DRIVE DOWNBLAST	1/8	1550	8.7	13-1/2"	47	115/1/60	COOK 100C15DL	1,4,6,7,10

NOTES:
1. PROVIDE DISCONNECT SWITCH.
2. INTERLOCKED WITH HV EXHAUST FAN CONTACT
3. PROVIDE THERMOSTAT TO CONTROL FAN OPERATION
4. CONTINUOUS OPERATION
5. PROVIDE VARIABLE FREQUENCY DRIVE
6. FAN SHALL BE EQUIPPED WITH ECM MOTOR
7. PROVIDE ALUMINUM BIRDSCREEN
8. PROVIDE 120 V MOTORIZED DAMPER (NC) INTERLOCKED WITH FAN OPERATION
9. PROVIDE PRE-WIRED FAN SPEED CONTROLLER
10. PROVIDE HINGED CURB WITH DAMPER SHELF

ELECTRIC UNIT HEATER SCHEDULE

TAG	LOCATION	TYPE	TEMPERATURE SET POINT	CAPACITY	ELECTRICAL DATA				MANUFACTURER & MODEL NO.	WEIGHT
			°F	BTU/H	kW	MOTOR HP	AMPS	VOLTS/ PHASE		
EUH-1	ELECTRICAL ROOM	UNIT HEATER SUSPENDED	60°F	17,064	5	-	-	480/1/60	STELPRO ASHU0551CTCHAR	40
EUH-2	WATER ROOM	UNIT HEATER SUSPENDED	60°F	17,064	5	-	-	480/1/60	STELPRO ASHU0551CTCHAR	40
EUH-3	OFFICE CEILING PLENUM	UNIT HEATER SUSPENDED	60°F	34,120	10	-	-	480/1/60	STELPRO ASHU1053CTCHAR	40
EUH-4	OFFICE CEILING PLENUM	UNIT HEATER SUSPENDED	60°F	34,120	10	-	-	480/1/60	STELPRO ASHU1053CTCHAR	40

NOTES:
1. PROVIDE DISCONNECT SWITCH.
2. PROVIDE UNIT MOUNTED THERMOSTAT CONTROLLER
3. PROVIDE WALL MOUNTING BRACKETS
4. PROVIDE INTEGRAL THERMOSTAT

PACKAGED ROOFTOP UNIT SCHEDULE

UNIT TAG	SERVICE	NOMINAL TONNAGE	SUPPLY FAN				COOLING COIL				GAS HEATING						COMPRESSOR DATA			EFFICIENCY			ELECTRICAL DATA				WEIGHT	MAUFACTURER & MODEL NO.
			TOTAL AIR QUANTITY (CFM)	TOTAL OUTDOOR AIR (CFM)	EXT. SP (IN WG)	HP	TOTAL CAPACITY (BTUH)	SENSIBLE CAPACITY (BTUH)	EAT DB/WB (°F)	LAT DB/WB (°F)	TOTAL INPUT (BTUH)	TOTAL OUTPUT (BTUH)	EAT DB (°F)	LAT DB (°F)	TURNDOWN	GAS PRESSURE (IN W.C.)	COMPRESSOR TYPE	NO. OF COMPRESSORS	REFRIGERANT	IEER	EER	HEATING	V/φ/HZ	FLA	MCA	MOCP	LBS	
RTU-1	OFFICE SPACE	20	8400	800	1.5	7.5	265,006	204,650	80/67	56 / 56	450,000	360,000	60	101.5	12:1	5-14	INVERTER SCROLL	1	R-410A	20.3	11.1	-	460/60/3	53.9	61.4	90	3930	DAIKIN DPS020A

NOTES:
1. COORDINATE LOCATION WITH STRUCTURAL STEEL DRAWINGS.
2. PROVIDE CONDENSATE TRAP FOR ALL UNITS SIZED FOR MAXIMUM DISCHARGE PRESSURE OF EACH UNIT PLUS 1" W.G. RUN DISCHARGE TO NEAREST ROOF DRAIN.
3. ALL UNITS SHALL BE SUPPLIED WITH FACTORY MOUNTED DISCONNECT.
4. PROVIDE VARIABLE SPEED COMPRESSORS.
5. PROVIDE ECM SUPPLY MOTORS.
6. HINGED ACCESS DOORS SHALL BE PROVIDED ON BOTH SIDES OF THE UNIT.
7. UNIT SHALL COMPRISE OF DOUBLE WALL CONSTRUCTION.
8. TWO FULL SET OF FILTERS SHALL BE PROVIDED. 2" WIDE MERV, 13
9. PROVIDE FIELD MOUNTED WEATHERPROOF115V GFI OUTLET. SHALL BE POWERED BY ITS OWN SEPARATE ELECTRICAL FEED.
10. PROVIDE WITH FULLY MODULATING, DUAL ENTHALPY CONTROLLED, 100% ECONOMIZER CAPABILITY THAT SHALL BE INTERLOCED WITH POWER EXHAUST, FAI INTAKE DAMPER AND RETURN DAMPER CONTROLS.
11. PROVIDE WITH DOUBLE SLOPED, STAINLESS STEEL DRAIN PANS.
12. PROVIDE 24" HIGH, CANTED FULL PERIMETER ROOF CURB.
13. MICROTECH CONTROL SHALL ENABLE AND CONTROL ALL UNIT FUNCTIONS

CEILING DIFFUSER SCHEDULE

NECK DIAMETER (INCHES)	AIR FLOW RATE (CFM RANGE)	DISCHARGE BLOW PATTERN
6	0-160	4-WAY
8	161-280	4-WAY
10	281-400	4-WAY
12	401-600	4-WAY
14	601-750	4-WAY
15	751-860	4-WAY

NOTES:
1. ALL HUNG CEILING AREAS - BASED ON NAILOR MODEL UNI 24x24 ARCHITECTURAL DIFFUSER, LAY-IN T-BAR FRAME.
2. ALL GYPSUM BOARD AREAS - BASED ON NAILOR MODEL UNI 24X24 DIFFUSER, WITH OPPOSED BLADE DAMPER AND SURFACE MOUNT FRAME.
3. NOISE CRITERIA NOT TO EXCEED 25 NC.

EXHAUST/RETURN REGISTER/GRILLE SCHEDULE

CFM RANGE	NECK SIZE (INCHES X INCHES)
0-45	6 x 6
46-150	8 x 8
151-250	10 x 10
251-375	12 x 12
376-500	14 x 14
501-700	16 x 16
701-900	18 x 18
901-1200	20 x 20

1. EXHAUST BASED ON NAILOR MODEL 6155H WITH INTEGRAL OPPOSED BLADE DAMPER AND WITH PANEL MOUNTED LAY-IN T-BAR FRAME.
2. RETURN BASED ON NAILOR MODEL 6155H WITH PANEL MOUNTED LAY-IN T-BAR FRAME.
3. ALL GYPSUM BOARD AREAS SHALL BE BASED ON NAILOR 6155H WITH INTEGRAL OPPOSED BLADE DAMPER AND SURFACE MOUNT FRAME.
4. ALL PLENUM RETURNS SHALL BE NAILOR 6155H FULL 24"x24" FACE GRILLE (UNLESS OTHERWISE NOTED), WITH LAY-IN T-BAR FRAME.
5. LOUVERED REGISTER RETURN/EXHAUST GRILLE BASED ON NAILOR MODEL 6755HO WITH INTEGRAL OPPOSED BLADE DAMPER AND SURFACE MOUNT FRAME.
6. SIDEWALL SUPPLY REGISTER BASED ON NAILOR MODEL 61DV WITH SURFACE MOUNT FRAME.
7. MAXIMUM NC RATING SHALL NOT EXCEED 25.

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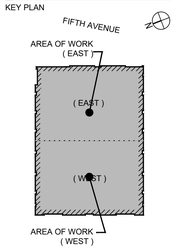
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KEY PLAN



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DRAWING TITLE:
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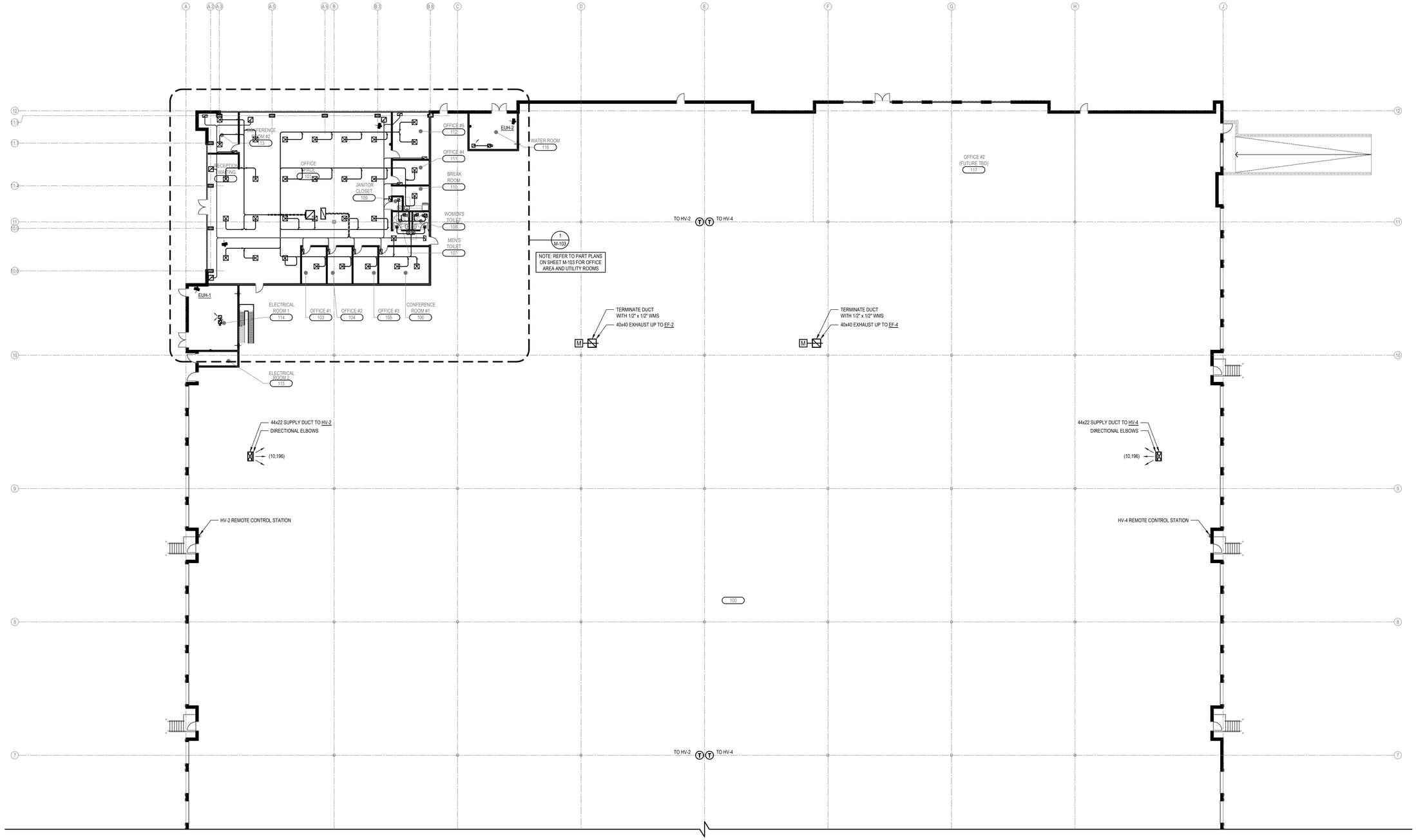
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1 FLOOR PLAN - EAST
SCALE: 1/16"=1'-0"

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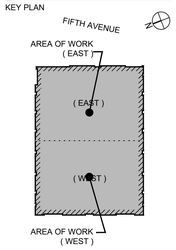
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PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23

DRAWING TITLE:
MECHANICAL - FIRST FLOOR PLAN EAST

SCALE:

DRAWN BY: XXX

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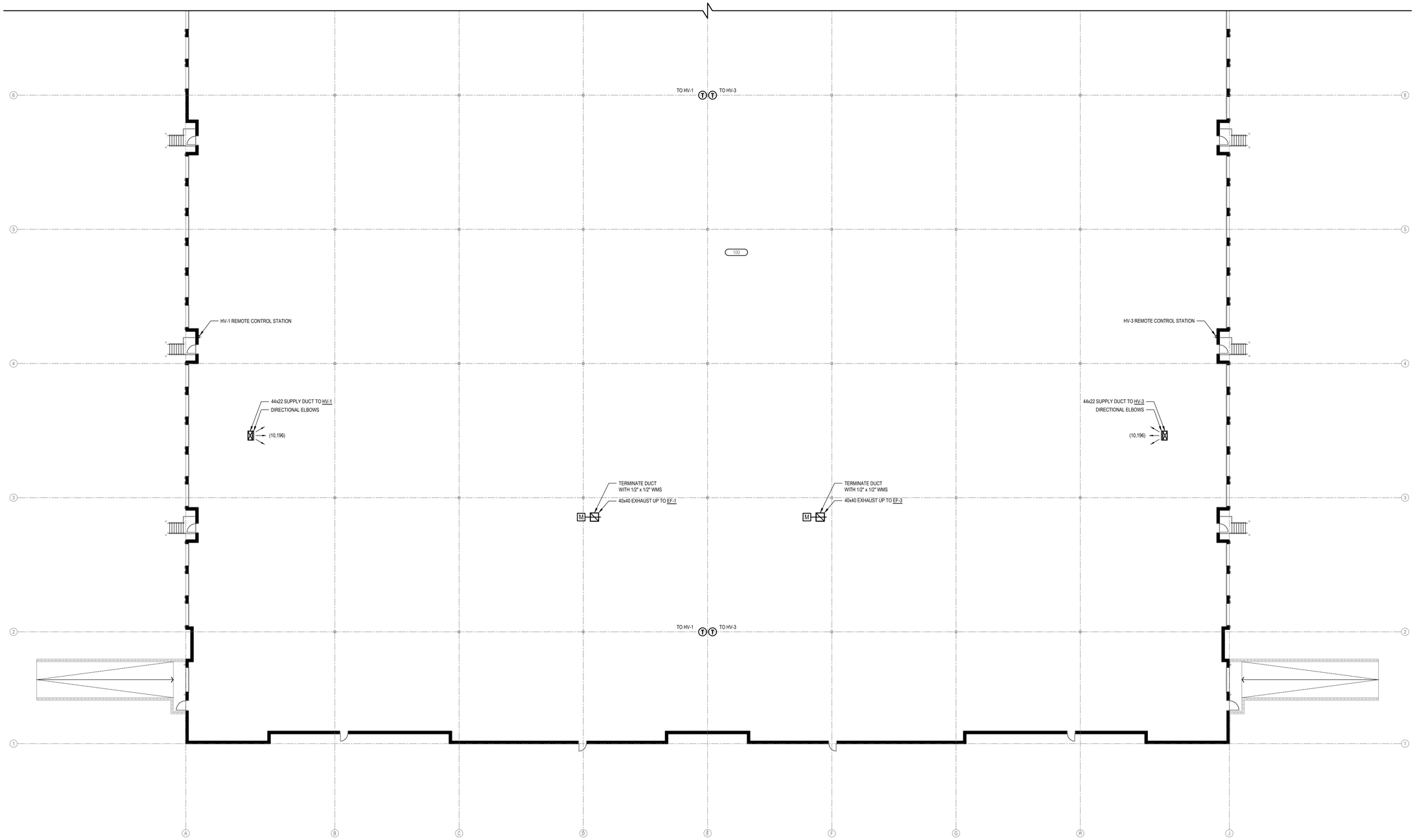
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1 FLOOR PLAN - WEST
SCALE: 1/16"=1'-0"

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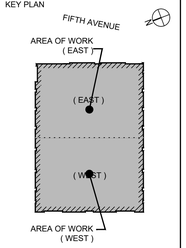
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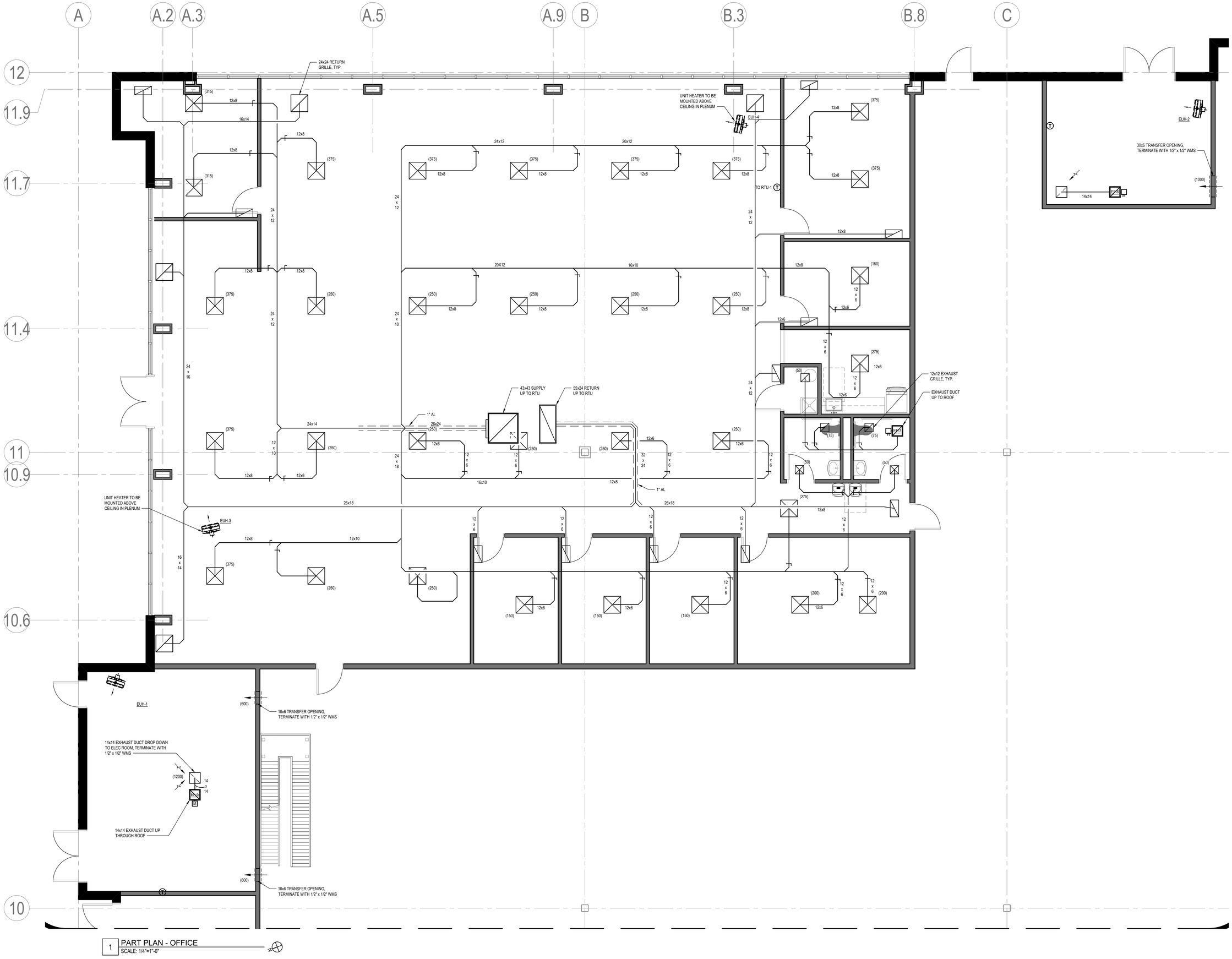
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1 PART PLAN - OFFICE
SCALE: 1/4"=1'-0"

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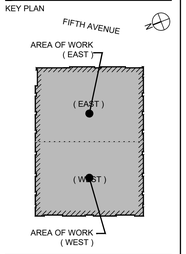
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MECHANICAL - FIRST FLOOR PART PLANS

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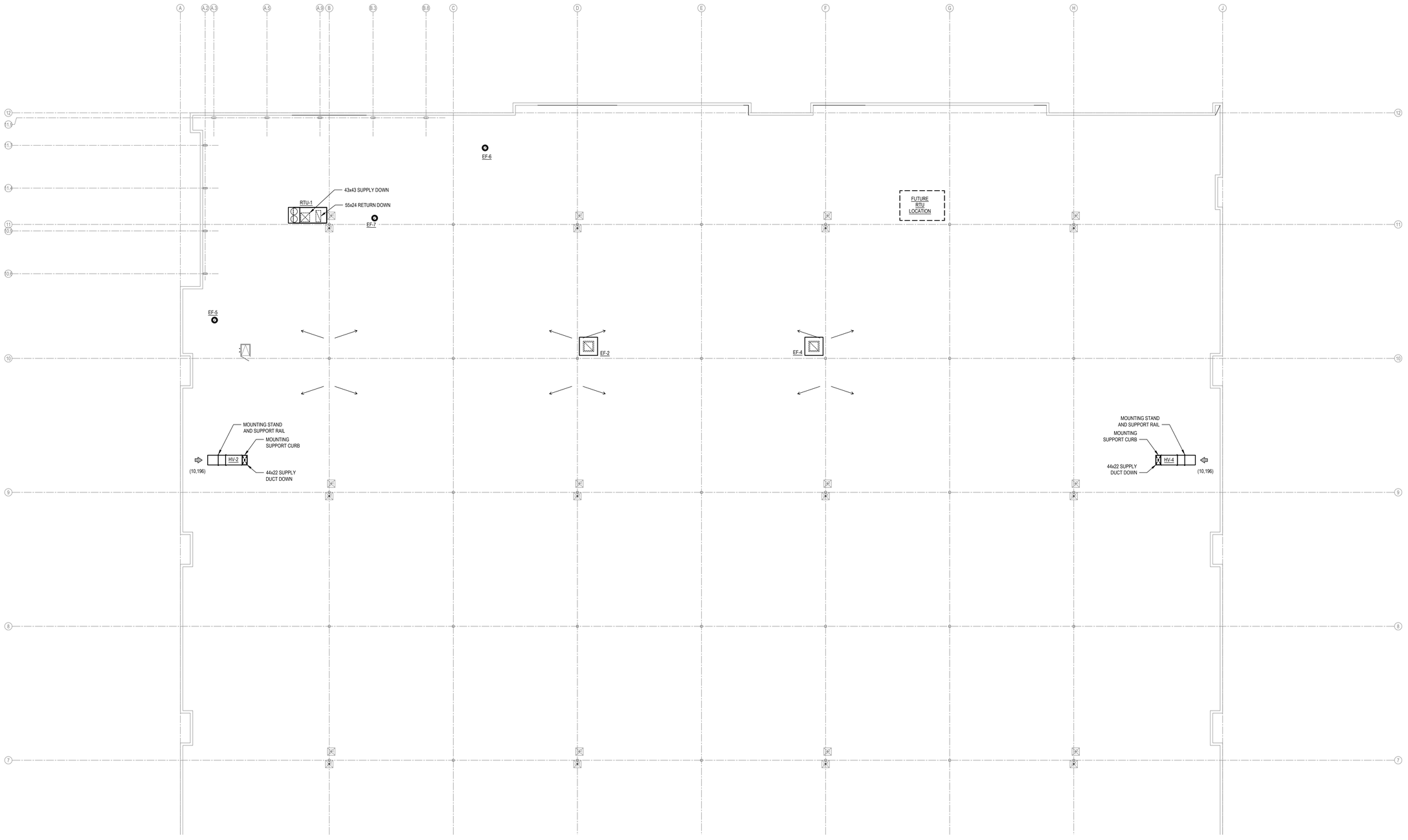
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1 ROOF PLAN - EAST
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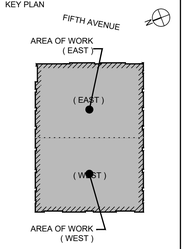
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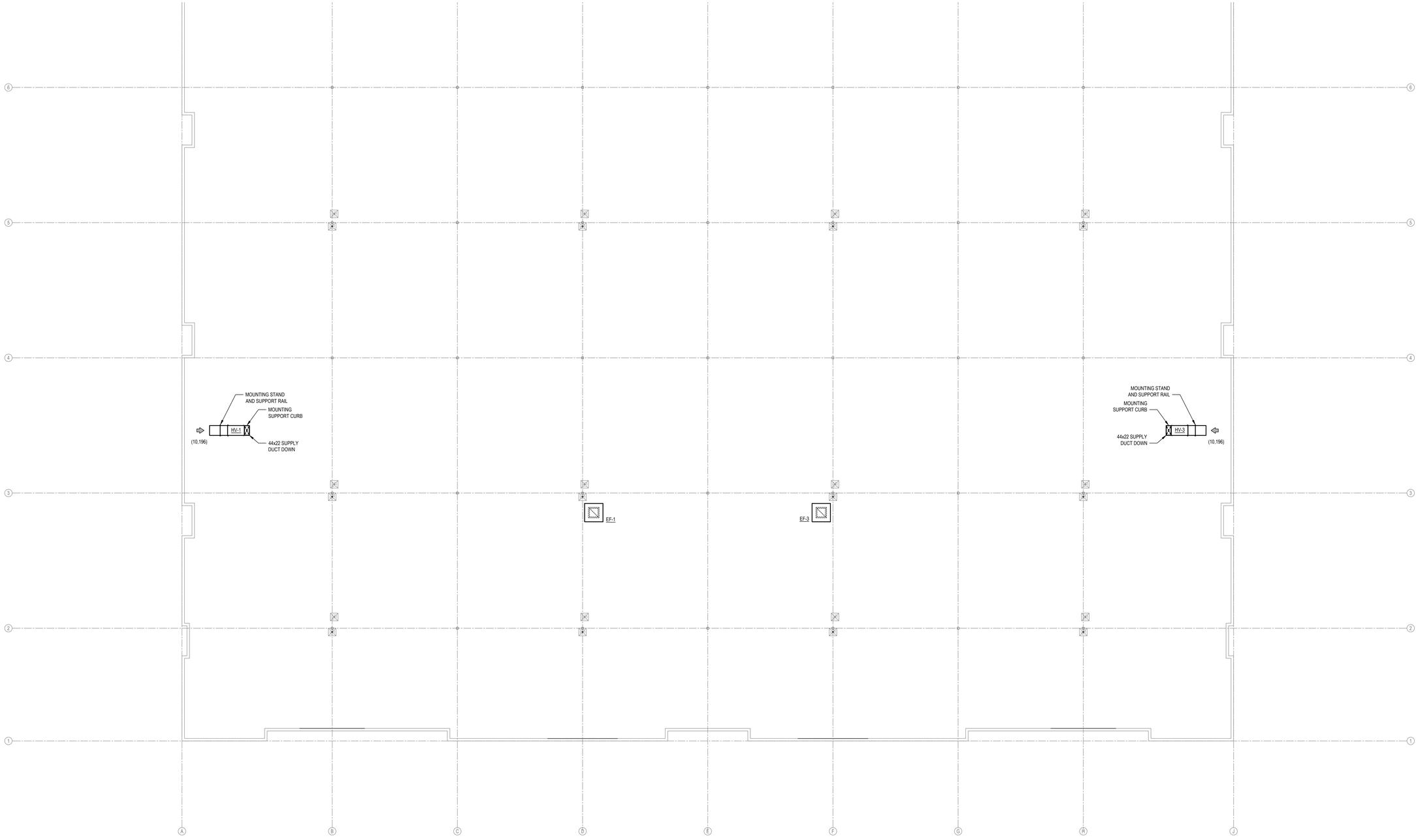
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1 ROOF PLAN - WEST
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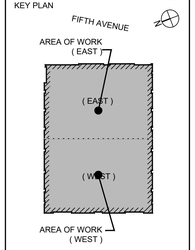
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PLUMBING BUILDING DEPARTMENT NOTES

1. THE PLUMBING SYSTEMS (SANITARY, WASTE, VENT, DOMESTIC WATER DISTRIBUTION, ETC.) AND ALL ASSOCIATED EQUIPMENT SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE FULL REQUIREMENTS OF THE 2020 NEW YORK STATE BUILDING CODE, PLUMBING CODE, AND CURRENT REVISIONS.
2. ALL PLUMBING WORK SHALL COMPLY WITH CHAPTER 4 OF THE 2020 NEW YORK STATE BUILDING CODE AND CHAPTERS 1 THROUGH 13 AND APPENDICES A THROUGH G OF THE NEW YORK STATE PLUMBING CODE.
3. RODENT PROOFING SHALL COMPLY WITH PC304-RODENT PROOFING.
4. PROTECTION OF PIPING AS OUTLINED IN PC305-PROTECTION OF PIPES AND PLUMBING SYSTEM COMPONENTS, SHALL BE PROVIDED AS REQUIRED.
5. ALL TRENCHING SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC306-TRENCHING, EXCAVATION, AND BACKFILL.
6. TEMPORARY TOILET FACILITIES SHALL BE PROVIDED FOR WORKERS AS PER PC311-TOILET FACILITIES FOR WORKERS.
7. VERTICAL AND HORIZONTAL PIPING WILL BE HUNG AND SUPPORTED AS DIRECTED IN SPECIFICATIONS AND WITH THE FULL COMPLIANCE WITH SECTION PC308-PIPING SUPPORT.
8. THE INSTALLATION OF PLUMBING FIXTURES, FAUCETS AND FIXTURE FITTINGS SHALL BE IN ACCORDANCE WITH PC401 THROUGH PC429.
9. ALL CONNECTIONS BETWEEN DRAINAGE PIPING AND PLUMBING FIXTURES SHALL CONFORM TO SECTION PC405.
10. WATER HEATERS SHALL BE INSTALLED IN ACCORDANCE WITH PC501 THROUGH PC505. THE HOT WATER DISTRIBUTION SYSTEM AND RETURN CIRCULATION SYSTEM SHALL BE INSTALLED AND COMPLY PER PC607 AND THE NYS ENERGY CODE.
11. THE WATER SUPPLY AND DISTRIBUTION SYSTEM SHALL BE INSTALLED AND MAINTAINED IN FULL COMPLIANCE WITH SECTIONS PC601 THROUGH PC614.
12. VALVES SHALL BE PROVIDED AS PER SECTION PC606.
13. BACKFLOW PROTECTION OF THE POTABLE WATER SUPPLY SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC608.13 THROUGH PC608.16 AND PC301.4.
14. THE SANITARY DRAINAGE SYSTEM SHALL BE SIZED AND INSTALLED IN FULL COMPLIANCE WITH SECTIONS PC701 THROUGH PC715.
15. THE MATERIALS USED IN THE PLUMBING SYSTEM SHALL BE PROVIDED IN FULL ACCORDANCE WITH SECTION PC605-MATERIALS, JOINTS & CONNECTIONS AND SECTION PC702-MATERIALS.
16. SANITARY/WASTE AND VENT PIPING WITHIN SUDS PRESSURE ZONES SHALL BE COORDINATED WITH AND INSTALLED IN FULL COMPLIANCE WITH SECTION PC704.6.
17. ALL JOINTS IN SANITARY DRAINAGE PIPING SHALL CONFORM TO SECTION PC705.
18. ALL CONNECTIONS AND CHANGES IN DIRECTION BETWEEN DRAINAGE PIPING AND FITTINGS SHALL CONFORM TO SECTION PC706.
19. CLEANOUTS SHALL BE INSTALLED IN SANITARY AND STORM DRAINAGE PIPING AS PER SECTION PC708 AND PC1101.8.
21. INDIRECT, SPECIAL AND MISCELLANEOUS PIPING SHALL BE INSTALLED AS DIRECTED AND IN FULL COMPLIANCE WITH SECTIONS PC801 THROUGH PC804.
22. THE SANITARY VENTING SYSTEM SHALL BE SIZED AND INSTALLED IN FULL COMPLIANCE WITH SECTIONS PC901 THROUGH PC919.
23. VENTS FOR SANITARY/WASTE STACK OFFSETS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION PC915.
24. TRAPS FOR FIXTURES SHALL BE INSTALLED IN FULL COMPLIANCE WITH SECTION PC1002.
25. STORM DRAINAGE PIPING SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF PC1101 THROUGH PC1114.

PLUMBING GENERAL NOTES

1. DRAWING SPECIFICATIONS ARE PART OF THIS CONTRACT.
2. THE DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL PIPING AND EQUIPMENT AND INDICATE REQUIRED SIZE AND POINTS OF TERMINATION OF THE PIPING AND SUGGEST PROPER ROUTES OF PIPING. HOWEVER, IT IS NOT THE INTENTION OF THE DRAWINGS TO SHOW ALL NECESSARY OFFSETS, OBSTRUCTIONS OR STRUCTURAL CONDITIONS. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO INSTALL HIS WORK IN SUCH A MANNER THAT IT WILL CONFORM TO THE STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR WITHOUT FURTHER CONSTRUCTION OR COST.
3. THE CONTRACTOR SHALL VISIT THE PREMISES OF HIS PROPOSED WORK AND SHALL CAREFULLY EXAMINE THE EXISTING CONDITIONS AND LIMITATIONS THEREOF. VERIFICATION SHALL BE MADE AS TO THE ACTUAL LOCATIONS WHERE NEW PIPE RUNS WILL TIE INTO EXISTING WORK AND CLEARANCES WITH STRUCTURAL MEMBERS. THE CONTRACTOR SHALL INCLUDE ALL COSTS OF ANY KIND WHATSOEVER WHICH ARE INCURRED THROUGH LIMITATIONS OF THE EXISTING CONDITIONS.
4. THE DRAWINGS ON THESE PLANS ARE DIAGRAMMATIC. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH OTHER TRADES AND THE BUILDING STRUCTURE. NO EXTRA PAYMENTS WILL BE AUTHORIZED FOR REROUTING OR REMOVAL OF INSTALLED WORK DUE TO LACK OF COORDINATION WITH OTHER SYSTEMS.
5. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF WALLS, FLOORS AND CEILINGS AS REQUIRED FOR INSTALLATION OF HIS WORK.
6. THIS CONTRACTOR SHALL FURNISH AND INSTALL ACCESS PANELS AS REQUIRED WHERE ACCESSIBILITY TO COMPONENTS (VALVES, TRAPS, ETC.) IS REQUIRED FOR MAINTENANCE AND/OR SYSTEM OPERATION.
7. ALL PENETRATIONS THROUGH FIRE RATED PARTITIONS SHALL BE SEALED FIRE AND SMOKE TIGHT WITH AN APPROPRIATE U.L. LISTED FIRESTOPPING MATERIAL AND OR SYSTEM.
8. ALL PENETRATIONS THROUGH EXTERIOR WALLS SHALL BE PACKED WITH OAKUM AND SEALED WITH A WATERPROOF, NON-HARDENING SEALANT.
9. PROVIDE SHUT-OFF VALVES AT ALL BRANCH PIPING TAKE-OFFS (UNLESS OTHERWISE NOTED) AND AT ALL CONNECTIONS TO EQUIPMENT. PROVIDE UNIONS AT ALL EQUIPMENT CONNECTIONS.
10. COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH ELECTRICAL CONTRACTOR.
11. PROVIDE SEISMIC DETAILS AND CALCULATIONS IN ACCORDANCE WITH NYC BUILDING CODE. DETAILS AND CALCULATIONS MUST BE SIGNED AND SEALED BY LICENSED PROFESSIONAL ENGINEER.
12. ALTERNATIVES TO THE SPECIFICATION MAY BE SUBMITTED TO THE OWNER OR THEIR REPRESENTATIVE FOR APPROVAL. IMPLEMENTATION OF ALTERNATIVES MUST BE APPROVED BY OWNER BEFORE WORK IS STARTED.
13. THE CONTRACTOR SHALL FURNISH AND INSTALL A PLUMBING SYSTEM COMPLETE WITH ALL EQUIPMENT, PIPING, VALVES, CONTROLS, ACCESSORIES AND ASSOCIATED WORK IN ACCORDANCE WITH THE NEW YORK STATE BUILDING CODE, PLUMBING CODE, FUEL GAS CODE AND ALL AUTHORITIES HAVING JURISDICTION PLUS THESE SPECIFICATIONS.
14. COORDINATE WORK WITH ALL OTHER TRADES AND EXISTING CONDITIONS OF THE JOB SITE AND MAINTAIN REQUIRED CEILING HEIGHTS AND SPACE CONDITIONS.
15. ALL REQUIRED PERMITS AND INSPECTION CERTIFICATES SHALL BE OBTAINED, PAID FOR, AND MADE AVAILABLE AT THE COMPLETION OF THE WORK BY CONTRACTOR.
16. BEFORE AN APPLICATION FOR FINAL ACCEPTANCE OF THE WORK WILL BE CONSIDERED, ALL TESTS DEEMED NECESSARY TO SHOW PROPER EXECUTION OF THE WORK SHALL HAVE BEEN PERFORMED AND COMPLETED IN THE PRESENCE OF AN ARCHITECTS/OWNER'S REPRESENTATIVE. SCHEDULING OF ALL TESTING PROCEDURES SHALL BE ARRANGED TO SUIT THE CONVENIENCE OF THE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.
17. ALL WORK SHALL BE GUARANTEED TO BE FREE FROM LEAKS OR DEFECTS, ANY DEFECTIVE MATERIALS OR WORKMANSHIP AS WELL AS DAMAGE TO THE WORK OF ALL TRADES RESULTING FROM SAME SHALL BE REPLACED OR REPAIRED AS DIRECTED FOR THE DURATION OF STIPULATED GUARANTEED PERIODS. THE DURATION OF GUARANTEE PERIODS SHALL BE ONE YEAR.
18. CONNECT NEW WORK TO EXISTING WORK IN A NEAT AND APPROVED MANNER. RESTORE EXISTING WORK DISTURBED TO ORIGINAL CONDITION.
19. ALL CUTTING, CORE DRILLING, CHASING OF CONCRETE AND OTHER WORK WHICH RESULT IN NOISE OBJECTIONABLE TO ALL AUTHORITIES HAVING JURISDICTION OF THE WORK SHALL BE DONE AT TIME DESIGNED BY THE JURISDICTIONAL AUTHORITIES AT NO EXTRA COST TO THE OWNER.
20. THIS CONTRACTOR SHALL NOT DO ANY CUTTING, CORING OR CHASING THAT MAY IMPAIR THE STRENGTH OF THE BUILDING. NO HOLES, EXCEPT THOSE FOR SMALL SCREWS, MAY BE DRILLED IN BEAMS, OR OTHER STRUCTURAL MEMBERS WITHOUT OBTAINING PRIOR APPROVAL. ALL WORK SHALL BE DONE IN A WORKMANLIKE MANNER BY MECHANICS SKILLED IN THEIR TRADE.
21. PROVIDE THE FOLLOWING:
    - 21.1. SCAFFOLDING, RIGGING, HOISTING.
    - 21.2. RUBBISH REMOVAL.
    - 21.3. OPERATING AND MAINTENANCE INSTRUCTIONS.
    - 21.4. SPARE PARTS AND TOOLS.
    - 21.5. OPERATING, PERFORMANCE AND CODE REQUIRED TESTS.
    - 21.6. ADJUSTING AND BALANCING PLUMBING SYSTEMS.
    - 21.7. IDENTIFICATION: VALVE TAGS, VALVE TAG SCHEDULES.
    - 21.8. HANGER AND SUPPORTS FOR PIPING AND EQUIPMENT.
    - 21.9. EQUIPMENT CATALOG CUTS AND SHOP DRAWINGS FOR APPROVAL TWO (2) COPIES EACH.
    - 21.10. AS BUILT DRAWINGS DRAWINGS AT COMPLETION OF WORK.

PIPE INSULATION THICKNESS SCHEDULE

FLUID DESIGN OPERATING TEMPERATURE RANGE [°F]	INSULATION CONDUCTIVITY		NOMINAL PIPE SIZE [in.]				
	CONDUCTIVITY RANGE [BTU·in./(hr·ft²·°F)]	MEAN TEMPERATURE RATING [°F]	<1	1 TO <1½	1½ TO <4	4 TO <8	8"+
40-60	0.21-0.27	75	1	1	1	1	1½
105-140	0.21-0.28	100	1	1	1½	1½	1½

PLUMBING FIXTURE CONNECTIONS

TAG	FIXTURE	WASTE, SOIL	VENT	CW	HW	REMARKS
WC WC-A	WATER CLOSET	4"	2"	1"	-	
UR	URINAL	2"	1½"	1"	-	
LAV	LAVATORY	1½"	1½"	½"	½"	
JS	JANITOR'S SINK	3"	1½"	¾"	¾"	
MB	MOP BASIN					
FD	FLOOR DRAIN	3"	2"	-	-	
PS	PANTRY SINK	2"	1½"	½"	½"	

REFER TO ARCHITECT'S TOILET ROOM PLANS AND ELEVATIONS FOR EXACT FIXTURE LOCATIONS AND MOUNTING HEIGHT (INCLUDING ADA FIXTURES).

WATER HEATER SCHEDULE

WATER HEATER IDENTIFICATION & DESIGNATION	QUANTITY	LOCATION	STORAGE [GALLONS]	RECOVERY RATE [GPH]	MANUFACTURER MODEL NUMBER	SIZE	EFFICIENCY	ELECTRICAL REQUIREMENTS		
								POWER	VOLTAGE [V]	PHASE [Φ]
EWH-1 - ELECTRIC WATER HEATER	1	FIRST FLOOR	30	18 @ 100 DEG RISE	AO SMITH DEL-30	32"Ø x 23"	99%	4.5 KW	208	1

PUMP SCHEDULE

PUMP IDENTIFICATION & DESIGNATION	QUANTITY	LOCATION	FLOWRATE [GPM] PER PUMP	T.D.H. [FT]	MANUFACTURER MODEL NUMBER	SPEED [RPM]	ELECTRICAL REQUIREMENTS			REMARKS
							POWER	VOLTAGE [V]	PHASE [Φ]	
HWR-1-1 - HOT WATER RECIRCULATION PUMP	1	FIRST FLOOR	5	10	BELL & GOSSETT NBF-25	2950	125W	120	1	PROVIDE AQUASTAT AND TIME CLOCK

PLUMBING SYMBOLS

	UNDER GROUND SANITARY PIPING (S/SAN)
	SANITARY PIPING (S/SAN)
	STORM PIPING (ST/OST)
	VENT PIPING (V)
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
	HOT WATER RETURN PIPING (HWR)
	PIPE UP OR RISE
	PIPE DOWN OR DROP
	PLUGGED OUTLET/WALL CLEANOUT
	BALL VALVE
	FLANGED UNION
AFD	APPARATUS FLOOR DRAIN
FD	FLOOR DRAIN
CODP	CLEANOUT DECK PLATE
	GAS SHUT-OFF VALVE
	HOT WATER RETURN BALANCING RIG
	SHUT-OFF SOLENOID VALVE
ADA	AMERICAN DISABILITIES ACT
BFP	BACKFLOW PREVENTER
CO	CLEANOUT
CW	COLD WATER
DN	DOWN
DS	DECONTAMINATION SINK
DWG	DRAWING
DW	DISH WASHER
EW	EMERGENCY EYEWASH/SHOWER
EXIST	EXISTING
FAI	FRESH AIR INLET
FD	FLOOR DRAIN
GR / GB	GAS RANGE / GAS BROILERS
HW	HOT WATER
HWR	HOT WATER RETURN
IM	ICE MACHINE
JS	JANITOR'S SINK
KS	KITCHEN SINK
MB	MOP BASIN
NG	NATURAL GAS
SAN	SANITARY
SP	SUMP PUMP
ST	STORM
TYP	TYPICAL
UR	URINAL
V	VENT
VPO	VENT PLUGGED OUTLET - FOR TENANT CONNECTION
VTR	VENT THROUGH ROOF
W	WASTE
WH	WATER HEATER
WM	WASHING MACHINE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WPO	WASTE PLUGGED OUTLET - FOR TENANT CONNECTION
	CONNECT TO EXISTING
	POINT OF DISCONNECT

ENERGY CODE COMPLIANCE NOTE

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT THIS APPLICATION IS IN COMPLIANCE WITH THE 2020 NYSECC

PLUMBING DRAWING LIST

Sheet Number	Sheet Title
P-001	PLUMBING - GENERAL NOTES
P-010	PLUMBING - SPECIFICATIONS
P-020	PLUMBING - DETAILS
P-030	PLUMBING - RISER DIAGRAMS
P-101	PLUMBING - FIRST FLOOR PLAN
P-102	PLUMBING - FIRST FLOOR PLAN
P-103	PLUMBING - ROOF PLAN
P-104	PLUMBING - ROOF PLAN
P-201	PLUMBING PART PLANS

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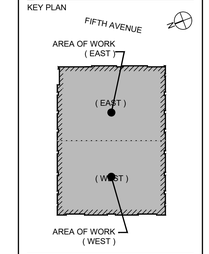
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KEY PLAN



100% CD	08/04/23
50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
REVISION:	DATE:

DRAWING TITLE:
PLUMBING - GENERAL NOTES

SCALE:

DRAWN BY: XXX

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DWG. NO.

P-001

22-1002
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BAY SHORE, NY 11706

PLUMBING SPECIFICATIONS

1. GENERAL

1.1. APPLICABLE STANDARDS, CODES AND PUBLICATIONS

1.1.1. THIS ENTIRE INSTALLATION SHALL BE TESTED AND INSTALLED TO CONFORM, AS A MINIMUM, TO APPLICABLE PROVISIONS OF THE FOLLOWING CODES AND STANDARDS EXCEPT WHERE STRICTER REQUIREMENTS ARE SPECIFIED ELSEWHERE HEREIN OR SHOWN ON THE CONTRACT DRAWINGS:

1.1.1.1. 2020 PLUMBING CODE OF NEW YORK STATE

1.1.1.2. UNDERWRITERS' LABORATORIES, INC.

1.1.1.3. MANUFACTURER LISTING

1.2. COORDINATION

1.2.1. COORDINATE WITH OTHER TRADES AS NECESSARY TO FACILITATE TIMELY COMPLETION AND AVOID NECESSITY FOR CUTTING AND PATCHING.

1.2.2. FURNISH TO OTHER AFFECTED TRADES ALL NECESSARY INFORMATION, WORKING DRAWINGS, OR MATERIALS REQUIRED FOR INSTALLATION AND COMPLETION OF ALL WORK.

1.2.3. COORDINATE WITH WORK OF ALL SUBMITTALS FOR THE PURPOSE OF INSURING THAT NO CONFLICT EXISTS WITH THE INSTALLATIONS TO BE MADE BY OTHER ENTITIES, WITH FIELD CONDITIONS AND THE INTENDED OPERATION INCLUDING THE CAPABILITY OF PERFORMING ROUTINE AND MAJOR MAINTENANCE OF ALL COMPONENTS OF THE INSTALLATIONS.

1.2.4. RISER SHUT-DOWNS SHALL BE PERFORMED AT CONTRACTOR'S COST AND AT DESIGNATED TIMES UNDER BUILDING MANAGER'S SUPERVISION AND ONLY WITH HIS APPROVAL.

1.3. SUBMITTALS

1.3.1. GENERAL

1.3.1.1. CATALOG CUTS SHALL BE REFERENCED TO THE SPECIFICATIONS SECTION AND LOCATION WHERE THE ITEMS IS TO BE USED.

1.3.1.2. INCLUDE ON EACH LAYOUT WORKING DRAWING, A CERTIFICATION THAT ALL RELATED CONDITIONS HAVE BEEN CHECKED WITH ALL TRADES, AND THAT NO CONFLICT EXISTS.

1.3.1.3. SUBMIT TO THE ENGINEER, FOR APPROVAL, A LIST OF ALL MATERIAL AND EQUIPMENT MANUFACTURERS WHOSE PRODUCTS ARE PROPOSED.

1.3.1.4. MAKE ALL SUBMITTALS SUFFICIENTLY IN ADVANCE OF FIELD REQUIREMENTS TO ALLOW AMPLE TIME FOR CHECKING. NO CLAIM FOR EXTENSION OF TIME WILL BE GRANTED BY REASON OF FAILURE IN THIS RESPECT AND NO WORK IN THE FIELD MAY BE STARTED WITHOUT APPROVED SHOP DRAWINGS AND THE ENGINEER'S APPROVAL.

1.3.1.5. APPROVAL OF ANY SUBMITTAL SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF FURNISHING MATERIALS AND SYSTEMS OF PROPER DIMENSIONS, CAPACITIES, SIZES, QUANTITIES, QUALITY AND INSTALLATION DETAILS, TO EFFICIENTLY PERFORM THE REQUIREMENTS AND INTENT OF THE CONTRACT DOCUMENTS.

1.3.1.6. IF THE SUBMITTALS DIFFER FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, MAKE SPECIFIC MENTION OF SUCH DIFFERENCE IN LETTERS OF TRANSMITTAL, WITH A REQUEST FOR SUBSTITUTION, TOGETHER WITH REASONS THEREFORE, SO THAT, IF ACCEPTABLE, SUITABLE ACTION MAY BE TAKEN FOR PROPER ADJUSTMENT. FAILING THIS, THE CONTRACTOR WILL NOT BE RELIEVED OF THE RESPONSIBILITY FOR EXECUTING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

1.3.2. CATALOG CUTS AND BROCHURES

1.3.2.1. PIPE AND FITTINGS.

1.3.2.2. HANGERS AND SUPPORTS INCLUDING SUPPLEMENTAL STEEL.

1.3.2.3. SLEEVES AND ESCUTCHEONS.

1.3.2.4. VALVES.

1.3.2.5. SYSTEM IDENTIFICATION BANDS.

1.3.2.6. INSULATION.

1.3.2.7. FIXTURES AND TRIM.

1.3.2.8. PLUMBING EQUIPMENT.

1.4. MATERIALS, DELIVERY, STORAGE, AND HANDLING

1.4.1. DELIVER AND STORE MATERIALS IN MANUFACTURER'S ORIGINAL UNOPENED PROTECTIVE PACKAGING.

1.4.2. HANDLE IN A MANNER TO PREVENT DAMAGE TO FINISHED SURFACES. WHERE POSSIBLE, MAINTAIN PROTECTIVE COVERINGS UNTIL INSTALLATION IS COMPLETE. REPLACE OR TOUCH-UP DAMAGED SURFACES TO MATCH ADJACENT SURFACES TO SATISFACTION OF BUILDING MANAGER.

1.5. INSPECTION

1.5.1. ALL MATERIALS AND EQUIPMENT DELIVERED TO THE SITE WILL BE INSPECTED. MATERIAL AND EQUIPMENT THAT IS DEFECTIVE OR FAILS SHALL NOT BE INSTALLED.

1.5.2. PERFORM ALL PATCHING TO MATCH EXISTING ADJACENT CONSTRUCTION TO THE SATISFACTION OF THE ARCHITECT/ENGINEER AND USING THE BEST POSSIBLE WORKMANSHIP OF THE VARIOUS TRADES INVOLVED.

1.6. TESTS

1.6.1. GENERAL

1.6.1.1. PERFORM TESTS AS HEREIN SPECIFIED ON THE VARIOUS PIPING SYSTEMS OR PORTIONS THEREOF PRIOR TO PAINTING, CONCEALING, OR INSULATING.

1.6.1.2. NOTIFY THE ENGINEER AND THE REPRESENTATIVES OF AGENCIES OR OTHER ENTITIES WHICH WOULD HAVE JURISDICTION AT LEAST 48 HOURS IN ADVANCE OF MAKING THE REQUIRED TESTS, SO THAT ARRANGEMENTS MAY BE MADE FOR THEIR PRESENCE TO WITNESS THE TESTS.

1.6.1.3. FURNISH AND INSTALL ALL DEVICES, MATERIALS, SUPPLIES, LABOR, AND POWER REQUIRED IN CONNECTION WITH TESTS. MAKE ALL TESTS IN THE PRESENCE AND TO THE SATISFACTION OF THE ENGINEER AND REPRESENTATIVES OF THE AFORESAID AGENCIES OR OTHER ENTITIES.

1.6.1.4. SHOULD THE TESTS REVEAL ANY LEAKS OR OTHER EVIDENCE OF UNSATISFACTORY MATERIALS OR WORKMANSHIP, MAKE NECESSARY REPAIRS IMMEDIATELY, OR, IF REQUIRED BY THE ENGINEER, REPLACE DEFECTIVE WORK WITH NEW WORK WITHOUT ADDITIONAL COST TO THE AUTHORITY. REPEAT TESTS AS DIRECTED UNTIL THE ENTIRE INSTALLATION IS PROVEN SATISFACTORY. NO TEMPORARY METHOD OF REPAIRING LEAKS WILL BE PERMITTED.

1.6.1.5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY PROPERTY OR INSTALLATION DAMAGED BY THE TESTS AND SHALL RESTORE THE DAMAGED ITEMS TO THEIR ORIGINAL CONDITION OR REPLACE THEM WITH NEW ITEMS.

1.6.2. PLUMBING

1.6.2.1. DOMESTIC WATER: CAP OR PLUG ALL OUTLETS, APPLY A HYDROSTATIC PRESSURE OF 125 PSI AND SUSTAIN SUCH PRESSURE FOR ONE HOUR.

1.6.2.2. SANITARY DRAINAGE: CAP OR PLUG ALL OUTLETS, APPLY A 10-FOOT HEAD OF WATER BEFORE MAKING CONNECTIONS TO EXISTING SYSTEM. SHOULD THE TESTS REVEAL ANY LEAKS OR DEFICIENCIES IN PIPING INSTALLED UNDER THIS SECTION, MAKE NECESSARY CORRECTIONS IMMEDIATELY AND FLUSH, CLEAN, AND RETEST THE SYSTEM FOR THE ENGINEER'S APPROVAL AT NO ADDITIONAL COST.

1.6.2.3. NATURAL GAS: TEST PIPING SYSTEM WITH COMPRESSED AIR AT A PRESSURE EQUAL TO 3 PSI, TEST DURATION SHALL BE 30 MINUTES.

2. STORM, SANITARY WASTE, AND VENT PIPING

2.1. ALL CAST IRON SOIL PIPE SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) OR ASTM A 74 AND BE LISTED BY THE NSF INTERNATIONAL. PIPING OF FOREIGN ORIGIN IS SUBJECT TO LABORATORY TESTING AT THE CONTRACTOR'S SOLE EXPENSE. MANUFACTURER SHALL BE CHARLOTTE PIPE OR EQUAL.

2.2. UNDERGROUND BUILDING DRAINAGE AND VENT PIPING:

2.2.1. SERVICE WEIGHT CAST IRON PIPE WITH HUB AND SPIGOT JOINTS MANUFACTURED TO STANDARDS ASTM A 74, CISPI 301, OR ASTM B 888.

2.3. ABOVEGROUND BUILDING DRAINAGE AND VENT PIPING:

2.3.1. SERVICE WEIGHT, HUBLESS CAST IRON PIPE MANUFACTURED TO STANDARDS ASTM A 74, CISPI 301 OR ASTM B 888 OR COPPER TYPE L.

2.3.2. MECHANICAL JOINT COUPLING FOR HUBLESS PIPE AND FITTINGS SHALL COMPLY WITH CISPI 310 OR ASTM C 1277. THE ELASTOMERIC SEALING SLEEVE SHALL CONFORM TO ASTM C 564 AND SHALL BE PROVIDED WITH A CENTER STOP. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

2.3.3. CLEANOUT SPACING AND WHERE REQUIRED SHALL BE IN ACCORDANCE WITH THE GOVERNING PLUMBING CODE.

2.4. VENT PENETRATIONS THROUGH ROOFS:

2.4.1. VENT PIPE PENETRATION THROUGH ROOFS SHALL BE MADE WATERTIGHT AND APPROVED B Y THE ARCHITECT. MINIMUM SIZE OF PIPE SHALL BE 3" AND SHALL TERMINATE AT LEAST 6" ABOVE THE ROOF AND LOCATED IN ACCURACIES WITH THE GOVERNING PLUMBING CODE.

2.5. TESTING:

2.5.1. SANITARY DRAINAGE SYSTEM ROUGHING SHALL BE PRESSURE TESTED AT NOT LESS THAN 5 PSIG FOR FIFTEEN (15) MINUTES. PROVIDE TEST TEES, TEST PLUGS, AND COMPRESSOR AS REQUIRED. FINAL DRAINAGE SYSTEM SHALL BE SMOKE TESTED. WHERE APPROVED BY LOCAL AUTHORITY HAVING JURISDICTION, PEPPERMINT MAY BE USED IN-LIEU OF SMOKE TESTS.

3. DOMESTIC WATER PIPING, VALVES, AND SPECIALTIES

3.1. PIPING OF FOREIGN ORIGIN IS SUBJECT TO LABORATORY TESTING AT THE CONTRACTOR'S SOLE EXPENSE.

3.2. ABOVEGROUND DISTRIBUTION PIPING:

3.2.1. COPPER OR COPPER ALLOY TUBING TYPE L MANUFACTURED TO STANDARDS ASTM B42, B302, OR B75, B88, B251, B447. PIPING SHALL COMPLY WITH NSF 61/372. JOINTS SHALL BE SOLDERED IN ACCORDANCE WITH THE METOHDS OF ASTM B828. ALL CUT TUBE ENDS SHALL BE REAMED TO THE FULL INSDIE DIAMETER OF THE TUBE END. ALL JOINT SURFACES SHALL BE CLEANED. A FULEX CONFORMING TO ASTM D813 SHALL BE APPLIED. THE JOINT SHALL BE SOLDERED WITH A SOLDER CONFORMING TO ASTM B32. SOLDER AND FLUXES SHALL BE LEAD FREE HAVING A CHEMICAL COMPOSITION EQUAL TO OR LESS THAN 0.2 PERCENT LEAD.

3.3. VALVES:

3.3.1. DOMESTIC WATER SYSTEM VALVES SHALL MEET THE REQUIREMENTS OF NSF-61.

3.3.2. ISOLATION AND REGULATION SERVICE:

3.3.2.1. SIZES 3" AND SMALLER SHALL BE BALL TYPE MILWAUKEE BA-100 OR NIBCO 580/5 SERIES.

3.3.2.2. SIZES OVER 3" SHALL BE BUTTERFLY LUG TYPE MILWAUKEE ML OR NIBCO LD 2000 SERIES.

3.3.3. FLOW CHECK HORIZONTAL SERVICE:

3.3.3.1. SIZES 3" AND SMALLER SHALL BE SWING CHECK TYPE MILWAUKEE 510 OR NIBCO 433 SERIES.

3.3.4. FLOW CHECK VERTICAL SERVICE:

3.3.4.1. SIZES 2" AND SMALLER SHALL BE SPRING CHECK TYPE MILWAUKEE 548 OR NIBCO 480 SERIES.

3.3.5. FIXTURE SHUT-OFF SERVICE:

3.3.5.1. PROVIDE CHROME PLATED BRASS ANGLED STOP VALVES FOR ALL WATER CLOSETS, LAVS, SINKS AND SIMILAR FIXTURES.

3.4. SPECIALTIES:

3.4.1. ALL HOSE BIBBS AND HYDRANTS SHALL BE PROVIDED WITH VACUUM BREAKERS AND SHALL BE NON-FREEZE TYPE.

3.4.2. ANTI WATER HAMMER SHOCK ASORBERS SHALL BE JAY R. SMITH "HYDROTROL" SIZED PER MANUFACTURER INSTRUCTIONS.

3.5. DISINFECTION:

3.5.1. NEW DOMESTIC WATER SYSTEMS SHALL BE DISINFECTED IN ACCORDANCE WITH THE REQUIREMENTS OF NEW YORK STATE PLUMBING CODE.

3.6. HYDROSTATIC TEST:

3.6.1. DOMESTIC WATER SYSTEMS SHALL BE HYDROSTATICALLY TESTED TO 150 PSIG FOR NO LESS THAN ONE (1) HOUR IN ACCORDANCE WITH STATE AND LOCAL PLUMBING CODE.

4. NATURAL GAS PIPING, VALVES, AND SPECIALTIES

4.1. PIPING OF FOREIGN ORIGIN IS SUBJECT TO LABORATORY TESTING AT THE CONTRACTOR'S SOLE EXPENSE.

4.2. ABOVEGROUND GAS PIPING

4.2.0. STEEL PIPE SCHEDULE 40 MINIMUM THICKNESS PER STANDARD ASTM A53 OR A106. PIPE JOINTS SHALL BE THREADED, FLANGED, OR WELDED. FITTINGS SHALL BE MALLEABLE TYPE AND RATED FOR PRESSURE AND TEMPERATURE SERVICE. EXTERIOR PIPING SHALL BE GALVANIZED.

4.2.1. HORIZONTAL LINES SHALL BE SLOPED UPWARD TO RISERS AND FROM RISERS TO EQUIPMENT. PIPE DRIP LEGS SHALL BE PROVIDED TO COLLECT CONDENSATE FROM SLOPED PIPING WHERE NECESSARY (NON-FREEZE LOCATIONS) AND BE ACCESSIBLE. SLOPE PIPE A MINIMUM OF 1/4" PER 15'

4.2.2. CONNECT BRANCH LINES TO TOP OR SIDE OF HORIZONTAL LINES.

4.2.3. CONNECT EQUIPMENT TO GAS PIPING PER PROJECT DETAIL.

4.2.4. PRESSURE TEST GAS PIPING WITH AIR OR AND INERT GAS. TEST PRESSURE SHALL NOT BE LESS THAN 3 PSIG. MAINTAIN TEST PRESSURE FOR 30 MINUTES WITHOUT LOSS.

4.2.5. SHUT-OFF VALVES: NIBCO BALL VALVES MODEL T-580(5)-70-UL AND/OR MEET THE REQUIREMENTS OF ANSI Z21.15 OR ASME B16.33.

4.2.6. INSTALL ALL NATURAL GAS PIPING PER REQUIREMENTS OF THE STATE FUEL GAS CODE AND THE LOCAL GAS UTILITY REQUIREMENTS. THE STRICTER REQUIREMENT OF EITHER SHALL GOVERN IN THOSE AREAS OF CONFLICT.

4.2.7. SOLENOID VALVE: ASCO 8214 SERIES 200, 120V/1PH/60HZ WIRED

4.2.8. LOCKING BRONZE VALVE: APOLLO 75 SERIES.

4.3. PIPE INSTALLATION

4.3.1. INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE.

4.3.2. INSTALL PIPING OUTSIDE THE BUILDING ATTACHED TO EXTERIOR BUILDING WALL.

4.3.3. ALL CONNECTIONS BETWEEN DISSIMILAR PIPING MATERIALS SHALL BE MADE WITH DIELECTRIC INSULATING COUPLING OR FITTING.

4.4. PIPE IDENTIFICATION

4.4.1. PIPING SHALL BE IDENTIFIED BY A YELLOW LABEL MARKED "GAS" IN BLACK LETTERS. SUCH LABELING SHALL BE COMPLETED PRIOR TO ANY REQUIRED GAS TESTS. LABELS SHALL BE PROVIDED IN ACCORDANCE WITH ASME A13.1 AND THE MARKED SHALL BE SPACED AT INTERVALS NOT EXCEEDING 5 FEET.

4.4.2. PIPE MARKERS SHALL BE SETON, SNAP OR ROLL ON TYPE, OR OTHER NON ADHESIVE TYPE.

5. HANGERS AND SUPPORTS:

5.1. FIXTURES:

5.1.1. ALL FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE PIPING SYSTEM.

5.2. PIPING:

5.2.1. MAXIMUM SPACING OF SUPPORTS FOR VERTICAL PIPING SHALL NOT EXCEED:

5.2.1.1. CAST IRON: AT BASE OF EACH STORY

5.2.1.2. STEEL THREADED: AT BASE AND EVERY OTHER STORY

5.2.1.3. COPPER TUBE: AT BASE AND 10' INTERVALS

5.2.2. PROVIDE RISER CLAMPS, WALL BRACKET HANGER, AND SIMILAR ITEMS AS REQUIRED.

5.2.3. MAXIMU SPACING OF SUPPORTS FOR HORIZONTAL PIPING SHALL NOT EXCEED:

5.2.3.1. CAST IRON: 5' (10' FOR 10' LENGTHS)

5.2.3.2. STEEL THREADED: 10' FOR 3/4"NPS OR LESS

5.2.3.3. STEEL THREADED: 12' FOR 1"NPS OR GREATER

5.2.3.4. COPPER TUBE: 6' FOR 1-1/4" OR LESS

5.2.3.5. COPPER TUBE: 10' FOR 1-1/2" OR GREATER

5.2.4. PROVIDE FOR THERMAL EXPANSION CAPABILITY IN PIPING AS INDICATED BELOW:

5.2.4.1. DRAIN LINES IN UNHEATED AREAS: EXPANSION FITTING AT 125'

5.2.4.2. DOMESTIC HOT WATER LINES: EXPANSION LOOP AT 100'

5.2.5. PROVIDE SEISMIC SWAY RESTRAINT SWAY BRACING FOR ALL PIPING AS FOLLOWS:

5.2.5.1. GAS PIPING 1" AND LARGER WITH HANGERS 12" AND LONGER

5.2.5.2. ALL PIPING 2-1/2" AND LARGER WITH HANGERS 12" AND LONGER

5.2.6. PROVIDE LONGITUDINAL SWAY BRACING AT INTERVALS NOT EXCEEDING 80'

5.2.7. PROVIDE LATERAL SWAY BRACING AT INTERVALS NOT EXCEEDING 40'

6. INSULATION

6.1. PIPING:

6.1.1. VALVES, FLANGES, ELBOWS, TEES, HUBS, AND OTHER FITTINGS SHALL BE INSULATED USING MANVILLE "HI-LO TEMP" FIBERGLASS INSERTS WITH MANVILLE "ZESTON 2000" PVC FITTING COVERS SECURED WITH MANVILLE "PERMA-WELS" ADHESIVE.

6.1.2. ALL INSULATION SYSTEMS, INCLUDING INSULATION, ADHESIVES AND JACKETS SHALL BE CERTIFIED IN ACCORDANCE WITH ASTM E84 FOR FLAME SPREAD RATING OF 25 OR LESS AND SMOKE DEVELOPED RATING OF 50 OR LESS.

6.1.3. ALL INSULATION BUTT JOINTS SHALL BE SEALED USING BUTT STRIPS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATION.

6.1.4. SEE TABLE ON P-001 FOR INSULATION PIPING THICKNESS.

7. FIXTURES

7.1. SEE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE SPECIFICATIONS.

XEBEC

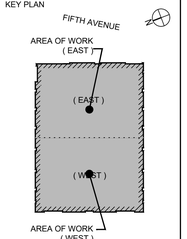
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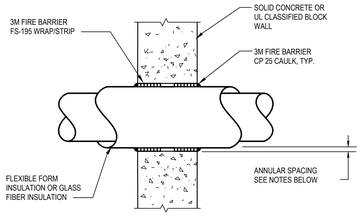
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DWG. NO.

P-010

22-1002
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D:\22\22001 - 1612 5th Ave - XEBEC\1 Warehouse\PLUMBING\P-010 PLUMBING - SPECIFICATIONS.dwg, Date/August 2, 2023, 7:44:04 PM, Plotted by Edward Mahyn

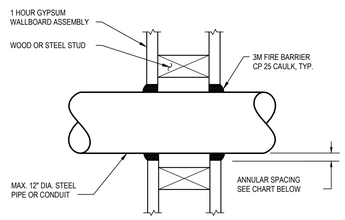


NOTES:

1. INSTALL THE FIRESTOP SYMMETRICALLY ON BOTH SIDES OF THE WALL ASSEMBLY.
2. UL THROUGH-PENETRATION FIRESTOP SYSTEM No. 395.
3. MINIMUM ANNULAR SPACE BETWEEN THE SIDE OF THE THROUGH OPENING AND THE PENETRATING ITEMS IS 1/4". SPACING BETWEEN PENETRATING ITEMS SHALL BE A MINIMUM 1/2".
4. TIGHTLY WRAP A LAYER OF 3M FIRE BARRIER FS-195 WRAP/STRIP AROUND THE INSULATED TUBING/PIPE, FOIL SIDE OUT. SECURE THE FS-195 WRAP/STRIP WITH 18-GAUGE STEEL TIE WIRE. SLIDE THE FS-195 WRAP/STRIP INTO THE OPENING SUCH THAT THE TOP EDGE IS FLUSH WITH THE SURFACE OF THE WALL.
5. RECESS A MINIMUM 1 IN. THICKNESS OF TIGHTLY PACKED MINERAL WOOL SAFING AROUND THE PENETRATING ITEMS AND APPLIED FS-195 WRAP/STRIP.
6. FILL ANNULAR SPACE AROUND THE TUBING WITH A MINIMUM 1-IN. DEPTH OF 3M FIRE BARRIER CP 25 CAULK.

FIRESTOPPING FOR FIRE–RATED BLOCK WALL

SCALE: NONE



NOTES:

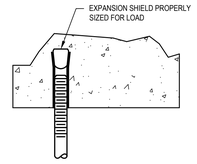
1. INSTALL THE FIRE STOP SYMMETRICALLY ON BOTH SIDES OF THE WALL ASSEMBLY.
2. ANNULAR SPACE REQUIREMENTS:

MAXIMUM PIPE OR CONDUIT DIAMETER	ANNULAR SPACE
1 IN.	0 TO 3/16 IN.
4 IN.	0 TO 1/4 IN.
12 IN.	3/16 TO 5/16 IN.

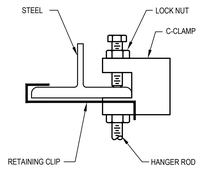
3. 3M FIRE BARRIER CP 25 CAULK IS TO BE FORCED INTO THE ANNULAR SPACE TO THE MAXIMUM EXTENT POSSIBLE WITH A MINIMUM 1/4-IN. DIAMETER BEAD OF CP 25 CAULK APPLIED TO THE PERIMETER OF THE PIPE/CONDUIT AT ITS EGRESS FROM THE WALL.
4. UL THROUGH-PENETRATION FIRE STOP SYSTEM No. 147, CONFIGURATION A.

FIRESTOPPING FOR FIRE–RATED GYPSUM

SCALE: NONE

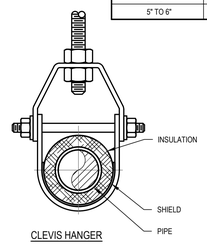


CONCRETE ANCHOR

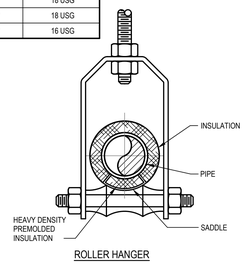


C-CLAMP WITH RETAINING CLIP

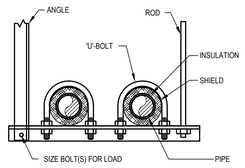
PIPE SHIELD SCHEDULE		
PIPE DIAMETER	SHIELD LENGTH	SHIELD THICKNESS
1/2" TO 1 1/2"	12"	18 USG
2" TO 4"	12"	18 USG
5" TO 6"	18"	16 USG



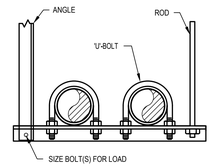
CLEVIS HANGER



ROLLER HANGER



TRAPEZE HANGER

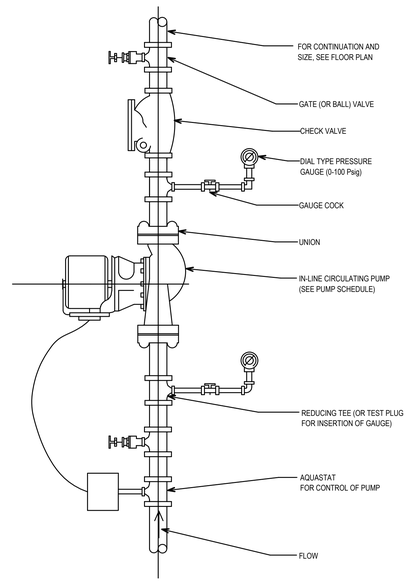


TRAPEZE HANGER

PIPE SUPPORT DETAIL

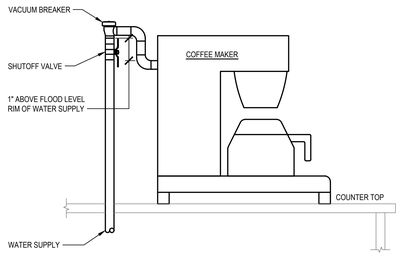
SCALE: NONE

NOTE:
SIZE HANGER TO ADEQUATELY SUPPORT LOAD.



HOT WATER RECIRCULATION PUMP DETAIL

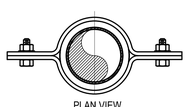
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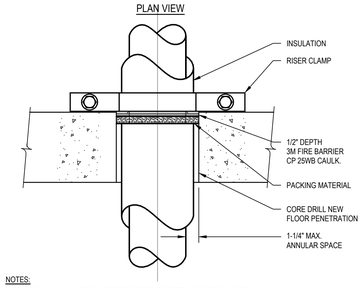
NOTE:
WHEN MACHINE HAS AN INTERNAL SHUT-OFF VALVE, THE VACUUM BREAKER MUST BE PRESSURE VACUUM BREAKER OR SPILL RESISTANT VACUUM BREAKER.

COFFEE MAKER PIPING DETAIL

SCALE: NONE



PLAN VIEW

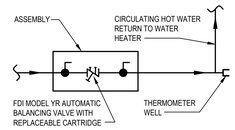


NOTES:

1. MINIMUM ANNULAR SPACE REQUIREMENT IS ZERO, POINT CONTACT. MAXIMUM ANNULAR SPACE ALLOWABLE IS 1-1/4 INCHES.
2. RECESS PACKING MATERIAL (BACKER ROD, MINERAL WOOL, ETC.) 1/2 INCH FROM THE SURFACE OF THE FLOOR.
3. FILL THE ANNULAR SPACE AROUND THE PIPE WITH A MINIMUM 1/2 INCH DEPTH OF 3M MODEL CP 25WB CAULK.
4. THE FIRE RATING OF THE CP 25 CAULK IS BASED ON THE WET INSTALLED DEPTH. SHRINKAGE MAY BE EXPECTED AFTER INSTALLATION.
5. DETAIL SHOWN IS UL SYSTEM #319.

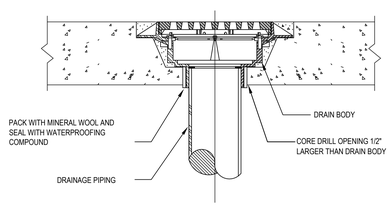
FIRE STOP PIPE PENETRATION THROUGH FLOOR

SCALE: NONE



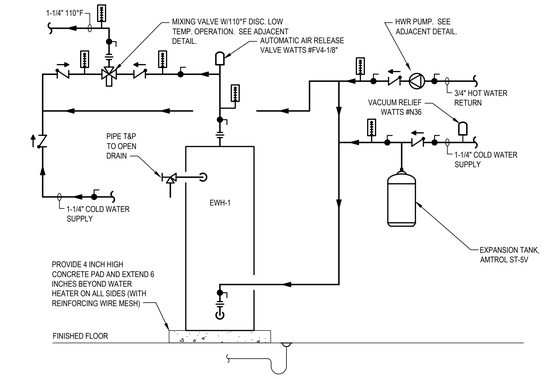
DOMESTIC HOT WATER RETURN FLOW BALANCING ASSEMBLY

SCALE: NONE



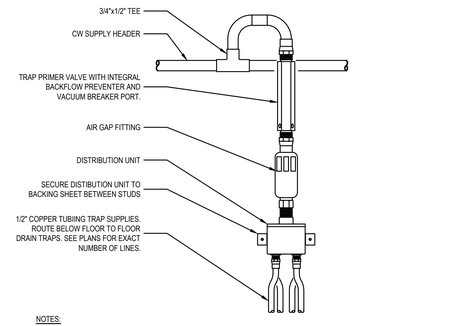
TYPICAL FLOOR DRAIN INSTALLATION

SCALE: NONE
(TYPICAL FOR ALL 3" FLOOR DRAINS)



ONE WATER HEATER, SINGLE TEMPERATURE WITH BUILDING RE-CIRCULATION DETAIL

SCALE: NONE

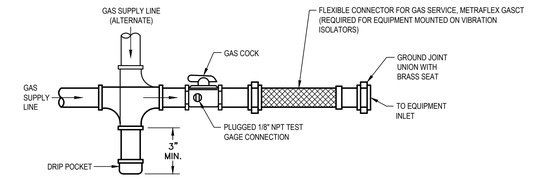


NOTES:

1. MOUNT THE TRAP PRIMER VALVE ONE FOOT ABOVE THE FINISHED FLOOR FOR EVERY 20 FEET OF PRIMER LINE.
2. INSTALL TRAP PRIMER WITHIN WALL BEHIND ACCESS DOOR.

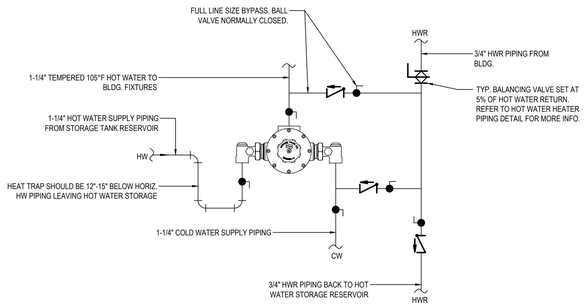
TRAP PRIMER DETAIL

SCALE: NONE



GAS PIPING TO UNIT

SCALE: NONE



NOTES:
1. ORDER PARALLEL ASSEMBLY ON STRUT AND SHALL BE REASSEMBLED, TESTED AND CERTIFIED BY THE MANUFACTURER.
2. PROVIDE "TC" TEST CONNECTION ON MIXING VALVE PIPING SYSTEM.
3. PROVIDE AND INSTALL NECESSARY PIPING HANGERS, SUPPORTS AND PIPING INSULATION.

TYP. THERMOSTATIC MIXING VALVE DETAIL

NOT TO SCALE

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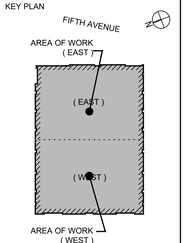
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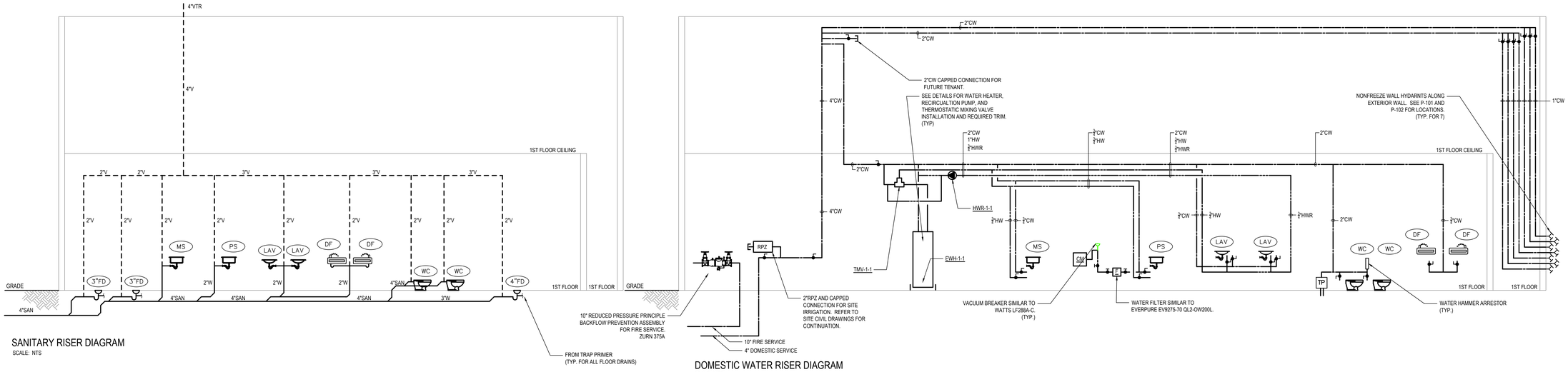
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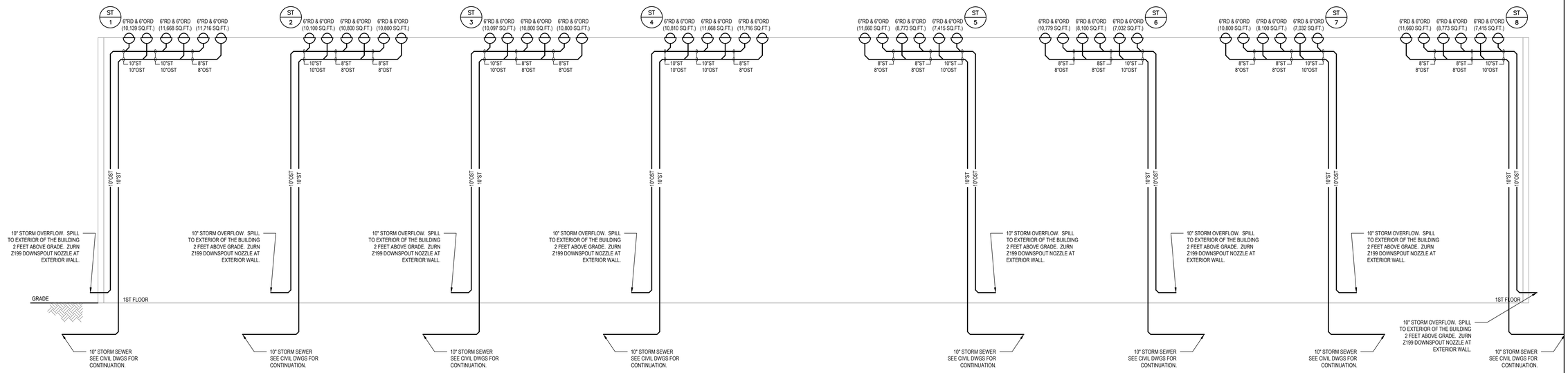


SANITARY RISER DIAGRAM

SCALE: NTS

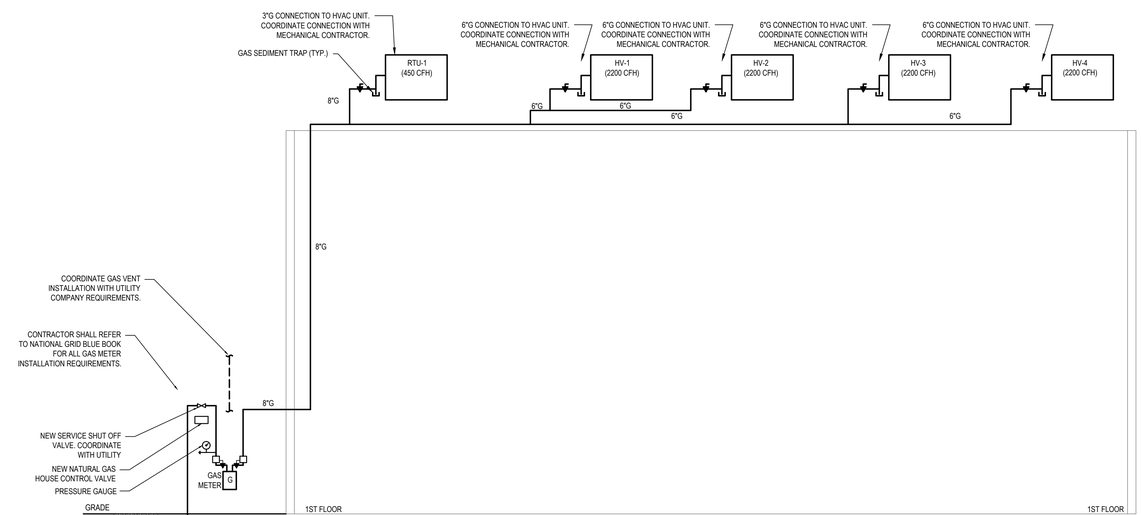
DOMESTIC WATER RISER DIAGRAM

SCALE: NTS



STORM WATER RISER DIAGRAM

SCALE: NTS



NATURAL GAS RISER DIAGRAM

SCALE: NTS

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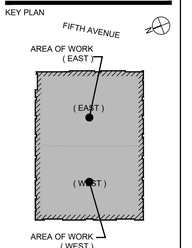
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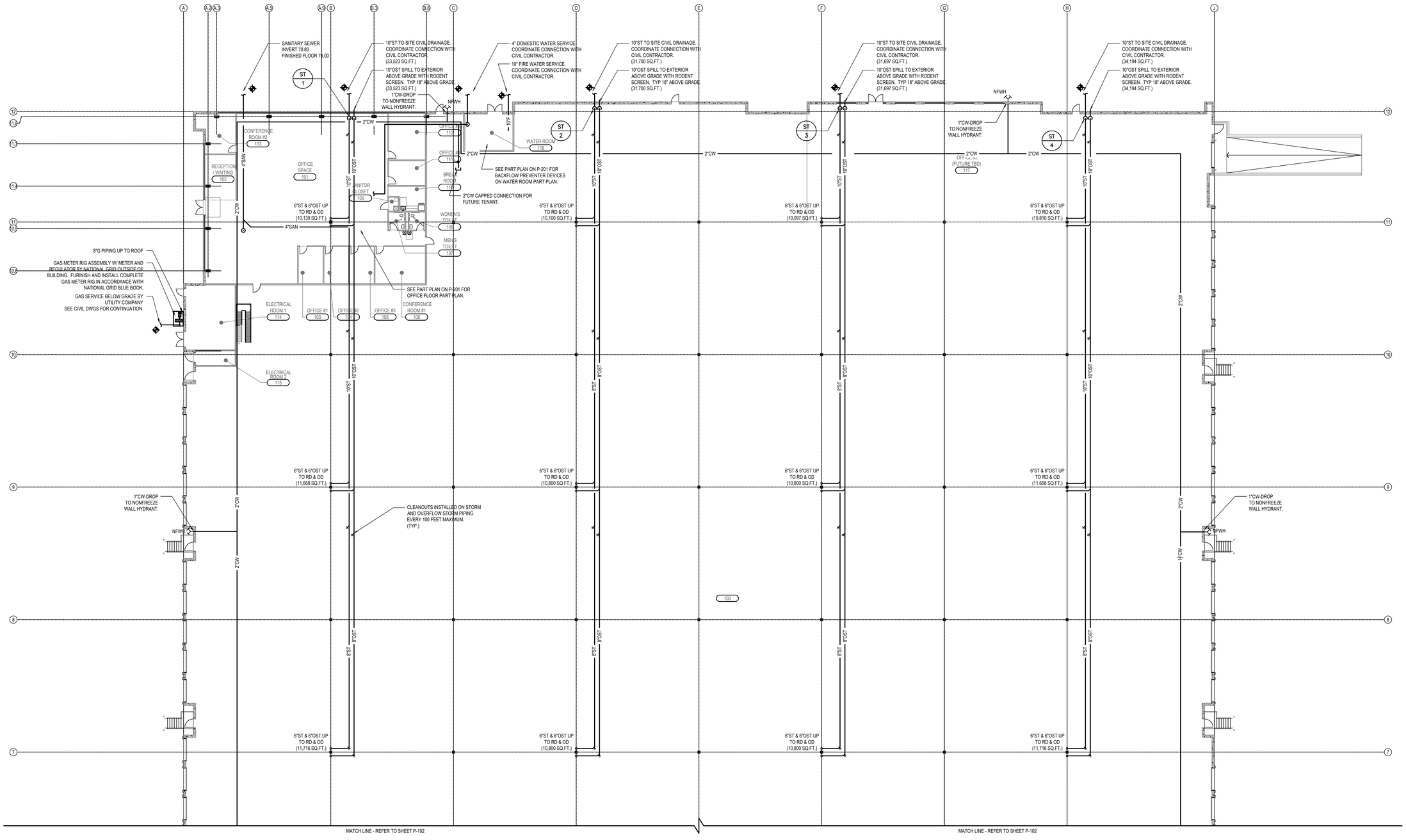
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1 FLOOR PLAN - EAST
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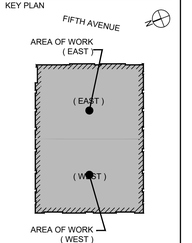
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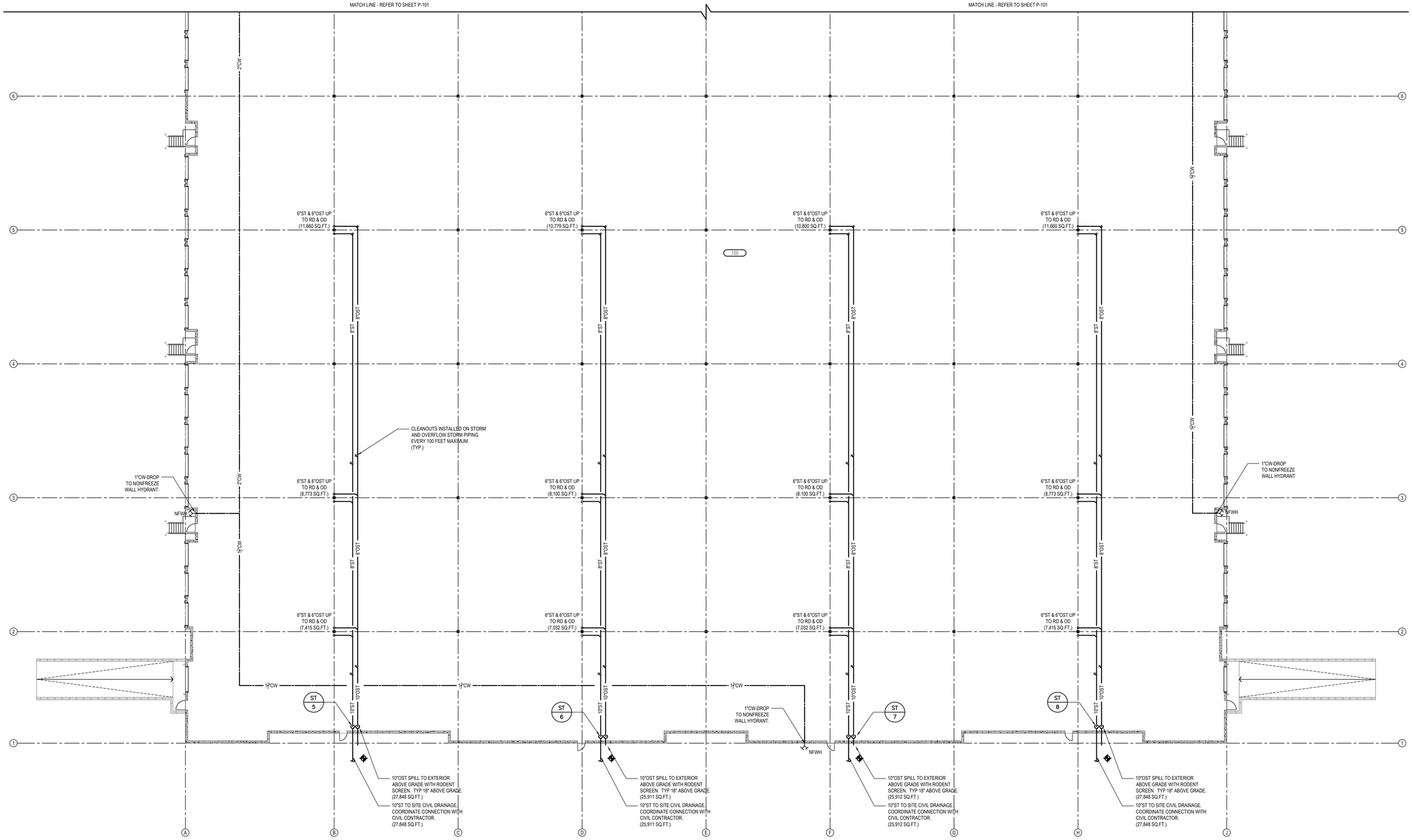
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1 FLOOR PLAN - WEST
SCALE: 1/16"=1'-0"

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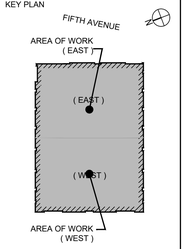
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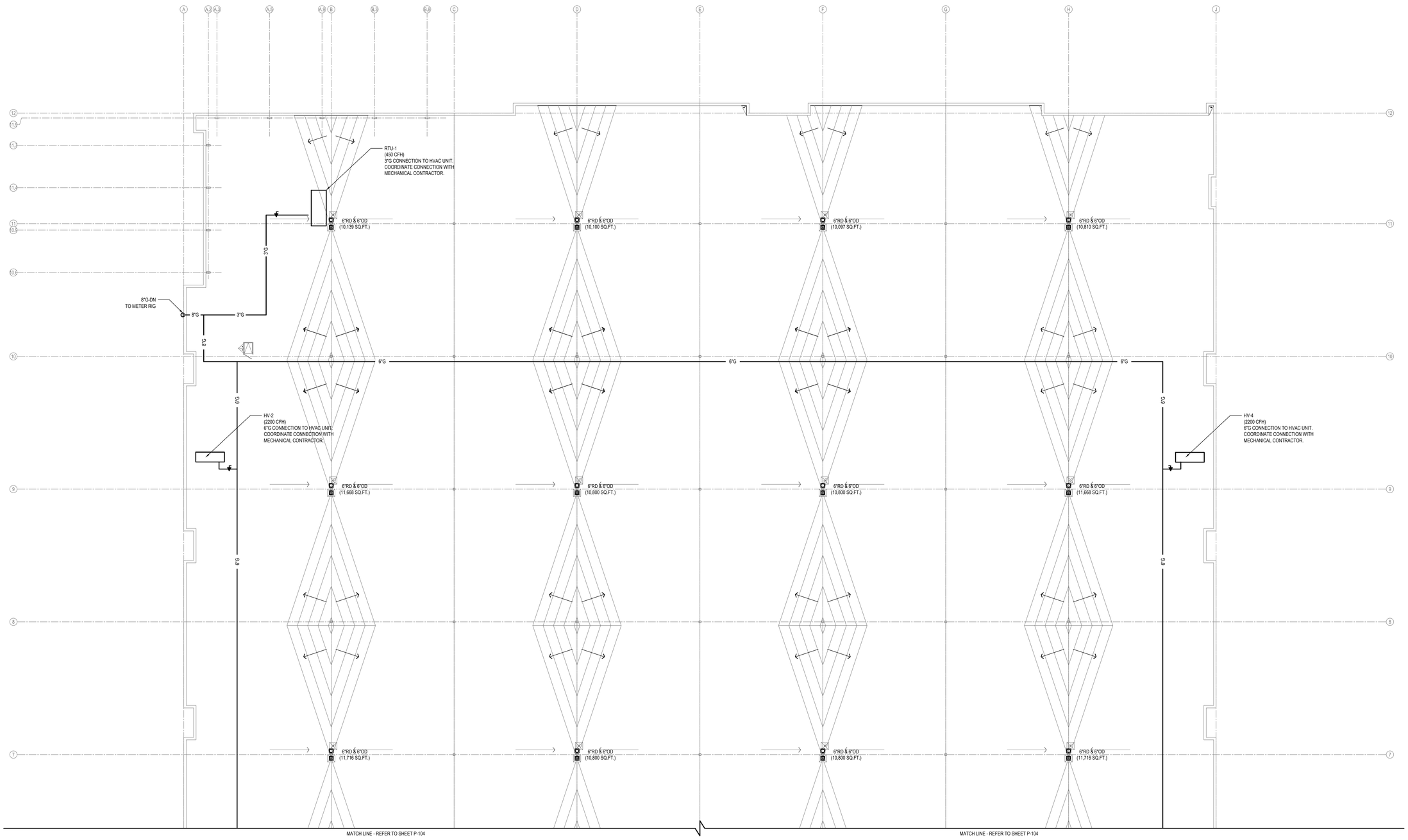
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1 ROOF PLAN - EAST
SCALE: 1/16"=1'-0"

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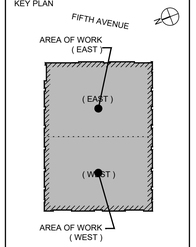
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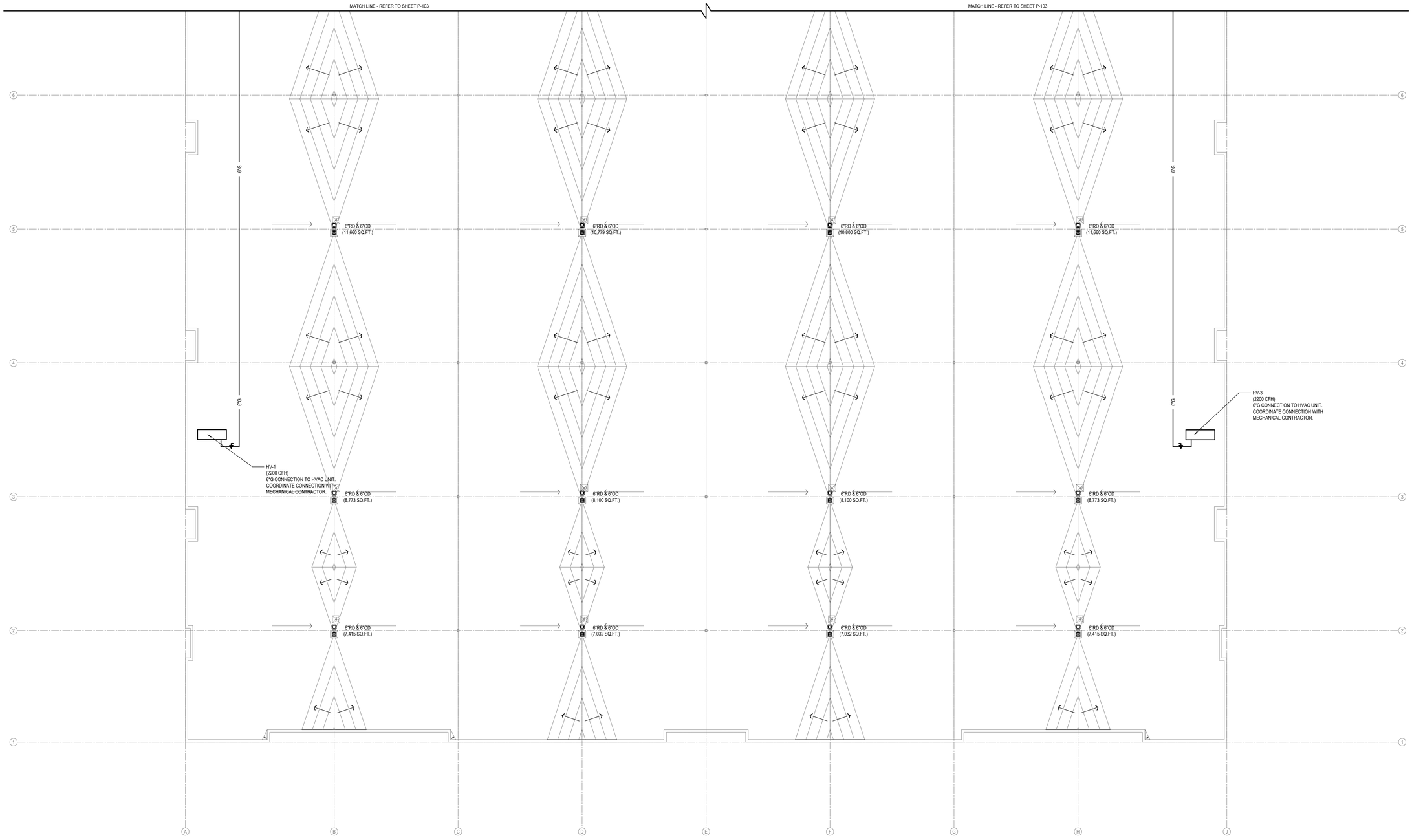
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1 ROOF PLAN - WEST
SCALE: 1/16"=1'-0"

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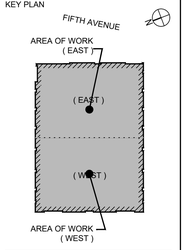
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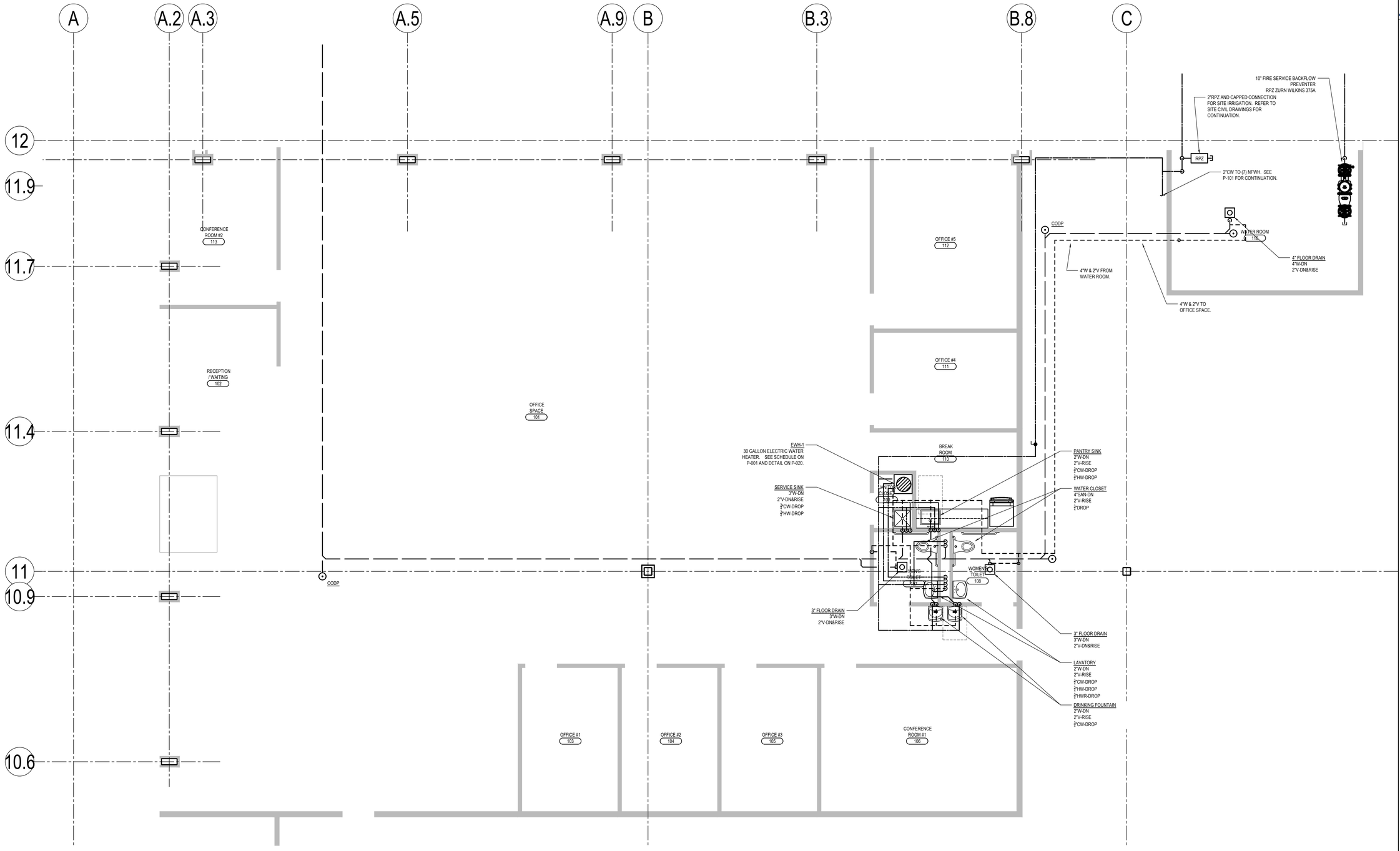
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1 OFFICE AND WATER ROOM FLOOR PART PLAN
SCALE: 1/4"=1'-0"

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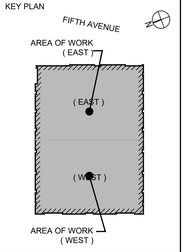
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P-201

22-1002
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2020 NEW YORK STATE BUILDING DEPARTMENT SPRINKLER NOTES

1. AUTOMATIC SPRINKLER SYSTEM SHALL COMPLY WITH SECTION 903 OF THE 2020 NEW YORK STATE BUILDING CODE, 2020 NEW YORK STATE FIRE CODE AND NFPA 13-2016.
2. CONSTRUCTION DOCUMENTS FOR SPRINKLER SYSTEMS SHALL CONTAIN PLANS THAT INCLUDE THE INFORMATION AND DATA LISTED IN SEC. 903.1.2 OF THE NYS BUILDING CODE.
3. APPROVED AUTOMATIC SPRINKLER SYSTEM IN NEW BUILDINGS AND STRUCTURES SHALL BE PROVIDED IN THE LOCATIONS DESCRIBED IN SEC. 903.2 OF THE NYS BUILDING CODE.
4. FIRE DEPARTMENT CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE NFPA STANDARD APPLICABLE TO THE SYSTEM DESIGN AND SHALL COMPLY WITH SECTIONS 912.2 THROUGH 912.5 OF THE NEW YORK STATE BUILDING CODE. CONTRACTOR SHALL COORDINATE WITH LOCAL FIRE DEPARTMENT FOR LOCAL REQUIREMENTS.
5. AUTOMATIC SPRINKLER SYSTEM SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH SEC. 903.3.1 THROUGH 903.3.7 OF NYS BUILDING CODE.
6. WHERE THE PROVISIONS OF NYS BUILDING CODE REQUIRE THAT A BUILDING OR PORTION THERE OF BE EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SEC. 903.3.1.1, SPRINKLERS SHALL BE INSTALLED THROUGHOUT IN ACCORDANCE WITH NFPA 13 EXCEPT AS PROVIDED IN SEC. 903.3.1.1.1. OF NYS BUILDING CODE.
7. AUTOMATIC SPRINKLERS SHALL NOT BE REQUIRED IN THE ROOMS OR AREAS WHICH ARE LISTED IN 903.3.1.1.1 OF NYS BUILDING CODE AS LONG AS AN APPROVED AUTOMATIC FIRE DETECTION SYSTEM IN ACCORDANCE WITH SEC. 907.2 AND AN ALTERNATIVE EXTINGUISHING SYSTEM IN ACCORDANCE WITH SEC. 904.
8. SPRINKLERS SHALL NOT BE OMITTED FROM ANY ROOM MERELY BECAUSE IT IS DAMP, OF FIRE-RESISTANCE-RATED CONSTRUCTION OR CONTAINS ELECTRICAL EQUIPMENT AS PER SEC. 903.3.1.1.1 OF THE NYS BUILDING CODE.
9. WHERE ALLOWED IN BUILDINGS OF GROUP R, UP TO AND INCLUDING SIX STORIES IN HEIGHT, AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED THROUGHOUT IN ACCORDANCE WITH NFPA 13R AS PER SEC. 903.3.1.2 OF NYS BUILDING CODE.
10. AUTOMATIC SPRINKLERS SHALL BE INSTALLED WITH DUE REGARD TO OBSTRUCTIONS THAT WILL DELAY ACTIVATION OR OBSTRUCT THE WATER DISTRIBUTION PATTERN. AUTOMATIC SPRINKLERS SHALL BE INSTALLED ON UNDER COVERED KIOSKS, DISPLAYS, BOOTH, CONCESSION STANDS, OR EQUIPMENT THAT EXCEEDS 4 FEET IN WIDTH. NOT LESS THAN 3 FOOT CLEARANCE SHALL BE MAINTAINED BETWEEN AUTOMATIC SPRINKLERS AND TOP OF PILES OF COMBUSTIBLE FIBERS SEC. 903.3.3. OF NYS BUILDING CODE.
11. WATER SUPPLIES FOR AUTOMATIC SPRINKLER SYSTEM SHALL COMPLY WITH SEC. 903.3.5 OF NYS BUILDING CODE AND SEC. 903.3.1 THE POTABLE WATER SUPPLY SHALL BE PROTECTED AGAINST BACK FLOW IN ACCORDANCE WITH THE REQUIREMENTS OF SEC. 903.3.5 THE NYS PLUMBING CODE, AND RULES OF THE NYS DEPARTMENT OF ENVIRONMENTAL PROTECTION.
12. FIRE HOSE THREADS AND FITTINGS USED IN CONNECTION WITH AUTOMATIC SPRINKLER SYSTEMS SHALL BE APPROVED AND COMPATIBLE WITH FIRE DEPARTMENT HOSE THREADS AS PER SEC. 903.3.6 OF THE NYS BUILDING CODE.
13. ALL VALVES CONTROLLING THE WATER SUPPLY FOR AUTOMATIC SPRINKLER SYSTEMS, PUMPS, TANKS, WATER LEVELS AND TEMPERATURES, CRITICAL AIR PRESSURES AND WATER-FLOW SWITCHES ON ALL SPRINKLER SYSTEM SHALL BE ELECTRICALLY SUPERVISED BY THE FIRE ALARM SYSTEM WHERE A FIRE ALARM SYSTEM IS REQUIRED BY SECTION 907 AS PER SEC. 903.4 OF THE NYS BUILDING CODE.
14. THE DOCUMENTS OR PORTIONS THERE OF LISTED IN CHAPTER 2 OF NFPA 13-2016 ARE REFERENCED WITHIN NFPA 13 AND SHALL BE CONSIDERED PART OF THE REQUIREMENTS OF THIS DOCUMENT.
15. OCCUPANCY CLASSIFICATION SHALL COMPLY WITH CHAPTER 5 OF NFPA 13-2016.
16. PROTECTION REQUIREMENTS FOR MIXED COMMODITIES SHALL BE ACCORDANCE WITH SEC. 5.6.1.2 OF NFPA 13-2016.
17. REQUIREMENTS FOR CORRECT USE OF SPRINKLER SYSTEM COMPONENTS SHALL COMPLY WITH CHAPTER 6 OF NFPA 13-2016.
18. THE K-FACTOR, RELATIVE DISCHARGE, AND MARKING IDENTIFICATION FOR SPRINKLERS HAVING DIFFERENT ORIFICE SIZES SHALL BE IN ACCORDANCE WITH TABLE 6.2.3.1 OF NFPA 13-2016.
19. LARGE DROP AND ESFR SPRINKLERS SHALL HAVE A MINIMUM NOMINAL K-FACTOR OF 11.2 AS PER SECTION 6.2.3.5 OF NFPA 13-2016.
20. AUTOMATIC SPRINKLERS SHALL HAVE THEIR FRAME ARMS, DEFLECTOR, COATING MATERIAL, OR LIQUID BULB COLORED IN ACCORDANCE WITH THE REQUIREMENTS OF TABLE 6.2.5.1 OF NFPA 13-2016.
21. LISTED CORROSION RESISTANT SPRINKLER SHALL BE INSTALLED IN LOCATIONS WHERE CHEMICALS, MOISTURE, OR OTHER CORROSIVE VAPORS SUFFICIENT TO CAUSE CORROSION OF SUCH DEVICES EXIST WITH SEC 6.2.6.1. OF NFPA 13-2016.
22. ALL CONTROL, DRAIN, AND TEST CONNECTION VALVES SHALL BE PROVIDED WITH PERMANENTLY MARKED WEATHERPROOF METAL OR RIGID PLASTIC IDENTIFICATION SIGNS AS PER SECTION SEC. 6.7.4.1 OF NFPA 13-2016.
23. FIRE DEPARTMENT CONNECTIONS SHALL BE EQUIPPED WITH APPROVED PLUGS OR CAPS, PROPERLY SECURED AND ARRANGED FOR EASY REMOVAL BY THE FIRE DEPARTMENT AS PER SECTION 6.8.2 OF NFPA 13-2016.
24. A STOCK OF SPARE SPRINKLERS SHALL BE PROVIDED AFTER CONSTRUCTION AND TO BE MAINTAINED ON PREMISES AS PER SECTION 6.9 OF NFPA 13-2016.
25. REQUIREMENTS OF DRY PIPE SYSTEM INSTALLATION SHALL COMPLY WITH SEC. 7.2 OF NFPA 13-2016.
26. REQUIREMENTS OF PREACTION & DELUGE SYSTEM INSTALLATION SHALL COMPLY WITH SEC. 7.3 OF NFPA 13-2016.
27. OUTSIDE SPRINKLERS FOR PROTECTION AGAINST EXPOSURE FIRE SHALL COMPLY WITH SEC. 7.8 OF NFPA 13-2016.
28. THE MAXIMUM FLOOR AREA OR ANY ONE FLOOR TO BE PROTECTED BY A SINGLE RISER FROM A CONTROL VALVE AND ALARM DEVICE SHALL COMPLY WITH SEC. 8.2.1 OF NFPA 13-2016.
29. WHERE CIRCUMSTANCES REQUIRE THE USE OF OTHER THAN ORDINARY TEMPERATURE-RATED SPRINKLERS, STANDARD RESPONSE SPRINKLERS SHALL BE PERMITTED TO BE USED SEC. 8.3.3. OF NFPA 13-2016.
30. WHEN EXISTING LIGHT HAZARD SYSTEMS ARE CONVERTED TO USE QUICK-RESPONSE OR RESIDENTIAL SPRINKLERS ALL SPRINKLERS IN A COMPARTMENTED SPACE SHALL BE CHANGED. SEC. 8.3.3.4 OF NFPA 13-2016.
31. SPRINKLERS OF INTERMEDIATE AND HIGH TEMPERATURE RATINGS SHALL BE INSTALLED IN SPECIFIC LOCATIONS AS REQUIRED BY SEC. 8.3.2 OF NFPA 13-2016.
32. SPRINKLERS SHALL BE LOCATED, SPACED AND POSITIONED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 8.5 OF NFPA 13-2016.
33. PROTECTION AREAS AND MAXIMUM SPACING FOR EACH HAZARD SHALL COMPLY WITH TABLE 8.6.2.2.1(a), (b), (c), AND (d) OF NFPA 13-2016.
34. DRAIN CONNECTIONS FOR SYSTEMS SUPPLY RISERS AND MAINS SHALL BE SIZED AS SHOWN IN TABLE 8.16.2.4.2 OF NFPA 13-2016.
35. TYPES OF HANGERS SHALL BE ACCORDANCE WITH THE REQUIREMENT OF SEC. 9.1. OF NFPA 13-2016.
36. MAXIMUM DISTANCE BETWEEN HANGERS SHALL BE COMPLY WITH TABLE 9.2.2.1 OF NFPA 13-2016.
37. HOSE STREAM DEMAND AND WATER SUPPLY DURATION REQUIREMENT SHALL COMPLY WITH TABLE 11.2.3.1.2 OF NFPA 13-2016.
38. THE WATER SUPPLY FOR SPRINKLERS SHALL BE DETERMINED BY DENSITY/AREA CURVE, FIGURE 11.2.3.1.1 OF NFPA 13-2016.
39. HYDRAULIC DESIGN AREA REDUCTION FOR QUICK RESPONSE SPRINKLERS SHALL COMPLY WITH FIGURE 11.2.3.2.3.1 OF NFPA 13-2016.
40. CALCULATIONS FOR DRY SYSTEM WATER DELIVERY SHALL BE BASED ON THE HAZARD SHOWN IN TABLE 7.2.3.6.1 OF NFPA 13-2016.
41. DESIGN CRITERIA OF WATER CURTAIN SHALL COMPLY WITH SEC. 11.3.3 OF NFPA 13-2016.
42. TYPE OF SPRINKLER HEAD IN GENERAL STORAGE SHALL COMPLY WITH SECTION 12.6 OF NFPA 13-2016.
43. MINIMUM OPERATING PRESSURE OF ANY SPRINKLER SHALL BE 7 PSI AS PER SECTION 22.4.4.10 OF NFPA 13-2016.
44. NUMBER OF WATER SUPPLIES FOR SPRINKLER SYSTEM SHALL COMPLY WITH SEC. 23.1.1 OF NFPA 13-2016 .
45. A SPRINKLER SYSTEM IN ACCORDANCE WITH THIS STANDARD SHALL BE PROPERLY INSPECTED, TESTED AND ACCORDANCE WITH NFPA 25 AND THE NYS FIRE CODE.
46. THE SPRINKLER SYSTEM SHALL BE HYDROSTATICALLY TESTED AT 200 PSI AND SHALL MAINTAIN THAT PRESSURE WITHOUT LOSS FOR 1 HOUR AS PER SECTION 24.2.1.1 OF NFPA 13-2016. PORTIONS OF SYSTEMS NORMALLY SUBJECTED TO SYSTEM WORKING PRESSURE IN EXCESS OF 150 PSI SHALL BE TEST AT 50 PSI IN EXCESS OF SYSTEM WORKING PRESSURE AND SHALL MAINTAIN THAT PRESSURE WITHOUT LOSS FOR 1 HOURS, PER NFPA 13-2016 SEC. 24.2.1.2.
47. MODIFICATIONS AFFECTING 20 OR FEWER SPRINKLERS SHALL NOT REQUIRE TESTING IN EXCESS OF SYSTEM WORKING PRESSURE IN ACCORDANCE WITH SECTION 24.2.1.4 OF NFPA 13-2016.
48. A SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH NFPA 13 SHALL BE PROPERLY INSPECTED, TESTED, AND MAINTAINED IN ACCORDANCE WITH NFPA 25, STANDARD FOR THE INSPECTION, TESTING, AND MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS AND THE NEW YORK STATE FIRE CODE.
49. PAINTING OF DEDICATED SPRINKLER PIPING AND VALVE HANDLES SHALL BE PERFORMED AS PER SECTION 903.6 OF THE NEW YORK STATE BUILDING CODE.

FIRE PROTECTION SYMBOLS & ABBREVIATIONS

	O.S.&Y. VALVE	ABD	AUTOMATIC BALL DRIP
	CHECK VALVE (CV)	AFF	ABOVE FINISHED FLOOR
FS	WATERFLOW SWITCH	BFP	BACKFLOW PREVENTER
TS	TAMPER SWITCH	℄	CENTER LINE
DR	SPRINKLER DRAIN PIPING	CLG.	CEILING
	NEW SPRINKLER PIPING	DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
	CONCEALED PENDENT SPRINKLER	DCV	DOUBLE CHECK VALVE
	UPRIGHT SPRINKLER	DN	DOWN
D	DRY PENDENT SPRINKLER	DR	DRAIN
	SIDEWALL SPRINKLER	DWG	DRAWING
	FIRE DEPARTMENT SIAMESE CONNECTION	F	FIRE STANDPIPE
	CAPPED PIPING	FCVA	FLOOR CONTROL VALVE ASSEMBLY
	PIPE-UP UNLESS OTHERWISE NOTED	FHV	FIRE HOSE VALVE
	PIPE DROP UNLESS OTHERWISE NOTED	FP	FIRE PROTECTION
LOW HIGH	DROP OR RISE	FS	FLOW SWITCH
	TOP CONNECTION	FT	FOOT, FEET
	BOTTOM CONNECTION	INV	INVERT
	VALVED CAPPED OUTLET	JP	JOCKEY PUMP
	PRESSURE GAUGE (PG)	NTS	NOT TO SCALE
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY	NS	NOT SPRINKLERED
	WATER-PROOF PIPE SLEEVE	SBP	SPRINKLER BOOSTER PUMP
	PIPE SLEEVE	S.F.	SQUARE FOOT, FEET
	POINT OF NEW CONNECTION	SP	SPRINKLER PIPING
XX	HYDRAULIC CALCULATION NODE	SPRK	SPRINKLER
	ALARM CHECK VALVE	SPEC	SPECIFICATIONS
	FLOOR CONTROL VALVE ASSEMBLY	STD	STANDARD
F / 1	FIRE STANDPIPE RISER	ST PR	STREET PRESSURE
		TS	TAMPER SWITCH
SP / 1	FIRE SPRINKLER RISER	TYP	TYPICAL
		VIF	VERIFY IN FIELD

NOTE: SYMBOLS LIST IS PROVIDED FOR REFERENCE ONLY. NOT ALL SYMBOLS OR ABBREVIATIONS ARE NECESSARILY USED IN THIS PROJECT.

SPECIAL INSPECTIONS

FIRE RESISTANT PENETRATIONS AND JOINTS — BC 1705.17

CODE

2020 NEW YORK STATE BUILDING CODE
2016 NFPA 13
2016 NFPA 20

HAZARD CLASSIFICATION

CLASSIFICATION	AREAS	DENSITY	LOCATIONS
LIGHT HAZARD	1500 SQ.FT.	0.10 GPM/SQ.FT	OFFICE AREAS, CORRIDORS, RESTROOMS, PUBLIC SPACE AND SIMILAR SPACES
ORDINARY HAZARD GROUP-1	1500 SQ.FT.	0.15 GPM/SQ.FT	MECHANICAL ROOMS, STORAGE ROOMS, JC ROOMS AND SIMILAR SPACES

SPRINKLER SUMMARY

SYMBOL	●	o	◀	⊙
LOCATION	ALL AREAS WITH SUSPENDED CEILINGS (UNLESS OTHERWISE NOTED)	ROOM WITHOUT CEILING	ELECTRICAL CLOSETS & BOTTOM OF ELEVATOR	WAREHOUSE STORAGE
SPRINKLER STYLE	CONCEALED PENDENT	UPRIGHT	SIDEWALL	ESFR - PENDENT
COVERAGE	STANDARD	STANDARD	STANDARD	STANDARD
RESPONSE	QUICK	QUICK	QUICK	ESFR
K-FACTOR	5.6	5.6	5.6	22.4
TEMPERATURE	ORDINARY	ORDINARY*	ORDINARY	ORDINARY
MANUFACTURER	RELIABLE	RELIABLE	RELIABLE	RELIABLE
MODEL	G5-56	F1FR56	F1FR56	P22
NOTE	CENTER SPRINKLER IN THE CEILING GRID UNLESS NOTED	* SEE DETAIL ON FP-003		

- REFER TO MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION REQUIREMENTS (FOR ALL TYPES)

GENERAL NOTES:

1. DRAWING SPECIFICATION IS PART OF THIS CONTRACT.
2. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT POSITIONING OF CEILING DIFFUSERS, RETURN REGISTERS AND LIGHT FIXTURES
3. COORDINATE PIPING RUNS AND SPRINKLER HEAD PLACEMENT WITH HVAC CONTRACTOR, AND ELECTRICAL CONTRACTOR.
4. THE DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL PIPING AND EQUIPMENT AND INDICATE REQUIRED SIZE AND POINTS OF TERMINATION OF THE PIPING AND SUGGEST PROPER ROUTES OF PIPING. HOWEVER, IT IS NOT THE INTENTION OF THE DRAWINGS TO SHOW ALL NECESSARY OFFSETS, OBSTRUCTIONS OR STRUCTURAL CONDITIONS. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO INSTALL HIS WORK IN SUCH A MANNER THAT IT WILL CONFORM TO THE STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR WITHOUT FURTHER CONSTRUCTION OR COST.
5. THE CONTRACTOR SHALL VISIT THE PREMISES OF HIS PROPOSED WORK AND SHALL CAREFULLY EXAMINE THE EXISTING CONDITIONS AND LIMITATIONS THEREOF. VERIFICATION SHALL BE MADE AS TO THE ACTUAL LOCATIONS WHERE NEW PIPE RUNS WILL TIE INTO EXISTING WORK AND CLEARANCES WITH STRUCTURAL MEMBERS. THE CONTRACTOR SHALL INCLUDE ALL COSTS OF ANY KIND WHATSOEVER WHICH ARE INCURRED THROUGH LIMITATIONS OF THE EXISTING CONDITIONS.
6. THE CONTRACTOR SHALL FIRESTOP ALL PENETRATIONS OF NEW FIRE PROTECTION PIPING THROUGH EXISTING FIRE/SMOKE BARRIERS ABOVE THE HUNG CEILING. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS. FIRE/SMOKE STOPPING SHALL BE 3M FIRE BARRIER CP 25 N/S CAULK.
7. SPRINKLER CONTRACTOR SHALL REVIEW SHEETMETAL SHOP DRAWINGS. COORDINATE THE ROUTING OF HIS PIPING AND SIGN THE COORDINATED SHEETMETAL SHOP DRAWINGS.
8. ALL SPRINKLER PIPING TO SINGLE SPRINKLER HEADS SHALL BE 1" MINIMUM DIAMETER.
9. ALL SPRINKLER HEADS IN ACOUSTIC TILE CEILING ARE TO BE CENTERED ON TILE IN BOTH DIRECTIONS.
10. UPRIGHT SPRINKLER HEADS IN ROOMS WITH NO CEILINGS ONLY.
11. PIPE SIZE SHOWN ARE FOR BIDDING PURPOSES ONLY. EXACT SIZES SHALL BE BASED ON HYDRAULIC CALCULATIONS - REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

SPRINKLER DRAWING LIST

Sheet Number	Sheet Title
SP-001	SPRINKLER - GENERAL NOTES
SP-010	SPRINKLER - SPECIFICATIONS SHEET 1
SP-011	SPRINKLER - SPECIFICATIONS SHEET 2
SP-012	SPRINKLER - SPECIFICATIONS SHEET 3
SP-020	SPRINKLER DETAILS
SP-030	SPRINKLER - RISER DIAGRAM
SP-101	SPRINKLER - FIRST FLOOR PLAN
SP-102	SPRINKLER - FIRST FLOOR PLAN
SP-201	SPRINKLER PART PLANS

XEBEC

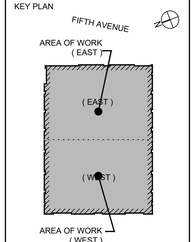
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KEY PLAN



REVISION:	DATE:
100% CD	08/04/23
50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23

DRAWING TITLE:
SPRINKLER - GENERAL NOTES

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WET-PIPE SPRINKLER SYSTEMS - 211313 - 1

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

A. SECTION INCLUDES:

1. PIPES, FITTINGS, AND SPECIALTIES.
2. SPECIALTY VALVES.
3. SPRINKLERS.
4. ALARM DEVICES.
5. PRESSURE GAUGES.

B. RELATED REQUIREMENTS:

1. SECTION 211119 "FIRE DEPARTMENT CONNECTIONS" FOR EXPOSED-, FLUSH-, AND YARD-TYPE FIRE DEPARTMENT CONNECTIONS.
2. SECTION 230523 "GENERAL-DUTY VALVES FOR WATER-BASED FIRE-SUPPRESSION PIPING" FOR BALL, BUTTERFLY, CHECK, GATE, POST-INDICATOR, AND TRIM AND DRAIN VALVES.

1.3 DEFINITIONS

A. STANDARD-PRESSURE SPRINKLER PIPING: WET-PIPE SPRINKLER SYSTEM PIPING DESIGNED TO OPERATE AT WORKING PRESSURE OF 175-PSIG MAXIMUM.

1.4 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

1. INCLUDE RATED CAPACITIES, OPERATING CHARACTERISTICS, ELECTRICAL CHARACTERISTICS, AND FURNISHED SPECIALTIES AND ACCESSORIES.

B. SUSTAINABLE DESIGN SUBMITTALS:

1. PRODUCT DATA: FOR ADHESIVES, INDICATING VOC CONTENT.
2. LABORATORY TEST REPORTS: FOR ADHESIVES, INDICATING COMPLIANCE WITH REQUIREMENTS FOR LOW-EMITTING MATERIALS.

C. SHOP DRAWINGS: FOR WET-PIPE SPRINKLER SYSTEMS.

1. INCLUDE PLANS, ELEVATIONS, SECTIONS, AND ATTACHMENT DETAILS.
2. INCLUDE DIAGRAMS FOR POWER, SIGNAL, AND CONTROL WIRING.

D. DELEGATED-DESIGN SUBMITTAL: FOR WET-PIPE SPRINKLER SYSTEMS INDICATED TO COMPLY WITH PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

E. PREPARE NFPA 13 "WORKING DRAWINGS" AND HYDRAULIC CALCULATIONS FOR SUBMISSION TO THE LOCAL FIRE MARSHAL. OBTAIN PERMITS, APPROVALS, AND SIGN OFFS.

1.5 INFORMATIONAL SUBMITTALS

A. COORDINATION DRAWINGS: SPRINKLER SYSTEMS, OR BIM MODEL, DRAWN TO SCALE, ON WHICH THE FOLLOWING ITEMS ARE SHOWN AND COORDINATED WITH EACH OTHER, USING INPUT FROM INSTALLERS OF THE ITEMS INVOLVED.

1. DOMESTIC WATER PIPING.
2. HVAC HYDRONIC PIPING.
3. HVAC DUCTWORK AND EQUIPMENT
4. ITEMS PENETRATING FINISHED CEILING INCLUDE THE FOLLOWING:
   a. LIGHTING FIXTURES
   b. AIR OUTLETS AND INLETS

B. QUALIFICATION DATA: FOR QUALIFIED INSTALLER AND PROFESSIONAL ENGINEER.

C. DESIGN DATA:

1. APPROVED SPRINKLER PIPING DRAWINGS: WORKING PLANS, PREPARED ACCORDING TO NFPA 13, THAT HAVE BEEN APPROVED BY AUTHORITIES HAVING JURISDICTION, INCLUDING HYDRAULIC CALCULATIONS IF APPLICABLE.

D. WELDING CERTIFICATES.

E. FIRE-HYDRANT FLOW TEST REPORT.

F. FIELD TEST REPORTS:

1. INDICATE AND INTERPRET TEST RESULTS FOR COMPLIANCE WITH PERFORMANCE REQUIREMENTS AND AS DESCRIBED IN NFPA 13. INCLUDE "CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR ABOVEGROUND PIPING."
2. FIRE-HYDRANT FLOW TEST REPORT.

G. FIELD QUALITY-CONTROL REPORTS.

1.6 CLOSEOUT SUBMITTALS

A. OPERATION AND MAINTENANCE DATA: FOR WET-PIPE SPRINKLER SYSTEMS AND SPECIALTIES TO INCLUDE IN EMERGENCY, OPERATION, AND MAINTENANCE MANUALS.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. FURNISH EXTRA MATERIALS THAT MATCH PRODUCTS INSTALLED AND THAT ARE PACKAGED WITH PROTECTIVE COVERING FOR STORAGE AND IDENTIFIED WITH LABELS DESCRIBING CONTENTS.

1. SPRINKLER CABINETS: FINISHED, WALL-MOUNTED, STEEL CABINET WITH HINGED COVER, AND WITH SPACE FOR MINIMUM OF SIX SPARE SPRINKLERS PLUS SPRINKLER WRENCH. INCLUDE NUMBER OF SPRINKLERS REQUIRED BY NFPA 13 AND SPRINKLER WRENCH. INCLUDE SEPARATE CABINET WITH SPRINKLERS AND WRENCH FOR EACH TYPE OF SPRINKLER USED ON PROJECT.

1.8 QUALITY ASSURANCE

A. INSTALLER QUALIFICATIONS:

1. INSTALLER'S RESPONSIBILITIES INCLUDE DESIGNING, FABRICATING, AND INSTALLING SPRINKLER SYSTEMS AND PROVIDING PROFESSIONAL ENGINEERING SERVICES NEEDED TO ASSUME ENGINEERING RESPONSIBILITY. BASE CALCULATIONS ON RESULTS OF FIRE-HYDRANT FLOW TEST.
   a. ENGINEERING RESPONSIBILITY: PREPARATION OF WORKING PLANS, CALCULATIONS, AND FIELD TEST REPORTS BY A QUALIFIED PROFESSIONAL ENGINEER.

B. WELDING QUALIFICATIONS: QUALIFY PROCEDURES AND OPERATORS ACCORDING TO 2010 ASME BOILER AND PRESSURE VESSEL CODE.

1.9 FIELD CONDITIONS

A. INTERRUPTION OF EXISTING SPRINKLER SERVICE: DO NOT INTERRUPT SPRINKLER SERVICE TO FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY SPRINKLER SERVICE ACCORDING TO REQUIREMENTS INDICATED:

1. NOTIFY CONSTRUCTION MANAGER NO FEWER THAN TWO DAYS IN ADVANCE OF PROPOSED INTERRUPTION OF SPRINKLER SERVICE.
2. DO NOT PROCEED WITH INTERRUPTION OF SPRINKLER SERVICE WITHOUT CONSTRUCTION MANAGER'S WRITTEN PERMISSION.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.

B. SPRINKLER SYSTEM EQUIPMENT, SPECIALTIES, ACCESSORIES, INSTALLATION, AND TESTING SHALL COMPLY WITH NFPA 13.

C. STANDARD-PRESSURE PIPING SYSTEM COMPONENT: LISTED FOR 175-PSIG MINIMUM WORKING PRESSURE.

D. DELEGATED DESIGN: ENGAGE A QUALIFIED PROFESSIONAL ENGINEER, AS DEFINED IN SECTION 014000 "QUALITY REQUIREMENTS," TO DESIGN WET-PIPE SPRINKLER SYSTEMS.

1. SPRINKLER SYSTEM DESIGN SHALL BE APPROVED BY AUTHORITIES HAVING JURISDICTION.
   a. MARGIN OF SAFETY FOR AVAILABLE WATER FLOW AND PRESSURE: 20 PERCENT, INCLUDING LOSSES THROUGH WATER-SERVICE PIPING, VALVES, AND BACKFLOW PREVENTERS.
   b. SPRINKLER OCCUPANCY HAZARD CLASSIFICATIONS:
      1) BUILDING SERVICE AREAS: ORDINARY HAZARD, GROUP 1.
      2) ELECTRICAL EQUIPMENT ROOMS: ORDINARY HAZARD, GROUP 1.
      3) ELEVATOR MACHINE ROOM AND HOISTWAY: ORDINARY HAZARD, GROUP 1.
      4) GENERAL STORAGE AREAS: ORDINARY HAZARD, GROUP 1.
      5) MECHANICAL EQUIPMENT ROOMS: ORDINARY HAZARD, GROUP 1.
      6) OFFICE AND PUBLIC AREAS: LIGHT HAZARD.
      7) UNFINISHED RETAIL SPACES: ORDINARY HAZARD, GROUP 2.
2. MINIMUM DENSITY FOR AUTOMATIC-SPRINKLER PIPING DESIGN:
   a. LIGHT-HAZARD OCCUPANCY: 0.10 GPM OVER 1500-SQ. FT. AREA.
   b. ORDINARY-HAZARD, GROUP 1 OCCUPANCY: 0.15 GPM OVER 1500-SQ. FT. AREA.
   c. ORDINARY-HAZARD, GROUP 2 OCCUPANCY: 0.20 GPM OVER 1500-SQ. FT. AREA.
3. MAXIMUM PROTECTION AREA PER SPRINKLER ACCORDING TO UL LISTING.
4. MAXIMUM PROTECTION AREA PER SPRINKLER:
   a. OFFICE AND CLASSROOM SPACES: 225 SQ. FT.
   b. STORAGE AREAS: 130 SQ. FT.
   c. MECHANICAL EQUIPMENT ROOMS: 130 SQ. FT.
   d. ELECTRICAL EQUIPMENT ROOMS: 130 SQ. FT.
   e. OTHER AREAS: ACCORDING TO NFPA 13 RECOMMENDATIONS UNLESS OTHERWISE INDICATED.

2.2 STEEL PIPE AND FITTINGS

A. STANDARD-WEIGHT, BLACK-STEEL PIPE: ASTM A53/A53M, TYPE E, GRADE B. PIPE ENDS MAY BE FACTORY OR FIELD FORMED TO MATCH JOINING METHOD.

B. SCHEDULE 10, BLACK-STEEL PIPE: ASTM A135/A135M OR ASTM A795/A795M, SCHEDULE 10 IN NPS 5 AND SMALLER; AND NFPA 13-SPECIFIED WALL THICKNESS IN NPS 6 TO NPS 10, PLAIN END.

C. BLACK-STEEL PIPE NIPPLES: ASTM A733, MADE OF ASTM A53/A53M, STANDARD-WEIGHT, SEAMLESS STEEL PIPE WITH THREADED ENDS.

D. UNCOATED-STEEL COUPLINGS: ASTM A865/A865M, THREADED.

E. UNCOATED, GRAY-IRON THREADED FITTINGS: ASME B16.4, CLASS 125, STANDARD PATTERN.

F. MALLEABLE- OR DUCTILE-IRON UNIONS: UL 860.

G. CAST-IRON FLANGES: ASME 16.1, CLASS 125.

H. STEEL FLANGES AND FLANGED FITTINGS: ASME B16.5, CLASS 150.

1. PIPE-FLANGE GASKET MATERIALS: AWWA C110, RUBBER, FLAT FACE, 1/8 INCH THICK, ASME B16.21, NONMETALLIC AND ASBESTOS FREE, OR EPDM RUBBER GASKET.
   a. CLASS 125 AND CLASS 250, CAST-IRON, FLAT-FACE FLANGES: FULL-FACE GASKETS.
   b. CLASS 150 AND CLASS 300, DUCTILE-IRON OR -STEEL, RAISED-FACE FLANGES: RING-TYPE GASKETS.
2. METAL, PIPE-FLANGE BOLTS AND NUTS: CARBON STEEL UNLESS OTHERWISE INDICATED.

I. STEEL WELDING FITTINGS: ASTM A234/A234M AND ASME B16.9.

1. WELDING FILLER METALS: COMPLY WITH AWS D10.12M/D10.12 FOR WELDING MATERIALS APPROPRIATE FOR WALL THICKNESS AND CHEMICAL ANALYSIS OF STEEL PIPE BEING WELDED.

J. GROOVED-JOINT, STEEL-PIPE APPURTENANCES:

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
   a. ANVIL INTERNATIONAL
   b. CPS PRODUCTS, INC.
   c. TYCO BY JOHNSON CONTROLS COMPANY
   d. VICTAULIC COMPANY
2. PRESSURE RATING: 175-PSIG MINIMUM.
3. GROOVED-END FITTINGS FOR STEEL PIPING: ASTM A47/A47M, MALLEABLE-IRON CASTING OR ASTM A536, DUCTILE-IRON CASTING, WITH DIMENSIONS MATCHING STEEL PIPE.
4. GROOVED-END-PIPE COUPLINGS FOR STEEL PIPING: AWWA C606 AND UL 213 RIGID PATTERN, UNLESS OTHERWISE INDICATED, FOR STEEL-PIPE DIMENSIONS. INCLUDE FERROUS HOUSING SECTIONS, EPDM-RUBBER GASKET, AND BOLTS AND NUTS.

2.3 SPECIALTY VALVES

A. LISTED IN UL'S "FIRE PROTECTION EQUIPMENT DIRECTORY" OR FM GLOBAL'S "APPROVAL GUIDE."

B. PRESSURE RATING:

1. STANDARD-PRESSURE PIPING SPECIALTY VALVES: 175-PSIG MINIMUM.

C. BODY MATERIAL: CAST OR DUCTILE IRON.

D. SIZE: SAME AS CONNECTED PIPING.

E. END CONNECTIONS: FLANGED OR GROOVED.

F. OMIT

G. OMIT

2.4 AIR VENT

A. AUTOMATIC AIR VENT ASSEMBLY:

2. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
   a. AGF MANUFACTURING, INC.
   b. ENGINEERED CORROSION SOLUTIONS
   c. POTTER ELECTRIC SIGNAL COMPANY, LLC
   d. SOUTH-TEK SYSTEMS, LLC
2. DESCRIPTION: AUTOMATIC AIR VENT ASSEMBLY THAT AUTOMATICALLY VENTS TRAPPED AIR WITHOUT HUMAN INTERVENTION, INCLUDING Y-STRAINER AND BALL VALVE IN A PRE-PIPED ASSEMBLY.
3. STANDARD: UL LISTED OR FM GLOBAL APPROVED FOR USE IN WET-PIPE FIRE SPRINKLER SYSTEM.
4. VENTS OXYGEN CONTINUOUSLY FROM SYSTEM.
5. FLOAT VALVE TO PREVENT WATER DISCHARGE.
6. MINIMUM WATER WORKING PRESSURE RATING: 175 PSIG.

2.5 SPRINKLER PIPING SPECIALTIES

A. BRANCH OUTLET FITTINGS:

1. STANDARD: UL 213.
2. PRESSURE RATING: 175-PSIG MINIMUM.
3. BODY MATERIAL: DUCTILE-IRON HOUSING WITH EPDM SEALS AND BOLTS AND NUTS.
4. TYPE: MECHANICAL-TEE AND -CROSS FITTINGS.
5. CONFIGURATIONS: SNAP-ON AND STRAPLESS, DUCTILE-IRON HOUSING WITH BRANCH OUTLETS.
6. SIZE: OF DIMENSION TO FIT ONTO SPRINKLER MAIN AND WITH OUTLET CONNECTIONS AS REQUIRED TO MATCH CONNECTED BRANCH PIPING.
7. BRANCH OUTLETS: GROOVED, PLAIN-END PIPE, OR THREADED.

B. FLOW DETECTION AND TEST ASSEMBLIES:

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
   a. AGF MANUFACTURING, INC.
   b. RELIABLE AUTOMATIC SPRINKLER CO., INC. (THE)
   c. TYCO BY JOHNSON CONTROLS COMPANY
   d. VICTAULIC COMPANY
2. STANDARD: UL'S "FIRE PROTECTION EQUIPMENT DIRECTORY" OR FM GLOBAL'S "APPROVAL GUIDE."
3. PRESSURE RATING: 175-PSIG MINIMUM.
4. BODY MATERIAL: CAST- OR DUCTILE-IRON HOUSING WITH ORIFICE, SIGHT GLASS, AND INTEGRAL TEST VALVE.
5. SIZE: SAME AS CONNECTED PIPING.
6. INLET AND OUTLET: THREADED OR GROOVED.

C. BRANCH LINE TESTERS:

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
   a. AGF MANUFACTURING, INC.
   b. ELKHART BRASS MFG. CO., INC
   c. FIRE-END & CROKER CORPORATION
   d. POTTER ELECTRIC SIGNAL COMPANY, LLC
   e. POTTER ROEMER LLC, A DIVISION OF MORRIS GROUP INTERNATIONAL
2. STANDARD: UL 199.
3. PRESSURE RATING: 175 PSIG.
4. BODY MATERIAL: BRASS.
5. SIZE: SAME AS CONNECTED PIPING.
6. INLET: THREADED.
7. DRAIN OUTLET: THREADED AND CAPPED.
8. BRANCH OUTLET: THREADED, FOR SPRINKLER.

D. SPRINKLER INSPECTOR'S TEST FITTINGS:

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
   a. AGF MANUFACTURING, INC.
   b. TRIPLE R SPECIALTY
   c. TYCO BY JOHNSON CONTROLS COMPANY
   d. VICTAULIC COMPANY
   e. VIKING CORPORATION
2. STANDARD: UL'S "FIRE PROTECTION EQUIPMENT DIRECTORY" OR FM GLOBAL'S "APPROVAL GUIDE."
3. PRESSURE RATING: 175-PSIG MINIMUM.
4. BODY MATERIAL: CAST- OR DUCTILE-IRON HOUSING WITH SIGHT GLASS.
5. SIZE: SAME AS CONNECTED PIPING.
6. INLET AND OUTLET: THREADED.

E. ADJUSTABLE DROP NIPPLES:

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
   a. AEGIS TECHNOLOGIES, INC.
   b. CECA, LLC
   c. CPS PRODUCTS, INC.
   d. MERIT MANUFACTURING
2. STANDARD: UL 1474.
3. PRESSURE RATING: 250-PSIG MINIMUM.
4. BODY MATERIAL: STEEL PIPE WITH EPDM-RUBBER O-RING SEALS.
5. SIZE: SAME AS CONNECTED PIPING.
6. LENGTH: ADJUSTABLE.
7. INLET AND OUTLET: THREADED.

F. FLEXIBLE SPRINKLER HOSE FITTINGS:

1. NOT PERMITTED.

2.6 SPRINKLERS

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:

1. GLOBE FIRE SPRINKLER CORPORATION
2. RELIABLE AUTOMATIC SPRINKLER CO., INC. (THE)
3. TYCO BY JOHNSON CONTROLS COMPANY
4. VIKING CORPORATION

B. LISTED IN UL'S "FIRE PROTECTION EQUIPMENT DIRECTORY" OR FM GLOBAL'S "APPROVAL GUIDE."

C. PRESSURE RATING FOR AUTOMATIC SPRINKLERS: 175-PSIG MINIMUM.

D. AUTOMATIC SPRINKLERS WITH HEAT-RESPONSIVE ELEMENT:

1. NONRESIDENTIAL APPLICATIONS: UL 199.
2. CHARACTERISTICS: NOMINAL 1/2-INCH ORIFICE WITH DISCHARGE COEFFICIENT K OF 5.6, AND FOR "ORDINARY" TEMPERATURE CLASSIFICATION RATING UNLESS OTHERWISE INDICATED OR REQUIRED BY APPLICATION.

E. SPRINKLER FINISHES: CHROME PLATED AND PAINTED. ARCHITECT SHALL ADVISE ON SPECIAL COLOR SPRINKLERS OR COVER PLATES.

F. SPRINKLER ESCUTCHEONS: MATERIALS, TYPES, AND FINISHES FOR THE FOLLOWING SPRINKLER MOUNTING APPLICATIONS. ESCUTCHEONS FOR CONCEALED, FLUSH, AND RECESSED-TYPE SPRINKLERS ARE SPECIFIED WITH SPRINKLERS.

1. CEILING MOUNTING: PLASTIC, WHITE FINISH, ONE PIECE, FLAT.
2. SIDEWALL MOUNTING: PLASTIC, WHITE FINISH, ONE PIECE, FLAT.

G. SPRINKLER GUARDS:

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
   a. RELIABLE AUTOMATIC SPRINKLER CO., INC. (THE)
   b. TYCO BY JOHNSON CONTROLS COMPANY
   c. VICTAULIC COMPANY
   d. VIKING CORPORATION
2. STANDARD: UL 199.
3. TYPE: WIRE CAGE WITH FASTENING DEVICE FOR ATTACHING TO SPRINKLER.

2.7 ALARM DEVICES

A. ALARM-DEVICE TYPES SHALL MATCH PIPING AND EQUIPMENT CONNECTIONS.

B. WATER-FLOW INDICATORS:

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
   e. POTTER ELECTRIC SIGNAL COMPANY, LLC
   f. SYSTEM SENSOR
   g. VIKING CORPORATION
   h. WATTS
2. STANDARD: UL 346.
3. WATER-FLOW DETECTOR: ELECTRICALLY SUPERVISED.
4. COMPONENTS: TWO SINGLE-POLE, DOUBLE-THROW CIRCUIT SWITCHES FOR ISOLATED ALARM AND AUXILIARY CONTACTS, 7 A, 125-V AC AND 0.25 A, 24-V DC; COMPLETE WITH FACTORY-SET, FIELD-ADJUSTABLE RETARD ELEMENT TO PREVENT FALSE SIGNALS AND TAMPERPROOF COVER THAT SENDS SIGNAL IF REMOVED.
5. TYPE: PADDLE OPERATED.
6. PRESSURE RATING: 250 PSIG.
7. DESIGN INSTALLATION: HORIZONTAL OR VERTICAL.

C. VALVE SUPERVISORY SWITCHES:

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
   a. FIRE-LITE ALARMS, INC.; A HONEYWELL INTERNATIONAL COMPANY
   b. KENNEDY VALVE COMPANY; A DIVISION OF MCWANE, INC.
   c. POTTER ELECTRIC SIGNAL COMPANY, LLC
   d. SYSTEM SENSOR
2. STANDARD: UL 346.
3. TYPE: ELECTRICALLY SUPERVISED.
4. COMPONENTS: SINGLE-POLE, DOUBLE-THROW SWITCH WITH NORMALLY CLOSED CONTACTS.
5. DESIGN: SIGNALS THAT CONTROLLED VALVE IS IN OTHER THAN FULLY OPEN POSITION.
6. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.

2.8 PRESSURE GAUGES

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:

1. AGF MANUFACTURING, INC.
2. AMETEK, INC.
3. ASHCROFT INC

B. STANDARD: UL 393.

C. DIAL SIZE: 3-1/2- TO 4-1/2-INCH DIAMETER.

D. PRESSURE GAUGE RANGE: 0 TO 300 PSIG.

E. WATER SYSTEM PIPING GAGE: INCLUDE "WATER" OR "AIR/WATER" LABEL ON DIAL FACE.

PART 3 - EXECUTION

3.1 PREPARATION

A. PERFORM FIRE-HYDRANT FLOW TEST ACCORDING TO NFPA 13 AND NFPA 291. USE RESULTS FOR SYSTEM DESIGN CALCULATIONS REQUIRED IN "QUALITY ASSURANCE" ARTICLE.

B. REPORT TEST RESULTS PROMPTLY AND IN WRITING.

3.2 SERVICE-ENTRANCE PIPING

A. CONNECT FIRE SPRINKLER LOOP PIPING TO WATER-SERVICE PIPING AT SERVICE ENTRANCES TO BUILDINGS.

3.3 WATER-SUPPLY CONNECTIONS

A. CONNECT ALL BUILDING'S SPRINKLER PIPING TO BUILDING'S INTERIOR FIRE LOOP PIPING. COMPLY WITH REQUIREMENTS FOR INTERIOR PIPING IN DIVISION 22 SECTION "DOMESTIC WATER PIPING."

3.4 PIPING INSTALLATION

A. LOCATIONS AND ARRANGEMENTS: DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING. INSTALL PIPING AS INDICATED ON APPROVED WORKING PLANS.

1. DEVIATIONS FROM APPROVED WORKING PLANS FOR PIPING REQUIRE WRITTEN APPROVAL FROM AUTHORITIES HAVING JURISDICTION. FILE WRITTEN APPROVAL WITH ARCHITECT BEFORE DEVIATING FROM APPROVED WORKING PLANS.
2. COORDINATE LAYOUT AND INSTALLATION OF SPRINKLERS WITH OTHER CONSTRUCTION THAT PENETRATES CEILINGS, INCLUDING LIGHT FIXTURES, HVAC EQUIPMENT, AND PARTITION ASSEMBLIES.

B. PIPING STANDARD: COMPLY WITH NFPA 13 REQUIREMENTS FOR INSTALLATION OF SPRINKLER PIPING.

C. USE LISTED FITTINGS TO MAKE CHANGES IN DIRECTION, BRANCH TAKEOFFS FROM MAINS, AND REDUCTIONS IN PIPE SIZES.

D. INSTALL UNIONS ADJACENT TO EACH VALVE IN PIPES NPS 2 AND SMALLER.

E. INSTALL FLANGES, FLANGE ADAPTERS, OR COUPLINGS FOR GROOVED-END PIPING ON VALVES, APPARATUS, AND EQUIPMENT HAVING NPS 2-1/2 AND LARGER END CONNECTIONS.

F. INSTALL "INSPECTOR'S TEST CONNECTIONS" IN SPRINKLER SYSTEM PIPING, COMPLETE WITH SHUTOFF VALVE, AND SIZED AND LOCATED ACCORDING TO NFPA 13.

G. INSTALL SPRINKLER PIPING WITH DRAINS FOR COMPLETE SYSTEM DRAINAGE.

H. INSTALL SPRINKLER CONTROL VALVES, TEST ASSEMBLIES, AND DRAIN RISERS ADJACENT TO STANDPIPES WHEN SPRINKLER PIPING IS CONNECTED TO STANDPIPES.

I. INSTALL AUTOMATIC (BALL DRIP) DRAIN VALVE AT EACH CHECK VALVE FOR FIRE-DEPARTMENT CONNECTION, TO DRAIN PIPING BETWEEN FIRE-DEPARTMENT CONNECTION AND CHECK VALVE. INSTALL DRAIN PIPING TO AND SPILL OVER FLOOR DRAIN OR TO OUTSIDE BUILDING.

J. INSTALL ALARM DEVICES IN PIPING SYSTEMS.

K. INSTALL PRESSURE GAUGES ON RISER OR FEED MAIN, AT EACH SPRINKLER TEST CONNECTION, AND AT TOP OF EACH STANDPIPE. INCLUDE PRESSURE GAUGES WITH CONNECTION NOT LESS THAN NPS 1/4 AND WITH SOFT-METAL SEATED GLOBE VALVE, ARRANGED FOR DRAINING PIPE BETWEEN GAUGE AND VALVE. INSTALL GAUGES TO PERMIT REMOVAL, AND INSTALL WHERE THEY ARE NOT SUBJECT TO FREEZING.

L. FILL SPRINKLER SYSTEM PIPING WITH WATER.

M. INSTALL SLEEVES FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FLOORS. COMPLY WITH REQUIREMENTS FOR SLEEVES SPECIFIED IN SECTION 210517 "SLEEVES AND SLEEVE SEALS FOR FIRE-SUPPRESSION PIPING."

N. INSTALL SLEEVE SEALS FOR PIPING PENETRATIONS OF CONCRETE WALLS AND SLABS. COMPLY WITH REQUIREMENTS FOR SLEEVE SEALS SPECIFIED IN SECTION 210517 "SLEEVES AND SLEEVE SEALS FOR FIRE-SUPPRESSION PIPING."

O. INSTALL ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FLOORS. COMPLY WITH REQUIREMENTS FOR ESCUTCHEONS SPECIFIED IN SECTION 210518 "ESCUTCHEONS FOR FIRE-SUPPRESSION PIPING."

3.5 JOINT CONSTRUCTION

A. INSTALL COUPLINGS, FLANGES, FLANGED FITTINGS, UNIONS, NIPPLES, AND TRANSITION AND SPECIAL FITTINGS THAT HAVE FINISH AND PRESSURE RATINGS SAME AS OR HIGHER THAN SYSTEM'S PRESSURE RATING FOR ABOVEGROUND APPLICATIONS UNLESS OTHERWISE INDICATED.

B. INSTALL UNIONS ADJACENT TO EACH VALVE IN PIPES NPS 2 AND SMALLER.

C. INSTALL FLANGES, FLANGE ADAPTERS, OR COUPLINGS FOR GROOVED-END PIPING ON VALVES, APPARATUS, AND EQUIPMENT HAVING NPS 2-1/2 AND LARGER END CONNECTIONS.

D. REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS. BEVEL PLAIN ENDS OF STEEL PIPE.

E. REMOVE SCALE, SLAG, DIRT, AND DEBRIS FROM INSIDE AND OUTSIDE OF PIPES, TUBES, AND FITTINGS BEFORE ASSEMBLY.

F. FLANGED JOINTS: SELECT APPROPRIATE GASKET MATERIAL IN SIZE, TYPE, AND THICKNESS SUITABLE FOR WATER SERVICE. JOIN FLANGES WITH GASKET AND BOLTS ACCORDING TO ASME B31.9.

G. THREADED JOINTS: THREAD PIPE WITH TAPERED PIPE THREADS ACCORDING TO ASME B1.20.1. CUT THREADS FULL AND CLEAN USING SHARP DIES. REAM THREADED PIPE ENDS TO REMOVE BURRS AND RESTORE FULL ID. JOIN PIPE FITTINGS AND VALVES AS FOLLOWS:

1. APPLY APPROPRIATE TAPE OR THREAD COMPOUND TO EXTERNAL PIPE THREADS.
2. DAMAGED THREADS: DO NOT USE PIPE OR PIPE FITTINGS WITH THREADS THAT ARE CORRODED OR DAMAGED.

H. WELDED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS D10.12M/D10.12, USING QUALIFIED PROCESSES AND WELDING OPERATORS ACCORDING TO "QUALITY ASSURANCE" ARTICLE.

1. SHOP WELD PIPE JOINTS WHERE WELDED PIPING IS INDICATED. DO NOT USE WELDED JOINTS FOR GALVANIZED-STEEL PIPE.

I. STEEL-PIPING, ROLL-GROOVED JOINTS: ROLL ROUNDED-EDGE GROOVE IN END OF PIPE ACCORDING TO AWWA C606. ASSEMBLE COUPLING WITH HOUSING, GASKET, LUBRICANT, AND BOLTS. JOIN STEEL PIPE AND GROOVED-END FITTINGS ACCORDING TO AWWA C606 FOR STEEL-PIPE GROOVED JOINTS.

J. DISSIMILAR-MATERIAL PIPING JOINTS: MAKE JOINTS USING ADAPTERS COMPATIBLE WITH MATERIALS OF BOTH PIPING SYSTEMS.

3.6 VALVE AND SPECIALTIES INSTALLATION

A. INSTALL LISTED FIRE-PROTECTION VALVES, TRIM AND DRAIN VALVES, SPECIALTY VALVES AND TRIM, CONTROLS, AND SPECIALTIES ACCORDING TO NFPA 13 AND AUTHORITIES HAVING JURISDICTION.

B. INSTALL LISTED FIRE-PROTECTION SHUTOFF VALVES SUPERVISED OPEN, LOCATED TO CONTROL SOURCES OF WATER SUPPLY EXCEPT FROM FIRE-DEPARTMENT CONNECTIONS. INSTALL PERMANENT IDENTIFICATION SIGNS INDICATING PORTION OF SYSTEM CONTROLLED BY EACH VALVE.

C. INSTALL CHECK VALVE IN EACH WATER-SUPPLY CONNECTION. INSTALL BACKFLOW PREVENTERS INSTEAD OF CHECK VALVES IN POTABLE-WATER-SUPPLY SOURCES.

D. SPECIALTY VALVES:

1. INSTALL VALVES IN VERTICAL POSITION FOR PROPER DIRECTION OF FLOW, IN MAIN SUPPLY TO SYSTEM.
2. INSTALL ALARM VALVES WITH BYPASS CHECK VALVE AND RETARDING CHAMBER DRAIN-LINE CONNECTION.

E. AIR VENT:

1. PROVIDE AT LEAST ONE AIR VENT AT HIGH POINT IN EACH WET-PIPE SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 REQUIREMENTS. CONNECT VENT INTO TOP OF FIRE SPRINKLER PIPING.
2. PROVIDE DIELECTRIC UNION FOR DISSIMILAR METALS, BALL VALVE, AND STRAINER UPSTREAM OF AUTOMATIC AIR VENT.

3.7 SPRINKLER INSTALLATION

A. INSTALL SPRINKLERS IN SUSPENDED CEILINGS IN CENTER OF ACOUSTICAL CEILING PANELS.

B. INSTALL DRY-TYPE SPRINKLERS WITH WATER SUPPLY FROM HEATED SPACE. DO NOT INSTALL PENDENT OR SIDEWALL, WET-TYPE SPRINKLERS IN AREAS SUBJECT TO FREEZING.

3.8 IDENTIFICATION

A. INSTALL LABELING AND PIPE MARKERS ON EQUIPMENT AND PIPING ACCORDING TO REQUIREMENTS IN NFPA 13.

B. IDENTIFY SYSTEM COMPONENTS, WIRING, CABLING, AND TERMINALS. COMPLY WITH REQUIREMENTS FOR IDENTIFICATION SPECIFIED IN SECTION 260553 "IDENTIFICATION FOR ELECTRICAL SYSTEMS."

3.9 FIELD QUALITY CONTROL

A. PERFORM THE FOLLOWING TESTS AND INSPECTIONS:

1. LEAK TEST: AFTER INSTALLATION, CHARGE SYSTEMS AND TEST FOR LEAKS. REPAIR LEAKS AND RETEST UNTIL NO LEAKS EXIST.
2. TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.
3. FLUSH, TEST, AND INSPECT SPRINKLER SYSTEMS IN ACCORDANCE WITH THE 2014 NYC BUILDING CODE AND NFPA 13, WITH APPENDIX Q MODIFICATIONS.
4. ENERGIZE CIRCUITS TO ELECTRICAL EQUIPMENT AND DEVICES.
5. COORDINATE WITH FIRE-ALARM TESTS. OPERATE AS REQUIRED.
6. COORDINATE WITH FIRE-PUMP TESTS. OPERATE AS REQUIRED.
7. VERIFY THAT EQUIPMENT HOSE THREADS ARE SAME AS LOCAL FIRE

GENERAL-DUTY VALVES FOR WATER-BASED FIRE-SUPPRESSION PIPING - 210523 - 1

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

A. SECTION INCLUDES:

1. TWO-PIECE BALL VALVES WITH INDICATORS.
2. IRON BUTTERFLY VALVES WITH INDICATORS.
3. CHECK VALVES.
4. IRON OS&Y GATE VALVES.
5. TRIM AND DRAIN VALVES.

1.3 DEFINITIONS

A. NRS: NONRISING STEM.

B. OS&Y: OUTSIDE SCREW AND YOKE.

C. SBR: STYRENE-BUTADIENE RUBBER.

1.4 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF VALVE.

1.5 DELIVERY, STORAGE, AND HANDLING

A. PREPARE VALVES FOR SHIPPING AS FOLLOWS:

1. PROTECT INTERNAL PARTS AGAINST RUST AND CORROSION.
2. PROTECT THREADS, FLANGE FACES, AND WELD ENDS.
3. SET VALVES OPEN TO MINIMIZE EXPOSURE OF FUNCTIONAL SURFACES.

B. USE THE FOLLOWING PRECAUTIONS DURING STORAGE:

1. MAINTAIN VALVE END PROTECTION.
2. STORE VALVES INDOORS AND MAINTAIN AT HIGHER-THAN-AMBIENT DEW POINT TEMPERATURE. IF OUTDOOR STORAGE IS NECESSARY, STORE VALVES OFF THE GROUND IN WATERTIGHT ENCLOSURES.

C. USE SLING TO HANDLE LARGE VALVES; RIG SLING TO AVOID DAMAGE TO EXPOSED PARTS. DO NOT USE OPERATING HANDLES OR STEMS AS LIFTING OR RIGGING POINTS.

D. PROTECT FLANGES AND SPECIALTIES FROM MOISTURE AND DIRT.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. OBTAIN EACH TYPE OF VALVE FROM SINGLE MANUFACTURER.

2.2 PERFORMANCE REQUIREMENTS

A. UL LISTED: VALVES SHALL BE LISTED IN UL'S "ONLINE CERTIFICATIONS DIRECTORY" UNDER THE HEADINGS LISTED BELOW AND SHALL BEAR UL MARK:

1. FIRE MAIN EQUIPMENT: HAMV - MAIN LEVEL
   a. INDICATOR POSTS, GATE VALVE: HCBZ - LEVEL 1
   b. BALL VALVES, SYSTEM CONTROL: HLUG - LEVEL 3
   c. BUTTERFLY VALVES: HLXS - LEVEL 3
   d. CHECK VALVES: HMER - LEVEL 3
   e. GATE VALVES: HMRZ - LEVEL 3
2. SPRINKLER SYSTEM & WATER SPRAY SYSTEM DEVICES: VDGT - MAIN LEVEL
   a. VALVES, TRIM AND DRAIN: VGGU - LEVEL 1

B. FM GLOBAL APPROVED: VALVES SHALL BE LISTED IN ITS "APPROVAL GUIDE," UNDER THE HEADINGS LISTED BELOW:

1. AUTOMATED SPRINKLER SYSTEMS:
   a. INDICATOR POSTS.
   b. VALVES.
      1) GATE VALVES.
      2) CHECK VALVES
      3) MISCELLANEOUS VALVES.

C. ASME COMPLIANCE:

1. ASME B1.20.1 FOR THREADS FOR THREADED-END VALVES.
2. ASME B16.1 FOR FLANGES ON IRON VALVES.
3. ASME B31.9 FOR BUILDING SERVICES PIPING VALVES.

D. AWWA COMPLIANCE: COMPLY WITH AWWA C606 FOR GROOVED-END CONNECTIONS.

E. NFPA COMPLIANCE FOR VALVES:

1. COMPLY WITH NFPA 13, NFPA 14, NFPA 20, AND NFPA 24.

F. VALVE PRESSURE RATINGS: NOT LESS THAN THE MINIMUM PRESSURE RATING INDICATED OR HIGHER, AS REQUIRED BY SYSTEM PRESSURES.

G. VALVE SIZES: SAME AS UPSTREAM PIPING UNLESS OTHERWISE INDICATED.

H. VALVE ACTUATOR TYPES:

1. WORM-GEAR ACTUATOR WITH HANDWHEEL FOR QUARTER-TURN VALVES, EXCEPT FOR TRIM AND DRAIN VALVES.
2. HANDWHEEL: FOR OTHER THAN QUARTER-TURN TRIM AND DRAIN VALVES.
3. HANDLEVER: FOR QUARTER-TURN TRIM AND DRAIN VALVES NPS 2 AND SMALLER.

2.3 TWO-PIECE BALL VALVES WITH INDICATORS

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:

1. AMES FIRE & WATERWORKS; A WATTS BRAND
2. NIBCO INC.
3. VICTAULIC COMPANY

B. DESCRIPTION:

1. UL 1091, EXCEPT WITH BALL INSTEAD OF DISC AND FM GLOBAL APPROVED FOR INDICATING VALVES (BUTTERFLY OR BALL TYPE), CLASS NUMBER 1112.
2. MINIMUM PRESSURE RATING: 175 PSIG.
3. BODY DESIGN: TWO PIECE.
4. BODY MATERIAL: FORGED BRASS OR BRONZE.
5. PORT SIZE: FULL OR STANDARD.
6. SEATS: PTFE.
7. STEM: BRONZE OR STAINLESS STEEL.
8. BALL: CHROME-PLATED BRASS.
9. ACTUATOR: WORM GEAR
10. SUPERVISORY SWITCH: INTERNAL OR EXTERNAL.
11. END CONNECTIONS FOR VALVES NPS 1 THROUGH NPS 2: THREADED ENDS.
12. END CONNECTIONS FOR VALVES NPS 2-1/2: GROOVED ENDS.

2.4 IRON BUTTERFLY VALVES WITH INDICATORS

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:

1. ALEUM USA
2. ANVIL INTERNATIONAL
3. GLOBE FIRE SPRINKLER CORPORATION
4. KENNEDY VALVE COMPANY; A DIVISION OF MCWANE, INC.
5. NIBCO INC.
6. TYCO BY JOHNSON CONTROLS COMPANY
7. VICTAULIC COMPANY
8. ZURN INDUSTRIES, LLC

B. DESCRIPTION:

1. STANDARD: UL 1091 AND FM GLOBAL STANDARD FOR INDICATING VALVES, (BUTTERFLY OR BALL TYPE), CLASS NUMBER 112.
2. MINIMUM PRESSURE RATING: 175 PSIG.
3. BODY MATERIAL: CAST OR DUCTILE IRON.
4. SEAT MATERIAL: EPDM.
5. STEM: STAINLESS STEEL.
6. DISC: DUCTILE IRON.
7. ACTUATOR: WORM GEAR.
8. SUPERVISORY SWITCH: EXTERNAL.
9. BODY DESIGN: GROOVED-END CONNECTIONS.

2.5 CHECK VALVES

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:

1. AMES FIRE & WATERWORKS; A WATTS BRAND
2. FEBCO; A WATTS BRAND
3. GLOBE FIRE SPRINKLER CORPORATION
4. NIBCO INC.
5. RELIABLE AUTOMATIC SPRINKLER CO., INC. (THE)
6. TYCO BY JOHNSON CONTROLS COMPANY
7. VICTAULIC COMPANY
8. VIKING CORPORATION
9. WATTS
10. ZURN INDUSTRIES, LLC

B. DESCRIPTION:

1. STANDARD: UL 312 AND FM GLOBAL STANDARD FOR SWING CHECK VALVES, CLASS NUMBER 1210.
2. MINIMUM PRESSURE RATING: 175 PSIG.
3. TYPE: SINGLE SWING CHECK.
4. BODY MATERIAL: CAST IRON, DUCTILE IRON, OR BRONZE.
5. CLAPPER: BRONZE, DUCTILE IRON, OR STAINLESS STEEL.
6. CLAPPER SEAT: BRASS, BRONZE, OR STAINLESS STEEL.
7. HINGE SHAFT: BRONZE OR STAINLESS STEEL.
8. HINGE SPRING: STAINLESS STEEL.
9. END CONNECTIONS: FLANGED, GROOVED, OR THREADED.

2.6 IRON OS&Y GATE VALVES

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:

1. AMERICAN CAST IRON PIPE COMPANY
2. HAMMOND VALVE
3. NIBCO INC.
4. VICTAULIC COMPANY
5. WATTS
6. ZURN INDUSTRIES, LLC

B. DESCRIPTION:

1. STANDARD: UL 262 AND FM GLOBAL STANDARD FOR FIRE-SERVICE WATER CONTROL VALVES (OS&Y- AND NRS-TYPE GATE VALVES).
2. MINIMUM PRESSURE RATING: 175 PSIG.
3. BODY AND BONNET MATERIAL: CAST OR DUCTILE IRON.
4. WEDGE: CAST OR DUCTILE IRON, OR BRONZE.
5. WEDGE SEAT: CAST OR DUCTILE IRON, OR BRONZE.
6. STEM: BRASS OR BRONZE.
7. PACKING: NON-ASBESTOS PTFE.
8. SUPERVISORY SWITCH: EXTERNAL.
9. END CONNECTIONS: FLANGED OR GROOVED OR THREADED.

2.7 TRIM AND DRAIN VALVES

A. BALL VALVES:

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
   a. APOLLO VALVES; A PART OF AALBERTS INTEGRATED PIPING SYSTEMS
   b. FIRE PROTECTION PRODUCTS, INC
   c. FIRE-END & CROKER CORPORATION
   d. FNY; FERGUSON ENTERPRISES, INC.
   e. MILWAUKEE VALVE COMPANY
   f. NIBCO INC.
   g. TYCO BY JOHNSON CONTROLS COMPANY
   h. VICTAULIC COMPANY
   i. WATTS
   j. ZURN INDUSTRIES, LLC
2. DESCRIPTION:
   a. PRESSURE RATING: 175 PSIG.
   b. BODY DESIGN: TWO PIECE.
   c. BODY MATERIAL: FORGED BRASS OR BRONZE.
   d. PORT SIZE: FULL OR STANDARD.
   e. SEATS: PTFE.
   f. STEM: BRONZE OR STAINLESS STEEL.
   g. BALL: CHROME-PLATED BRASS.
   h. ACTUATOR: HANDLEVER.
   i. END CONNECTIONS FOR VALVES NPS 1 THROUGH NPS 2-1/2: THREADED ENDS.
   j. END CONNECTIONS FOR VALVES NPS 1-1/4 AND NPS 2-1/2: GROOVED ENDS.

B. ANGLE VALVES:

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
   a. FIRE PROTECTION PRODUCTS, INC
   b. NIBCO INC.
   c. UNITED BRASS WORKS, INC
2. DESCRIPTION:
   a. PRESSURE RATING: 175 PSIG.
   b. BODY MATERIAL: BRASS OR BRONZE.
   c. ENDS: THREADED.
   d. STEM: BRONZE.
   e. DISC: BRONZE.
   f. PACKING: ASBESTOS FREE.
   g. HANDWHEEL: MALLEABLE IRON, BRONZE, OR ALUMINUM.

C. GLOBE VALVES:

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
   a. NIBCO INC.
   b. UNITED BRASS WORKS, INC
2. DESCRIPTION:
   a. PRESSURE RATING: 175 PSIG.
   b. BODY MATERIAL: BRONZE WITH INTEGRAL SEAT AND SCREW-IN BONNET.
   c. ENDS: THREADED.
   d. STEM: BRONZE.
   e. DISC HOLDER AND NUT: BRONZE.
   f. DISC SEAT: NITRILE.
   g. PACKING: ASBESTOS FREE.
   h. HANDWHEEL: MALLEABLE IRON, BRONZE, OR ALUMINUM.

PART 3 - EXECUTION

3.1 EXAMINATION

A. EXAMINE VALVE INTERIOR FOR CLEANLINESS, FREEDOM FROM FOREIGN MATTER, AND CORROSION. REMOVE SPECIAL PACKING MATERIALS, SUCH AS BLOCKS, USED TO PREVENT DISC MOVEMENT DURING SHIPPING AND HANDLING.

B. OPERATE VALVES IN POSITIONS FROM FULLY OPEN TO FULLY CLOSED. EXAMINE GUIDES AND SEATS MADE ACCESSIBLE BY SUCH OPERATIONS.

C. EXAMINE THREADS ON VALVE AND MATING PIPE FOR FORM AND CLEANLINESS.

D. EXAMINE MATING FLANGE FACES FOR CONDITIONS THAT MIGHT CAUSE LEAKAGE. CHECK BOLTING FOR PROPER SIZE, LENGTH, AND MATERIAL. VERIFY THAT GASKET IS OF PROPER SIZE, THAT ITS MATERIAL COMPOSITION IS SUITABLE FOR SERVICE, AND THAT IT IS FREE FROM DEFECTS AND DAMAGE.

E. DO NOT ATTEMPT TO REPAIR DEFECTIVE VALVES; REPLACE WITH NEW VALVES.

3.2 INSTALLATION, GENERAL

A. COMPLY WITH REQUIREMENTS IN THE FOLLOWING SECTIONS FOR SPECIFIC VALVE-INSTALLATION REQUIREMENTS AND APPLICATIONS:

1. SECTION 211200 "FIRE-SUPPRESSION STANDPIPES" FOR APPLICATION OF VALVES IN FIRE-SUPPRESSION STANDPIPES.
2. SECTION 211313 "WET-PIPE SPRINKLER SYSTEMS" FOR APPLICATION OF VALVES IN WET-PIPE, FIRE-SUPPRESSION SPRINKLER SYSTEMS.

B. INSTALL LISTED FIRE-PROTECTION SHUTOFF VALVES SUPERVISED-OPEN, LOCATED TO CONTROL SOURCES OF WATER SUPPLY, EXCEPT FROM FIRE-DEPARTMENT CONNECTIONS. INSTALL PERMANENT IDENTIFICATION SIGNS, INDICATING PORTION OF SYSTEM CONTROLLED BY EACH VALVE.

C. INSTALL DOUBLE-CHECK VALVE ASSEMBLY IN EACH FIRE-PROTECTION WATER-SUPPLY CONNECTION. COORDINATE WITH PLUMBING CONTRACTOR FOR INSTALLATION.

D. INSTALL VALVES HAVING THREADED CONNECTIONS WITH UNIONS AT EACH PIECE OF EQUIPMENT ARRANGED TO ALLOW EASY ACCESS, SERVICE, MAINTENANCE, AND EQUIPMENT REMOVAL WITHOUT SYSTEM SHUTDOWN. PROVIDE SEPARATE SUPPORT WHERE NECESSARY.

E. INSTALL VALVES IN HORIZONTAL PIPING WITH STEM AT OR ABOVE THE PIPE CENTER.

F. INSTALL VALVES IN POSITION TO ALLOW FULL STEM MOVEMENT.

G. INSTALL VALVE TAGS. COMPLY WITH REQUIREMENTS IN SECTION 210553 "IDENTIFICATION FOR FIRE-SUPPRESSION PIPING AND EQUIPMENT" FOR VALVE TAGS AND SCHEDULES AND SIGNS ON SURFACES CONCEALING VALVES, AND THE NFPA STANDARD APPLYING TO THE PIPING SYSTEM IN WHICH VALVES ARE INSTALLED. INSTALL PERMANENT IDENTIFICATION SIGNS INDICATING THE PORTION OF SYSTEM CONTROLLED BY EACH VALVE.

END OF SECTION 210523

HANGERS AND SUPPORTS FOR FIRE-SUPPRESSION PIPING AND EQUIPMENT - 210529 - 1

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

A. SECTION INCLUDES:

1. METAL PIPE HANGERS AND SUPPORTS.
2. TRAPEZE PIPE HANGERS.
3. METAL FRAMING SYSTEMS.
4. THERMAL HANGER-SHIELD INSERTS.
5. FASTENER SYSTEMS.
6. EQUIPMENT SUPPORTS.

1.3 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

B. SHOP DRAWINGS: SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER. SHOW FABRICATION AND INSTALLATION DETAILS AND INCLUDE CALCULATIONS FOR THE FOLLOWING:

1. TRAPEZE PIPE HANGERS.
2. METAL FRAMING SYSTEMS.
3. EQUIPMENT SUPPORTS.

C. DELEGATED-DESIGN SUBMITTAL: FOR TRAPEZE HANGERS INDICATED TO COMPLY WITH PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

1. DETAIL FABRICATION AND ASSEMBLY OF TRAPEZE HANGERS.
2. INCLUDE DESIGN CALCULATIONS FOR DESIGNING TRAPEZE HANGERS.

1.4 INFORMATIONAL SUBMITTALS

A. WELDING CERTIFICATES.

1.5 QUALITY ASSURANCE

A. STRUCTURAL-STEEL WELDING QUALIFICATIONS: QUALIFY PROCEDURES AND PERSONNEL ACCORDING TO AWS D1.1/D1.1M.

B. PIPE WELDING QUALIFICATIONS: QUALIFY PROCEDURES AND OPERATORS ACCORDING TO 2015 ASME BOILER AND PRESSURE VESSEL CODE, SECTION IX.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. DELEGATED DESIGN ENGAGE A QUALIFIED PROFESSIONAL ENGINEER, AS DEFINED IN SECTION 014000 "QUALITY REQUIREMENTS," TO DESIGN TRAPEZE PIPE HANGERS AND EQUIPMENT SUPPORTS.

B. STRUCTURAL PERFORMANCE: HANGERS AND SUPPORTS FOR FIRE-SUPPRESSION PIPING AND EQUIPMENT SHALL WITHSTAND THE EFFECTS OF GRAVITY LOADS AND STRESSES WITHIN LIMITS AND UNDER CONDITIONS INDICATED ACCORDING TO ASCE/SEI 7.

1. DESIGN SUPPORTS FOR MULTIPLE PIPES, INCLUDING PIPE STANDS, CAPABLE OF SUPPORTING COMBINED WEIGHT OF SUPPORTED SYSTEMS, SYSTEM CONTENTS, AND TEST WATER.
2. DESIGN EQUIPMENT SUPPORTS CAPABLE OF SUPPORTING COMBINED OPERATING WEIGHT OF SUPPORTED EQUIPMENT AND CONNECTED SYSTEMS AND COMPONENTS.
3. DESIGN SEISMIC-RESTRAINT HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT AND OBTAIN APPROVAL FROM AUTHORITIES HAVING JURISDICTION.

C. NFPA COMPLIANCE: COMPLY WITH NFPA 13.

D. UL COMPLIANCE: COMPLY WITH UL 203.

2.2 METAL PIPE HANGERS AND SUPPORTS

A. CARBON-STEEL PIPE HANGERS AND SUPPORTS:

1. DESCRIPTION: FACTORY-FABRICATED COMPONENTS, NFPA APPROVED, UL LISTED, OR FM APPROVED FOR FIRE-SUPPRESSION PIPING SUPPORT.
2. GALVANIZED METALLIC COATINGS: PREGALVANIZED OR HOT-DIP GALVANIZED.
3. HANGER RODS: CONTINUOUS-THREAD ROD, NUTS, AND WASHER MADE OF CARBON STEEL.

2.3 TRAPEZE PIPE HANGERS

A. DESCRIPTION: MSS SP-58, TYPE 59, SHOP- OR FIELD-FABRICATED PIPE-SUPPORT ASSEMBLY, MADE FROM STRUCTURAL-CARBON-STEEL SHAPES, WITH NFPA-APPROVED, UL-LISTED, OR FM-APPROVED CARBON-STEEL HANGER RODS, NUTS, SADDLES, AND U-BOLTS.

2.4 METAL FRAMING SYSTEMS

A. MFMA MANUFACTURER METAL FRAMING SYSTEMS:

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
   a. ABB (ELECTRIFICATION PRODUCTS DIVISION)
   b. ATKORE INTERNATIONAL (UNISTRUT)
   c. EATON (B-LINE)
   d. FLEX-STRUT INC.
   e. G-STRUT
   f. HAYDON CORPORATION
   g. WESANCO, INC
2. DESCRIPTION: SHOP- OR FIELD-FABRICATED PIPE-SUPPORT ASSEMBLY, MADE OF STEEL CHANNELS, ACCESSORIES, FITTINGS, AND OTHER COMPONENTS FOR SUPPORTING MULTIPLE PARALLEL PIPES.
3. STANDARD: COMPLY WITH MFMA-4, FACTORY-FABRICATED COMPONENTS FOR FIELD ASSEMBLY.
4. CHANNELS: CONTINUOUS SLOTTED [CARBON-STEEL] <INSERT MATERIAL> CHANNEL WITH INTURNED LIPS.
5. CHANNEL WIDTH: SELECTED FOR APPLICABLE LOAD CRITERIA.
6. CHANNEL NUTS: FORMED OR STAMPED NUTS OR OTHER DEVICES DESIGNED TO FIT INTO CHANNEL SLOT AND, WHEN TIGHTENED, PREVENT SLIPPING ALONG CHANNEL.
7. HANGER RODS: CONTINUOUS-THREAD ROD, NUTS, AND WASHER MADE OF CARBON STEEL.
8. METALLIC COATING: NO COATING.

2.5 THERMAL HANGER-SHIELD INSERTS

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:

1. CARPENTER & PATERSON, INC
2. NATIONAL PIPE HANGER CORPORATION
3. NVENT (CADDY)
4. PIPE SHIELDS INC.
5. PIPING TECHNOLOGY & PRODUCTS, INC
6. RILCO MANUFACTURING CO., INC
7. VALUE ENGINEERED PRODUCTS, INC

B. INSULATION-INSERT MATERIAL: WATER-REPELLENT-TREATED, ASTM C533, TYPE I CALCIUM SILICATE WITH 100-PSI. ASTM C552, TYPE II CELLULAR GLASS WITH 100-PSI, OR, ASTM C591, TYPE VI, GRADE 1 POLYISOCYANURATE WITH 125-PSI MINIMUM COMPRESSIVE STRENGTH.

C. FOR TRAPEZE OR CLAMPED SYSTEMS: INSERT AND SHIELD SHALL COVER ENTIRE CIRCUMFERENCE OF PIPE.

D. FOR CLEVIS OR BAND HANGERS: INSERT AND SHIELD SHALL COVER LOWER 180 DEGREES OF PIPE.

E. INSERT LENGTH: EXTEND 2 INCHES BEYOND SHEET METAL SHIELD FOR PIPING OPERATING BELOW AMBIENT AIR TEMPERATURE

2.6 FASTENER SYSTEMS

A. POWDER-ACTUATED FASTENERS: NFPA-APPROVED, UL-LISTED, OR FM-APPROVED THREADED-STEEL STUD, FOR USE IN HARDENED PORTLAND CEMENT CONCRETE, WITH PULL-OUT, TENSION, AND SHEAR CAPACITIES APPROPRIATE FOR SUPPORTED LOADS AND BUILDING MATERIALS WHERE USED.

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
   a. HILTI, INC.
   b. ITW RAMSET/RED HEAD; ILLINOIS TOOL WORKS, INC.
   c. MKT FASTENING, LLC
   d. SIMPSON STRONG-TIE CO.,INC.

B. MECHANICAL-EXPANSION ANCHORS: NFPA-APPROVED, UL-LISTED, OR FM-APPROVED, INSERT-WEDGE-TYPE ANCHORS, FOR USE IN HARDENED PORTLAND CEMENT CONCRETE, WITH PULL-OUT, TENSION, AND SHEAR CAPACITIES APPROPRIATE FOR SUPPORTED LOADS AND BUILDING MATERIALS WHERE USED.

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
   a. EATON (B-LINE)
   b. EMPIRE TOOL AND MANUFACTURING CO., INC.
   c. HILTI, INC.
   d. ITW RAMSET/RED HEAD; ILLINOIS TOOL WORKS, INC.
   e. MKT FASTENING, LLC
2. INDOOR APPLICATIONS: ZINC-COATED OR STAINLESS STEEL.
3. OUTDOOR APPLICATIONS: STAINLESS STEEL.

2.7 EQUIPMENT SUPPORTS

A. DESCRIPTION: NFPA-APPROVED, UL-LISTED, OR FM-APPROVED, WELDED, SHOP- OR FIELD-FABRICATED EQUIPMENT SUPPORT, MADE FROM STRUCTURAL-CARBON-STEEL SHAPES.

2.8 MATERIALS

A. ALUMINUM: ASTM B221.

B. CARBON STEEL: ASTM A1011/A1011M.

C. STRUCTURAL STEEL: ASTM A36/A36M, CARBON-STEEL PLATES, SHAPES, AND BARS; BLACK AND GALVANIZED.

D. STAINLESS STEEL: ASTM A240/A240M.

E. GROUT: ASTM C1107/C1107M, FACTORY-MIXED AND -PACKAGED, DRY, HYDRAULIC-CEMENT, NONSHRINK AND NONMETALLIC GROUT, SUITABLE FOR INTERIOR AND EXTERIOR APPLICATIONS.

1. PROPERTIES: NONSTAINING, NONCORROSIVE, AND NONGASEOUS.
2. DESIGN MIX: 5000-PSI, 28-DAY COMPRESSIVE STRENGTH.

PART 3 - EXECUTION

3.1 APPLICATION

A. COMPLY WITH REQUIREMENTS IN SECTION 078413 "PENETRATION FIRESTOPPING" FOR FIRESTOPPING MATERIALS AND INSTALLATION, FOR PENETRATIONS THROUGH FIRE-RATED WALLS, CEILINGS, AND ASSEMBLIES.

B. STRENGTH OF SUPPORT ASSEMBLIES: WHERE NOT INDICATED, SELECT SIZES OF COMPONENTS SO STRENGTH WILL BE ADEQUATE TO CARRY PRESENT AND FUTURE STATIC LOADS WITHIN SPECIFIED LOADING LIMITS. MINIMUM STATIC DESIGN LOAD USED FOR STRENGTH DETERMINATION SHALL BE WEIGHT OF SUPPORTED COMPONENTS PLUS 200 LB.

3.2 INSTALLATION OF HANGERS AND SUPPORTS

A. METAL PIPE-HANGER INSTALLATION: COMPLY WITH INSTALLATION REQUIREMENTS OF APPROVALS AND LISTINGS. INSTALL HANGERS, SUPPORTS, CLAMPS, AND ATTACHMENTS AS REQUIRED TO PROPERLY SUPPORT PIPING FROM BUILDING STRUCTURE.

B. METAL TRAPEZE PIPE-HANGER INSTALLATION: COMPLY WITH MSS SP-58. ARRANGE FOR GROUPING OF PARALLEL RUNS OF HORIZONTAL PIPING, AND SUPPORT TOGETHER ON FIELD-FABRICATED TRAPEZE PIPE HANGERS.

1. PIPES OF VARIOUS SIZES: SUPPORT TOGETHER AND SPACE TRAPEZES FOR SMALLEST PIPE SIZE, OR INSTALL INTERMEDIATE SUPPORTS FOR SMALLER-DIAMETER PIPES AS SPECIFIED FOR INDIVIDUAL PIPE HANGERS.
2. FIELD FABRICATE FROM ASTM A36/A36M CARBON-STEEL SHAPES SELECTED FOR LOADS BEING SUPPORTED. WELD STEEL ACCORDING TO AWS D1.1/D1.1M.

C. METAL FRAMING SYSTEM INSTALLATION: ARRANGE FOR GROUPING OF PARALLEL RUNS OF PIPING, AND SUPPORT TOGETHER ON FIELD-ASSEMBLED METAL STRUT SYSTEMS.

D. THERMAL HANGER-SHIELD INSTALLATION: INSTALL IN PIPE HANGER OR SHIELD FOR INSULATED PIPING.

E. FASTENER SYSTEM INSTALLATION:

1. INSTALL POWDER-ACTUATED FASTENERS FOR USE IN LIGHTWEIGHT CONCRETE OR CONCRETE SLABS LESS THAN 4 INCHES THICK IN CONCRETE, AFTER CONCRETE IS PLACED AND COMPLETELY CURED. USE OPERATORS THAT ARE LICENSED BY POWDER-ACTUATED TOOL MANUFACTURER. INSTALL FASTENERS ACCORDING TO POWDER-ACTUATED TOOL MANUFACTURER'S OPERATING MANUAL. INSTALL IN ACCORDANCE WITH APPROVALS AND LISTINGS.
2. INSTALL MECHANICAL-EXPANSION ANCHORS IN CONCRETE, AFTER CONCRETE IS PLACED AND COMPLETELY CURED. INSTALL FASTENERS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. INSTALL IN ACCORDANCE WITH APPROVALS AND LISTINGS.

F. INSTALL HANGERS AND SUPPORTS COMPLETE WITH NECESSARY ATTACHMENTS, INSERTS, BOLTS, RODS, NUTS, WASHERS, AND OTHER ACCESSORIES.

G. EQUIPMENT SUPPORT INSTALLATION: FABRICATE FROM WELDED STRUCTURAL-STEEL SHAPES.

H. INSTALL HANGERS AND SUPPORTS TO ALLOW CONTROLLED THERMAL AND SEISMIC MOVEMENT OF PIPING SYSTEMS, TO PERMIT FREEDOM OF MOVEMENT BETWEEN PIPE ANCHORS, AND TO FACILITATE ACTION OF EXPANSION JOINTS, EXPANSION LOOPS, EXPANSION BENDS, AND SIMILAR UNITS.

I. INSTALL LATERAL BRACING WITH PIPE HANGERS AND SUPPORTS TO PREVENT SWAYING.

J. INSTALL BUILDING ATTACHMENTS WITHIN CONCRETE SLABS OR ATTACH TO STRUCTURAL STEEL. INSTALL ADDITIONAL ATTACHMENTS AT CONCENTRATED LOADS, INCLUDING VALVES, FLANGES, AND STRAINERS, NPS 2-1/2 AND LARGER AND AT CHANGES IN DIRECTION OF PIPING. INSTALL CONCRETE INSERTS BEFORE CONCRETE IS PLACED; FASTEN INSERTS TO FORMS, AND INSTALL REINFORCING BARS THROUGH OPENINGS AT TOP OF INSERTS.

K. LOAD DISTRIBUTION: INSTALL HANGERS AND SUPPORTS, SO THAT PIPING LIVE AND DEAD LOADS AND STRESSES FROM MOVEMENT WILL NOT BE TRANSMITTED TO CONNECTED EQUIPMENT.

L. PIPE SLOPES: INSTALL HANGERS AND SUPPORTS TO PROVIDE INDICATED PIPE SLOPES AND TO NOT EXCEED MAXIMUM PIPE DEFLECTIONS ALLOWED BY ASME B31.9 FOR BUILDING SERVICES PIPING.

M. INSULATED PIPING:

1. ATTACH CLAMPS AND SPACERS TO PIPING.
   a. PIPING OPERATING ABOVE AMBIENT AIR TEMPERATURE: CLAMP MAY PROJECT THROUGH INSULATION.
   b. PIPING OPERATING BELOW AMBIENT AIR TEMPERATURE: USE THERMAL HANGER-SHIELD INSERT WITH CLAMP SIZED TO MATCH OD OF INSERT.
   c. DO NOT EXCEED PIPE STRESS LIMITS ALLOWED BY ASME B31.9 FOR BUILDING SERVICES PIPING.
2. INSTALL MSS SP-58, TYPE 39 PROTECTION SADDLES IF INSULATION WITHOUT VAPOR BARRIER IS INDICATED. FILL INTERIOR VOIDS WITH INSULATION THAT MATCHES ADJOINING INSULATION.
   a. MSS SP-58, TYPE 39 OPTION: THERMAL HANGER-SHIELD INSERTS MAY BE USED. INCLUDE STEEL WEIGHT-DISTRIBUTION PLATE FOR PIPE NPS 4 AND LARGER IF PIPE IS INSTALLED ON ROLLERS.
3. INSTALL MSS SP-58, TYPE 40 PROTECTIVE SHIELDS ON COLD PIPING WITH VAPOR BARRIER. SHIELDS SHALL SPAN AN ARC OF 180 DEGREES.
   a. MSS SP-58, TYPE 40 OPTION: THERMAL HANGER-SHIELD INSERTS MAY BE USED. INCLUDE STEEL WEIGHT-DISTRIBUTION PLATE FOR PIPE NPS 4 AND LARGER IF PIPE IS INSTALLED ON ROLLERS.
4. SHIELD DIMENSIONS FOR PIPE: NOT LESS THAN THE FOLLOWING:
   a. NPS 1/4 TO NPS 3-1/2: 12 INCHES LONG AND 0.048 INCH THICK.
   b. NPS 4: 12 INCHES LONG AND 0.06 INCH THICK.
   c. NPS 5 AND NPS 6: 18 INCHES LONG AND 0.06 INCH THICK.
   d. NPS 8 TO NPS 14: 24 INCHES LONG AND 0.075 INCH THICK.
   e. NPS 16 TO NPS 24: 24 INCHES LONG AND 0.105 INCH THICK.
5. PIPES NPS 8 AND LARGER: INCLUDE WOOD OR REINFORCED CALCIUM-SILICATE-INSULATION INSERTS OF LENGTH AT LEAST AS LONG AS PROTECTIVE SHIELD.
6. THERMAL HANGER SHIELDS: INSTALL WITH INSULATION OF SAME THICKNESS AS PIPING INSULATION.

3.3 INSTALLATION OF EQUIPMENT SUPPORTS

A. FABRICATE STRUCTURAL-STEEL STANDS TO SUSPEND EQUIPMENT FROM STRUCTURE OVERHEAD OR TO SUPPORT EQUIPMENT ABOVE FLOOR.

B. GROUTING: PLACE GROUT UNDER SUPPORTS FOR EQUIPMENT, AND MAKE BEARING SURFACE SMOOTH.

C. PROVIDE LATERAL BRACING, TO PREVENT SWAYING, FOR EQUIPMENT SUPPORTS.

3.4 METAL FABRICATIONS

A. CUT, DRILL, AND FIT MISCELLANEOUS METAL FABRICATIONS FOR TRAPEZE PIPE HANGERS AND EQUIPMENT SUPPORTS.

B. FIT EXPOSED CONNECTIONS TOGETHER TO FORM HAIRLINE JOINTS. FIELD WELD CONNECTIONS THAT CANNOT BE SHOP WELDED BECAUSE OF SHIPPING SIZE LIMITATIONS.

C. FIELD WELDING: COMPLY WITH AWS D1.1/D1.1M PROCEDURES FOR SHIELDED, METAL ARC WELDING; APPEARANCE AND QUALITY OF WELDS; AND METHODS USED IN CORRECTING WELDING WORK; AND WITH THE FOLLOWING:

1. USE MATERIALS AND METHODS THAT MINIMIZE DISTORTION AND DEVELOP STRENGTH AND CORROSION RESISTANCE OF BASE METALS.
2. OBTAIN FUSION WITHOUT UNDERCUT OR OVERLAP.
3. REMOVE WELDING FLUX IMMEDIATELY.
4. FINISH WELDS AT EXPOSED CONNECTIONS, SO NO ROUGHNESS SHOWS AFTER FINISHING AND SO CONTOURS OF WELDED SURFACES MATCH ADJACENT CONTOURS.

3.5 ADJUSTING

FIRE DEPARTMENT CONNECTIONS211119 - 1

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

A. SECTION INCLUDES:
1. FLUSH-TYPE FIRE-DEPARTMENT CONNECTIONS.

1.3 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.
1. INCLUDE CONSTRUCTION DETAILS, MATERIAL DESCRIPTIONS, DIMENSIONS OF INDIVIDUAL COMPONENTS AND PROFILES, AND FINISHES FOR EACH FIRE-DEPARTMENT CONNECTION.

PART 2 - PRODUCTS

2.1 FLUSH-TYPE FIRE-DEPARTMENT CONNECTION

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
1. AMERICAN FIRE HOSE & CABINET
2. CROKER
3. ELKHART BRASS MFG. CO., INC
4. POTTER ROEMER LLC; A DIVISION OF MORRIS GROUP INTERNATIONAL
5. VENUS FIRE PROTECTION LTD.

B. STANDARD: UL 405.

C. TYPE: FLUSH, FOR WALL MOUNTING.

D. PRESSURE RATING: 175 PSIG MINIMUM.

E. BODY MATERIAL: CORROSION-RESISTANT METAL.

F. INLETS: BRASS WITH THREADS ACCORDING TO NFPA 1963 AND MATCHING LOCAL FIRE-DEPARTMENT SIZES AND THREADS. INCLUDE EXTENSION PIPE NIPPLES, BRASS LUGGED SWIVEL CONNECTIONS, AND CHECK DEVICES OR CLAPPERS.

G. CAPS: BRASS, LUGGED TYPE, WITH GASKET AND CHAIN.

H. ESCUTCHEON PLATE: RECTANGULAR, BRASS, WALL TYPE.

I. OUTLET: WITH PIPE THREADS.

J. BODY STYLE: HORIZONTAL.

K. NUMBER OF INLETS: FOUR.

L. OUTLET LOCATION: BACK OR BOTTOM.

M. ESCUTCHEON PLATE MARKING: SIMILAR TO "AUTO SPKR & STANDPIPE."

N. FINISH: POLISHED CHROME PLATED.

O. OUTLET SIZE: NPS 8.

PART 3 - EXECUTION

3.1 EXAMINATION

A. EXAMINE CONDITIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE OF FIRE-DEPARTMENT CONNECTIONS.

B. EXAMINE ROUGHING-IN FOR FIRE-SUPPRESSION STANDPIPE SYSTEM TO VERIFY ACTUAL LOCATIONS OF PIPING CONNECTIONS BEFORE FIRE-DEPARTMENT CONNECTION INSTALLATION.

C. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 INSTALLATION

A. INSTALL WALL-TYPE FIRE-DEPARTMENT CONNECTIONS.

B. INSTALL THREE PROTECTIVE PIPE BOLLARDS AROUND EACH FIRE-DEPARTMENT CONNECTION. COMPLY WITH REQUIREMENTS FOR BOLLARDS IN SECTION 055000 "METAL FABRICATIONS."

C. INSTALL AUTOMATIC (BALL-DRIP) DRAIN VALVE AT EACH CHECK VALVE FOR FIRE-DEPARTMENT CONNECTION.

END OF SECTION 211119

ELECTRIC-DRIVE, CENTRIFUGAL FIRE PUMPS213113 - 1

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

A. SECTION INCLUDES:
1. HORIZONTALLY MOUNTED, SINGLE-STAGE, SPLIT-CASE FIRE PUMPS.
2. FIRE PUMP CONTROLLER.
3. PRESSURE-MAINTENANCE PUMP AND CONTROLLER.
4. FIRE-PUMP ACCESSORIES AND SPECIALTIES.

1.3 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT. INCLUDE RATED CAPACITIES, OPERATING CHARACTERISTICS, PERFORMANCE CURVES, ELECTRICAL CHARACTERISTICS, AND FURNISHED SPECIALTIES AND ACCESSORIES.

B. SHOP DRAWINGS: FOR FIRE PUMPS, MOTOR DRIVERS, AND FIRE-PUMP ACCESSORIES AND SPECIALTIES.
1. INCLUDE PLANS, ELEVATIONS, SECTIONS, AND MOUNTING AND ATTACHMENT DETAILS.
2. INCLUDE DETAILS OF EQUIPMENT ASSEMBLIES. INDICATE DIMENSIONS, WEIGHTS, LOADS, REQUIRED CLEARANCES, METHOD OF FIELD ASSEMBLY, COMPONENTS, AND LOCATION AND SIZE OF EACH FIELD CONNECTION.
3. INCLUDE DIAGRAMS FOR POWER, SIGNAL, AND CONTROL WIRING.

1.4 INFORMATIONAL SUBMITTALS

A. PRODUCT CERTIFICATES: FOR EACH TYPE OF FIRE PUMP, FROM MANUFACTURER.

B. SOURCE QUALITY-CONTROL REPORTS.

C. FIELD QUALITY-CONTROL REPORTS.

1.5 CLOSEOUT SUBMITTALS

A. OPERATION AND MAINTENANCE DATA: FOR FIRE PUMPS TO INCLUDE IN OPERATION AND MAINTENANCE MANUALS.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. NFPA COMPLIANCE: COMPLY WITH NFPA 20 .

B. PUMP EQUIPMENT, ACCESSORY, AND SPECIALTY PRESSURE RATING: 175 PSIG MINIMUM UNLESS HIGHER PRESSURE RATING IS INDICATED.

C. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.

2.2 GENERAL REQUIREMENTS FOR CENTRIFUGAL FIRE PUMPS

A. DESCRIPTION: FACTORY-ASSEMBLED AND -TESTED FIRE-PUMP AND DRIVER UNIT.

B. FINISH: RED PAINT APPLIED TO FACTORY-ASSEMBLED AND -TESTED UNIT BEFORE SHIPPING.

2.3 HORIZONTALLY MOUNTED, SINGLE-STAGE, SPLIT CASE FIRE PUMPS

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
1. PEERLESS PUMP COMPANY, OR APPROVED EQUAL

B. PUMP:
1. STANDARD: UL 448, FOR SPLIT-CASE PUMPS FOR FIRE SERVICE.
2. CASING: AXIALLY SPLIT CASE, CAST IRON, WITH ASME B16.1 PIPE-FLANGE CONNECTIONS.
3. IMPELLER: DOUBLE SUCTION, CAST BRONZE, STATICALLY AND DYNAMICALLY BALANCED, AND KEYED TO SHAFT.
4. WEAR RINGS: REPLACEABLE BRONZE.
5. SHAFT AND SLEEVE: ALLOY STEEL SHAFT WITH BRONZE SLEEVE.
a. SHAFT BEARINGS: GREASE-LUBRICATED BALL BEARINGS IN CAST-IRON HOUSING.
b. SEALS: STUFFING BOX WITH MINIMUM OF FOUR RINGS OF GRAPHITE-IMPREGNATED BRAIDED YARN AND BRONZE PACKING GLAND.
c. MOUNTING: PUMP AND DRIVER SHAFT ARE HORIZONTAL, WITH PUMP AND DRIVER ON SAME BASE.

C. COUPLING: FLEXIBLE AND CAPABLE OF ABSORBING TORSIONAL VIBRATION AND SHAFT MISALIGNMENT. INCLUDE METAL COUPLING GUARD.

D. DRIVER:
1. STANDARD: UL 1004A.
2. TYPE: ELECTRIC MOTOR; NEMA MG 1, POLYPHASE DESIGN B.

E. CAPACITIES AND CHARACTERISTICS:
1. SEE SCHEDULE ON SHEET SP-030.

2.4 FIRE PUMP CONTROLLER

A. FIRE-PUMP CONTROLLERS, GENERAL: UL 218 AND NFPA 20 ; LISTED FOR ELECTRIC-DRIVE, FIRE-PUMP SERVICE AND SERVICE ENTRANCE; COMBINED AUTOMATIC AND MANUAL OPERATION; FACTORY ASSEMBLED WIRED AND FACTORY TESTED FOR CAPACITIES AND ELECTRICAL CHARACTERISTICS.

1. FIRETROL INC MODEL FTA1930.

2. RATE CONTROLLERS FOR SCHEDULED FIRE-PUMP HORSEPOWER AND SHORT-CIRCUIT WITHSTAND RATING AS SHOWN BELOW OR ON THE SCHEDULE.
3. ENCLOSURE: UL 50, TYPE 2, DRIP-PROOF, INDOOR, UNLESS SPECIAL-PURPOSE ENCLOSURE IS INDICATED. INCLUDE MANUFACTURER'S STANDARD RED PAINT APPLIED TO FACTORY-ASSEMBLED AND -TESTED UNIT BEFORE SHIPPING.
4. CONTROLS, DEVICES, ALARMS, FUNCTIONS, AND OPERATIONS LISTED IN NFPA 20 AS REQUIRED FOR DRIVERS AND CONTROLLER TYPES USED, AND SPECIFIC ITEMS LISTED.
a. VOLTAGE SURGE PROTECTION
b. ISOLATING MEANS AND CIRCUIT BREAKER.
c. MOTOR CONTACTORS
d. EMERGENCY RUN MECHANISM
e. "POWER ON" PILOT LAMP.
f. ALARM.
g. FIRE-ALARM SYSTEM AUXILIARY CONTACTS WITH TWO (2) SETS FOR INDICATION OF:
1) PUMP / MOTOR RUNNING, OPTION AC
2) LOSS-OF-LINE POWER / PHASE FAILURE, OPTION BW
3) LINE-POWER PHASE REVERSAL.
h. SOLID STATE PRESSURE TRANSDUCER.
i. CONTROLLER SHALL HAVE A PASSWORD PROTECTED OPERATOR INTERFACE. IT SHALL PROVIDE FOR SET POINT ADJUSTMENT, DISPLAY SYSTEM PRESSURE AND 3 PHASE MOTOR OPERATING CONDITIONS.
j. CONTROLLERS SHALL RECORD HISTORICAL OPERATING DATA AND SYSTEM EVENTS WHICH MAY BE DOWNLOADED TO THROUGH ITS USB PORT
k. AUTOMATIC AND MANUAL OPERATION.
l. AUTOMATIC OR MANUAL SHUTDOWN WITH AND MINIMUM RUN-TIME RELAY TO PREVENT SHORT CYCLING.
5. LOW SYSTEM PRESSURE AUDIBLE ALARM.
6. AUTOMATIC WEEKLY TEST TIMER AND PRESSURE SENSING LINE DRAIN SOLENOID VALVE, PIPE TO FLOOR DRAIN.
7. CONTROLLER SHALL MONITOR, DISPLAY AND DATA LOG JOCKEY PUMP PRESSURE AND OPERATION. CONTRACTOR TO PROVIDE ETHERNET FIELD WIRED CONNECTION BETWEEN CONTROLLERS.
8. NAMEPLATE: COMPLETE WITH CAPACITY, CHARACTERISTICS, APPROVALS AND LISTINGS, AND OTHER PERTINENT DATA.
9. CONTROLLER SENSING PIPES: FABRICATE PIPE AND FITTINGS ACCORDING TO NFPA 20 WITH NONFERROUS-METAL SENSING PIPING, NPS 1/2 (DN 15), WITH GLOBE VALVES FOR TESTING CONTROLLER MECHANISM FROM SYSTEM TO PUMP CONTROLLER AS INDICATED. INCLUDE TWO (2) BRONZE CHECK VALVES WITH 3/32-INCH (2.4-MM) ORIFICE IN CLAPPER OR GROUND-FACE UNION WITH NONCORROSIVE DIAPHRAGM HAVING 3/32-INCH (2.4-MM) ORIFICE.

B. FULL-SERVICE FIRE-PUMP CONTROLLERS:
1. TYPE STARTING: SOLID STATE REDUCED CURRENT STARTING
2. MOUNTING: FLOOR-STAND TYPE FOR FIELD ELECTRICAL CONNECTIONS.
3. FIRETROL MODEL FTA1930

2.5 PRESSURE-MAINTENANCE PUMP AND CONTROLLER

C. PRESSURE-MAINTENANCE PUMPS, GENERAL: FACTORY-ASSEMBLED AND -TESTED PUMPS WITH ELECTRIC-MOTOR DRIVER, CONTROLLER, AND ACCESSORIES AND SPECIALTIES. INCLUDE CAST-IRON OR STAINLESS-STEEL CASING AND BRONZE OR STAINLESS-STEEL IMPELLERS, MECHANICAL SEALS, AND SUCTION AND DISCHARGE FLANGES MACHINED TO ASME B16.1, CLASS 125 DIMENSIONS UNLESS CLASS 250 FLANGES ARE INDICATED AND EXCEPT THAT CONNECTIONS MAY BE THREADED IN SIZES WHERE FLANGES ARE NOT AVAILABLE.

1. FINISH: MANUFACTURER'S STANDARD COLOR PAINT APPLIED TO FACTORY-ASSEMBLED AND -TESTED UNIT BEFORE SHIPPING.

D. MULTISTAGE, PRESSURE-MAINTENANCE PUMPS: MULTIPLE-IMPELLER TYPE COMPLYING WITH HI 2.1-1.2.2 AND HI 2.3 REQUIREMENTS FOR MULTISTAGE CENTRIFUGAL PUMPS. INCLUDE BASE.

1. PEERLESS PUMP COMPANY, OR APPROVED EQUAL BY ONE OR THESE MANUFACTURERS:

2. DRIVER: NEMA MG 1, TOTALLY ENCLOSED FAN COOLED OR OPEN-DRIPPROOF, SQUIRREL-CAGE, INDUCTION MOTOR COMPLYING WITH NFPA 70. INCLUDE WIRING COMPATIBLE WITH CONTROLLER USED.

E. CONTROLLERS: UL 508; FACTORY-ASSEMBLED, -WIRED, AND -TESTED, ACROSS-THE-LINE TYPE FOR COMBINED AUTOMATIC AND MANUAL OPERATION.

1. MANUFACTURER TO BE THE SAME AS THE FIRE PUMP CONTROLLER MANUFACTURER.
2. FIRETROL MODEL FTA550F HAVING A SHORT CIRCUIT CURRENT RATING OF NOT LESS THAN 30,000 AMPS RMS SYMMETRICAL AT THE OPERATING VOLTAGES UP TO 480 VOLTS.
3. ENCLOSURE: UL 508 AND NEMA 250, TYPE 2 / 12, POLYCARBONATE, WALL-MOUNTING TYPE FOR FIELD ELECTRICAL WIRING.
4. RATE CONTROLLER FOR SCHEDULED HORSEPOWER AND INCLUDE THE FOLLOWING:
a. MOTOR CIRCUIT PROTECTOR DISCONNECT SWITCH.
b. MOTOR CONTACTOR
c. HAND-OFF-AUTO SELECTOR SWITCH.
d. LED INDICATING LIGHTS FOR: POWER AVAILABLE, PUMP RUNNING AND ALARM
e. SOLID STATE PRESSURE TRANSDUCER.
f. CONTROLLER SHALL HAVE A PASSWORD PROTECTED OPERATOR INTERFACE. IT SHALL PROVIDE FOR SET POINT ADJUSTMENT, DISPLAY SYSTEM PRESSURE AND 3 PHASE MOTOR OPERATING CONDITIONS.
g. CONTROLLERS SHALL RECORD HISTORICAL OPERATING DATA AND SYSTEM EVENTS.
h. RUNNING PERIOD TIMER.
5. CONTROLLER SHALL COMMUNICATE WITH THE FIRE PUMP CONTROLLER, CONTRACTOR TO PROVIDE ETHERNET FIELD WIRED CONNECTION BETWEEN CONTROLLERS.

D. ACCESSORIES AND SPECIALTIES: MATCH PRESSURE-MAINTENANCE-PUMP SUCTION AND DISCHARGE RATINGS AS REQUIRED FOR PUMP CAPACITY RATING. INCLUDE THE FOLLOWING:

1. CIRCULATION RELIEF VALVE, IF REQUIRED
2. SUCTION AND DISCHARGE PRESSURE GAGES.

E. PRESSURE-MAINTENANCE-PUMP PERFORMANCE CHARACTERISTICS: REFER TO SCHEDULE

2.6 FIRE-PUMP ACCESSORIES AND SPECIALTIES

A. AUTOMATIC AIR-RELEASE VALVES: COMPLY WITH NFPA 20 FOR INSTALLATION IN FIRE-PUMP CASING.

B. CIRCULATION RELIEF VALVES: UL 1478, BRASS, SPRING LOADED; FOR INSTALLATION IN PUMP DISCHARGE PIPING.

C. RELIEF VALVES:
1. DESCRIPTION: UL 1478, BRONZE OR CAST IRON, SPRING LOADED; FOR INSTALLATION IN FIRE-SUPPRESSION WATER-SUPPLY PIPING.

D. INLET FITTING: ECCENTRIC TAPERED REDUCER AT PUMP SUCTION INLET.

E. OUTLET FITTING: CONCENTRIC TAPERED REDUCER AT PUMP DISCHARGE OUTLET.

F. DISCHARGE CONE: CLOSED OR OPEN TYPE.

G. HOSE VALVE MANIFOLD ASSEMBLY:
1. STANDARD: COMPLY WITH REQUIREMENTS IN NFPA 20 .
2. HEADER PIPE: ASTM A53/A53M, SCHEDULE 40, GALVANIZED STEEL, WITH ENDS THREADED ACCORDING TO ASME B1.20.1.
3. HEADER PIPE FITTINGS: ASME B16.4, GALVANIZED CAST-IRON THREADED FITTINGS.
4. AUTOMATIC DRAIN VALVE: UL 1726.
5. MANIFOLD, FLUSH-TYPE BODY:
a. TEST CONNECTIONS: COMPLY WITH UL 405; HOWEVER, PROVIDE OUTLETS WITHOUT CLAPPERS INSTEAD OF INLETS.
b. BODY: FLUSH TYPE, BRASS OR DUCTILE IRON, WITH NUMBER OF OUTLETS REQUIRED BY NFPA 20 .
c. NIPPLES: ASTM A53/A53M, SCHEDULE 40, GALVANIZED-STEEL PIPE, WITH ENDS THREADED ACCORDING TO ASME B1.20.1.
d. ADAPTERS AND CAPS WITH CHAIN: BRASS OR BRONZE, WITH OUTLET THREADED ACCORDING TO NFPA 1963 AND MATCHING LOCAL FIRE-DEPARTMENT THREADS.
e. ESCUTCHEON PLATE: BRASS OR BRONZE; RECTANGULAR.
f. HOSE VALVES: UL 668, BRONZE, WITH OUTLET THREADED ACCORDING TO NFPA 1963 AND MATCHING LOCAL FIRE-DEPARTMENT THREADS.
g. EXPOSED PARTS FINISH: POLISHED BRASS.
h. ESCUTCHEON PLATE MARKING: EQUIVALENT TO "FIRE PUMP TEST."
6. MANIFOLD, EXPOSED-TYPE BODY:
a. TEST CONNECTIONS: COMPLY WITH UL 405; HOWEVER, PROVIDE OUTLETS WITHOUT CLAPPERS INSTEAD OF INLETS.
b. BODY: EXPOSED TYPE, BRASS, WITH NUMBER OF OUTLETS REQUIRED BY NFPA 20 .
c. ESCUTCHEON PLATE: BRASS OR BRONZE; ROUND.
d. HOSE VALVES: UL 668, BRONZE, WITH OUTLET THREADED ACCORDING TO NFPA 1963 AND MATCHING LOCAL FIRE-DEPARTMENT THREADS. INCLUDE CAPS AND CHAINS.
e. EXPOSED PARTS FINISH: POLISHED BRASS.
f. ESCUTCHEON PLATE MARKING: EQUIVALENT TO "FIRE PUMP TEST."

2.7 FLOWMETER SYSTEMS

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
1. GERAND ENGINEERING CO
2. PRESO METERS; DIVISION OF RACINE FEDERATED INC
3. VICTAULIC COMPANY

B. DESCRIPTION: UL-LISTED OR FM-APPROVED, FIRE-PUMP FLOWMETER SYSTEM ABLE TO INDICATE FLOW TO NOT LESS THAN 175 PERCENT OF FIRE-PUMP RATED CAPACITY.

C. PRESSURE RATING: 500 PSIG MINIMUM.

D. SENSOR: ANNUBAR PROBE, ORIFICE PLATE, OR VENTURI UNLESS OTHERWISE INDICATED. SENSOR SIZE SHALL MATCH PIPE, TUBING, FLOWMETER, AND FITTINGS.

E. PERMANENTLY MOUNTED FLOWMETER: COMPATIBLE WITH FLOW SENSOR; WITH DIAL NOT LESS THAN 4-1/2 INCHES IN DIAMETER. INCLUDE BRACKET OR DEVICE FOR WALL MOUNTING.
1. TUBING PACKAGE: NPS 1/8 OR NPS 1/4 SOFT COPPER TUBING WITH COPPER OR BRASS FITTINGS AND VALVES.

F. PORTABLE FLOWMETER: COMPATIBLE WITH FLOW SENSOR; WITH DIAL NOT LESS THAN 4-1/2 INCHES IN DIAMETER AND WITH TWO 12-FOOT- LONG HOSES IN CARRYING CASE.

2.8 GROUT

A. STANDARD: ASTM C1107, GRADE B, POST-HARDENING AND VOLUME-ADJUSTING, DRY, HYDRAULIC-CEMENT GROUT.

B. CHARACTERISTICS: NONSHRINK AND RECOMMENDED FOR INTERIOR AND EXTERIOR APPLICATIONS.

C. DESIGN MIX: 5000-PSI, 28-DAY COMPRESSIVE STRENGTH.

D. PACKAGING: PREMIXED AND FACTORY PACKAGED.

2.9 SOURCE QUALITY CONTROL

A. TESTING: TEST AND INSPECT FIRE PUMPS ACCORDING TO UL 448 REQUIREMENTS FOR "OPERATION TEST" AND "MANUFACTURING AND PRODUCTION TESTS."
1. VERIFICATION OF PERFORMANCE: RATE FIRE PUMPS ACCORDING TO UL 448.

B. FIRE PUMPS WILL BE CONSIDERED DEFECTIVE IF THEY DO NOT PASS TESTS AND INSPECTIONS.

C. PREPARE TEST AND INSPECTION REPORTS.

2.10 WARRANTY: THE PUMP MANUFACTURE SHALL WARRANTY THE SYSTEM FOR 12 MONTHS FROM DATE OF START UP NOT TO EXCEED 18 MONTHS FROM TIME OF SHIPMENT.

2.11 SERVICE CONTRACT: THE MANUFACTURER'S AUTHORIZED SERVICE REPRESENTATIVE SHALL PROVIDE A ONE (1) YEAR SERVICE CONTRACT. THE SERVICE CONTRACT PERIOD SHALL COMMENCE AFTER ACCEPTANCE OF THE EQUIPMENT. THE SERVICE CONTRACT SHALL INCLUDE A COMPLETE SYSTEM INSPECTION TWICE A YEAR INCLUDING: CHECK OF PROPER PUMP SEQUENCING AND ALARM ACTIVATION WITH ADJUSTMENTS, AS REQUIRED; AND REVIEW OF INSTRUCTIONS FOR OPERATING PERSONNEL IF REQUESTED. ANY REQUIRED SERVICE WORK TO BE NOTED IN A FORMAL INSPECTION REPORT ALONG WITH A DETAILED PROPOSAL FOR THE REPAIRS. THE SERVICE REPRESENTATIVE SHALL PROVIDE FOR 24 HOUR EMERGENCY SERVICE.

PART 3 - EXECUTION

3.1 EXAMINATION

A. EXAMINE EQUIPMENT BASES AND ANCHORAGE PROVISIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES, AND OTHER CONDITIONS AFFECTING PERFORMANCE OF FIRE PUMPS.

B. EXAMINE ROUGHING-IN FOR FIRE-SUPPRESSION PIPING SYSTEMS TO VERIFY ACTUAL LOCATIONS OF PIPING CONNECTIONS BEFORE FIRE-PUMP INSTALLATION.

C. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 INSTALLATION

A. FIRE-PUMP INSTALLATION STANDARD: COMPLY WITH NFPA 20 FOR INSTALLATION OF FIRE PUMPS, RELIEF VALVES, AND RELATED COMPONENTS.

B. EQUIPMENT MOUNTING:
1. INSTALL FIRE PUMPS ON CAST-IN-PLACE CONCRETE EQUIPMENT BASES. COMPLY WITH REQUIREMENTS FOR EQUIPMENT BASES AND FOUNDATIONS SPECIFIED IN SECTION 033000 "CAST-IN-PLACE CONCRETE."

C. INSTALL FIRE-PUMP SUCTION AND DISCHARGE PIPING EQUAL TO OR LARGER THAN SIZES REQUIRED BY NFPA 20 .

D. SUPPORT PIPING AND PUMPS SEPARATELY, SO WEIGHT OF PIPING DOES NOT REST ON PUMPS.

E. INSTALL VALVES THAT ARE SAME SIZE AS CONNECTING PIPING. COMPLY WITH REQUIREMENTS FOR FIRE-PROTECTION VALVES SPECIFIED IN SECTION 211200 "FIRE-SUPPRESSION STANDPIPES."

F. INSTALL PRESSURE GAGES ON FIRE-PUMP SUCTION AND DISCHARGE FLANGE PRESSURE-GAGE TAPPINGS. COMPLY WITH REQUIREMENTS FOR PRESSURE GAGES SPECIFIED IN SECTION 211200 "FIRE-SUPPRESSION STANDPIPES".

G. INSTALL PIPING HANGERS AND SUPPORTS, ANCHORS, VALVES, GAGES, AND EQUIPMENT SUPPORTS ACCORDING TO NFPA 20 .

H. INSTALL FLOWMETERS AND SENSORS. INSTALL FLOWMETER-SYSTEM COMPONENTS AND MAKE CONNECTIONS ACCORDING TO NFPA 20 AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

I. ELECTRICAL WIRING: INSTALL ELECTRICAL DEVICES FURNISHED BY EQUIPMENT MANUFACTURERS BUT NOT FACTORY MOUNTED. FURNISH COPIES OF MANUFACTURERS' WIRING DIAGRAM SUBMITTALS TO ELECTRICAL INSTALLER.

J. WIRING METHOD: CONCEAL CONDUCTORS AND CABLES IN ACCESSIBLE CEILINGS, WALLS, AND FLOORS WHERE POSSIBLE.

3.3 ALIGNMENT

A. ALIGN PUMP AND DRIVER SHAFTS AFTER COMPLETE UNIT HAS BEEN LEVELED ON CONCRETE BASE, GROUT HAS SET, AND ANCHOR BOLTS HAVE BEEN TIGHTENED.

B. AFTER ALIGNMENT IS CORRECT, TIGHTEN ANCHOR BOLTS EVENLY. FILL BASEPLATE COMPLETELY WITH GROUT, WITH METAL BLOCKS AND SHIMS OR WEDGES IN PLACE. TIGHTEN ANCHOR BOLTS AFTER GROUT HAS HARDENED. CHECK ALIGNMENT AND MAKE REQUIRED CORRECTIONS.

C. ALIGN PIPING CONNECTIONS.

D. ALIGN PUMP AND DRIVER SHAFTS FOR ANGULAR AND PARALLEL ALIGNMENT ACCORDING TO HI 1.4 AND TO TOLERANCES SPECIFIED BY MANUFACTURER.

3.4 CONNECTIONS

A. COMPLY WITH REQUIREMENTS FOR PIPING AND VALVES SPECIFIED IN SECTION 211200 "FIRE-SUPPRESSION STANDPIPES." DRAWINGS INDICATE GENERAL ARRANGEMENT OF PIPING, FITTINGS, AND SPECIALTIES.

B. INSTALL PIPING ADJACENT TO PUMPS AND EQUIPMENT TO ALLOW SERVICE AND MAINTENANCE.

C. CONNECT RELIEF-VALVE DISCHARGE TO DRAINAGE PIPING OR POINT OF DISCHARGE.

D. CONNECT FLOWMETER-SYSTEM METERS, SENSORS, AND VALVES TO TUBING.

E. CONNECT FIRE PUMPS TO THEIR CONTROLLERS.

3.5 IDENTIFICATION

A. IDENTIFY SYSTEM COMPONENTS. COMPLY WITH REQUIREMENTS FOR FIRE-PUMP MARKING ACCORDING TO NFPA 20 .

3.6 FIELD QUALITY CONTROL

A. TEST EACH FIRE PUMP WITH ITS CONTROLLER AS A UNIT. COMPLY WITH REQUIREMENTS FOR ELECTRIC-MOTOR-DRIVER FIRE-PUMP CONTROLLERS SPECIFIED IN SECTION 262933 "CONTROLLERS FOR FIRE-PUMP DRIVERS."

B. MANUFACTURER'S FIELD SERVICE: ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO INSPECT, TEST, AND ADJUST COMPONENTS, ASSEMBLIES, AND EQUIPMENT INSTALLATIONS, INCLUDING CONNECTIONS.

C. PERFORM THE FOLLOWING TESTS AND INSPECTIONS WITH THE ASSISTANCE OF A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE.
1. AFTER INSTALLING COMPONENTS, ASSEMBLIES, AND EQUIPMENT, INCLUDING CONTROLLER, TEST FOR COMPLIANCE WITH REQUIREMENTS.
2. TEST ACCORDING TO NFPA 20 FOR ACCEPTANCE AND PERFORMANCE TESTING.
3. LEAK TEST: AFTER INSTALLATION, CHARGE SYSTEM AND TEST FOR LEAKS. REPAIR LEAKS AND RETEST UNTIL NO LEAKS EXIST.
4. OPERATIONAL TEST: AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, START UNITS TO CONFIRM PROPER MOTOR ROTATION AND UNIT OPERATION.
5. TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.

D. COMPONENTS, ASSEMBLIES, AND EQUIPMENT WILL BE CONSIDERED DEFECTIVE IF THEY DO NOT PASS TESTS AND INSPECTIONS.

E. PREPARE TEST AND INSPECTION REPORTS.

F. FURNISH FIRE HOSES IN NUMBER, SIZE, AND LENGTH REQUIRED TO REACH STORM DRAIN OR OTHER ACCEPTABLE LOCATION TO DISPOSE OF FIRE-PUMP TEST WATER. HOSES ARE FOR TESTS ONLY AND DO NOT CONVEY TO OWNER.

3.7 STARTUP SERVICE

A. MANUFACTURER'S FIELD SERVICE: ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO REVIEW FIELD-ASSEMBLED COMPONENTS AND EQUIPMENT INSTALLATION, INCLUDING CONNECTIONS, AND TO OBSERVE FIELD TESTING. REPORT RESULTS IN WRITING.

B. REVIEW OF FIELD-ASSEMBLED COMPONENTS AND EQUIPMENT INSTALLATION

C. COMPLETE START-UP CHECKS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

D. PERFORM STARTING PROCEDURE FOR PUMPS IS AS FOLLOWS:

1. PRIME PUMP BY OPENING SUCTION VALVE AND CLOSING DRAINS, AND PREPARE PUMP FOR OPERATION.
2. OPEN SEALING-LIQUID SUPPLY VALVES IF PUMP IS SO FITTED.
3. START MOTOR.
4. OPEN DISCHARGE VALVE SLOWLY.
5. OBSERVE LEAKAGE FROM STUFFING BOXES AND ADJUST SEALING-LIQUID VALVE FOR PROPER FLOW TO ENSURE LUBRICATION OF PACKING. DO NOT TIGHTEN GLAND IMMEDIATELY, BUT LET PACKING RUN IN BEFORE REDUCING LEAKAGE THROUGH STUFFING BOXES.
6. CHECK OVERALL MECHANICAL OPERATION OF PUMP AND MOTOR.

E. TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.

F. COMPONENTS, ASSEMBLIES, AND EQUIPMENT WILL BE CONSIDERED DEFECTIVE IF THEY DO NOT PASS TESTS AND INSPECTIONS.

G. OBSERVE FIELD TESTING.

H. PREPARE TEST AND INSPECTION REPORTS.

3.8 FIELD ACCEPTANCE TESTING

A. TEST EACH FIRE PUMP WITH ITS CONTROLLER AS A UNIT. COMPLY WITH REQUIREMENTS FOR ELECTRIC-MOTOR-DRIVER FIRE-PUMP CONTROLLERS SPECIFIED IN DIVISION 21 SECTION "CONTROLLERS FOR FIRE-PUMP DRIVERS."

B. PERFORM FIELD ACCEPTANCE TESTS FOR EACH FIRE PUMP WHEN INSTALLATION IS COMPLETE. COMPLY WITH OPERATING INSTRUCTIONS AND PROCEDURES IN THE NEW YORK CITY CODE AND NFPA 20 TO DEMONSTRATE COMPLIANCE WITH REQUIREMENTS. WHERE POSSIBLE, FIELD CORRECT MALFUNCTIONING EQUIPMENT, THEN RETEST TO DEMONSTRATE COMPLIANCE. REPLACE EQUIPMENT THAT CANNOT BE SATISFACTORILY CORRECTED OR THAT DOES NOT PERFORM AS INDICATED, THEN RETEST TO DEMONSTRATE COMPLIANCE. VERIFY THAT EACH FIRE PUMP PERFORMS AS INDICATED.
1. FURNISH FIRE HOSES IN NUMBER, SIZE, AND LENGTH REQUIRED TO REACH THE EDGE OF THE ROOF, STORM DRAIN OR OTHER ACCEPTABLE LOCATION TO DISPOSE OF FIRE-PUMP TEST WATER. FIRE HOSES ARE FOR FIELD-ACCEPTANCE TESTS ONLY AND ARE NOT PROPERTY OF OWNER.

C. SUBMIT TEST RESULTS TO THE ENGINEER, OWNER AND AUTHORITY HAVING JURISDICTION.

3.9 DEMONSTRATION

A. ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO TRAIN OWNER'S MAINTENANCE PERSONNEL TO ADJUST, OPERATE, AND MAINTAIN FIRE PUMPS, DRIVERS, CONTROLLERS, AND PRESSURE-MAINTENANCE PUMPS.

END OF SECTION 213113

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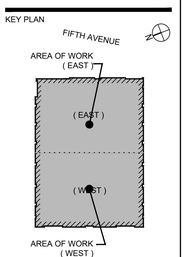
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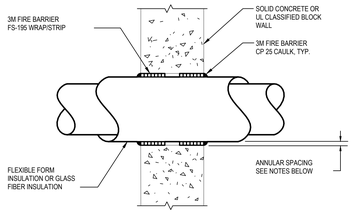
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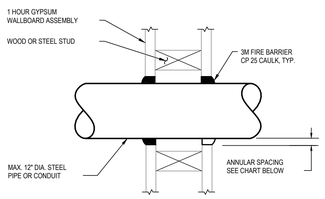


NOTES:

1. INSTALL THE FIRESTOP SYMMETRICALLY ON BOTH SIDES OF THE WALL ASSEMBLY.
2. UL THROUGH-PENETRATION FIRESTOP SYSTEM No. 395.
3. MINIMUM ANNULAR SPACE BETWEEN THE SIDE OF THE THROUGH OPENING AND THE PENETRATING ITEMS IS 1/4". SPACING BETWEEN PENETRATING ITEMS SHALL BE A MINIMUM 1/2".
4. TIGHTLY WRAP A LAYER OF 3M FIRE BARRIER FS-195 WRAP/STRIP AROUND THE INSULATED TUBING/PIPE. FOIL SIDE OUT. SECURE THE FS-195 WRAP/STRIP WITH 18-GAUGE STEEL TIE WIRE. SLIDE THE FS-195 WRAP/STRIP INTO THE OPENING SUCH THAT THE TOP EDGE IS FLUSH WITH THE SURFACE OF THE WALL.
5. RECESS A MINIMUM 1 IN. THICKNESS OF TIGHTLY PACKED MINERAL WOOL SAFING AROUND THE PENETRATING ITEMS AND APPLIED FS-195 WRAP/STRIP.
6. FILL ANNULAR SPACE AROUND THE TUBING WITH A MINIMUM 1-IN. DEPTH OF 3M FIRE BARRIER CP 25 CAULK.

FIRESTOPPING FOR FIRE-RATED BLOCK WALL

SCALE: NONE



NOTES:

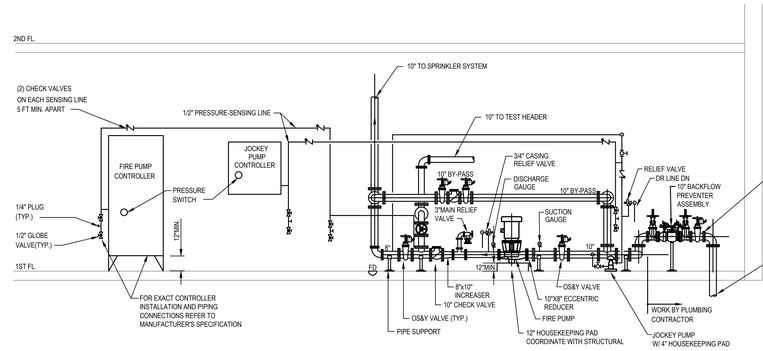
1. INSTALL THE FIRE STOP SYMMETRICALLY ON BOTH SIDES OF THE WALL ASSEMBLY.
2. ANNULAR SPACE REQUIREMENTS:

MAXIMUM PIPE OR CONDUIT DIAMETER	ANNULAR SPACE
1 IN.	0 TO 3/16 IN.
4 IN.	0 TO 1/4 IN.
12 IN.	3/16 TO 5/16 IN.

3. 3M FIRE BARRIER CP 25 CAULK IS TO BE FORCED INTO THE ANNULAR SPACE TO THE MAXIMUM EXTENT POSSIBLE WITH A MINIMUM 1/4-IN. DIAMETER BEAD OF CP 25 CAULK APPLIED TO THE PERIMETER OF THE PIPE/CONDUIT AT ITS EGRESS FROM THE WALL.
4. UL THROUGH-PENETRATION FIRE STOP SYSTEM No. 147, CONFIGURATION A.

FIRESTOPPING FOR FIRE-RATED GYPSUM

SCALE: NONE

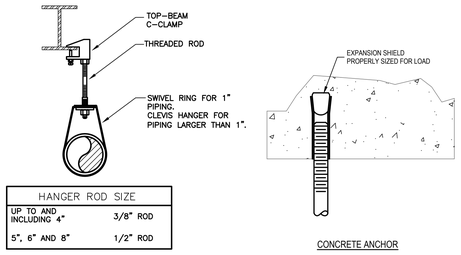


NOTES

1. PROVIDE 3 FEET OF CLEARANCE AROUND THE BOOSTER PUMP AND JOCKEY PUMPS REFER TO NYS BUILDING CODE
2. PROVIDE MINIMUM 10 PIPE DIAMETERS FROM PUMP SUCTION FLANGE TO BACKFLOW ASSEMBLY
3. MEET PUMP MANUFACTURER'S INSTALLATION REQUIREMENT.

FIRE PUMP PIPING DETAIL

SCALE: NONE



HANGER ROD SIZE	
UP TO AND INCLUDING 4"	3/8" ROD
5", 6" AND 8"	1/2" ROD

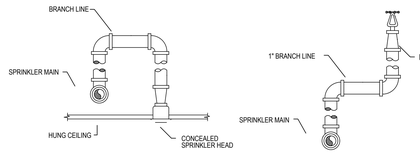
PIPE HANGING DETAIL

SCALE: NONE

CONCRETE ANCHOR

PIPE SUPPORT DETAIL

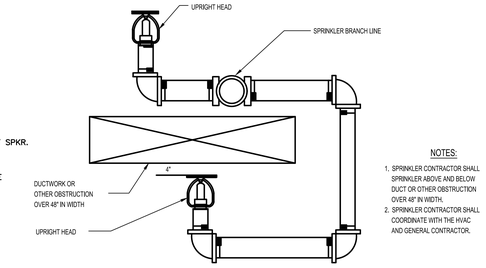
(UPPER ATTACHMENT DEVICES)
SCALE: NONE



CONCEALED SPRINKLER UPRIGHT SPRINKLER

SPRINKLER INSTALLATION DETAILS

SCALE: NONE

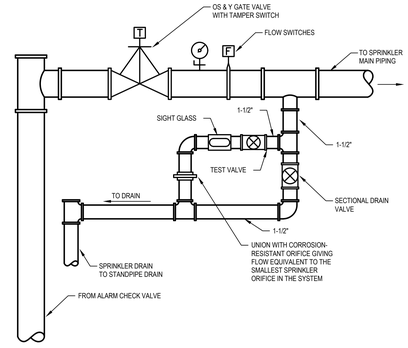


NOTES:

1. SPRINKLER CONTRACTOR SHALL SPRINKLER ABOVE AND BELOW DUCT OR OTHER OBSTRUCTION OVER 48" IN WIDTH.
2. SPRINKLER CONTRACTOR SHALL COORDINATE WITH THE HVAC AND GENERAL CONTRACTOR.

SPRINKLER ABOVE AND BELOW OBSTRUCTION DETAIL

SCALE: NONE



FLOOR CONTROL VALVE DETAIL

SCALE: NONE

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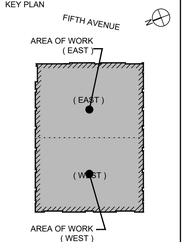
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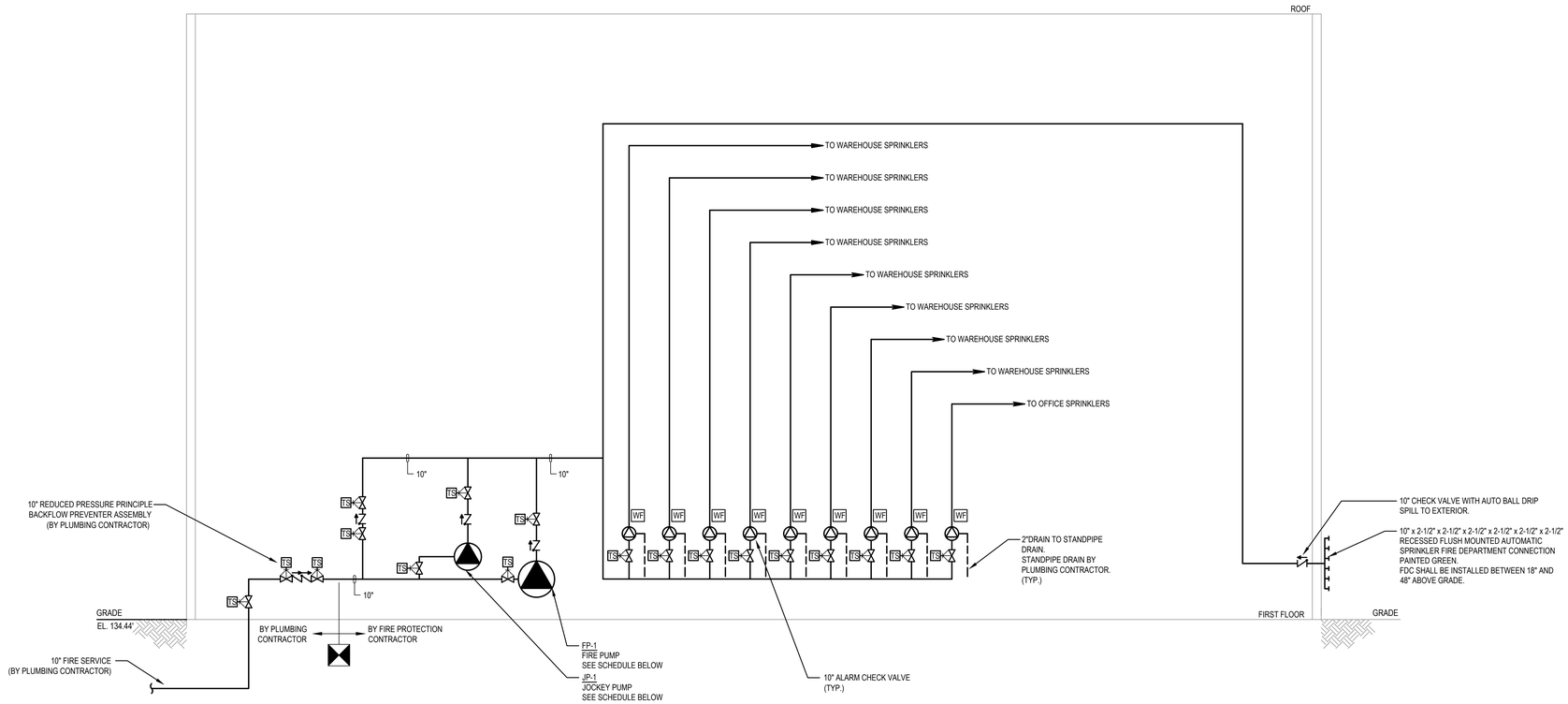
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FIRE PROTECTION RISER DIAGRAM

SCALE: NTS

HYDRANT FLOW TEST

STATIC PRESSURE: 48 PSI
RESIDUAL PRESSURE: 40 PSI AT 1812 GPM
FLOW AT 20 PSI: 3564 GPM
PERFORMED ON 01/13/2022
SUFFOLK COUNTY WATER AUTHORITY

SPRINKLER BOOSTER PUMP SCHEDULE

UNIT TAG	LOCATION	SERVICE	TYPE	SYSTEM PRESSURE VALUES			MOTOR DATA AND VALUES			MANUFACTURER	MODEL	REMARKS
				FLOW (GPM)	TDH (FEET)	SET (PSI)	RPM	PUMP HP	VOLT / PH / HZ			
FP-1	FIRE PUMP ROOM	FIRE PUMP	HORIZONTAL SPLIT CASE	2000	208	90	1800	150	460 / 3 / 60	PEERLESS	6AEF14Q	PROVIDE FIRE PUMP CONTROLLER WITH POWER TRANSFER SWITCH - FIRETROL FTA1930/950
JP-1	FIRE PUMP ROOM	PRESSURE MAINTENANCE PUMP	VERTICAL - INLINE	10	196	107.8	3466	1.5	460 / 3 / 60	PEERLESS	CR 3-9-3ph	PROVIDE JOCKEY PUMP CONTROLLER - FIRETROL FTA550F

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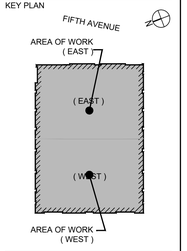
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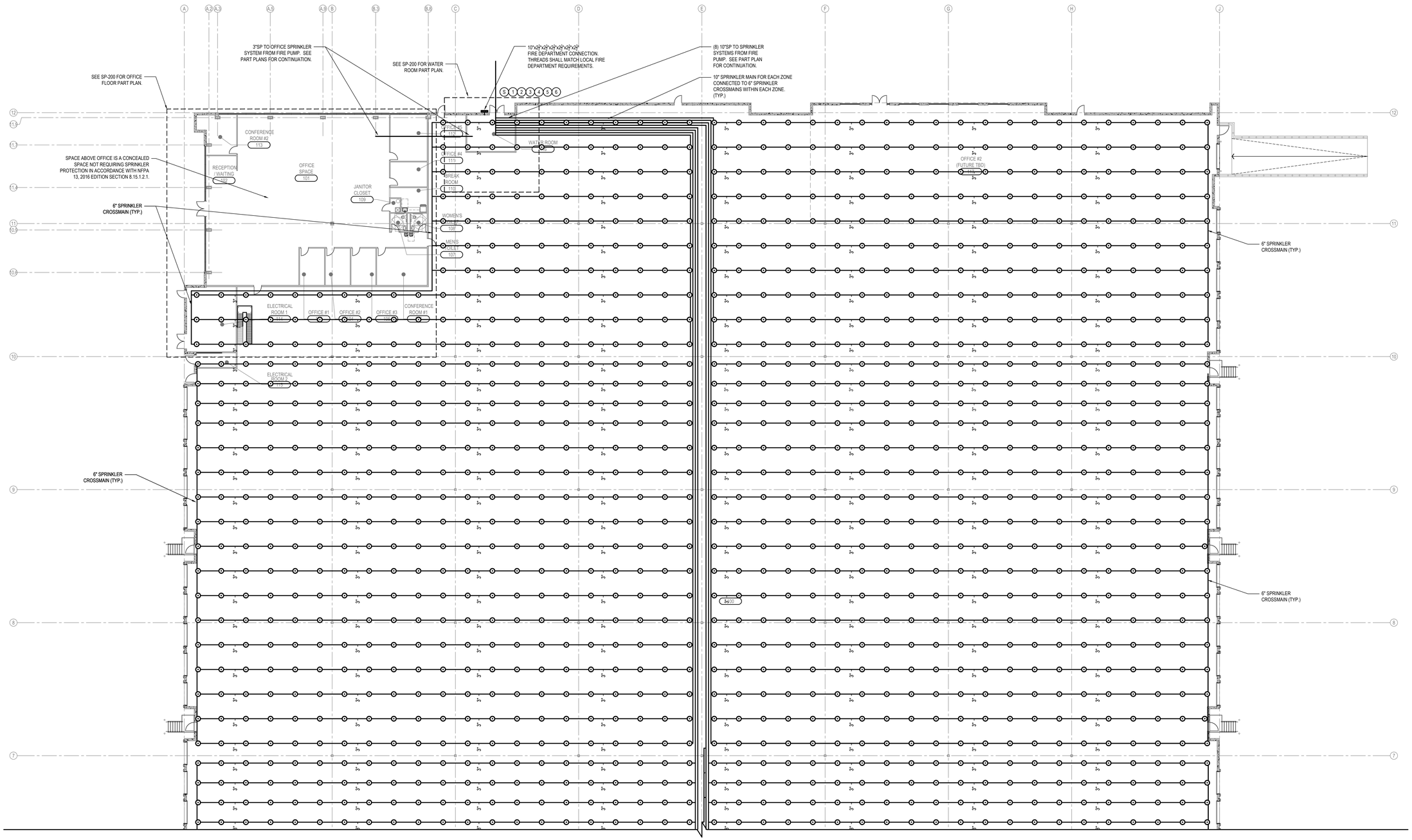
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1 FLOOR PLAN - EAST
SCALE: 1/16"=1'-0"

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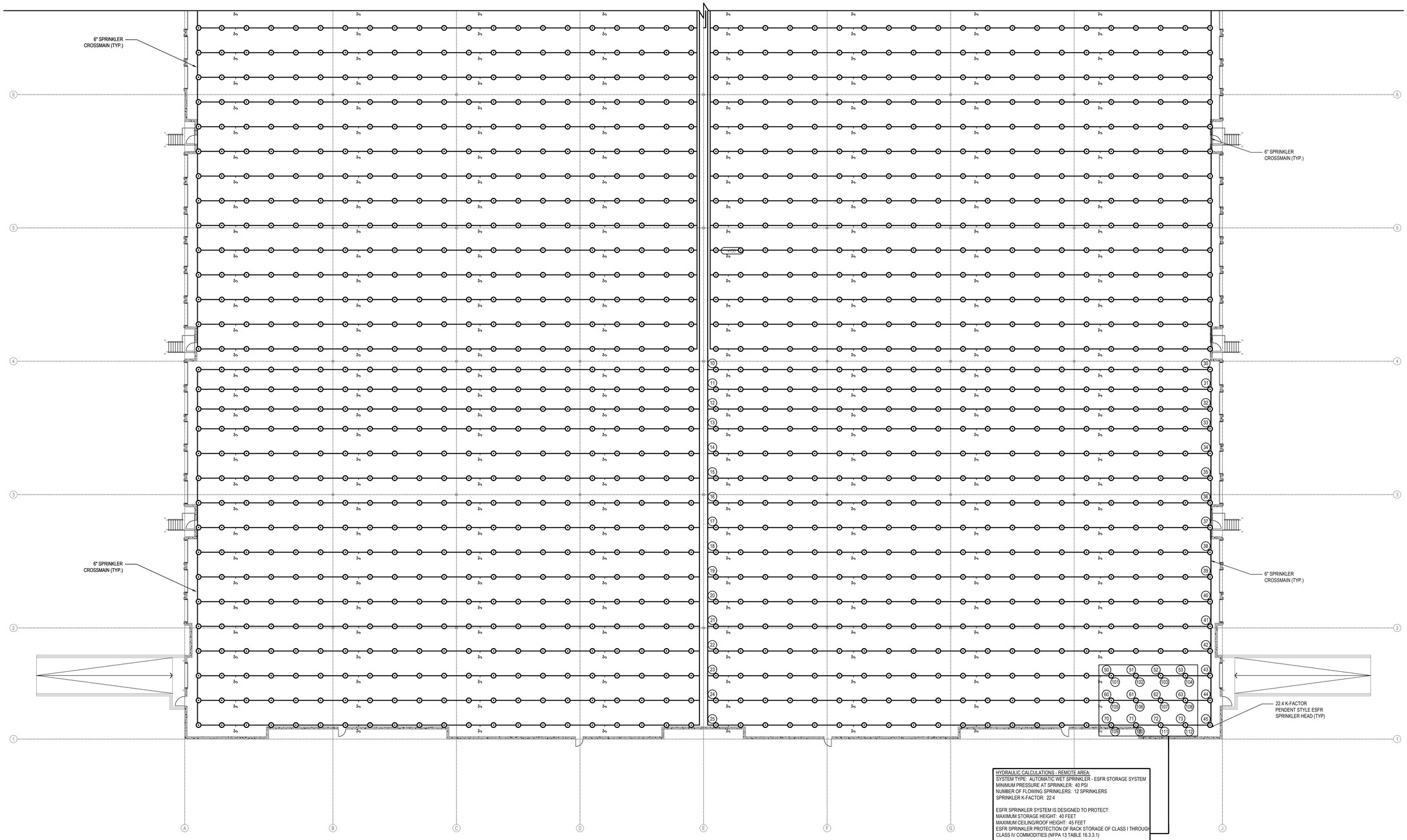
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1 FLOOR PLAN - WEST
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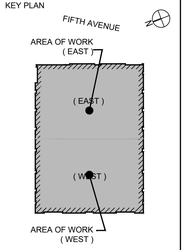
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1 OFFICE AND WATER ROOM PART PLAN
SCALE: 1/4"=1'-0"

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FIRE ALARM SYMBOL LIST:

F	PULL STATION.
F XX	SPEAKER/STROBE NONE = SPEAKER STROBE SO = SPEAKER ONLY
	HORN STROBE
	STROBE
C	CARBON MONOXIDE DETECTOR
H XX	HEAT DETECTOR NONE = HEAT DETECTOR A = HEAT DETECTOR ABOVE CEILING WITH LED ON CEILING BELOW
S XX	SMOKE DETECTOR NONE = SMOKE DETECTOR C = SMOKE/CARBON MONOXIDE DETECTOR A = SMOKE DETECTOR ABOVE CEILING WITH LED ON CEILING BELOW ER = ELEVATOR RECALL DEDICATED SMOKE DETECTOR DS = DUCT SMOKE DETECTOR SUPPLY DR = DUCT SMOKE DETECTOR RETURN WM = WALL MOUNTED
IAM XX	INDIVIDUAL ADDRESSABLE MODULE K = KITCHEN ANSUL SYSTEM WF = WATER FLOW SWITCH TS = TAMPER SWITCH EL = ELEVATOR GEN = GENERATOR FP = FIRE PUMP F = FIRE SYSTEM (GENERAL) FSD = FIRE SMOKE DAMPER FS = FAN SHUTDOWN
CM XX	CONTROL MODULE FS = FAN SHUTDOWN BS = BOILER SHUTDOWN FP = FIRE PUMP FD = FIRE DOOR
FARA	REMOTE ANNUNCIATOR PANEL
FCS	FIRE COMMAND STATION WITH DACT INCORPORATED
	FIRE ALARM BELL
MD	MAGNETIC DOOR HOLDER
BPS	BOOSTER POWER SUPPLY
FDS	FIRE ALARM DISCONNECT SWITCH

FIRE ALARM ABBREVIATIONS

A	AMPERES
AFF	ABOVE FINISHED FLOOR
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
BX	ARMORED CABLE
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
DN	DOWN
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR OR EMPTY CONDUIT
EL	ELEVATOR
EM	EMERGENCY
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FCS	FIRE COMMAND STATION
FSR	FAN SHUT DOWN RELAY
FT	FLOOR FL FEET OR FOOT
G	GROUND WIRE
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTER
HP	HORSEPOWER
J	JUNCTION BOX
KVA KW	KILOVOLT AMPERES
LV	LOW VOLTAGE
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MTD	MOUNTED
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
P	POLE
PB	PULL BOX
PH	PLUMBING CONTRACTOR OR
PC	PERSONAL COMPUTER
PNL	PANEL
RP	RECEPTACLE
SW	SWITCH
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VA	VOLTS VOLTAMPS
W	WATTS
WP	WEATHER PROOF

SEQUENCE OF OPERATIONS

A. THE SYSTEM ALARM OPERATION SUBSEQUENT TO THE ALARM ACTIVATION OF ANY MANUAL PULL STATION, AUTOMATIC DETECTION DEVICE, OR SPRINKLER WATERFLOW SWITCH SHALL AUTOMATICALLY PERFORM THE FUNCTIONS CONTAINED IN THIS SECTION AND OPERATE AS FOLLOWS:

1. ACTIVATION OF A MANUAL PULL STATION WILL DO THE FOLLOWING:
   a. ANNUNCIATE THE DEVICE IN ALARM AT THE FIRE ALARM PANEL AND REMOTE ANNUNCIATOR.
   b. ACTIVATE AUDIBLE ALARM SIGNAL.
   c. ACTIVATE VISUAL/HORNS DEVICES IN BUILDING(s) ASSOCIATED WITH THE NOTIFICATION ZONE.
   d. TRANSMIT MANUAL SIGNAL TO SUPERVISING CENTRAL STATION.
   e. CLOSE DOORS HELD OPEN
2. ACTIVATION OF AN AREA SMOKE DETECTOR AND HEAT DETECTOR WILL DO THE FOLLOWING:
   a. ANNUNCIATE THE DEVICE IN ALARM AT THE FIRE ALARM PANEL AND REMOTE ANNUNCIATOR.
   b. ACTIVATE AUDIBLE ALARM SIGNAL.
   c. ACTIVATE VISUAL/HORNS DEVICES IN BUILDING(s) ASSOCIATED WITH THE NOTIFICATION ZONE.
   d. TRANSMIT AUTOMATIC ALARM SIGNAL TO SUPERVISING CENTRAL STATION.
   e. SHUTDOWN ASSOCIATED FANS.
   e. CLOSE DOORS HELD OPEN
3. ACTIVATION OF A IN-DUCT SMOKE DETECTOR WILL DO THE FOLLOWING:
   c. ANNUNCIATE THE DEVICE IN ALARM AT THE FIRE ALARM PANEL AND REMOTE ANNUNCIATOR.
   d. ACTIVATE AUDIBLE ALARM SIGNAL.
   e. ACTIVATE VISUAL/HORNS DEVICES IN BUILDING(s) ASSOCIATED WITH THE NOTIFICATION ZONE.
   f. TRANSMIT AUTOMATIC ALARM SIGNAL TO SUPERVISING CENTRAL STATION.
   g. SHUTDOWN ASSOCIATED FANS.
   e. CLOSE DOORS HELD OPEN
4. ACTIVATION OF A WATERFLOW SWITCH WILL DO THE FOLLOWING:
   a. ANNUNCIATE THE DEVICE IN ALARM AT THE FIRE ALARM PANEL AND REMOTE ANNUNCIATOR.
   b. ACTIVATE AUDIBLE ALARM SIGNAL.
   c. ACTIVATE VISUAL/HORNS DEVICES IN BUILDING(s) ASSOCIATED WITH THE NOTIFICATION ZONE.
   d. TRANSMIT AUTOMATIC WATERFLOW SIGNAL TO SUPERVISING CENTRAL STATION.
   e. SHUTDOWN ASSOCIATED FANS.
   e. CLOSE DOORS HELD OPEN

FIRE ALARM SYSTEM NOTES:

1. THE SUGGESTED FIRE ALARM MANUFACTURER FOR THIS FACILITY IS EDWARDS EST PRODUCTS. ELECTRICAL CONTRACTORS CAN CONTACT DANA FERRER AT EDWARDS (DIVISION OF CARRIER)AT DANA.FERER@CARRIER.COM FOR A LIST OF APPROVED EDWARDS FIRE ALARM VENDORS.
2. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2010 NFPA 72 AS AMENDED BY APPENDIX Q (1RCNY 3616-04), 1RCNY 908-01 CARBON MONOXIDE DETECTORS.
3. ALL FIRE ALARM EQUIPMENT SHALL BE INSTALLED WITH AESTHETICS IN MIND. CABINETS SHALL BE SEMI FLUSH MOUNTED AND CABLE TRAYS SHALL BE HIDDEN.
4. ALL FIRE ALARM CIRCUITS SHALL BE SIZED TO A MAXIMUM OF 80% OF CAPACITY.
5. CLASS AND STYLE OF WIRE: ALL FIRE ALARM CIRCUITS SHALL BE WIRED NFPA CLASS B. ALL FIRE ALARM CIRCUIT RISERS SHALL BE NFPA CLASS X (CLASS A WITH SHORT CIRCUIT ISOLATION). ALL FIRE ALARM SPEAKER CIRCUIT WIRING FOR ONE-WAY VOICE IN R2 APARTMENT BUILDINGS SHALL BE WIRED NFPA CLASS A.
6. LEVEL OF SURVIVABILITY: VERTICAL RISER CABLE FOR ALL SYSTEMS THAT INCLUDE PARTIAL EVACUATION (ANYTHING OTHER THAN A GENERAL ALARM) SEQUENCE - SEE SEQUENCE/MATRIX) SHALL INCLUDE A PATHWAY SURVIVABILITY LEVEL 2 NOT FULLY SPRINKLERED) OR 3 (FULLY SPRINKLERED) AND A 2 HOUR RATED SHAFT OR RISER. ALL OTHER FIRE ALARM CIRCUITS SHALL INCLUDE A PATHWAY LEVEL 0 (UNSPRINKLERED) OR LEVEL 1 (FULLY SPRINKLERED).
7. WHERE SEPARATION OF THE IN-BUILDING EMERGENCY VOICE/ALARM CONTROL EQUIPMENT OCCURS, THE REMOTE EQUIPMENT SHALL BE LOCATED IN A 2 HOUR RATED ROOM OR ENCLOSURE.
8. CONDUITS MAY NOT ENTER THE TOP OF ANY FIRE ALARM CONTROL EQUIPMENT CABINET.
9. ALL FIRE ALARM WIRE SHALL BE CLEARLY LABELED IN JUNCTION BOXES AND CABINETS. ALL TERMINALS SHALL BE NUMBERED AND LABELED. ALL CONNECTIONS SHALL BE EITHER SOLDERED, APPROVED TERMINAL STRIPS, APPROVED WIRE NUTS (APPROVED TEMPERATURE), OR SCOTCH LOCKS.
10. ALL LOW VOLTAGE FIRE ALARM CONDUCTORS SHALL BE PROTECTED BY EITHER BUILDING CONSTRUCTION OR CONDUIT TO 8 FEET ABOVE THE FINISHED FLOOR. LOADING DOCKS, GARAGES, SUPPRESSION AND EXTINGUISHING SYSTEM WIRING, MECHANICAL AND ELECTRICAL ROOMS AND OTHER LOCATIONS SUBJECT TO MECHANICAL DAMAGE SHALL BE IN FULL RIGID CONDUIT. IN ALL OTHER AREAS, APPROVED WIRE MAY BE RUN WITHOUT CONDUIT ABOVE 8 FT. PROVIDED IT MEETS LOCAL CODE REQUIREMENTS AND CONNECTS TO BUILDING CONSTRUCTION USING AN APPROVED MEANS.
11. FIRE ALARM CABLES SHALL NOT BE MIXED WITH NON FIRE ALARM CABLING. LOW VOLTAGE FIRE ALARM CABLING SHALL NOT BE MIXED OR WIRED NEAR ANY AC CIRCUIT.
12. ALL LOW VOLTAGE WIRING SHALL BE FPLP 150 DEGREE C CERTIFIED WIRE. ALL NOTIFICATION CIRCUITS SHALL BE A MINIMUM OF 14 AWG AND ALL OTHER LOW VOLTAGE FIRE ALARM CIRCUITS SHALL BE 16 AWG MINIMUM.
13. POLARITY SHALL BE OBSERVED ON ALL CIRCUITS. T-TAPPING SHALL NOT BE ALLOWED ON ANY NOTIFICATION CIRCUITS (HORN, STROBE OR SPEAKER). T-TAPPING SHALL NOT BE PERMITTED ON ADDRESSABLE CIRCUITS WITHOUT THE EXPRESS PERMISSION OF THE ENGINEER.
14. ALL WIRING SHALL BE INSPECTED TO ASSURE THERE ARE NO OPENS, SHORTS OR EARTH GROUNDS.
15. SHIELDED CONDUCTORS OR RUNNING IN SEPARATE RACEWAY SHALL BE AS INSTRUCTED BY THE FIRE ALARM MANUFACTURER'S DOCUMENTATION. ALL NON-POWER LIMITED WIRING, INCLUDING CIRCUITS FOR NON-POWER LIMITED CENTRALIZED AMPLIFIERS SHALL BE RUN IN A SEPARATE RACEWAY.
16. WHERE ADDITIONAL CIRCUITS ARE REQUIRED BY THE FIRE ALARM SYSTEM. A FUSED CUTOUT, PROPERLY SIZED SHALL BE INCLUDED, WIRED AFTER THE FDS. THE SIZE OF THE FUSES SHALL BE SIZED APPROPRIATELY BUT BE TWENTY (20) AMPERES MINIMUM AND EACH CIRCUIT SHALL ONLY FEED ONE "INDIVIDUAL" FIRE ALARM SYSTEM COMPONENT. THE FUSED CUT-OUT PANEL SHALL BEAR AN ENGRAVED WHITE-CORE PHENOLIC OR BAKELITE IDENTIFICATION NAMEPLATE STATING IN MINIMUM ONE-QUARTER INCH (1/4") HIGH WHITE LETTERS ON A RED BACKGROUND "FIRE ALARM FUSED CUT-OUT". THE NEUTRAL SHALL NOT BE BONDED IN THE FUSED CUTOUT.
17. BOOSTER POWER SUPPLIES SHALL BE PROVIDED AS NECESSARY FOR STROBE CIRCUIT DRAW AND LENGTHY STROBE CIRCUIT RUNS. PROVIDE A SEPARATE 120V POWER FEED FOR EACH BOOSTER AS WELL AS A SMOKE DETECTOR MOUNTED DIRECTLY ABOVE EACH BOOSTER POWER SUPPLY.
18. ALL REMOTE FIRE ALARM CONTROL CABINETS (DATA GATHERING PANELS (DGP), TTBS ETC.) SHALL INCLUDE AN INTERNAL TAMPER SWITCH. EACH SHALL ALSO INCLUDE A SMOKE DETECTOR MOUNTED ON THE CEILING DIRECTLY ABOVE IT SHOULD ONE OR MORE NOT ALREADY BE SHOWN ON THE PLANS IN THE ROOM THAT IT IS MOUNTED IN. STAIRWELL LOCATED DGPS OR BOOSTER POWER SUPPLIES SHALL NOT REQUIRE A SMOKE DETECTOR ABOVE THE PANEL.
19. ALL CEILING MOUNT DEVICES MUST BE SECURELY FASTENED TO BUILDING CONSTRUCTION.
20. DEVICE LOCATIONS MUST BE READILY ACCESSIBLE TO ALLOW FOR MAINTENANCE AND REPAIR.
21. ALL AREA OR DUCT SMOKE DETECTORS SHALL BE PHOTO-ELECTRIC TYPE.
22. SMOKE DETECTORS MUST BE MOUNTED AT LEAST 3 FT AWAY FROM ANY AIR REGISTER.
23. DUCT MOUNTED SMOKE DETECTORS SHALL BE MOUNTED ON THE DUCTWORK IN STRICT ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. ALL DUCT DETECTORS SHALL BE PROVIDED WITH A REMOTE LED.
24. CARBON MONOXIDE (CO) AND COMBINATION SMOKE AND CO DETECTORS SHALL BE FULLY ADDRESSABLE AND INCLUDE A SOUNDER BASE. MANUFACTURERS THAT DO NOT OFFER AN ADDRESSABLE CO OR SMOKE/CO TYPE DEVICE SHALL INCLUDE SEPARATE CO AND SMOKE DETECTORS, EACH WITH AN INTERNAL SYNCHRONIZED TEMPORAL 3 AND 4 SOUNDERS, AND THE NECESSARY MONITORING DEVICES SO THAT THE FIRE ALARM SYSTEM MAY MONITOR BOTH TYPES SEPARATELY. IF POWERED SEPARATELY (24VDC), POWER TO THE DEVICE SHALL ALSO BE SUPERVISED.
25. MANUAL STATIONS SHALL BE MOUNTED 48 INCHES ABOVE THE FINISHED FLOOR TO THE HANDLE OF THE STATION AND SHALL BE PAINTED FIRE DEPARTMENT RED. ALL MANUAL STATIONS SHALL BE INSTALLED SO THAT THEY ARE KEPT UN-OBSTRUCTED FROM OTHER BUILDING CONSTRUCTION.
26. ALL STROBE LIGHTS SHALL BE UL-1971 APPROVED/LISTED. THE MINIMUM CANDELA IS 15 UNLESS OTHERWISE NOTED. STROBE SYNCHRONIZATION SHALL BE MAINTAINED SO THAT ALL STROBES IN THE SAME FIELD OF VIEW FLASH TOGETHER IN SYNCHRONIZATION PER NFPA 72 REQUIREMENTS.
27. ALL CO STROBES SHALL BE CIRCUITED AND CONTROLLED SEPARATELY FROM FIRE ALARM STROBES. CO STROBES SHALL BE WHITE IN COLOR AND INCLUDE AN AMBER STROBE. CO STROBES SHALL BE MARKED "EMERGENCY" OR "CARBON MONOXIDE" EITHER ON THE DEVICE OR WITH A PLACARD.
28. NOTIFICATION DEVICES THAT INCLUDE A STROBE SHALL BE MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80 IN. AND NOT GREATER THAN 96 IN. ABOVE THE FINISHED FLOOR, NOT NECESSARILY THE ELECTRICAL BOX
29. AUDIBLE NOTIFICATION DESIGN GOALS FOR THIS PROJECT ARE AS FOLLOWS:

AUDIBLE NOTIFICATION DEVICES - DESIGN CRITERIA	AMBIENT LEVEL	DESIGN GOAL
OFFICES	55DBA	> 70D
BACORRIDORS	55DBA	> 70DBA
MECHANICAL ROOMS	85DBA	> 100DBA
PLACES OF ASSEMBLY	55DBA	> 70DBA
INSTITUTIONAL	50DBA	> 65DBA
MERCANTILE	40DBA	> 50DBA

30. SPEAKER DESIGN CRITERIA: GUEST ROOMS ¼ WATT, CORRIDORS, STAIRS, LOW AMBIENT NOISE LEVELS, AND OPEN OFFICES - 1 WATT, HIGH AMBIENT NOISE LEVELS - 2 WATTS, EXTREME HIGH AMBIENT NOISE LEVELS - 8 WATTS. ALL SPEAKERS (EXCEPT EXTREME HIGH AMBIENT) SHALL BE HIGH FIDELITY AND 520 HZ UL COMPATIBILITY LISTED.
31. ALL AUXILIARY RELAYS FOR FAN SHUTDOWN, DOOR RELEASE, DAMPER CONTROL, ELEVATOR CONTROL, ETC SHALL BE WIRED A MAXIMUM OF 3 FT FROM THE CONTROLLED DEVICE. THE AUXILIARY RELAY SHALL FUNCTION WITHIN THE REQUIRED VOLTAGE AND CURRENT OF THE CONTROLLED DEVICE. SLAVE OR INTERPOSING RELAYS SHALL BE INCLUDED AND POWERED BY THE FIRE ALARM CONTROL PANEL IN A FAIL-SAFE (FIRE FUNCTION) POSITION. POWER TO THE INTERPOSING RELAY SHALL BE MONITORED BY THE FIRE ALARM SYSTEM.
32. A CENTRAL STATION DIALER AND TWO DEDICATED PHONE LINES SHALL BE PROVIDED. THE DIALER SHALL BE CAPABLE OF SENDING THE FOLLOWING EVENTS: ALARM, MANUAL STATION, WATERFLOW, SUPERVISORY, TROUBLE, AND IF PROVIDED OR REQUIRED CARBON MONOXIDE, PUMP RUNNING, PUMP PHASE REVERSAL, PUMP TROUBLE, GENERATOR RUNNING, GENERATOR TROUBLE, AND GENERATOR LOW FUEL.

INPUTS \ OUTPUTS	DISCRETIONARY EVENT AT MAIN FIRE ALARM CONTROL PANEL	ACTIVATE STROBES THROUGHOUT THE PREMISES	ACTIVATE HORNS TO RING TEMPORAL 3 CODE FOR PULL STATION ACTIVATION	ACTIVATE HORNS TO RING CODE 10-2 FOR HEAT/SMOKE DETECTOR ACTIVATION	ACTIVATE HORNS TO RING CODE 10-1 FOR SPRINKLER WATERFLOW ACTIVATION	SHUT DOWN ALL HVAC UNITS
MANUAL PULL STATION	X	X	X			
AREA CARBON MONOXIDE DETECTOR	X	X		X		X
SPRINKLER SYSTEM WATERFLOW SWITCH	X	X			X	X
SPRINKLER SYSTEM TAMPER SWITCH	X					
FIELD WIRING OR SYSTEM COMPONENT FAULT	X					

FIRE ALARM SYSTEM MATRIX

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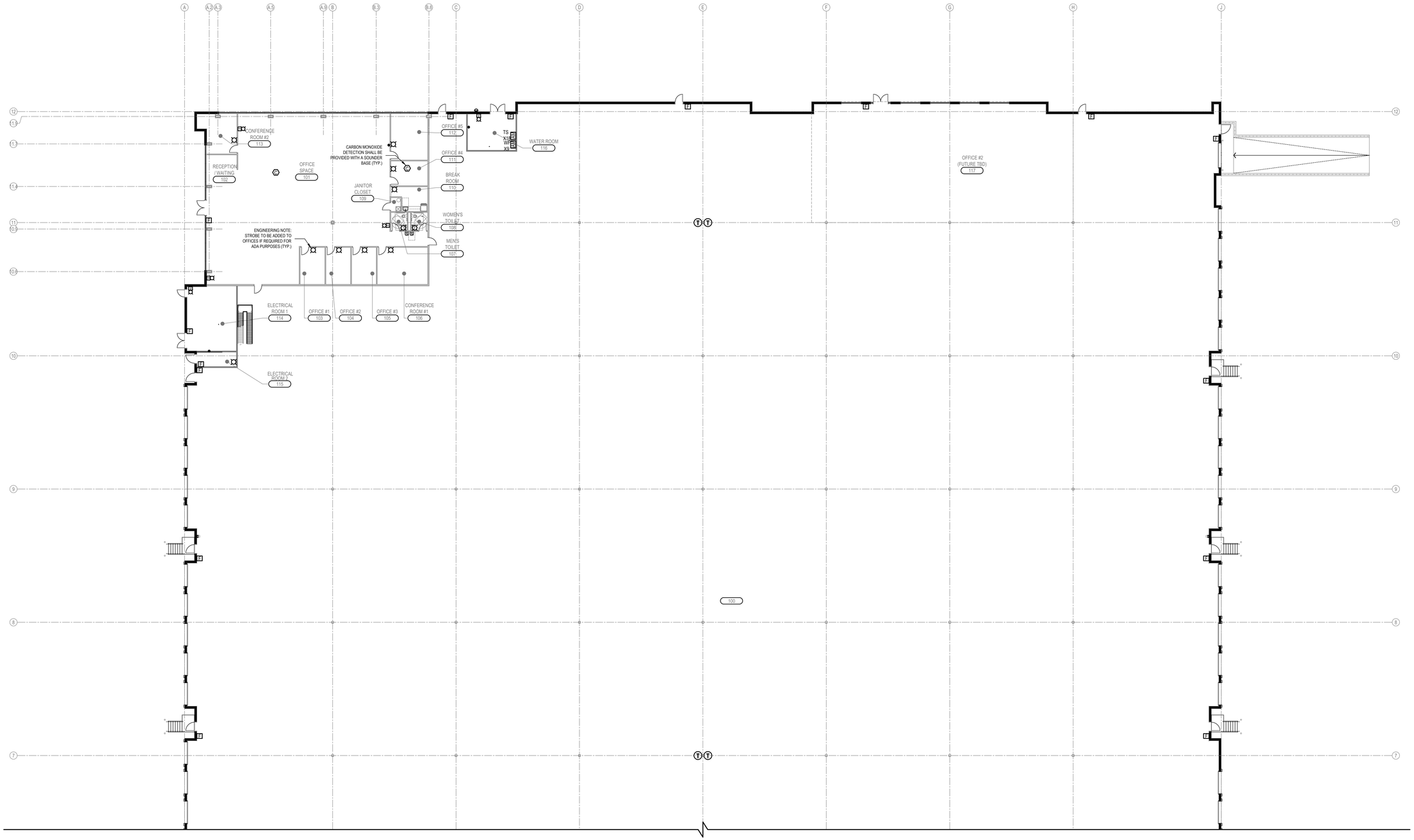
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1 FLOOR PLAN - EAST
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FIRE ALARM GENERAL NOTES:

1. WATER FLOW AND TAMPER SWITCHES SHALL BE PROVIDED BY PLUMBING CONTRACTOR AND TIED INTO FIRE ALARM SYSTEM BY EC.
2. CONTRACTOR SHALL TAKE OUT AN ALLOWANCE FOR (4) FSD FOR HV MECHANICAL UNITS.

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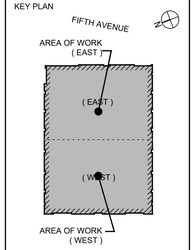
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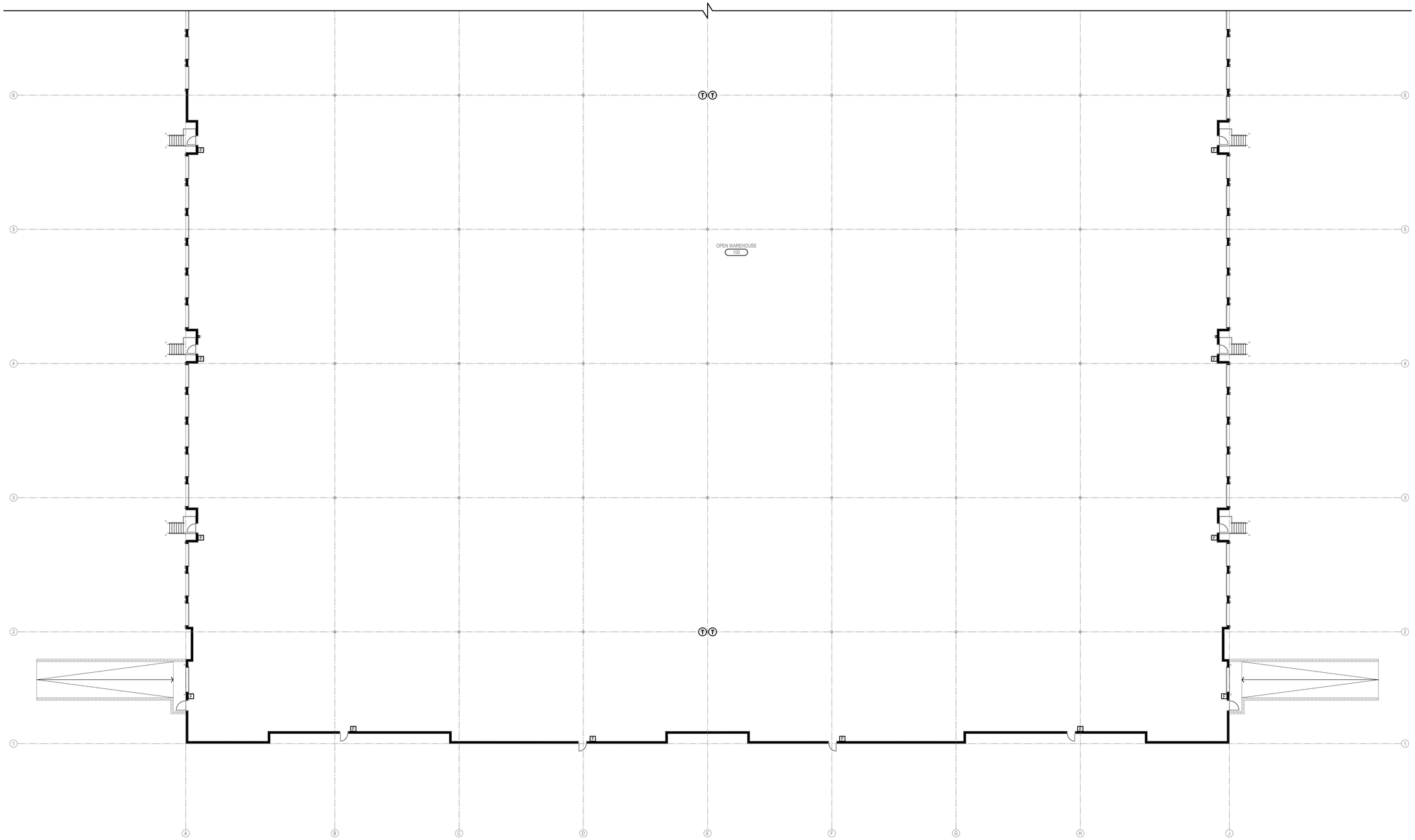
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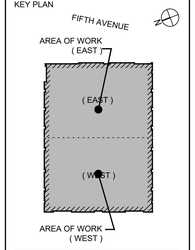
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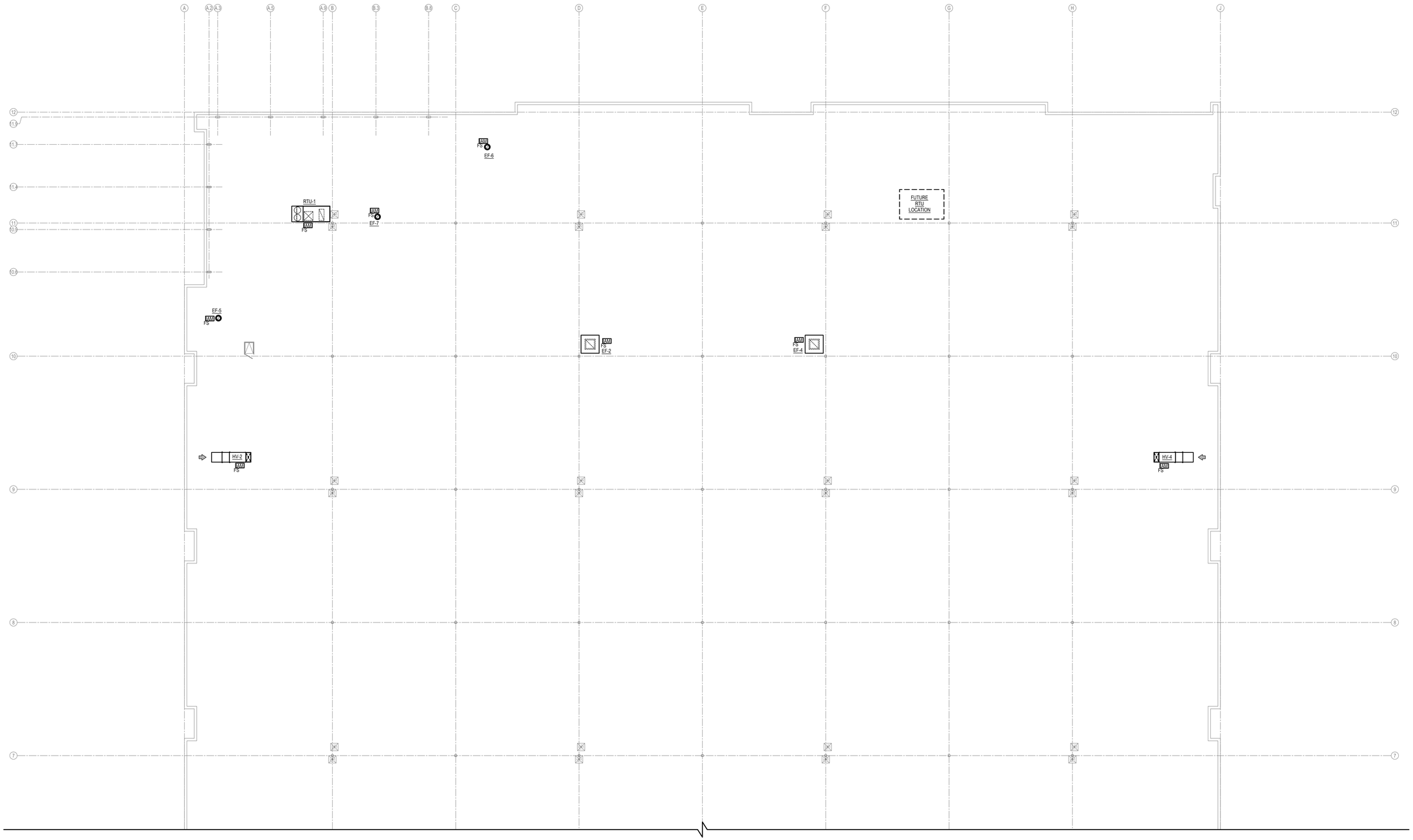
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1 ROOF PLAN - EAST
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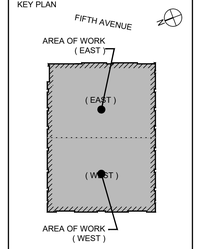
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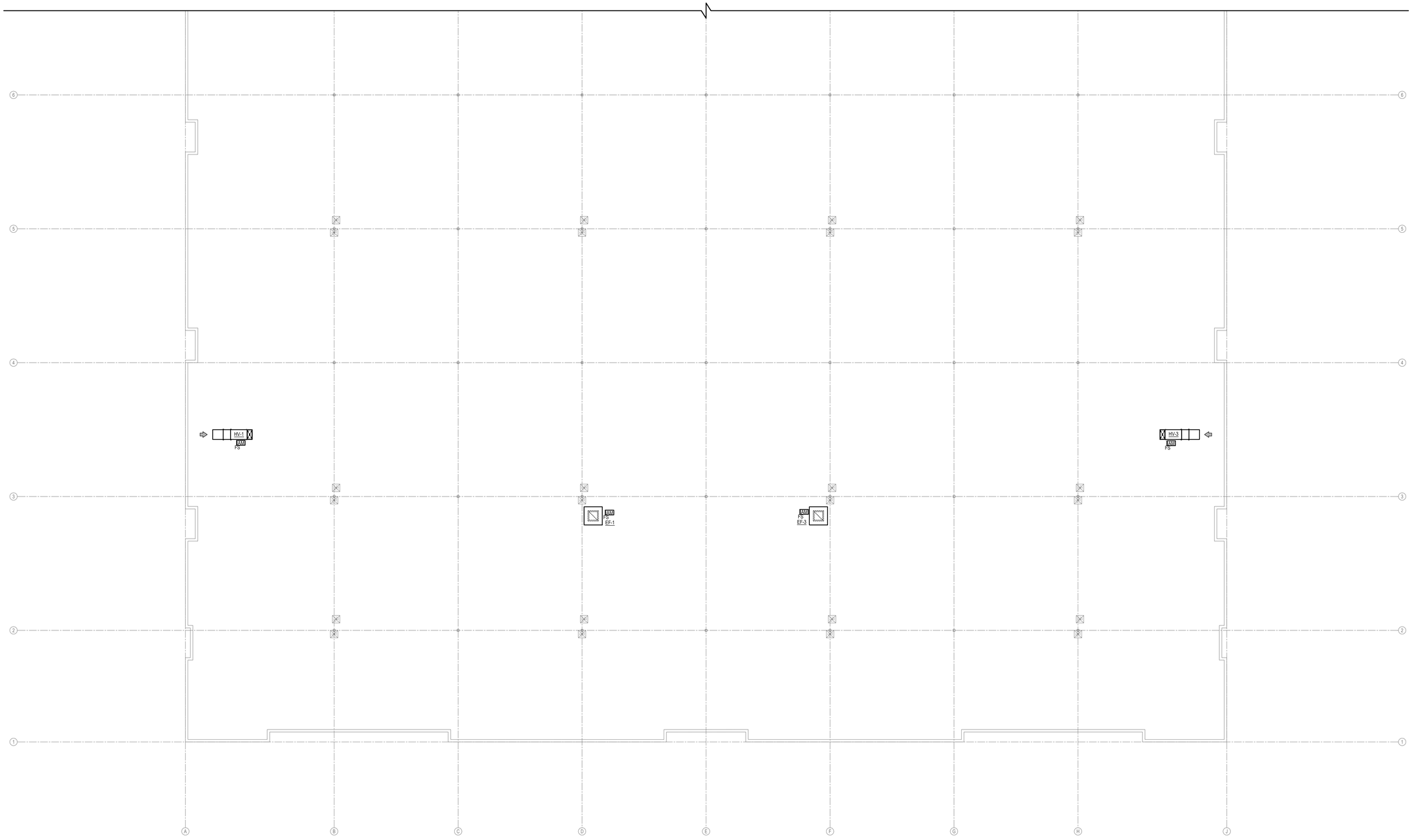
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1 ROOF PLAN - WEST
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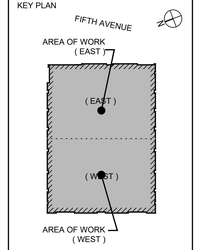
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FA-104 FIRE ALARM - ROOF PLAN

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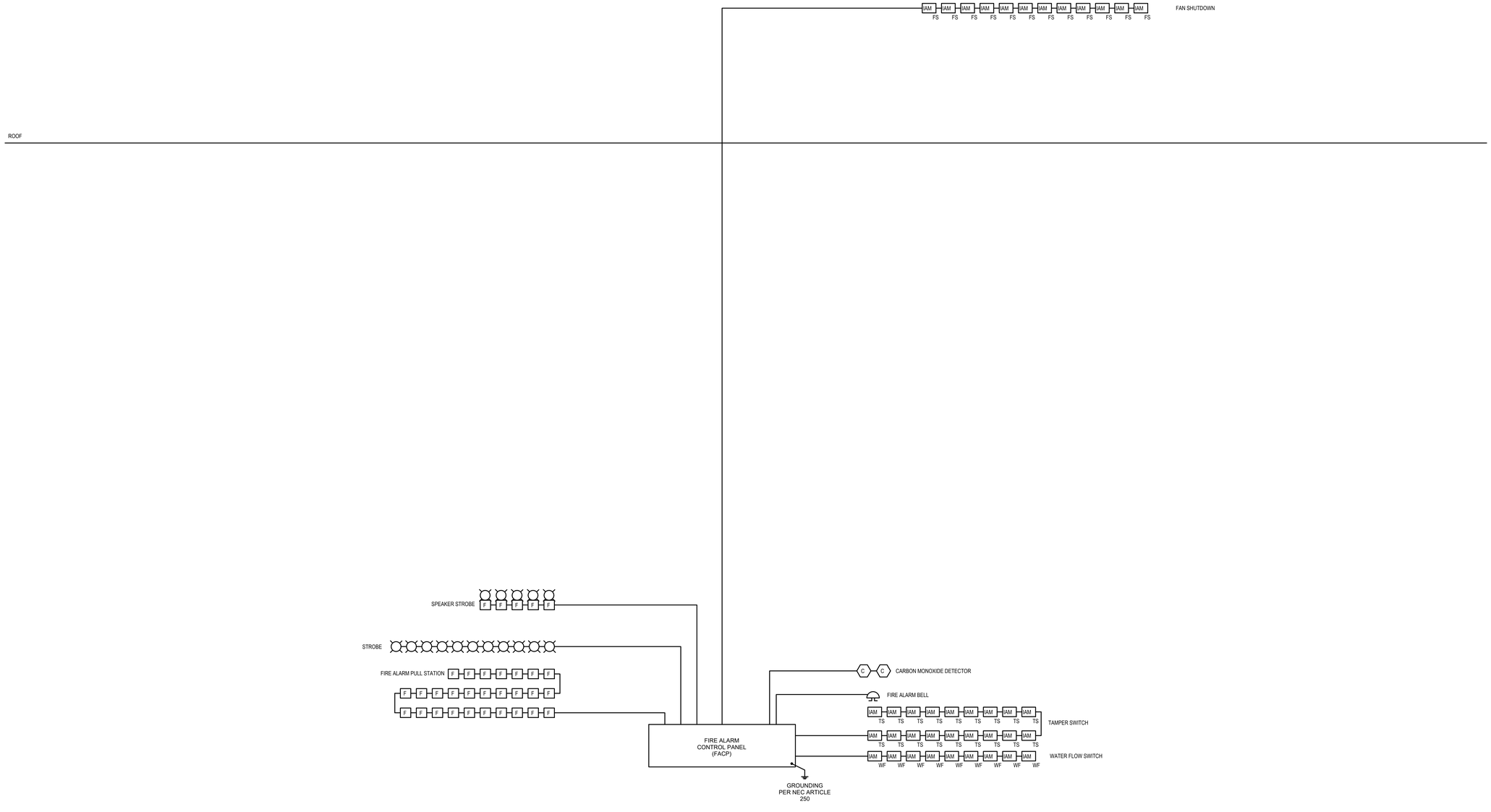
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FIRE ALARM NOTES:

1. FIRE ALARM RISER DIAGRAM IS SCHEMATIC, REFER TO FLOOR PLANS FOR DEVICE TYPES AND QUANTITIES.
2. CONTRACTOR SHALL PROVIDE COMPLETE RISER DIAGRAM WITH FINAL QUANTITIES, WIRE TYPES, WIRE SURVIVABILITY RATINGS, AS WELL AS POWER CIRCUIT REQUIREMENTS FOR FACP.
3. CONTRACTOR SHALL PROVIDE THE FOLLOWING QUANTITIES OF SPARE DEVICES

-(2) CARBON MONOXIDE DETECTORS
-(5) FA PULL STATIONS
-(5) SPEAKER STROBES
-(5) STROBES
-(5) RELAY MODULES
-(5) FAN SHUTDOWN MODULES

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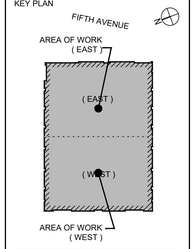
MEP & STRUCTURAL CONSULTANT
CAMERON ENGINEERING & ASSOCIATES, LLP
177 Crossways Park Drive,
Woodbury, NY 11797

Phone: (516) 827-4900
Website: www.cameronengineering.com

CIVIL ENGINEER CONSULTANT
ROBINSON & MULLER ENGINEERS, P.C.
50 Elm Street
Huntington, NY 11743

Phone: (631) 271-0576
Fax: (631) 271-0592
Website: rmengineering.com

KEY PLAN



100% CD	08/04/23
50% PERMIT SET	06/30/23
PROGRESS COORDINATION	06/07/23
100% DESIGN DEVELOPMENT	04/28/23
REVISION:	DATE:

DRAWING TITLE:

FIRE ALARM - RISER DIAGRAM

SCALE:

DRAWN BY: XXX

It is a violation of the Education Law of the State of New York for any person, unless he is acting under the direction of a licensed Architect to alter any item on this drawing and/or in this specification. If any item is altered, the Architect shall affix to the item his seal and the notation "altered by" followed by his signature and the date of such alteration together with a specific description of the alteration.

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DWG. NO.

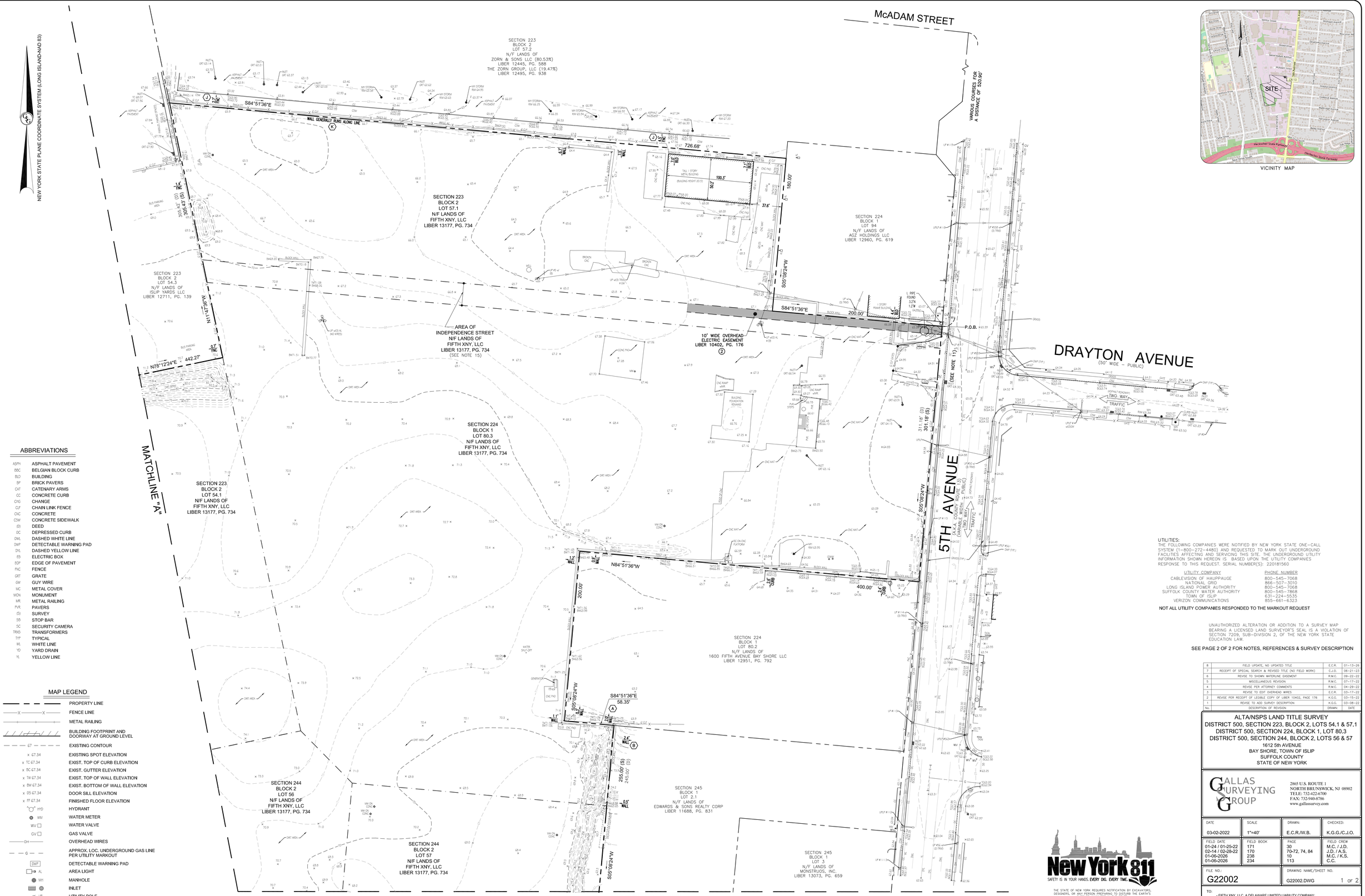
FA-200

22-1002
PROPOSED WAREHOUSE
1612 5TH AVENUE
BAY SHORE, NY 11706

D:\a2227 - 1612th Ave - Xebec Warehouse\FIRE ALARM\FA-200.DWG FIRE ALARM - RISER DIAGRAM Aug, Date August 4, 2023, Pwidg — Plotted by Jason Mello

APPENDIX B

Site Survey, January 2026



VICINITY MAP

ABBREVIATIONS

ASPH	ASPHALT PAVEMENT
BBC	BELGIAN BLOCK CURB
BLD	BUILDING
BP	BRICK PAVERS
CAT	CATENARY ARMS
CC	CONCRETE CURB
CHG	CHANGE
CLF	CHAIN LINK FENCE
CNC	CONCRETE
CSW	CONCRETE SIDEWALK
(D)	DEED
DC	DEPRESSED CURB
DWL	DASHED WHITE LINE
DWP	DETECTABLE WARNING PAD
DYL	DASHED YELLOW LINE
EB	ELECTRIC BOX
EOP	EDGE OF PAVEMENT
FNC	FENCE
GRT	GRATE
GW	GUY WIRE
MC	METAL COVER
MON	MONUMENT
MR	METAL RAILING
PVR	PAVERS
(S)	SURVEY
SB	STOP BAR
SC	SECURITY CAMERA
TRNS	TRANSFORMERS
TYP	TYPICAL
WL	WHITE LINE
YD	YARD DRAIN
YL	YELLOW LINE

MAP LEGEND

- PROPERTY LINE
- FENCE LINE
- METAL RAILING
- BUILDING FOOTPRINT AND DOORWAY AT GROUND LEVEL
- G7 — EXISTING CONTOUR
- x 67.34 — EXISTING SPOT ELEVATION
- x TC 67.34 — EXIST. TOP OF CURB ELEVATION
- x BC 67.34 — EXIST. GUTTER ELEVATION
- x TW 67.34 — EXIST. TOP OF WALL ELEVATION
- x BW 67.34 — EXIST. BOTTOM OF WALL ELEVATION
- x DS 67.34 — DOOR SILL ELEVATION
- x FF 67.34 — FINISHED FLOOR ELEVATION
- HYD — HYDRANT
- WM — WATER METER
- WV — WATER VALVE
- GV — GAS VALVE
- OH — OVERHEAD WIRES
- G — APPROX. LOC. UNDERGROUND GAS LINE PER UTILITY MARKOUT
- DWP — DETECTABLE WARNING PAD
- AL — AREA LIGHT
- MH — MANHOLE
- INLET
- UP — UTILITY POLE
- UP/LP — UTILITY POLE/LIGHT POLE
- GW — GUY WIRE
- SIGN
- 1.0' — DENOTES OFFSET OF STRUCTURE AT GROUND LEVEL RELATIVE TO PROPERTY LINE
- 18" — DENOTES TREE AND TRUNK DIAMETER
- PAINTED ARROW
- (2) — TITLE POLICY EXCEPTION

UTILITIES:
THE FOLLOWING COMPANIES WERE NOTIFIED BY NEW YORK STATE ONE-CALL SYSTEM (1-800-272-4480) AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBER(S): 220181560

UTILITY COMPANY	PHONE NUMBER
CABLEVISION OF HAUPPAUGE	800-545-7068
NATIONAL GRID	866-507-3010
LONG ISLAND POWER AUTHORITY	800-545-7068
SUFFOLK COUNTY WATER AUTHORITY	800-545-7868
TOWN OF ISLIP	631-224-5535
VERIZON COMMUNICATIONS	855-661-6323

NOT ALL UTILITY COMPANIES RESPONDED TO THE MARKOUT REQUEST

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

SEE PAGE 2 OF 2 FOR NOTES, REFERENCES & SURVEY DESCRIPTION

No.	DESCRIPTION OF REVISION	DRAWN:	DATE
8	FIELD UPDATE, NO UPDATED TITLE	E.C.R.	01-13-26
7	RECEIPT OF SPECIAL SEARCH & REVISED TITLE (NO FIELD WORK)	C.J.O.	06-21-23
6	REVISE TO SHOW WATERLINE EASEMENT	R.M.C.	09-22-22
5	MISCELLANEOUS REVISION	R.M.C.	07-17-22
4	REVISE PER ATTORNEY COMMENTS	R.M.C.	04-29-22
3	REVISE TO EDIT OVERHEAD WIRES	E.C.R.	03-17-22
2	REVISE PER RECEIPT OF LEGIBLE COPY OF LIBER 10402, PAGE 176	K.G.G.	03-15-22
1	REVISE TO ADD SURVEY DESCRIPTION	K.G.G.	03-08-22

ALTA/NSPS LAND TITLE SURVEY
DISTRICT 500, SECTION 223, BLOCK 2, LOTS 54.1 & 57.1
DISTRICT 500, SECTION 224, BLOCK 1, LOT 80.3
DISTRICT 500, SECTION 244, BLOCK 2, LOTS 56 & 57
1612 5th AVENUE
BAY SHORE, TOWN OF ISLIP
SUFFOLK COUNTY
STATE OF NEW YORK

GALLAS SURVEYING GROUP
2865 U.S. ROUTE 1
NORTH BRUNSWICK, NJ 08902
TEL/E: 732-422-6700
FAX: 732-940-8786
www.gallassurvey.com

DATE:	SCALE:	DRAWN:	CHECKED:
03-02-2022	1"=40'	E.C.R./W.B.	K.G.G./C.J.O.

FIELD DATE:	FIELD BOOK	PAGE	FIELD CREW
01-24 / 01-25-22 02-14 / 02-28-22 01-06-2026 01-06-2026	171 170 238 234	30 70-72, 74, 84 10 113	M.C. / J.D. J.D. / A.S. M.C. / K.S. C.C.

FILE NO.:	DRAWING NAME/SHEET NO.
G22002	G22002.DWG 1 OF 2

New York 811
SAFETY IS IN YOUR HANDS. EVERY DIG. EVERY TIME.

THE STATE OF NEW YORK REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE. "KNOW WHAT'S BELOW" PUBLIC SERVICE COMMISSION, NEW YORK STATE CODE RULE 753

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

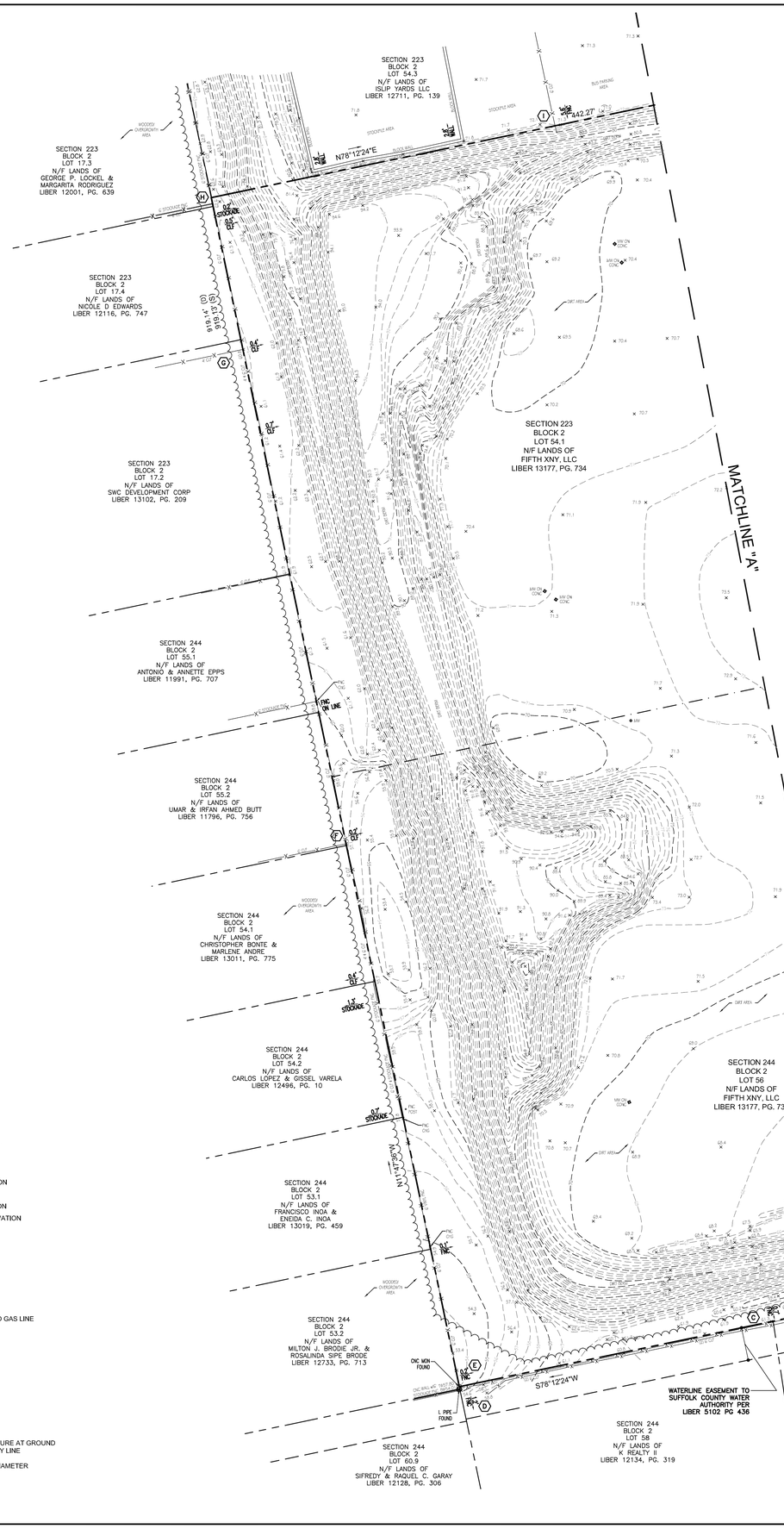
TO:
- FIFTH XNY, LLC, A DELAWARE LIMITED LIABILITY COMPANY;
- CHICAGO TITLE INSURANCE COMPANY;
- GOODWIN PROCTER LLP;

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5, 7(a), 7(b)(1), 8, 9, 13, 14, 16, 17, & 19 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON FEBRUARY 28, 2022 AND UPDATED JANUARY 6, 2026.

NOT VALID UNLESS EMBOSSED WITH RAISED IMPRESSION OR FOR INK SEAL

GREGORY S. GALLAS
NEW YORK PROFESSIONAL LAND SURVEYOR #50124

01-14-2026
DATE



ABBREVIATIONS

ASPH	ASPHALT PAVEMENT
BBC	BELGIAN BLOCK CURB
BLD	BUILDING
BP	BRICK PAVERS
CAT	CATENARY ARMS
CC	CONCRETE CURB
CHG	CHARGE
CLF	CHAIN LINK FENCE
CNC	CONCRETE
CSW	CONCRETE SIDEWALK
(D)	DEED
DC	DEPRESSED CURB
DWL	DASHED WHITE LINE
DWP	DETECTABLE WARNING PAD
DYL	DASHED YELLOW LINE
EB	ELECTRIC BOX
EOP	EDGE OF PAVEMENT
FNC	FENCE
GRT	GRATE
GW	GUY WIRE
MC	METAL COVER
MON	MONUMENT
MR	METAL RAILING
PVR	PAVERS
(S)	SURVEY
SB	STOP BAR
SC	SECURITY CAMERA
TRNS	TRANSFORMERS
TYP	TYPICAL
WL	WHITE LINE
YD	YARD DRAIN
YL	YELLOW LINE

MAP LEGEND

- PROPERTY LINE
- FENCE LINE
- METAL RAILING
- BUILDING FOOTPRINT AND DOORWAY AT GROUND LEVEL
- EXISTING CONTOUR
- x 67.34 — EXISTING SPOT ELEVATION
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- x BC 67.34 — EXIST. GUTTER ELEVATION
- x TW 67.34 — EXIST. TOP OF WALL ELEVATION
- x BW 67.34 — EXIST. BOTTOM OF WALL ELEVATION
- x DS 67.34 — DOOR SILL ELEVATION
- x FF 67.34 — FINISHED FLOOR ELEVATION
- HYD — HYDRANT
- WM — WATER METER
- WV — WATER VALVE
- GV — GAS VALVE
- OH — OVERHEAD WIRES
- G — APPROX. LOC. UNDERGROUND GAS LINE PER UTILITY MARKOUT
- DWP — DETECTABLE WARNING PAD
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- 1.0' — DENOTES OFFSET OF STRUCTURE AT GROUND LEVEL RELATIVE TO PROPERTY LINE
- 18" — DENOTES TREE AND TRUNK DIAMETER
- PAINTED ARROW
- (2) — TITLE POLICY EXCEPTION

*** NOTE: MATCHES THE CURRENT RECORD OWNER DEED, LIBER 13177 PAGE 734 (RECORDED 11/14/2022)**

SCHEDULE A DESCRIPTION (MAY OF 2022 TITLE COMMITMENT):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN BAYSHORE, TOWN OF ISLIP, SUFFOLK COUNTY, STATE OF NEW YORK, BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WESTERLY SIDE OF 5TH AVENUE (A/K/A COUNTY ROUTE 13); VARIABLE WIDTH), SAID POINT BEING DISTANT 520.72 FEET ALONG VARIOUS COURSES FROM THE INTERSECTION OF THE WESTERLY SIDE OF 5TH AVENUE WITH THE SOUTHERLY SIDE OF MCADAM STREET (VARIABLE WIDTH), RUNNING THENCE:

1. ALONG THE WESTERLY SIDE OF 5TH AVENUE, SOUTH 05 DEGREES 08 MINUTES 24 SECONDS WEST, A DISTANCE OF 311.18 FEET TO A POINT, THENCE;
2. ALONG A COMMON LINE BETWEEN LOTS 80.2 & 80.3, BLOCK 1, SECTION 224, NORTH 84 DEGREES 51 MINUTES 36 SECONDS WEST, A DISTANCE OF 400.00 FEET TO A POINT, THENCE;
3. ALONG THE SAME, SOUTH 05 DEGREES 08 MINUTES 24 SECONDS WEST, A DISTANCE OF 200.00 FEET TO A POINT, THENCE;
4. STILL ALONG THE SAME, SOUTH 84 DEGREES 51 MINUTES 36 SECONDS EAST, A DISTANCE OF 58,35 FEET TO A POINT, THENCE;
5. ALONG A COMMON LINE BETWEEN LOTS 57& 80.3, BLOCK 1, SECTION 224 AND LOT 2.1, BLOCK 1, SECTION 245, SOUTH 05 DEGREES 08 MINUTES 24 SECONDS WEST, A DISTANCE OF 245.00 FEET TO A POINT, THENCE;
6. ALONG A COMMON LINE BETWEEN LOT 57, BLOCK 2, SECTION 244 AND LOT 4, BLOCK 1, SECTION 245, NORTH 84 DEGREES 51 MINUTES 36 SECONDS WEST, A DISTANCE OF 300.00 FEET TO A POINT, THENCE;
7. ALONG A COMMON LINE BETWEEN LOT 56, BLOCK 2, SECTION 244 AND LOTS 4 & 5, BLOCK 1, SECTION 245, SOUTH 11 DEGREES 47 MINUTES 36 SECONDS EAST, A DISTANCE OF 245,95 FEET TO A POINT, THENCE;
8. ALONG A COMMON LINE BETWEEN LOT 56, BLOCK 2, SECTION 244 AND LOTS 59,3 & 58, BLOCK 2, SECTION 244, SOUTH 78 DEGREES 12 MINUTES 24 SECONDS WEST, A DISTANCE OF 442,27 FEET TO A POINT, THENCE;
9. ALONG WESTERLY LANDS OF LOTS 54,1 & 56, BLOCK 2, SECTION 244, NORTH 11 DEGREES 47 MINUTES 36 SECONDS WEST, A DISTANCE OF 919,14 FEET TO A POINT, THENCE;
10. ALONG A COMMON LINE BETWEEN LOTS 54,1 & 54,3, BLOCK 2, SECTION 223, NORTH 78 DEGREES 12 MINUTES 24 SECONDS EAST, A DISTANCE OF 442,27 FEET TO THE A POINT, THENCE;
11. ALONG A COMMON LINE BETWEEN LOT 80.3, BLOCK 1, SECTION 224 AND LOTS 54,3 & 57,1, BLOCK 2, SECTION 223, NORTH 11 DEGREES 47 MINUTES 36 SECONDS WEST, A DISTANCE OF 305,42 FEET TO A POINT, THENCE;
12. ALONG A COMMON LINE BETWEEN LOTS 57,1 & 57,2, BLOCK 2, SECTION 223, SOUTH 84 DEGREES 51 MINUTES 36 SECONDS EAST, A DISTANCE OF 726,68 FEET TO A POINT, THENCE;
13. ALONG A COMMON LINE BETWEEN LOT 57,1, BLOCK 2, SECTION 223 AND LOT 94, BLOCK 1, SECTION 224, SOUTH 05 DEGREES 08 MINUTES 24 SECONDS WEST, A DISTANCE OF 180,00 FEET TO A POINT, THENCE:
14. ALONG A COMMON LINE BETWEEN LOT 80,3 AND LOT 94, BLOCK 1, SECTION 224, SOUTH 84 DEGREES 51 MINUTES 36 SECONDS EAST, A DISTANCE OF 200,00 FEET TO THE POINT AND PLACE OF BEGINNING.

SURVEY DESCRIPTION:

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN BAYSHORE, TOWN OF ISLIP, SUFFOLK COUNTY, STATE OF NEW YORK, BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WESTERLY SIDELINE OF 5TH AVENUE (A/K/A COUNTY ROUTE 13 - WIDTH VARIES) WHERE THE SAME IS INTERSECTED BY THE DIVIDING LINE OF LANDS HEREIN DESCRIBED TO THE SOUTH WITH SECTION 224, BLOCK 1, LOT 94 TO THE NORTH, THE SAID POINT ALSO BEING DISTANT 520,90 FEET, SOUTHERLY ALONG VARIOUS COURSES, FROM THE INTERSECTION OF THE SAID WESTERLY SIDELINE OF 5TH AVENUE WITH THE SOUTHERLY SIDELINE OF MCADAM STREET (WIDTH VARIES), AND RUNNING THENCE

(1) ALONG THE SAID WESTERLY SIDELINE OF 5TH AVENUE, SOUTH 05 DEGREES 08 MINUTES 24 SECONDS WEST, A DISTANCE OF 301,18 FEET; THENCE

(2) ALONG THE DIVIDING LINE OF THE LANDS HEREIN DESCRIBED TO THE NORTH WITH SECTION 224, BLOCK 1, LOT 80,2 TO THE SOUTH, NORTH 84 DEGREES 51 MINUTES 36 SECONDS WEST, A DISTANCE OF 400,00 FEET; THENCE

(3) ALONG THE SAME, SOUTH 05 DEGREES 08 MINUTES 24 SECONDS WEST, A DISTANCE OF 200,00 FEET; THENCE

(4) ALONG THE SAME, SOUTH 84 DEGREES 51 MINUTES 36 SECONDS EAST, A DISTANCE OF 58,35 FEET; THENCE

(5) ALONG THE DIVIDING LINE OF THE LANDS HEREIN DESCRIBED TO THE WEST WITH SECTION 245, BLOCK 1, LOT 2,1 TO THE EAST, SOUTH 05 DEGREES 08 MINUTES 24 SECONDS WEST, A DISTANCE OF 255,00 FEET; THENCE

(6) ALONG THE DIVIDING LINE OF THE LANDS HEREIN DESCRIBED TO THE NORTH WITH SECTION 245, BLOCK 1, LOT 4 TO THE SOUTH, NORTH 84 DEGREES 51 MINUTES 36 SECONDS WEST, A DISTANCE OF 300,00 FEET; THENCE

(7) ALONG THE DIVIDING LINE OF THE LANDS HEREIN DESCRIBED TO THE WEST WITH SECTION 245, BLOCK 1, LOTS 4 & 5 TO THE EAST, SOUTH 11 DEGREES 47 MINUTES 36 SECONDS EAST, PASSING THROUGH A CONCRETE MONUMENT FOUND AT A DISTANCE OF 134,53 FEET, FOR A TOTAL DISTANCE OF 245,95 FEET TO A CONCRETE MONUMENT FOUND; THENCE

(8) ALONG THE DIVIDING LINE OF THE LANDS HEREIN DESCRIBED TO THE NORTH WITH SECTION 244, BLOCK 2, LOTS 59,3 & 58 TO THE SOUTH, SOUTH 78 DEGREES 12 MINUTES 24 SECONDS WEST, A DISTANCE OF 442,27 FEET TO A CONCRETE MONUMENT FOUND; THENCE

(9) ALONG THE DIVIDING LINE OF THE LANDS HEREIN DESCRIBED TO THE EAST WITH SECTION 244, BLOCK 2, LOTS 53,2, 53,1, 54,2, 54,1, 55,2, 55,1, 17,2, 17,4 & 17,3 TO THE WEST, NORTH 11 DEGREES 47 MINUTES 36 SECONDS WEST, A DISTANCE OF 919,13 FEET; THENCE

(10) ALONG THE DIVIDING LINE OF THE LANDS HEREIN DESCRIBED TO THE SOUTH WITH SECTION 223, BLOCK 2, LOT 54,3 TO THE NORTH, NORTH 78 DEGREES 12 MINUTES 24 SECONDS EAST, A DISTANCE OF 442,27 FEET; THENCE

(11) ALONG THE SAME, NORTH 11 DEGREES 47 MINUTES 36 SECONDS WEST, A DISTANCE OF 305,43 FEET; THENCE

(12) ALONG THE DIVIDING LINE OF THE LANDS HEREIN DESCRIBED TO THE SOUTH WITH SECTION 223, BLOCK 2, LOT 57,2 TO THE NORTH, SOUTH 84 DEGREES 51 MINUTES 36 SECONDS EAST, A DISTANCE OF 726,68 FEET; THENCE

(13) ALONG THE DIVIDING LINE OF THE LANDS HEREIN DESCRIBED TO THE WEST WITH AFOREMENTIONED SECTION 223, BLOCK 1, LOT 94 TO THE EAST, SOUTH 05 DEGREES 08 MINUTES 24 SECONDS WEST, A DISTANCE OF 180,00 FEET; THENCE

(14) ALONG THE SAME, SOUTH 84 DEGREES 51 MINUTES 36 SECONDS EAST, A DISTANCE OF 200,00 FEET TO THE POINT AND PLACE OF BEGINNING.

NOTES:

1. PROPERTY KNOWN AND DESIGNATED AS LOTS 54,1 & 57,1, BLOCK 2, SECTION 223, DISTRICT 500, LOT 80,3, BLOCK 1, SECTION 224, DISTRICT 500, LOTS 56 & 57, BLOCK 2, SECTION 244, DISTRICT 500 ON THE OFFICIAL TAX MAPS FOR THE TOWN OF ISLIP, SUFFOLK COUNTY, STATE OF NEW YORK.
2. SECTION 223, BLOCK 2, LOT 54,1: 198,009 S.F. OR 4.5457 AC.; SECTION 223, BLOCK 2, LOT 57,1: 125,870 S.F. OR 2.8896 AC.; SECTION 224, BLOCK 1, LOT 80,3: 329,309 S.F. OR 7.5599 AC.; SECTION 244, BLOCK 2, LOT 56: 213,749 S.F. OR 4.9070 AC.; SECTION 244, BLOCK 2, LOT 57: 48,000 S.F. OR 1.1019 AC.; INDEPENDENCE STREET: 22,566 S.F. OR 0.5180 AC.; TOTAL AREA: 937,503 S.F. OR 21,5221 AC.
3. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON PRIOR UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY, AVAILABLE ASBUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES.
4. THIS SURVEY IS PREPARED WITH REFERENCE TO A SPECIAL SEARCH (SEE MAP REFERENCE NO, 6) AND AN OWNER'S POLICY OF TITLE INSURANCE ISSUED BY CHICAGO TITLE INSURANCE COMPANY, POLICY NO, CT21-01042-S, HAVING AN EFFECTIVE DATE OF MAY 04, 2022, WHERE THE FOLLOWING SURVEY RELATED EXCEPTIONS APPEAR IN SCHEDULE B:
   - (1) ENCROACHMENT TABLE **[REVISED TO MATCH THE CURRENT SURVEY AND DEPICTED HEREON]**
   - (2) EASEMENT TO LONG ISLAND LIGHTING COMPANY DATED 04/29/1987, RECORDED 08/26/1981 IN LIBER 10402 PAGE 176 **[10' WIDE OVERHEAD ELECTRIC EASEMENT SHOWN. THE REMAINING LANGUAGE IS BLANKET IN NATURE, NOTHING TO SHOW]**
   - (3) EASEMENTS, PUBLIC AND PRIVATE, OVER SO MUCH OF THE PREMISES DESCRIBED IN SCHEDULE A, WHICH LIES IN THE PRESENT OR FORMER BED OF INDEPENDENCE STREET, FOR ALL STREET PURPOSES INCLUDING BUT NOT LIMITED TO UTILITIES, WATER AND SEWER LINES, TELEPHONE AND POWER LINES **[STATEMENT, NOTHING TO SHOW - SEE NOTE 14. BELOW]**
5. ELEVATIONS ARE BASED UPON NAVD 88 DATUM (GPS DERIVED - KEYSTONE NETWORK)
6. THE HORIZONTAL DATUM IS BASED ON THE NEW YORK STATE PLANE COORDINATE SYSTEM (LONG ISLAND - NAD83),
7. BY GRAPHIC PLOTTING, PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) PER NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP NO, 36103C0645H, EFFECTIVE DATE: SEPTEMBER 25, 2009, OBTAINED FROM FEMA NFHL WEB SERVICE ON DECEMBER 12, 2025.

   BY GRAPHIC PLOTTING, PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA (COMMUNITY ID PANEL 36103C0645H - NOT PRINTED) PER NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP NO, 3604979ND1A, MAP REVISED: SEPTEMBER 25, 2009.
8. THE LOCATION AND EXTENTS OF UNDERGROUND TANKS AND VAULTS, IF ANY EXIST, HAVE NOT BEEN DETERMINED BY THE SURVEYOR.
9. THERE WAS EVIDENCE OF RECENT BUILDING DECONSTRUCTION AND EARTHWORK OBSERVED IN THE PROCESS OF CONDUCTING THE FIELD WORK.
10. THERE WERE NO CHANGES IN STREET RIGHT OF WAY LINES. EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION, OR REPAIRS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELD WORK,
11. SITE HAS DIRECT ACCESS TO 5TH AVENUE, WHICH IS A PUBLIC RIGHT OF WAY,
12. BASED ON THE FIELD SURVEY AND DEEDS IN THE TITLE DOCUMENTS PROVIDED , THERE ARE NO GAPS OR GORES IN THE PROPERTY AS SHOWN.
13. THERE WERE NO CEMETERIES OR FAMILY BURIAL SITES OBSERVED IN THE PROCESS OF CONDUCTING THE FIELD WORK.
14. THE CURRENT TAX MAP DEPICTS INDEPENDENCE STREET AS A 26' WIDE RIGHT OF WAY, THE SAID ROAD APPEARS ON FILED MAP NO, 13-1 & 13-2 (MAP REFERENCE 2 & 3) BUT NO EVIDENCE EXISTS THAT THE SAID ROAD HAS BEEN DEDICATED, THE AREA OF INDEPENDENCE STREET IS PART OF THE ORIGINAL CONVEYANCE DEED TO HUBBARD SAND & GRAVEL CORP. FILED IN LIBER 5658 AT PAGE 364 AND, SUBSEQUENTLY, THE CURRENT RECORD OWNER DEED FILED IN LIBER 13177 AT PAGE 734.
15. **THIS SURVEY WAS PERFORMED DURING A PERIOD WHEN THE GROUND WAS SNOW COVERED. UTILITY STRUCTURES AND SITE FEATURES HAVE BEEN LOCATED AND IDENTIFIED WHICH WERE VISIBLE ON THE DATE OF THE FIELD SURVEY. REMOVAL OF THIS NOTE FROM THE SURVEY WILL REQUIRE A LATER SITE VISIT AFTER THE SNOW HAS MELTED.**

REFERENCES:

1. MAP OF PROPERTY OF WILLIAM H. MOFFITT, AT OR NEAR BAY SHORE AND BRENTWOOD, LONG ISLAND, N.Y., BAY SHORE FARMS, PREPARED BY RICHARD M. BAYLES, SURVEYOR, DATED: AUGUST 1899, FILED WITH THE SUFFOLK COUNTY CLERK'S OFFICE ON JANUARY 24, 1900 AS FILE NO, 559,
2. MAP OF BAYSHORE PLAZA, 110 VILLA PLOTS, PROPERTY OF WILLIAM H, MOFFITT, SURVEYED BY ROBERT KURZ, CIVIL ENGINEER, FILED WITH THE SUFFOLK COUNTY CLERK'S OFFICE ON JULY 1, 1902 AS FILE NO. 576, MAP NO. 13-1,
3. MAP OF BAYSHORE PLAZA, 110 VILLA PLOTS, PROPERTY OF WILLIAM H, MOFFITT, SURVEYED BY ROBERT KURZ, CIVIL ENGINEER, FILED WITH THE SUFFOLK COUNTY CLERK'S OFFICE ON MARCH 28, 1903 AS FILE NO, 307, MAP NO, 13-2,
4. MAP OF PINE - AIRE FARMS, TOWN OF ISLIP, SUFFOLK CO., N.Y., PREPARED BY GEORGE H. WALBRIDGE CO., CIVIL ENGINEERS & SURVEYORS, DATED: NOVEMBER 1, 1937, FILED WITH THE SUFFOLK COUNTY CLERK'S OFFICE ON MARCH 8, 1938 AS FILE NO. 1253, ABS NO, 1269,
5. ELECTRIC PLANS PROVIDED BY PSEG LONG ISLAND, MAP NOS, 04832 & 04840, MAPS PRINTED: JANUARY 21, 2022.
6. SPECIAL SEARCH NO, CT23-900014-S PREPARED BY CHICAGO TITLE INSURANCE COMPANY AND DATED FEBRUARY 7, 2023, CONTAINING THE DEED CHAINS FROM 1970 TO PRESENT FOR THE SUBJECT PROPERTY AND THE ADJOINING PROPERTIES THAT, IN PART OR IN WHOLE, WERE ENCOMPASSED BY THE ORIGINAL CONVEYANCE DEED TO HUBBARD SAND & GRAVEL CORP FILED IN LIBER 5658 AT PAGE 364,

TABLE OF ENCROACHMENTS

- (A) BLOCK WALL FROM SUBJECT PROPERTY ENCROACHES UP TO 2.0 FEET ON TO LOT 80.2, BLOCK 1, SECTION 224,
- (B) BLOCK WALL FROM SUBJECT PROPERTY ENCROACHES UP TO 2.4 FEET ON TO LOT 2.1, BLOCK 1, SECTION 245,
- (C) FENCE FROM SUBJECT PROPERTY ENCROACHES UP TO 0.7 FEET ON TO LOT 58, BLOCK 2, SECTION 244,
- (D) FENCE FROM SUBJECT PROPERTY ENCROACHES UP TO 1.2 FEET ON TO LOT 59,3, BLOCK 2, SECTION 244,
- (E) FENCE FROM LOT 53.2, BLOCK 2, SECTION 244 ENCROACHES UP TO 0.2 FEET ON TO SUBJECT PROPERTY,
- (F) FENCE FROM LOT 55.2, BLOCK 2, SECTION 244 ENCROACHES UP TO 0.2 FEET ON TO SUBJECT PROPERTY,
- (G) FENCE FROM LOT 17.2, BLOCK 2, SECTION 223 ENCROACHES UP TO 0.4 FEET ON TO SUBJECT PROPERTY,
- (H) FENCE FROM LOT 17.3, BLOCK 2, SECTION 223 ENCROACHES UP TO 0.5 FEET ON TO SUBJECT PROPERTY,
- (I) FENCE FROM LOT 54.3, BLOCK 2, SECTION 223 ENCROACHES UP TO 5.6' ON TO SUBJECT PROPERTY,
- (J) FENCE FROM SUBJECT PROPERTY ENCROACHES 4.5', AT ITS EASTERLY END, AND 2.7', AT ITS WESTERLY END, ON TO LOT 57.2, BLOCK 2, SECTION 223,
- (K) THE PROPERTY LINE DIVIDING THE SUBJECT PROPERTY AND LOT 57.2, BLOCK 2, SECTION 223 GENERALLY RUNS THROUGH THE MIDDLE OF A 3' WIDE BLOCK WALL BELONGING TO THE SUBJECT PROPERTY,

UTILITIES:
THE FOLLOWING COMPANIES WERE NOTIFIED BY NEW YORK STATE ONE-CALL SYSTEM (1-800-272-4480) AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBER(S): 220181560

UTILITY COMPANY	PHONE NUMBER
CABLEVISION OF HAUPPAUGE	800-545-7068
NATIONAL GRID	866-507-3010
LONG ISLAND POWER AUTHORITY	800-545-7068
SUFFOLK COUNTY WATER AUTHORITY	800-545-7868
TOWN OF ISLIP	631-224-5535
VERIZON COMMUNICATIONS	855-661-6323

NOT ALL UTILITY COMPANIES RESPONDED TO THE MARKOUT REQUEST



VICINITY MAP

NEW YORK 811
SAFETY IS IN YOUR HANDS. EVERY DIG. EVERY TIME.
THE STATE OF NEW YORK REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE.
"KNOW WHAT'S BELOW"
PUBLIC SERVICE COMMISSION,
NEW YORK STATE CODE RULE 753

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

No.	DESCRIPTION OF REVISION	DRAWN:	DATE
8	FIELD UPDATE, NO UPDATED TITLE	E.C.R.	01-13-26
7	RECEIPT OF SPECIAL SEARCH & REVISED TITLE (NO FIELD WORK)	C.J.G.	06-21-23
6	REVISE TO SHOW WATERLINE EASEMENT	R.M.C.	09-22-22
5	MISCELLANEOUS REVISION	R.M.C.	07-17-22
4	REVISE PER ATTORNEY COMMENTS	R.M.C.	04-29-22
3	REVISE TO EDIT OVERHEAD WIRES	E.C.R.	03-17-22
2	REVISE PER RECEIPT OF LEGIBLE COPY OF LIBER 10402, PAGE 176	K.G.G.	03-15-22
1	REVISE TO ADD SURVEY DESCRIPTION	K.G.G.	03-08-22

ALTA/NSPS LAND TITLE SURVEY
DISTRICT 500, SECTION 223, BLOCK 2, LOTS 54.1 & 57.1
DISTRICT 500, SECTION 224, BLOCK 1, LOT 80.3
DISTRICT 500, SECTION 244, BLOCK 2, LOTS 56 & 57
1612 5th AVENUE
BAY SHORE, TOWN OF ISLIP
SUFFOLK COUNTY
STATE OF NEW YORK

GALLAS SURVEYING GROUP
2865 U.S. ROUTE 1
NORTH BRUNSWICK, NJ 08902
TELE: 732-432-6700
FAX: 732-940-8786
www.gallassurvey.com

DATE	SCALE	DRAWN:	CHECKED:
03-02-2022	1"=40'	E.C.R./W.B.	K.G.G./C.J.O.

FIELD DATE	FIELD BOOK	PAGE	FIELD CREW
01-24 / 01-25-22	171	30	M.C. / J.D.
02-14 / 02-28-22	170	70-72, 74, 84	J.D. / A.S.
01-06-2026	238	10	M.C. / K.S.
01-06-2026	234	113	C.C.

FILE NO.:	DRAWING NAME/SHEET NO.
G22002	G22002.DWG 2 OF 2

TO:
- FIFTH XNY, LLC, A DELAWARE LIMITED LIABILITY COMPANY;
- CHICAGO TITLE INSURANCE COMPANY;
- GOODWIN PROCTER LLP;

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5, 7(a), 7(b)(1), 8, 9, 13, 14, 16, 17, & 19 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON FEBRUARY 28, 2022 AND UPDATED JANUARY 6, 2026.

NOT VALID UNLESS EMBOSSED WITH LICENSED LAND SURVEYOR'S SEAL OR BLUE INK SEAL

GREGORY S. GALLAS — LAND SURVEYOR — 01-14-2026
NEW YORK PROFESSIONAL LAND SURVEYOR #50724 — DATE

APPENDIX C

Green & Sustainable Remediation

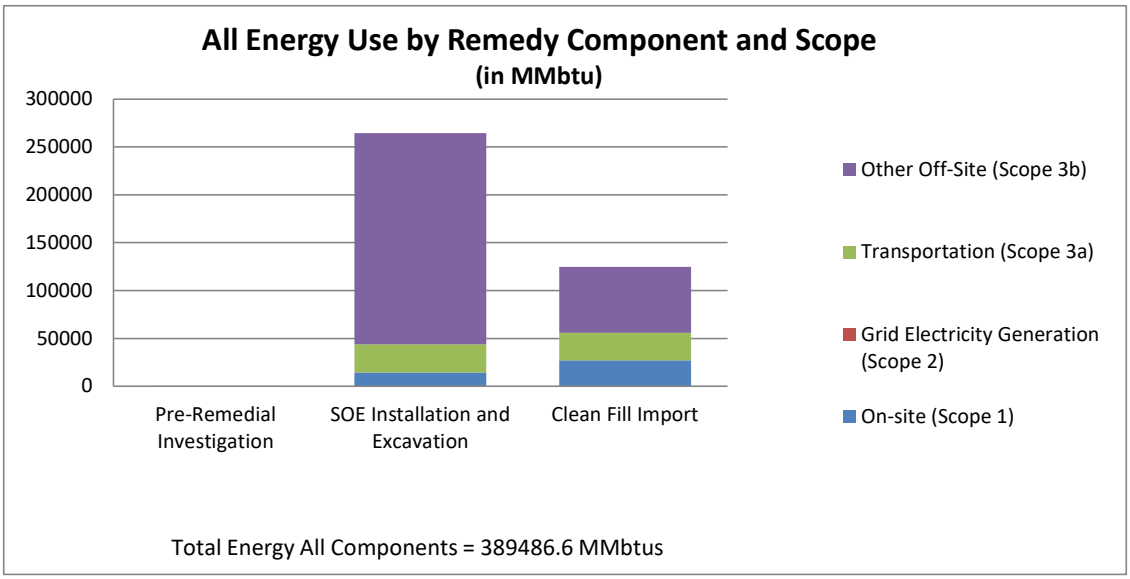
Environmental Footprint Summary

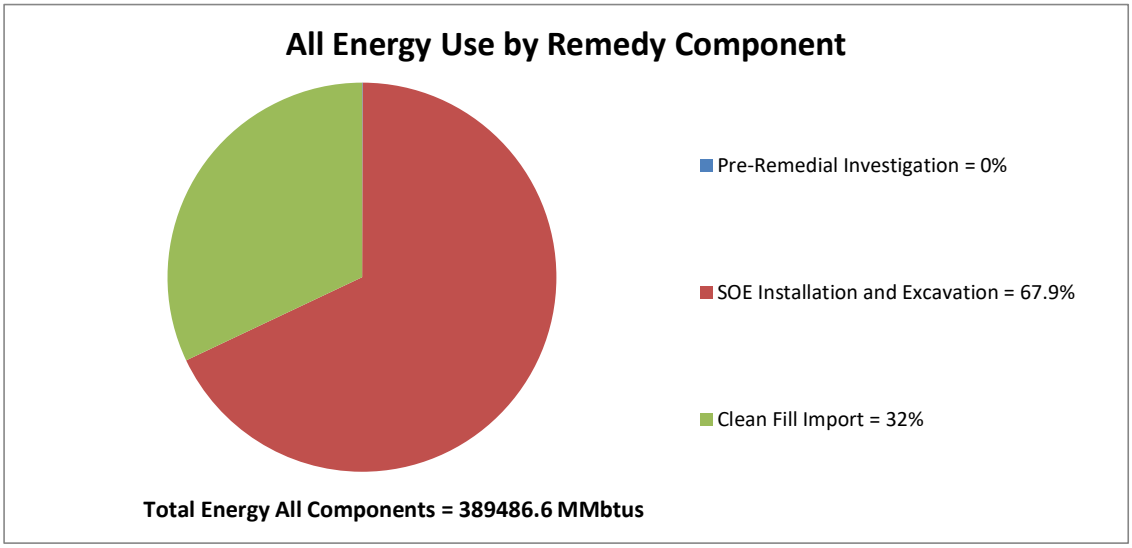
Core Element	Metric		Unit of Measure	Footprint						
				Pre-Remedial Investigation	SOE Installation and Excavation	Clean Fill Import				Total
Materials & Waste	M&W-1	Refined materials used on-site	Tons	0.0	507.1	1,232,244.0	0.0	0.0	0.0	1,232,751.1
	M&W-2	% of refined materials from recycled or reused material	%		100.0%	0.0%				0.0%
	M&W-3	Unrefined materials used on-site	Tons	0.000	0.000	0.000	0.000	0.000	0.000	0.0
	M&W-4	% of unrefined materials from recycled or reused material	%							
	M&W-5	On-site hazardous waste disposed of off-site	Tons	0.0	1,144.0	0.0	0.0	0.0	0.0	1,144.0
	M&W-6	On-site non-hazardous waste disposed of off-site	Tons	0.5	1,231,100.0	0.0	0.0	0.0	0.0	1,231,100.5
	M&W-7	Recycled or reused waste	Tons	0.0	510.0	0.0	0.0	0.0	0.0	510.0
	M&W-8	% of total potential waste recycled or reused	%	0.0%	0.0%					0.0%
Water (used on-site)	W-1	Public water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-2	Groundwater use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-3	Surface water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-4	Reclaimed water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-5	Storm water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-6	User-defined water resource #1	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-7	User-defined water resource #2	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-8	Wastewater generated	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy	E-1	Total energy used (on-site and off-site)	MMBtu	183.2	264,524.3	124,779.1	0.0	0.0	0.0	389,486.6
	E-2	Energy voluntarily derived from renewable resources								
	E-2A	On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-2B	Voluntary purchase of renewable electricity	MWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-3	Voluntary purchase of RECs	MWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-4	On-site grid electricity use	MWh	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Air	A-1	On-site NOx, SOx, and PM emissions	Pounds	159.8	18,304.7	21,557.0	0.0	0.0	0.0	40,021.5
	A-2	On-site HAP emissions	Pounds	0.0	0.5	7.8	0.0	0.0	0.0	8.4
	A-3	Total NOx, SOx, and PM emissions	Pounds	309.2	829,394.8	128,595.1	0.0	0.0	0.0	958,299.0
	A-3A	Total NOx emissions	Pounds	199.1	230,754.4	101,229.4	0.0	0.0	0.0	332,182.9
	A-3B	Total SOx emissions	Pounds	92.3	102,476.6	17,382.6	0.0	0.0	0.0	119,951.5
	A-3C	Total PM emissions	Pounds	17.8	496,163.7	9,983.1	0.0	0.0	0.0	506,164.6
	A-4	Total HAP emissions	Pounds	11.3	2,481.9	1,575.9	0.0	0.0	0.0	4,069.1
	A-5	Total greenhouse gas emissions	Tons CO2e*	14.5	20,464.2	8,110.0	0.0	0.0	0.0	28,588.6
Land & Ecosystems		Qualitative Description								

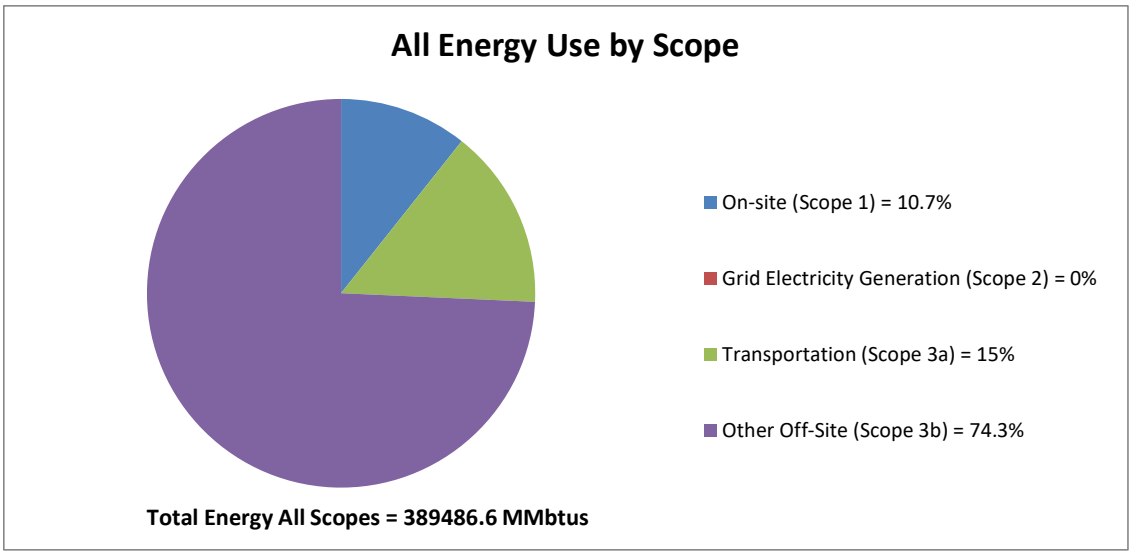
** Total greenhouse gases emissions (in CO2e) include consideration of CO2, CH4, and N2O (Nitrous oxide) emissions.*
"MMBtu" = millions of Btus
"MG" = millions of gallons
"CO2e" = carbon dioxide equivalents of global warming potential
"MWh" = megawatt hours (i.e., thousands of kilowatt-hours or millions of Watt-hours)
"Tons" = short tons (2,000 pounds)

The above metrics are consistent with EPA's Methodology for Understanding and Reducing a Project's Environmental Footprint (EPA 542-R-12-002), February 2012

Notes:


All Energy Use by Remedy Component and Scope
(in MMbtu)
300000
250000
200000
150000
100000
50000
0
Pre-Remedial Investigation
SOE Installation and Excavation
Clean Fill Import
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
Total Energy All Components = 389486.6 MMbtus


All Energy Use by Remedy Component
Pre-Remedial Investigation = 0%
SOE Installation and Excavation = 67.9%
Clean Fill Import = 32%
Total Energy All Components = 389486.6 MMbtus


All Energy Use by Scope
On-site (Scope 1) = 10.7%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 15%
Other Off-Site (Scope 3b) = 74.3%
Total Energy All Scopes = 389486.6 MMbtus

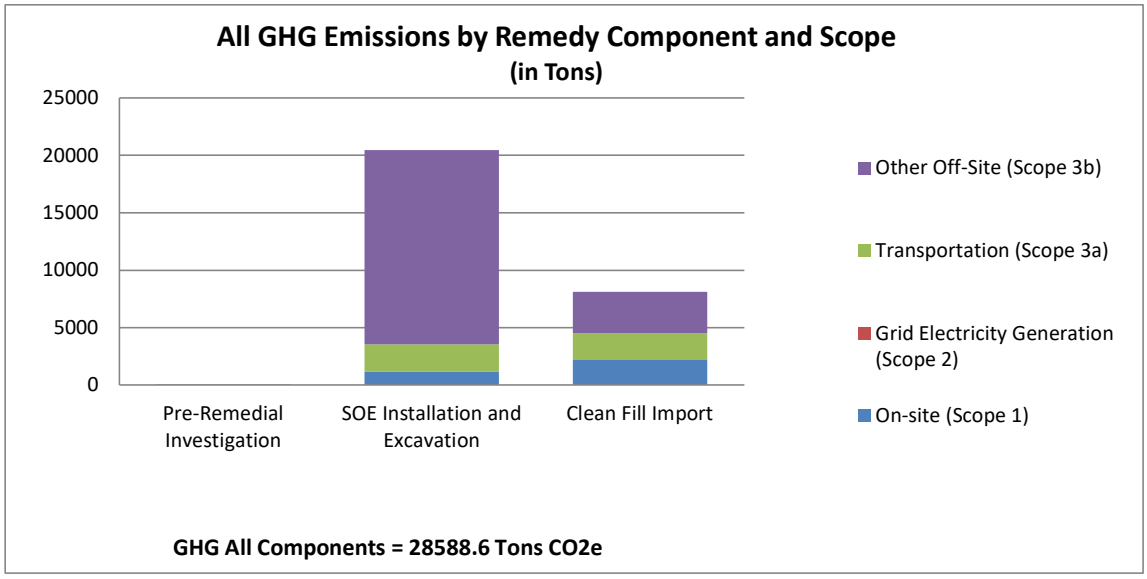
Total Energy
MMbtus

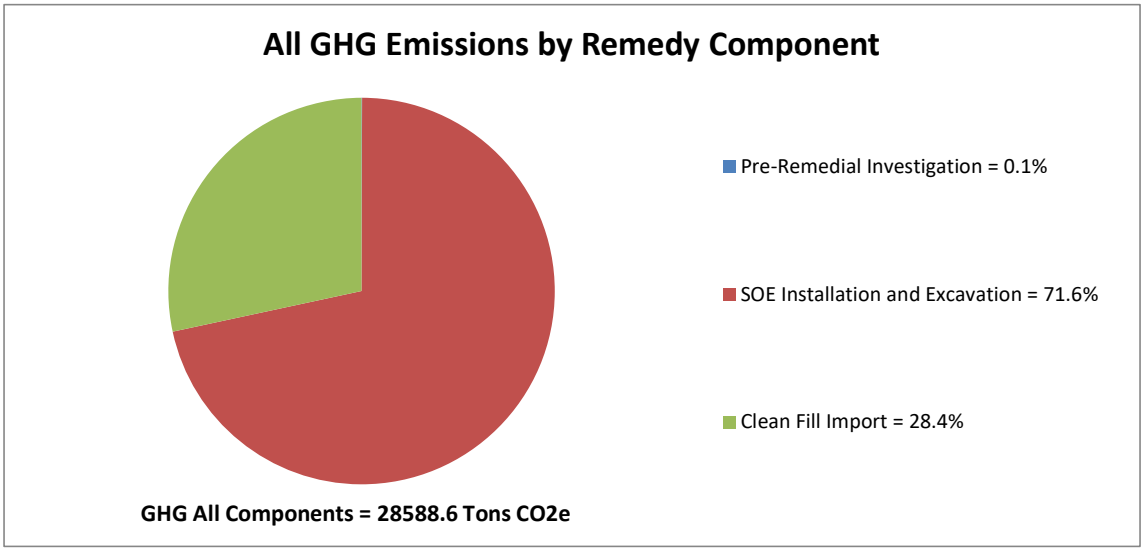
	Pre-Remedial Investigation	SOE Installation and Excavation	Clean Fill Import	0	0	0	Total
On-site (Scope 1)	124.2	14,230.1	27,208.1	0.0	0.0	0.0	41,562.5
Grid Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	25.3	29,578.9	28,871.9	0.0	0.0	0.0	58,476.1
Other Off-Site (Scope 3b)	33.6	220,715.3	68,699.1	0.0	0.0	0.0	289,448.0
Total	183.2	264,524.3	124,779.1	0.0	0.0	0.0	389,486.6

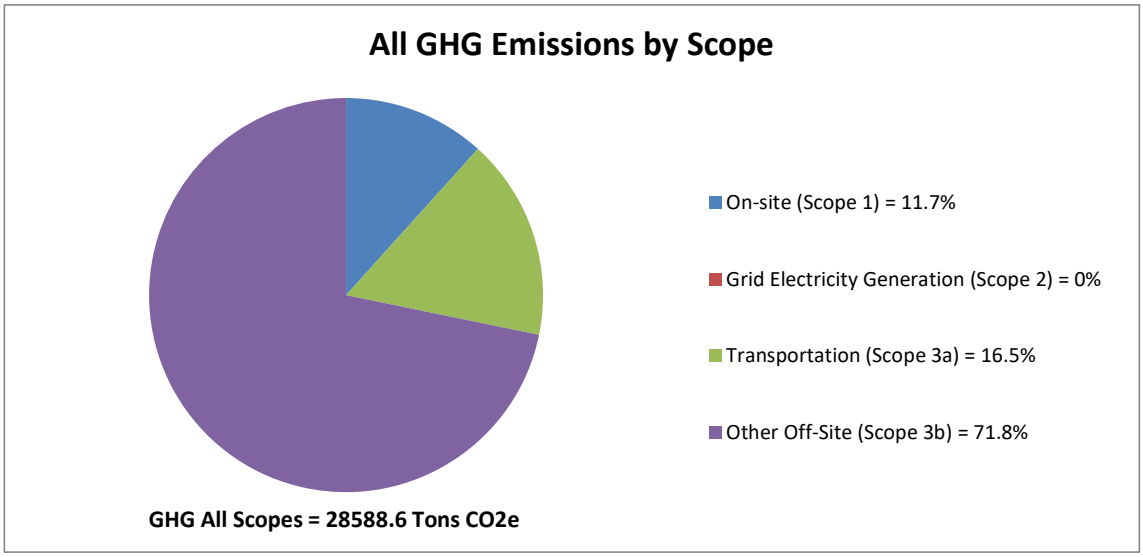
Pre-Remedial Investigation = 0%
SOE Installation and Excavation = 67.9%
Clean Fill Import = 32%
0 = 0%
0 = 0%
0 = 0%

On-site (Scope 1) = 10.7%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 15%
Other Off-Site (Scope 3b) = 74.3%

Total Energy All Components = 389486.6 MMbtus
Total Energy All Scopes = 389486.6 MMbtus


All GHG Emissions by Remedy Component and Scope
(in Tons)
25000
20000
15000
10000
5000
0
Pre-Remedial Investigation
SOE Installation and Excavation
Clean Fill Import
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
GHG All Components = 28588.6 Tons CO2e


All GHG Emissions by Remedy Component
Pre-Remedial Investigation = 0.1%
SOE Installation and Excavation = 71.6%
Clean Fill Import = 28.4%
GHG All Components = 28588.6 Tons CO2e


All GHG Emissions by Scope
On-site (Scope 1) = 11.7%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 16.5%
Other Off-Site (Scope 3b) = 71.8%
GHG All Scopes = 28588.6 Tons CO2e

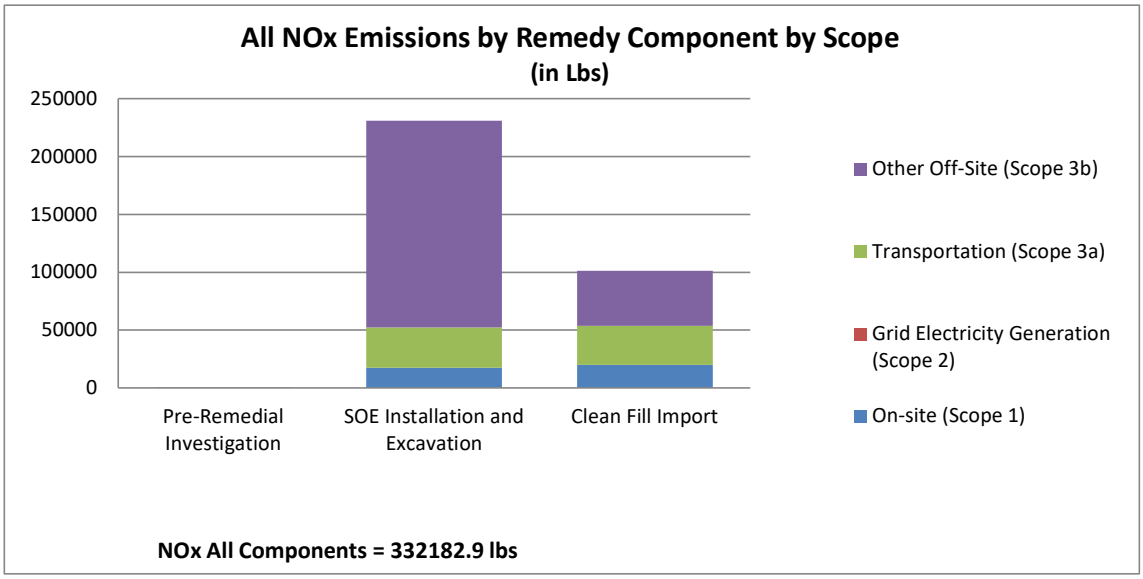
GHG
Tons CO2e

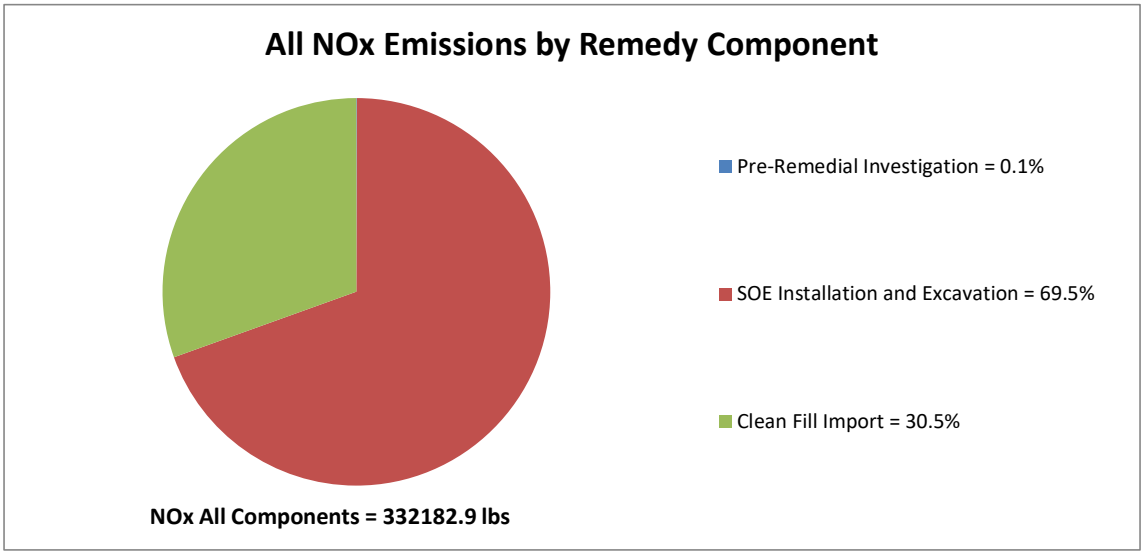
	Pre-Remedial Investigation	SOE Installation and Excavation	Clean Fill Import	0	0	0	Total
On-site (Scope 1)	10.1	1,151.7	2,176.6	0.0	0.0	0.0	3,338.4
Grid Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	2.0	2,392.2	2,335.0	0.0	0.0	0.0	4,729.2
Other Off-Site (Scope 3b)	2.4	16,920.3	3,598.3	0.0	0.0	0.0	20,521.0
Total	14.5	20,464.2	8,110.0	0.0	0.0	0.0	28,588.6

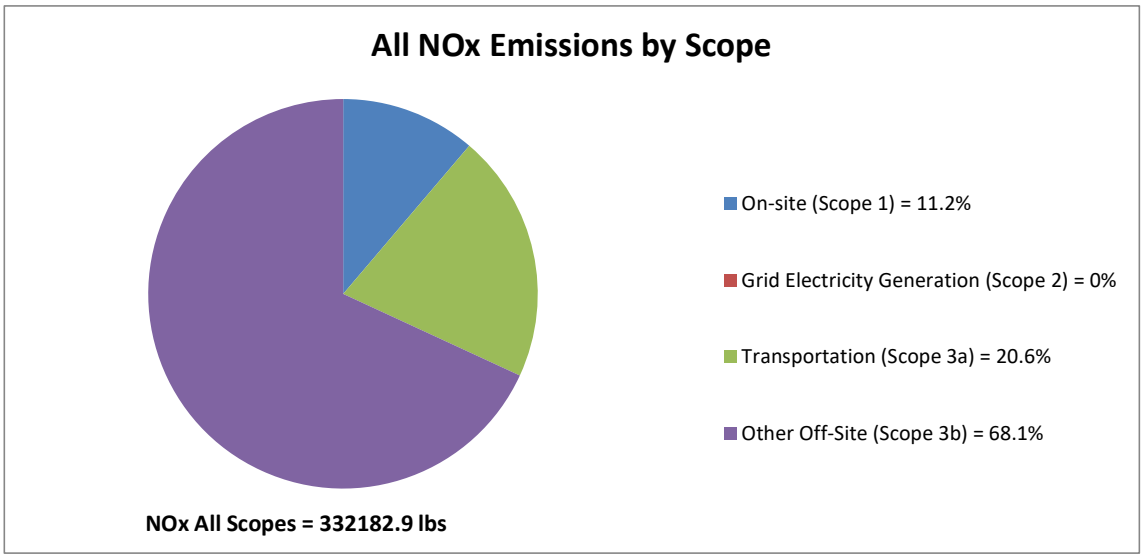
Pre-Remedial Investigation = 0.1%
SOE Installation and Excavation = 71.6%
Clean Fill Import = 28.4%
0 = 0%
0 = 0%
0 = 0%

On-site (Scope 1) = 11.7%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 16.5%
Other Off-Site (Scope 3b) = 71.8%

GHG All Components = 28588.6 Tons CO2e
GHG All Scopes = 28588.6 Tons CO2e


All NOx Emissions by Remedy Component by Scope
(in Lbs)
250000
200000
150000
100000
50000
0
Pre-Remedial Investigation
SOE Installation and Excavation
Clean Fill Import
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
NOx All Components = 332182.9 lbs


All NOx Emissions by Remedy Component
Pre-Remedial Investigation = 0.1%
SOE Installation and Excavation = 69.5%
Clean Fill Import = 30.5%
NOx All Components = 332182.9 lbs


All NOx Emissions by Scope
On-site (Scope 1) = 11.2%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 20.6%
Other Off-Site (Scope 3b) = 68.1%
NOx All Scopes = 332182.9 lbs

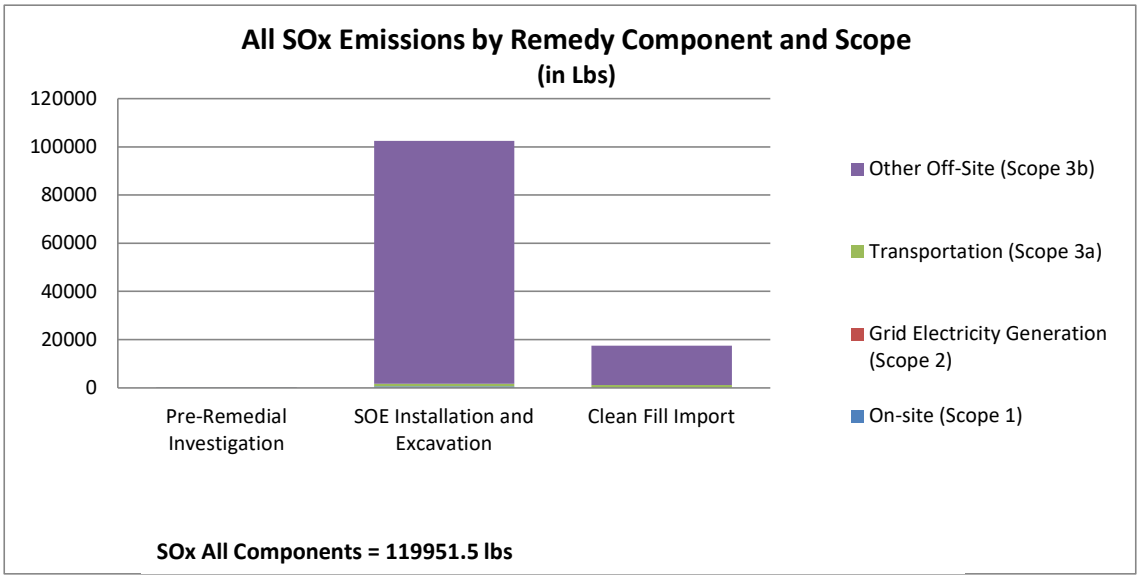
NOx
lbs

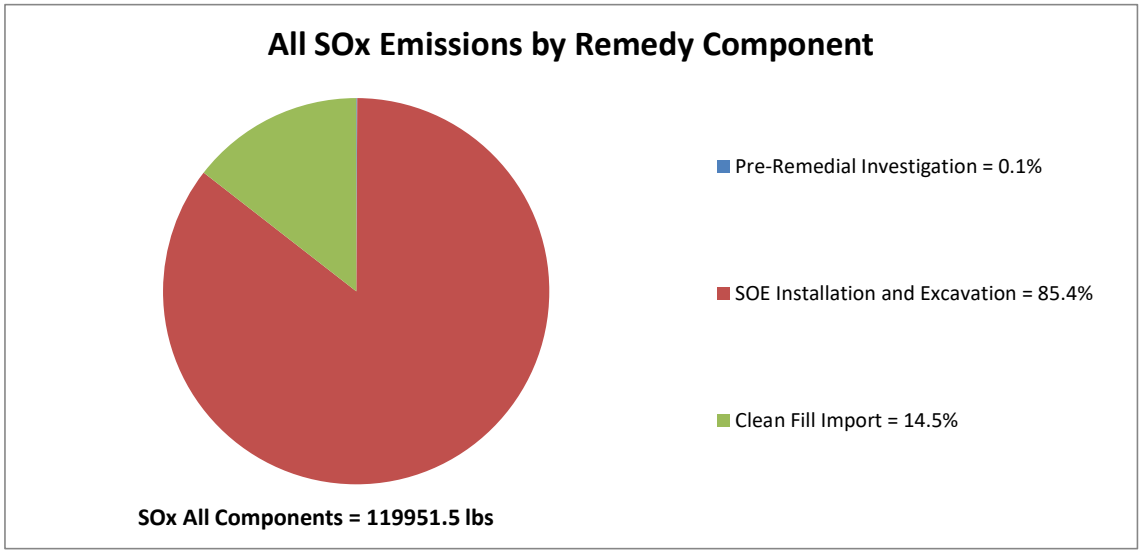
	Pre-Remedial Investigation	SOE Installation and Excavation	Clean Fill Import	0	0	0	Total
On-site (Scope 1)	151.9	17,403.8	19,769.9	0.0	0.0	0.0	37,325.6
Grid Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	7.2	34,694.8	33,889.9	0.0	0.0	0.0	68,591.9
Other Off-Site (Scope 3b)	40.0	178,655.9	47,569.6	0.0	0.0	0.0	226,265.5
Total	199.1	230,754.4	101,229.4	0.0	0.0	0.0	332,182.9

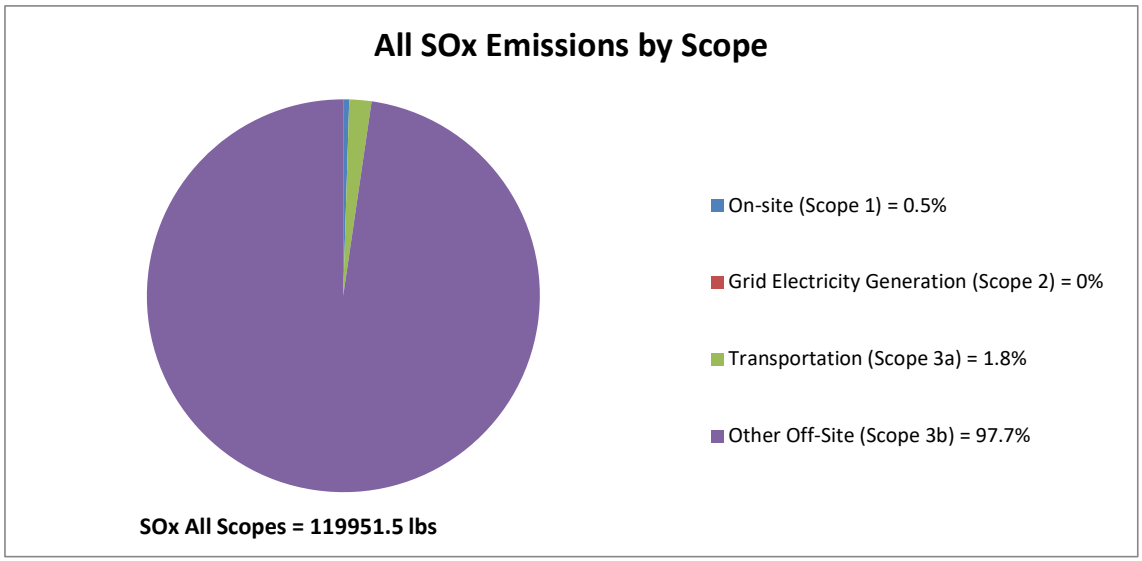
Pre-Remedial Investigation = 0.1%
SOE Installation and Excavation = 69.5%
Clean Fill Import = 30.5%
0 = 0%
0 = 0%
0 = 0%

On-site (Scope 1) = 11.2%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 20.6%
Other Off-Site (Scope 3b) = 68.1%

NOx All Components = 332182.9 lbs
NOx All Scopes = 332182.9 lbs


All SOx Emissions by Remedy Component and Scope
(in Lbs)
120000
100000
80000
60000
40000
20000
0
Pre-Remedial Investigation
SOE Installation and Excavation
Clean Fill Import
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
SOx All Components = 119951.5 lbs


All SOx Emissions by Remedy Component
Pre-Remedial Investigation = 0.1%
SOE Installation and Excavation = 85.4%
Clean Fill Import = 14.5%
SOx All Components = 119951.5 lbs


All SOx Emissions by Scope
On-site (Scope 1) = 0.5%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 1.8%
Other Off-Site (Scope 3b) = 97.7%
SOx All Scopes = 119951.5 lbs

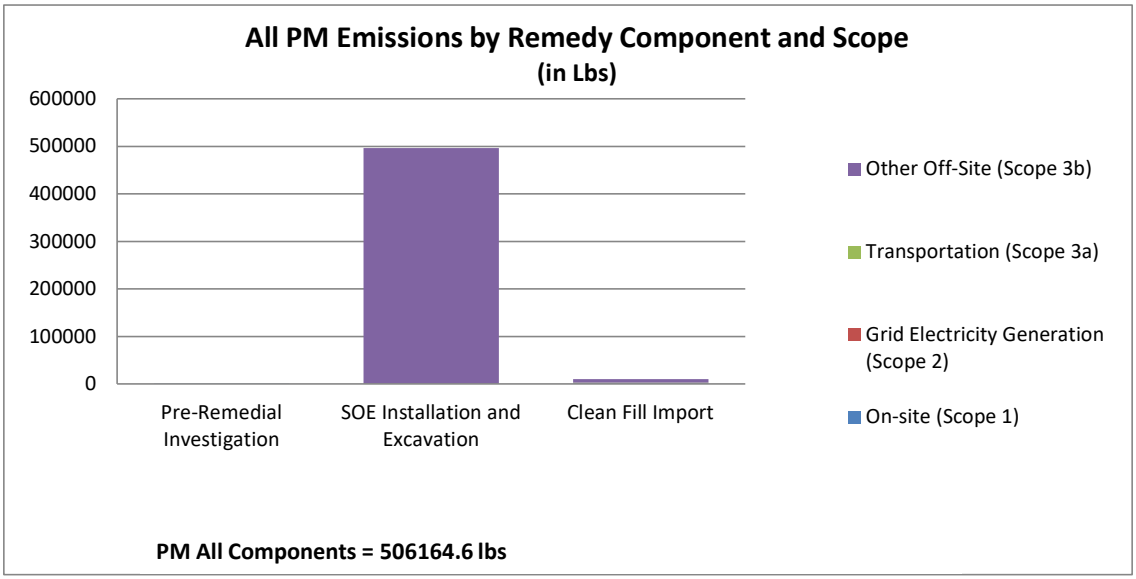
SOx
lbs

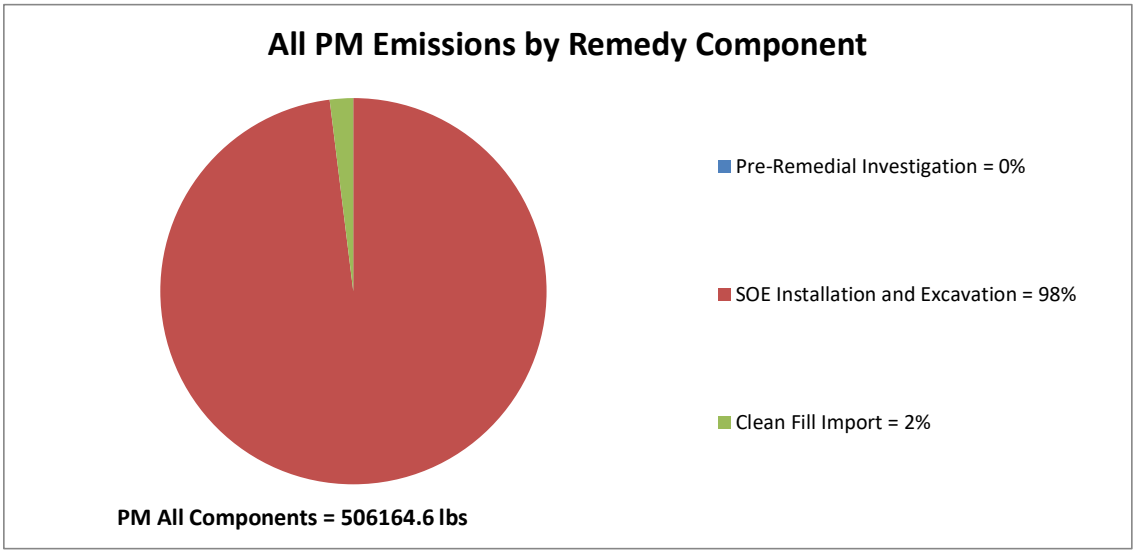
	Pre-Remedial Investigation	SOE Installation and Excavation	Clean Fill Import	0	0	0	Total
On-site (Scope 1)	4.8	552.8	25.4	0.0	0.0	0.0	583.1
Grid Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	0.1	1,096.2	1,070.8	0.0	0.0	0.0	2,167.1
Other Off-Site (Scope 3b)	87.3	100,827.7	16,286.3	0.0	0.0	0.0	117,201.3
Total	92.3	102,476.6	17,382.6	0.0	0.0	0.0	119,951.5

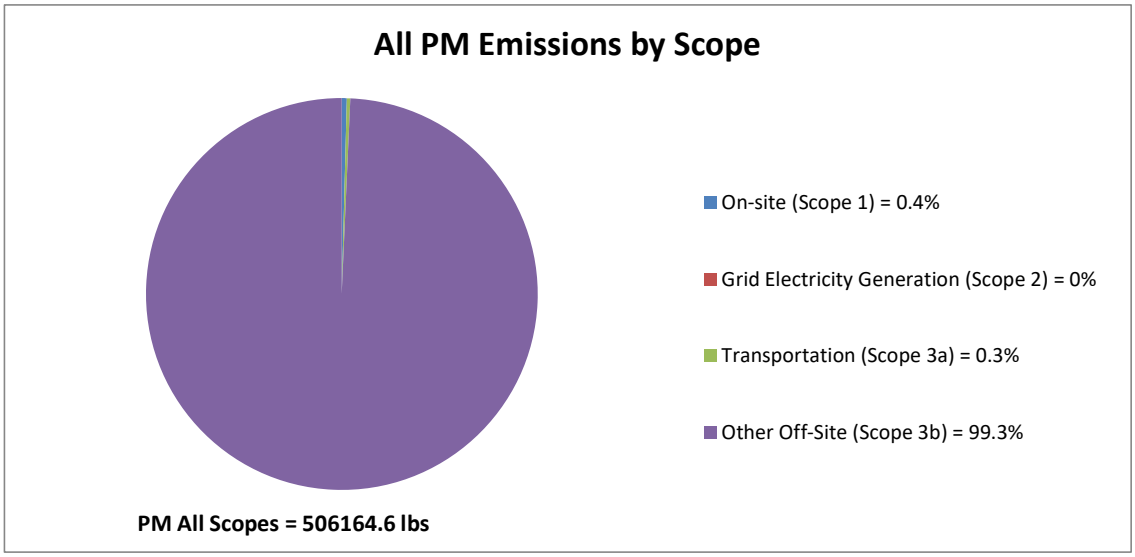
Pre-Remedial Investigation = 0.1%
SOE Installation and Excavation = 85.4%
Clean Fill Import = 14.5%
0 = 0%
0 = 0%
0 = 0%

On-site (Scope 1) = 0.5%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 1.8%
Other Off-Site (Scope 3b) = 97.7%

SOx All Components = 119951.5 lbs
SOx All Scopes = 119951.5 lbs


All PM Emissions by Remedy Component and Scope
(in Lbs)
600000
500000
400000
300000
200000
100000
0
Pre-Remedial Investigation
SOE Installation and Excavation
Clean Fill Import
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
PM All Components = 506164.6 lbs


All PM Emissions by Remedy Component
Pre-Remedial Investigation = 0%
SOE Installation and Excavation = 98%
Clean Fill Import = 2%
PM All Components = 506164.6 lbs


All PM Emissions by Scope
On-site (Scope 1) = 0.4%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.3%
Other Off-Site (Scope 3b) = 99.3%
PM All Scopes = 506164.6 lbs

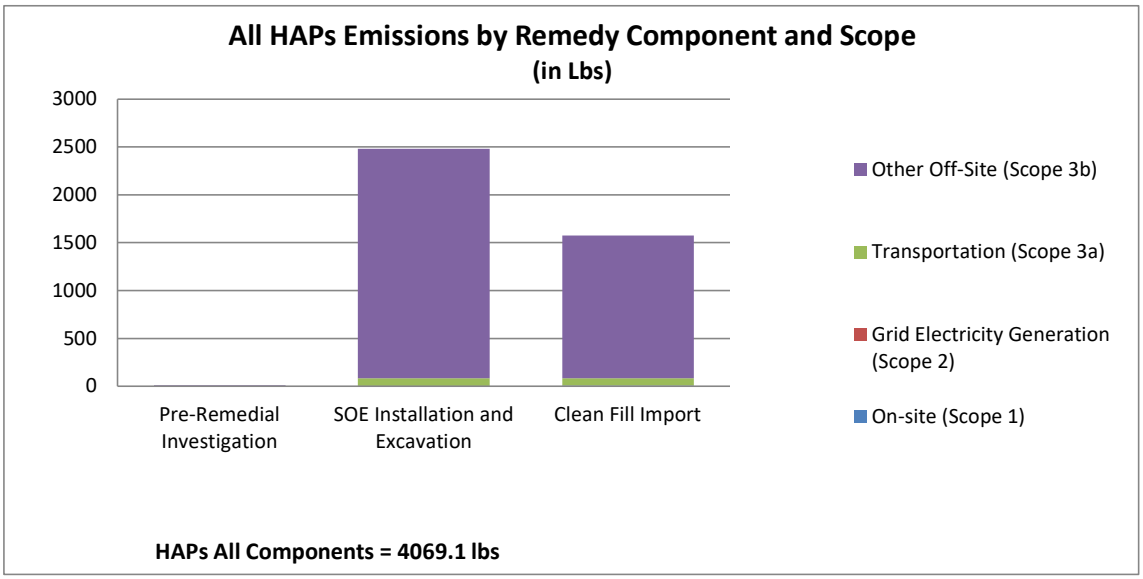
PM
lbs

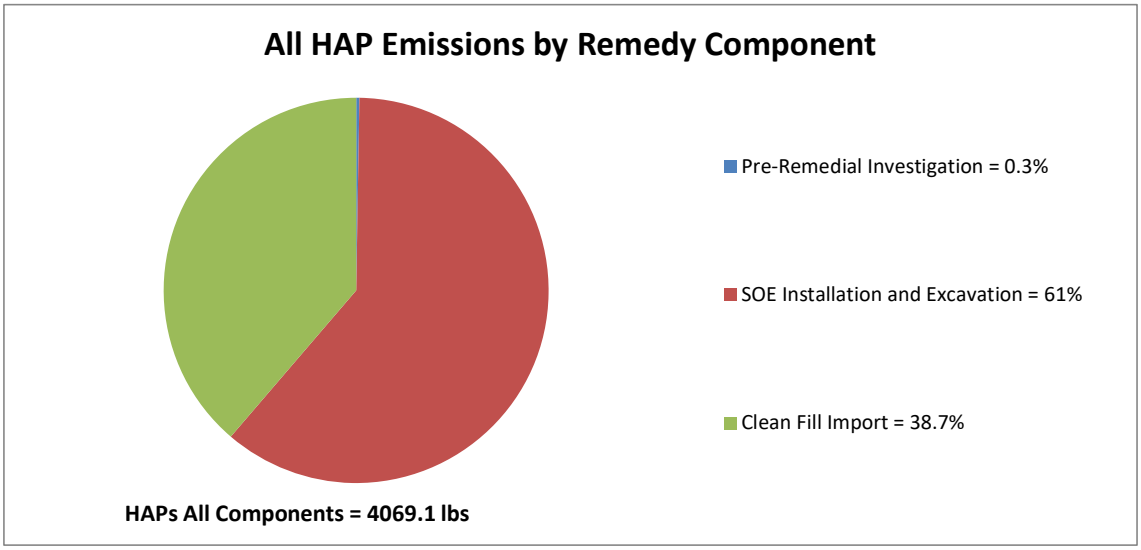
	Pre-Remedial Investigation	SOE Installation and Excavation	Clean Fill Import	0	0	0	Total
On-site (Scope 1)	3.0	348.1	1,761.7	0.0	0.0	0.0	2,112.8
Grid Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	0.6	723.1	705.8	0.0	0.0	0.0	1,429.6
Other Off-Site (Scope 3b)	14.1	495,092.5	7,515.6	0.0	0.0	0.0	502,622.2
Total	17.8	496,163.7	9,983.1	0.0	0.0	0.0	506,164.6

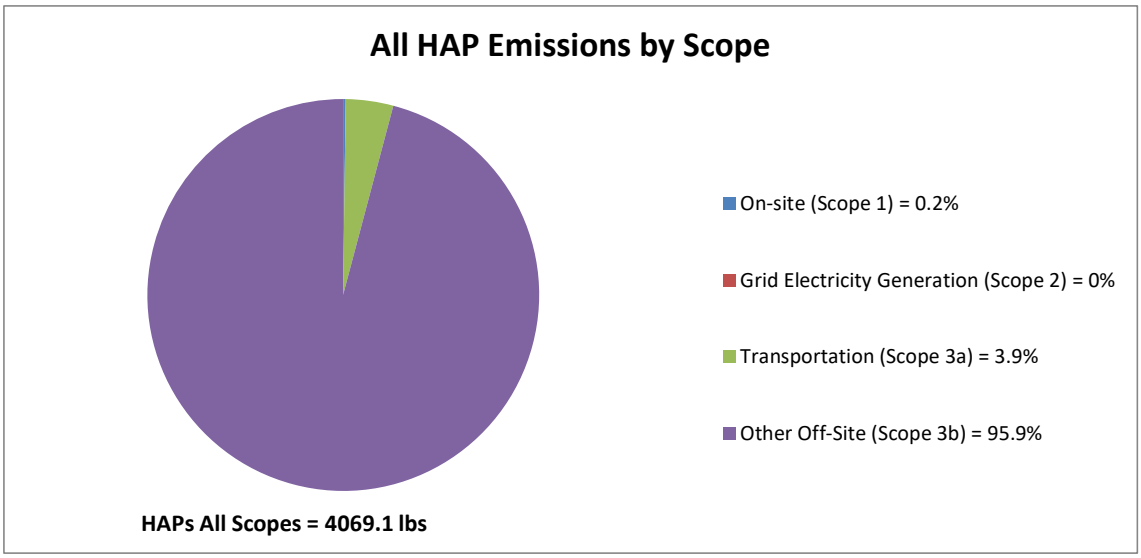
Pre-Remedial Investigation = 0%
SOE Installation and Excavation = 98%
Clean Fill Import = 2%
0 = 0%
0 = 0%
0 = 0%

On-site (Scope 1) = 0.4%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.3%
Other Off-Site (Scope 3b) = 99.3%

PM All Components = 506164.6 lbs
PM All Scopes = 506164.6 lbs


All HAPs Emissions by Remedy Component and Scope
(in Lbs)
3000
2500
2000
1500
1000
500
0
Pre-Remedial Investigation
SOE Installation and Excavation
Clean Fill Import
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
HAPs All Components = 4069.1 lbs


All HAP Emissions by Remedy Component
Pre-Remedial Investigation = 0.3%
SOE Installation and Excavation = 61%
Clean Fill Import = 38.7%
HAPs All Components = 4069.1 lbs


All HAP Emissions by Scope
On-site (Scope 1) = 0.2%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 3.9%
Other Off-Site (Scope 3b) = 95.9%
HAPs All Scopes = 4069.1 lbs

HAPs
lbs

	Pre-Remedial Investigation	SOE Installation and Excavation	Clean Fill Import	0	0	0	Total
On-site (Scope 1)	0.0	0.5	7.8	0.0	0.0	0.0	8.4
Grid Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	1.3	80.6	77.4	0.0	0.0	0.0	159.3
Other Off-Site (Scope 3b)	10.0	2,400.7	1,490.7	0.0	0.0	0.0	3,901.4
Total	11.3	2,481.9	1,575.9	0.0	0.0	0.0	4,069.1

Pre-Remedial Investigation = 0.3%
SOE Installation and Excavation = 61%
Clean Fill Import = 38.7%
0 = 0%
0 = 0%
0 = 0%

On-site (Scope 1) = 0.2%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 3.9%
Other Off-Site (Scope 3b) = 95.9%

HAPs All Components = 4069.1 lbs
HAPs All Scopes = 4069.1 lbs

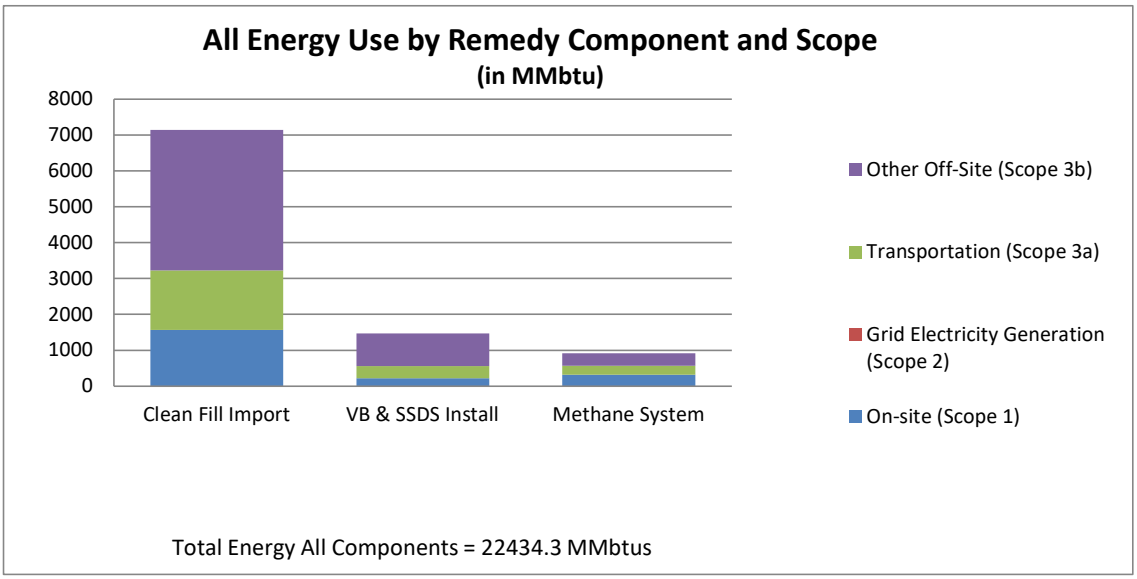
Environmental Footprint Summary

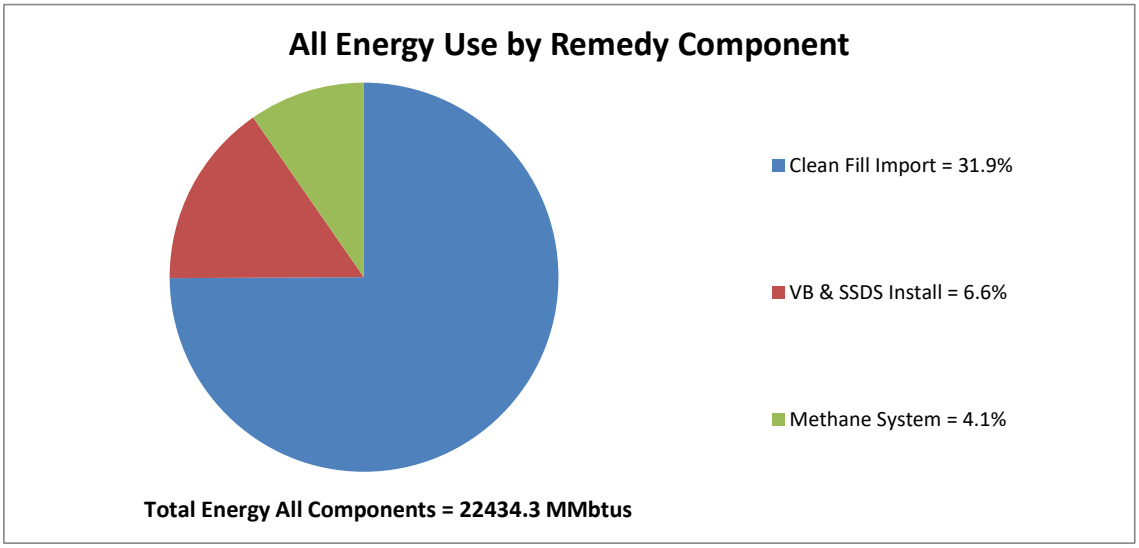
Core Element	Metric		Unit of Measure	Footprint						
				Clean Fill Import	VB & SSDS Install	Methane System	Soil Excavation & Disposal	Pre-Remedial Investigation		Total
Materials & Waste	M&W-1	Refined materials used on-site	Tons	70,200.0	604.6	21.2	0.0	0.0	0.0	70,825.7
	M&W-2	% of refined materials from recycled or reused material	%	55.6%	0.0%	0.0%				55.1%
	M&W-3	Unrefined materials used on-site	Tons	0.000	0.000	0.000	0.000	0.000	0.000	0.0
	M&W-4	% of unrefined materials from recycled or reused material	%							
	M&W-5	On-site hazardous waste disposed of off-site	Tons	0.0	0.0	0.0	468.0	0.0	0.0	468.0
	M&W-6	On-site non-hazardous waste disposed of off-site	Tons	0.0	0.0	0.0	59,800.0	0.5	0.0	59,800.5
	M&W-7	Recycled or reused waste	Tons	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M&W-8	% of total potential waste recycled or reused	%				0.0%	0.0%		0.0%
Water (used on-site)	W-1	Public water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-2	Groundwater use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-3	Surface water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-4	Reclaimed water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-5	Storm water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-6	User-defined water resource #1	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-7	User-defined water resource #2	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-8	Wastewater generated	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy	E-1	Total energy used (on-site and off-site)	MMBtu	7,145.6	1,472.2	920.4	12,789.5	106.5	0.0	22,434.3
	E-2	Energy voluntarily derived from renewable resources								
	E-2A	On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-2B	Voluntary purchase of renewable electricity	MWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-3	Voluntary purchase of RECs	MWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-4	On-site grid electricity use	MWh	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Air	A-1	On-site NOx, SOx, and PM emissions	Pounds	2,011.5	281.6	414.4	1,323.6	94.8	0.0	4,125.9
	A-2	On-site HAP emissions	Pounds	0.1	0.0	0.0	0.0	0.0	0.0	0.1
	A-3	Total NOx, SOx, and PM emissions	Pounds	8,130.8	1,126.5	819.8	41,437.6	173.1	0.0	51,687.8
	A-3A	Total NOx emissions	Pounds	6,568.4	844.5	714.8	11,925.6	116.4	0.0	20,169.6
	A-3B	Total SOx emissions	Pounds	1,054.5	216.5	79.8	5,216.2	47.3	0.0	6,614.4
	A-3C	Total PM emissions	Pounds	507.9	65.5	25.2	24,295.8	9.5	0.0	24,903.9
	A-4	Total HAP emissions	Pounds	90.5	15.7	7.9	164.1	5.7	0.0	284.0
	A-5	Total greenhouse gas emissions	Tons CO2e*	466.4	92.9	61.3	1,007.1	8.5	0.0	1,636.1
Land & Ecosystems		Qualitative Description								

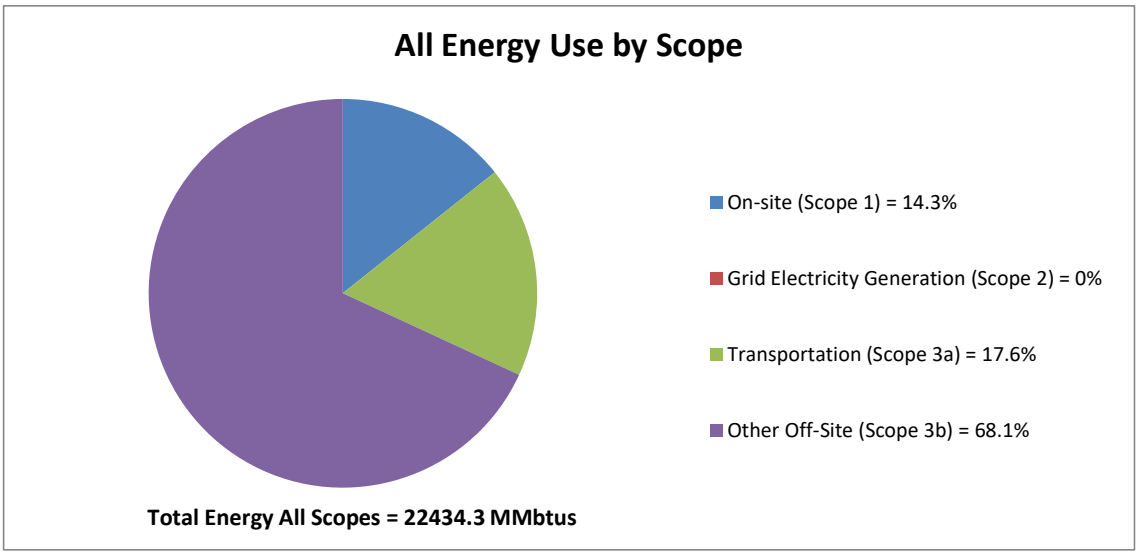
** Total greenhouse gases emissions (in CO2e) include consideration of CO2, CH4, and N2O (Nitrous oxide) emissions.*
"MMBtu" = millions of Btus
"MG" = millions of gallons
"CO2e" = carbon dioxide equivalents of global warming potential
"MWh" = megawatt hours (i.e., thousands of kilowatt-hours or millions of Watt-hours)
"Tons" = short tons (2,000 pounds)

The above metrics are consistent with EPA's Methodology for Understanding and Reducing a Project's Environmental Footprint (EPA 542-R-12-002), February 2012

Notes:


All Energy Use by Remedy Component and Scope
(in MMbtu)
8000
7000
6000
5000
4000
3000
2000
1000
0
Clean Fill Import
VB & SSDS Install
Methane System
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
Total Energy All Components = 22434.3 MMbtus


All Energy Use by Remedy Component
Clean Fill Import = 31.9%
VB & SSDS Install = 6.6%
Methane System = 4.1%
Total Energy All Components = 22434.3 MMbtus


All Energy Use by Scope
On-site (Scope 1) = 14.3%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 17.6%
Other Off-Site (Scope 3b) = 68.1%
Total Energy All Scopes = 22434.3 MMbtus

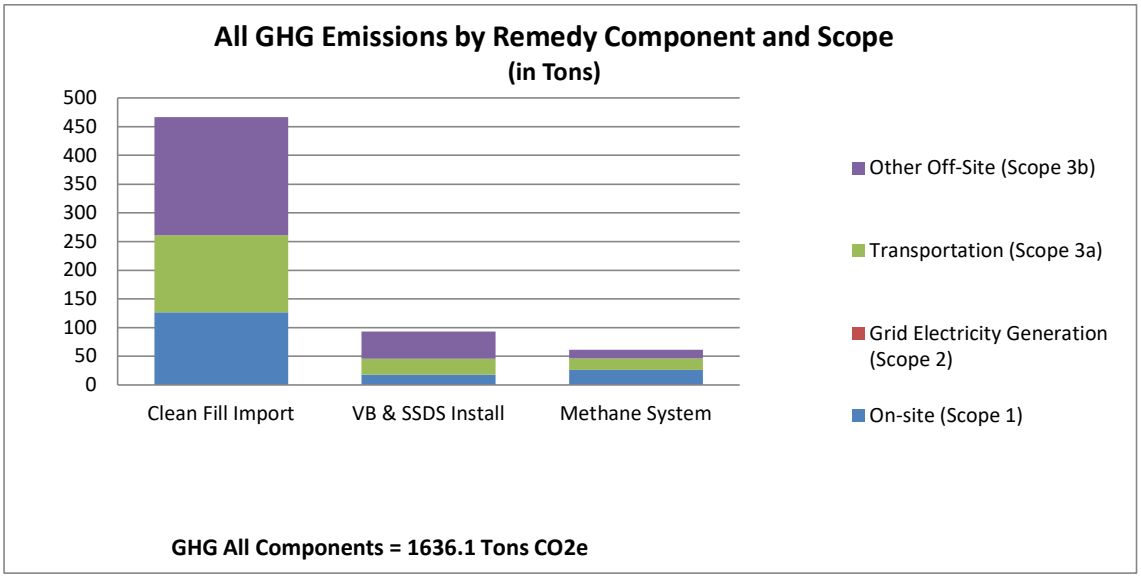
Total Energy
MMbtus

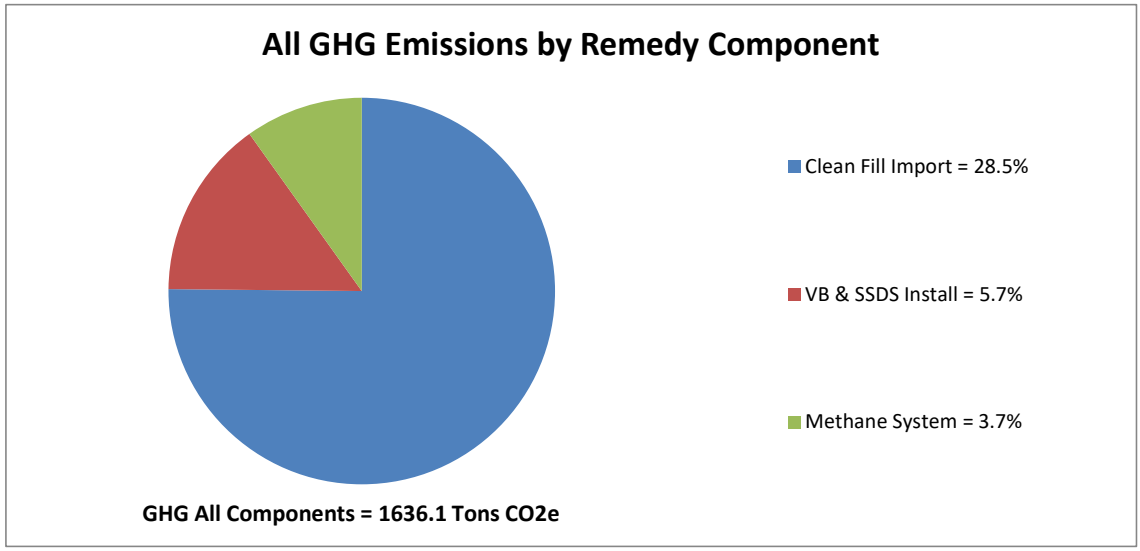
	Clean Fill Import	VB & SSDS Install	Methane System	Soil Excavation & Disposal	Pre-Remedial Investigation	0	Total
On-site (Scope 1)	1,563.8	218.9	322.1	1,028.9	73.7	0.0	3,207.5
Grid Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	1,662.3	343.9	250.7	1,673.4	14.3	0.0	3,944.7
Other Off-Site (Scope 3b)	3,919.5	909.3	347.6	10,087.2	18.5	0.0	15,282.1
Total	7,145.6	1,472.2	920.4	12,789.5	106.5	0.0	22,434.3

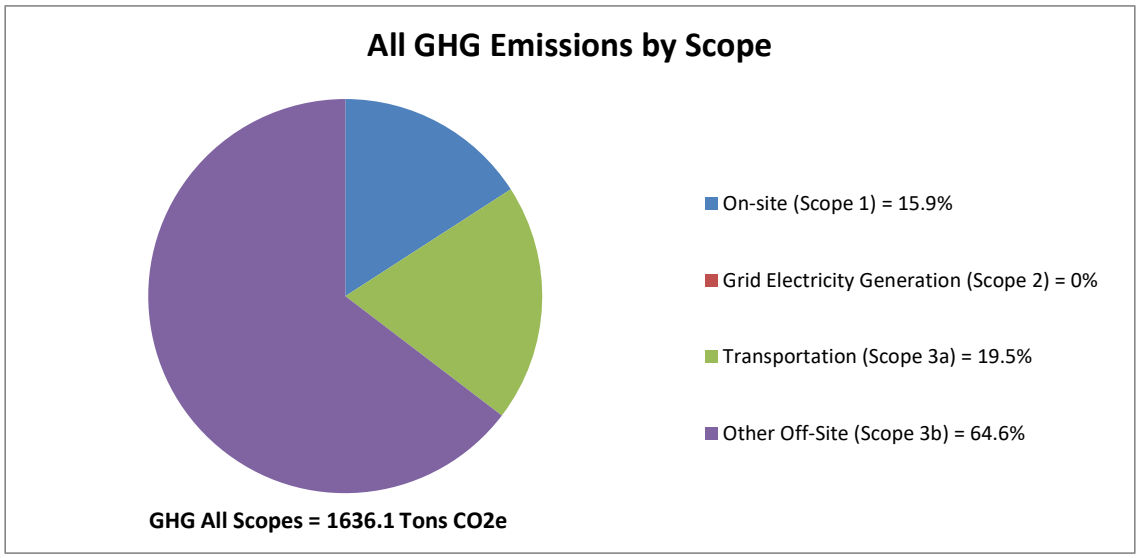
Clean Fill Import = 31.9%
VB & SSDS Install = 6.6%
Methane System = 4.1%
Soil Excavation & Disposal = 57%
Pre-Remedial Investigation = 0.5%
0 = 0%

On-site (Scope 1) = 14.3%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 17.6%
Other Off-Site (Scope 3b) = 68.1%

Total Energy All Components = 22434.3 MMbtus
Total Energy All Scopes = 22434.3 MMbtus


All GHG Emissions by Remedy Component and Scope
(in Tons)
500
450
400
350
300
250
200
150
100
50
0
Clean Fill Import
VB & SSDS Install
Methane System
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
GHG All Components = 1636.1 Tons CO2e


All GHG Emissions by Remedy Component
Clean Fill Import = 28.5%
VB & SSDS Install = 5.7%
Methane System = 3.7%
GHG All Components = 1636.1 Tons CO2e


All GHG Emissions by Scope
On-site (Scope 1) = 15.9%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 19.5%
Other Off-Site (Scope 3b) = 64.6%
GHG All Scopes = 1636.1 Tons CO2e

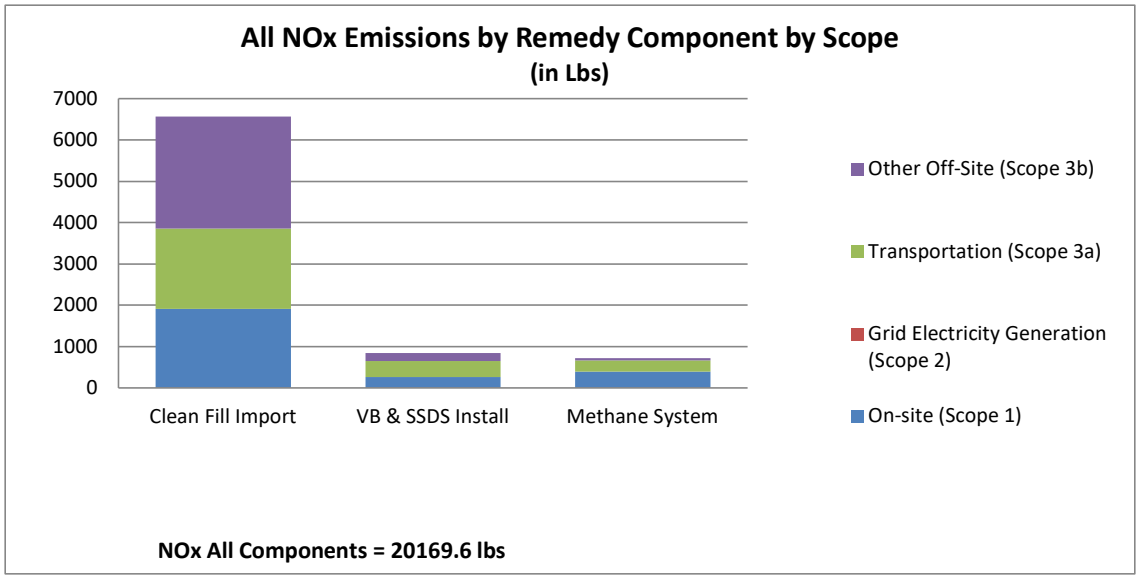
GHG
Tons CO2e

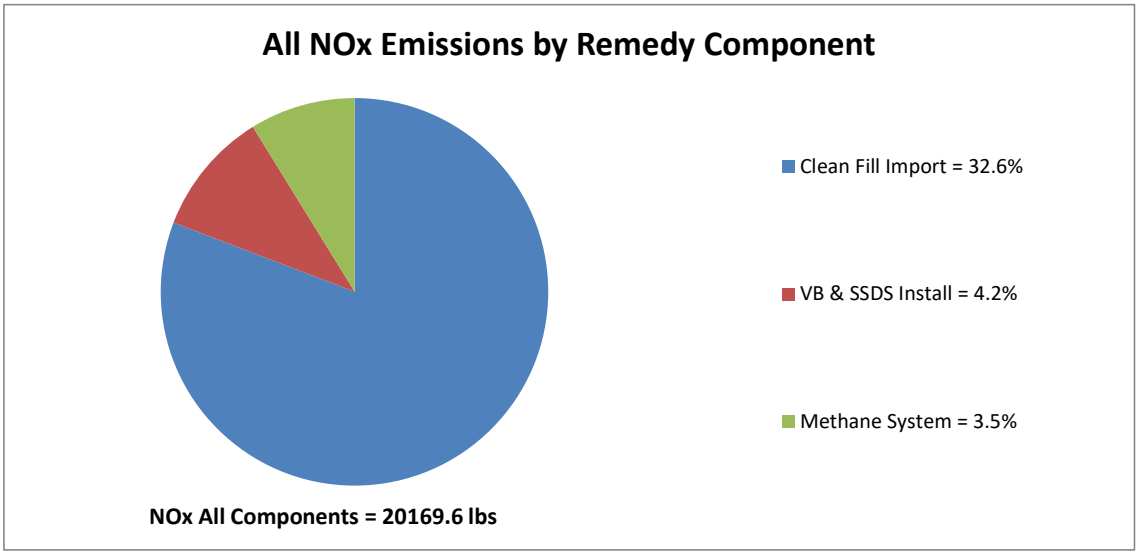
	Clean Fill Import	VB & SSDS Install	Methane System	Soil Excavation & Disposal	Pre-Remedial Investigation	0	Total
On-site (Scope 1)	126.6	17.7	26.1	83.3	6.0	0.0	259.6
Grid Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	134.4	27.8	20.2	135.3	1.1	0.0	318.9
Other Off-Site (Scope 3b)	205.4	47.4	14.9	788.5	1.3	0.0	1,057.6
Total	466.4	92.9	61.3	1,007.1	8.5	0.0	1,636.1

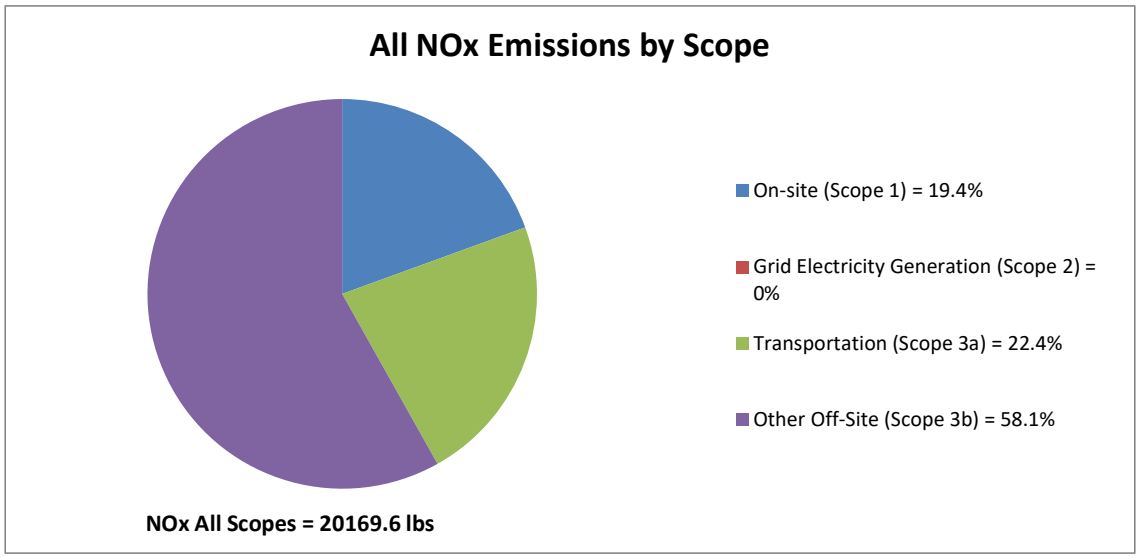
Clean Fill Import = 28.5%
VB & SSDS Install = 5.7%
Methane System = 3.7%
Soil Excavation & Disposal = 61.6%
Pre-Remedial Investigation = 0.5%
0 = 0%

On-site (Scope 1) = 15.9%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 19.5%
Other Off-Site (Scope 3b) = 64.6%

GHG All Components = 1636.1 Tons CO2e
GHG All Scopes = 1636.1 Tons CO2e


All NOx Emissions by Remedy Component by Scope
(in Lbs)
7000
6000
5000
4000
3000
2000
1000
0
Clean Fill Import
VB & SSDS Install
Methane System
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
NOx All Components = 20169.6 lbs


All NOx Emissions by Remedy Component
Clean Fill Import = 32.6%
VB & SSDS Install = 4.2%
Methane System = 3.5%
NOx All Components = 20169.6 lbs


All NOx Emissions by Scope
On-site (Scope 1) = 19.4%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 22.4%
Other Off-Site (Scope 3b) = 58.1%
NOx All Scopes = 20169.6 lbs

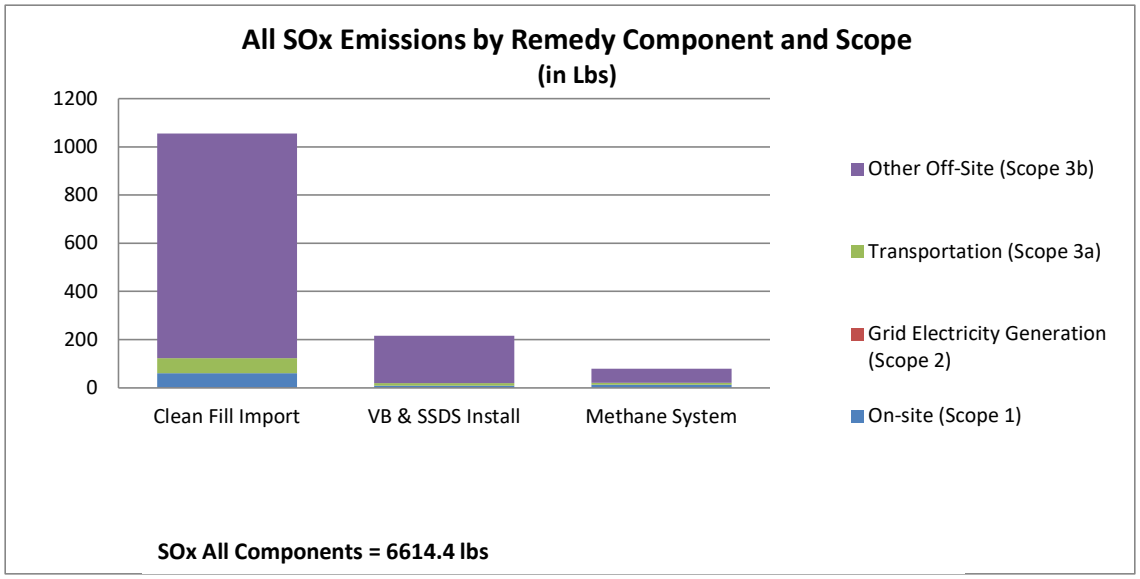
NOx
lbs

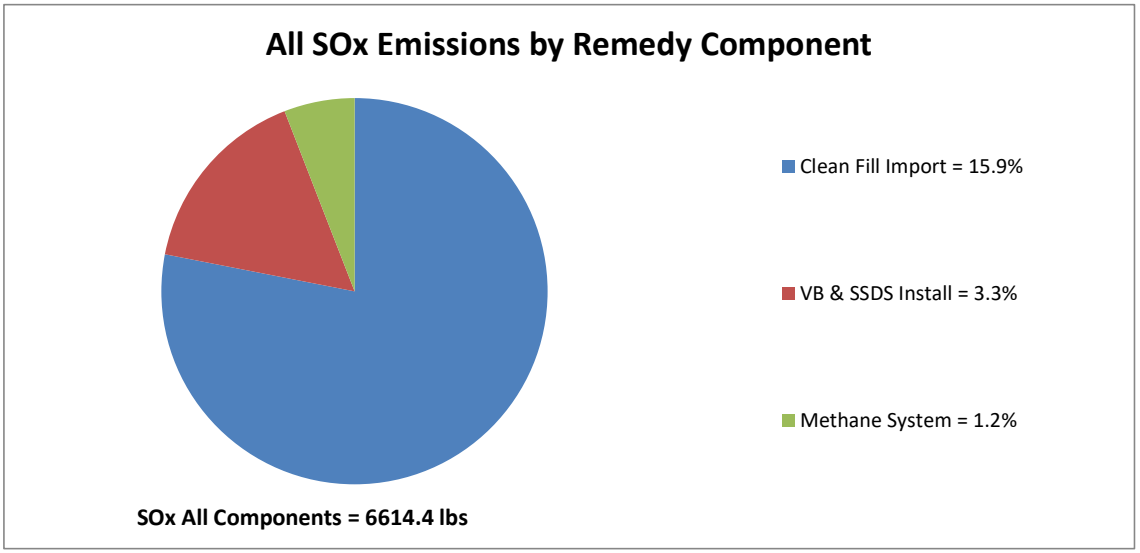
	Clean Fill Import	VB & SSDS Install	Methane System	Soil Excavation & Disposal	Pre-Remedial Investigation	0	Total
On-site (Scope 1)	1,912.5	267.8	394.0	1,258.4	90.2	0.0	3,922.8
Grid Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	1,943.3	381.7	268.7	1,920.1	5.6	0.0	4,519.4
Other Off-Site (Scope 3b)	2,712.6	195.0	52.2	8,747.1	20.5	0.0	11,727.3
Total	6,568.4	844.5	714.8	11,925.6	116.4	0.0	20,169.6

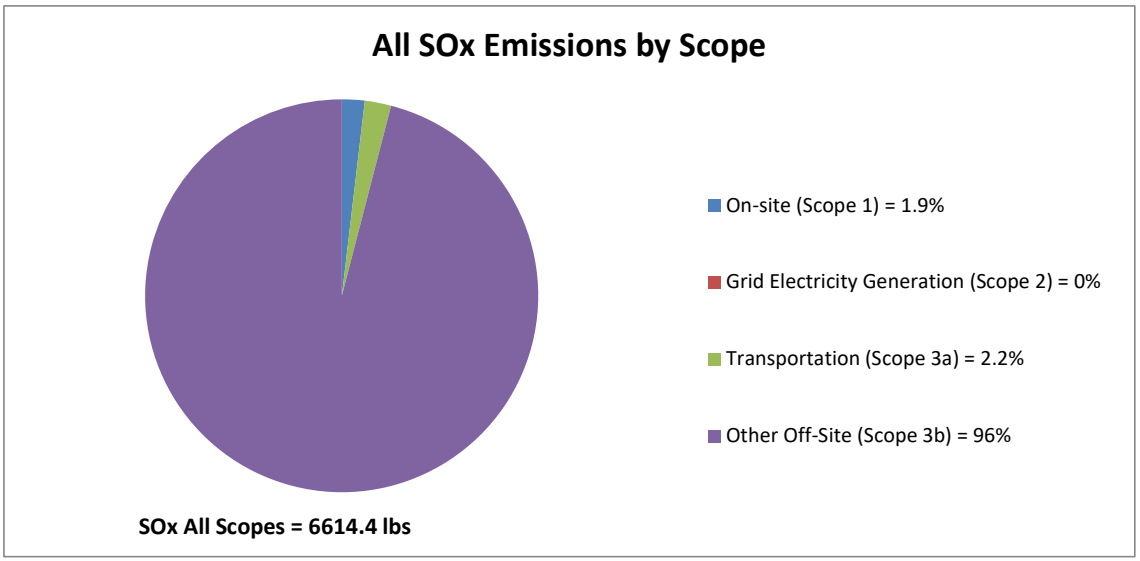
Clean Fill Import = 32.6%
VB & SSDS Install = 4.2%
Methane System = 3.5%
Soil Excavation & Disposal = 59.1%
Pre-Remedial Investigation = 0.6%
0 = 0%

On-site (Scope 1) = 19.4%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 22.4%
Other Off-Site (Scope 3b) = 58.1%

NOx All Components = 20169.6 lbs
NOx All Scopes = 20169.6 lbs


All SOx Emissions by Remedy Component and Scope
(in Lbs)
1200
1000
800
600
400
200
0
Clean Fill Import
VB & SSDS Install
Methane System
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
SOx All Components = 6614.4 lbs


All SOx Emissions by Remedy Component
Clean Fill Import = 15.9%
VB & SSDS Install = 3.3%
Methane System = 1.2%
SOx All Components = 6614.4 lbs


All SOx Emissions by Scope
On-site (Scope 1) = 1.9%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 2.2%
Other Off-Site (Scope 3b) = 96%
SOx All Scopes = 6614.4 lbs

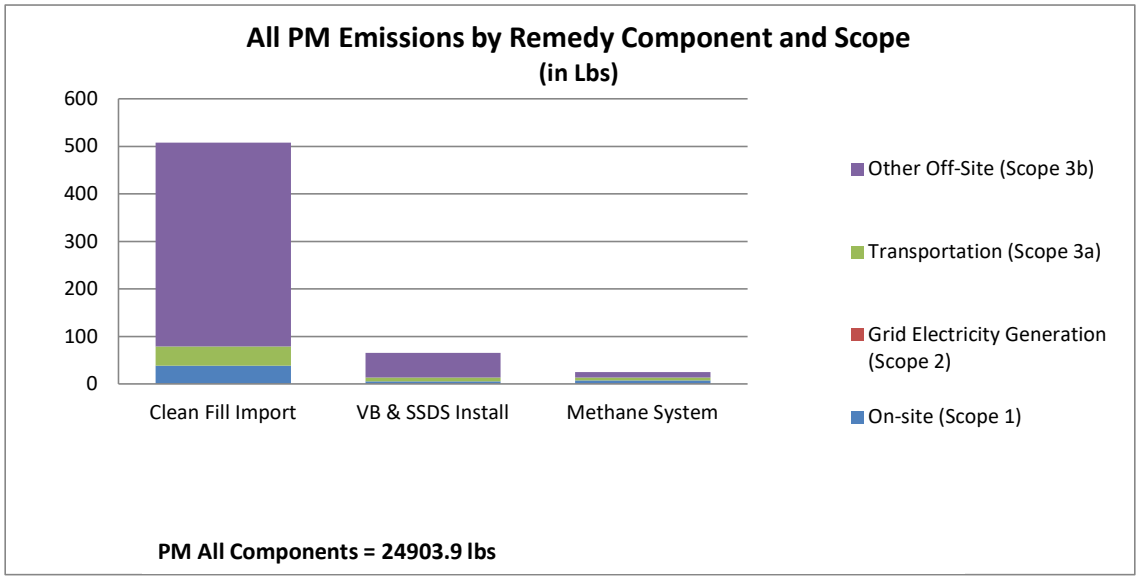
SOx
lbs

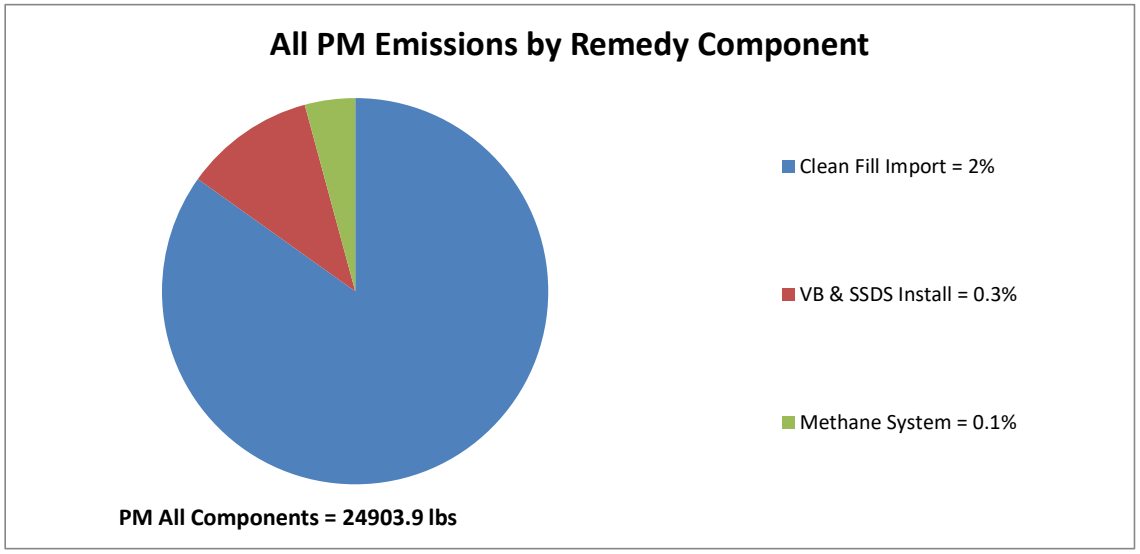
	Clean Fill Import	VB & SSDS Install	Methane System	Soil Excavation & Disposal	Pre-Remedial Investigation	0	Total
On-site (Scope 1)	60.8	8.5	12.5	40.0	2.9	0.0	124.6
Grid Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	61.4	12.0	8.4	60.5	0.1	0.0	142.3
Other Off-Site (Scope 3b)	932.4	196.1	58.9	5,115.7	44.3	0.0	6,347.4
Total	1,054.5	216.5	79.8	5,216.2	47.3	0.0	6,614.4

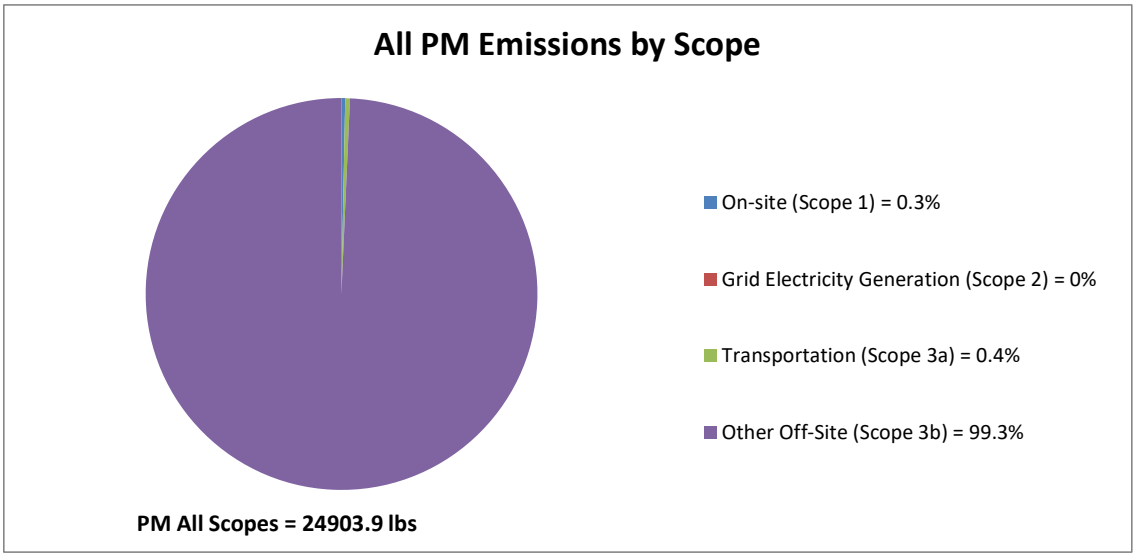
Clean Fill Import = 15.9%
VB & SSDS Install = 3.3%
Methane System = 1.2%
Soil Excavation & Disposal = 78.9%
Pre-Remedial Investigation = 0.7%
0 = 0%

On-site (Scope 1) = 1.9%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 2.2%
Other Off-Site (Scope 3b) = 96%

SOx All Components = 6614.4 lbs
SOx All Scopes = 6614.4 lbs


All PM Emissions by Remedy Component and Scope
(in Lbs)
600
500
400
300
200
100
0
Clean Fill Import
VB & SSDS Install
Methane System
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
PM All Components = 24903.9 lbs


All PM Emissions by Remedy Component
Clean Fill Import = 2%
VB & SSDS Install = 0.3%
Methane System = 0.1%
PM All Components = 24903.9 lbs


All PM Emissions by Scope
On-site (Scope 1) = 0.3%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.4%
Other Off-Site (Scope 3b) = 99.3%
PM All Scopes = 24903.9 lbs

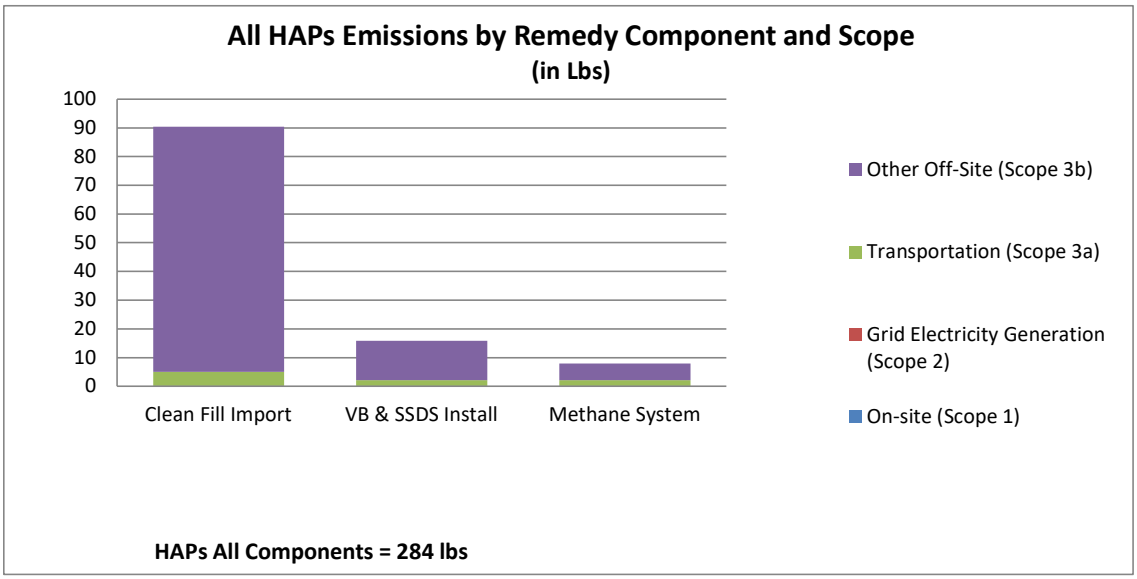
PM
lbs

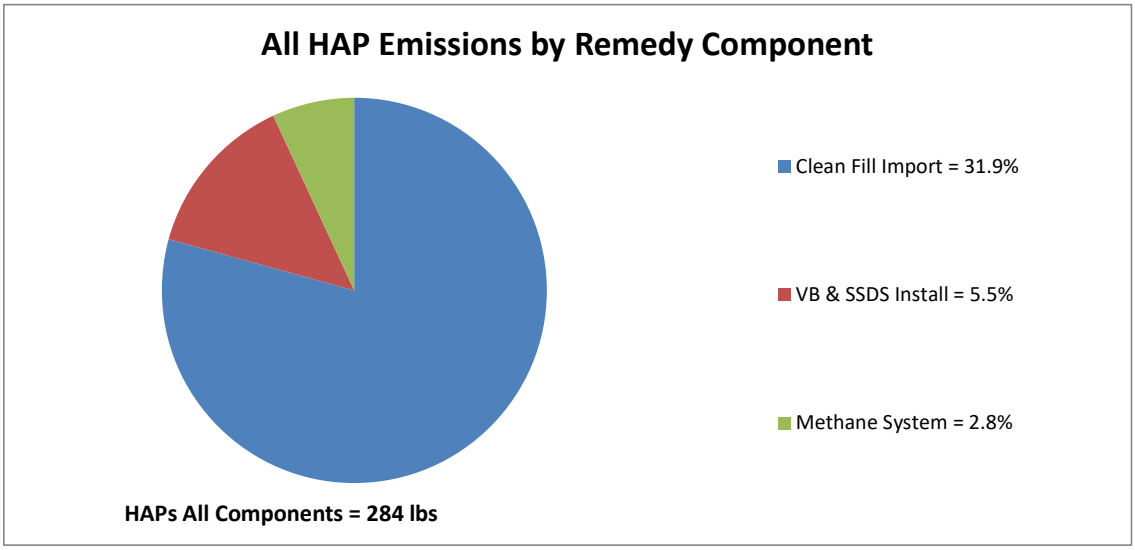
	Clean Fill Import	VB & SSDS Install	Methane System	Soil Excavation & Disposal	Pre-Remedial Investigation	0	Total
On-site (Scope 1)	38.3	5.4	7.9	25.2	1.8	0.0	78.5
Grid Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	40.6	8.4	6.1	40.9	0.3	0.0	96.4
Other Off-Site (Scope 3b)	429.0	51.7	11.2	24,229.8	7.3	0.0	24,729.0
Total	507.9	65.5	25.2	24,295.8	9.5	0.0	24,903.9

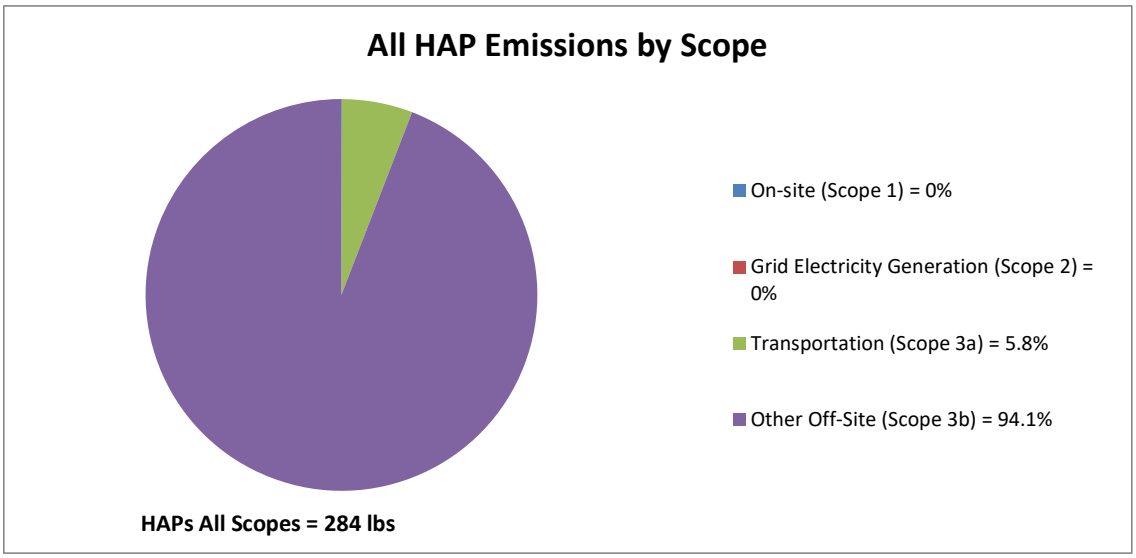
Clean Fill Import = 2%
VB & SSDS Install = 0.3%
Methane System = 0.1%
Soil Excavation & Disposal = 97.6%
Pre-Remedial Investigation = 0%
0 = 0%

On-site (Scope 1) = 0.3%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.4%
Other Off-Site (Scope 3b) = 99.3%

PM All Components = 24903.9 lbs
PM All Scopes = 24903.9 lbs


All HAPs Emissions by Remedy Component and Scope
(in Lbs)
100
90
80
70
60
50
40
30
20
10
0
Clean Fill Import
VB & SSDS Install
Methane System
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
HAPs All Components = 284 lbs


All HAP Emissions by Remedy Component
Clean Fill Import = 31.9%
VB & SSDS Install = 5.5%
Methane System = 2.8%
HAPs All Components = 284 lbs


All HAP Emissions by Scope
On-site (Scope 1) = 0%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 5.8%
Other Off-Site (Scope 3b) = 94.1%
HAPs All Scopes = 284 lbs

HAPs
lbs

	Clean Fill Import	VB & SSDS Install	Methane System	Soil Excavation & Disposal	Pre-Remedial Investigation	0	Total
On-site (Scope 1)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Grid Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	4.9	2.1	2.0	6.9	0.6	0.0	16.5
Other Off-Site (Scope 3b)	85.5	13.6	5.8	157.2	5.1	0.0	267.3
Total	90.5	15.7	7.9	164.1	5.7	0.0	284.0

Clean Fill Import = 31.9%
VB & SSDS Install = 5.5%
Methane System = 2.8%
Soil Excavation & Disposal = 57.8%
Pre-Remedial Investigation = 2%
0 = 0%

On-site (Scope 1) = 0%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 5.8%
Other Off-Site (Scope 3b) = 94.1%

HAPs All Components = 284 lbs
HAPs All Scopes = 284 lbs

APPENDIX D

Citizens Participation Plan (CPP)

NEW YORK STATE | Department of Environmental Conservation

Brownfield Cleanup Program

Citizen Participation Plan
for
1612 Fifth Avenue

March 2026

C152008
1612 Fifth Avenue
Bay Shore
Suffolk County, New York

Contents

Section **Page Number**

1. What is New York's Brownfield Cleanup Program? ..... {insert page #}

2. Citizen Participation Activities..... {insert page #}

3. Major Issues of Public Concern..... {insert page #}

4. Site Information..... {insert page #}

5. Investigation and Cleanup Process ..... {insert page #}

Appendix A - Project Contacts and Locations of Reports and Information ..... {insert page #}

Appendix B - Site Contact List..... {insert page #}

Appendix C - Site Location Map..... {insert page #}

Appendix D - Brownfield Cleanup Program Process..... {insert page #}

* * * * *

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: **Fifth XNY, LLC ("Applicant")**
Site Name: **1612 Fifth Avenue ("Site")**
Site Address: **1612 Fifth Avenue, Bay Shore, New York**
Site County: **Suffolk County**
Site Number: **C152008**

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
http://www.dec.ny.gov/regulations/2590.html

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 Activity(ies)
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.

When subsurface remediation commences, major issues of community concern may be noise, odor, dust, and/or truck traffic associated with removal of contaminated soil. However, these impacts will be mitigated through implementation of a Health and Safety Plan (HASP) and Soil Management Plan (SoMP) approved by the Department, which will be designed to minimize these impacts. A Community Air Monitoring Plan (CAMP) will also be implemented to monitor dust and vapors to ensure the community is not impacted.

The Site is located within 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.

Within the Census Tract that the Site is located in, there is a large Hispanic American community. Therefore, all future fact sheets will be translated into Spanish.

For additional information, visit: https://statisticalatlas.com/place/New-York/North-Bay-Shore/Race-and-Ethnicity#overview

4. Site Information

Appendix C contains a map identifying the location of the site.

Site Description

- location – 1612 Fifth Avenue, Bay Shore, Suffolk County
- setting - suburban
- site size – 21.6007 acres
- adjacent properties – the surrounding land use includes commercial and office buildings and residential

History of Site Use, Investigation, and Cleanup

Based on a review of Historic Sanborn fire insurance maps, aerial photographs, a city directory, and historical topographic maps, which are contained in the Roux April 2022 Phase I ESA, the following Site history was established.
The Site has been owned and operated by Hubbard Sand and Gravel since at least 1947 and operated as a sand mine through at least 1963. Between 1963 and 1986 the western portion of the Site was utilized as a municipal landfill and reportedly accepted chemical waste, metal waste, and large quantities of construction and demolition (C&D) debris. A New York State Department of Environmental Conservation (NYSDEC)- approved Phase II investigation was designed and implemented in the late-1980s and early-1990s, which indicated that volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, and metals were present in environmental media at the Site. However, that Phase II investigation also concluded that there had been no documented disposal of hazardous waste at the Site and that elevated concentrations of VOCs in groundwater at the Site were migrating from an upgradient source. The Site did not qualify to remain on the Registry of Inactive Hazardous Waste Disposal Sites and was delisted by the NYSDEC in 1992. Since 1992, the Site has continued to be owned and operated by Hubbard Sand and Gravel, providing products including, but not limited to, topsoil, mulch, ready-mix concrete, sand, aggregates, pavers, and decorative stones.

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 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 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 final engineering report. 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):

Patrick Powers
Project Manager
NYSDEC Region 1
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York 12233-7015
518-402-9614

Bill Fonda
Citizen Participation Specialist
NYSDEC Region 1
SUNY at Stony Brook
50 Circle Road
Stony Brook, New York 11790-3409
631-444-0350

New York State Department of Health (NYSDOH):

Anthony Perretta
NYSDOH
Bureau of Environmental Exposure
Investigation
Empire State Plaza
Corning Tower Room 787
Albany, NY 12237
anthony.perretta@health.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:

Bay Shore – Brightwaters Public Library
1 South Country Road
Brightwaters, New York 11718
Phone: 631-665-4350
Hours: Monday: 09:30AM – 21:00PM
Tuesday: 09:30AM – 21:00PM
Wednesday: 09:30AM – 21:00PM
Thursday: 09:30AM – 21:00PM
Friday: 09:30AM – 17:00PM
Saturday: 09:30AM – 17:00PM
Sunday: Closed

NYSDEC Department of Environmental Remediation
625 Broadway
Albany, NY 12233
Attn: Daniel McNally
Phone: 518-402-9143
Hours: (call for appointment)
Attn: Melissa Sweet
Phone: 518-402-9614
Hours: (call for appointment)

Appendix B - Site Contact List

Local and State Officials

Hon. Charles Schumer
United States Senate
780 Third Avenue, Suite 2301
New York, NY 10017

Hon. Kirsten E. Gillibrand
United States Senate
780 Third Avenue, Suite 2601
New York, NY 10017

NYSDEC Public Participation Specialist
Region 3
21 South Putt Corners Road
New Paltz, NY 12561

Angie Carpenter
Town of Islip Supervisor
655 Main Street

Islip, New York 11751

John C. Cochrane, Jr.
Town of Islip Councilman
655 Main Street
Islip, New York 11751

Mary Kate Mullen
Town of Islip Councilwoman
655 Main Street
Islip, New York 11751

James P. O'Connor
Town of Islip Councilman
655 Main Street
Islip, New York 11751

Jorge Guadron
Town of Islip Councilman
655 Main Street
Islip, New York 11751

Edward P. Romaine
Suffolk County Executive
100 Veterans Memorial Highway
Hauppauge, NY 11788

Joseph Sanzano
Director of Suffolk County Planning Commission
100 Veterans Memorial Highway

Hauppauge, New York 11788

Edward Freidland
Town of Islip Planning Board Chairman
655 Main Street
Islip, New York 11751

Local News and Media

The Islip Bulletin
20 Medford Avenue
Patchogue, New York 11772
(631) 475-1000

Parks and Recreation

Town of Islip Parks, Recreation and Cultural Affairs
Brookwood Hall
50 Irish Lane
East Islip, New York 11730
(631) 224-5411

Local Water Supply

Suffolk Country Water Authority
Brentwood Water District
4060 Sunrise Highway
Oakdale, New York 11769
(631) 698-9500

Community, Civic, Religious, and Other Environmental Organization

Bay Shore Congregation of Jehovahs Witness
1647 Heckscher Avenue
Bay Shore, New York 11706

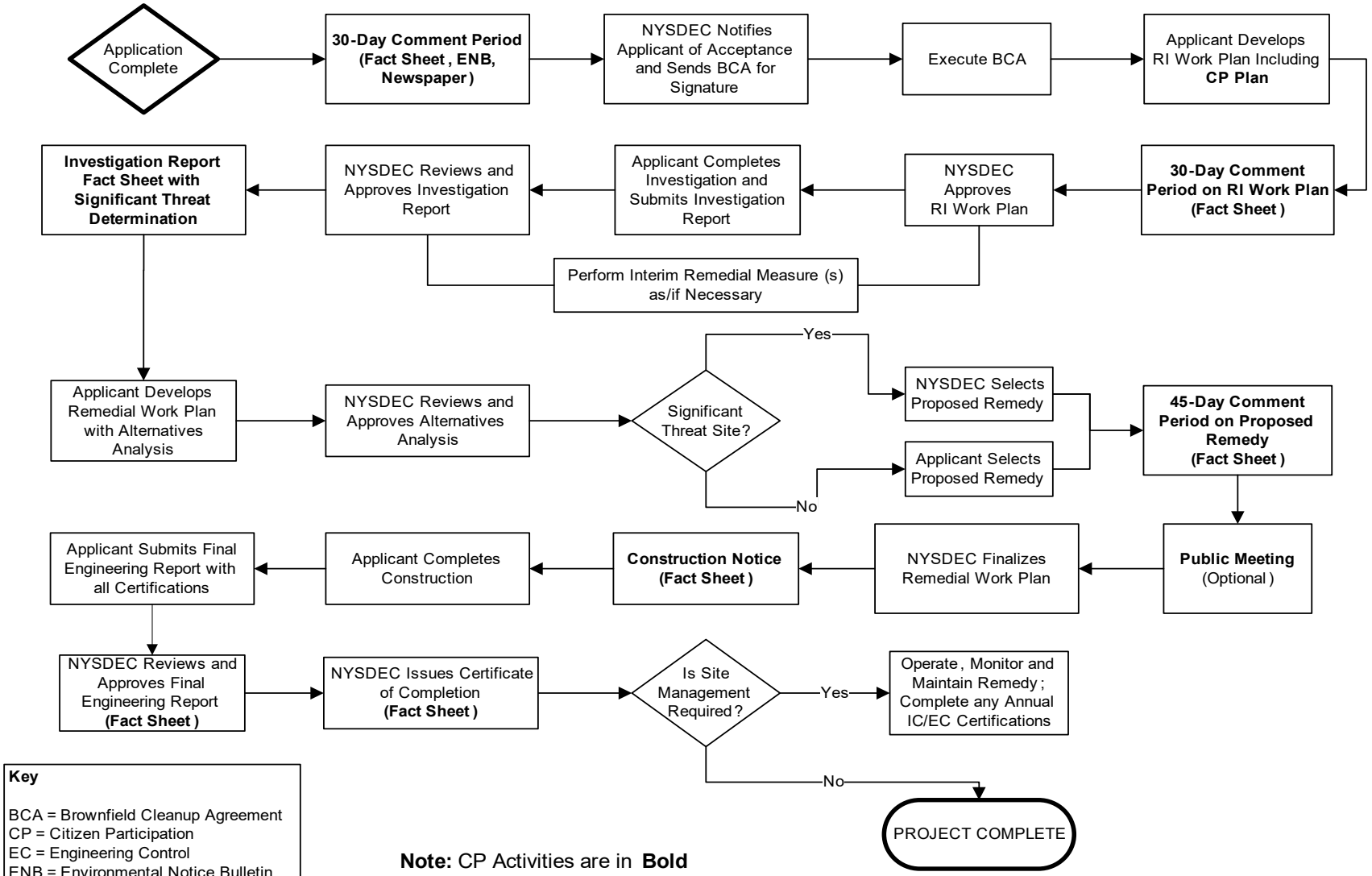
First Spanish Baptist Church of Bay Shore
1564 Fifth Avenue
Brentwood, New York 11717

Suffolk County Police Department 3rd Precinct
1630 Fifth Avenue
Bay Shore, New York 11706
631-854-8300

Bay Shore Fire Department
195 Fifth Avenue
Bay Shore, New York 11706
631-655-4227

Appendix C - Site Location Map

Appendix D– Brownfield Cleanup Program Process



Key

BCA = Brownfield Cleanup Agreement
CP = Citizen Participation
EC = Engineering Control
ENB = Environmental Notice Bulletin
IC = Institutional Control
RI = Remedial Investigation

Note: CP Activities are in **Bold**

APPENDIX E

EPA Green Remediation: Best Management Practices for Excavation and Surface Restoration

United States Environmental Protection Agency | Office of Solid Waste and Emergency Response (5102G) | EPA 542-F-08-012 December 2008

Green Remediation: Best Management Practices for Excavation and Surface Restoration

Office of Superfund Remediation and Technology Innovation | Quick Reference Fact Sheet

This fact sheet is one of a series describing best management practices (BMPs) for green remediation, which holistically addresses a cleanup project's (1) energy requirements, (2) air emissions, (3) impacts on water, (4) impacts on land and ecosystems, (5) material consumption and waste generation, and (6) long-term stewardship actions. BMPs can be used for sustainable removal or cleanup activities at contaminated sites under Superfund, corrective action, underground storage tank, and brownfield cleanup programs.

Some green remediation strategies stem from environmentally progressive practices of business market sectors such as construction. Others build new elements such as green purchasing into traditional practices of the remediation sector. Yet more evolving BMPs incorporate innovative technologies that can be readily adapted to increase cleanup sustainability.

Overview

Excavation in varying degrees is often required at contaminated sites to:

- Address immediate risk to human health and/or the environment as part of immediate or long-term removal actions
- Prepare for implementation of in situ or ex situ remediation technologies, which often involves building or structural demolition, or
- Treat soil or sediment hot spots for which other remedies may be infeasible due to extremely high cost, long duration, or technical constraints

Many opportunities exist to reduce the negative impacts of excavation, which commonly include soil erosion, high rates of fuel consumption, transport of air-borne contaminants, uncontrolled stormwater runoff, offsite disposal of excavated material, and ecosystem disturbance. Decisions regarding excavation processes and targets affect follow-up land and surface water restoration strategies as well as ultimate land use.

Planning for Excavation and Surface

Early and integrated project planning allows the (typically early) excavation period to set the stage for sharing of resources, infrastructures, and processes throughout site cleanup and reuse. Early BMPs include:

- Incorporation of green requirements into product and service procurements
- Installation of a modular renewable energy system to meet low energy demands of field equipment, other remedies, and construction or operational activities associated with site reuse
- Dynamic work planning; for example, treated excavation material found unnecessary as backfill can be put to beneficial use at onsite or offsite locations
- Consideration of environmental and economic tradeoffs involved in onsite versus offsite treatment of excavated soil or sediment
- Balance of trade-offs associated with onsite versus offsite disposal of contaminated soil or other material
- Early and continuous scouting for onsite or nearby sources of backfill material for excavated areas
- Establishment of decision points that could trigger in situ treatment instead of excavation in subareas
- Integrated schedules allowing for resource sharing and fewer days of field mobilization

Profile: RE-SOLVE, Inc. Waste Chemical Reclamation Facility, North Dartmouth, MA

- *Excavated 22,500 yd^3 of polychlorinated biphenyl (PCB)-contaminated soil above the water table, treated soil onsite through dechlorination, backfilled with cleaned soil, and covered with 18 inches of gravel*
- *Excavated 3,000 yd^3 of PCB-contaminated sediments from wetland areas, treated excavated sediments through dechlorination, and restored the wetlands*
- *Excavated 36,000 yd^3 of soil, treated soil with low-temperature thermal desorption, and backfilled*
- *Replaced the gravel cap with a four-acre native upland meadow cover to reestablish onsite native species and enhance environmental habitat*
- *Avoided significant fossil fuel consumption for offsite transportation of contaminated soils and replacement with clean fill*

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Energy Requirements

Determining the optimum extent of excavation relies on accurate delineation of the contaminant plume(s). Use of the Triad approach for site investigations can reduce field mobilizations and associated fuel consumption through systematic planning, dynamic work activities, and real-time measurements.

BMPs that can help reduce fuel consumption (as well as waste generation) during site investigations include:

- Direct-push technology instead of rotary drilling rigs to reduce drilling duration by as much as 50-60%, avoid drilling fluids, and eliminate drill cuttings; this technique may be infeasible in applications limiting the depth, type, weight, or volume of target samples or installation of new ground water wells
- Reuse of wells and subsurface bore holes throughout investigations, remediation, and long-term monitoring
- Field test kits whenever possible and selection of the nearest qualified laboratory for confirmatory analyses or contaminants outside the scope of field kits

Procurement of goods and services offers other opportunities for reducing fuel consumption.

- Purchase materials from one supplier of locally produced products to reduce need for delivery fuels
- Select local providers for field operations
- Coordinate outside services and service providers to minimize transport of equipment and reduce costs

Fuel consumed during transfer of excavated soil or other materials to landfills can be reduced by:

- Selecting the closest waste receiver
- Investigating alternate shipping methods such as rail lines
- Identifying opportunities for resource sharing with other waste haulers

Diesel fuel consumption by heavy construction machinery and equipment can be conserved by:

- Selecting suitably sized and typed equipment for tasks
- Instructing workers to avoid engine idle and using machinery with automatic idle-shutdown devices
- Employing auxiliary power units to power cab heating and air conditioning when a machine is unengaged
- Performing routine, on-time maintenance such as oil changes to improve fuel efficiency
- Repowering an engine or replacing it with a newer, more efficient one

Auxiliary equipment such as electricity generators or wood chippers can be powered by small photovoltaic (PV) systems. Installations can involve placement of PV panel support poles on small concrete pads for short-term use. Micro-scale solar power can be used for small devices such as flashlights, lamps, and temperature-controlled containers.

New technology for installation of ground-mounted PV systems requires no concrete, reduces subsurface disturbance, and increases options for equipment reuse.



Air Emissions

Field generation of contaminated or uncontaminated dust and mobilization of volatile organic compounds can be reduced by new and traditional BMPs such as:

- Covering excavated areas with biodegradable fabric that also can control erosion and serve as a substrate for favorable ecosystems, or with synthetic material that can be reused for other onsite or offsite purposes
- Spraying water in vulnerable areas, in conjunction with water conservation and runoff management techniques
- Securing and covering material in open trucks while hauling excavated material, and reusing the covers
- Revegetating excavated areas as quickly as possible
- Limiting onsite vehicle speeds to 10 miles per hour

Greenhouse gas (GHG) and particulate matter (PM) emissions from mobile sources can be reduced through use of:

- Equipment retrofits involving low-maintenance multi-stage filters for cleaner engine exhaust
- Cleaner fuel such as ultra-low sulfur diesel, wherever available (and as required by engines with PM traps)
- Biodiesel, particularly if made from recycled byproducts

Impacts on Water

Green remediation strategies help reduce consumption of fresh water, reuse or reclaim uncontaminated water, minimize potential for water-borne contamination, and minimize introduction of toxic processing materials.

- Cover soils with biodegradable tarps and mats, rather than spraying with water, to suppress dust while potentially enhancing soil fertility

- Explore options for reusing operational graywater, capturing rainwater, and returning unused water to surface bodies instead of disposing it in public wastewater utility lines
- Use phosphate-free detergents instead of organic solvents or acids to decontaminate sampling equipment (if not required for some contaminants)
- Employ rumble grates with a closed-loop graywater washing system (or an advanced, self-contained wheel-washing system) to minimize vehicle tracking of sediment and soil across non-work areas or offsite

BMPs for excavation of contaminated sediments in surface water or wetlands focus on slurry management and disposal.

- Evaluate fuel efficiency and sizing suitability of dredging equipment if multiple options can achieve site-specific cleanup goals
- Overlay synthetic barriers and fluid collection systems on ground surfaces of staging areas and where excavated material is dewatered
- Use dewatering processes that maximize water recycling, and consider automated systems to account for sediment variability
- Investigate the potential for treated slurry water to be beneficially reused in other cleanup activities prior to discharge
- Investigate opportunities to transfer treated slurry water for use in non-remedial applications such as irrigation or wetlands enhancement
- Consider the use of geotextile bags or nets to contain excavated sediment, facilitate sediment drying, and increase ease of sediment placement or transport
- Check for toxic contents in synthetic coagulants used in the field and avoid spillage
- Evaluate potential for excavated areas to serve as retention basins in final stormwater control plans

BMPs for restoration of surface water and adjacent banks after sediment excavation rely on low impact development techniques that reduce impacts of built areas and promote natural movement of water.

- Undercut surface water banks in ways that mirror natural conditions
- Retrieve dead trees during excavation and later reposition them as habitat snags
- Select and place suitably sized and typed stones into water beds and banks

Profile: Paducah Gaseous Diffusion Plant, Paducah, KY

- *Used Triad to integrate site characterization, remedial activities, and cleanup verification in a 7,000 foot^2 area with potential uranium and polychlorinated biphenyl (PCB) contamination*
- *Convened federal and state agencies to develop a conceptual site model and dynamic work plan prior to beginning any field work*
- *Used investigative tools requiring no soil disturbance* (laser-based gamma "walkover" surveys (GWS) and x-ray fluorescence (XRF) with gamma spectroscopy) and techniques requiring few analytical samples and minimal sampling waste (PCB test kits, multi-increment sampling, and adaptive compositing)
- *Integrated field information involving* 24,000 GWS data points, hundreds of XRF measurements, and nearly 400 surface soil increments, which resulted in a need for laboratory confirmation on only 23 samples instead of an estimated 300 using a traditional field approach
- *Surgically excavated 13 meter^3 of uranium-contaminated soil and confirmed PCB concentrations in non-excavated areas were below risk-based cleanup targets*
- *Completed investigatory, removal, and verification activities in a single 10-day field mobilization, resulting in less dust generation, fuel consumption, and site disturbance*
- *Saved significant time and costs in reaching cleanup closure when compared to traditional, static work plans involving reiterative activities*

Material Consumption and Waste Generation

Countless and diverse man-made products are purchased and used during excavation, such as personal protective equipment (PPE), synthetic sheeting, and routine business materials. Green purchasing considers product life cycles and gives preference to:

- Products with recycled and bio-based (instead of petroleum-based) contents
- Products, packing material, and disposable equipment with reuse or recycling potential
- Product contents and manufacturing processes involving nontoxic chemical alternatives

To reduce the volume of single-use material such as PPE and sampling materials, activity planning can

reflect reduced traffic between hot and clean zones and fewer days in which work is performed. BMPs for waste management include:

- Establishing staging areas prior to any digging
- Salvaging uncontaminated and pest- or disease-free organic debris for use as infill, mulch, or compost
- Reclaiming and stockpiling uncontaminated soil for use as fill or other purposes such as habitat creation
- Salvaging uncontaminated objects with potential recyle, resale, donation, or onsite infrastructure value such as steel, concrete, granite, and storage containers; waste coordinators are available in many states to assist in decisions regarding beneficial reuse or exposure risk

Impacts on Land and Ecosystems

A primary BMP for minimizing the negative impacts on land and ecosystems is to perform an inventory (including detailed photographs and videos) of ecological species, land contours, and drainage patterns prior to digging. Baseline inventories will facilitate restoration that best recreates original conditions. Other BMPs include:

- Establishment of minimally intrusive and well-designed traffic patterns for onsite activities and plans to reduce off-site traffic congestion
- Placement of metal grates over a thick mulch layer in onsite traffic corridors to avoid soil compaction and associated reduction in subsurface water infiltration
- Construction of long-term structural controls such as earth dikes and swales to prevent upgradient surface flow into excavated areas
- Installation of silt fences and basins to capture sediment runoff along sloped areas
- Quick-growth seeding and geotextile placements to stabilize sod in staging areas

When needed, onsite landfills for excavation or other remedies can employ evapotranspiration covers, which promote microbial degradation of waste while providing a substrate for plant growth.

BMPs for preserving ecological systems include:

- Avoiding tree removal in staging areas or intermittent uncontaminated zones, and retrieving and transplanting native, noninvasive plants
- Using non-chemical solarizing techniques for vegetative transplants or new plantings, and non-synthetic fertilizers, herbicides, or pesticides and integrated pest management methods
- Limiting noise and artificial lighting that disturbs sensitive species, and rescuing and relocating sensitive or threatened species

Many environmental, academic, and broad-based community groups offer assistance in ecological inventories as well as rescues.

Long Term Stewardship Actions

Coordinated planning of remediation and anticipated use of a site is critical to long-term sustainability. Green remediation encourages decision-makers to weigh the environmental and economic tradeoffs of issues such as onsite versus offsite disposal of contaminated soil or sediment. Proper planning will help reduce likelihood of adverse impacts such as soil subsidence, unbalanced soil chemistry, or low microbial populations, and periodic post-excavation field tests will help identify unexpected problems quickly.

Prompt revegetation is critical to restoration of backfilled areas. Installation of native rather than imported plants will increase vegetation viability, avoid immediate- or long-term irrigation needs, and promote rapid ground cover. Plant diversity also will create useful wildlife habitat and more opportunities for future activities or site reuse.

Green Remediation: A Sampling of Success Measures for Excavation and Surface Restoration

- *Reduced fuel consumption and transportation costs as a result of integrated "dig and haul" planning with fewer field mobilizations*
- *Reduced GHG emissions through use of renewable resources to provide electricity for auxiliary equipment or replace natural gas-driven equipment*
- *Increased volumes of graywater recycled or reused in sediment dewatering, in place of clean water*
- *Increased percentage of excavated, clean soil or material that is reused onsite*
- *Higher percentage of ground cover sooner after excavation, with fewer invasive species*
- *Increased utility of "excavation built" erosion and stormwater controls in site reuse*

Visit *Green Remediation* online to obtain more information about BMPs, view site-specific examples, or share new ideas about green cleanups.

http://cluin.org/greenremediation

APPENDIX F

Site Health and Safety Plan (HASP) /
Community Air Monitoring Plan (CAMP)

Site-Specific Health and Safety Plan

1612 5th Avenue
Bay Shore, New York

July 24, 2026

Prepared for:

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Prepared by:

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H. Generic Community Air Monitoring Plan (CAMP)

Site-Specific Emergency Information

Emergency Phone Numbers

Most emergency services can be obtained by calling **911**. Where 911 service is not available, use the telephone numbers provided in the below table. The following is a master emergency phone list for use by the project management personnel. A more condensed version of the emergency numbers listed below will be posted throughout project work areas. Emergencies encountered on the site will be responded to by a combination of off-site emergency services and on-site personnel.

Emergency Contact Information			
Site Personnel			
Title	**Contact**		**Telephone**
Office Manager (OM)	Jeffrey Wills		631-630-2330
Project Principal (PP)	Frank Cherena, P.G.		631-630-2320
Project Manager (PM)	Camila Israel		917-399-5314
Site Supervisor (SS)	TBD		TBD
Site Health and Site Safety Officer (SHSO)	Elyssa Torres		631-413-5842
Office Health and Safety Manager (OHSM)	Brian Hobbs		631-630-2419
Corporate Health and Safety Manager (CHSM)	Brian Hobbs		631-630-2419
AllOne Health	Occupational Health Care Management Provider		800-350-4511
Client Emergency Contact	Justin Passaretti		516-355-8076
Outside Assistance			
Agency	**Contact**	**Telephone**	**Address/Location**
Ambulance/emergency medical services (EMS)	Hunter EMS	631-777-5600	299 Feldman Court B, Bay Shore, New York
Police	Suffolk County Police Department 3rd Precinct	631-854-8300	1630 5th Ave, Bay Shore, New York
Fire	Brentwood Fire Department Engine 6	631-273-7080	165 Pine Aire Drive, Bay Shore, New York
Site Address	1612 5th Avenue, Bay Shore, New York		

Route to Hospital: South Shore University Hospital

- Head South on 5th Avenue toward Frederick Avenue (1.7 miles)
- Use the right lane to take the ramp to NY-27 E (0.1 miles)
- Merge onto Sunrise Highway South Service Road (0.5 Miles)
- Turn right onto 2nd Avenue
- Turn left onto E Main Street (0.2 miles)
- Turn left at Mowbray PL and arrive at South Shore University Hospital (300 feet)

Route to Urgent Care: CityMD Bay Shore Urgent Care – Long Island

- Head south on 5th Avenue toward Frederick Avenue
- Turn left onto Spur Drive South
- Turn right onto Illinois Avenue
- CityMD will be on your right.

1. Introduction

This Site-specific Health and Safety Plan (HASP) has been prepared by Roux Environmental Engineering and Geology, D.P.C. (Roux) for use during the Environmental Field Investigations and Remedial Action Implementation at the 1612 5th Avenue Bay Shore Site, located at 1612 5th Avenue, Bay Shore, New York (Site; Figure 1). These activities fall within the scope of operations covered by the Occupational Safety and Health Administration (OSHA) standards promulgated at 29 CFR 1910.120 and 29 CFR 1926.65, both commonly referred to as the Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard. In accordance with the HAZWOPER Standard, this Site-specific HASP was prepared to address the safety and health hazards associated with the sampling and analysis of soil, groundwater, sediment, and soil vapor samples activities being performed at the Site by Roux and to provide requirements and procedures for the protection of Roux employees, subcontractor personnel, government oversight personnel, Site personnel, and the general public. It also addresses client- and Site-specific requirements for health and safety. Additionally, subcontractors may be required to submit their own HASP as it relates to their specific work activities and will be kept onsite during such work.

Implementation of this HASP is the joint responsibility of the Project Manager (PM), the Site Health and Safety Officer (SHSO), and all field staff, with assistance from the Project Principal (PP), Office Health and Safety Manager (OHSM), and Corporate Health and Safety Manager (CHSM). The PM for this project is Camila Israel. The Site Supervisor (SS) will be determined with the onset of the project, and Site Health and Safety Officer (SHSO) is Elyssa Torres.

This HASP will be introduced to, reviewed, and signed off on by all Roux personnel through a formal training session prior to commencing work. A copy of the HASP will be kept at the Site at all times. The Roux SHSO or PM will be responsible for posting any changes, amendments, memos, etc. to the HASP. Any revisions to this HASP will be signed by appropriate personnel, which can include Roux's PP, CHSM, and SS. Any changes will be announced to all workers at the next safety meeting.

1.1 Roles and Responsibilities

Overall Roles and Responsibilities (R&Rs) of Roux personnel are provided in Roux's Policies and Procedures Manual. Only those R&Rs specific to HASP requirements are listed below.

Project Manager (PM)

The PM has responsibility and authority to direct all work operations. The PM coordinates safety and health functions with the Site Health and Safety Officer (SHSO), has the authority to oversee and monitor the performance of the SHSO, and bears ultimate responsibility for the proper implementation of this HASP. The specific duties of the PM are:

- Preparing and coordinating the Site work plan;
- Providing Site supervisor(s) with work assignments and overseeing their performance; Coordinating safety and health efforts with the SSHO;
- Ensuring effective emergency response through coordination with the Emergency Response Coordinator (ERC); and
- Serving as primary Site liaison with public agencies and officials and Site contractors.

Site Health and Safety Officer (SHSO)

The SHSO has the full responsibility and authority to develop and implement this HASP and to verify compliance. The SHSO reports to the Project Manager. The SHSO is on Site or readily accessible to the Site during all work operations and has the authority to halt Site work if unsafe conditions are detected. The specific responsibilities of the SHSO include:

- Managing the safety and health functions on this Site;
- Serving as the Site's point of contact for safety and health matters;
- Ensuring Site monitoring, worker training, and effective selection and use of PPE;
- Assessing Site conditions for unsafe acts and conditions and providing corrective action;
- Assisting the preparation and review of this HASP;
- Maintaining effective safety and health records as described in this HASP; and
- Coordinating with the Site Supervisor(s) and others as necessary for safety and health efforts.

Site Supervisor

The Site Supervisor is responsible for field operations and reports to the Project Manager (PM). The Site Supervisor ensures the implementation of the HASP requirements and procedures in the field. The specific responsibilities of the Site Supervisor include:

- Executing the work plan and schedule as detailed by the PM;
- Coordination with the SHSO on safety and health; and
- Ensuring Site work compliance with the requirements of this HASP.

Employees

All Roux employees are responsible for reading and following all provisions of the Corporate Health and Safety Manual, including this HASP. Employees report to the SS at the project Site. Each employee is also responsible for the following:

- Wearing all appropriate PPE as outlined within this HASP;
- Attending all safety meetings;
- Inspecting tools and equipment prior to use, and taking any defective tools or equipment out of service;
- Appropriately documenting field events as they occur within a logbook or equivalent;
- Properly operating machinery and/or equipment only if trained to do so;
- Stopping work operations if unsafe conditions exist;
- Identifying and mitigating hazards when observed;
- Reporting all incidents and near misses to the Roux SHSO and SS immediately; and
- Knowing where emergency equipment is located (e.g., first aid kit, fire extinguisher).

Subcontractors and Visitors

Subcontractors and visitors are responsible for complying with the same health and safety requirements. It is the responsibility of all to make sure subcontractors and visitors comply and uphold the HASP. Subcontractors and visitors have the following additional responsibilities:

- Designating a qualified safety representative for the project that can make the necessary changes in work practices, as necessary;
- Attending all safety meetings while participating in Roux Site work activities;
- Reporting all incidents and near misses to Roux SHSO and SS immediately;
- Conducting initial and periodic equipment inspections in accordance with manufacturer and regulatory guidelines; and
- Providing copies of all Safety Data Sheets (SDS) to Roux SHSO for materials brought to the Site.

2. Background

The Site was historically used as a sand and gravel mine and, later, as a landfill for disposal of construction and demolition debris. Relevant background information is provided below, including a general description of the Site; a brief review of the Site's history with respect to hazardous material use, handling, and/or storage; and a review of known and potential releases of hazardous substances at the Site.

2.1 Site Description

The Site is currently vacant. Most structures associated with the former Site occupant were decommissioned prior to entry into the Brownfield Cleaned Program (BCP) with only a one-story former mechanic shop/maintenance building erect at the Site.

2.2 Site History

The Site was historically used as a sand and gravel mine and, later, as a landfill for disposal of construction and demolition debris. According to available documentation provided by the New York State Department of Environmental Conservation (NYSDEC), the Site contains an area where bulk materials are stockpiled, a one-story office building, and a co-generation plant which burns wood pallets and produces electricity for sale to the local utility.

2.3 Known and Potential Releases of Hazardous Substances at the Site

Known and/or potential hazardous substances at the Site include per- and polyfluoroalkyl substances, semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), pesticides, and methane.

3. Scope of Work

The Scope of Work involved the following activities:

- Implementation of Remedial Action Work Plan (RAWP).
- Community Air Monitoring Plan (CAMP) implementation.
- Monitoring of potential methane in ambient air.

If there are any changes with the scope a revision of the HASP will be required to address any new hazards.

4. Site Control

This Site control program is designed to reduce the spread of hazardous substances from contaminated areas to clean areas, to identify and isolate contaminated areas of the Site, to facilitate emergency evacuation and medical care, to prevent unauthorized entry to the Site, and to deter vandalism and theft.

4.1 Site Map

A map of this Site, showing Site boundaries, designated work zones, and points of entry and exit is provided in **Figure 2**.

4.2 Site Access

Access to the work areas at the Site is restricted to reduce the potential for exposure to its safety and health hazards. During hours of Site operation, Site entry and exit is authorized only at the points identified in **Figure 2**. Entry and exit at these points is controlled by the following: a locking gate at the Site entrance. When the Site is not operating, access to the Site is controlled by the following: a locking gate at the Site entrance.

4.3 Buddy System

This section is not applicable for all components of the SOW described in Section 3. Some Site inspections, soil, groundwater, and other sampling activities are completed by a single Roux employee. However, when completing these tasks, the single Roux employee is accompanied either by Roux subcontractors or the Site caretaker/other representatives from Fifth XNY, LLC. Any time Roux is on-Site, Fifth XNY, LLC is made aware and communications with Fifth XNY, LLC and the Roux PM is maintained via cellular phone.

While working in the Exclusion Zone, Site workers use the buddy system. The buddy system means that personnel work in pairs and stay in close visual contact to be able to observe one another and summon rapid assistance in case of an emergency. The responsibilities of workers using the buddy system include:

- Remaining in close visual contact with partner;
- Providing partner with assistance as needed or requested;
- Observing partner for signs of heat stress or other difficulties;
- Periodically checking the integrity of partner's PPE; and
- Notifying the Site manager or other Site personnel if emergency assistance is needed.

4.4 Site Communications

The following communication equipment is used to support on-site communication: Cell Phones.

As applicable, hand signals will be used according to the following:

Hand Signals

SIGNAL	MEANING
Hand gripping throat	Out of air, can't breathe
Grip partner's wrist	Leave area immediately
Hands on top of head	Need assistance
Thumbs up	I'm all right, okay
Thumbs down	No, negative

A current list of emergency contact numbers is included in the Site-Specific Emergency Information at the beginning of this HASP.

4.5 Site Work Zones

The SOW does not require the implementation of work zones; however, should the need arise, this section provides details for the proper execution of work zones at this Site.

This Site is divided into three (3) major zones, described below. These zones are characterized by the likely presence or absence of biological, chemical, or physical hazards and the activities performed within them. Zone boundaries are clearly marked at all times and the flow of personnel among the zones is controlled. The Site is monitored for changing conditions that may warrant adjustment of zone boundaries. Zone boundaries are adjusted as necessary to protect personnel and clean areas. Whenever boundaries are adjusted, zone markings are also changed and workers are immediately notified of the change.

Exclusion Zone

The area where contamination exists is the Exclusion Zone (EZ). All areas where excavation and handling of contaminated materials take place are considered part of the EZ. This zone will be clearly delineated by chain link fencing, caution tape, cones or other effective barriers, as necessary. Safety tape may be used as a secondary delineation within the EZ. The zone delineation markings may be opened in areas for varying lengths of time to accommodate equipment operation or specific construction activities. The SHSO may establish more than one EZ where different levels of protection may be employed or where different hazards exist. Personnel are not allowed in the EZ without:

- A buddy (co-worker);
- Required minimum level PPE;
- Medical authorization;
- Training certification; and
- Requirement to be in the zone.

Contamination Reduction Zone

A Contamination Reduction Zone (CRZ) is established between the exclusion zone and the support zone. The CRZ contains the Contamination Reduction Corridor (CRC) and provides an area for decontamination of personnel and equipment. The CRZ will be used for general Site entry and egress in addition to access for heavy equipment and emergency support services. Personnel are not allowed in the CRZ without:

- A buddy (co-worker)
- Appropriate PPE
- Medical authorization
- Training certification
- Requirement to be in the zone

Support Zone

The Support Zone (SZ) is an uncontaminated area that will be the field support area for the Site operations. Appropriate sanitary facilities and safety equipment will be located in this zone. Potentially contaminated personnel or materials are not allowed in this zone. The only exception will be appropriately packaged/decontaminated and labeled samples.

5. Job Hazard Evaluation

Roux's work at the Site is expected to entail a variety of physical, chemical, and biological hazards, all of which must be sufficiently managed to allow the work to be performed safely. Some of the hazards are Site-specific (i.e., they are associated with the nature, physical characteristics, and/or routine operation of the Site itself), while others are activity-specific (i.e., they are associated with [or arise from] the particular activity being performed). The various hazards can be grouped into the following categories:

- **Caught/Crushed** – the potential to become caught in, under, between, or by an object or parts of an object, such as equipment with parts that open and close or move up and down ("pinch points") or equipment that rotates, and the accompanying potential to have body parts cut, mangled, or crushed thereby.
- **Contact** – the potential to be struck by or against moving or stationary objects that can cause physical injury, such as heavy machinery, overhead piping, moving vehicles, falling objects, and equipment (including tools and hand-held equipment) or infrastructure with the ability to cut or impale.
- **Energy Sources** – the potential for bodily harm associated with energy sources, most notably electricity, but also including latent energy sources such as compressed air and equipment under tension (which when released could cause injurious contact or a fall).
- **Ergonomics** – the potential for musculoskeletal injury associated with lifting/carrying, pushing/pulling, bending, reaching, and other physical activity attributable to poor body position/mechanics, repetitive motion, and/or vibration.
- **Exposure** – the potential for injury/illness due to physical, chemical, or biological exposures in the work environment, including but not limited to temperature extremes, solar radiation, and noise (physical), chemical splashes and hazardous atmospheres (chemical), and animal/insect bites and poisonous plants (biological).
- **Falls** – the potential to slip or trip and thus fall or drop a load, resulting in bodily injury to oneself or others.

The foregoing is intended to provide Roux employees with a general awareness of the hazards involved with Site work. A more detailed review of the potential hazards associated with each specific activity planned for the Site (or on-going activity, as the case may be) is provided in the activity-specific Job Safety Analysis (JSA) forms in **Appendix A**. As can be seen in the JSA forms, the hazards are identified by category per the above, and specific measures designed to mitigate/manage those hazards are also identified. In preparing the JSA forms, all categories of hazards were considered, and all anticipated potential hazards were identified to the extent possible based on the experience of the personnel preparing and reviewing the JSA forms. However, there is always the possibility for an unanticipated hazard to arise, potentially as condition change over the course of the workday. Roux personnel must maintain a continual awareness of potential hazards in the work zone, regardless of whether the hazard is identified in the JSA form. Particular attention should be paid to hazards associated with exposure to hazardous substances (see **Table 1** for a listing of the hazardous substances most likely to be encountered in environmental media at the Site) and to Site personnel being located "in the line of fire" with respect to moving equipment, pinch points, and latent energy (e.g., being located or having body parts located within the swing radius of an excavator, between two sections of pipe being connected, below a piece of suspended equipment, or adjacent to a compressed air line).

5.1 Hazard Communication and Overall Site Information Program

The information in the JSAs and safety data sheets is made available to all employees and subcontractors who could be affected by it prior to the time they begin their work activities. Modifications to JSAs are communicated during routine pre-work briefings.

The information in the JSAs and Safety Data Sheets (SDSs) is made available to all employees and subcontractors who could be affected by an exposure to the hazards covered in them prior to the time they begin their work activities. Modifications to JSAs are communicated during routine pre-work briefings, and periodically updated as needed in the HASP. SDSs will be maintained by the SHSO/SS for new chemicals brought on-site as needed. Copies of SDSs can be found in **Appendix B**.

5.2 Noise

Noise is associated with the operation of heavy equipment, power tools, pumps, and generators. Noise is also a potential hazard when working near operating equipment such as excavators, drill rigs or pole drivers. High noise (i.e., < 85 dBA) operations may be evaluated by the SHSO utilizing a type 2 handheld sound level meter (SLM) operating on the "A"-weighted scale with slow response because this scale most closely resembles human response to noise and complies with OSHA 29 CFR 1910.95. Hearing protection is required in areas with noise exposure greater than 85 dBA. Double hearing protection (ear plugs and earmuffs) are required in areas where the noise exposure is more than 95 dBA. Noise exposure will be controlled by hearing protection as described above or by maintaining set-backs from high-noise equipment, as warranted. Personnel handling heavy equipment and using power tools that produce noise levels exceeding those described levels above are required by OSHA 29 CFR 1910.95 to wear the appropriate Noise Reduction Rating (NRR) level of hearing protection. Appropriate hearing protection will be evaluated by the SHSO as necessary in consultation with the OHSM and CHSM.

5.3 Biological Hazards

Biological hazards that may potentially be present at a Site, include poisonous plants, insects (ticks, spiders, bees), animals (snakes, dogs), etc. Information on biological hazards can be found within Roux's Biological Hazard Awareness Management Program located within Roux's Corporate Health and Safety Manual. There is also potential for transmission and/or exposure to SARS-CoV-2, the virus that causes COVID-19. Prior to beginning work, on-Site protocols shall be established by the project team, including subcontractors, in accordance with federal, state, county, city, and/or other guidance, as applicable and consistent with **Appendix C**. Government guidance/orders generally consist of implementation of the following protocols/procedures (or some variation thereof):

- Self-monitoring for symptoms;
- Fitness check for work each day;
- Limiting businesses to "essential" operations;
- Social distancing (generally 6 feet);
- Cloth face masks/ coverings;
- Hand washing/ disinfectant use; and
- Care/ awareness of surroundings (public spaces, equipment, hotel rooms, rental cars).

Additional guidance on minimizing potential exposure to SARS-CoV-2, including a JSA, are included in **Appendix C**.

6. Emergency Response Plan

This emergency response plan details actions to be taken in the event of Site emergencies. The PM and SHSO is responsible for the implementation of emergency response procedures onsite. The SHSO/PM provides specific direction for emergency action based upon information available regarding the incident and response capabilities and initiates emergency procedures and notification of appropriate authorities. In the event of an emergency, Site personnel are evacuated and do not participate in emergency response activities, response is facilitated through external emergency services.

6.1 Emergency Response

The SHSO, after investigating the incident and relevant information, shall determine the level of response required for containment, rescue and medical care. Limited on-site emergency response activities could occur therefore the SHSO is responsible for notifying external emergency response agencies. The SHSO provides relevant information to the responding organizations, including but not limited to the hazards associated with the emergency incident, potential containment problems, and missing Site personnel.

6.2 Emergency Alerting and Evacuation

If evacuation notice is given, Site workers leave the worksite, if possible, by way of the nearest exit. Appropriate primary and alternate evacuation routes and assembly areas have been identified and are shown on the Site Plan with Emergency Muster Area (**Figure 2**). The routes and assembly area will be determined by conditions at the time of the evacuation based on wind direction, the location of the hazard source, and other factors as determined by SHSO/PM.

Personnel exiting the Site gather at a designated assembly point. To determine that everyone has successfully exited the Site, personnel will be accounted for at the assembly point. If any worker cannot be accounted for, notification is given to the SHSO, PM, and any arriving response authorities so that appropriate action can be initiated. Subcontractors on this Site have coordinated their emergency response plans to ensure that these plans are compatible and potential emergencies are recognized, alarm systems are clearly understood, and evacuation routes are accessible to all personnel relying upon them.

6.3 Emergency Medical Treatment and First Aid

In the event of a work-related injury or illness, employees are required to follow the procedures outlined below. All work-place injury and illness situations require Roux's Project and Corporate Management Team to be notified when an injury/illness incident occurs, and communication with the contracted Occupational Health Care Management Provider, AllOne Health (AOH), is initiated. The Injury/Illness Notification Flowchart is provided below and within Roux's Incident Investigation and Reporting program included within Roux's Corporate Health and Safety Manual.

If on-Site personnel require any medical treatment, the following steps will be taken:

a. Notify Roux's Project and Corporate Management Team for any work-related injury and/or illness occurrence, and communicate with the contracted Occupational Health Care Management Provider, AOH, immediately following the notifications provided above.

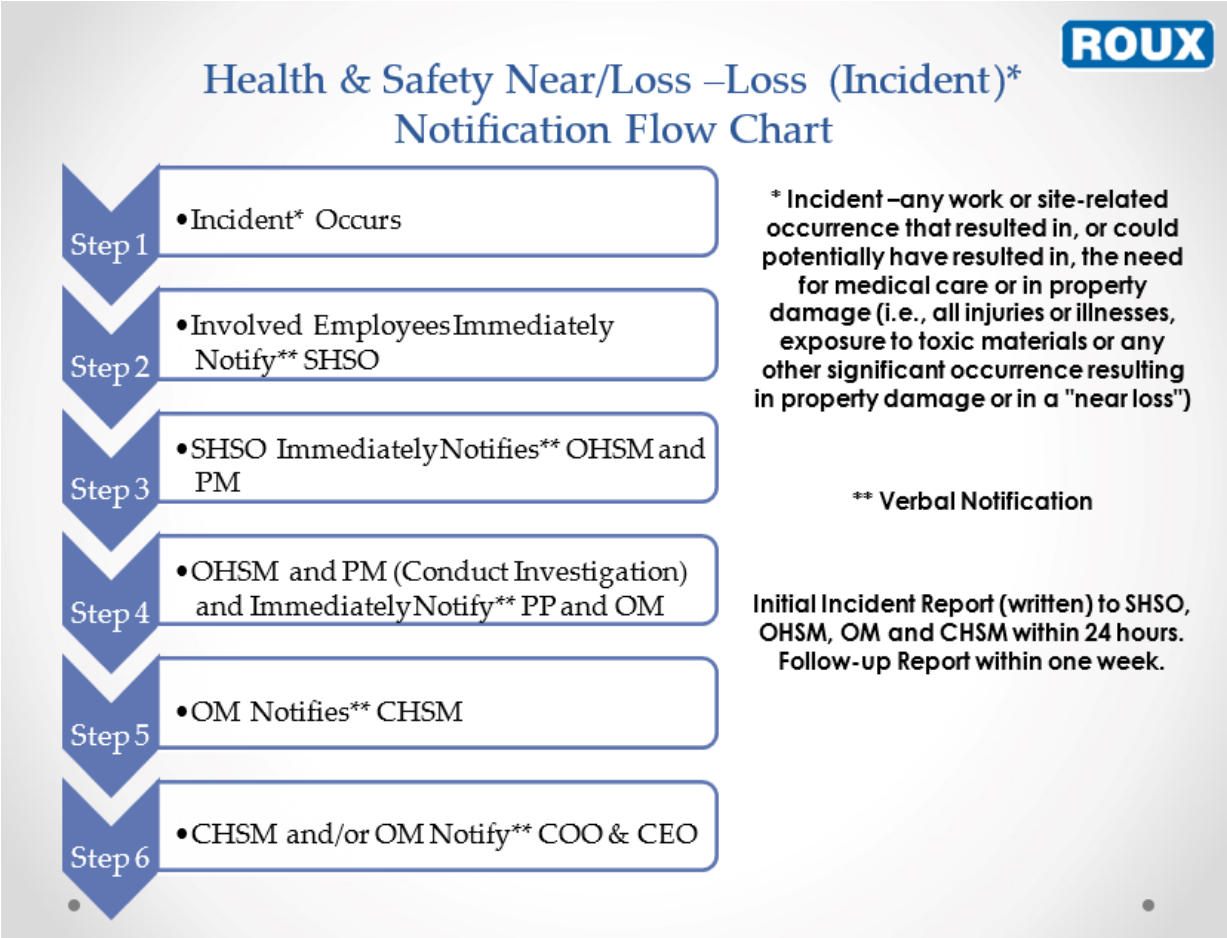
b. Based on discussions with the Project Team, Corporate Management and the AOH evaluation, if medical attention beyond onsite First Aid is warranted, transport the injured / ill person (IP) to the

Urgent Care Center, or notify the Fire Department or Ambulance Emergency service and request an ambulance or transport the victim to the hospital, and continue communications with Corporate Management Team. An Urgent Care/Hospital Route map with location South Shore University Hospital (301 E Main St, Bay Shore, NY 11706) is included as **Figure 3**.

c. Decontaminate to the extent possible prior to administration of first aid or movement to medical or emergency facilities.

d. First aid medical support will be provided by onsite personnel trained and certified in First Aid, Cardio Pulmonary Resuscitation (CPR), Automatic External Defibrillation (AED), and Blood-Borne Pathogens (BBP) Awareness, until relieved by emergency medical services (EMS).

e. The SHSO and Project Manager will perform a Loss Investigation (LI) and the Project Team will complete the final Loss Report. If a Roux employee is involved in a vehicular incident, the employee must also complete the Acord Automobile Loss Notice.



6.4 Adverse Weather Conditions

In the event of adverse weather conditions, the SHSO or project principal will determine if work can continue without sacrificing the health and safety of all field workers. Some of the items to be considered prior to determining if work should continue are:

- Potential for heat stress and heat-related injuries;
- Potential for cold stress and cold-related injuries;

- Treacherous weather-related conditions;
- Limited visibility; and
- Electrical storm potential.

Site activities will be limited to daylight hours and acceptable weather conditions. Inclement working conditions include heavy rain, fog, high winds, and lightning. Observe daily weather reports and evacuate if necessary in case of inclement weather conditions.

6.5 Electrical Storm Guidelines

In the event that lightning and/or thunder are observed while working onsite, all onsite activities shall stop and personnel shall seek proper shelter (e.g., substantial building, enclosed vehicle, etc.). Work shall not resume until the threat of lighting has subsided and no lightning or thunder has been observed for 30 minutes. If the possibility of lightning is forecast for the day, advise the onsite personnel on the risks and proper procedure at the pre-work safety briefing. Continuously monitor for changing weather conditions and allow enough time to properly stop work if lightning is forecast.

7. Safety Procedures

This section of the HASP presents the specific safety procedures to be implemented during Roux's activities at the Site in order to protect the health and safety of various on-site personnel. Minimum OSHA-mandated procedures are presented first, followed by client- and Site-specific procedures. Lastly, activity-specific procedures are discussed. These Site and activity-specific procedures supplement the general safety procedures included in Roux's Corporate Health and Safety Manual, which also must be followed in their entirely.

7.1 Training

At a minimum, Site personnel who will perform work in areas where there exists the potential for toxic exposure will be health and safety-trained prior to performing work onsite per OSHA 29 CFR 1910.120(e) and 29 CFR 1926.65(e). More specifically, all Roux, subcontractor, and other personnel engaged in sampling and remedial activities at the Site and who are exposed or potentially exposed to hazardous substances, health hazards, or safety hazards must have received at a minimum the 40 hour initial HAZWOPER training consistent with the requirements of 29CFR 1910.120(e)(3)(i) training and a minimum of 3 days' actual field experience under the direct supervision of a trained experienced supervisor, plus 8 hours of refresher training on an annual basis. Depending on tasks performed, less training may be permitted. Evidence of such training must be maintained at the Site at all times. Furthermore, all on-Site management and supervisory personnel directly responsible for or who supervise the employees engaged in Site remedial operations, must have received an additional 8 hours of specialized training at the time of job assignment on topics including, but not limited to, the employer's safety and health program and the associated employee training program, personal protective equipment program, spill containment program, and health hazard monitoring procedure and techniques, plus 8 hours of refresher training on an annual basis.

Roux personnel training records are maintained in a corporate database with records available upon request from either the OHSM/SHSO/CHSM or Human Resources Department.

7.2 Site-Specific Safety Briefings for Visitors

A site-specific briefing is provided to all site visitors who enter this site beyond the site entry point. For visitors, the site-specific briefing provides information about site hazards, the site lay-out including work zones and places of refuge, the emergency alarm system and emergency evacuation procedures, and other pertinent safety and health requirements as appropriate.

7.3 HASP Information and Site-Specific Briefings for Workers

Site personnel review this HASP and are provided a Site-specific tailgate briefing prior to the commencement of work to ensure employees are familiar with this HASP and the information and requirements it contains, as well as the relevant JSAs included in **Appendix A**. Additional briefings are provided as necessary to notify employees of any changes to this HASP as a result of information gathered during on-going Site characterization and analysis of changing conditions. Conditions for which we schedule additional briefings include, but are not limited to: changes in site conditions, changes in the work schedule/plan, newly discovered hazards, and incidents occurring during Site work.

7.4 Medical Surveillance

The medical surveillance section of the Health and Safety Plan describes how worker health status is monitored at this site. Medical surveillance is used when there is the potential for worker exposure to hazardous substance at levels above OSHA permissible exposure limits or other published limits. The purpose of a medical surveillance program is to medically monitor worker health to ensure that personnel are not adversely affected by site hazards. The provisions for medical surveillance at this site are based on the site characterization and job hazard analysis found in Section 4 of this HASP and are consistent with OSHA requirements in 29 CFR 1910.120(f) as applicable.

7.4.1 Site Medical Surveillance Program

Medical surveillance requirements are based on a worker's potential for exposure as determined by the site characterization and job hazard analysis documented in Section 4 and JSAs within **Appendix A** of this HASP and in compliance with the requirements of 29 CFR 1910.120(f)(2). Based on site information and use of direct reading instruments, limited use of respirators (less than 30 days per year), and the absence of an employee-staffed HAZMAT team, a limited medical surveillance program is required and implemented at this site. The medical surveillance program provides that:

1. Workers assigned to tasks requiring the use of respirators receive medical examinations in accordance with 29 CFR 1910.134(e) to ensure they are physically capable to perform the work and use the equipment, and
2. If a worker is injured, becomes ill, or develops signs or symptoms of possible over-exposure to hazardous substance or health hazards, medical examinations are provided to that worker as soon as possible after the occurrence and as required by the attending physician.
3. These medical examinations and procedures are performed by or under the supervision of a licensed physician and are provided to workers free of cost, without loss of pay, and at a reasonable time and place. In addition, the need to implement a more comprehensive medical surveillance program will be re-evaluated after any apparent over-exposure.

7.4.2 Medical Recordkeeping Procedures

Medical recordkeeping procedures are consistent with the requirements of 29 CFR 1910.1020 and are described in the company's overall safety and health program. A copy of that program is available at our Islandia, New York office.

The following items are maintained in worker medical records:

- Respirator fit test and selection;
- Physician's medical opinion of fitness for duty (pre-placement, periodic, termination);
- Physician's medical opinion of fitness for respirator protection (pre-placement, periodic); and
- Exposure monitoring results.

7.4.3 Program Review

The medical program is reviewed to ensure its effectiveness. The Corporate Health and Safety Manager in coordination with the Human Resources Director is responsible for this review. At minimum, this review consists of:

- Review of accident and injury records and medical records to determine whether the causes of accidents and illness were promptly investigated and whether corrective measures were taken wherever possible;
- Evaluation of the appropriateness of required medical tests based on site exposures; and
- Review of emergency treatment procedures and emergency contacts list to ensure they were site-specific, effective, and current.

7.5 Personnel Protection

Site safety and health hazards are eliminated or reduced to the greatest extent possible through engineering controls and work practices. Where hazards are still present, a combination of engineering controls, work practices and PPE are used to protect employees. Appropriate personal protective equipment (PPE) shall be worn by Site personnel when there is a potential exposure to chemical hazards or physical hazards (e.g., falling objects, flying particles, sharp edges, electricity, and noise), as determined by the SHSO. The level of personal protection, type and kind of equipment selected will depend on the hazardous conditions and in some cases cost, availability, compatibility with other equipment, and performance. An accurate assessment of all these factors will be made before work can be safely executed.

Roux maintains a comprehensive written PPE program that addresses proper PPE selection, use, maintenance, storage, fit and inspection. Roux's PPE program can be found within **Appendix D**. PPE to be used at the Site will meet the appropriate American National Standards Institute (ANSI) standards and the following OSHA (General/Construction Industry) standards for minimum PPE requirements.

The minimum level of PPE for entry onto the Site is Level D.

The following equipment shall be worn:

- Work uniform (long pants, sleeved shirt);
- Hard hat;
- Steel or composite toe work boots;
- Safety Glasses (must comply with one of the following ANSI/ISEA Z87.1-2010, ANSI Z87.1-2003, ANSI Z87.1-2003);
- Boot Covers (as needed);
- Hearing protection (as needed);
- High visibility clothing (shirt/vest); and
- Hand protection (e.g., minimum cut resistance meeting ANSI 105-2000 Level 2).

Note that jewelry shall be removed or appropriately secured to prevent it from becoming caught in rotating equipment or unexpectedly snagged on a fixed object (e.g., wrist watches, bracelets, rings, chains and necklaces, open earrings). Do not wear loose clothing and all shoulder-length hair should be tied back.

Site specific PPE ensembles and materials are identified within task specific JSAs located within **Appendix A**, and any upgrades or downgrades of the level of protection (i.e., not specified in the JSA) must be approved by the PP and immediately communicated to all Roux personnel and subcontractors as applicable. PPE is used in accordance with manufacturer's recommendations.

7.5.1 Hearing Conservation

Hearing protection is made available when noise exposures equal or exceed an 8-hour time-weighted average sound level of 85 dBA. Hearing protection is required when the 8-hour time weighted average sound level $\geq$ 90 dBA. Where noise exposure meets or exceeds this level, noise is listed as a physical hazard in the JSA for the tasks/operation, and hearing protection is included as one of the control measures (PPE).

7.6 Monitoring

An air monitoring program is important to the safety of on- and off-Site personnel, and the surrounding area. A preliminary survey, to establish background conditions in the immediate sampling area, may be made prior to the initiation of Site work including, but not limited to, monitoring wind direction (e.g., wind socks) and approximate temperature during all invasive Site activities. This survey will be conducted with the appropriate pre-calibrated air monitoring instrument(s), as warranted by the field activity. Once this survey has been complete, any changes in the type of PPE will be determined and relayed to those working on-Site.

Work zone air monitoring will be performed to verify that the proper level of PPE is used, and to determine if increased protection or work stoppage is required. The following equipment shall be used to monitor conditions:

- A Photoionization Detector (PID) with a lamp energy of 10.6 eV will be used to provide direct readings of organic vapor concentrations during intrusive activities to determine that personnel protection is adequate. Concentrations shall be recorded during intrusive activities with the potential to encounter contaminant vapors.
- Colorimetric detection tubes shall be used based on PID action levels to qualitatively identify possible contaminants as applicable.
- A pre-calibrated multi-gas meter with combustible Lower Explosive Limit (LEL), oxygen (O_2), carbon monoxide (CO), and hydrogen sulfide (H_2S) sensors shall be used to monitor the potential for oxygen-deficient atmospheres, explosive concentrations of organic vapors, and toxic gases during intrusive operations. Monitoring will be performed according to the action levels for oxygen and combustible gases provided in this section. The calibration for this device will be performed using a known gas composition calibration mixture.

Personal exposure monitoring utilizing activated charcoal tubes may be considered based on whether or not the area sample results are at or above half of the PEL. The decision to perform the monitoring will be made by, and under the control of, the CHSM.

Below are monitoring action levels for Site-specific chemicals of concern. In the event PID readings above the thresholds identified below are sustained for 5 minutes in the breathing zone, worker protection will require upgrading following notification to the OHSM and applicable parties (e.g., client, board of health, regulators, etc.).

7.6.1 Action Levels for Air Monitoring

PPE can remain at Level D if breathing zone VOC concentrations are less than 5 ppm and benzene is non-detect. Personnel are required to evacuate the Site when breathing zone VOC readings exceed 25 ppm.

The following tables include summaries of the air monitoring, work practices, and action levels for the expected contaminants. The action levels to initiate testing with colorimetric tubes for airborne volatiles is 1 ppm (PID reading) and is based on the Permissible Exposure Limit (PEL) for benzene (1 ppm). The colorimetric tubes are used to confirm the presence or absence of specific constituents, and they do not provide a measured concentration.

Air Monitoring Summary and Action Levels Organic Vapors	
PID Reading in Breathing Zone (ppm)[1]	**Action**
0-1 ppm above background[2]	Continue monitoring
1-5 ppm sustained 60 seconds	Continue monitoring, if applicable initiate additional collection of benzene using colorimetric tubes.
<5 ppm and no presence of benzene	Continue Monitoring, ventilate space
≥ 5 ppm - ≤ 25 ppm and no presence of benzene	Ventilate space until PID reads < 5 ppm. If < 5 ppm cannot be achieved, upgrade to Level C[3].
≥ 25 ppm	Ventilate space and evacuate area.

1 Based on relative response/sensitivity of PID to benzene.
2 Background concentrations should be established at the beginning of each work day. It may be necessary to re-establish background concentrations and ambient conditions vary through the day.
3 Measured air concentrations of known organic vapors will be reduced by the respirator to one half of the PEL or lower, and the individual and combined compound concentrations shall be within the service limit of the respirator cartridge.

Air Monitoring Summary and Action Levels Oxygen	
O_2 Reading in Breathing Zone (%)[1]	**Action**
20.9% O_2	Oxygen level normal
< 19.5% O_2	Oxygen deficient Interrupt task/Evacuate area
>23.5% O_2	Oxygen enriched Interrupt task/Evacuate area

1. Action levels based on USEPA Standard Operating Safety Guides; Table 5-1, Atmospheric Hazard Action Guidelines may be further restricted based on the CHSM's professional judgment and experience.

Air Monitoring Summary and Action Levels Carbon Monoxide	
CO Reading in Breathing Zone (ppm)[1]	**Action**
<25 ppm	Inspect exhaust system for leaks or other sources of CO. Monitor initially and every 15 minutes during use of CO-generating equipment.
25-50 ppm	Ventilate area. Monitor continuously and record measurements. Contact PM.
>50 ppm	Cease Field Operations. Ventilate area.

1. Based upon the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) of 25 ppm as an 8-hour time weighted average (TWA) and OSHA's Permissible Exposure Limit (PEL) of 50 ppm as an 8-hour TWA concentration.

Air Monitoring Summary and Action Levels Combustible Gases	
Lower Explosive Limit (LEL) Reading	**Action**
< 4% LEL (<2,000 ppm)	Site activities will continue with normal monitoring
4% – 20% LEL (2,000 – 10,000 ppm)	Stop work until levels dissipate to <4% LEL
> 20% LEL (>10,000 ppm)	Potential explosion hazard. Halt all site activities, research source of release, aerate work area, suppress source.

Air Monitoring Summary and Action Levels Hydrogen Sulfide	
Hydrogen Sulfide (H_2S) Reading	**Action**
<10 ppm	Site activities will continue with normal monitoring
>10 ppm	Stop work until levels dissipate to <10 ppm; use mechanical ventilation if possible
Cannot use air purifying respirators for H_2S because of olfactory fatigue	

7.6.2 Explosive Hazard

Methane is a common gas constituent that is generated during the decomposition of organics. Methane, a non-toxic compound, does not have an OSHA PEL or other exposure limits based on toxicity; however, methane is explosive under certain conditions. The Lower Explosive Limit (LEL) for methane is 5% in air, or 50,000 parts per million by volume. At high concentrations, methane can also displace oxygen and cause

asphyxiation. Since methane is lighter than air, it does not tend to accumulate in low-lying areas and will rapidly mix with atmospheric air if encountered during drilling activities. Methane concentrations will be continuously monitored using a pre-calibrated gas meter while all work takes place.

7.6.3 Air Monitoring Equipment and Calibration

A PID calibrated to an appropriate calibration mixture will be used to detect organic vapors in and around the work areas. Monitoring will be conducted in and around all work areas and at the workers breathing zone before activities commence to establish a background level, then at 15-minute intervals throughout the day. All equipment will be calibrated according to the manufacturer's recommendation. A calibration log will be maintained and will include the name of the person who performed the calibration, the date and time calibrated, and the instrument reading at the time of calibration. A manual bellows pump or equivalent with colorimetric tubes for specific compounds will be utilized to determine the course of action related to upgrading or downgrading the level of respiratory protection, as applicable.

If air monitoring data indicate safe levels of potentially harmful constituents at consistent intervals (5-minute intervals), then monitoring can be conducted less frequently (every 30 minutes). This determination will be made by the onsite SHSO. Monitoring data, including background readings and calibration records, will be documented. Work to be performed on-Site will conform to Roux's Standard Operating Procedures (SOPs). Conformance with these guidelines as well as the guidelines described in this HASP will aid in mitigating the physical and chemical hazards mentioned throughout this HASP.

7.7 Tailgate Safety Meetings

A designated Site worker will provide daily safety briefings (e.g., tailgate meetings) including, but not limited to, the following scenarios:

- When new operations are to be conducted;
- Whenever changes in work practices must be implemented; and
- When new conditions are identified and/or information becomes available.

Daily safety briefings shall be recorded on the Roux Daily Tailgate Health and Safety Meeting Log/Daily Site Safety Checklist, and all completed forms will become a part of the project file.

7.8 Spill Containment

Spill containment equipment and procedures should, at a minimum, meet the requirements of the facility's Spill Prevention, Control and Countermeasure Plan, if applicable. Otherwise, spill containment equipment and procedures must be considered depending on the task including, but no limited to, chemical/product transfer points and handling.

7.8.1 Initial Spill Notification and Response

Any worker who discovers a hazardous substance spill will immediately notify Julia Michaels, Project Manager. The worker will, to his/her best ability, report the hazardous substance involved, the location of the spill, the estimated quantity of material spilled, the direction/flow of the spill material, related fire/explosion incidents, and any associated injuries without compromising their own safety.

7.8.2 Spill Evaluation and Response

Julia Michaels, Project Manager, is responsible for evaluating spills and determining the appropriate response. When this evaluation is being made, the spill area will be isolated and demarcated to the extent possible. If necessary to protect nearby community members, notification of the appropriate authorities is made by the PM as appropriate. On-Site response is limited to small spills (e.g., <10 gallons); large spills require external emergency responders who will be contacted by the SHSO.

7.9 Decontamination

The decontamination section of the HASP describes how personnel and equipment are decontaminated when they leave the Exclusion Zone. This section also describes how residual waste from decontamination processes is disposed. The site decontamination procedures are designed to achieve an orderly, controlled removal or neutralization of contaminants that may accumulate on personnel or equipment. These procedures minimize worker contact with contaminants and protect against the transfer of contaminants to clean areas of the site and off-site. They also extend the useful life of PPE by reducing the amount of time that contaminants contact and can permeate PPE surfaces. Decontamination is facilitated within the CRZ at this site, if applicable.

7.9.1 Decontamination Procedures for Personnel and PPE

The following are general decontamination procedures established and implemented at this site.

1. Decontamination is required for all workers exiting a contaminated area. Personnel may re-enter the SZ only after undergoing the decontamination procedures described below in the next section.
2. Protective clothing is decontaminated, cleaned, laundered, maintained and/or replaced as needed to ensure its effectiveness.
3. PPE used at this site that requires maintenance or parts replacement is decontaminated prior to repairs, or
4. PPE used at this site is decontaminated or prepared for disposal on the premises. Personnel who handle contaminated equipment have been trained in the proper means to do so to avoid hazardous exposure.
5. This site uses an off-site laundry for decontamination of PPE. The site has informed that facility of the hazards associated with contaminated PPE from this site.
6. The site requires and trains workers that if their permeable clothing is splashed or becomes wetted with a hazardous substance, they will immediately exit the work zone, perform applicable decontamination procedures, shower, and change into uncontaminated clothing.
7. Procedures for disposal of decontamination waste meet applicable local, State, and Federal regulations.

7.9.2 Decontamination Procedures for Equipment

All tools, equipment, and machinery from the EZ or CRZ are decontaminated in the CRZ prior to removal to the SZ. Equipment decontamination procedures are designed to minimize the potential for hazardous skin or inhalation exposure and to avoid cross-contamination and chemical incompatibilities.

General Equipment Decontamination Procedures:

1. Decontamination is required for all equipment exiting a contaminated area. Equipment may re-enter the SZ only after undergoing the equipment decontamination procedures.

2. Vehicles that travel regularly between the contaminated and clean areas of the site are carefully decontaminated each time they exit the EZ and the effectiveness of that decontamination is monitored to reduce the likelihood that contamination will be spread to other parts of the site.
3. Particular attention is given to decontaminating tires, scoops, and other parts of heavy equipment that are directly exposed to contaminants and contaminated soil.

The following items may be used to decontaminate equipment:

- Fresh water rinse;
- Non-phosphorus detergent wash;
- Distilled water rinse;
- Acetone rinse;
- Distilled water rinse; and
- A steam cleaner or pressure washer (heavy equipment only).

7.9.3 Monitoring the Effectiveness of Decontamination Procedures

Visual examination and sampling are used to evaluate the effectiveness of decontamination procedures. Visual examination is used to ensure that procedures are implemented as described and that they appear to control the spread of contaminants under changing site conditions. Visual examination is also used to inspect for signs of residual contamination or for contaminant permeation of PPE.

Personnel who work in contaminated areas of the site, either the Contamination Reduction Zone (CRZ) or the Exclusion Zone, are trained in the principles and practices of decontamination described in this section of the HASP and in related SOPs. If site procedures are changed as a result of inspection and monitoring, all affected employees are notified of these changes.

7.10 Confined Space Entry

Confined space entry will not be performed at the Site.

The following is a list of the safety requirements for confined space entry at the Site:

- **ROUX PERSONNEL ARE NOT AUTHORIZED TO ENTER AN OSHA PERMIT REQUIRED CONFINED SPACE;**
- Currently the scope of work **DOES NOT** require personnel to enter permitted confined space for this project; and
- Any changes to the field activities that may necessitate confined space entry will be reported to the Project Principal and OHSM.

Confined space is defined as any space, depression, or enclosure that:

- Has limited opening for entry and egress;
- Is large enough for and employee to enter and perform assigned work; and
- Is not intended for continuous occupancy.

A permit required confined space is one that meets the definition of a confined space and has one or more of the following characteristics:

- May contain or produce life-threatening atmospheres due to oxygen deficiency the presence of toxic, flammable, or corrosive contaminants;
- Contains a material that has the potential for engulfment;
- Has an internal configuration that may cause an entrant to be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross-section; and
- Contains any other serious safety or health hazards.

Although Roux personnel will not perform confined space entry, it is expected that subcontractors performing cleaning and mitigation and/or remedial measures activities may be required to enter structures that are considered to be a permit required confined space. Permitting of the confined space as well as hazard mitigation for entry will be completed by the subcontractor in accordance with 1910.146.

7.11 Client and Site-Specific

In addition to the OSHA-specific procedures discussed above, there may be client and site-specific safety procedures that must be adhered to during the performance of remedial activities at the Site.

7.12 Unusual or Significant Risks

Field activities that appear to have unusual or significant risks that cannot be adequately managed with existing risk tools such as LPS, HASPs, traffic safety plans, work permits, design and O&M practices, equipment HAZOPS or other safety tools must be referred to the CHSM to help with the assessment and management of the associated potential safety risks. Examples include the use of explosives for demolition, use of firearms to control wildlife, rappelling, demolition over water, diving, etc.

7.13 Activity-Specific Hazards

In addition to the general hazards discussed above, there are activity-specific hazards associated with each work activity planned for the Site. An activity-specific JSA has been completed for each of the activities planned for the Site. JSAs are provided in **Appendix A**. In the event that new work activities or tasks are planned, JSAs will be developed and implemented prior to performing the new activities. In the absence of a JSA, the personnel performing work must prepare a field JSA and receive clearance from a designated competent safety official prior to performing any task with significant risk. In emergency situations where time is critical SPSAs will be utilized to identify the task, associated hazards and mitigative actions to take. For lower risk activities (as deemed by the discretion of a Competent Person) where a JSA is determined to not be needed, the individual(s) conducting the activities must perform SPSAs prior to and during the work.

7.13.1 Electrical and Other Utility Assessment and Accommodations

Roux shall perform a site walk to identify any potential overhead electrical or utility lines. All applicable guidelines will be followed in the vicinity of overhead power and utility lines (see Section 7.13.3 below).

Roux has also reviewed all available Site maps showing buried utility lines to identify potential hazards, which revealed that no underground hazards are known to exist in the vicinity of the areas of the Site pertinent to this HASP.

7.13.2 Subsurface Work

Subsurface work activities will require adherence to Roux's Corporate Subsurface Utility Clearance Management program found within **Appendix E**.

7.13.3 Heavy Equipment

Use of heavy equipment at the Site will require adherence to Roux's Corporate Heavy Equipment Exclusion Zone Management Program found within **Appendix F**. Additionally, operation of the drill rig/other heavy equipment will maintain clearances from overhead power lines in accordance with OSHA 29 CFR1926.1408 Table A Minimum Clearance Distances provided below.

Minimum Required Clearances for Energized Overhead Power Lines

Nominal System Voltage of Power Line (K V)	Minimum Required Clearance (feet)
0-50	10
51-100	12
101-200	15
201-300	20
301-500	25
501-750	35
751-1000	45

1 kilovolt (KV) = 1,000 volts

7.14 Heat Stress

The National Oceanic and Atmospheric Administration records average minimum/maximum temperatures 23 to 81 degrees Fahrenheit during the year on Long Island.

7.14.1 Heat Stress

Heat stress is a significant potential hazard and can be associated with heavy physical activity and/or the use of personal protective equipment in hot weather environments. Heat cramps are brought on by prolonged exposure to heat. As an individual sweats, water and salts are lost by the body resulting in painful muscle cramps. The signs and symptoms of heat stress are as follows:

- Severe muscle cramps, usually in the legs and abdomen;
- Exhaustion, often to the point of collapse; and
- Dizziness or periods of faintness.

First aid treatment includes, but is not limited to, shade, rest, and fluid replacement. Typically, the individual should recover within one-half hour while being monitored constantly. If the individual has not improved substantially within 30 minutes and the body temperature has not decreased, the individual should be transported to a hospital for medical attention.

7.14.2 Heat Exhaustion

Heat exhaustion may occur in a healthy individual who has been exposed to excessive heat while working or exercising. The circulatory system of the individual fails as blood collects near the skin to rid the body of excess heat through transference. The signs and symptoms of heat exhaustion are as follows:

- Rapid and shallow breathing;
- Weak pulse;
- Cold and clammy skin with heavy perspiration;
- Skin appears pale;
- Fatigue and weakness;
- Dizziness; and
- Elevated body temperature.

First aid treatment includes, but is not limited to, cooling the victim, elevating the feet, and replacing fluids.

If the individual is not substantially improved within 30 minutes and the body temperature has not decreased, the individual should be transported to the hospital for medical attention.

7.14.3 Heat Stroke

Heat stroke occurs when an individual is exposed to excessive heat and stops sweating. This condition is classified as a MEDICAL EMERGENCY requiring immediate cooling of the victim and transport to a medical facility. The signs and symptoms of heat stroke are as follows:

- Dry, hot red skin;
- Body temperature approaching or above 105 degrees F;
- Confusion, altered mental state, slurred speech;
- Seizures;
- Large (dilated) pupils; and
- Loss of consciousness – the individual may go into a coma.

First aid treatment requires immediate cooling and transportation to a medical facility. Heat stress is a significant hazard if any type of protective equipment (semi-permeable or impermeable) that prevents evaporative cooling when worn in hot weather environments.

7.15 Cold Stress

Cold stress is a danger at low temperatures and when the wind-chill factor is low. Prevention of cold-related illnesses is a function of whole-body protection. Adequate insulating clothing must be used when the air temperature is below 60°F. A work/rest regimen will be initiated when ambient temperatures and protective clothing cause a stressful situation. In addition, reduced work periods followed by rest in a warm area may be necessary in extreme conditions. The signs and symptoms of cold stress include the following:

- Severe shivering;
- Abnormal behavior;
- Slowing;
- Weakness;
- Stumbling or repeated falling;
- Inability to walk;

- Collapse; and/or
- Unconsciousness.

First aid requires removing the victim from the cold environment and seeking medical attention immediately. Also, prevent further body heat loss by covering the victim lightly with blankets. Do not cover the victim's face. If the victim is still conscious, administer hot drinks and encourage activity such as walking, wrapped in a blanket.

8. Field Team Review

Each person performing work at or visiting this site shall sign this section after site-specific training is completed and before being permitted to access the CRZ or Exclusion Zone.

I have read and understand this Site-Specific Health and Safety Plan. I will comply with the provision contained therein.

Site/Project: 1612 5th Avenue, Bay Shore

Name & Company	Signature	Date

9. Approvals

By their signature, the undersigned certify that this HASP is approved and will be utilized at the 1612 5th Avenue, Bay Shore Site.

Elyssa Torres– Site Health and Safety Officer	Date
Brian Hobbs - Office Health and Safety Manager	Date
Camila Israel – Project Manager	Date
Frank Cherena – Project Principal	Date

TABLES

1. Toxicological Properties of Hazardous Substances Present at the Site

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at the Site.

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
VOLATILE ORGANIC COMPOUNDS (VOCs)									
1,1,1-Trichloroethane	71-55-6	TWA 350 ppm STEL 450 ppm	C 350 ppm (1900 mg/m^3) [15-minute]	TWA 350 ppm (1900 mg/m^3)	700 ppm	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin; headache, lassitude (weakness, exhaustion), central nervous system depression, poor equilibrium; dermatitis; cardiac arrhythmias; liver damage	Eyes, skin, central nervous system, cardiovascular system, liver	Colorless liquid with a mild, chloroform-like odor. BP: 165°F Fl.Pt. = NA LEL: 7.5% UEL: 12.5% Combustible Liquid, but burns with difficulty
1,1,2,2-Tetrachloroethane	79-34-5	TWA 1 ppm	Ca TWA 1 ppm (7 mg/m^3)	TWA 5 ppm (35 mg/m^3)	Ca [100 ppm]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Nausea, vomiting, abdominal pain; tremor fingers; jaundice, hepatitis, liver tenderness; dermatitis; leukocytosis (increased blood leukocytes); kidney damage; [potential occupational carcinogen]	Skin, liver, kidneys, central nervous system, gastrointestinal tract	Colorless to pale-yellow liquid with a pungent, chloroform-like odor BP: 296°F Fl.Pt. = NA LEL: NA UEL: NA Noncombustible Liquid
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	TWA 1000 ppm STEL 1250 ppm	TWA 1000 ppm (7600 mg/m3) ST 1250 ppm (9500 mg/m3)	TWA 1000 ppm (7600 mg/m3)	2000 ppm	Inhalation, ingestion, skin and/or eye contact	Irritation skin, throat, drowsiness, dermatitis; central nervous system depression; In Animals: cardiac arrhythmias, narcosis	Skin, heart, central nervous system, cardiovascular system	Colorless to water-white liquid with an odor like carbon tetrachloride at high concentrations. [Note: A gas above 118°F.] BP: 118°F Fl.Pt. = NA LEL: NA UEL: NA Noncombustible Liquid at ordinary temperatures, but the gas will ignite and burn weakly at 1256°F.
1,1,2-Trichloroethane	79-00-5	TWA 10 ppm	Ca TWA 10 ppm (45 mg/m3) [skin]	TWA 10 ppm (45 mg/m3)	Ca [100 ppm]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, nose; central nervous system depression; liver, kidney damage; dermatitis; [potential occupational carcinogen]	Eyes, respiratory system, central nervous system, liver, kidneys	Colorless liquid with a sweet, chloroform-like odor BP: 237°F Fl.Pt. = NA LEL: 6% UEL: 15.5% Combustible Liquid, forms dense soot
1,1-Dichloroethane	75-34-3	TWA 100 ppm	TWA 100 ppm (400 mg/m^3)	TWA 100 ppm (400 mg/m^3)	3,000 ppm	Inhalation, ingestion, skin and/or eye contact	Irritation skin; central nervous system depression; liver, kidney, lung damage	Skin, liver, kidneys, lungs, central nervous system	Colorless, oily liquid with a chloroform-like odor. BP: 135°F Fl.Pt. = 2°F LEL: 5.4% UEL: 11.4% Class IB Flammable Liquid Fl.P. below 73°F and BP at or above 100°F.
1,1-Dichloroethene	75-35-4	TWA 5 ppm	Ca	None	Ca	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, throat; dizziness, headache, nausea, dyspnea (breathing difficulty); liver, kidney disturbance; pneumonitis; [potential occupational carcinogen]	Eyes, skin, respiratory system, central nervous system, liver, kidneys	Colorless liquid or gas (above 89°F) with a mild, sweet, chloroform-like odor BP: 89°F Fl.Pt. = -2°F LEL: 6.5% UEL: 15.5% Class IA Flammable Liquid: Fl.P. below 73°F and BP below 100°F
1,2,3-Trichlorobenzene	87-61-6	Cameo Chemicals Source https://cameochemicals.noaa.gov/chemical/10051				Inhalation, skin absorption, ingestion, skin and/or eye contact	Inhalation may cause irritation of respiratory tract. Irritating to the eyes. May redden skin on contact. Ingestion may cause liver damage.	Skin, eyes, respiratory tract, liver	A white solid with a sharp chlorobenzene odor. Insoluble in water and denser than water. Hence sinks in water Fl.Pt. = 234.9°F
1,2,4-Trichlorobenzene	120-82-1	STEL C 5 ppm	C 5 ppm (40 mg/m3)	None	N.D.	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, mucous membrane; In Animals: liver, kidney damage; possible teratogenic effects	Eyes, skin, respiratory system, liver, reproductive system	Colorless liquid or crystalline solid (below 63°F) with an aromatic odor BP: 416°F Fl.Pt. = 222°F LEL (302°F): 2.5% UEL (302°F): 6.6% Class IIIB Combustible Liquid: Fl.P. at or above 200°F. Combustible Solid

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at the Site.

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
1,2-Dibromo-3-chloropropane	96-12-8		Ca	[1910.1044] TWA 0.001 ppm	Ca	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat; drowsiness; nausea, vomiting; pulmonary edema; liver, kidney injury; sterility; [potential occupational carcinogen]	Eyes, skin, respiratory system, central nervous system, liver, kidneys, spleen, reproductive system, digestive system	Dense yellow or amber liquid with a pungent odor at high concentrations. [pesticide] [Note: A solid below 43°F.] BP: 384°F Fl.Pt. = (oc) 170°F LEL: NA UEL: NA Class IIIA Combustible Liquid: Fl.P. at or above 140°F and below 200°F.
1,2-Dibromoethane	106-93-4	None listed	Ca TWA 0.045 ppm C 0.13 ppm [15-minute]	TWA 20 ppm C 30 ppm 50 ppm [5-minute maximum peak]	Ca [100 ppm]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, respiratory system; dermatitis with vesiculation; liver, heart, spleen, kidney damage; reproductive effects; [potential occupational carcinogen]	Eyes, skin, respiratory system, liver, kidneys, reproductive system	Colorless liquid or solid (below 50°F) with a sweet odor. [fumigant] BP: 268°F Fl.Pt. = 50°F LEL: NA UEL: NA Noncombustible Liquid
1,2-Dichlorobenzene	95-50-1	TWA 25 ppm STEL 50 ppm	C 50 ppm (300 mg/m3)	C 50 ppm (300 mg/m3)	200 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, nose; liver, kidney damage; skin blisters	Eyes, skin, respiratory system, liver, kidneys	Colorless to pale-yellow liquid with a pleasant, aromatic odor. [herbicide] BP: 357°F Fl.Pt. = 1°F LEL: 2.2% UEL: 9.2% Class IIIA Combustible Liquid: Fl.P. at or above 140°F and below 200°F.
1,2-Dichloroethane	107-06-2	TWA 10 ppm	Ca TWA 1 ppm (4 mg/m3) ST 2 ppm (8 mg/m3)	TWA 50 ppm C 100 ppm 200 ppm [5-minute maximum peak in any 3 hours]	Ca [50 ppm]	Inhalation, ingestion, skin absorption, skin and/or eye contact	Irritation eyes, corneal opacity; central nervous system depression; nausea, vomiting; dermatitis; liver, kidney, cardiovascular system damage; [potential occupational carcinogen]	Eyes, skin, kidneys, liver, central nervous system, cardiovascular system	Colorless liquid with a pleasant, chloroform-like odor. [Note: Decomposes slowly, becomes acidic & darkens in color.] BP: 182°F Fl.Pt. = 56°F LEL: 6.2% UEL: 16% Class IB Flammable Liquid Fl.P. below 73°F and BP at or above 100°F.
1,2-Dichloropropane	78-87-5	TWA 10 ppm	Ca	TWA 75 ppm (350 mg/m3)	Ca [400 ppm]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, respiratory system; drowsiness, dizziness; liver, kidney damage; In Animals: central nervous system depression; [potential occupational carcinogen]	Eyes, skin, respiratory system, liver, kidneys, central nervous system	Colorless liquid with a chloroform-like odor. [pesticide] BP: 206°F Fl.Pt. = 60°F LEL: 3.4% UEL: 14.5% Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.
1,3-Dichlorobenzene	541-73-1	https://cameochemicals.noaa.gov/chemical/8514				Inhalation, skin absorption, ingestion, skin and/or eye contact	INHALATION: Causes headache, drousiness, unsteadiness. Irritating to mucous membranes. EYES: Severe irritation. SKIN: Severe irritation. INGESTION: Irritation of gastric mucosa, nausea, vomiting, diarrhea, abdominal cramps and cyanosis.		Colorless liquid. Sinks in water. BP: 343°F Fl.Pt. = 146°F LEL: 2.02% UEL: 9.2%
1,4-Dichlorobenzene	106-46-7	TWA 10 ppm	Ca	TWA 75 ppm (450 mg/m3)	Ca [150 ppm]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Eye irritation, swelling periorbital (situated around the eye); profuse rhinitis; headache, anorexia, nausea, vomiting; weight loss, jaundice, cirrhosis; In Animals: liver, kidney injury; [potential occupational carcinogen]	Liver, respiratory system, eyes, kidneys, skin	Colorless or white crystalline solid with a mothball-like odor. [insecticide] BP: 345°F Fl.Pt. = 150°F LEL: 2.5% UEL: NA Combustible Solid, but may take some effort to ignite.
1,4-Dioxane	123-91-1	TWA 20 ppm	Ca C 1 ppm (3.6 mg/m3) [30-minute]	TWA 100 ppm (360 mg/m3) [skin]	Ca [500 ppm]	Inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, nose, throat; drowsiness, headache; nausea, vomiting; liver damage; kidney failure; [potential occupational carcinogen]	Eyes, skin, respiratory system, liver, kidneys	Colorless liquid or solid (below 53°F) with a mild, ether-like odor. BP: 214°F Fl.Pt. = 55°F LEL: 2.0% UEL: 22% Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at the Site.

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
2-Butanone	78-93-3	TWA 200 ppm STEL 300 ppm	TWA 200 ppm (590 mg/m3) ST 300 ppm (885 mg/m3)	TWA 200 ppm (590 mg/m3)	3000 ppm	inhalation, ingestion, skin and/or eye contact	irritation eyes, skin, nose; headache; dizziness; vomiting; dermatitis	Eyes, skin, respiratory system, central nervous system	Colorless liquid with a moderately sharp, fragrant, mint- or acetone-like odor BP: 175°F Fl.Pt. = 16°F LEL (200°F): 1.4% UEL (200°F): 11.4% Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F
2-Hexanone	591-78-6	TWA 5 ppm STEL 10 ppm	TWA 1 ppm (4 mg/m3)	TWA 100 ppm (410 mg/m3)	1600 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, nose; peripheral neuropathy: lassitude (weakness, exhaustion), paresthesia; dermatitis; headache, drowsiness	Eyes, skin, respiratory system, central nervous system, peripheral nervous system	Colorless liquid with an acetone-like odor BP: 262°F Fl.Pt. = 77°F LEL: NA UEL: 8.0% Class IC Flammable Liquid: Fl.P. at or above 73°F and below 100°F
4-Methyl-2-pentanone	108-10-1	TWA 20 ppm STEL 75 ppm	TWA 50 ppm (205 mg/m3) ST 75 ppm (300 mg/m3)	TWA 100 ppm (410 mg/m3)	500 ppm	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, mucous membrane; headache, narcosis, coma; dermatitis; In Animals: liver, kidney damage	Eyes, skin, respiratory system, central nervous system, liver, kidneys	Colorless liquid with a pleasant odor BP: 242°F Fl.Pt. = 64°F LEL (200°F): 1.2% UEL (200°F): 8.0% Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F
Acetone	67-64-1	TWA 250 ppm STEL 500 ppm	TWA 250 ppm (590 mg/m^3)	TWA 1000 ppm (2400 mg/m^3)	2500 ppm [10% LEL]	Inhalation, ingestion, skin and/or eye contact	irritation eyes, nose, throat; headache, dizziness, central nervous system depression; dermatitis	Eyes, skin, respiratory system, central nervous system	Colorless liquid with a fragrant, mint-like odor BP: 133°F Fl.Pt. = 0°F LEL: 12.8% UEL: 2.5% Class IB Flammable liquid: Fl.P. below 73°F and BP at or above 100°F.
Benzene	71-43-2	TWA 0.5 ppm STEL 2.5 ppm	Ca TWA 0.1 ppm ST 1 ppm	TWA 1 ppm ST 5 ppm	Ca [500 ppm]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude (weakness, exhaustion); dermatitis; bone marrow depression; [potential occupational carcinogen]	Eyes, skin, respiratory system, blood, central nervous system, bone marrow	Colorless to light yellow liquid with an aromatic odor [Note: Solid below 42 °F] BP: 176°F Fl.Pt. = 12°F LEL: 1.2% UEL: 7.8% Class IB Flammable liquid. Fl.P. below 73°F and BP at or above 100°F.
Bromochloromethane	74-97-5	TWA 200 ppm	TWA 200 ppm (1050 mg/m3)	TWA 200 ppm (1050 mg/m3)	2000 ppm	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, throat; confusion, dizziness, central nervous system depression; pulmonary edema	Eyes, skin, respiratory system, liver, kidneys, central nervous system	Colorless to pale-yellow liquid with a chloroform-like odor. [Note: May be used as a fire extinguishing agent.] BP: 155°F Fl.Pt. = NA LEL: NA UEL: NA Noncombustible Liquid
Bromodichloromethane	75-27-4	https://cameochemicals.noaa.gov/chemical/16064				Inhalation, ingestion, skin and/or eye contact	Symptoms of exposure to this compound may include irritation of the skin, eyes, mucous membranes and respiratory tract. It may also cause narcosis. Other symptoms may include nausea, dizziness and headache.	Liver and kidney damage. Central nervous system effects may also occur.	Clear colorless liquid BP: 189°F Fl.Pt. = NA LEL: NA UEL: NA
Bromoform	75-25-2	TWA 0.5 ppm	TWA 0.5 ppm (5 mg/m3) [skin]	TWA 0.5 ppm (5 mg/m3) [skin]	850 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, respiratory system; central nervous system depression; liver, kidney damage	Eyes, skin, respiratory system, central nervous system, liver, kidneys	Colorless to yellow liquid with a chloroform-like odor. [Note: A solid below 47°F.] BP: 301°F Fl.Pt. = NA LEL: NA UEL: NA Noncombustible Liquid

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at the Site.

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Bromomethane	74-83-9	TWA 1 ppm	Ca	C 20 ppm (80 mg/m3) [skin]	Ca [250 ppm]	Inhalation, skin absorption (liquid), skin and/or eye contact (liquid)	Irritation eyes, skin, respiratory system; muscle weak, incoordination, visual disturbance, dizziness; nausea, vomiting, headache; malaise (vague feeling of discomfort); hand tremor; convulsions; dyspnea (breathing difficulty); skin vesiculation; liquid: frostbite; [potential occupational carcinogen]	Eyes, skin, respiratory system, central nervous system	Colorless gas with a chloroform-like odor at high concentrations. [Note: A liquid below 38°F. Shipped as a liquefied compressed gas.] BP: 38°F Fl.Pt. = NA (Gas) LEL: 10% UEL: 16.0% Flammable Gas, but only in presence of a high energy ignition source.
Carbon disulfide	75-15-0	TWA 1 ppm	TWA 1 ppm (3 mg/m3) ST 10 ppm (30 mg/m3) [skin]	TWA 20 ppm C 30 ppm 100 ppm (30-minute maximum peak)	500 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Dizziness, headache, poor sleep, lassitude (weakness, exhaustion), anxiety, anorexia, weight loss; psychosis; polyneuropathy; Parkinson-like syndrome; ocular changes; coronary heart disease; gastritis; kidney, liver injury; eye, skin burns; dermatitis; reproductive effects	Central nervous system, peripheral nervous system, cardiovascular system, eyes, kidneys, liver, skin, reproductive system	Colorless to faint-yellow liquid with a sweet ether-like odor. [Note: Reagent grades are foul smelling.] BP: 116°F Fl.Pt. = -22°F LEL: 1.3% UEL: 50.0% Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.
Carbon tetrachloride	56-23-5	TWA 5 ppm STEL 10 ppm	Ca ST 2 ppm (12.6 mg/m3) [60-minute]	TWA 10 ppm C 25 ppm 200 ppm (5-minute maximum peak in any 4 hours)	Ca [200 ppm]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; central nervous system depression; nausea, vomiting; liver, kidney injury; drowsiness, dizziness, incoordination; [potential occupational carcinogen]	Central nervous system, eyes, lungs, liver, kidneys, skin	Colorless liquid with a characteristic ether-like odor BP: 170°F Fl.Pt. = NA LEL: NA UEL: NA Noncombustible Liquid
Chlorobenzene	108-90-7	TWA 10 ppm	TWA 75 ppm	TWA 75 ppm (350 mg/m3)	1000 ppm	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose; drowsiness, incoordination; central nervous system depression; In Animals: liver, lung, kidney injury	Eyes, skin, respiratory system, central nervous system, liver	Colorless liquid with an almond-like odor BP: 270°F Fl.Pt. = 82°F LEL: 1.3% UEL: 9.6% Class IC Flammable Liquid: Fl.P. at or above 73°F and below 100°F.
Chloroethane	75-00-3	TWA 100 ppm	Handle with caution in the workplace	TWA 1000 ppm (2600 mg/m3)	3800 ppm [10%LEL]	Inhalation, skin absorption (liquid), ingestion (liquid), skin and/or eye contact	Incoordination, inebriation; abdominal cramps; cardiac arrhythmias, cardiac arrest; liver, kidney damage	Liver, kidneys, respiratory system, cardiovascular system, central nervous system	Colorless gas or liquid (below 54°F) with a pungent, ether-like odor. [Note: Shipped as a liquefied compressed gas.] BP: 54°F Fl.Pt. = NA (gas), -58°F (liquid) LEL: 3.8% UEL: 15.4% Flammable Gas
Chloroform	67-66-3	TWA 10 ppm	Ca ST 2 ppm (9.78 mg/m3) [60-minute]	C 50 ppm (240 mg/m3)	Ca [500 ppm]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; dizziness, mental dullness, nausea, confusion; headache, lassitude (weakness, exhaustion); anesthesia; enlarged liver; [potential occupational carcinogen]	Liver, kidneys, heart, eyes, skin, central nervous system	Colorless liquid with a pleasant odor BP: 143°F Fl.Pt. = -82°F LEL: NA UEL: NA Noncombustible Liquid
Chloromethane	74-87-3	TWA 50 ppm STEL 100 ppm	Ca	TWA 100 ppm C 200 ppm 300 ppm (5-minute maximum peak in any 3 hours)	Ca [2000 ppm]	Inhalation, skin and/or eye contact (liquid)	Dizziness, nausea, vomiting; visual disturbance, stagger, slurred speech, convulsions, coma; liver, kidney damage; liquid: frostbite; reproductive, teratogenic effects; [potential occupational carcinogen]	Central nervous system, liver, kidneys, reproductive system	Colorless gas with a faint, sweet odor which is not noticeable at dangerous concentrations. [Note: Shipped as a liquefied compressed gas.] BP: -12°F Fl.Pt. = NA (Gas) LEL: 8.1% UEL: 17.4% Flammable Gas
cis-1,2-Dichloroethene	156-59-2	TWA 200 ppm (All isomers)	TWA 200 ppm (790 mg/m3)	TWA 200 ppm (790 mg/m3)	1000 ppm	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, respiratory system; central nervous system depression	Eyes, respiratory system, central nervous system	Colorless liquid (usually a mixture of the cis & trans isomers) with a slightly acrid, chloroform-like odor. BP: 118-140°F Fl.Pt. = 36-39°F LEL: 5.6% UEL: 12.8% Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at the Site.

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
cis-1,3-Dichloropropene	10061-01-5	https://cameochemicals.noaa.gov/chemical/20168				Inhalation, ingestion, skin and/or eye contact	Symptoms of exposure to this compound may include local irritation of the eyes skin and respiratory tract; dermatitis, gasping, coughing, substernal pain, extreme respiratory distress, lacrimation, central nervous system depression, skin irritation, acute gastrointestinal distress with pulmonary congestion and edema. It also may cause injury to the liver, kidneys and heart.	Skin, eyes, mucous membranes, liver, kidney, heart	Colorless to amber liquid with a sweetish odor. BP: 219.7°F Fl.Pt. = NA LEL: NA UEL: NA
Cyclohexane	110-82-7	TWA 100 ppm	TWA 300 ppm (1050 mg/m3)	TWA 300 ppm (1050 mg/m3)	1300 ppm [10%LEL]	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, respiratory system; drowsiness; dermatitis; narcosis, coma	Eyes, skin, respiratory system, central nervous system	Colorless liquid with a sweet, chloroform-like odor. [Note: A solid below 44°F.] BP: 177°F Fl.Pt. = 0°F LEL: 1.3% UEL: 8.0% Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.
Dibromochloromethane	124-48-1	https://cameochemicals.noaa.gov/chemical/16183				Inhalation, ingestion, skin and/or eye contact	Symptoms of exposure to this compound may include irritation of the skin, eyes, mucous membranes and upper respiratory tract. It may also cause fatigue. Other symptoms may include central nervous system effects, lung and cornea irritation and liver and kidney damage. Prolonged exposure can cause nausea, dizziness, headache and narcosis.	Skin, eyes, mucous membranes, upper respiratory tract	Clear colorless to yellow-orange liquid BP: 246-248°F Fl.Pt. = Greater than 200°F LEL: NA UEL: NA
Dichlorodifluoromethane	75-71-8	TWA 1000 ppm	TWA 1000 ppm (4950 mg/m3)	TWA 1000 ppm (4950 mg/m3)	15,000 ppm	Inhalation, skin and/or eye contact (liquid)	Dizziness, tremor, asphyxia, unconsciousness, cardiac arrhythmias, cardiac arrest; liquid: frostbite	Cardiovascular system, peripheral nervous system	Colorless gas with an ether-like odor at extremely high concentrations. [Note: Shipped as a liquefied compressed gas.] BP: -22°F Fl.Pt. = NA LEL: NA UEL: NA Nonflammable Gas
Ethylbenzene	100-41-4	TWA 20 ppm	TWA 100 ppm (435 mg/m^3) ST 125 ppm (545 mg/m^3)	TWA 100 ppm (435 mg/m^3)	800 ppm [10%LEL]	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, mucous membrane; headache; dermatitis; narcosis, coma	Eyes, skin, respiratory system, central nervous system	Colorless liquid with an aromatic odor. BP: 277°F Fl.Pt. = 55°F LEL: 0.8% UEL: 6.7% Class IB Flammable Liquid below 73°F and BP at or above 100°F.
Isopropylbenzene	98-82-8	TWA 1 ppm	TWA 50 ppm (245 mg/m3) [skin]	TWA 50 ppm (245 mg/m3) [skin]	900 ppm [10%LEL]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, mucous membrane; dermatitis; headache, narcosis, coma	Eyes, skin, respiratory system, central nervous system	Colorless liquid with a sharp, penetrating, aromatic odor BP: 306°F Fl.Pt. = 96°F LEL: 0.9% UEL: 6.5% Class IC Flammable Liquid: Fl.P. at or above 73°F and below 100°F
m&p-Xylenes	179601-23-1								
Methyl Acetate	79-20-9	TWA 200 ppm STEL 250 ppm	TWA 200 ppm (610 mg/m3) ST 250 ppm (760 mg/m3)	TWA 200 ppm (610 mg/m3)	3100 ppm [10%LEL]	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat; headache, drowsiness; optic nerve atrophy; chest tightness; In Animals: narcosis	Eyes, skin, respiratory system, central nervous system	Colorless liquid with a fragrant, fruity odor BP: 135°F Fl.Pt. = 14°F LEL: 3.1% UEL: 16% Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.
Methylcyclohexane	108-87-2	TWA 400 ppm	TWA 400 ppm (1600 mg/m3)	TWA 500 ppm (2000 mg/m3)	1200 ppm [LEL]	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat; dizziness, drowsiness; In Animals: narcosis	Eyes, skin, respiratory system, central nervous system	Colorless liquid with a faint, benzene-like odor BP: 214°F Fl.Pt. = 25°F LEL: 1.2% UEL: 6.7% Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.
Methylene chloride	75-09-2	TWA 50 ppm	Ca	[1910.1052] TWA 25 ppm ST 125 ppm	Ca [2300 ppm]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; lassitude (weakness, exhaustion), drowsiness, dizziness; numb, tingle limbs; nausea; [potential occupational carcinogen]	Eyes, skin, cardiovascular system, central nervous system	Colorless liquid with a chloroform-like odor. [Note: A gas above 104°F.] BP: 104°F Fl.Pt. = NA LEL: 13% UEL: 23% Combustible Liquid

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at the Site.

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Methyl-t-butyl ether	1634-04-4	TWA 50 ppm				Inhalation, skin absorption, ingestion, skin and/or eye contact	May cause dizziness or suffocation. Contact may irritate or burn eyes or skin. May be harmful if swallowed.	Eyes, skin	A colorless liquid with a distinctive anesthetic-like odor. BP: 131°F Fl.Pt. = -14°F LEL: NA UEL: NA
o-Xylene	95-47-6	TWA 100 ppm STEL 150 ppm (All isomers)	TWA 100 ppm (435 mg/m3) ST 150 ppm (655 mg/m3)	TWA 100 ppm (435 mg/m3)	900 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis	Eyes, skin, respiratory system, central nervous system, gastrointestinal tract, blood, liver, kidneys	Colorless liquid with an aromatic odor BP: 292°F Fl.Pt. = 90°F LEL: 0.9% UEL: 6.7% Class IC Flammable Liquid: Fl.P. at or above 73°F and below 100°F
Styrene	100-42-5	TWA (20 ppm) STEL (40 ppm)	TWA 50 ppm (215 mg/m3) ST 100 ppm (425 mg/m3)	TWA 100 ppm C 200 ppm 600 ppm (5-minute maximum peak in any 3 hours)	700 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, nose, respiratory system; headache, lassitude (weakness, exhaustion), dizziness, confusion, malaise (vague feeling of discomfort), drowsiness, unsteady gait; narcosis; defatting dermatitis; possible liver injury; reproductive effects	Eyes, skin, respiratory system, central nervous system, liver, reproductive system	Colorless to yellow, oily liquid with a sweet, floral odor BP: 293°F Fl.Pt. = 88°F LEL: 0.9% UEL: 6.8% Class IC Flammable Liquid: Fl.P. at or above 73°F and below 100°F
Tetrachloroethene	127-18-4	TWA 25 ppm STEL 100 ppm	Ca Minimize workplace exposure concentrations	TWA 100 ppm C 200 ppm (for 5 minutes in any 3-hour period), with a maximum peak of 300 ppm	Ca [150 ppm]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen]	Eyes, skin, respiratory system, liver, kidneys, central nervous system	Colorless liquid with a mild, chloroform-like odor BP: 250°F Fl.Pt. = NA LEL: NA UEL: NA Noncombustible Liquid, but decomposes in a fire to hydrogen chloride and phosgene
Sodium Hydroxide	1310-73-2	STEL C 2 mg/m^3	C 2 mg/m^3	TWA 2 mg/m^3	10 mg/m^3	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, mucous membrane; pneumonitis; eye, skin burns; temporary loss of hair	Eyes, skin, respiratory system	Colorless to white, odorless solid (flakes, beads, granular form). BP: 2534°F Fl.Pt. = NA LEL: NA UEL: NA Noncombustible Solid, but when in contact with water may generate sufficient heat to ignite combustible materials
Sulfuric Acid	7664-93-9	TWA 0.2 mg/m^3	TWA 1 mg/m^3	TWA 1 mg/m^3	15 mg/m^3	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat; pulmonary edema, bronchitis; emphysema; conjunctivitis; stomatis; dental erosion; eye, skin burns; dermatitis	Eyes, skin, respiratory system, teeth	Colorless to dark-brown, oily, odorless liquid.[Note: Pure compound is a solid below 51°F. Often used in an aqueous solution.] BP = 554°F Fl.Pt. = NA LEL = NA UEL = NA Noncombustible Liquid, but capable of igniting finely divided combustible materials
trans-1,2-Dichloroethene	156-60-5	200 ppm (All isomers)	TWA 200 ppm (790 mg/m3)	TWA 200 ppm (790 mg/m3)	1000 ppm	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, respiratory system; central nervous system depression	Eyes, respiratory system, central nervous system	Colorless liquid (usually a mixture of the cis & trans isomers) with a slightly acrid, chloroform-like odor. BP: 118-140°F Fl.P: 36-39°F LEL: 5.6% UEL: 12.8% Class IB Flammable Liquid Fl.P. below 73°F and BP at or above 100°F.
trans-1,3-Dichloropropene	10061-02-6	https://cameochemicals.noaa.gov/chemical/18110				Inhalation, ingestion, skin and/or eye contact	Symptoms of exposure to this compound may include local irritation of the eyes skin and respiratory tract, dermatitis, gasping, coughing, substernal pain, extreme respiratory distress, lacrimation, central nervous system depression, acute gastrointestinal distress with pulmonary congestion and edema. It may also cause injury to the liver, kidneys and heart	Skin, eyes, mucous membranes, liver, kidney, heart	A clear colorless liquid with chloroform odor BP: 234°F Fl.P: NA LEL: NA UEL: NA

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at the Site.

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Toluene	108-88-3	TWA 20 ppm	TWA 100 ppm (375 mg/m^3) ST 150 ppm (560 mg/m^3)	TWA 200 ppm C 300 ppm 500 ppm (10-minute maximum peak)	500 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, nose; lassitude (weakness, exhaustion), confusion, euphoria, dizziness, headache; dilated pupils, lacrimation (discharge of tears); anxiety, muscle fatigue, insomnia; paresthesia; dermatitis; liver, kidney damage	Eyes, skin, respiratory system, central nervous system, liver, kidneys	Colorless liquid with a sweet, pungent, benzene-like odor. BP: 232°F Fl.P: 40°F LEL: 1.1% UEL: 7.1% Class IB Flammable Liquid Fl.P. below 73°F and BP at or above 100°F
Trichloroethene (TCE)	79-01-6	TWA 10 ppm STEL 25 ppm	Ca	TWA 100 ppm C 200 ppm 300 ppm (5-minute maximum peak in any 2 hours)	Ca [1000 ppm]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen]	Eyes, skin, respiratory system, heart, liver, kidneys, central nervous system	Colorless liquid (unless dyed blue) with a chloroform-like odor. BP: 189°F Fl.Pt. = NA LEL(77°F): 8.0% UEL(77°F): 10.5% Combustible Liquid, but burns with difficulty
Trichlorofluoromethane	75-69-4	STEL C 1000 ppm	C 1000 ppm (5600 mg/m3)	TWA 1000 ppm (5600 mg/m3)	2000 ppm	Inhalation, ingestion, skin and/or eye contact	Incoordination, tremor; dermatitis; cardiac arrhythmias, cardiac arrest; asphyxia; liquid: frostbite	Skin, respiratory system, cardiovascular system	Colorless to water-white, nearly odorless liquid or gas (above 75°F) BP: 75°F Fl.P: NA LEL: NA UEL: NA Noncombustible Liquid Nonflammable Gas
Vinyl Chloride (chloroethylene)	75-01-4	TWA 1 ppm	Ca	TWA 1 ppm C 5 ppm [15-minute]	Ca (ND)	Inhalation, skin and/or eye contact (liquid)	Lassitude (weakness, exhaustion); abdominal pain, gastrointestinal bleeding; enlarged liver; pallor or cyanosis of extremities; liquid: frostbite; [potential occupational carcinogen]	Liver, central nervous system, blood, respiratory system, lymphatic system	Colorless gas or liquid (below 7°F) with a pleasant odor at high concentrations.[Note: Shipped as a liquefied compressed gas.] BP: 7°F Fl.Pt. = NA (Gas) LEL: 3.6% UEL: 33.0% Flammable Gas
Xylene (m, o & p isomers)	108-38-3, 95-47-6, 106-42-3	TWA 100 ppm STEL 150 ppm	TWA 100 ppm (435 mg/m^3) ST 150 ppm (655 mg/m^3)	TWA 100 ppm (435 mg/m^3)	900 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis	Eyes, skin, respiratory system, central nervous system, gastrointestinal tract, blood, liver, kidneys	Colorless liquid with an aromatic odor BP: 282°F, 292°F, 281°F Fl. Pt. 82°F, 90°F, 81°F LEL: 1.1%, 0.9%, 1.1% UEL: 7.0%, 6.7%, 7.0% Class IC Flammable Liquid at or above 73°F and below 100°F
Zinc Oxide (dust)	7440-66-6	TWA 2 mg/m3 STEL 10 mg/m^3	TWA 5 mg/m^3 C 15 mg/m^3	TWA 15 mg/m^3 (total dust) TWA 5 mg/m^3 (resp dust)	500 mg/m^3	Inhalation	Metal fume fever: chills, muscle ache, nausea, fever, dry throat, cough; lassitude (weakness, exhaustion); metallic taste; headache; blurred vision; low back pain; vomiting; malaise (vague feeling of discomfort); chest tightness; dyspnea (breathing difficulty), rales, decreased pulmonary function	Respiratory system	White, odorless solid. BP: NA Fl.Pt. = NA LEL: NA UEL: NA Noncombustible Solid
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)									
2-Chloronaphthalene	91-58-7	https://cameochemicals.noaa.gov/chemical/16185				Inhalation, ingestion, skin and/or eye contact	Chloracne, cysts, headache, fatigue, vertigo, anorexia and jaundice		Monoclinic plates or off-white crystalline powder BP: NA Fl.Pt. = NA LEL: NA UEL: NA
2-Methylnapthalene	91-57-6	TWA 0.5 ppm	https://cameochemicals.noaa.gov/chemical/20668			Inhalation, ingestion, skin and/or eye contact	Headaches, nausea, vomiting, diarrhea, anemia, jaundice, euphoria, dermatitis, visual disturbances, convulsions and comatose	Skin, eyes, mucous membranes and upper respiratory tract	White crystalline solid Combustible solid BP: 466-468 ° F Fl.Pt. = 208 ° F LEL: NA UEL: NA
Acenaphthene	83-32-9	https://cameochemicals.noaa.gov/chemical/10358				Inhalation, ingestion, skin and/or eye contact	Irritation of the skin, eyes, mucous membranes and upper respiratory tract, vomiting	Skin, eyes, mucous membranes and upper respiratory tract	White needles BP: 534 ° F Fl.Pt. = NA LEL: 0.6% UEL: NA
Acenaphthylene	208-96-8	https://cameochemicals.noaa.gov/chemical/16157				Inhalation, ingestion, skin and/or eye contact			Colorless crystalline solid BP: 509 to 527 ° F at 760 mm Hg Fl.Pt. = NA LEL: NA UEL: NA

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at the Site.

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Anthracene	120-12-7	None listed	Ca TWA 0.1 mg/m3 (cyclohexane-extractable fraction)	TWA 0.2 mg/m3 (benzene-soluble fraction) [1910.1002]	Ca [80 mg/m3]	Inhalation, skin and/or eye contact	Dermatitis, bronchitis, [potential occupational carcinogen]	Respiratory system, skin, bladder, kidneys	Black or dark-brown amorphous residue BP: NA Fl.Pt. = NA LEL: NA UEL: NA Combustible Solids
Benzo[a]anthracene	56-55-3	https://cameochemicals.noaa.gov/chemical/16171				Inhalation, injestion, skin and/or eye contact			Colorless leaflets or plates or coarse gold powder with a greenish-yellow fluorescence. May reasonably be expected to be a carcinogen. BP: 815° F at 760 mm Hg Fl.Pt. = NA LEL: NA UEL: NA
Benzo[a]pyrene	50-32-8	None listed	Ca TWA 0.1 mg/m3 (cyclohexane-extractable fraction)	TWA 0.2 mg/m3 (benzene-soluble fraction) [1910.1002]	Ca [80 mg/m3]	Inhalation, skin and/or eye contact	Dermatitis, bronchitis, [potential occupational carcinogen]	Respiratory system, skin, bladder, kidneys	Black or dark-brown amorphous residue BP: NA Fl.Pt. = NA LEL: NA UEL: NA Combustible Solids
Benzo[b]fluoranthene	205-99-2	None listed	https://cameochemicals.noaa.gov/chemical/16172			Inhalation, injestion, skin and/or eye contact			Needles or yellow fluffy powder BP: NA Fl.Pt. = NA LEL: NA UEL: NA
Benzo[g,h,i]perylene	191-24-2	https://cameochemicals.noaa.gov/chemical/16174				Inhalation, injestion, skin and/or eye contact	Inhalation of material may be harmful. Contact may cause burns to skin and eyes. Inhalation of Asbestos dust may have a damaging effect on the lungs. Fire may produce irritating, corrosive and/or toxic gases. Some liquids produce vapors that may cause dizziness or suffocation. Runoff from fire control may cause pollution.	Lungs, skin, eyes	Colorless to white crystalline solid. Water insoluble. BP: NA Fl.Pt. = NA LEL: NA UEL: NA
Benzo[k]fluoranthene	207-08-9	https://cameochemicals.noaa.gov/chemical/16173				Inhalation, injestion, skin and/or eye contact	When heated to decomposition this compound emits acrid smoke and irritating fumes.		Pale yellow needles or yellow crystalline solid BP: 896° F Fl.Pt. = NA LEL: NA UEL: NA
Chrysene	218-01-9	None listed	Ca TWA 0.1 mg/m3 (cyclohexane-extractable fraction)	TWA 0.2 mg/m3 (benzene-soluble fraction) [1910.1002]	Ca [80 mg/m3]	Inhalation, skin and/or eye contact	Dermatitis, bronchitis, [potential occupational carcinogen]	Respiratory system, skin, bladder, kidneys	Black or dark-brown amorphous residue BP: NA Fl.Pt. = NA LEL: NA UEL: NA Combustible Solids
Dibenzo(a,h)anthracene	53-70-3	https://cameochemicals.noaa.gov/chemical/16192				Inhalation, injestion, skin and/or eye contact	Symptoms of exposure to this compound may include irritation. This compound is harmful if swallowed or inhaled. It may cause irritation. When heated to decomposition it emits acrid smoke, irritating fumes and toxic fumes of carbon monoxide and carbon dioxide.	Lungs	White crystals or pale yellow solid. Sublimes BP: 975° F Fl.Pt. = NA LEL: NA UEL: NA
Fluoranthene	206-44-0	https://cameochemicals.noaa.gov/chemical/16213				Inhalation, injestion, skin and/or eye contact	When heated to decomposition this compound emits acrid smoke and fumes.		Light yellow fine crystals BP: 482° F Fl.Pt. = NA LEL: NA UEL: NA
Fluorene	86-73-7	https://cameochemicals.noaa.gov/chemical/16214				Inhalation, injestion, skin and/or eye contact			White leaflets. Sublimes easily under a vacuum. Fluorescent when impure. BP: 563° F Fl.Pt. = NA LEL: NA UEL: NA
Indeno[1,2,3-cd]pyrene	193-39-5	https://cameochemicals.noaa.gov/chemical/16218				Inhalation, injestion, skin and/or eye contact			Yellow crystals BP: 997° F Fl.Pt. = NA LEL: NA UEL: NA

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at the Site.

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Naphthalene	91-20-3	TWA 10 ppm	TWA 10 ppm (50 mg/m3) ST 15 ppm (75 mg/m3)	TWA 10 ppm (50 mg/m3)	250 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes; headache, confusion, excitement, malaise (vague feeling of discomfort); nausea, vomiting, abdominal pain; irritation bladder; profuse sweating; jaundice; hematuria (blood in the urine), renal shutdown; dermatitis, optical neuritis, corneal damage	Eyes, skin, blood, liver, kidneys, central nervous system	Colorless to brown solid with an odor of mothballs. [Note: Shipped as a molten solid.] BP: 424°F Fl.P: 174°F LEL: 0.9% UEL: 5.9% Combustible Solid, but will take some effort to ignite
Phenanthrene	85-01-8	https://cameochemicals.noaa.gov/chemical/16236				Inhalation, injestion, skin and/or eye contact	Symptoms following exposure to this compound may include skin sensitization, dermatitis, bronchitis, cough, dyspnea, respiratory neoplasm, kidney neoplasm, skin irritation, and respiratory irritation.	Skin, respiratory tract	Colorless monoclinic crystals with a faint aromatic odor. Solutions exhibit a blue fluorescence. BP: 642° F Fl.Pt. = 340° F LEL: NA UEL: NA
Pyrene	129-00-0	None listed	Ca TWA 0.1 mg/m3 (cyclohexane-extractable fraction)	TWA 0.2 mg/m3 (benzene-soluble fraction) [1910.1002]	Ca [80 mg/m3]	Inhalation, skin and/or eye contact	Dermatitis, bronchitis, [potential occupational carcinogen]	Respiratory system, skin, bladder, kidneys	Black or dark-brown amorphous residue BP: NA Fl.Pt. = NA LEL: NA UEL: NA Combustible Solids
METALS									
Aluminum	7429-90-5	TWA 1 mg/m3	TWA 10 mg/m^3 (total) TWA 5 mg/m^3 (resp)	TWA 15 mg/m^3 (total) TWA 5 mg/m^3 (resp)	N.D.	Inhalation, skin and/or eye contact	Irritation eyes, skin, respiratory system	Eyes, skin, respiratory system	Silvery-white, malleable, ductile, odorless metal BP: 4221°F Fl.Pt. = NA LEL: NA UEL: NA Combustible Solid, finely divided dust is easily ignited; may cause explosions
Antimony	7440-36-0	TWA 0.5 mg/m3	TWA 0.5 mg/m3 [*Note: The REL also applies to other antimony compounds (as Sb).]	TWA 0.5 mg/m3 [*Note: The PEL also applies to other antimony compounds (as Sb).]	50 mg/m3 (as Sb)	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat, mouth; cough; dizziness; headache; nausea, vomiting, diarrhea; stomach cramps; insomnia; anorexia; unable to smell properly	Eyes, skin, respiratory system, cardiovascular system	Silver-white, lustrous, hard, brittle solid; scale-like crystals; or a dark-gray, lustrous powder BP: 2975°F Fl.Pt. = NA LEL: NA UEL: NA Noncombustible Solid in bulk form, but a moderate explosion hazard in the form of dust when exposed to flame.
Arsenic	7440-38-2	TWA 0.01 mg/m3	Ca C 0.002 mg/m3 [15-minute]	[1910.1018] TWA 0.010 mg/m3	Ca [5 mg/m3 (as As)]	Inhalation, skin absorption, skin and/or eye contact, ingestion	Ulceration of nasal septum, dermatitis, gastrointestinal disturbances, peripheral neuropathy, resp irritation, hyperpigmentation of skin, [potential occupational carcinogen]	Liver, kidneys, skin, lungs, lymphatic system	Metal: Silver-gray or tin-white, brittle, odorless solid BP: Sublimes Fl.Pt. = NA LEL: NA UEL: NA Metal: Noncombustible Solid in bulk form, but a slight explosion hazard in the form of dust when exposed to flame
Barium	7440-39-3	TWA 0.5 mg/m3	0.5 mg Ba/m3 TWA	0.5 mg Ba/m3 TWA	50 mg Ba/m3	Inhalation, ingestion, skin and/or eye contact	Inhalation or contact with vapors, substance or decomposition products may cause severe injury or death. Contact may cause burns to skin, eyes, and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	Lungs, skin, eyes, and mucous membrane	A silver to white metallic solid BP: 1337°F Fl.Pt. = NA LEL: NA UEL: NA
Beryllium	7440-41-7	TWA 0.00005 mg/m^3	Ca C 0.0005 mg/m^3	STEL 0.002 mg/m^3 TWA 0.0002 mg/m^3	Ca [4 mg/m^3 (as Be)]	Inhalation, skin and/or eye contact	Berylliosis (chronic exposure): anorexia, weight loss, lassitude (weakness, exhaustion), chest pain, cough, clubbing of fingers, cyanosis, pulmonary insufficiency; irritation eyes; dermatitis; [potential occupational carcinogen]	Eyes, skin, respiratory system	Hard, brittle, gray-white solid BP: 4532°F Fl.Pt. = NA LEL: NA UEL: NA Noncombustible Solid in bulk form, but a slight explosion hazard in the form of a powder or dust
Cadmium	7440-43-9	TWA 0.01 mg/m^3 TWA 0.002 mg/m^3 (as Cd)	Ca	TWA 0.005 mg/m^3	Ca [9 mg/m3 (as Cd)]	Inhalation, ingestion	Pulmonary edema, dyspnea (breathing difficulty), cough, chest tightness, substernal (occurring beneath the sternum) pain; headache; chills, muscle aches; nausea, vomiting, diarrhea; anosmia (loss of the sense of smell), emphysema, proteinuria, mild anemia; [potential occupational carcinogen]	Respiratory system, kidneys, prostate, blood	Silver-white/blue tinged lustrous, odorless solid. BP: 1409°F Fl.Pt. = NA LEL: NA UEL: NA Noncombustible - will burn in powder form

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at the Site.

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Calcium	7440-70-2	https://cameochemicals.noaa.gov/chemical/309				Inhalation, ingestion, skin and/or eye contact	Contact with eyes or skin produces caustic burns.	Eyes, skin	A silvery, soft metal that turns grayish white on exposure to air. BP: 2714°F Fl.Pt. = NA LEL: NA UEL: NA
Chromium	7440-47-3	TWA 0.5 mg/m^3 (metal) TWA 0.003 mg/m^3 (water-soluble Cr III compounds) TWA 0.0002 mg/m^3 (water-soluble Cr VI compounds)	TWA 0.5 mg/m^3	TWA 1 mg/m^3	250 mg/m^3 (as Cr)	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin; lung fibrosis (histologic)	Eyes, skin, respiratory system	Blue-white to steel-gray, lustrous, brittle, hard, odorless solid. BP: 4788°F Fl.Pt. = NA LEL: NA UEL: NA Noncombustible - will burn in dust form if heated in a flame
Cobalt	7440-48-4	TWA 0.02 mg/m3	TWA 0.05 mg/m3	TWA 0.1 mg/m3	20 mg/m3 (as Co)	Inhalation, ingestion, skin and/or eye contact	Cough, dyspnea (breathing difficulty), wheezing, decreased pulmonary function; weight loss; dermatitis; diffuse nodular fibrosis; resp hypersensitivity, asthma	Skin, respiratory system	Odorless, silver-gray to black solid BP: 5612°F Fl.Pt. = NA LEL: NA UEL: NA Noncombustible Solid in bulk form, but finely divided dust will burn at high temperatures.
Copper	7440-50-8	TWA 0.2 mg/m^3 (fume) TWA 1 mg/m3 (dusts and mists)	TWA 1 mg/m^3	TWA 1 mg/m^3	100 mg/m^3 (as Cu)	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, nose, pharynx; nasal septum perforation; metallic taste; dermatitis; In Animals: lung, liver, kidney damage; anemia	Eyes, skin, respiratory system, liver, kidneys (increased risk with Wilson's disease)	Reddish, lustrous, malleable, odorless solid. BP: 4703°F Fl.Pt. = NA LEL: NA UEL: NA Noncombustible - powdered form may ignite
Iron	7439-89-6	TWA 1 mg/m3	TWA 1 mg/m^3	NA	NA	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, mucous membrane; abdominal pain, diarrhea, vomiting; possible liver damage	Eyes, skin, respiratory system, liver, gastrointestinal tract	Appearance and odor vary depending upon the specific soluble iron salt. BP: NA Fl.Pt. = NA LEL: NA UEL: NA Noncombustible Solids
Lead	7439-92-1	TWA 0.05 mg/m3	TWA (8-hour) 0.050 mg/m3	[1910.1025] TWA 0.050 mg/m3	100 mg/m3 (as Pb)	Inhalation, ingestion, skin and/or eye contact	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	Eyes, gastrointestinal tract, central nervous system, kidneys, blood, gingival tissue	A heavy, ductile, soft, gray solid BP: 3164°F Fl.Pt. = NA LEL: NA UEL: NA Noncombustible Solid in bulk form
Magnesium	7439-95-4	https://cameochemicals.noaa.gov/chemical/6949				Eye and/or skin contact	Dust irritates eyes in same way as any foreign material. Penetration of skin by fragments of metal is likely to produce local irritation, blisters, and ulcers which may become infected.	Eyes	A light silvery metal BP: 1202°F Fl.Pt. = NA LEL: NA UEL: NA
Manganese	7439-96-5	TWA 0.02 mg/m3 [R] TWA 0.1 mg/m3 [I]	TWA 1 mg/m3 ST 3 mg/m3	C 5 mg/m3	500 mg/m3 (as Mn)	inhalation, ingestion	Manganism; asthenia, insomnia, mental confusion; metal fume fever: dry throat, cough, chest tightness, dyspnea (breathing difficulty), rales, flu-like fever; low-back pain; vomiting; malaise (vague feeling of discomfort); lassitude (weakness, exhaustion); kidney damage	respiratory system, central nervous system, blood, kidneys	A lustrous, brittle, silvery solid BP: 3564°F Fl.Pt. = NA LEL: NA UEL: NA Metal: Combustible Solid
Mercury	7439-97-6	TWA 0.01 mg/m3 STEL 0.03 mg/m3	Hg Vapor: TWA 0.05 mg/m3 [skin] Other: C 0.1 mg/m3 [skin]	TWA 0.1 mg/m3	10 mg/m3 (as Hg)	Inhalation, skin absorption, ingestion, skin and/or eye contact	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	Eyes, skin, respiratory system, central nervous system, kidneys	Metal: Silver-white, heavy, odorless liquid. [Note: "Other" Hg compounds include all inorganic & aryl Hg compounds except (organo) alkyls.] BP: 674°F Fl.Pt. = NA LEL: NA UEL: NA Metal: Noncombustible Liquid

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at the Site.

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Nickel	7440-02-0	TWA 1.5 mg/m^3 [elemental] TWA 0.1 mg/m^3 [soluble inorganic compound] TWA 0.2 mg/m^3 [insoluble inorganic compound] TWA 0.1 mg/m^3 [Nickel subsulfide]	Ca TWA 0.015 mg/m^3	TWA 1 mg/m^3	Ca [10 mg/m3 (as Ni)]	Inhalation, ingestion, skin and/or eye contact	Sensitization dermatitis, allergic asthma, pneumonitis; [potential occupational carcinogen]	Nasal cavities, lungs, skin	Lustrous, silvery, odorless solid. BP: 5139°F Fl.Pt. = NA LEL: NA UEL: NA Combustible Solid; nickel sponge catalyst may ignite spontaneously in air.
Potassium	9/7/7440	https://cameochemicals.noaa.gov/chemical/4289				Eye and/or skin contact	Will burn skin and eyes	Skin, eyes	Potassium is a soft silvery metal though normally grayish white due to oxidation BP: 1425°F Fl.Pt. = NA LEL: NA UEL: NA
Selenium	7782-49-2	TWA 0.2 mg/m3	TWA 0.2 mg/m3	TWA 0.2 mg/m3	1 mg/m3 (as Se)	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat; visual disturbance; headache; chills, fever; dyspnea (breathing difficulty), bronchitis; metallic taste, garlic breath, gastrointestinal disturbance; dermatitis; eye, skin burns; In Animals: anemia; liver necrosis, cirrhosis; kidney, spleen damage	Eyes, skin, respiratory system, liver, kidneys, blood, spleen	Amorphous or crystalline, red to gray solid. [Note: Occurs as an impurity in most sulfide ores.] BP: 1265°F Fl.Pt. = NA LEL: NA UEL: NA Combustible Solid
Silver	7440-22-4	TWA 0.1 mg/m3 [Metal, dust, and fume] TWA 0.01 mg/m3 [Soluble compounds, as Ag]	TWA 0.01 mg/m3	TWA 0.01 mg/m3	10 mg/m3 (as Ag)	Inhalation, ingestion, skin and/or eye contact	Blue-gray eyes, nasal septum, throat, skin; irritation, ulceration skin; gastrointestinal disturbance	Nasal septum, skin, eyes	Metal: White, lustrous solid BP: 3632°F Fl.Pt. = NA LEL: NA UEL: NA Metal: Noncombustible Solid, but flammable in form of dust or powder
Sodium	7440-23-5	https://cameochemicals.noaa.gov/chemical/7794				Skin contact	Severe burns caused by burning metal or by caustic soda formed by reaction with moisture on skin	Skin	A silvery soft metal that becomes grayish white upon exposure to air BP: 1621°F Fl.Pt. = NA LEL: NA UEL: NA
Thallium	7440-28-0	0.02 mg/m3 [I]	TWA 0.1 mg/m3 [skin]	TWA 0.1 mg/m3 [skin]	15 mg/m3 (as Tl)	Inhalation, skin absorption, ingestion, skin and/or eye contact	Nausea, diarrhea, abdominal pain, vomiting; ptosis, strabismus; peri neuritis, tremor; retrosternal (occurring behind the sternum) tightness, chest pain, pulmonary edema; convulsions, chorea, psychosis; liver, kidney damage; alopecia; paresthesia legs	Eyes, respiratory system, central nervous system, liver, kidneys, gastrointestinal tract, body hair	Appearance and odor vary depending upon the specific soluble thallium compound BP: NA Fl.Pt. = NA LEL: NA UEL: NA
Vanadium	7440-62-2	https://cameochemicals.noaa.gov/chemical/16147				Inhalation, skin absorption, ingestion, skin and/or eye contact	Highly toxic, may be fatal if inhaled, swallowed or absorbed through skin. Avoid any skin contact. Effects of contact or inhalation may be delayed. Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution	Skin	Silvery-whitish powder BP: NA Fl.Pt. = NA LEL: NA UEL: NA
Zinc	7440-66-6	https://cameochemicals.noaa.gov/chemical/4814				Inhalation, skin absorption, ingestion, skin and/or eye contact	Inhalation or contact with vapors, substance or decomposition products may cause severe injury or death. May produce corrosive solutions on contact with water. Fire will produce irritating, corrosive and/or toxic gases. Runoff from fire control may cause pollution	Lungs	A grayish powder BP: NA Fl.Pt. = NA LEL: NA UEL: NA
PCBs									
PCBs (total)	11097-69-1, 53469-21-9	TWA 0.5 mg/m3 TWA 1 mg/m3	Ca TWA 0.001 mg/m3 Ca TWA 0.001 mg/m3	TWA 0.5 mg/m3 [skin] TWA 1 mg/m3 [skin]	Ca [5 mg/m3] Ca [5 mg/m3]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, chloracne; liver damage; reproductive effects; [potential occupational carcinogen]	Skin, eyes, liver, reproductive system	Colorless to pale-yellow, viscous liquid or solid (below 50°F) with a mild, hydrocarbon odor BP: 689-734°F, 617-691°F Fl.Pt. = NA, NA LEL: NA UEL: NA Nonflammable Liquid, but exposure in a fire results in the formation of a black soot containing PCBs, polychlorinated dibenzofurans, and chlorinated dibenzo-p-dioxins.
Petroleum Hydrocarbons									

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at the Site.

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Gasoline	86290-81-5	TWA 300 ppm STEL 500 ppm	Ca	None	Ca [N.D.]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, mucous membrane; dermatitis; headache, lassitude (weakness, exhaustion), blurred vision, dizziness, slurred speech, confusion, convulsions; chemical pneumonitis (aspiration liquid); possible liver, kidney damage; [potential occupational carcinogen]	Eyes, skin, respiratory system, central nervous system, liver, kidneys	Clear liquid with a characteristic odor BP: 102°F Fl.Pt. = -45°F LEL: 1.4% UEL: 7.6%

References

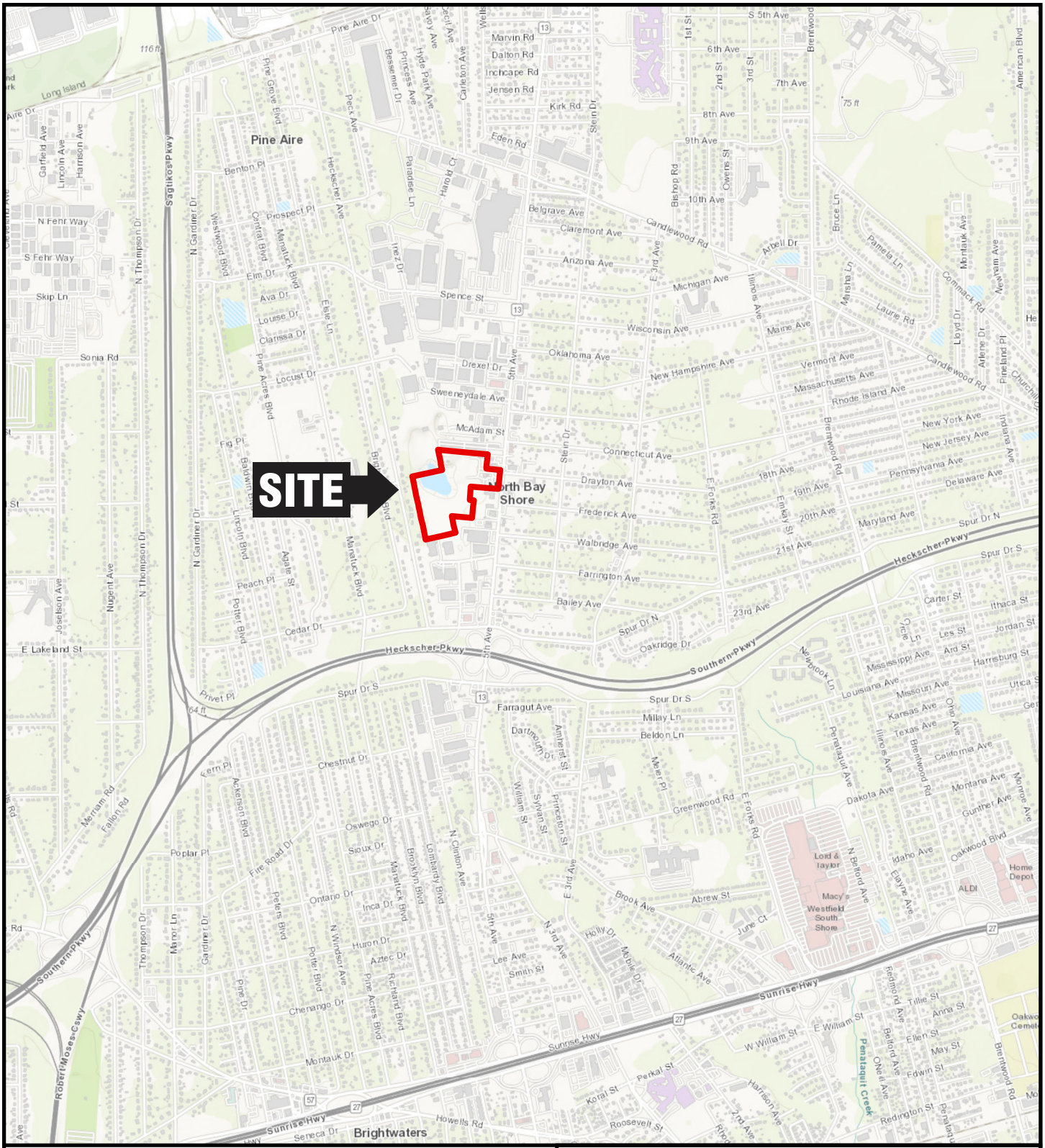
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Abbreviations:

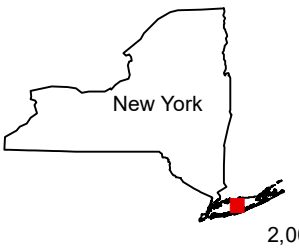
ACGIH – American Conference of Governmental Industrial Hygienists.
BP – boiling point at 1 atmosphere, °F
C – Ceiling, is a concentration that should not be exceeded during and part of the working exposure.
Ca – Carcinogenic.
CAS# - Chemical Abstracts Service registry number which is unique for each chemical.
Ft Pt. – Flash point
IDLH - Immediately Dangerous to Life and Health concentrations represent the maximum concentration from which, in the event of respirator failure, one could escape within 30 minutes without a respirator and without experiencing any escape-impairing or irreversible health effects.
LEL – Lower explosive (flammable) limit in air, % by volume (at room temperature)
mg/m^3 – Milligrams of substance per cubic meter of air
NIOSH - National Institute for Occupational Safety and Health.
OSHA – Occupational Safety and Health Administration
PEL - OSHA Permissible Exposure Limit (usually) a time weighted average concentration that must not be exceeded during any 8 hour work shift of a 40 hr work week.
ppm – parts per million
REL – NIOSH Recommended Limit indicated a time weighted average concentration that must not be exceeded during any 10 hour work shift of a 40 hr work week
SG - Specific Gravity
STEL – ACGIH Short-term exposure limit (ST)
TLV - ACGIH Threshold Limit Values (usually 8 hour time weighted average concentrations).
TWA – 8-hour, time-weighted average
UEL – Upper explosive (flammable) limit in air, % by volume (at room temperature)
VP - Vapor Pressure

FIGURES

1. Site Location Map
2. Site Plan with Emergency Muster Area
3. Routes to Urgent Care and Hospital



QUADRANGLE LOCATION



N

2,000 0 2,000'

Title:

SITE LOCATION MAP

1612 5TH AVENUE
BAY SHORE, NEW YORK

Prepared for:

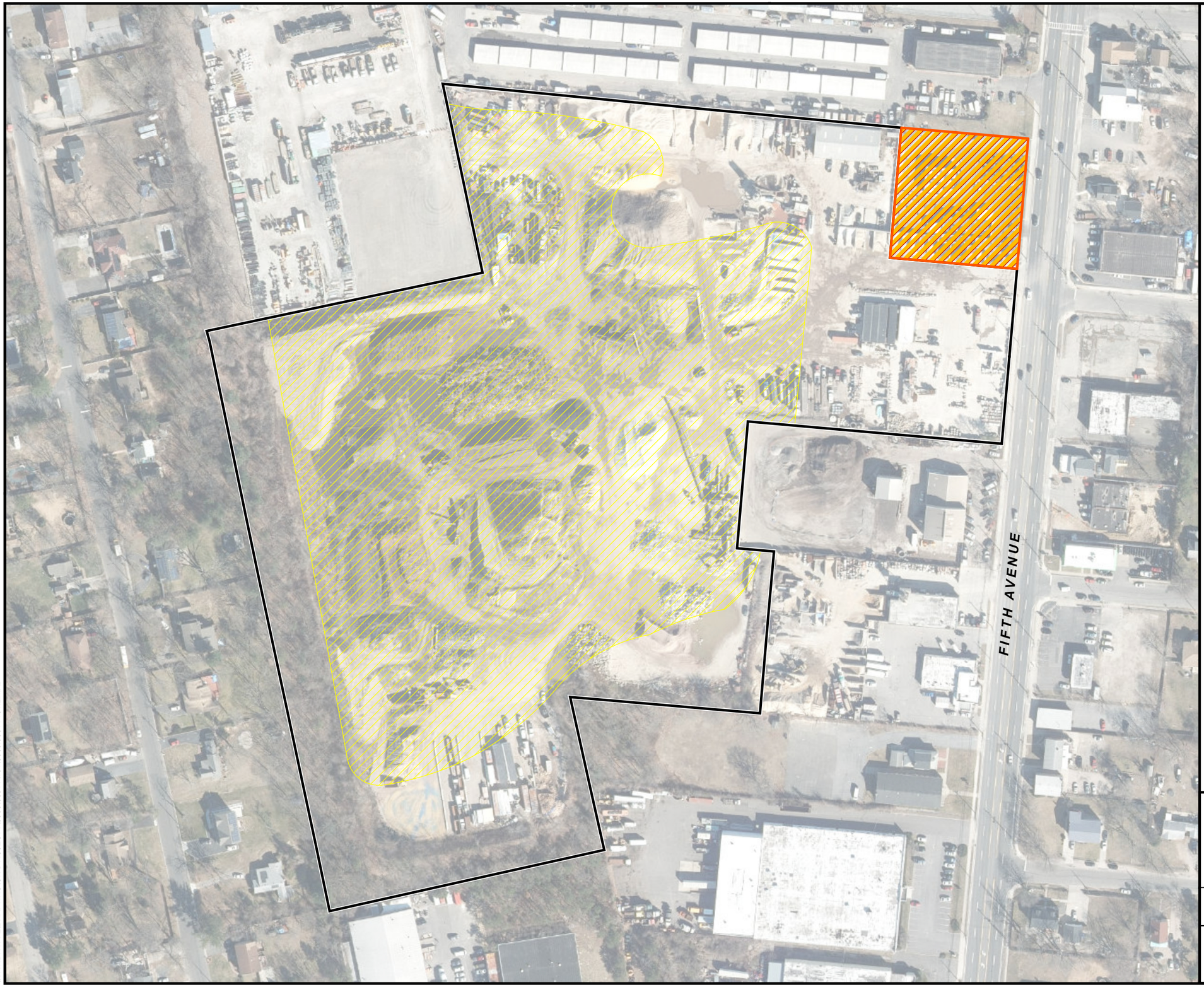
FIFTH XNY, LLC

ROUX

Compiled by: J.M.	Date: 01/28/22
Prepared by: E.W.C.	Scale: AS SHOWN
Project Mgr: J.M.	Project: 3900.0001Y000
File: 3900.0001Y101.1.mxd	

FIGURE 1

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N

LEGEND

- HISTORIC LANDFILL
- SITE BOUNDARY
- EMERGENCY MUSTER AREA

NOTE

1. THE PROPERTY BOUNDARY AND EXTENT OF LANDFILL ARE ESTIMATED BASED ON THE INFORMATION PROVIDED TO ROUX.

150 0 150'

Title:

SITE PLAN WITH EMERGENCY MUSTER AREA

1612 5TH AVENUE
BAY SHORE, NEW YORK

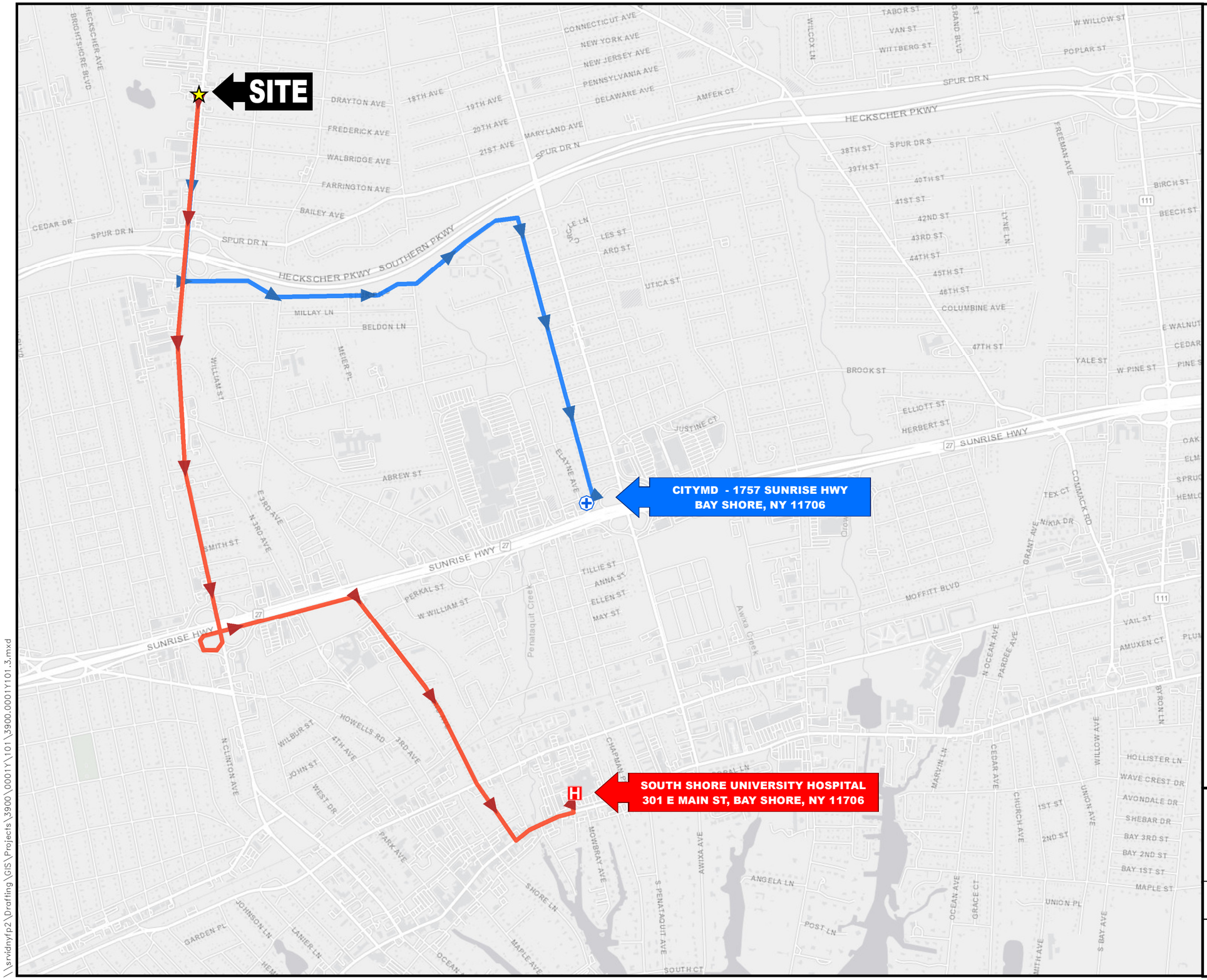
Prepared for:

FIFTH XNY, LLC

ROUX

Compiled by: J.M.	Date: 01/28/22	FIGURE
Prepared by: E.W.C.	Scale: AS SHOWN	2
Project Mgr: J.M.	Project: 3900.0001Y000	
File: 3900.0001Y101.2.mxd		

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N

DIRECTIONS TO HOSPITAL

1. TURN LEFT TO HEAD SOUTH ON 5TH AVE. FOR 1.7 MILES.
2. USE THE RIGHT LANE TO TAKE THE RAMP TO NY-27 E
3. MERGE ONTO SUNRISE HWY SOUTH SERVICE RD, AND CONTINUE FOR 0.5 MILES.
4. TURN RIGHT ONTO 2ND AVE., CONTINUE FOR 0.9 MILES
5. TURN LEFT ONTO E MAIN ST., CONTINUE FOR 0.2 MILES.

DIRECTIONS TO URGENT CARE

1. TURN LEFT TO HEAD SOUTH ON 5TH AVE. FOR 0.6 MILES.
2. TURN LEFT ONTO SPUR DR S, CONTINUE FOR 1.1 MILES.
3. TURN RIGHT ONTO ILLINOIS AVE, CONTINUE FOR .09 MILES.
4. AT THE END OF ILLINOIS AVE CONTINUE STRAIGHT/SLIGHT RIGHT INTO THE PARKING LOT.

1,500 0 1,500
Feet

Title:

ROUTES TO URGENT CARE AND HOPSITAL

1612 5TH AVENUE
BAY SHORE, NEW YORK

Prepared for:
FIFTH XNY, LLC

ROUX

Compiled by: J.M.	Date: 01/28/22	FIGURE
Prepared by: E.W.C.	Scale: AS SHOWN	3
Project Mgr: J.M.	Project: 3900.0001Y000	
File: 3900.0001Y101.3.mxd		

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APPENDICES

A. Job Safety Analysis (JSA) Forms
B. SDSs for Chemicals Used
C. COVID-19 Interim Health and Safety Guidance
D. Personal Protective Equipment (PPE) Management Program
E. Subsurface Utility Clearance Management Program
F. Heavy Equipment Exclusion Zone Policy
G. Incident Investigation and Reporting Program
H. Generic Community Air Monitoring Plan (CAMP)

APPENDIX A

Job Safety Analysis (JSA) Forms

JOB SAFETY ANALYSIS	Ctrl. No. GEN-023	DATE: 7/10/2020	☐ NEW ☒ REVISED	PAGE 1 of 2

JSA TYPE CATEGORY	WORK TYPE	WORK ACTIVITY (Description)	
Generic	**Construction**	**Spotting Heavy Machinery**	
DEVELOPMENT TEAM	**POSITION / TITLE**	**REVIEWED BY:**	**POSITION / TITLE**
Levi Curnutte	Project Scientist	Brian Hobbs	Corporate Health & Safety Manager

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST	☐ GOGGLES	☐ Particulate Respirator	☒ GLOVES: Cut resistant / leather
☒ HARD HAT	☐ FACE SHIELD	☐ SUPPLIED RESPIRATOR	☐ OTHER:
☒ LONG SLEEVED SHIRT	☐ HEARING PROTECTION	☒ PPE CLOTHING: Fluorescent reflective clothing	
☐ LIFELINE / BODY HARNESS	☒ SAFETY SHOES: Steel-/Composite-toe boots/shoes		
☒ SAFETY GLASSES			

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Heavy Machinery (i.e. excavator, payloader, truck, forklift, etc.)

COMMITMENT TO SAFETY- All personnel onsite will actively participate in hazard recognition and mitigation throughout the day by verbalizing SPSAs

EXCLUSION ZONE (EZ): Maintain Minimum Heavy Equipment Exclusion Zone around equipment and loads while it is in motion. The HEEZ must be greater than the swing zone of any moving part of the equipment, tip zone of the equipment, fall zone of the equipment and contents, distance that debris may travel during demolition activities and/or foot print of a structure to be demolished.

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Prepare for machine activity.	**1a. CONTACT:** Obstructions in the work area may create contact hazards from machinery.	1a. Cordon off the work area with safety barrels/cones and a rigid barrier (snow fence, traffic bar, etc.). Communicate that only necessary personnel should be in the work area. Spotter and equipment operator shall enforce the **EZ.** Operator will not operate but shall remain in the hands-off mode while personnel are within the exclusion zone.
	1b. Fall : Slip/Trip/Fall	1b. Ensure that work area is flat, level and clear of any obstructions or debris before setting up work zone.
2. Spotting.	**2a. CONTACT:** Machine or load contact with personnel, property, or machinery.	2a. Discuss the specifics of the work with the operator and be clear about any hand signals that will be used. Clearly discuss the limits of the assigned work area and the machine's Exclusion Zone. Maintain Exclusion Zone. The Exclusion Zone shall be delineated by using 42-inch traffic cones/barrels and a fixed rigid barrier. 2a. The Minimum Heavy Equipment Exclusion zone is greater than the swing/tip radius of equipment. 2a. Both the spotter and equipment operators shall have 2-way radios/cellular devices on their persons to ensure audible communication in the event any changes or new hazards may arise. 2a. All workers should stay outside of the Exclusion Zone of all equipment unless operator is stopped and in "Hands Off" mode. **(This includes the spotter unless an exception has been established in the Site-specific JSA).** If the Exclusion Zone must be reduced due to work area restrictions then the spotter and operator shall enforce the reduced Exclusion Zone. 2a. Spotters must make eye contact with the machine operator or all movement ceases until visual contact can be reestablished. 2a. Spotter shall keep an eye out for any issues with the machine the operator may not see and communicate with other work crews and spotters on behalf of the operator. 2a. If the spotter needs to take a break, he must find a replacement before leaving or have the machine stop operations. **No heavy equipment shall operate without a spotter under any circumstances.** 2a. Wear fluorescent clothing/safety vest.

[1] Each Job or Operation consists of a set of tasks / steps. Be sure to list all the steps needed to perform job.
[2] A hazard is a potential danger. Break hazards into six types: Contact - victim is struck by or strikes an object; Caught - victim is caught on, caught in or caught between objects; Fall - victim falls to ground or lower level (includes slips and trips); Exertion - excessive strain or stress / ergonomics / lifting techniques; Exposure - inhalation/skin hazards; Energy Source – electricity, pressure, compression/tension.
[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
	2b. FALL: Slip/Trip/Fall	2b. Look where walking to identify and avoid slip/trip/fall hazards. Avoid icy and/or wet surfaces. Remove obstacles if possible. 2b. Use designated walkways during spotting whenever possible.
	2c. CAUGHT: Caught between machinery and nearby objects.	2c. **Maintain Exclusion Zone.** Do not stand between large, loose or fixed objects or structures and the machinery while it is in motion. Keep in sight of operator at all times while being aware of surrounding structures.
	2d. EXPOSURE: Inhalation of exhaust from machinery.	2d. The spotter will position him/herself upwind of the working machinery, when possible. Spotter will also inform others working within the vicinity of the EZ of proper positioning, if applicable.

[1] Each Job or Operation consists of a set of tasks / steps. Be sure to list all the steps needed to perform job.

[2] A hazard is a potential danger. Break hazards into six types: Contact - victim is struck by or strikes an object; Caught - victim is caught on, caught in or caught between objects; Fall - victim falls to ground or lower level (includes slips and trips); Exertion - excessive strain or stress / ergonomics / lifting techniques; Exposure - inhalation/skin hazards.

[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

JOB SAFETY ANALYSIS	Cntrl. No. GEN-027	DATE: 11/3/2020	☒ NEW ☐ REVISED	PAGE 1 of 2

JSA TYPE CATEGORY	WORK TYPE	WORK ACTIVITY (Description)
GENERIC	**Drilling**	**Pre-Drilling Clearance, Vactron and Air Knife**

DEVELOPMENT TEAM	POSITION / TITLE	REVIEWED BY:	POSITION / TITLE
Courtney Rempfer	Staff Scientist	Joseph Midwig	Office Health & Safety Manager
Sara Redding	Senior Hydrogeologist	Brian Hobbs	Corporate Health & Safety Manager

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☒ FACE SHIELD (While Air Knifing) ☒ HEARING PROTECTION (As needed) ☒ SAFETY SHOES: Composite toe or steel toe boots	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent reflective vest or high visibility clothing; long-sleeve shirt	☒ GLOVES: Leather, Nitrile, cut-resistant ☒ OTHER: Dusk mask, insect repellant, sunscreen (as needed)

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Vac-Truck or Vac Drum, Compressor, Jack Hammer, Air Knife. Circular Saw, Hand Tools, Dust Mask, Photoionization Detector, Multi Gas Meter, 42 inch safety cones and flags, Retractable Cone Bars, Caution Tape, 20 lb. Fire Extinguisher, "Work Area" Signs, Pressurized Water Sprayer

Commitment to Safety – All personnel onsite will actively participate in hazard recognition and mitigation throughout the day by verbalizing SPSAs

EXCLUSION ZONE: All non-essential personnel will maintain a distance of 10 feet from drilling equipment while equipment is moving/engaged

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Verify pre-clearance protocol	**1a. CONTACT:** Underground utility damage; property damage; personal injury	1a. Confirm that (if applicable) "Call Before You Dig" and local utility companies were contacted prior to starting work in order to confirm utility mark outs. Must have a case # before digging. 1a Walk the Site to evaluate utility markings and review maps (see Site Walk Inspection JSA). Utilities are not always properly marked out ensure use of observational skills through the pre-clearing checklist. 1a. Review pre-clearing checklist fromm and sub-surface clearance form. Pre-clearing protocol indicates that clearance must be conducted to a minimum of 5 vertical feet below ground surface or 10 vertical feet below ground surface in the critical zone using hand tools.
	1b. ENERGY SOURCE/CONTACT: Property damage; Pressurized water mains may cause lacerations or broken bones. Pressurized gas mains may explode causing serious injury, or death. Underground electric may cause severe burns, shock, or death.	1b. Pre-clearing of each soil boring/monitoring well location must be conducted to a minimum of 5 vertical feet below the ground surface (10 feet minimum for Critical Zone) using hand tools (shovel and non-metallic dig bar and hand auger) prior to drilling. Supervisor should be contacted to discuss appropriate pre-clearing depth. 1b. MUST Complete subsurface clearance checklist prior to pre-clearance.
	1c. FALL: Slip, Trip or Fall may cause muscle strains or tears, abrasions, lacerations, or broken bones.	1c. Be aware of the conditions when walking or loading equipment and working. Walk within established pathway avoiding uneven surfaces. Remove potential slip/trip/fall hazards.
2. Mobilize/demobilize and establish work area	**2a. SEE MOBILIZATION / DEMOBILIZATION JSA**	2a. See Mobilization / Demobilization JSA
3. Concrete saw cutting, jack hammer and hand clearance with hand tools, air knife	**3a. CONTACT:** Flying debris striking face or body	3a Maintain 10' minimum exclusion zone. Use the required PPE (i.e., leather/cut proof gloves, safety glasses/face shield). 3a. Use anti-whip devices on compressor hoses. 3a Wear a face shield to protect face from flying debris when using air knife. 3a. Utilize a traffic cone or physical barriers over the hole during air knife activities to keep flying debris close to ground.
	3b. EXPOSURE: Inhalation/exposure to hazardous vapors and/or concrete dust, noise exposure	3b. Monitor breathing zone with a calibrated PID and/or multi-gas meter. If meters sustain readings greater than recommeneded in the HASP for the specific contaminant of concerns (COCs) the Roux field personnel must temporarily cease work, instruct all Site personnel to step away from the area of elevated readings. Contact PM. 3b. Wet concrete while using saw to minimize dust and wear dust mask to prevent inhalation. 3b. Stand upwind and keep body behind saw. Observers and helpers should avoid line of fire for saw blade. Always cut away from body. 3b. No open flames/heat sources. 3b. Wear hearing protection when saw, jackhammer or air compressor are in operation. Otherwise, if sound levels exceed 85 dbA, put on hearing protection.
	3c. ENERGY SOURCE/CONTACT: Property damage; Pressurized water	

[1] Each Job or Operation consists of a set of tasks / steps. Be sure to list all the steps needed to perform job.
[2] A hazard is a potential danger. Break hazards into five types: Contact - victim is struck by or strikes an object; Caught - victim is caught on, caught in or caught between objects; Fall - victim falls to ground or lower level (includes slips and trips); Exertion - excessive strain or stress / ergonomics / lifting techniques; Exposure - inhalation/skin hazards.
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	mains may cause lacerations or broken bones. Pressurized gas mains may explode causing serious injury, or death. Underground electric may cause severe burns, shock, or death.	3c. For air knifing, ensure extention/lance tip reaches the full 5 feet bgs. Air knife should be advanced **AT A MINIMUM** in all four corners of the expected boring location to find any possible arrangement of utilities. 3c. Ensure diameter of soil preclearance hole is at a **MINIMUM 2x** the diameter of any drilling or hard dig equipment that will be entering the hole. 3c. See Complete subsurface clearance protocol for information provided above.
	3d. ERGONOMICS/EXERTION: Muscle strain due to poor body positioning when handling equipment and materials	3d. Use body positioning and lifting techniques that minimizes muscle strain; keep back straight, lift with legs, keep load close to body, and never reach with a load. 3d. Ensure that loads are balanced to reduce the potential for muscle strain. 3d. Two people or a mechanical lifting aid are required when lifting objects over 50 lbs. or when the shape makes the object difficult to lift.
	3e. FALL: Tripping/falling due to uneven terrain, weather conditions, and materials/equipment stored at the Site	3e. Inspect walking path for uneven terrain, weather-related hazards (i.e., ice, puddles, snow, etc.), and obstructions prior to mobilizing equipment. Mob/Demob JSA. 3e. Do not climb over stored materials/equipment; walk around. Practice good housekeeping. 3e. Use established pathways and walk on stable, secure ground. 3e. Equipment and tools will be stored at the lowest point of potential energy and out of the walkway and immediate work area (i.e. tools should not be propped against walls or nearby equipment or vehicles). 3e. Equipment and tools that are not anticipated to be used will be returned to a storage area that is out of the immediate work area. 3e. Ensure power cords and compressed air lines are grouped when used within the work area. 3e. Pre-cleared location will be finished flush to grade as to prevent a slip/trip hazard or coned and taped off.
	3f. CAUGHT: Amputation points associated with the equipment and vacuum hose	3f. Always wear leather gloves when making connections and using hand tools; wear cut-resistant (i.e., Kevlar) gloves when handling cutting tools. 3f. Inspect the equipment prior to use for potential pinch points. 3f. Test all emergency shutdown devices prior to using equipment. 3f. Inspect saw blade for worn surface or missing teeth; switch blade if damaged or blunt. 3f. Ensure all jewelry is removed, loose clothing is secured, and PPE is secured close to the body. 3f. All non-essential personnel shall maintain a 10 foot exclusion zone; position body out of the line-of-fire of equipment. 3f. Drillers and helpers will understand and use the “Show Me Your Hands Policy”.
4. Move drum to staging area using drum cart	**4a. EXPOSURE/CONTACT:** Contamination (e.g., Separate Phase Hydrocarbons (SPH), contaminated groundwater, soil)	4a. Wear Nitrile chemical-resistant gloves under leather or cut proof gloves. 4a. Do not overfill drums. Ensure that the drum lids are attached securely. 4a. All drums will be staged in the designated storage area.
	4b. EXERTION: Muscle strain while maneuvering drums with drum cart/lift gate	4b. See 3d. Do not overfill drums. Use lift gate on back of truck to load and unload drums. Use drum dolly to move drum.
	4c. CAUGHT: Pinch points associated with handling drum lid	4c. Ensure that fingers are not placed under the lid of the drum. Wear leather gloves or cut proof gloves. Use appropriate ratchet while sealing drum lid.
5. Decontaminate equipment.	**5a. EXPOSURE/CONTACT**: To contamination (e.g., Separate Phase Hydrocarbons (SPH), contaminated groundwater, vapors).	5a. Wear chemical-resistant disposable gloves and safety glasses. 5a. Contain decontamination water so that it does not spill. 5a. Use an absorbent pad to clean spills, if necessary. 5a. Spray equipment from side angle, not straight on, to avoid backsplash. 5a. See 3b.
	5b. EXPOSURE: To chemicals in cleaning solution.	5b. See 4a. Review SDS to ensure appropriate precautions are taken and understood.

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JOB SAFETY ANALYSIS	Ctrl. No. CVD-19	DATE: 04/16/2020	☒ NEW ☐ REVISED	PAGE 1 of 2

JSA TYPE CATEGORY	WORK TYPE	WORK ACTIVITY (Description)
Generic	**Fieldwork**	**Working in Areas Affected by Coronavirus**

DEVELOPMENT TEAM	POSITION / TITLE	REVIEWED BY:	POSITION / TITLE
Kristina DeLuca	Health and Safety Specialist	Brian Hobbs	CHSM

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST	☐ GOGGLES	☐ AIR PURIFYING RESPIRATOR	☒ GLOVES – Leather/cut-resistant in field and nitrile as needed
☒ HARD HAT – In field	☐ FACE SHIELD	☐ SUPPLIED RESPIRATOR	
☐ LIFELINE / BODY HARNESS	☐ HEARING PROTECTION	☒ PPE CLOTHING – High visibility vest in field	☐ OTHER
☒ SAFETY GLASSES – In field	☒ SAFETY SHOES – Steel/composite toe in fie		

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Cloth face covering, nitrile gloves, hand soap, water source, hand sanitizer, disinfectant spray and disinfectant wipes.

Commitment to Safety – All personnel onsite will actively participate in SPSA performance by verbalizing SPSAs throughout the day.

SOCIAL DISTANCING: Maintain 6' of distance between yourself and all other people at all times. If you do not believe the scope of work can be conducted while maintaining this distance, contact your Project Manager immediately.

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Project Preplanning	N/A	• Review and follow COVID-19 CDC, Roux, Client and local orders/protocols. • Ensure all workers are fit for duty - anyone feeling sick should remain at home even if symptoms do not align with COVID-19. If a worker has been in contact with someone potentially positive or positive for COVID-19, contact your Office Manager. • Determine PPE needs and ensure adequate supply of disinfectant wipes/spray, soap and water or hand sanitizer at Site. Due to high demands and limited supply, plan ahead. • Use the minimum number of employees necessary to safely complete the work.
2. Mobilization	**Exposure:** Becoming infected or infecting co-workers	**Personal/Rental/Roux Owned Vehicle** • Do not carpool. • Use the same vehicle every day and do not share with co-workers. • Verify workers/other people are not approaching vehicle prior to exiting the vehicle. Maintain 6' of distance from others. • DO not valet your car or allow others to use your car. If necessary, don nitrile gloves and safety glasses and clean/disinfect all high touch surfaces (steering wheel, knobs, door handles, turn signals, radio, etc.) by wiping thoroughly with approved disinfectants (follow manufacturer's instructions). This cleaning and disinfection shall occur before and after each use of the vehicle. Aseptically remove gloves and dispose of them along with rags/wipes, appropriately. Wash hands or use hand sanitizer immediately after each episode of cleaning. **Public Transportation** • Public transit should not be used unless absolutely necessary. Consider renting a car rather than taking public transit. If public transit is required, wear appropriate PPE and apply social distancing (6 ft). Use proper donning and doffing procedures for nitrile gloves. Wash hands or use hand sanitizer immediately after. **Hotel Stay (Refer to COVID-19 H&S Guidance for more info)** • If a hotel stay is deemed necessary for the given field work, ensure that you disinfect your room upon initial arrival and returning each day. Disinfect all surfaces of your room with an appropriate disinfectant using nitrile gloves. Use proper donning and doffing procedures fornitrile gloves. • Place the "Do Not Disturb" placard on the room while away and limit housekeeping services to the extent feasible during your stay to minimize the reintroduction and spread of the virus from others. Minimize, or avoid entirely, time spent in hotel common areas (i.e., the lobby, dining areas, gyms, etc.). Wash hands or use hand sanitizer often.

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3. Tailgate Meeting	**Exposure:** Becoming infected or infecting co-workers	• Must occur outside or remotely (i.e. video or conference call). • Maintain at least a 6+ ft distance between you and others. • Discuss primary infection prevention measures listed below. • Do not require employees or subcontractors to sign in, the Site Supervisor shall record names on the attendance form. • If the Site has more than 10 workers, separate tailgate meetings should be performed. • Discuss COVID-19 symptoms with coworkers and subcontractors to ensure fitness for duty. Anyone exhibiting signs or symptoms should be instructed to leave the Site, contact your Project Manager.
4. Site Activities	**Exposure:** Becoming infected or infecting co-workers	• Coordinate field activities at the beginning of the day (i.e. Tailgate meeting) to minimize time spent in crowded spaces or overlap while completing job tasks. • Don cloth face coverings as appropriate. • Apply social distancing (6+ ft) when interacting with others. If anyone comes within 6 ft of you while conducting work and your work prevents you from moving away, politely ask them to move back. If others are unable to move from your space, stop work and leave area. • Do not shake hands or touch others. • Do not share equipment or other items with co-workers and subcontractors unless wearing appropriate PPE (e.g. nitrile gloves). Assume equipment and other surfaces are potentially contaminated and remove gloves aseptically (See Appendix A of Roux Interim H&S Guidance for proper glove removal). • If anyone is coughing or sneezing in your vicinity, stop work and leave the area. • Do not work in areas with limited ventilation with others. • Cover your mouth and nose with tissue or paper towel or with your elbow when coughing or sneezing and wash hands or use hand sanitizer immediately after. If sick contact SHSO/PM and leave Site immediately. • Disinfect work surfaces/areas with approved disinfectant you're responsible for (ex: desk, office doorknob, computer, etc.) at least once at the beginning of your shift and at least once at the end of your shift with either sanitizing wipes or disinfectant spray. • Phones should be operated hands free to extent feasible. Sanitize your phone on a regular basis. Disinfection should also take place whenever suspected contaminated material comes in contact with any work surfaces/areas. Wash hands or use hand sanitizer immediately after. • Avoid public spaces and going out to eat by bringing your own lunch to the Site. If performing work in high density urban areas, it is recommended all food must be consumed at or in your vehicle. Wash hands or use hand sanitizer before eating and immediately after.

Primary Infection Prevention Measures

- Wash your hands often with soap and water for at least 20 seconds.
  - If soap and water are not available, use an alcohol-based sanitizer that contains at least 60% ethanol or 70% isopropanol. Key times to wash hands include after blowing your nose, coughing or sneezing, after using the restroom, and before eating or preparing food.
- Do not touch your eyes, face, nose and mouth with unwashed hands.
- Cover your mouth and nose with a tissue when you cough or sneeze or use the inside of your elbow. Throw potentially contaminated items (e.g. used tissues) in the trash.
- Avoid close contact/secondary contact with people and potentially contaminated surfaces.
  - Apply appropriate social distance (6+ feet).
  - Stop handshaking/touching others and use caution when accessing public spaces.
- Clean and disinfect frequently touched surfaces daily. Commonly touched items can include but are not limited to tables, doorknobs, light switches, countertops, handles, desks, phones, keyboard, toilets, sinks and field equipment. If surfaces are dirty, they should be cleaned with soap and water prior to disinfection. If surface cannot be cleaned/disinfected, then wash hands or use sanitizer as soon as possible.

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JOB SAFETY ANALYSIS	Ctrl. No. GEN-006	DATE 7/10/2020	☐ NEW ☒ REVISED	PAGE 1 of 2

JSA TYPE CATEGORY:	WORK TYPE:	WORK ACTIVITY (Description):	
Generic	**Drilling**	**Direct Push Soil Borings / Well Installation**	
DEVELOPMENT TEAM	**POSITION / TITLE**	**REVIEWED BY:**	**POSITION / TITLE**
Timothy Zei	Project Hydrogeologist	Raymond Olson	Office Health & Safety Manager
		Brian Hobbs	Corporate Health & Safety Manager

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☐ FACE SHIELD ☒ HEARING PROTECTION: (as needed) ☒ SAFETY SHOES: Composite-toe or steel toe boots	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent reflective vest or high visibility clothing, Long Sleeve Shirt	☒ GLOVES: Leather, Nitrile and cut resistant ☒ OTHER: Insect Repellant, sunscreen (as needed)

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Geoprobe or Truck-Mounted Direct Push Drill Rig, Hand Tools, Photoionization Detector, Multi-Gas Meter (or equivalent), Macrocore liners, Liner Opening Tool, 20 lb. Type ABC Fire Extinguisher, 42" Cones & Flags, "Work Area" Signs, Water

COMMITMENT TO SAFETY- All personnel onsite will actively participate in hazard recognition and mitigation throughout the day by verbalizing SPSAs

EXCLUSION ZONE (EZ): Maintain Minimum Heavy Equipment Exclusion Zone around equipment and loads while it is in motion. The HEEZ must be greater than the swing zone of any moving part of the equipment, tip zone of the equipment, fall zone of the equipment and contents, distance that debris may travel during demolition activities and/or foot print of a structure to be demolished.

"SHOW ME YOUR HANDS"
Driller and helper should show that hands are clear from controls and moving parts

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Mobilization of drilling rig (ensure the Subsurface Clearance Protocol and Drill Rig Checklist are completed)	**1a. CONTACT:** Equipment/property damage.	1a. The drill rig's tower/derrick will be lowered and secured prior to mobilization. 1a. A spotter should be utilized while moving the drill rig. If personnel move into the path of the drill rig, the drill rig will be stopped until the path is again clear. Use a spotter for all required backing operations. 1a. Set-up the work area and position equipment in a manner that eliminates or reduces the need for backing of support trucks and trailers. 1a. When backing up truck rig with an attached trailer use a second spotter if there is tight clearance simultaneously on multiple sides of the equipment or if turning angles limit driver visibility. 1a. Inspect the driving path for uneven terrain. Level or avoid if needed. 1a. Drill rig should have a minimum **exclusion zone which encompasses its tip radius** for non-essential personnel (i.e., driller helper, geologist) when the rig is moving/ in operation.
	1b. FALL: Slip/trip/fall hazards.	1b. Inspect walking path for uneven terrain, weather-related hazards (i.e., ice, puddles, snow, etc.), and obstructions prior to mobilizing equipment. 1b. Do not climb over stored materials/equipment; walk around. Practice good housekeeping. 1b. Use established pathways and walk on stable, secure ground.
	1c. CONTACT: Crushing from roll-over.	1c Geoprobe should cross all hills/obstructions head on with the mast down to reduce risk of roll-over.
2. Raising tower/derrick of drill rig	**2a. CONTACT:** Overhead hazards.	2a. Prior to raising the tower/derrick, the area above the drilling rig will be inspected for wires, tree limbs, piping, or other structures, that could come in contact with the rig's tower and/or drilling rods or tools. 2a. Maintain a safe distance of 10' from overhead structures.
	2b. CONTACT: Pinch Points/Amputation Points when raising the rig and instability of rig	2b. Inspect the equipment prior to use and avoid pinch/amputation points. 2b. Lower outriggers to ensure stability prior to raising rig tower/derrick. 2b. If the rig needs to be mounted, be sure to use three points of contact.
3. Advancement of drilling equipment and well installation	**3a. CONTACT:** Flying debris	3a. Be aware of and avoid potential lines of fire and wear required PPE such as eye, ear, and hand protection.
	3b. EXPOSURE: Noise and dust.	3b. Wet borehole area with sprayer to minimize dust. 3b. Stand upwind and keep body away from rig. 3b. Dust mask should be worn if conditions warrant. 3b. Wear hearing protection when the drill rig is in operation.

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Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
3. Advancement of drilling equipment and well installation (Continued)	**3a. CONTACT:** Flying debris **3b. EXPOSURE:** Noise and dust. **3c. FALL:** Slip/trip/fall hazards. **3d. CAUGHT:** Limb/extremity pinching; abrasion/crushing. **3e. CONTACT:** Equipment imbalance during advancement of drill equipment. **3f. EXPOSURE:** Inhalation of contamination/vapors. **3g. EXERTION:** Potential for muscle strain/injury while lifting and installing well casings, lifting sand bags, and/or lifting rods.	3c. Contain drill cuttings and drilling water to prevent fall hazards from developing in work area. 3c. See 1b. 3d. Ensure all Emergency Safety Stop buttons function properly. 3d. Always wear leather gloves when making connections and using hand tools; wear cut-resistant (i.e., Kevlar) gloves when handling cutting tools. 3d. Inspect the equipment prior to use for potential pinch/amputation points. Keep hands away from pinch/amputation points and use of tools is preferable compared to fingers and hands. 3d. Inspect drill head for worn surface or missing teeth; replace if damaged or blunt. 3d. Ensure all jewelry is removed, loose clothing is secured, and PPE is secured close to the body. 3d. All non-essential personnel should stay away from the immediate work area; position body out of the line-of-fire of equipment. 3d. Drillers and helpers will understand and use the "Show Me Your Hands" Policy. 3d. Spinning rods/casing have an **exclusion zone of tip radius** while in operation. 3e. Drillers will advance the borehole with caution to avoid causing the rig to become imbalanced and/or tip. 3e. The blocking and leveling devices used to secure the rig will be inspected by drillers and Roux personnel regularly to see if shifting has occurred. 3e. In addition, personnel and equipment that are non-essential to the advancement of the borehole will be positioned away from the rig at a distance that is at least as far as the boom is high (**minimum exclusion zone**). 3f. Monitor ambient air for dangerous conditions using a calibrated photoionization detector (PID) to periodically monitor the breathing zone of the work area. 3f. If a reading of >5ppm is recorded, the Roux field personnel must temporarily cease work, instruct all Site personnel to step away from the area of elevated readings and inform the Roux PM of the condition. The Roux PM will then recommend additional precautions in accordance with the site specific health and safety plan. 3f. Use a multi-gas meter to monitor ambient air for dangerous conditions (i.e. unsafe levels of carbon monoxide when drilling indoors or the presence of explosive vapors). 3g. Keep back straight and bend at the knees. 3g. Utilize team lifting for objects over 50lbs. 3g. Use mechanical lifting device for odd shaped objects.
4. Remove sample liner.	**4a. EXERTION:** Potential for muscle strain/injury while removing liner from probe rod. **4b. CONTACT:** Pinch points and cuts **4c. EXPOSURE:** Inhalation and/or dermal contact with contaminants.	4a Utilize team lifting for objects over 50lbs. 4a. Use hydraulic liner extruder if available. 4b. Place liner on sturdy surface when opening. 4b. Don cut-resistant gloves and use appropriate liner cutter when opening liners. 4b. Always cut away from the body. 4c. Wear chemical-resistant disposable gloves when handling liners. 4c. See 3e.
5. Decontaminate equipment.	**5a. EXPOSURE/CONTACT**: To contamination (e.g., Separate Phase Hydrocarbons (SPH), contaminated groundwater, vapors). **5b. EXPOSURE:** To chemicals in cleaning solution including ammonia.	5a. Wear chemical-resistant disposable gloves and safety glasses. 5a. Contain decontamination water so that it does not spill. 5a. Use an absorbent pad to clean spills, if necessary. 5a. Spray equipment from side angle, not straight on, to avoid backsplash. 5a. See 3b. 5b. See 4a. Review SDS to ensure appropriate precautions are taken and understood.

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JOB SAFETY ANALYSIS	Ctrl. No. GEN-007	DATE 7/10/2020	☐ NEW ☒ REVISED	PAGE 1 of 2

JSA TYPE CATEGORY	WORK TYPE	WORK ACTIVITY (Description)
GENERIC	**General Site Activity**	**Driving**

DEVELOPMENT TEAM	POSITION / TITLE	REVIEWED BY:	POSITION / TITLE
Valerie Sabatasso	Staff Scientist	Brian Hobbs	Corporate Health & Safety Manager

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT: when outside vehicle ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES:when outside vehicle	☐ GOGGLES ☐ FACE SHIELD ☒ HEARING PROTECTION ☒ SAFETY TOE BOOTS: when outside vehicle	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: high visibility vest, when outside vehicle	☒ GLOVES: Leather/ cut-resistant level 2 ☐ OTHER _____

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Motor Vehicle (i.e. car, truck, SUV)

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Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Driving to/leaving Site	**1a. CONTACT:** Severe injury/disability, property damage, monetary loss (insurance premiums, deductibles, loss of license/job) caused by collision with or struck by other vehicles, obstructions, pedestrians, animals, etc. *Common factors that may lead to CONTACT incident, but not limited to: • distracted driving (cell phone, GPS, radio, billboards, "rubber necking") • lack of situational awareness • unfamiliarity with traffic patterns/road layout • weather conditions (wet/icy roads, hydroplaning, black ice) • weariness • high speeds • obstructed vision (solar glare, debris on windshield, blind spots) • changes in travel pathway (construction, snow banks, non-operational signals, potholes, detours, special events) • improper vehicle maintenance (non-operational signal light, worn tires, cracked windshield, ineffective wipers) • loose or unsecure objects	1a. PLAN AHEAD – review/make yourself familiar with maps and driving directions before beginning the drive to the Site. Do not attempt to drive and review maps/directions at the same time. Pull over and stop your vehicle before looking at maps/directions. 1a. Complete a basic vehicle inspection before driving. Verify Inspection and Registration are current, tires and wipers are in good condition, all lights are functional, all glass/mirrors are undamaged, the horn is functional, roof/hood/trunk are free from accumulated snow and visibility is not impaired due to snow/ice/frost/fog on windows. 1a. Do not hang items in car that can obstruct your view or become projectiles in a collision. 1a. Do not get distracted using touch screen radios or GPS units built into newer models. Keep your eyes on the road and stay alert. 1a. Follow posted speed limits and obey traffic signals and roadway signs. 1a. Always wear your seat belt and shoulder harness when driving. 1a. When driving around large vehicles and trucks, maintain extra space as these vehicles may not be able to see a smaller car too close. 1a. Follow the "Rules of the Road" including: using your turn signals, coming to a complete stop, and allowing vehicles the right of way (yield) when they are when traffic laws require. 1a. Apply the Smith Five Keys® of safe driving • Aim High in Steering® - Expand eye lead time to a minimum of 15 seconds • Get the Big Picture® - Maintain proper a 4 second minimum following distance at all times - Scan mirrors every 5-8 seconds to achieve a circle of awareness - Position your vehicle so you can see relevant/non-relevant objects • Keep Your Eyes Moving® - Try to maintain about 180 degrees of visibility - Avoid blank and fixed stares. Avoid focusing on one object for more than 2 seconds • Leave Yourself an Out® - Avoid traveling in traffic clusters - Surround yourself with space - Anticipate the actions of others

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Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Driving to/leaving Site (cont'd)	**1a. CONTACT:** Severe injury/disability, property damage, monetary loss (insurance premiums, deductibles, loss of license/job) caused by collision with or struck by other vehicles, obstructions, pedestrians, animals, etc.	• Make Sure They See You® - Maintain eye contact with on-coming vehicles/pedestrians - Use warning devices (e.g., hand signals, high-lights, horns etc.) - Proper timing is essential 1a. Do not perform reconnaissance or inspections while driving. Your vehicle should be parked in a safe location when viewing or surveying the Site and vicinity 1a. Avoid sudden turns and stops. Don't drive recklessly – be in control of vehicle at all times. 1a. In inclement weather, first determine if work can be POSTPONED. Otherwise, plan according to weather conditions including checking forecast along entirety of travel route (especially, for long distances). Reduce speed as road conditions warrant. Travelling with winter car equipment, in the winter, is strongly recommended (i.e., shovel, scraper, brush, blanket, extra clothing, flashlight, bag of sand). If your vehicle has 4-wheel drive, review to operators manual and understand operating procedure prior to engaging 4-wheel drive. If at any point on your drive weather becomes too severe to proceed safely pull over if safe to do so or seek nearest cover (e.g., overpass) 1a. If feeling drowsy or sleepy, do not drive. Pull over in a safe place to rest if you experience any signs of drowsiness. Make sure to get adequate sleep the night before an early drive. 1a. Never operate a vehicle under the influence of alcohol or illegal substances or medications affecting your performance. 1a. Keep your eyes on the road. Do not call or talk on cellular phones. Pull over to a safe location if you must answer or make a call. 1a. When parking, pull-through when possible. If backing is required visually inspect area to ensure it is free from obstructions prior to backing in and relying solely on mirrors; use spotters when available.
2. Entering/Exiting Vehicle.	**2a. CAUGHT:** Personal injury (broken fingers/hand) while entering or exiting vehicles **2b. FALL:** Personal injury (twisted ankle, deep contusion, concussion, broken wrist/arm, etc.) from slip/fall on uneven or unstable or slippery surface while exiting/entering vehicle **2c. CONTACT:** Severe injury/disability, property damage, monetary loss (insurance premiums, deductibles, loss of license/job) caused by collision with or struck by other vehicles, obstructions, pedestrians, animals, etc.	2a. Open and close doors slowly. Never put hands or feet in between door and vehicle to avoid pinch points. 2b. When exiting the vehicle make sure your feet are on firm footing and weight is evenly distributed before exiting/standing. In inclement weather use hands to support yourself, by holding the car door and/or steering wheel, when exiting the vehicle. 2c. Check both directions for traffic before opening door. Do not exit vehicle if traffic does not permit you to exit safely 2c. Check anticipated path of door prior to opening, do not open door into any obstructions (e.g., bollards, high curbing)

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JOB SAFETY ANALYSIS	Ctrl. No. GEN-014	DATE: 7/10/2020	☐ NEW ☒ REVISED	PAGE 1 of 2

JSA TYPE CATEGORY:	WORK TYPE:	WORK ACTIVITY (Description):	
Generic	**Drilling**	**Hollow Stem Auger Soil Borings / Well Installation**	
DEVELOPMENT TEAM	**POSITION / TITLE**	**REVIEWED BY:**	**POSITION / TITLE**
Douglas Ferraiolo	Staff Geologist	Brian Hobbs	Corporate Health & Safety Manager

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☒ GOGGLES: Spoggles required if winds exceed 15 mph. ☐ FACE SHIELD ☒ HEARING PROTECTION: (as needed). ☒ SAFETY SHOES: Steel or Composite Toe.	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent long-sleeve shirt or long-sleeve shirt and reflective safety vest.	☒ GLOVES: Leather, Cut-Resistant, and Nitrile. ☒ OTHER: Insect Repellant, Sunscreen (as needed).

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Truck-Mounted Drilling Rig or Track Rig, Saw, Hand Tools, Photoionization Detector, Multi-Gas Meter (or equivalent), Interface Probe, 20 lb. Type ABC Fire Extinguisher, 42" Cones & Flags, "Work Area" Signs.

COMMITMENT TO SAFETY- All personnel onsite will actively participate in hazard recognition and mitigation throughout the day by verbalizing SPSAs

EXCLUSION ZONE (EZ): Maintain Minimum Heavy Equipment Exclusion Zone around equipment and loads while it is in motion. The HEEZ must be greater than the swing zone of any moving part of the equipment, tip zone of the equipment, fall zone of the equipment and contents, distance that debris may travel during demolition activities and/or foot print of a structure to be demolished.

"SHOW ME YOUR HANDS"
Driller and helper should show that hands are clear from controls and moving parts

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Mobilization / demobilization and establish a work area.	**1a. See Mobilization/ Demobilization JSA GEN-015.**	1a. See Mobilization / Demobilization JSA GEN-015.
2. Raising tower / derrick of drilling rig.	**2a. CONTACT:** Overhead hazards.	2a. Prior to raising the tower / derrick, the area above the drilling rig will be inspected for overhead hazards (wires, tree limbs, piping or other structures) that may be contacted by the rig's tower or drilling rods. 2a. The tower / derrick must not be raised beneath overhead power lines unless approved by the Roux PM. 2a. Maintain a minimum of 10' from all overhead structures. 2a. Do not move the rig while the tower / derrick is raised.
	2b. CONTACT: Amputation / crush points when raising the rig and instability of rig.	2b. Inspect the equipment prior to use and avoid any potential amputation points. 2b. Lower outriggers to ensure stability prior to raising rig tower derrick. Keep feet and body out of the line of fire when lowering out-riggers. 2b. Inspect the set-up location for uneven terrain. Level or avoid area if needed. 2b. If the rig needs to be mounted, be sure to use three points of contact.
3. Advancement of augers for soil boring installation.	**3a. CONTACT:** Equipment imbalance during advancement of drill equipment.	3a. Drillers will advance the borehole with caution to avoid causing the rig to become imbalanced and / or tip. 3a. The blocking and leveling devices used to secure the rig will be inspected by drillers and Roux personnel regularly to see if shifting has occurred. **3a. Drillers will maintain the "Purple Zone" policy surrounding augers to ensure no personnel come into contact with augers while in use. Workers will spray paint a 3' semi-circle surrounding the augers to visually show that no personnel should enter the "Purple Zone" while drilling activities are being conducted.** 3a. In addition, personnel and equipment that are non-essential to the advancement of the borehole will be positioned away from the rig at a distance that is at least as far as the boom is high (minimum exclusion zone of 20 feet).
	3b. CONTACT: Flying / spraying debris.	3b. Wear all required PPE (especially hand, eye, and ear protection). 3b. Maintain minimum EZ distance (i.e. swing/tip radius of rig) when rig is in operation to avoid potential line of fire hazards from flying materials or debris.
	3c. CAUGHT: Limb/extremity amputation, abrasion, and crushing.	3c. Inspect the equipment prior to use for potential pinch points. 3c. Test all emergency shutdown devices prior to drilling. 3c. Inspect drill head for worn surface or missing teeth; replace if damaged or blunt. 3c. Inspect augers, do not use if auger flight is damaged or bent.

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Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
3. Advancement of augers for soil boring installation (Continued).		3c. Ensure all jewelry is removed, loose clothing is secured, and PPE is secured close to the body. 3c. All non-essential personnel should stay away from the immediate work area; position body out of the line-of-fire of equipment particularly when installing auger flights and steel override casings. 3c. Drillers and helpers will understand and use the "Show Me Your Hands" Policy. 3c. Spinning augers should have an exclusion zone of 20 feet when in operation.
	3d. FALL: Slip/trip/fall hazards.	3d. Inspect walking path for uneven terrain, weather-related hazards (i.e., ice, puddles, snow, etc.), and obstructions prior to mobilizing equipment. 3d. Do not climb over stored materials/equipment; walk around. Practice good housekeeping. 3d. Use established pathways and walk on stable, secure ground. 3d. Use three points of contact when mounting or dismounting the rig. 3d. Remove soil cuttings to avoid a tripping hazard from developing near augers.
	3e. EXPOSURE: Inhalation of contamination / vapors.	3e. Air monitoring using a calibrated photoionization detector (PID) to periodically monitor the breathing zone of the work area. 3e. The Action Level for breathing zone air is five parts per million (sustained) as detected by the PID. 3e. If a reading of >5ppm is recorded, the Roux field personnel must temporarily cease work, instruct all Site personnel to step away from the area of elevated readings and inform the Roux PM of the condition. The Roux PM will then recommend additional appropriate precautions in accordance with the site specific health and safety plan.
	3f. EXPOSURE: Noise and dust.	3f. Wet borehole area with sprayer to minimize dust. Stand upwind and keep body positioned away from rig. 3f. Wear hearing protection while drill rig is operating and / or the noise levels exceed 85 dBA.
	3g. EXERTION: Installing well casings and lifting augers.	3g. Keep back straight and bend at the knees. 3g. Utilize team lifting for objects over 50lbs. 3g. Use mechanical lifting device for odd shaped objects.
4. Installation of well materials.	**4a. CONTACT:** Installing well materials while also pulling up augers. **4b. CAUGHT:** Possible pinch or crush hazard assembling PVC and sending down the borehole. **4c. FALL:** Slip/trip/fall hazards with hand tools and materials. **4d. EXPOSURE:** Potential contamination, harmful vapors, dust, and / or noise. **4e. EXERTION:** Lifting heavy bags of materials to backfill borehole.	4a. Potential contact with augers during installation of well materials. 4a. Keep distance from augers and do not place any materials while augers are in motion. 4b. Keep all body parts out of potential pinch points while placing PVC together and sending down borehole. 4c. See 3d. 4d. See 3e and 3f. 4d. Stand upwind to avoid exposure to dust generated from packing materials. 4e. Ergonomic hazard lifting bags of sand and bentonite while packing the well.
5. Cleaning the auger flights	**5a. CONTACT:** Cuts/scrapes or puncture wound from contacting auger.	5a. Follow "Show Me Your Hands" Procedure and make sure auger is out of gear before contacting auger with tool or hand. 5a. Pull cleaning tool across your body with handle away from body; do not push toward the auger. 5a. Do not clean more than ¾ turn around the auger at a time. 5a. Wear cut resistant and leather gloves. 5a. Always use two hands to operate cleaning tool. 5a. Inspect tool before use and remove from service if handle or metal are cracked/fatigued. 5a. Stand out of the line of fire.
6. Decontaminate equipment.	**6a. EXPOSURE / CONTACT:** To contamination (e.g., contaminated groundwater, vapors). **6b. EXPOSURE**: To chemicals in cleaning solution (including ammonia).	6a. Wear chemical-resistant disposable gloves and safety glasses. 6a. Contain decontamination water so that it does not spill. 6a. Use an absorbent pad to clean spills, if necessary. 6b. See 3e. Wear all appropriate PPE and stand upwind of any exposed cleaning solutions.

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JOB SAFETY ANALYSIS	Ctrl. No. GEN-019	DATE: 7/10/2020	☐NEW ☒REVISED	PAGE 1 of 2

JSA TYPE CATEGORY	WORK TYPE	WORK ACTIVITY (Description)
GENERIC	**Site Recon**	**Site Walk and Inspection**

DEVELOPMENT TEAM	POSITION / TITLE	REVIEWED BY:	POSITION / TITLE
Sara Barrientos	Staff Geologist	Brian Hobbs	Corporate Health and Safety Manager
		Joe Duminuco	Vice President

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☐ FACE SHIELD ☒ HEARING PROTECTION: ear plugs as necessary ☒ SAFETY SHOES: Steel or composite toed	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: High-visibility vest or high-vis outerwear	☒ GLOVES: Leather/cut-resistant/chemical resistant ☒ OTHER: Tyvek and rubber boots as necessary, dust mask as necessary

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Required Equipment: Site map, emergency contact list, documentation of urgent care/hospital routes and / or guide familiar with Site, operating cell phone or walkie-talkie if Site allows.

Commitment to Safety – All personnel onsite will actively participate in SPSA performance by verbalizing SPSAs throughout the day.

EXCLUSION ZONE (EZ): Maintain Minimum Heavy Equipment Exclusion Zone around equipment and loads while it is in motion. The HEEZ must be greater than the swing zone of any moving part of the equipment, tip zone of the equipment, fall zone of the equipment and contents, distance that debris may travel during demolition activities and/or foot print of a structure to be demolished.

SITE SECURITY: Prior to site inspection verify appropriate method to address Site Security concerns as it relates to potential criminal activity, homeless population, and/or isolation concerns. Work with the Project Principal and/or Project Manager to address appropriately.

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Check in with Site contact.	**1a. CONTACT/EXPOSURE/FALL:** Personal injury caused by lack of site specific hazards.	1a. Inquire about hazards and other activities taking place at the Site. 1a. Inform Site contact of work scope, timeline and location(s). 1a. Discuss emergency evacuation procedures and muster points with Site contact.
2. Traversing the Site	**2a. CONTACT:** Property damage and personal injury caused by obstructions/vehicles or unauthorized personnel at remote Sites.	2a. All equipment must be stowed and secured prior to moving. 2a. Maintain speed limit as posted on-site. 2a. When possible drive on established roadways. 2a. Yield to all pedestrians. 2a. Use pull-through spots or back into parking spots. 2a. Don high visibility clothing/safety vest. If working at remote Site, add orange accessories during hunting season.
	2b. FALL: Uneven terrain and weather conditions. Overgrown shrubs and vines. Equipment in the work zone.	2b. Inspect walking path for uneven terrain, weather-related hazards (i.e., ice, puddles, snow, etc.), and obstructions prior to mobilizing equipment. 2b. When possible, use established pathways and walk on stable, secure ground. 2b. Communicate traversing hazards with others.
	2c. OVEREXERTION: Muscle strain while carrying equipment.	2c. When carrying equipment to/from work area, use proper lifting techniques; keep back straight, lift with legs, keep load close to body, never reach with a load. Ensure that loads are balanced to reduce the potential for muscle strain. Use mechanical assistance or make multiple trips to carry equipment.
	2d. EXPOSURE: Biological hazards – ticks; bees/wasps; poison ivy; insects; (Ticks are most active any time the temperature is above freezing, typically from March to November.)	2d. Inspect area to avoid contact with biological hazards. 2d. Ticks: • Treat outer clothing including pants, shirts, socks, boots and hats the evening before with Permethrin (allowing at least two hours before use). • Apply DEET to exposed skin before travelling to the Site and reapply after two hours. • Check for ticks during and after work. 2d. Bees: • Use bee spray as appropriate to deter/eliminate bees. • Protect exposed skin with insect repellent.

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	2e. EXPOSURE: Heat Stress & Cold Stress. Personal injury from working in inclement weather conditions.	2d. Poison Ivy: • Identify areas of poison ivy and spray with weed killer. Don Tyvek and rubber boots while traversing poison ivy areas. • If skin contacts poison ivy, wash skin thoroughly with soap and water. 2e. Wear sunscreen with SPF 15 or greater on exposed skin whenever 30 minutes or more of sun exposure is expected. 2e. Watch for heat stress symptoms (muscle cramping, exhaustion, dizziness, rapid and shallow breathing). Take breaks as needed. 2e. Watch for cold stress symptoms (severe shivering, slowing of body movement, weakness, stumbling or inability to walk, collapse). Take breaks as needed. 2e. Wear appropriate rain gear as needed. 2e. Take frequent breaks if tired, wet, or cold/hot. Drink water. 2e. If lightning is observed, wait 30 minutes after last thunder boom/lightning bolt in a sheltered location (car acceptable) before starting work again.
3. Walking near heavy equipment and machinery.	**3a. CONTACT:** Personal injury from Site and roadway traffic. Personal injury from flying debris **3b. OVEREXERTION:** Personal injury from lifting/moving/rotating equipment. **3c. EXPOSURE:** Hearing damage from noise generating equipment/processes. Inhalation/exposure to hazardous vapors and or dust. **3d. EXPOSURE:** Working in a remote area.	3a. See 2a. 3a. Maintain an exclusion zone of at least 10'-25' feet from all engaged equipment. 3a. Keep body parts out of the line of fire of pinch points. 3a. Wear appropriate PPE always. 3b. See 2c. 3c. Wear hearing protection if >85 dBA. (i.e. noise levels which require you to raise your voice to communicate) 3c. Always wear leather gloves when handling any tools or equipment. 3c. Always wear appropriate PPE based off chemicals present. 3d. Use the "buddy system" whenever possible. If working alone, contact PM upon arrival/departure, as well as during work activities prior to commencing work if applicable. 3d. Always carry a communication (i.e., cell phone, walkie-talkie) or directional (i.e., map, compass, etc.) device when traversing remote areas.
4. Working in adverse weather conditions.	**4a. EXPOSURE:** Heat Stress & Cold Stress. Personal injury from working in inclement weather conditions.	4a. Watch for heat stress symptoms (muscle cramping, exhaustion, dizziness, rapid and shallow breathing). Take breaks as needed. 4a. Watch for cold stress symptoms (severe shivering, slowing of body movement, weakness, stumbling or inability to walk, collapse). Take breaks as needed. 4a. Wear appropriate rain gear as needed. 4a. Take frequent breaks if tired, wet, or cold/hot. Drink water. 4a. If lightning is observed, wait 30 minutes after last thunder boom/lightning bolt in a sheltered location (car acceptable) before starting work again.
5. Departing Site.	**5a. EXPOSURE:** Exposure to unnecessary hazards should personnel believe Roux is on-Site during an emergency and conduct a search.	5a. Sign out or notify Site contact and Roux Project Manager of your departure.

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JOB SAFETY ANALYSIS Ctrl. No. GEN-013	DATE 1/4/2018	☐ NEW ☒ REVISED	PAGE 1 of 2

JSA TYPE CATEGORY	WORK TYPE:	WORK ACTIVITY (Description):
Generic	**Gauging and Sampling**	**Gauging and Sampling**

DEVELOPMENT TEAM	POSITION / TITLE	REVIEWED BY:	POSITION / TITLE
Brandon Tufano	Staff Geologist	Brian Hobbs	Senior Health & Safety Manager
		Joe Gentile	Corporate Health & Safety Manager

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☒ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☐ FACE SHIELD ☐ HEARING PROTECTION ☒ SAFETY SHOES: Composite-toe or steel toe boots	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent reflective vest or high visibility clothing	☒ GLOVES: Leather, Nitrile and cut resistant ☒ OTHER: Knee pads, Insect Repellant, sunscreen (as needed)

REQUIRED AND / OR RECOMMENDED EQUIPMENT

42-inch Safety Cones, Caution Tape, Interface Probe and/or Water Level Meter, 20-lb., Type ABC Fire Extinguisher, Buckets. Tools as needed: Socket Wrench, Screw Driver, Crow Bar, Mallet, and Wire Brush.

COMMITMENT TO SAFETY- All personnel onsite will actively participate in hazard recognition and mitigation throughout the day by verbalizing SPSAs

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Mobilization to monitoring well(s).	**1a. FALL:** Personal injury from slip/trip/fall due to uneven terrain and/or obstructions.	1a. Inspect pathway and plan for most suitable designated pathway prior to mobilization. 1a. Use established pathways, walk and/or drive on stable, secure ground and avoid steep hills or uneven terrain. 1a. If working near open water with an unguarded edge, wear life vest.
	1b. CONTACT: With traffic/third parties.	1b. Identify potential traffic sources and delineate work area with 42-inch traffic safety cones. Position vehicle to protect against oncoming traffic. Use caution tape to provide a more visible delineation of the work area if necessary. 1b. Wear appropriate PPE including high visibility clothing or reflective vest. 1b. Face traffic, maintain eye contact with oncoming vehicles, and establish a safe exit route.
	1c. EXERTION: Muscle strain from lifting equipment	1c. Use proper lifting techniques when handling/moving equipment; bend knees and keep back straight. 4c. Use mechanical assistance or team lifting techniques when equipment is 50 lbs. or heavier. 4c. Make multiple trips to carry equipment.
	1d. EXPOSURE: To biological hazards.	1d. Inspect work area for bees and insects. 1d. Use insect/tick repellent as necessary.
2. Open/close well.	**2a. EXERTION:** Muscle strain.	2a. Use proper lifting techniques; keep back straight, lift with legs and bend knees when reaching to open/close well.
	2b. CAUGHT: Pinch/crush points associated with removing/replacing manholes and working with hand tools.	2b. Wear leather gloves or cut resistant gloves when working with well cover and hand tools. 2b. Use proper tools (ratchet and pry bar for well cover) and inspect before use. 2b. Do not put fingers under well cover.
	2c. CAUGHT: Pinch points associated with placing J-plug back onto PVC pipe.	2c. See 2b. 2c. Keep fingers out of line-of-fire when securing cap.
	2d. EXPOSURE: To potential hazardous vapors.	2d. No open flames/heat sources. 2d. To minimize exposure to vapors, allow well to vent after opening it and before sampling activities begin. 2d. Stand up-wind, if possible, to avoid inhaling vapors.
3. Gauge well.	**3a. CONTACT:** With contamination (e.g. contaminated groundwater).	3a. Wear chemical-resistant disposable gloves (over cut-resistant gloves) and safety glasses when gauging well. 3a. Insert and remove probe slowly to avoid splashing. 3a. Use an absorbent pad to clean probe.
	3b. CONTACT: With traffic.	3b. See 1b.

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Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
4. Purge and sample well	**4a. EXPOSURE/CONTACT:** To contamination (e.g., SPH, contaminated groundwater, vapors) and/or sample preservatives.	4a. Open and fill sample jars slowly to avoid splashing and contact with preservatives. 4a. Wear cut-resistant gloves and chemical-resistant disposable gloves when sampling. 4a. Fill sample containers over purge container to avoid spilling water onto the ground. 4a. Use an absorbent pad to clean spills. 4a. When using a bailer to purge a well, pull the bailer slowly from the well to avoid splash hazards. 4a. When sampling or purging the water using a bailer, pour out water slowly to reduce the potential for splash hazards with groundwater. 4a. When using a tubing valve always remove the valve slowly after sample collection to release any pressure and avoid pressurized splash hazards. 4a. When collecting a groundwater sample always point sampling apparatus (tubing, bailer, etc.) away from face and body.
	4b. CONTACT: Personal injury from cuts, abrasions, or punctures by glassware or sharp objects.	4b. To avoid spills or breakage, place sample ware on even surface. 4b. Do not over tighten caps on glass sample ware. 4b. Wear chemical-resistant nitrile disposable gloves over cut-resistant (i.e., Kevlar) gloves when sampling and handling glassware (i.e., VOA vials) or when using cutting tools.
	4c. EXERTION: Muscle strain while carrying equipment.	4c. Use proper lifting techniques when handling/moving equipment, bend knees and keep back straight. 4c. Use mechanical assistance or team lifting techniques when equipment is 50 lbs. or heavier. 4c. Make multiple trips to carry equipment.
	4d. CONTACT: With traffic.	4d. See 1b.
	4e. CONTACT: Pinch points with groundwater pump components (i.e., wheel, line, clamps).	4e. Wear leather gloves when working with groundwater pumps. 4e. Never place hands on or near pinch points such as the wheel, clamps or other moving parts during pump operations. 4e. Use the correct mechanisms, such as a pump reel, to lower pump into well. 4e. Never attempt to manually stop any moving part of equipment including hose reels and/or tubing.
	4f. EXERTION: Muscle strain from repetitive motion of bailing and sampling a well.	4f. See 4c. 4f. Include a stretch break when repetitive motions are part of the task.
5. Management of purge water.	**5a. EXPOSURE/CONTACT:** To contamination (e.g., SPH, contaminated groundwater, vapors).	5a. Do not overfill container and pour liquids slowly so that they do not splash. 5a. Properly dispose of used materials/PPE in appropriate container in designated storage area.
	5b. EXERTION: Muscle strain from lifting/carrying and moving containers.	5b. Use proper lifting techniques when lifting / carrying or moving container(s) (see 4c.). 5b. Do not overfill container(s).
6. Decontaminate equipment.	**6a. EXPOSURE/CONTACT:** To contamination (e.g., SPH, contaminated groundwater, vapors).	6a. Work on the upwind side, where possible, of decon area. 6a. Wear chemical-resistant disposable gloves and safety glasses. 6a. Use an absorbent pad to clean spills.
	6b. CAUGHT: Pinch points associated with handling hand tools	6b. See 2b. 6b. Inspect hand tools for sharp edges before decontaminating.

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[2] A hazard is a potential danger. Break hazards into five types: Contact - victim is struck by or strikes an object; Caught - victim is caught on, caught in or caught between objects; Fall - victim falls to ground or lower level (includes slips and trips); Exertion - excessive strain or stress / ergonomics / lifting techniques; Exposure - inhalation/skin hazards; Energy Source – electricity, pressure, compression/tension.
[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

JOB SAFETY ANALYSIS	Ctrl. No. GEN-015	DATE: 1/4/2018	☐NEW ☒REVISED	PAGE 1 of 2

JSA TYPE CATEGORY	WORK TYPE	WORK ACTIVITY (Description)	
GENERIC	**Site Recon**	**Mobilization/Demobilization**	
DEVELOPMENT TEAM	**POSITION / TITLE**	**REVIEWED BY:**	**POSITION / TITLE**
Rebecca Lowy	Staff Assistant Geologist	Brian Hobbs	Senior Health & Safety Manager
Tally Sodre	OHSM	Joe Gentile	Corporate Health & Safety Manager

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☐ FACE SHIELD ☒ HEARING PROTECTION (as needed) ☒ SAFETY SHOES: Steel Toe or composite toe	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent reflective vest of high-visibility clothing; long sleeve shirt; long pants	☒ GLOVES: Leather, nitrile, and cut resistant (as needed) ☐ OTHER

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Required Equipment: None

COMMITMENT TO SAFETY- All personnel onsite will actively participate in hazard recognition and mitigation throughout the day by verbalizing SPSAs

EXCLUSION ZONE (EZ): A 10-foot exclusion zone will be maintained around equipment in use..

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Mobilize/demobilize and establish work area	**1a. FALL:** Slip/trips/falls from obstructions, uneven terrain, weather conditions, heavy loads, and/or poor housekeeping.	1a. Use 3 points-of-contact/ensure secure footing when entering and exiting vehicle. 1a. Inspect walking path for uneven terrain, steep hills, obstructions, and/or weather-related hazards (i.e., ice, snow, and puddles) prior to mobilizing equipment. Use established pathways. Walk on stable/secure ground. 1a. Do not climb over stored materials/equipment; walk around. Practice good housekeeping; organize and store equipment neatly in one area at its lowest potential energy. 1a. Wear boots with adequate treads. 1a. Delineate unsafe areas with 42” cones, caution tape and/or flagging.
	1b. CONTACT: Personal injury and/or property damage caused by being struck by Site traffic or equipment used in Site activities.	1b. Observe and maintain the posted speed limits. 1b. When first arriving onsite, park vehicles in designated parking space and/or out of the way locations. Use parking brake on all vehicles and tire chocks on work trucks and trailers. 1b. Check in with Site Manager/Supervisor to ensure coordination with other Site activities and to discuss any special hazards. Ensure that short-service employees (SSE) are identified. 1b. Identify potential traffic sources. 1b. Wear PPE including high visibility clothing or reflective vest. 1b. Use a spotter while moving work vehicles; plan ahead to avoid backing whenever possible. 1b. Maintain a minimum 10’ exclusion zone when vehicles are in motion. When backing up truck rig with an attached trailer use a second spotter if there is tight clearance simultaneously on multiple sides of the equipment or if turning angles limit driver-to-spotter visibility. 1b. Delineate work area with 42” cones, flags, caution tape, and/or other barriers. 1b. Position “Work Area” signs at Site entrances, if possible, or at either side of work area.

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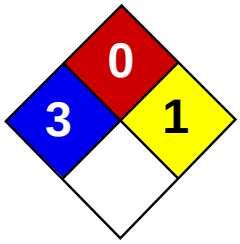
Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
		1b. Position largest vehicle to protect against oncoming traffic. 1b. Face traffic, maintain eye contact with oncoming vehicles, use a spotter, and establish a safe exit route. 1b. Observe potential overhead and ground surface features that may interfere with moving equipment. Clear the path of physical hazards prior to initiating mobilization.
	1c. CAUGHT: Personal injury from pinch points and being in line-of-fire of vehicle and/or equipment.	1c. Make sure driver has engaged parking brake and placed wheel chocks in a position to prevent movement. Be sure that vehicle is parked in front/down gradient (positioned to best block oncoming traffic) of work area. 1c. Wear leather gloves when handling any tools or equipment. Wear cut-resistant gloves (Kevlar or similar) when handling sharp objects/cutting tools/glass. 1c. Keep body parts away from line-of-fire of equipment. 1c. Always carry tools by the handles and/or designated carrier. Ensure sharp-edged tools are sheathed/secure. 1c. Remove any loose jewelry. Avoid wearing loose clothing and/or ensure loose clothing is secure. 1c. Secure all items on the equipment, tighten up any items or features that have potential to shift or break during mobilization.
	1d. OVEREXERTION: Muscle strains while lifting/carrying equipment.	1d. Use body positioning and lifting techniques that avoid muscle strain; keep back straight, lift with legs, turn with whole body, keep load close to body, and never reach with a load. 1d. Ensure that loads are balanced. Use assistance (mechanical or additional person) to carry equipment that is either unwieldy or over 50 lbs.
	1e. EXPOSURE: Personal injury from exposure to biological and environmental hazards.	1e. Inspect area to avoid contact with biological hazards (i.e. poisonous plants, stinging insects, ticks, etc.). 1e. Wear long sleeved clothes treated with Permethrin, apply insect repellant containing DEET to exposed skin, and inspect clothes and skin for ticks during and after work. 1e. Apply sunscreen (SPF 15+) if exposure to sun for 30 minutes or more is expected.
	1f. EXPOSURE: Weather related injuries.	1f. Watch for heat stress symptoms (muscle cramping, exhaustion, dizziness, nausea, rapid and shallow breathing). Take breaks in cool places and hydrate as needed. 1f. Watch for cold stress symptoms (severe shivering, slowing of body movement, weakness, stumbling or inability to walk, collapse). Take breaks in warm areas as needed. 1f. Wear clothing appropriate for weather and temperature conditions (e.g., rain jackets, snow pants, multiple layers). 1f. If lightning is observed, wait 30 minutes in a sheltered location (car is acceptable) before resuming work.
	1g. EXPOSURE: Personal injury from noise hazards.	1g. Wear hearing protection if sound levels exceed 85 dBA (if you must raise your voice for normal conversation).

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APPENDIX B

Safety Data Sheets for Chemicals Used







Material Safety Data Sheet
Hydrochloric acid MSDS

Section 1: Chemical Product and Company Identification

Product Name: Hydrochloric acid

Catalog Codes: SLH1462, SLH3154

CAS#: Mixture.

RTECS: MW4025000

TSCA: TSCA 8(b) inventory: Hydrochloric acid

CI#: Not applicable.

Synonym: Hydrochloric Acid; Muriatic Acid

Chemical Name: Not applicable.

Chemical Formula: Not applicable.

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Hydrogen chloride	7647-01-0	20-38
Water	7732-18-5	62-80

Toxicological Data on Ingredients: Hydrogen chloride: GAS (LC50): Acute: 4701 ppm 0.5 hours [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:
Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant, corrosive), of ingestion, . Slightly hazardous in case of inhalation (lung sensitizer). Non-corrosive for lungs. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:
Slightly hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: Classified 3 (Not classifiable for human.) by IARC [Hydrochloric acid]. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, liver, mucous membranes, upper respiratory tract, skin, eyes, Circulatory System, teeth. Repeated or prolonged exposure to the substance can produce target

organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact:
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:
If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: of metals

Explosion Hazards in Presence of Various Substances: Non-explosive in presence of open flames and sparks, of shocks.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards:
Non combustible. Calcium carbide reacts with hydrogen chloride gas with incandescence. Uranium phosphide reacts with hydrochloric acid to release spontaneously flammable phosphine. Rubidium acetylene carbides burns with slightly warm hydrochloric acid. Lithium silicide in contact with hydrogen chloride becomes incandescent. When dilute hydrochloric acid is used, gas spontaneously flammable in air is evolved. Magnesium boride treated with concentrated hydrochloric acid produces spontaneously flammble gas. Cesium acetylene carbide burns hydrogen chloride gas. Cesium carbide ignites in contact with hydrochloric acid unless acid is dilute. Reacts with most metals to produce flammable Hydrodgen gas.

Special Remarks on Explosion Hazards:

Hydrogen chloride in contact with the following can cause an explosion, ignition on contact, or other violent/vigorous reaction: Acetic anhydride AgClO + CCl4 Alcohols + hydrogen cyanide, Aluminum Aluminum-titanium alloys (with HCl vapor), 2-Amino ethanol, Ammonium hydroxide, Calcium carbide Ca3P2 Chlorine + dinitroanilines (evolves gas), Chlorosulfonic acid Cesium carbide Cesium acetylene carbide, 1,1-Difluoroethylene Ethylene diamine Ethylene imine, Fluorine, HClO4 Hexalithium disilicide H2SO4 Metal acetylides or carbides, Magnesium boride, Mercuric sulfate, Oleum, Potassium permanganate, beta-Propiolactone Propylene oxide Rubidium carbide, Rubidium, acetylene carbide Sodium (with aqueous HCl), Sodium hydroxide Sodium tetraselenium, Sulfonic acid, Tetraselenium tetranitride, U3P4 , Vinyl acetate. Silver perchlorate with carbon tetrachloride in the presence of hydrochloric acid produces trichloromethyl perchlorate which detonates at 40 deg. C.

Section 6: Accidental Release Measures

Small Spill:
Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

Large Spill:
Corrosive liquid. Poisonous liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep locked up.. Keep container dry. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, organic materials, metals, alkalis, moisture. May corrode metallic surfaces. Store in a metallic or coated fiberboard drum using a strong polyethylene inner package.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:
Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
CEIL: 5 (ppm) from OSHA (PEL) [United States] CEIL: 7 (mg/m3) from OSHA (PEL) [United States] CEIL: 5 from NIOSH CEIL: 7 (mg/m3) from NIOSH TWA: 1 STEL: 5 (ppm) [United Kingdom (UK)] TWA: 2 STEL: 8 (mg/m3) [United Kingdom (UK)]Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Pungent. Irritating (Strong.)

Taste: Not available.

Molecular Weight: Not applicable.

Color: Colorless to light yellow.

pH (1% soln/water): Acidic.

Boiling Point:
108.58 C @ 760 mm Hg (for 20.22% HCl in water) 83 C @ 760 mm Hg (for 31% HCl in water) 50.5 C (for 37% HCl in water)

Melting Point:
-62.25°C (-80°F) (20.69% HCl in water) -46.2 C (31.24% HCl in water) -25.4 C (39.17% HCl in water)

Critical Temperature: Not available.

Specific Gravity:
1.1- 1.19 (Water = 1) 1.10 (20%and 22% HCl solutions) 1.12 (24% HCl solution) 1.15 (29.57% HCl solution) 1.16 (32% HCl solution) 1.19 (37% and 38%HCl solutions)

Vapor Pressure: 16 kPa (@ 20°C) average

Vapor Density: 1.267 (Air = 1)

Volatility: Not available.

Odor Threshold: 0.25 to 10 ppm

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether.

Solubility: Soluble in cold water, hot water, diethyl ether.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials, water

Incompatibility with various substances:
Highly reactive with metals. Reactive with oxidizing agents, organic materials, alkalis, water.

Corrosivity:
Extremely corrosive in presence of aluminum, of copper, of stainless steel(304), of stainless steel(316). Non-corrosive in presence of glass.

Special Remarks on Reactivity:
Reacts with water especially when water is added to the product. Absorption of gaseous hydrogen chloride on mercuric sulfate becomes violent @ 125 deg. C. Sodium reacts very violently with gaseous hydrogen chloride. Calcium phosphide and hydrochloric acid undergo very energetic reaction. It reacts with oxidizers releasing chlorine gas. Incompatible with, alkali metals, carbides, borides, metal oxides, vinyl acetate, acetylides, sulphides, phosphides, cyanides, carbonates. Reacts with most metals to produce flammable Hydrogen gas. Reacts violently (moderate reaction with heat of evolution) with water especially when water is added to the product. Isolate hydrogen chloride from heat, direct sunlight, alkalies (reacts vigorously), organic materials, and oxidizers (especially nitric acid and chlorates), amines, metals, copper and alloys (e.g. brass), hydroxides, zinc (galvanized materials), lithium silicide (incandescence), sulfuric acid(increase in temperature and pressure) Hydrogen chloride gas is emitted when this product is in contact with sulfuric acid. Adsorption of Hydrochloric Acid onto silicon dioxide results in exothmeric reaction. Hydrogen chloride causes aldehydes and epoxides to violently polymerize. Hydrogen chloride or Hydrochloric Acid in contact with the folloiwng can cause explosion or ignition on contact or

Special Remarks on Corrosivity:

Highly corrosive. Incompatible with copper and copper alloys. It attacks nearly all metals (mercury, gold, platinium, tantalum, silver, and certain alloys are exceptions). It is one of the most corrosive of the nonoxidizing acids in contact with copper alloys. No corrosivity data on zinc, steel. Severe Corrosive effect on brass and bronze

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation.

Toxicity to Animals:
Acute oral toxicity (LD50): 900 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50): 1108 ppm, 1 hours [Mouse]. Acute toxicity of the vapor (LC50): 3124 ppm, 1 hours [Rat].

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: Classified 3 (Not classifiable for human.) by IARC [Hydrochloric acid]. May cause damage to the following organs: kidneys, liver, mucous membranes, upper respiratory tract, skin, eyes, Circulatory System, teeth.

Other Toxic Effects on Humans:
Very hazardous in case of skin contact (corrosive, irritant, permeator), of ingestion, . Hazardous in case of eye contact (corrosive), of inhalation (lung corrosive).

Special Remarks on Toxicity to Animals:
Lowest Published Lethal Doses (LDL/LCL) LDL [Man] -Route: Oral; 2857 ug/kg LCL [Human] - Route: Inhalation; Dose: 1300 ppm/30M LCL [Rabbit] - Route: Inhalation; Dose: 4413 ppm/30M

Special Remarks on Chronic Effects on Humans:
May cause adverse reproductive effects (fetoxicity). May affect genetic material.

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects: Skin: Corrosive. Causes severe skin irritation and burns. Eyes: Corrosive. Causes severe eye irritation/conjuntivitis, burns, corneal necrosis. Inhalation: May be fatal if inhaled. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract. Inhalation of hydrochloric acid fumes produces nose, throat, and larryngeal burning, and irritation, pain and inflammation, coughing, sneezing, choking sensation, hoarseness, laryngeal spasms, upper respiratory tract edema, chest pains, as well has headache, and palpitations. Inhalation of high concentrations can result in corrosive burns, necrosis of bronchial epithelium, constriction of the larynx and bronchi, nasospetal perforation, glottal closure, occur, particularly if exposure is prolonged. May affect the liver. Ingestion: May be fatal if swallowed. Causes irritation and burning, ulceration, or perforation of the gastrointestinal tract and resultant peritonitis, gastric hemorrhage and infection. Can also cause nausea, vomitting (with "coffee ground" emesis), diarrhea, thirst, difficulty swallowing, salivation, chills, fever, uneasiness, shock, strictures and stenosis (esophogeal, gastric, pyloric). May affect behavior (excitement), the cardiovascular system (weak rapid pulse, tachycardia), respiration (shallow respiration), and urinary system (kidneys- renal failure, nephritis). Acute exposure via inhalation or ingestion can also cause erosion of tooth enamel. Chronic Potential Health Effects: dyspnea, bronchitis. Chemical pneumonitis and pulmonary edema can also

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Class 8: Corrosive material

Identification: : Hydrochloric acid, solution UNNA: 1789 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:
Connecticut hazardous material survey.: Hydrochloric acid Illinois toxic substances disclosure to employee act: Hydrochloric acid Illinois chemical safety act: Hydrochloric acid New York release reporting list: Hydrochloric acid Rhode Island RTK hazardous substances: Hydrochloric acid Pennsylvania RTK: Hydrochloric acid Minnesota: Hydrochloric acid Massachusetts RTK: Hydrochloric acid Massachusetts spill list: Hydrochloric acid New Jersey: Hydrochloric acid New Jersey spill list: Hydrochloric acid Louisiana RTK reporting list: Hydrochloric acid Louisiana spill reporting: Hydrochloric acid California Director's List of Hazardous Substances: Hydrochloric acid TSCA 8(b) inventory: Hydrochloric acid TSCA 4(a) proposed test rules: Hydrochloric acid SARA 302/304/311/312 extremely hazardous substances: Hydrochloric acid SARA 313 toxic chemical notification and release reporting: Hydrochloric acid CERCLA: Hazardous substances.: Hydrochloric acid: 5000 lbs. (2268 kg)

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):
CLASS D-2A: Material causing other toxic effects (VERY TOXIC). CLASS E: Corrosive liquid.

DSCL (EEC):
R34- Causes burns. R37- Irritating to respiratory system. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 0

Reactivity: 1

Personal Protection:

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 0

Reactivity: 1

Specific hazard:

Protective Equipment:
Gloves. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Face shield.

Section 16: Other Information

References:
-Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987. -SAX, N.I. Dangerous Properties of Indutrial Materials. Toronto, Van Nostrand Reinold, 6e ed. 1984. -The Sigma-Aldrich Library of Chemical Safety Data, Edition II. -Guide de la loi et du règlement sur le transport des marchandises dangeureuses au canada. Centre de conformité internatinal Ltée. 1986.

Other Special Considerations: Not available.

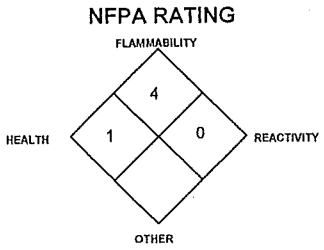
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MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI and Canadian WHMIS Standards



PART I *What is the material and what do I need to know in an emergency?*

1. PRODUCT IDENTIFICATION

CHEMICAL NAME; CLASS: **ISOBUTYLENE - C_4H_8**
Document Number: Isobutylene

PRODUCT USE: For general analytical/synthetic chemical uses.

SUPPLIER/MANUFACTURER'S NAME: MESA Specialty Gases & Equipment
ADDRESS: 3619 Pendleton Avenue, Suite C
Santa Ana, CA 92704

BUSINESS PHONE: 1-714-434-7102
EMERGENCY PHONE: INFOTRAC: 1-800-535-5053

DATE OF PREPARATION: May 10, 1999

2. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	mole %	EXPOSURE LIMITS IN AIR					
			ACGIH		OSHA			
			TLV ppm	STEL ppm	PEL ppm	STEL ppm	IDLH ppm	OTHER
Isobutylene	115-11-7	> 99.0%	There are no specific exposure limits for Isobutylene. Isobutylene is a simple asphyxiant (SA). Oxygen levels should be maintained above 19.5%.					
Maximum Impurities		< 1.0%	None of the trace impurities in this mixture contribute significantly to the hazards associated with the product. All hazard information pertinent to this product has been provided in this Material Safety Data Sheet, per the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) and State equivalent standards.					

NE = Not Established C = Ceiling Limit See Section 16 for Definitions of Terms Used

NOTE: All WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-1993 format.

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: Isobutylene is a colorless, liquefied, flammable gas with an unpleasant odor similar to burning coal. The liquefied gas rapidly turns into a gas at standard atmospheric temperatures and pressures. Isobutylene is an asphyxiant and presents a significant health hazard by displacing the oxygen in the atmosphere. Rapid evaporation of liquid from the cylinder may cause frostbite. Both the liquid and gas pose a serious fire hazard when accidentally released. The gas is heavier than air and may travel to a source of ignition and flash back to a leak or open container. Flame or high temperature impinging on a localized area of a cylinder of Isobutylene can cause the cylinder to rupture without activating the cylinder's relief devices. Provide adequate fire protection during emergency response situations.

SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE: The most significant route of overexposure for this gas is by inhalation. The following paragraphs describe symptoms of exposure by route of exposure.

INHALATION: High concentrations of this gas can cause an oxygen-deficient environment. Individuals breathing such an atmosphere may experience symptoms which include headaches, ringing in ears, dizziness, drowsiness, unconsciousness, nausea, vomiting, and depression of all the senses. Under some circumstances of overexposure, death may occur. Isobutylene also has some degree of anesthetic action and can be mildly irritating to the mucous membranes. The effects associated with various levels of oxygen are as follows:

CONCENTRATION	SYMPTOMS OF EXPOSURE
12-16% Oxygen:	Breathing and pulse rate increased, muscular coordination slightly disturbed.
10-14% Oxygen:	Emotional upset, abnormal fatigue, disturbed respiration.
6-10% Oxygen:	Nausea and vomiting, collapse or loss of consciousness.
Below 6%:	Convulsive movements, possible respiratory collapse, and death.

OTHER POTENTIAL HEALTH EFFECTS: Contact with liquid or rapidly expanding gases (which are released under high pressure) may cause frostbite. Symptoms of frostbite include change in skin color to white or grayish-yellow. The pain after such contact can quickly subside.

HAZARDOUS MATERIAL INFORMATION SYSTEM

HEALTH	(BLUE)	1
FLAMMABILITY	(RED)	4
REACTIVITY	(YELLOW)	0
PROTECTIVE EQUIPMENT		B

EYES	RESPIRATORY	HANDS	BODY
	See Section 8		See Section 8

For routine industrial applications

See Section 16 for Definition of Ratings

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in **Lay Terms**. Overexposure to Isobutylene may cause the following health effects:

ACUTE: The most significant hazard associated with this gas is inhalation of oxygen-deficient atmospheres. Symptoms of oxygen deficiency include respiratory difficulty, headache, dizziness, and nausea. At high concentrations, unconsciousness or death may occur. Contact with liquefied gas or rapidly expanding gases may cause frostbite.

CHRONIC: There are currently no known adverse health effects associated with chronic exposure to Isobutylene.

TARGET ORGANS: Respiratory system.

PART II *What should I do if a hazardous situation occurs?*

4. FIRST-AID MEASURES

RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO ISOBUTYLENE WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. At a minimum, Self-Contained Breathing Apparatus and Fire-Retardant Personal Protective equipment should be worn. Adequate fire protection must be provided during rescue situations.

4. FIRST-AID MEASURES (Continued)

Remove victim(s) to fresh air as quickly as possible. Trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary. Only trained personnel should administer supplemental oxygen.

In case of frostbite, place the frostbitten part in warm water. DO NOT USE HOT WATER. If warm water is not available, or is impractical to use, wrap the affected parts gently in blankets. Alternatively, if the fingers or hands are frostbitten, place the affected area in the armpit. Encourage victim to gently exercise the affected part while being warmed. Seek immediate medical attention.

Victim(s) must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to physician or other health professional with victim(s).

5. FIRE-FIGHTING MEASURES

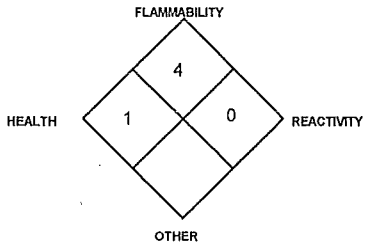
FLASH POINT (Closed Cup): -10°C (< 14°F)
AUTOIGNITION TEMPERATURE: 465°C (869°F)
FLAMMABLE LIMITS (in air by volume, %):

Lower (LEL): 1.8%
Upper (UEL): 9.6%

FIRE EXTINGUISHING MATERIALS: Extinguish Isobutylene fires by shutting off the source of the gas. Use water spray or a foam agent to cool fire-exposed containers, structures, and equipment.

UNUSUAL FIRE AND EXPLOSION HAZARDS: When involved in a fire, this material may ignite and produce toxic gases, including carbon monoxide and carbon dioxide.

NFPA RATING



See Section 16 for Definition of Ratings

DANGER! Fires impinging (direct flame) on the outside surface of unprotected pressure storage vessels of Isobutylene can be very dangerous. Direct flame exposure on the cylinder wall can cause an explosion either by BLEVE (Boiling Liquid Expanding Vapor Explosion), or by exothermic decomposition. This is a catastrophic failure of the vessel releasing the contents into a massive fireball and explosion. The resulting fire and explosion can result in severe equipment damage and personnel injury or death over a large area around the vessel. For massive fires in large areas, use unmanned hose holder or monitor nozzles; if this is not possible, withdraw from area and allow fire to burn.

Explosion Sensitivity to Mechanical Impact: Not sensitive.
Explosion Sensitivity to Static Discharge: Static discharge may cause Isobutylene to ignite explosively if released.

SPECIAL FIRE-FIGHTING PROCEDURES: Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. The best fire-fighting technique may be simply to let the burning gas escape from the pressurized cylinder, tank car, or pipeline. Stop the leak before extinguishing fire. If the fire is extinguished before the leak is sealed, the leaking gas could explosively re-ignite without warning and cause extensive damage, injury, or fatality. In this case, increase ventilation (in enclosed areas) to prevent flammable or explosive mixture formation. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Because of the potential for a BLEVE, evacuation of non-emergency personnel is essential. If water is not available for cooling or protection of vessel exposures, evacuate the area. Refer to the North American Emergency Response Guidebook for additional information. Other information for pre-planning can be found in the American Petroleum Institute Publications 2510 and 2510A.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a release, clear the affected area, protect people, and respond with trained personnel. Adequate fire protection must be provided. Minimum Personal Protective Equipment should be **Level B: fire-retardant protective clothing, gloves resistant to tears, and Self-Contained Breathing Apparatus.**

Use only non-sparking tools and equipment. Locate and seal the source of the leaking gas. Protect personnel attempting the shut off with water spray. Allow the gas to dissipate. Monitor the surrounding area for combustible gas levels and oxygen. Combustible gas concentration must be below 10% of the LEL (LEL = 1.8%) prior to entry. The atmosphere must have at least 19.5 percent oxygen before personnel can be allowed in the area without Self-Contained Breathing Apparatus. Attempt to close the main source valve prior to entering the area. If this does not stop the release (or if it is not possible to reach the valve), allow the gas to release in place or remove it to a safe area and allow the gas to be released there.

THIS IS AN EXTREMELY FLAMMABLE GAS. Protection of all personnel and the area must be maintained.

PART III *How can I prevent hazardous situations from occurring?*

7. HANDLING and STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting Isobutylene IN YOU. Do not eat or drink while handling chemicals. Be aware of any signs of dizziness or fatigue; exposures to fatal concentrations of Isobutylene could occur without any significant warning symptoms.

STORAGE AND HANDLING PRACTICES: Cylinders should be stored in dry, well-ventilated areas away from sources of heat. Compressed gases can present significant safety hazards. Store containers away from heavily trafficked areas and emergency exits. Post "No Smoking or Open Flames" signs in storage or use areas.

SPECIAL PRECAUTIONS FOR HANDLING GAS CYLINDERS: Protect cylinders against physical damage. Store in cool, dry, well-ventilated area, away from sources of heat, ignition and direct sunlight. Do not allow area where cylinders are stored to exceed 52°C (125°F). Isolate from oxidizers such as oxygen, chlorine, or fluorine. Use a check valve or trap in the discharge line to prevent hazardous backflow. Post "No Smoking or Open Flame" signs in storage and use areas. Cylinders should be stored upright and be firmly secured to prevent falling or being knocked over. Cylinders can be stored in the open, but in such cases, should be protected against extremes of weather and from the dampness of the ground to prevent rusting. Never tamper with pressure relief devices in valves and cylinders. Electrical equipment should be non-sparking or explosion proof. The following rules are applicable to situations in which cylinders are being used:

Before Use: Move cylinders with a suitable hand truck. Do not drag, slide, or roll cylinders. Do not drop cylinders or permit them to strike each other. Secure cylinders firmly. Leave the valve protection cap, if provided, in place until cylinder is ready for use.

During Use: Use designated CGA fittings and other support equipment. Do not use adapters. Do not heat cylinder by any means to increase the discharge rate of the product from the cylinder. Use check valve or trap in discharge line to prevent hazardous backflow into the cylinder. Do not use oils or grease on gas-handling fittings or equipment.

After Use: Close main cylinder valve. Replace valve protection cap, if provided. Mark empty cylinders "EMPTY".

NOTE: Use only DOT or ASME code containers. Earth-ground and bond all lines and equipment associated with Isobutylene. Close valve after each use and when empty. Cylinders must not be recharged except by or with the consent of owner. For additional information refer to the Compressed Gas Association Pamphlet P-1, *Safe Handling of Compressed Gases in Containers*. Additionally, refer to CGA Bulletin SB-2 "*Oxygen Deficient Atmospheres*".

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain that application equipment is locked and tagged-out safely. Purge gas handling equipment with inert gas (e.g., nitrogen) before attempting repairs.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation. Local exhaust ventilation is preferred, because it prevents Isobutylene dispersion into the work place by eliminating it at its source. If appropriate, install automatic monitoring equipment to detect the presence of potentially explosive air-gas mixtures and level of oxygen.

RESPIRATORY PROTECTION: Maintain oxygen levels above 19.5% in the workplace. Maintain level of gas below the level listed in Section 2 (Composition and Information on Ingredients). Use supplied air respiratory protection if oxygen levels are below 19.5% or during emergency response to a release of Isobutylene. If respiratory protection is required, follow the requirements of the Federal OSHA Respiratory Protection Standard (29 CFR 1910.134) or equivalent State standards.

EYE PROTECTION: Splash goggles or safety glasses, for protection from rapidly expanding gases and splashes of liquid Isobutylene.

HAND PROTECTION: Wear gloves resistant to tears when handling cylinders of Isobutylene. Use low-temperature protective gloves (e.g., Kevlar) when working with containers of liquid Isobutylene.

BODY PROTECTION: Use body protection appropriate for task. Transfer of large quantities under pressure may require protective equipment appropriate to protect employees from splashes of liquefied product, as well as fire retardant items.

9. PHYSICAL and CHEMICAL PROPERTIES

VAPOR DENSITY @ 21.1°C (70°F): 2.396 kg/m^3 (0.1496 lb/ft^3)
SPECIFIC GRAVITY (air = 1): 1.997
SOLUBILITY IN WATER: Insoluble.
EVAPORATION RATE (nBuAc = 1): Not applicable.
ODOR THRESHOLD: Not established.
COEFFICIENT WATER/OIL DISTRIBUTION: Not applicable.
pH: Not applicable.
FREEZING POINT: -140°C (-220.6°F)
BOILING POINT @ 1 atm: -6.9°C (19.6°F)
EXPANSION RATIO: Not applicable
VAPOR PRESSURE (psia): 39
SPECIFIC VOLUME (ft^3/lb): 6.7

APPEARANCE AND COLOR: Colorless gas with the unpleasant odor of burning coal. The liquid is also colorless and has the same unpleasant odor of burning coal.

HOW TO DETECT THIS SUBSTANCE (warning properties): There are no distinct warning properties. In terms of leak detection, fittings and joints can be painted with a soap solution to detect leaks, which will be indicated by a bubble formation.

10. STABILITY and REACTIVITY

STABILITY: Stable.

DECOMPOSITION PRODUCTS: When ignited in the presence of oxygen, this gas will burn to produce carbon monoxide and carbon dioxide.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Strong oxidizers (e.g., chlorine, bromine pentafluoride, oxygen, oxygen difluoride, and nitrogen trifluoride).

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Contact with incompatible materials and exposure to heat, sparks, and other sources of ignition. Cylinders exposed to high temperatures or direct flame can rupture or burst.

PART IV *Is there any other useful information about this material?*

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The following information is for pure Isobutylene.

ISOBUTYLENE:
LC_{50} (rat, inhalation) = 620 g/m^3/4 hours
LC_{50} (mouse, inhalation) = 415 g/m^3/2 hours

SUSPECTED CANCER AGENT: Isobutylene is not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, CAL/OSHA, and therefore is neither considered to be nor suspected to be a cancer-causing agent by these agencies.

IRRITANCY OF PRODUCT: Isobutylene may be mildly irritating to the mucous membranes. In addition, contact with rapidly expanding gases can cause frostbite to exposed tissue.

SENSITIZATION TO THE PRODUCT: Isobutylene is not known to cause sensitization in humans.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of Isobutylene on the human reproductive system.

Mutagenicity: No mutagenic effects have been described for Isobutylene.
Embryotoxicity: No embryotoxic effects have been described for Isobutylene.
Teratogenicity: No teratogenic effects have been described for Isobutylene.
Reproductive Toxicity: No reproductive toxicity effects have been described for Isobutylene.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical which causes damage to a developing embryo (i.e., within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Acute or chronic respiratory conditions may be aggravated by overexposure to Isobutylene.

11. TOXICOLOGICAL INFORMATION (Continued)

RECOMMENDATIONS TO PHYSICIANS: Administer oxygen, if necessary. Treat symptoms and eliminate exposure.

BIOLOGICAL EXPOSURE INDICES (BEIs): Currently, Biological Exposure Indices (BEIs) are not applicable for Isobutylene.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: This gas will be dissipated rapidly in well-ventilated areas.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: Any adverse effect on animals would be related to oxygen-deficient environments. No adverse effect is anticipated to occur to plant life, except for frost produced in the presence of rapidly expanding gases. See Section 11, Toxicological Information, for additional information on effects on animals.

EFFECT OF CHEMICAL ON AQUATIC LIFE: No evidence is currently available on the effects of Isobutylene on aquatic life.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. Return cylinders with any residual product to MESA Specialty Gases & Equipment Do not dispose of locally.

14. TRANSPORTATION INFORMATION

THIS MATERIAL IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

For Isobutylene Gas:

PROPER SHIPPING NAME:	Isobutylene
HAZARD CLASS NUMBER and DESCRIPTION:	2.1 (Flammable Gas)
UN IDENTIFICATION NUMBER:	UN 1055
PACKING GROUP:	Not Applicable
DOT LABEL(S) REQUIRED:	Flammable Gas

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (1996): 115

Alternate Description:

PROPER SHIPPING NAME:	Petroleum gases, liquefied
HAZARD CLASS NUMBER and DESCRIPTION:	2.1 (Flammable Gas)
UN IDENTIFICATION NUMBER:	UN 1075
PACKING GROUP:	Not Applicable
DOT LABEL(S) REQUIRED:	Flammable Gas

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (1996): 115

MARINE POLLUTANT: Isobutylene is not classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B).

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: THIS MATERIAL IS CONSIDERED AS DANGEROUS GOODS. Use the above information for the preparation of Canadian Shipments.

15. REGULATORY INFORMATION

U.S. SARA REPORTING REQUIREMENTS: Isobutylene is not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA THRESHOLD PLANNING QUANTITY: Not applicable.

U.S. CERCLA REPORTABLE QUANTITY (RQ): Not applicable.

CANADIAN DSL/NDSL INVENTORY STATUS: Isobutylene is on the DSL Inventory.

U.S. TSCA INVENTORY STATUS: Isobutylene is listed on the TSCA Inventory.

15. REGULATORY INFORMATION (Continued)

OTHER U.S. FEDERAL REGULATIONS: Isobutylene is subject to the reporting requirements of Section 112(r) of the Clean Air Act. The Threshold Quantity for this gas is 10,000 lb. Depending on specific operations involving the use of Isobutylene, the regulations of the Process Safety Management of Highly Hazardous Chemicals may be applicable (29 CFR 1910.119). Under this regulation Isobutylene is not listed in Appendix A; however, any process that involves a flammable gas on-site, in one location, in quantities of 10,000 lb (4,553 kg) or greater is covered under this regulation unless it is used as a fuel.

U.S. STATE REGULATORY INFORMATION: Isobutylene is covered under specific State regulations, as denoted below:

Alaska - Designated Toxic and Hazardous Substances: Liquefied Petroleum Gas.
California - Permissible Exposure Limits for Chemical Contaminants: Liquefied Petroleum Gas.
Florida - Substance List: Isobutylene.
Illinois - Toxic Substance List: No.
Kansas - Section 302/313 List: No.
Massachusetts - Substance List: Isobutylene.
Michigan - Critical Materials Register: No.
Minnesota - List of Hazardous Substances: Liquefied Petroleum Gas.
Missouri - Employer Information/Toxic Substance List: No.
New Jersey - Right to Know Hazardous Substance List: Isobutylene.
North Dakota - List of Hazardous Chemicals, Reportable Quantities: No.
Pennsylvania - Hazardous Substance List: Isobutylene.
Rhode Island - Hazardous Substance List: Liquefied Petroleum Gas.
Texas - Hazardous Substance List: Liquefied Petroleum Gas.
West Virginia - Hazardous Substance List: Liquefied Petroleum Gas.
Wisconsin - Toxic and Hazardous Substances: Liquefied Petroleum Gas.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): Isobutylene is not on the California Proposition 65 lists.

LABELING:

DANGER:

FLAMMABLE LIQUID AND GAS UNDER PRESSURE.
CAN FORM EXPLOSIVE MIXTURES WITH AIR.
MAY CAUSE FROSTBITE.

Keep away from heat, flames, and sparks.
Store and use with adequate ventilation.
Cylinder temperature should not exceed 52°C (125°F).
Do not get liquid in eyes, on skin, or clothing.
Close valve after each use and when empty.
Use in accordance with the Material Safety Data Sheet.

FIRST AID:

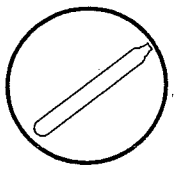
IF INHALED, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

IN CASE OF FROSTBITE, obtain immediate medical attention.

DO NOT REMOVE THIS PRODUCT LABEL.

CANADIAN WHMIS SYMBOLS:

Class A: Compressed Gas
Class B1: Flammable Gas





16. OTHER INFORMATION

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. MESA Specialty Gases & Equipment assumes no responsibility for injury to the vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, MESA Specialty Gases & Equipment assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these which are commonly used include the following:

CAS #: This is the Chemical Abstract Service Number which uniquely identifies each constituent. It is used for computer-related searching.

EXPOSURE LIMITS IN AIR:
ACGIH - American Conference of Governmental Industrial Hygienists, a professional association which establishes exposure limits. **TLV** - Threshold Limit Value - an airborne concentration of a substance which represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour Time Weighted Average **(TWA)**, the 15-minute Short Term Exposure Limit, and the instantaneous Ceiling Level **(C)**. Skin absorption effects must also be considered.
OSHA - U.S. Occupational Safety and Health Administration. **PEL** - Permissible Exposure Limit - This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL," is placed next to the PEL which was vacated by Court Order.
IDLH - Immediately Dangerous to Life and Health - This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury. **The DFG - MAK** is the Republic of Germany's Maximum Exposure Level, similar to the U.S. PEL. **NIOSH** is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. Occupational Safety and Health Administration **(OSHA)**. NIOSH issues exposure guidelines called Recommended Exposure Levels **(RELs)**. When no exposure guidelines are established, an entry of **NE** is made for reference.

HAZARD RATINGS:
HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: Health Hazard: **0** (minimal acute or chronic exposure hazard); **1** (slight acute or chronic exposure hazard); **2** (moderate acute or significant chronic exposure hazard); **3** (severe acute exposure hazard; onetime overexposure can result in permanent injury and may be fatal); **4** (extreme acute exposure hazard; onetime overexposure can be fatal). Flammability Hazard: **0** (minimal hazard); **1** (materials that require substantial pre-heating before burning); **2** (combustible liquid or solids; liquids with a flash point of 38-93°C [100-200°F]); **3** (Class IB and IC flammable liquids with flash points below 38°C [100°F]); **4** (Class IA flammable liquids with flash points below 23°C [73°F] and boiling points below 38°C [100°F]. Reactivity Hazard: **0** (normally stable); 1 (material that can become unstable at elevated temperatures or which can react slightly with water); **2** (materials that are unstable but do not detonate or which can react violently with water); **3** (materials that can detonate when initiated or which can react explosively with water); **4** (materials that can detonate at normal temperatures or pressures).
NATIONAL FIRE PROTECTION ASSOCIATION: Health Hazard: **0** (material that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials); **1** (materials that on exposure under fire conditions could cause irritation or minor residual injury); **2** (materials that on intense or continued exposure under fire conditions could cause temporary incapacitation or possible residual injury); **3** (materials that can on short exposure could cause serious temporary or residual injury); **4** (materials that under very short exposure causes death or major residual injury).

NATIONAL FIRE PROTECTION ASSOCIATION (Continued): Flammability Hazard and Reactivity Hazard: Refer to definitions for "Hazardous Materials Identification System".

FLAMMABILITY LIMITS IN AIR:
Much of the information related to fire and explosion is derived from the National Fire Protection Association **(NFPA)**. Flash Point - Minimum temperature at which a liquid gives off sufficient vapors to form an ignitable mixture with air. Autoignition Temperature: The minimum temperature required to initiate combustion in air with no other source of ignition. LEL - the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. UEL - the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

TOXICOLOGICAL INFORMATION:
Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. Definitions of some terms used in this section are: **LD_{50}** - Lethal Dose (solids & liquids) which kills 50% of the exposed animals; **LC_{50}** - Lethal Concentration (gases) which kills 50% of the exposed animals; **ppm** concentration expressed in parts of material per million parts of air or water; **mg/m^3** concentration expressed in weight of substance per volume of air; **mg/kg** quantity of material, by weight, administered to a test subject, based on their body weight in kg. Data from several sources are used to evaluate the cancer-causing potential of the material. The sources are: **IARC** - the International Agency for Research on Cancer; **NTP** - the National Toxicology Program, **RTECS** - the Registry of Toxic Effects of Chemical Substances, **OSHA** and **CAL/OSHA**. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. Other measures of toxicity include **TDLo**, the lowest dose to cause a symptom and **TCLo** the lowest concentration to cause a symptom; **TDo, LDLo**, and **LDo**, or **TC, TCo, LCLo**, and **LCo**, the lowest dose (or concentration) to cause lethal or toxic effects. **BEI** - Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV. Ecological Information: EC is the effect concentration in water.

REGULATORY INFORMATION:
This section explains the impact of various laws and regulations on the material. **EPA** is the U.S. Environmental Protection Agency. **WHMIS** is the Canadian Workplace Hazardous Materials Information System. **DOT** and **TC** are the U.S. Department of Transportation and the Transport Canada, respectively. Superfund Amendments and Reauthorization Act **(SARA)**; the Canadian Domestic/Non-Domestic Substances List **(DSL/NDSL)**; the U.S. Toxic Substance Control Act **(TSCA)**; Marine Pollutant status according to the **DOT**; the Comprehensive Environmental Response, Compensation, and Liability Act **(CERCLA or Superfund)**; and various state regulations.

Manufactured for

INDUSTRIAL SCIENTIFIC

CORPORATION

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Oakdale, PA 15071-1500

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TOLL-FREE 800-DETECTS
Fax (412) 788-8353

MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI and Canadian WHMIS Standards

1. PRODUCT IDENTIFICATION

CHEMICAL NAME; CLASS: NON-FLAMMABLE GAS MIXTURE

Containing One or More of the Following Components in a Nitrogen Balance Gas: Oxygen, 0.0015-23.5%; Propane, 0-1.1%; n-Pentane, 0-0.75%; n-Hexane; 0-0.48%; Carbon Monoxide, 0.0005-1.0%; Hydrogen Sulfide, 0.001-0.025%

NOTE: MIXTURES COMPRISED OF AN AIR BALANCE GAS CONTAIN BETWEEN 19.5-23.5% OXYGEN.

SYNONYMS: Not Applicable

CHEMICAL FAMILY NAME: Not Applicable

FORMULA: Not Applicable

Document Number: 50016 (Replaces ISC MSDS No.1810-2187, 1810-2343, 1810-3366, 1810-3937 1810-7219, 1810-7599, 1810-6179)

Note: The Material Safety Data Sheet is for this gas mixture supplied in cylinders with 33 cubic feet (935 liters) or less gas capacity (DOT - 39 cylinders). This MSDS has been developed for various gas mixtures with the composition of components within the ranges listed in Section 2 (Composition and Information on Ingredients). Refer to the product label for information on the actual composition of the product.

PRODUCT USE:	Calibration of Monitoring and Research Equipment
SUPPLIER/MANUFACTURER'S NAME:	CALGAZ
ADDRESS:	821 Chesapeake Drive Cambridge, MD 21613
EMERGENCY PHONE:	CHEMTREC: 1-800-424-9300
BUSINESS PHONE:	1-410-228-6400
General MSDS Information	1-713/868-0440
Fax on Demand:	1-800/231-1366

2. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	mole %	EXPOSURE LIMITS IN AIR					
			ACGIHTLV		OSHA		IDLH	OTHER
			TWA ppm	STEL ppm	TWA ppm	STEL ppm	ppm	ppm
Oxygen	7782-44-7	0.0015 - 23.5%	There are no specific exposure limits for Oxygen. Oxygen levels should be maintained above 19.5%.					
Propane	74-98-6	0 - 1.1%	2500	NE	1000	NE	2100	NIOSH REL: 1000 DFG MAK: 1000 ppm
n-Pentane	109-66-0	0 - 0.75%	600	750	1000 600 (Vacated 1989 PEL)	750 (Vacated 1989 PEL)	1500	NIOSH REL: TWA = 120 STEL = 610 (ceiling) 15 minutes DFG MAKs: TWA =1000 PEAK = 2•MAK, 60 min., momentary value
n-Hexane	110-54-3	0 - 0.48%	50	NE	500 50 (Vacated 1989 PEL)	NE	1100	NIOSH REL: 50 DFG MAK: 50
Hydrogen Sulfide	7783-06-4	0.001-0.025 %	10 NIC = 5	15 NIC = 5	10 (Vacated 1989 PEL)	20 (ceiling), 50 (10 min. peak, once per shift) 15 (Vacated 1989 PEL)	100	NIOSH REL: STEL = 10 (ceiling), 10 minutes DFG MAKs: TWA = 10 PEAK = 2•MAK, 10 min., momentary value
Carbon Monoxide	630-08-0	0.0005 - 1.0%	25	NE	50 35 (Vacated 1989 PEL)	200 (ceiling) (Vacated 1989 PEL)	1200	NIOSH RELs: TWA = 35 STEL = 200 ceiling DFG MAKs: TWA = 30 PEAK = 2•MAK, 15 min., average value, 1 hr interval DFG MAK Pregnancy Risk Classification: B
Nitrogen	7727-37-9	Balance	There are no specific exposure limits for Nitrogen. Nitrogen is a simple asphyxiant (SA). Oxygen levels should be maintained above 19.5%.					

NE = Not Established. NIC = Notice of Intended Change See Section 16 for Definitions of Terms Used.

NOTE: ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-1998 format. This gas mixture has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: This gas mixture is a colorless gas which has a rotten-egg odor (due to the presence of Hydrogen Sulfide). The odor cannot be relied on as an adequate warning of the presence of this gas mixture, because olfactory fatigue occurs after over-exposure to Hydrogen Sulfide. Hydrogen Sulfide and Carbon Monoxide (another component of this gas mixture) are toxic to humans in relatively low concentrations. Over-exposure to this gas mixture can cause skin or eye irritation, nausea, dizziness, headaches, collapse, unconsciousness, coma, and death. The Propane, n-Pentane, and n-Hexane components can cause anesthetic or peripheral neuropathy effects. Additionally, releases of this gas mixture may produce oxygen-deficient atmospheres (especially in small confined spaces or other poorly-ventilated environments); individuals in such atmospheres may be asphyxiated.

SYMPTOMS OF OVER-EXPOSURE BY ROUTE OF EXPOSURE: The most significant route of over-exposure for this gas mixture is by inhalation.

INHALATION: Due to the small size of an individual cylinder of this gas mixture, no unusual health effects from over-exposure to the product are anticipated under routine circumstances of use. A significant health hazard associated with this gas mixture is the potential of inhalation of Hydrogen Sulfide, a component of this gas mixture. Such over-exposures may occur if this gas mixture is used in a confined space or other poorly-ventilated area. Over-exposures to Hydrogen Sulfide can cause dizziness, headache, and nausea. Exposure to this component can result in respiratory arrest, coma, or unconsciousness. Continuous inhalation of low concentrations of Hydrogen Sulfide may cause olfactory fatigue, so that the odor is no longer an effective warning of the presence of this gas. A summary of exposure concentrations and observed effects are as follows

CONCENTRATION OF HYDROGEN SULFIDE	OBSERVED EFFECT
0.3-30 ppm	Odor is obvious and unpleasant.
50 ppm	Eye irritation. Dryness and irritation of nose, throat.
Slightly higher than 50 ppm	Irritation of the respiratory system.
100-150 ppm	Temporary loss of smell.
200-250 ppm	Headache, vomiting nausea. Prolonged exposure may lead to lung damage. Exposures of 4-8 hours can be fatal.
300-500	Swifter onset of symptoms. Death occurs in 1-4 hours.
500 ppm	Headache, excitement, staggering, and stomach ache after brief exposure. Death occurs within 0.5 - 1 hour of exposure.
> 600 ppm	Rapid onset of unconsciousness, coma, death.
> 1000 ppm	Immediate respiratory arrest.
NOTE:	This gas mixture contains a maximum of 250 ppm Hydrogen Sulfide. The higher concentration values here are presented to delineate the complete health effects which have been observed for humans after exposure to Hydrogen Sulfide.

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM

HEALTH HAZARD	(BLUE)	3
FLAMMABILITY HAZARD	(RED)	0
PHYSICAL HAZARD	(YELLOW)	0

PROTECTIVE EQUIPMENT

EYES	RESPIRATORY	HANDS	BODY
See Section 8			

For Routine Industrial Use and Handling Applications

Inhalation over-exposures to atmospheres containing more than the Threshold Limit Value of Carbon Monoxide (25 ppm), another component of this gas mixture, can result in serious health consequences. Carbon Monoxide is classified as a chemical asphyxiant, producing a toxic action by combining with the hemoglobin of the blood and replacing the available oxygen. Through this replacement, the body is deprived of the required oxygen, and asphyxiation occurs.

Since the affinity of Carbon Monoxide for hemoglobin is about 200-300 times that of oxygen, only a small amount of Carbon Monoxide will cause a toxic reaction to occur. Carbon Monoxide exposures in excess of 50 ppm will produce symptoms of poisoning if breathed for a sufficiently long time. If this gas mixture is released in a small, poorly ventilated area (i.e. an enclosed or confined space), symptoms which may develop include the following:

CONCENTRATION OF CARBON MONOXIDE	OBSERVED EFFECT
All exposure levels: ..	Over-exposure to Carbon Monoxide can be indicated by the lips and fingernails turning bright red.
200 ppm:	Slight symptoms (i.e. headache) after several hours of exposure.
400 ppm:	Headache and discomfort experienced within 2-3 hours of exposure.
1,000 -2000 ppm:	Within 30 minutes, slight palpitations of the heart occurs. Within 1.5 hours, there is a tendency to stagger.
200-2500 ppm:	Within 2 hours, there is mental confusion, headaches, and nausea. Unconsciousness within 30 minutes.
> 2500 ppm:	Potential for collapse and death before warning symptoms.

Another hazard associated with this gas mixture is the potential for anesthetic and peripheral neuropathy effects after inhalation over-exposures to the Propane, n-Pentane and n-Hexane components of this gas mixture. Specific human over-exposure data are available for n-Pentane and n-Hexane, as follows:

CONCENTRATION OF n-PENTANE	OBSERVED EFFECT
Brief (10 minute) up to 5,000 ppm:	No symptoms.
Higher than 5,000 ppm:	Exhilaration, dizziness and headache can occur.
Long term:	Can cause chronic neurological disorder causing damage to the nerves in the hands and feet (peripheral neuropathy)

CONCENTRATION OF n-HEXANE	OBSERVED EFFECT
Brief (10 minute) at 1,500 ppm:	Irritation of the respiratory tract, nausea and headache.
5000 ppm:	Dizziness and drowsiness can occur.
Long term at 500 ppm:	Can affect the nerves in the arms and legs. Effects include numbing or tingling sensations in the fingers and toes, tiredness, muscle weakness, cramps and spasms in the leg, difficulty in holding objects or walking, abdominal pains, loss of appetite, weight loss. More serious exposures can cause damage to the nerves in the hands and feet (peripheral neuropathy).
Eyes and Vision:	Abnormal color perception and pigment changes in the eyes have been reported among industrial workers exposed to 423-1280 ppm for 5 years or more.
Blood Cells:	Mild forms of anemia have also been associated with exposure to hexane. These are of temporary nature.

Additionally, if mixtures of this gas mixture contain less than 19.5% Oxygen and are released in a small, poorly ventilated area (i.e. an enclosed or confined space), an oxygen-deficient environment may occur. Individuals breathing such an atmosphere may experience symptoms which include headaches, ringing in ears, dizziness, drowsiness, unconsciousness, nausea, vomiting, and depression of all the senses. Under some circumstances of over-exposure, death may occur. The following effects associated with various levels of oxygen are as follows:

CONCENTRATION OF OXYGEN	OBSERVED EFFECT
12-16% Oxygen:	Breathing and pulse rate increased, muscular coordination slightly disturbed.
10-14% Oxygen:	Emotional upset, abnormal fatigue, disturbed respiration.
6-10% Oxygen:	Nausea, vomiting, collapse, or loss of consciousness.
Below 6%:	Convulsive movements, possible respiratory collapse, and death.

SKIN and EYE CONTACT: The Hydrogen Sulfide component of this gas mixture may be irritating to the skin. Inflammation and irritation of the eyes can occur at very low airborne concentration of Hydrogen Sulfide (less than 10 ppm). Exposure over several hours may result in “gas eyes” or “sore eyes” with symptoms of scratchiness, irritation, tearing and burning. Above 50 ppm of Hydrogen Sulfide, there is an intense tearing, blurring of vision, and pain when looking at light. Over-exposed individuals may see rings around bright lights. Most symptoms disappear when exposure ceases. However, in serious cases, the eye can be permanently damaged.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms. Over-exposure to this gas mixture may cause the following health effects:

ACUTE: Due to the small size of the individual cylinder of this gas mixture, no unusual health effects from exposure to the product are anticipated under routine circumstances of use. However, the Hydrogen Sulfide and Carbon Monoxide components of this gas mixture are toxic to humans. Over-exposure to this gas mixture can cause nausea, dizziness, headaches, collapse, unconsciousness, coma, and death. Due to the presence of Hydrogen Sulfide, over-exposures to this gas mixture can also irritate the skin and eyes; severe eye contamination can result in blindness.

Inhalation over-exposures to Propane, n-Pentane, and n-Hexane can cause anesthetic effects and motor neuropathy (i.e. pain and tingling in feet and hands).

3. HAZARD IDENTIFICATION (Continued)

CHRONIC: Abnormal color perception and pigment changes in the eyes have been reported among persons exposed to 420 -1300 ppm of n-Hexane for five years. Additionally, long-term exposure to low levels of n-Hexane or n-Pentane can affect the nerves in the arms and legs. Effects include numbing or tingling sensation, tiredness, cramps, spasms in legs, difficulty holding objects or walking, loss of appetite and weight loss. Pentane isomers, such as n-Pentane, and Propane can cause sensitization of the heart to epinephrine. Refer to Section 11 (Toxicology Information) for additional information on the components of this gas mixture.

TARGET ORGANS: ACUTE: Respiratory system, blood system, central nervous system, cardiovascular system. CHRONIC: Reproductive system, cardiovascular system.

4. FIRST-AID MEASURES

RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO THIS GAS MIXTURE WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. At a minimum, Self-Contained Breathing Apparatus must be worn.

No unusual health effects are anticipated after exposure to this gas mixture, due to the small cylinder size. If any adverse symptom develops after over-exposure to this gas mixture, remove victim(s) to fresh air as quickly as possible. Only trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation if necessary.

Victim(s) who experience any adverse effect after over-exposure to this gas mixture must be taken for medical attention. Rescuers should be taken for medical attention if necessary. Take a copy of the label and the MSDS to physician or other health professional with victim(s).

SKIN EXPOSURE: If irritation of the skin develops after exposure to this gas mixture, immediately begin decontamination with running water. Minimum flushing is for 15 minutes. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victim must seek immediate medical attention.

EYE EXPOSURE: If irritation of the eye develops after exposure to this gas mixture, open victim's eyes while under gentle running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. Seek medical assistance immediately, preferably an ophthalmologist.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing respiratory conditions may be aggravated by over-exposure to this gas mixture. Carbon Monoxide, a component of this gas mixture, can aggravate some diseases of the cardiovascular system, such as coronary artery disease and angina pectoris. Because of the presence of Hydrogen Sulfide, n-Hexane or n-Pentane in this gas mixture, central nervous system conditions, eye disorders, or skin problems may be aggravated by over-exposure to this gas mixture.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate over-exposure. Hyperbaric oxygen is the most efficient antidote to Carbon Monoxide poisoning, the optimum range being 2-2.5 atm. A special mask, or, preferably, a compression chamber to utilize oxygen at these pressures is required. Avoid administering stimulant drugs. Be observant for initial signs of pulmonary edema in the event of severe inhalation over-exposures.

5. FIRE-FIGHTING MEASURES

FLASH POINT: Not applicable.

AUTOIGNITION TEMPERATURE: Not applicable.

FLAMMABLE LIMITS (in air by volume, %):

Lower (LEL): Not applicable.

Upper (UEL): Not applicable.

FIRE EXTINGUISHING MATERIALS: Non-flammable gas mixture. Use extinguishing media appropriate for surrounding fire.

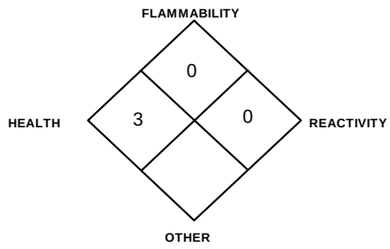
UNUSUAL FIRE AND EXPLOSION HAZARDS: This gas mixture contains toxic gases, Hydrogen Sulfide and Carbon Monoxide, and presents an extreme health hazard to firefighters. This gas mixture is not flammable; however, containers, when involved in fire, may rupture or burst in the heat of the fire.

Explosion Sensitivity to Mechanical Impact: Not Sensitive.

Explosion Sensitivity to Static Discharge: Not Sensitive.

SPECIAL FIRE-FIGHTING PROCEDURES: Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment.

NFPA RATING



6. ACCIDENTAL RELEASE MEASURES

LEAK RESPONSE: Due to the small size and content of the cylinder, an accidental release of this gas mixture presents significantly less risk of over-exposure to Hydrogen Sulfide and Carbon Monoxide, the toxic components of this gas mixture, and other safety hazards related to the remaining components of this gas mixture, than a similar release from a larger cylinder. However, as with any chemical release, extreme caution must be used during emergency response procedures. In the event of a release in which the atmosphere is unknown, and in which other chemicals are potentially involved, evacuate immediate area. Such releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a leak, clear the affected area, protect people, and respond with trained personnel.

For emergency disposal, secure the cylinder and slowly discharge the gas to the atmosphere in a well-ventilated area or outdoors. Allow the gas mixture to dissipate. If necessary, monitor the surrounding area (and the original area of the release) for Hydrogen Sulfide, Carbon Monoxide, and Oxygen. Hydrogen Sulfide and Carbon Monoxide level must be below exposure level listed in Section 2 (Composition and Information on Ingredients) and Oxygen levels must be above 19.5% before non-emergency personnel are allowed to re-enter area.

If leaking incidentally from the cylinder, contact your supplier.

7. HANDLING and USE

WORK PRACTICES AND HYGIENE PRACTICES: Be aware of any signs of dizziness or fatigue; exposures to fatal concentrations of this gas mixture could occur without any significant warning symptoms, due to olfactory fatigue or oxygen deficiency. Do not attempt to repair, adjust, or in any other way modify cylinders containing a gas mixture with Hydrogen Sulfide or Carbon Monoxide. If there is a malfunction or another type of operational problem, contact nearest distributor immediately. Eye wash stations/safety showers should be near areas where this gas mixture is used or stored. All work operations should be monitored in such a way that emergency personnel can be immediately contacted in the event of a release. All work practices should minimize releases of Hydrogen Sulfide and Carbon Monoxide-containing gas mixtures.

STORAGE AND HANDLING PRACTICES: Cylinders should be firmly secured to prevent falling or being knocked-over. Cylinders must be protected from the environment, and preferably kept at room temperature (approximately 21°C, 70°F). Cylinders should be stored in dry, well-ventilated areas, away from sources of heat, ignition, and direct sunlight. Protect cylinders against physical damage.

Full and empty cylinders should be segregated. Use a first-in, first-out inventory system to prevent full containers from being stored for long periods of time. These cylinders are not refillable. **WARNING! Do not refill DOT 39 cylinders. To do so may cause personal injury or property damage.**

SPECIAL PRECAUTIONS FOR HANDLING GAS CYLINDERS: WARNING! Compressed gases can present significant safety hazards. During cylinder use, use equipment designed for these specific cylinders. Ensure all lines and equipment are rated for proper service pressure.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain that application equipment is locked and tagged-out safely. Always use product in areas where adequate ventilation is provided.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: No special ventilation systems or engineering controls are needed under normal circumstances of use. As with all chemicals, use this gas mixture in well-ventilated areas. If this gas mixture is used in a poorly-ventilated area, install automatic monitoring equipment to detect the levels of Oxygen, Hydrogen Sulfide, and Carbon Monoxide.

RESPIRATORY PROTECTION: No special respiratory protection is required under normal circumstances of use. Use supplied air respiratory protection if Carbon Monoxide levels exceed the exposure levels given in Section 2 (Composition and Information on Ingredients) or if oxygen levels are below 19.5%, or if either level is unknown during emergency response to a release of this gas mixture. If respiratory protection is required for emergency response to this gas mixture, follow the requirements of the Federal OSHA Respiratory Protection Standard (29 CFR 1910.134) or equivalent State standards. The following NIOSH respiratory protection recommendations for Hydrogen Sulfide and Carbon Monoxide are provided for further information.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

NIOSH/OSHA RECOMMENDATIONS FOR HYDROGEN SULFIDE CONCENTRATIONS IN AIR:

Up to 100 ppm: Powered air-purifying respirator with cartridge(s) to protect against hydrogen sulfide; or gas mask with canister to protect against hydrogen sulfide; or SAR; or full-facepiece SCBA.

Emergency or Planned Entry into Unknown Concentration or IDLH Conditions: Positive pressure, full-facepiece SCBA; or positive pressure, full-facepiece SAR with an auxiliary positive pressure SCBA.

Escape: Gas mask with canister to protect against hydrogen sulfide; or escape-type SCBA

NOTE: The IDLH concentration for Hydrogen Sulfide is 100 ppm.

NIOSH/OSHA RECOMMENDATIONS FOR CARBON MONOXIDE CONCENTRATIONS IN AIR:

Up to 350 ppm Supplied Air Respirator (SAR)

Up to 875 ppm Supplied Air Respirator (SAR) operated in a continuous flow mode.

Up to 1200 ppm Gas mask with canister to protect against carbon monoxide; or full-facepiece SCBA; or full-facepiece Supplied Air Respirator (SAR).

Emergency or Planned Entry into Unknown Concentration or IDLH Conditions: Positive pressure, full-facepiece SCBA; or positive pressure, full-facepiece Supplied Air Respirator (SAR) with an auxiliary positive pressure SCBA.

Escape: Gas mask with canister to protect against carbon monoxide; or escape-type SCBA.

NOTE: End of Service Life Indicator (ESLI) required for gas masks.

EYE PROTECTION: Safety glasses. If necessary, refer to U.S. OSHA 29 CFR 1910.133 or appropriate Canadian Standards.

HAND PROTECTION: No special protection is needed under normal circumstances of use. If necessary, refer to U.S. OSHA 29 CFR 1910.138 or appropriate Standards of Canada.

BODY PROTECTION: No special protection is needed under normal circumstances of use. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR 1910.136.

9. PHYSICAL and CHEMICAL PROPERTIES

The following information is for Nitrogen, the main component of this gas mixture.

GAS DENSITY @ 32°F (0°C) and 1 atm: 0.072 lbs/ ft^3 (1.153 kg/m^3)

FREEZING/MELTING POINT @ 10 psig: -210°C (-345.8°F)

BOILING POINT: -195.8°C (-320.4°F)

SPECIFIC GRAVITY (air = 1) @ 70°F (21.1°C): 0.906

pH: Not applicable.

SOLUBILITY IN WATER vol/vol @ 32°F (0°C) and 1 atm: 0.023

MOLECULAR WEIGHT: 28.01

EVAPORATION RATE (nBuAc = 1): Not applicable.

EXPANSION RATIO: Not applicable.

ODOR THRESHOLD: Not applicable.

SPECIFIC VOLUME (ft^3/lb): 13.8

VAPOR PRESSURE @ 70°F (21.1°C) psig: Not applicable.

COEFFICIENT WATER/OIL DISTRIBUTION: Not applicable.

The following information is for the gas mixture.

APPEARANCE AND COLOR: This gas mixture is a colorless gas which has an rotten egg-like odor, due to the presence of Hydrogen Sulfide.

HOW TO DETECT THIS SUBSTANCE (warning properties): Continuous inhalation of low concentrations of Hydrogen Sulfide (a component of this gas mixture) may cause olfactory fatigue, so that there are no distinct warning properties. In terms of leak detection, fittings and joints can be painted with a soap solution to detect leaks, which will be indicated by a bubble formation. Wet lead acetate paper can be used for leak detection. The paper turns black in the presence of Hydrogen Sulfide. Cadmium chloride solutions can also be used. Cadmium solutions will turn yellow upon contact with Hydrogen Sulfide.

10. STABILITY and REACTIVITY

STABILITY: Normally stable in gaseous state.

DECOMPOSITION PRODUCTS: The thermal decomposition products of Propane, n-Hexane, and n-Pentane include carbon oxides. The decomposition products of Hydrogen Sulfide include water and sulfur oxides. The other components of this gas mixture do not decompose, per se, but can react with other compounds in the heat of a fire.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Titanium will burn in Nitrogen (the main component of this gas mixture). Lithium reacts slowly with Nitrogen at ambient temperatures. Components of this gas mixture (Hydrogen Sulfide, Propane, n-Pentane, n-Hexane) are also incompatible with strong oxidizers (i.e. chlorine, bromine pentafluoride, oxygen, oxygen difluoride, and nitrogen trifluoride). Carbon Monoxide is mildly corrosive to nickel and iron (especially at high temperatures and pressures). Hydrogen Sulfide is corrosive to most metals, because it reacts with these substances to form metal sulfides.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Contact with incompatible materials. Cylinders exposed to high temperatures or direct flame can rupture or burst.

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The following toxicology data are available for the components of this gas mixture:

NITROGEN: There are no specific toxicology data for Nitrogen. Nitrogen is a simple asphyxiant, which acts to displace oxygen in the

n-PENTANE:

LD_{50} (intravenous, mouse) = 446 mg/kg.

LC_{50} (inhalation, rat) = 364 g/m^3/4 hours

LCLo (inhalation, mouse) = 325 g/m^3/2 hours

n-HEXANE:

Eye, rabbit = 10 mg/ mild

TCLo (inhalation, rat) = 10,000 ppm/7 hr.

TCLo (inhalation, rat) = 5000 ppm/20 hours; teratogenic effects

LD50 (oral, rat) = 28710 mg/kg

LDLo (intraperitoneal, rat) = 9100 mg/kg

LCLo (inhalation, mouse) = 120,000 mg/kg

LD50 (rat, oral): 28,710 mg/kg

ACUTE INHALATION (mouse): 30,000 ppm, narcosis within 30 to 60 minutes; 35,000-40,000 ppm, convulsions and death.

DERMAL (rabbit): 2 to 5 ml/kg for 4 hours resulted in restlessness and discoordination,; death occurred at 5 ml/kg.

HYDROGEN SULFIDE:

LCLo (inhalation, human) = 600 ppm/30 minutes

LDLO (inhalation, man) = 5.7 mg/kg; central nervous system, pulmonary effects

n-HEXANE (continued):

CHRONIC INHALATION (rat): 400-600 ppm, 5 days/week, peripheral neuropathy in 45 days; 850 ppm for 143 days, loss of weight and degeneration of the sciatic nerve. (mouse): 250 ppm, peripheral neuropathy within 7 months; no effects at 100 ppm.

PROPANE:

Long-Term Inhalation: No toxicity or abnormalities were observed when monkeys were exposed to approximately 750 ppm for 90 days. Similar results were obtained when monkeys were exposed to an aerosol spray containing 65% propane and isobutane.

CARBON MONOXIDE:

TCLo (inhalation, mouse) = 65 ppm/24 hours (7-18 preg): rep. effects

TCLo (inhalation, mouse) = 8 pph/1 hour (female 8D post): ter. effects

HYDROGEN SULFIDE (continued):

LCLo (inhalation, human) = 800 ppm/5 minutes

LC_{50} (inhalation, rat) = 444 ppm

CARBON MONOXIDE (continued):

TCLo (inhalation, human) = 600 mg/m^3/10 minutes

LCLo (inhalation, man) = 4000 ppm/30 minutes

TCLo (inhalation, man) = 650 ppm/45 minutes: central nervous system and blood system effects.

LCLo (inhalation, human) = 5000 ppm/5 minutes

LCLo (inhalation, dog) = 4000 ppm/46 minutes

LCLo (inhalation, rabbit) = 4000 ppm

LC_{50} (inhalation, rat) = 1811 ppm/4 hours

LC_{50} (inhalation, guinea pig) = 2450 ppm/4 hours

LC_{50} (inhalation, guinea pig) = 5718 ppm/4 hours

LCLo (inhalation, mammal) = 5000 ppm/5 minutes

LD_{50} (inhalation, wild bird) = 1334 ppm

HYDROGEN SULFIDE (continued):

LC_{50} (inhalation, mouse) = 673 ppm/1 hour

LCLo (inhalation, mammal) = 800 ppm/5 minutes

SUSPECTED CANCER AGENT: The components of this gas mixture are not found on the following lists: FEDERAL OSHA Z LIST, NTP, CAL/OSHA, and IARC; therefore, they are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: The Hydrogen Sulfide component of this gas mixture, is irritating to the eyes, and may be irritating to the skin.

SENSITIZATION OF PRODUCT: The components of this gas mixture are not known to be skin or respiratory sensitizers. Pentane isomers (i.e. n-Pentane) and Propane can cause cardiac sensitization to epinephrine.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of this gas mixture on the human reproductive system.

Mutagenicity: No mutagenicity effects have been described for the components of this gas mixture.

Embryotoxicity: This gas mixture contains components that may cause embryotoxic effects in humans; however, due to the small total amount of the components, embryotoxic effects are not expected to occur.

Teratogenicity: This gas mixture is not expected to cause teratogenic effects in humans due to the small cylinder size and small total amount of all components. The Carbon Monoxide component of this gas mixture which exists up to 1%, can cause teratogenic effects in humans. Severe

11. TOXICOLOGICAL INFORMATION (continued)

exposure to Carbon Monoxide during pregnancy has caused adverse effects and the death of the fetus. In general, maternal symptoms are an indicator of the potential risk to the fetus since Carbon Monoxide is toxic to the mother before it is toxic to the fetus.

Reproductive Toxicity: The components of this gas mixture are not expected to cause adverse reproductive effects in humans.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generation lines. An embryotoxin is a chemical which causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

BIOLOGICAL EXPOSURE INDICES (BEIs): Biological Exposure Indices (BEIs) have been determined for the components of this gas mixture, as follows:

CHEMICAL DETERMINANT	SAMPLING TIME	BEI
CARBON MONOXIDE • Carboxyhemoglobin in blood • Carbon monoxide in end-exhaled air	 • End of shift • End of shift	 • 3.5% of hemoglobin • 20 ppm
n-HEXANE • 2,5-Hexanedione in urine • n-Hexane in end-exhaled air	 • End of shift	 • 5 mg/g creatinine

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: The gas will be dissipated rapidly in well-ventilated areas. The following environmental data are applicable to the components of this gas mixture.

OXYGEN: Water Solubility = 1 volume Oxygen/32 volumes water at 20°C. Log K_{ow} = -0.65

PROPANE: Log K_{ow} = 2.38. Water Solubility = 62.4 ppm, 25°C. Propane is readily degraded by soil bacteria.

PENTANE: Log K_{ow} = 3.39. Water Solubility = 38.5 mg/L. LOG BCF (n-pentane) = calculated, 1.90 and 2.35, respectively. Photolysis, hydrolysis, and bioconcentration are not anticipated to be important fate processes. Biodegradation and soil adsorption are anticipated to be more important processes for this compound.

n-HEXANE: Log K_{ow} = 3.90-4.11. Water Solubility = 9.5 mg/L. Estimated Bioconcentration Factor =2.24 and 2.89. Bioconcentration in aquatic organisms is low. Hexane is volatile. Rapid volatilization from water and soil is anticipated for this compound. Hexane will float in slick on surface of the water

HYDROGEN SULFIDE: Water Solubility = 1 g/242 mL at 20°C.

CARBON MONOXIDE: Water solubility = 3.3 ml/100 cc at 0 °C, 2.3 ml at 20°C.

NITROGEN: Water Solubility = 2.4 volumes Nitrogen/100 volumes water at 0°C; 1.6 volumes Nitrogen/100 volumes water at 20°C.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: No evidence is currently available on this gas mixture's effects on plant and animal life. The Hydrogen Sulfide and Carbon Monoxide components of this gas mixture, can be deadly to exposed animal life, producing symptoms similar to those experienced by humans. This gas mixture may also be harmful to plant life.

EFFECT OF CHEMICAL ON AQUATIC LIFE: No evidence is currently available on the effects of this gas effects on aquatic life. The presence of more than a trace of Carbon Monoxide is a hazard to fish. The following aquatic toxicity data are available for the Hydrogen Sulfide component of this gas mixture.

TLm (Asellussp) = 0.111 mg/L/96 hour
TLm (Cranfgonyx sp) =1.07 mg/L/96 hour
TLm (Gammarrus) = 0.84 mg/L/96 hour
LC_{50} (fly inhalation) = 380 mg/m^3/960 minutes
LC_{50} (fly inhalation) = 1500 mg/m^3/7 minutes
TLm (Lepomis macrochirus, bluegill sunfish) = 0.0478 mg/L/96 hour
TLm (Lepomis macrochirus, bluegill sunfish) = 0.0448 mg/L/96 hour at 21-22 °C
TLm (Pimephlaes promelas, fathead minnow) = 0.0071-0.55 mg/L/96 hour
TLm (Salvenilis foninalis, brook trout) = 0.0216-0.038 mg/L/96 hour at 8-12.5 °C

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. Cylinders with undesired residual product may be safely vented outdoors with the proper regulator. For further information, refer to Section 16 (Other Information).

14. TRANSPORTATION INFORMATION

THIS GAS MIXTURE IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

PROPER SHIPPING NAME: Compressed gases, n.o.s. (*Oxygen, Nitrogen)*or the gas component with the next highest concentration next to Nitrogen.

HAZARD CLASS NUMBER and DESCRIPTION: 2.2 (Non-Flammable Gas)

UN IDENTIFICATION NUMBER: UN 1956

PACKING GROUP: Not Applicable

DOT LABEL(S) REQUIRED: Class 2.2 (Non-Flammable Gas)

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2000): 126

MARINE POLLUTANT: The components of this gas mixture are not classified by the DOT as Marine Pollutants (as defined by 49 CFR 172.101, Appendix B).

SPECIAL SHIPPING INFORMATION: Cylinders should be transported in a secure position, in a well-ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles can present serious safety hazards. If transporting these cylinders in vehicles, ensure these cylinders are not exposed to extremely high temperatures (as may occur in an enclosed vehicle on a hot day). Additionally, the vehicle should be well-ventilated during transportation.

Note: DOT 39 Cylinders ship in a strong outer carton (overpack). Pertinent shipping information goes on the outside of the overpack. DOT 39 Cylinders do not have transportation information on the cylinder itself.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This gas is considered as Dangerous Goods, per regulations of Transport Canada.

PROPER SHIPPING NAME: Compressed gases, n.o.s. (*Oxygen, Nitrogen)*or the gas component with the next highest concentration next to Nitrogen.

HAZARD CLASS NUMBER and DESCRIPTION: 2.2 (Non-Flammable Gas)

UN IDENTIFICATION NUMBER: UN 1956

PACKING GROUP: Not Applicable

HAZARD LABEL: Class 2.2 (Non-Flammable Gas)

SPECIAL PROVISIONS: None

EXPLOSIVE LIMIT AND LIMITED QUANTITY INDEX: 0.12

ERAP INDEX: None

PASSENGER CARRYING SHIP INDEX: None

PASSENGER CARRYING ROAD VEHICLE OR PASSENGER CARRYING RAILWAY VEHICLE INDEX: 75

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2000): 126

NOTE: Shipment of compressed gas cylinders via Public Passenger Road Vehicle is a violation of Canadian law (Transport Canada Transportation of Dangerous Goods Act, 1992).

15. REGULATORY INFORMATION

ADDITIONAL U.S. REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS: This gas is not subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act., as follows:

COMPONENT	SARA 302 (40 CFR 355, Appendix A)	SARA 304 (40 CFR Table 302.4)	SARA 313 (40 CFR 372.65)
n-Hexane	NO	YES	YES
Hydrogen Sulfide	YES	YES	YES

15. REGULATORY INFORMATION (Continued)

U.S. SARA THRESHOLD PLANNING QUANTITY: Section 302 EHS TPQ = Hydrogen Sulfide = 500 lbs (227 kg);
U.S. TSCA INVENTORY STATUS: The components of this gas mixture are listed on the TSCA Inventory.
U.S. CERCLA REPORTABLE QUANTITY (RQ): Hexane = 5000 lb (2270 kg); Hydrogen Sulfide = 100 lbs (45.4 lb)
OTHER U.S. FEDERAL REGULATIONS:

- Hydrogen Sulfide, Carbon Monoxide, Propane, n-Pentane and n-Hexane are subject to the reporting requirements of CFR 29 1910.1000.
- Hydrogen Sulfide, Propane and n-Pentane are subject to the reporting requirements of Section 112(r) of the Clean Air Act. The Threshold Quantity for each of these gases is 10,000 pounds and so this mixture will not be affected by the regulation.
- Depending on specific operations involving the use of this gas mixture, the regulations of the Process Safety Management of Highly Hazardous Chemicals may be applicable (29 CFR 1910.119). Hydrogen Sulfide is listed in Appendix A of this regulation. The Threshold Quantity for Hydrogen Sulfide under this regulation is 1500 lbs.
- This gas mixture does not contain any Class I or Class II ozone depleting chemicals (40 CFR part 82).
- Nitrogen, Oxygen and n-Hexane are not listed Regulated Substances, per 40 CFR, Part 68, of the Risk Management for Chemical Releases. Hydrogen Sulfide is listed under this regulation in Table 1 as a Regulated Substance (Toxic Substance), in quantities of 10,000 lbs (4,553 kg) or greater. Carbon Monoxide, Propane and n-Pentane are listed under this regulation in Table 3, as Regulated Substances (Flammable), in quantities of 10,000 lbs (4,553 kg) or greater, and so this mixture will not be affected by the regulation.

U.S. STATE REGULATORY INFORMATION: The components of this gas mixture are covered under the following specific State regulations:

Alaska - Designated Toxic and Hazardous Substances: Carbon Monoxide, Propane, n-Pentane, n-Hexane, Hydrogen Sulfide.
California - Permissible Exposure Limits for Chemical Contaminants: Carbon Monoxide, Nitrogen, Propane, n-Pentane, n-Hexane, Hydrogen Sulfide.
Florida - Substance List: Oxygen, Carbon Monoxide, n-Pentane, n-Hexane, Hydrogen Sulfide.
Illinois - Toxic Substance List: Carbon Monoxide, Propane, n-Pentane, n-Hexane, Hydrogen Sulfide.
Kansas - Section 302/313 List: No.
Massachusetts - Substance List: Oxygen, Carbon Monoxide, Propane, n-Pentane, n-Hexane, Hydrogen Sulfide.
Michigan - Critical Materials Register: No.
Minnesota - List of Hazardous Substances: Carbon Monoxide, Propane, n-Pentane, n-Hexane, Hydrogen Sulfide.
Missouri - Employer Information/Toxic Substance List t: n-Pentane, n-Hexane, Propane, Hydrogen Sulfide.
New Jersey - Right to Know Hazardous Substance List: Oxygen, Carbon Monoxide, Nitrogen, Propane, n-Pentane, n-Hexane.
North Dakota - List of Hazardous Chemicals, Reportable Quantities: Hydrogen Sulfide.
Pennsylvania - Hazardous Substance List: Oxygen, Carbon Monoxide, Nitrogen, Propane, n-Pentane, n-Hexane, Hydrogen Sulfide.
Rhode Island - Hazardous Substance List: Oxygen, Carbon Monoxide, Nitrogen, Propane, n-Pentane, n-Hexane, Hydrogen Sulfide.
Texas - Hazardous Substance List: n-Pentane, n-Hexane, Propane, Hydrogen Sulfide.
West Virginia - Hazardous Substance List: n-Pentane, n-Hexane, Propane, Hydrogen Sulfide.
Wisconsin - Toxic and Hazardous Substances: n-Pentane, n-Hexane, Propane, Hydrogen Sulfide

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): The Carbon Monoxide component of this gas mixture is on the California Proposition 65 lists as a chemical known to the State of California to cause birth defects or other reproductive harm.
ADDITIONAL CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS: The components of this gas mixture are on the Canadian DSL Inventory.
CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS: The components of this gas mixture are not on the CEPA Priorities Substances List.
CANADIAN WHMIS CLASSIFICATION: This gas mixture is categorized as a Controlled Product, Hazard Classes A and D2A, as per the Controlled Product Regulations.

16. OTHER INFORMATION

INFORMATION ABOUT DOT-39 NRC (Non-Refillable Cylinder) PRODUCTS

DOT 39 cylinders ship as hazardous materials when full. Once the cylinders are relieved of pressure (empty) they are not considered hazardous material or waste. Residual gas in this type of cylinder is not an issue because toxic gas mixtures are prohibited. Calibration gas mixtures typically packaged in these cylinders are Nonflammable n.o.s., UN 1956. A small percentage of calibration gases packaged in DOT 39 cylinders are flammable or oxidizing gas mixtures.

For disposal of used DOT-39 cylinders, it is acceptable to place them in a landfill if local laws permit. Their disposal is no different than that employed with other DOT containers such as spray paint cans, household aerosols, or disposable cylinders of propane (for camping, torch etc.). When feasible, we recommended recycling for scrap metal content. CALGAZ will do this for any customer that wishes to return cylinders to us prepaid. All that is required is a phone call to make arrangements so we may anticipate arrival. Scrapping cylinders involves some preparation before the metal dealer may accept them. We perform this operation as a service to valued customers who want to participate.

MIXTURES: When two or more gases or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an Industrial Hygienist or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death.

Further information about the handling of compressed gases can be found in the following pamphlets published by: Compressed Gas Association Inc. (CGA), 1725 Jefferson Davis Highway, Suite 1004, Arlington, VA 22202-4102. Telephone: (703) 412-0900.

P-1 *"Safe Handling of Compressed Gases in Containers"*
AV-1 *"Safe Handling and Storage of Compressed Gases"*
"Handbook of Compressed Gases"

PREPARED BY: CHEMICAL SAFETY ASSOCIATES, Inc.
PO Box 3519, La Mesa, CA 91944-3519
619/670-0609

Fax on Demand: 1-800/231-1366

AIR LIQUIDE™

This Material Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this gas mixture. To the best of CALGAZ knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this gas mixture is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.

APPENDIX C

COVID-19 Interim Health and Safety Guidance

COVID-19 INTERIM HEALTH AND SAFETY GUIDANCE

CORPORATE HEALTH AND SAFETY MANAGER	:	**Brian Hobbs, CIH, CSP**
EFFECTIVE DATE	:	**03/2020**
REVISION DATE	:	**01/10/2022**
REVISION NUMBER	:	**8**

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1. PURPOSE

This guidance has been implemented to establish work practices, administrative procedures, and engineering controls to minimize potential exposure to SARS-CoV-2, the virus that causes COVID-19. The following guidance has been developed based on local, state and federal recommendations/requirements regarding COVID-19. The purpose of this document is to supplement existing site-specific Health and Safety Plans (HASPs) and provide interim health and safety guidance to minimize potential exposure to SARS-CoV-2. Should additional scientific information or regulatory information change, this document shall be updated accordingly.

2. SCOPE AND APPLICABILITY

This guidance covers all Roux employees and the subcontractors that Roux oversees. Site specific HASPs shall be developed to incorporate elements of mitigative measures against COVID-19 exposure. If work cannot be carried out in compliance with this guidance, the project shall be further evaluated by the Project Principal (PP), Office Manager (OM), and Corporate Health and Safety Director (CHSD) prior to work authorization.

Roux subcontractors are required to review, comply with, and implement Roux's COVID-19 Interim Health and Safety Guidance while on Site. Subcontractors may implement additional preventative measures as they see fit. All work shall be conducted in a manner consistent with the federal, state, and local guidance as it relates to COVID-19.

3. BACKGROUND

What is COVID-19?

COVID-19 is a respiratory illness that can spread from person to person. The virus that causes COVID-19 is a novel coronavirus that was first identified during an investigation into an outbreak in Wuhan, China. This virus continues to spread internationally and within the United States. Multiple variants of the virus that causes COVID-19 are circulating globally. There are currently several vaccines which have been developed which are authorized, recommended and effective at protecting you from getting sick.

What are the symptoms of COVID-19?

Reported illnesses have ranged from mild symptoms to severe illness and death for confirmed COVID-19 cases. Symptoms may appear 2 to 14 days following exposure to the virus. People with these symptoms or combinations of symptoms may have COVID-19:

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches
- Headache
- New loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea or vomiting
- Diarrhea

This list is not all possible symptoms. The CDC will continue to update this list as they learn more about the virus. For an updated symptom list please reference the following link for CDC Symptoms of Coronavirus.

If someone develops emergency warning signs for COVID-19, they should be instructed to get medical attention immediately. Emergency warning signs can include those listed below; however, this list is not all inclusive. Please consult your medical provider for any other symptoms that are severe or concerning.

- Trouble breathing
- Persistent pain or pressure in the chest
- New confusion
- Inability to wake or stay awake
- Pale, gray, or blue-colored skin, lips, or nail beds, depending on skin tone

How does COVID-19 spread?[1]

Individuals who are within close contact (within 6 feet) of a person with COVID-19 or have direct contact with that person are at greatest risk of infection.

COVID-19 spreads in three main ways:

- Breathing in air when close to an infected person who is exhaling small droplets and particles that contain the virus.
- Having these small droplets and particles that contain virus land on the eyes, nose, or mouth, especially through splashes and sprays like a cough or sneeze.
- Touching eyes, nose, or mouth with hands that have the virus on them.

Transmission of SARS-CoV-2 from inhalation of virus in air farther than six feet from an infectious source can occur.

Some infections can be spread by exposure to virus in small droplets and particles that can linger in the air for minutes to hours. These viruses may be able to infect people who are further than 6 feet away from the person who is infected or after that person has left the space. This kind of spread is referred to as **airborne transmission** and is an important way that infections like tuberculosis, measles, and chicken pox are spread. Per published reports, factors that increase the risk of SARS-CoV-2 infection under these circumstances include:

- Enclosed spaces with inadequate ventilation or air handling within which the concentration of exhaled respiratory fluids, especially very fine droplets and aerosol particles, can build-up in the air space.
- Increased exhalation of respiratory fluids if the infectious person is engaged in physical exertion or raises their voice (e.g., exercising, shouting, singing).
- Prolonged exposure to these conditions, typically more than 15 minutes.

Spread from contact with contaminated surfaces or objects is less common.

Respiratory droplets can also land on surfaces and objects. It is possible that a person could get COVID-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose, or eyes. Spread from touching surfaces is not thought to be a common way that COVID-19 spreads.

4. TRAINING REQUIREMENTS

All employees with potential exposure to COVID-19 shall be provided training that incorporates COVID-19 exposure mitigation strategies, such as implementation of proper social distancing, personal hygiene (e.g., handwashing), as well as disinfection procedures, as outlined by CDC guidelines.

5. EXPOSURE RISK POTENTIAL

Worker risk of occupational exposure to COVID-19 can vary from very high, high, medium, or lower (caution) risk. This level of exposure is dependent on several factors, which can include industry type; need for contact within 6 feet of people known to be or suspected of being infected with COVID-19; density of work environment; and industrial setting (i.e., healthcare building, occupied interior work area, minimal ventilation).

Provided below is background risk level information taken from the U.S. Department of Labor Occupational Safety and Health Administration Guidance on preparing workplaces for COVID-19. Risk evaluations for each project shall be conducted by the PP and OM in consultation with the CHSD to ensure Roux employees and subcontractors remain within the lower exposure (caution) category. If it is identified there is a medium exposure risk or higher, further evaluation and mitigative measures shall be evaluated to reduce overall exposure risk prior to work authorization.

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1 How COVID-19 Spreads https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html#edn1



Very High Exposure Risk (Activities not conducted by Roux)

Very high exposure risk includes occupations/work activities with high potential for exposure to known or suspected sources of COVID-19 during specific medical, postmortem, or laboratory procedures. This can include but is not limited to:

- Healthcare workers (e.g., doctors, nurses, dentists, paramedics, emergency medical technicians) performing aerosol-generating procedures (e.g., intubation, cough induction procedures, bronchoscopies, some dental procedures and exams, or invasive specimen collection) on known or suspected COVID-19 patients.
- Healthcare or laboratory personnel collecting or handling specimens from known or suspected COVID-19 patients (e.g., manipulating cultures from known or suspected COVID-19 patients).

High Exposure Risk (Activities not conducted by Roux)

High exposure risk occupations/work activities include exposure to known or suspected COVID-19 positive individuals. This can include but not limited to:

- Healthcare delivery and support staff (hospital staff who must enter patients' rooms) exposed to known or suspected COVID-19 patients.
- Medical transport workers (ambulance vehicle operators) moving known or suspected COVID-19 patients in enclosed vehicles.
- Mortuary workers involved in preparing bodies for burial or cremation of people known to have, or suspected of having, COVID-19 at the time of death.
- Those who have frequent or sustained contact with coworkers, including under close working conditions indoors or in poorly ventilated spaces in various types of industrial, manufacturing, agriculture, construction, and other critical infrastructure workplaces.
- Those who have frequent indoor or poorly ventilated contact with the general public, including workers in retail stores, grocery stores or supermarkets, pharmacies, transit and transportation operations, law enforcement and emergency response operations, restaurants, and bars.

Medium Exposure Risk

Medium exposure risk occupations/work activities include those that require frequent and/or close contact with (i.e., within 6 feet for a cumulative total of 15 minutes or more over a 24-hour period)) people who may be infected with COVID-19, but who are not known or suspected to be COVID-19 positive. For most of our worksites, it is assumed there is on-going community transmission for COVID-19. Therefore, workers who work at sites and may have contact with the general public, other contractors, high-population-density work environments (i.e., greater than 10 people) fall within medium exposure risk group category. This can include, but is not limited to, sampling events that require two or more workers to collect and log samples in close contact or work occurring in an interior space with limited ventilation and several workers present.

Lower Exposure Risk (Caution)

Lower exposure risk (caution) occupations/work activities are those that do not require close contact (within 6 feet for a cumulative total of 15 minutes or more over a 24-hour period) with other people. During these activities, there is limited contact (i.e., within 6 feet of) the general public or other workers. Workers in this category have minimal occupational contact with the public and other coworkers. This includes construction oversight that does not require close contact, sampling or gauging events performed by one worker and our remote workers as well as office workers who do not have frequent close contact with coworkers, clients, or the public.

6. CDC FULLY VACCINATED GUIDANCE

Vaccination is a vital tool to reduce the presence and severity of COVID-19 cases in the workplace and communities. Roux has recommended the vaccine for all employees. Should vaccines be required by local/state/client requirements Roux shall ensure our workforce shall comply with such requirement. Roux Human Resources shall collect information on vaccination status of employees who have been vaccinated to make informed decisions and ensure conformance with state/local requirements, as appropriate.

In general, employees shall be considered fully vaccinated:

- 2 weeks after their second dose in a 2-dose series, such as the Pfizer or Moderna vaccines, or
- 2 weeks after a single-dose vaccine, such as Johnson & Johnson's Janssen vaccine.

If you do not meet these requirements, regardless of age, you are not fully vaccinated and are asked to continue to take all precautions until you are fully vaccinated. CDC recommends that people remain up to date with their vaccines, which includes additional doses for individuals who are immunocompromised or booster doses at regular time points. Individuals who are moderately or severely immunocompromised should get an additional primary shot and a booster shot.

7. COVID-19 HEALTH SCREENING

7.1 Roux Employees

Depending on local/state/client requirements, Roux employees may self-attest to a COVID-19 Daily Health Questionnaire which is to be completed at home through a mobile application on scheduled workdays. The purpose of this program is to ensure business continuity as well as mitigate any potential exposure to our employees and others if it is determined employees are at-risk for contracting COVID-19. As part of this self-attestation, all employees are required to take their temperatures daily at home to confirm they do not have a fever (≥ 100.4). Employees who answer yes to any of these questions are instructed to contact their Office Manager and/or Department Head immediately and should not enter the office or go to a field site. Information shall be used to determine appropriate internal response in consultation with the Human Resources Director (HRD) and CHSD.

Below, you will find our COVID-19 Daily Health Questionnaire that all Roux employees are required to self-attest to **every scheduled workday by 9:30 AM.** If employees do not promptly fill out the questionnaire by the time listed above, there will be additional follow up by HR, H&S, and/or OMs.

According to the U.S. Centers for Disease Control and Prevention & the World Health Organization, COVID-19 Symptoms include:

- *Fever (≥100. 4°F) or chills*
- *Cough*
- *Shortness of breath or difficulty breathing*
- *Fatigue*
- *Muscle or body aches*
- *Headache*
- *New loss of taste or smell*
- *Sore throat*
- *Congestion or runny nose*
- *Nausea or vomiting*
- *Diarrhea*

Have you experienced any of the COVID-19 related symptoms noted above in the last 14 days? Please Note: We do not expect employees to answer "yes" to the symptoms question if these are symptoms you normally experience due to another condition or medication.

- *Yes*
- *No*

Have you been in close contact with someone who is suspected or confirmed to have COVID-19 or who is under investigation for COVID-19 within the last 14 days? * Close contact as defined by the CDC is being within 6 feet of someone who has COVID-19 for a cumulative total of 15 minutes or more over a 24-hour period.*

- *Yes*
- *No*

Have you traveled outside of the country, been on a cruise ship and/or traveled to areas within the United States which have state mandated travel restrictions in the last 14 days?

- *Yes*
- *No*

Have you tested positive for COVID-19 within the last 14 days?

- *Yes*
- *No*

7.2 Subcontractors

In an effort to mitigate the risk of transmission of COVID-19, Subcontractors who shall perform work onsite are required to attest to the fitness of their work crew on a daily basis. This requires each worker to self-assess by asking themselves the four questions listed in the section above and also contained within the Roux Subcontractor Work Crew COVID-19 Daily Health Attestation. If any crew member answers "Yes" to any of the questions, that worker is not to report to the field site and should seek proper medical advice in accordance with local, state and federal guidelines. In addition, the Sub-Contractor shall self-attest to vaccination status in order for the Field Team to ensure conformance with updated guidance for fully vaccinated individuals should state/local/client requirements allow. See Section 6. CDC Fully Vaccinated Guidance.

On a daily basis, the subcontractor supervisor must provide the Subcontractor Work Crew COVID-19 Daily Health Attestation complete with the names of all work crew fit to be on the Site for that day (i.e., who have answered "No" to all questions on the self-assessment) to Roux's Project Manager or Site Supervisor. The Subcontractor must notify Roux if there have been any "Yes" responses daily. Subcontractors shall not be required to provide the name or any other personal information of any employee who has answered "Yes" to any of the self-assessment questions, however, the Subcontractor should provide the date and times that the employee has been onsite in the prior 14 days. Records shall be maintained within the project files indicating health screening has been performed, records shall be retained for not less than 14 days following the date of submission. The Roux Subcontractor Work Crew COVID-19 Daily Health Check Attestation can be found within Appendix A.

8. SELF-ISOLATION & QUARANTINE

8.1 Self-Isolation

What if I am asked to self-isolate at home and when can I return from home isolation?

Depending on the situation, if you are COVID-19 positive or suspected to have COVID-19, employees may be required to self-isolate in their homes, as per CDC or local health department guidelines. Roux shall follow CDC guidance in areas where local/state requirements allow. The following table below outlines CDC isolation guidance.

Day 0 is your first day of symptoms or a positive viral test. Day 1 is the first full day after your symptoms developed or your test specimen was collected. If you have COVID-19 or have symptoms, isolate for at least 5 days.

IF YOU Tested positive for COVID-19 or have symptoms, regardless of vaccination status	**Stay home for at least 5 days** Stay home for 5 days and isolate from others in your home. Wear a well-fitted mask if you must be around others in your home.	**Ending isolation if you had symptoms** End isolation after 5 full days if you are fever-free for 24 hours (without the use of fever-reducing medication) and your symptoms are improving. **Ending isolation if you did NOT have symptoms** End isolation after at least 5 full days after your positive test. **If you were severely ill with COVID-19** You should isolate for at least 10 days. Consult your doctor before ending isolation.	**Take precautions until day 10** **Wear a mask** Wear a well-fitted mask for 10 full days any time you are around others inside your home or in public. Do not go to places where you are unable to wear a mask. **Avoid travel** **Avoid being around people who are at high risk**

8.2 Quarantine

Employees may be required to self-quarantine due to potential exposure with a suspected and/or confirmed COVID-19 positive individual as well as recent travel as per local/state guidelines. People in quarantine should stay home, separate themselves from others, monitor their health, and follow directions from their state or local health department.

8.2.1 Close Contact Quarantine

The following table below outlines CDC quarantine guidance. The date of your exposure is considered day 0. Day 1 is the first full day after your last contact with a person who has had COVID-19. Stay home and away from other people for at least 5 days.

IF YOU **Were exposed to COVID-19 and are NOT up-to-date on COVID-19 vaccinations**	**Quarantine for at least 5 days** **Stay home** Stay home and quarantine for at least 5 full days. Wear a well-fitted mask if you must be around others in your home. **Get tested** Even if you don't develop symptoms, get tested at least 5 days after you last had close contact with someone with COVID-19.	**After quarantine** **Watch for symptoms** Watch for symptoms until 10 days after you last had close contact with someone with COVID-19. **If you develop symptoms** Isolate immediately and get tested. Continue to stay home until you know the results. Wear a well-fitted mask around others.	**Take precautions until day 10** **Wear a mask** Wear a well-fitted mask for 10 full days any time you are around others inside your home or in public. Do not go to places where you are unable to wear a mask. **Avoid travel** **Avoid being around people who are at high risk**

IF YOU **Were exposed to COVID-19 and are up-to-date with vaccination OR had confirmed COVID-19 within the past 90 days (you tested positive using a viral test)**	**No quarantine** You do not need to stay home **unless** you develop symptoms. **Get tested** Even if you don't develop symptoms, it is recommended to get tested at least 5 days after you last had close contact with someone with COVID-19	**Watch for symptoms** Watch for symptoms until 10 days after you last had close contact with someone with COVID-19. **If you develop symptoms** Isolate immediately and get tested. Continue to stay home until you know the results. Wear a well-fitted mask around others.	**Take precautions until day 10** **Wear a mask** Wear a well-fitted mask for 10 full days any time you are around others inside your home or in public. Do not go to places where you are unable to wear a mask. **Avoid travel** **Avoid being around people who are at high risk**

8.2.2 Travel Related Quarantine/Testing

All travel out of state must be communicated with the OM and/or Department Head prior to departure. Please note, some federal/state/local entities require submissions of traveler health forms and potentially require additional testing for COVID-19. It is expected all Roux employees will comply with such federal/state/local travel requirements.

9. WORKPLACE CONTROLS

During the project planning phase, worksite evaluations shall be carried out by the PP and OM in consultation with the CHSD to determine risk exposure levels for work activities. If it is determined there is a high exposure risk level or higher, additional workplace controls shall be evaluated and implemented as required in addition to the basic infection prevention measures outlined below in Section 10. Additional workplace controls can include engineering controls (i.e., ventilation, physical barriers), administrative controls (i.e., minimizing contact between workers, rotating shifts, site specific training), and additional personal protective equipment (i.e., respiratory protection). If exposure risk cannot be mitigated, potential project postponement may be necessary at the discretion of the OM in consultation with the CHSD.

A Job Safety Analysis (JSA) has been developed and is provided in Appendix B, which summarizes and applies concepts within this guidance, including the infection prevention measures listed below. This JSA shall be required for all fieldwork in areas where there is community-based transmission of COVID-19.

10. INFECTION PREVENTION MEASURES

The following is basic infection prevention and personal hygiene practices which shall be implemented for all Roux field activities as well as in the office setting.

- ***Personal Hygiene***
  - Wash your hands often with soap and water for at least 20 seconds.
    - If soap and water are not available, use an alcohol-based sanitizer that contains at least 60% alcohol.
    - Key times to wash your hands include after blowing your nose, coughing or sneezing, after using the restroom, and before eating or preparing food.
  - Do not touch your eyes, face, nose and mouth with unwashed hands.
  - Cover your mouth and nose with a tissue when you cough or sneeze or use the inside of your elbow.
  - Throw potentially contaminated items (e.g., used tissues) in the trash.

- ***Avoid Close Contact/Secondary Contact with People and Potentially Contaminated Surfaces***
  - Apply appropriate social distance (6+ feet), as appropriate.
  - Do not work in areas with limited ventilation with other Site workers (e.g., small work trailer which lacks HVAC system).
  - Morning tailgate/safety meetings are recommended to occur outside or in well ventilated work trailers.
  - Contact your lab/equipment vendor to confirm equipment is properly disinfected prior to being shipped.
  - Do not carpool with others unless all individuals are comfortable with traveling together.
  - For company owned vehicles limit sharing of vehicles with coworkers. If unable to limit sharing of company owned vehicles, properly clean vehicle before driving with a focus on commonly touched surfaces (e.g., steering wheels, shifters, buttons, etc.).
  - Use caution when using public restrooms, portable toilets. Use paper towel as a barrier when touching door handles and faucets.
- ***Cleaning and Disinfecting***
  - Clean high touched surfaces daily. Examples of high-touch surfaces include: counters, tables, doorknobs, handles, stair rails, desks, toilets, faucets, and sinks. In most situations, regular cleaning (at least once a day) is enough to sufficiently remove virus that may be on surfaces. However, if certain conditions apply, you may choose to disinfect after cleaning. When there is no confirmed or suspected COVID-19 cases known to have been in a space, cleaning once a day is usually enough to sufficiently remove virus that may be on surfaces and help maintain a healthy facility.
  - You may want to either clean more frequently or choose to disinfect in addition to cleaning in shared spaces if the space:
    - Is a high traffic area, with a large number of people,
    - Is poorly ventilated,
    - Does not provide access to handwashing or hand sanitizer, or
    - The space is occupied by individuals at increased risk for severe illness.

If a someone who tested or is presumed COVID-19 positive and has been in your facility within the last 24 hours, you should clean and disinfect the space. This will be done in consultation with the CHSD.

The following below outlines cleaning and disinfection protocols for specific types of surfaces as required. Please consult with the CHSD when developing site-specific cleaning and disinfection protocols.

- ***Hard (Non-porous) Surfaces***
  - If surfaces are dirty, they should be cleaned with a detergent/soap and water prior to disinfection.
  - Refer to the manufacturer's instructions to ensure safe and effective use of the product and wear appropriate personal protective equipment (e.g., gloves, safety glasses, face shield).
  - Many products require:
    - Keeping surface wet for a period of time (i.e., contact time).
      - Refer to manufacturer's instructions outlining adequate contact time.
    - Precautions such as wearing gloves and making sure you have good ventilation during use of the product.
  - Disposable gloves should be removed aseptically and discarded after cleaning. Wash hands immediately following removal of gloves. Refer to Appendix C for how to remove gloves aseptically.

- If products on EPA List N: Disinfectants for Coronavirus (COVID-19) are not available, bleach solutions can be used if appropriate for the surface and will be effective against coronaviruses when properly diluted.
  - Most household bleach contains 5%–9% sodium hypochlorite. Do not use a bleach product if the percentage is not in this range or is not specified, such as some types of laundry bleach or splash-less bleach as these are not appropriate for disinfection.
  - Follow the directions on the bleach bottle for preparing a diluted bleach solution. If your bottle does not have directions, you can make a bleach solution for disinfecting by mixing:
    - 5 tablespoons (1/3 cup) of bleach per gallon of room temperature water; OR
    - 4 teaspoons of bleach per quart of room temperature water.
  - Follow the manufacturer's application instructions for the surface. If instructions are not available, leave the diluted bleach solution on the surface for at least 1 minute before removing or wiping. This is known as the "contact time" for disinfection. The surface should remain visibly wet during the contact time.
  - Ensure proper ventilation during and after application (for example, open windows).
  - Never mix household bleach (or any disinfectants) with any other cleaners or disinfectants. This can cause vapors that may be very dangerous to breathe in.
  - Make a new diluted bleach solution daily. Bleach solutions will not be as effective after being mixed with water for over 24 hours. Products with EPA-approved emerging viral pathogen claims are expected to be effective against COVID-19. Follow the manufacturer's instructions for all cleaning and disinfecting products (e.g., concentration, application method and contact time, etc.).

- ***Soft (Porous) Surfaces***
  - For soft (porous) surfaces, remove visible contamination if present and clean with appropriate cleaners indicated for use on the surfaces. After cleaning:
    - Launder items as appropriate in accordance with the manufacturer's instructions. If possible, launder using the warmest appropriate water setting for the item and dry items completely; or
    - Use products with the EPA-approved emerging viral pathogens that claim they are suitable for porous surfaces.

- ***Electronics***
  - For electronics such as tablets, touch screens, keyboards, remote controls, etc. remove visible contamination if present.
    - Follow the manufacturer's instructions for all cleaning and disinfection products.
    - Consider use of wipeable covers for electronics.
    - If no manufacturer guidance is available, consider the use of alcohol-based wipes or sprays containing at least 70% alcohol to disinfect touch screens. Dry surfaces thoroughly to avoid pooling of liquids.

- ***Linens, Clothing, and Other Items that Go in the Laundry***
  - Although it is unlikely field clothing would become potentially contaminated with COVID-19, it is recommended that field staff regularly launder field clothing following any field event upon returning home.
  - In order to minimize the possibility of dispersing the virus from potentially contaminated clothing, do not shake dirty laundry.
  - Wash items as appropriate in accordance with the manufacturer's instructions. If possible, launder items using the warmest appropriate water setting for the items and dry items completely.
  - Clean and disinfect hampers or other containers used for transporting laundry according to guidance listed above.

- ***Office/Site Specific-Cleaning and Disinfection Protocols***
    - Each office and long-term field site shall develop internal cleaning and disinfecting practices, which can be broken into three categories: routine cleaning; enhanced cleaning and disinfecting; and deep cleaning and disinfecting.
    - In the instance there is someone who is suspected or confirmed positive for COVID-19 and has worked at the office or field site within the last 24 hours, deep cleaning and disinfecting shall be considered. The CHSD shall work with the OM and Office Health and Safety Manager (OHSM) to evaluate site-specific measures that shall be carried out prior to deep cleaning and disinfecting. If more than 24 hours have passed since the person who is sick or diagnosed with COVID-19 has been in the space, cleaning shall be carried out. You may choose to also disinfect depending on certain conditions and in consultation with the CHSD.
    - If deep cleaning and disinfection is carried out the following will be considered:
        - Closing off all areas potentially affected and wait at least several hours before you clean and disinfect.
        - Areas should remain closed off until cleaning and disinfecting takes place; if able, ventilation shall be increased in the space (e.g., opening doors, windows, increasing CFM).

11. FACE COVERINGS

The CDC recommends the use of face coverings/masks in public settings where other social distancing measures are difficult to maintain. Masks are required on planes, buses, trains and other forms of public transportation traveling into, within, or out of the United States and in U.S. indoor transportation hubs such as airports and stations. The use of face coverings is to supplement and NOT replace the existing practices outlined above.

Based on existing studies and on-going recommendations and/or requirements from federal, state, and local entities, Roux is recommending the use of face coverings, when appropriate. Appropriate use is defined when local authorities or clients require the use of face coverings in conjunction with established social distancing, or if an employee elects to use a cloth covering on their own accord. Roux will provide appropriate face coverings that shall meet the basic requirements outlined by the CDC guidance.

Face Coverings (i.e., masks) should:

- Have two or more layers of washable, breathable fabric;
- Completely cover the nose and mouth;
- Fit snugly against the sides of the face and not have any gaps; and
- Have a nose wire to prevent air from leaking out of the top of the mask.

When donning and doffing the face covering, individuals should avoid touching their eyes, nose, and mouth. Following removal of the face covering, employees should wash their hands immediately using the guidelines described in Section 10 Infection Prevention Measures-Personal Hygiene above. Face coverings should be routinely washed depending on the frequency of use.

APPENDIX A

Roux Subcontractor Work Crew
COVID-19 Daily Health Screening Questionnaire

Subcontractor Work Crew
COVID-19 Daily Health Attestation

Date:
Company Name:
Supervisor Name: Signature:
Project Name:
Site Address:
Number of Workers on site:

Prior to entry onto a field site, the following questions shall be asked by the Subcontractor Supervisor to their work crew. **Subcontractors and Field Teams shall self-attest to vaccination status in order to ensure compliance with state/local guidance for fully vaccinated and unvaccinated individuals.**

It is preferred this questionnaire is completed for each individual prior to their arrival at the field site. If the answer to any of these questions is YES, the worker is not to report to the field site and seek proper medical advice, in accordance with CDC Guidelines. **The Subcontractor Supervisor must provide this form on a daily basis to the Roux primary contact for the project and notify Roux of any YES responses.**

1. Have you experienced any signs/symptoms of COVID-19 such as fever (≥100.4°F), cough, shortness of breath, chills, fatigue, muscle/body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea/vomiting or diarrhea in the last 5 days?

2. Have you been in close contact* with someone who is suspected or confirmed to have COVID-19 or who is under investigation for COVID-19 within the last 5 days?

*Close contact as defined by the CDC is being within 6 feet of someone who has COVID-19 for a cumulative total of 15 minutes or more over a 24-hour period. Those who are up to date on COVID-19 vaccinations or had confirmed COVID-19 within the past 90 days (you tested positive using a viral test) you do not need to quarantine.

3. Have you traveled outside of the country, been on a cruise ship and/or traveled to areas within the United States which have state mandated travel restrictions in the last 5 days?

4. Have you tested positive for COVID-19 within the last 5 days?

Please list the crew member's names on site for the day.

1.	8.
2.	9.
3.	10.
4.	11.
5.	12.
6.	13.
7.	14.

APPENDIX B

Job Safety Analysis-Working in Areas Affected by COVID-19

JOB SAFETY ANALYSIS	Ctrl. No. CVD-19	DATE: 01/10/2022	☐ NEW ☒ REVISED	PAGE 1 of 2

JSA TYPE CATEGORY	WORK TYPE	WORK ACTIVITY (Description)
Generic	**Fieldwork**	**Working in Areas Affected by Coronavirus**

DEVELOPMENT TEAM	POSITION / TITLE	REVIEWED BY:	POSITION / TITLE
Kristina DeLuca	Health and Safety Specialist	Brian Hobbs	CHSD

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST	☐ GOGGLES	☐ AIR PURIFYING RESPIRATOR	☒ GLOVES – Leather/cut-resistant in field and nitrile as needed
☒ HARD HAT – In field	☐ FACE SHIELD	☐ SUPPLIED RESPIRATOR	
☐ LIFELINE / BODY HARNESS	☐ HEARING PROTECTION	☒ PPE CLOTHING – High visibility vest in field	☐ OTHER
☒ SAFETY GLASSES – In field	☒ SAFETY SHOES – Steel/composite toe in fie		

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Face covering/mask, nitrile gloves, hand soap, water source, hand sanitizer, disinfectant spray and disinfectant wipes.

Commitment to Safety – All personnel onsite will actively participate in SPSA performance by verbalizing SPSAs throughout the day.

SOCIAL DISTANCING: Maintain 6' of distance between yourself and all other people at all times. If you do not believe the scope of work can be conducted while maintaining this distance, contact your Project Manager immediately.

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Project Preplanning	N/A	• Review and follow COVID-19 CDC, Roux, Client and local orders/protocols. • Ensure all workers are fit for duty - anyone feeling sick should remain at home even if symptoms do not align with COVID-19. If a worker has been in contact with someone potentially positive or positive for COVID-19, contact your Office Manager. • Determine PPE needs and ensure adequate supply of disinfectant wipes/spray, soap and water or hand sanitizer at Site. Due to high demands and limited supply, plan ahead. • Use the minimum number of employees necessary to safely complete the work.
2. Mobilization	**Exposure:** Becoming infected or infecting co-workers	**Personal/Rental/Roux Owned Vehicle** • Avoid carpooling, unless all individuals are up to date on vaccinations. • Verify workers/other people are not approaching vehicle prior to exiting the vehicle. Maintain 6' of distance from general public, as appropriate. **Public Transportation** • Public transit should not be used unless absolutely necessary. Consider renting a car rather than taking public transit. If public transit is required, wear appropriate face covering/mask and apply social distancing (6 ft). Wash hands or use hand sanitizer immediately after. **Hotel Stay (Refer to COVID-19 H&S Guidance for more info)** • If a hotel stay is deemed necessary for the given field work, ensure that you clean your room upon initial arrival. • Place the "Do Not Disturb" placard on the room while away and limit housekeeping services to the extent feasible during your stay to minimize the reintroduction and spread of the virus from others.. Wash hands or use hand sanitizer often.
3. Tailgate Meeting	**Exposure:** Becoming infected or infecting co-workers	• Perform outside or indoors in areas with ample ventilation. • If unvaccinated, maintain at least a 6+ ft distance between you and others. • Discuss primary infection prevention measures listed below. • Discuss COVID-19 symptoms with coworkers and subcontractors to ensure fitness for duty. Anyone exhibiting signs or symptoms should be instructed to leave the Site, contact your Project Manager.

[1] Each Job or Operation consists of a set of tasks / steps. Be sure to list all the steps needed to perform job.
[2] A hazard is a potential danger. Break hazards into six types: Contact - victim is struck by or strikes an object; Caught - victim is caught on, caught in or caught between objects; Fall - victim falls to ground or lower level (includes slips and trips); Exertion - excessive strain or stress / ergonomics / lifting techniques; Exposure - inhalation/skin hazards, energy source; Energy Source – electricity, pressure, compression/tension.
[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

4. Site Activities	**Exposure:** Becoming infected or infecting co-workers	• Coordinate field activities at the beginning of the day (i.e. Tailgate meeting) to minimize time spent in crowded spaces or overlap while completing job tasks. • Don face coverings as appropriate. • Apply social distancing (6+ ft) when interacting with others if unvaccinated. If anyone comes within 6 ft of you while conducting work and your work prevents you from moving away, politely ask them to move back. If others are unable to move from your space, stop work and leave area. • Minimize shaking hands or touching others. • Minimize sharing of equipment or other items with co-workers and subcontractors unless wearing appropriate PPE (e.g. nitrile gloves), as appropriate. • If anyone is experiencing COVID-19 signs or symptoms in your vicinity, stop work and leave the area. • Do not work in areas with limited ventilation with others. • Cover your mouth and nose with tissue or paper towel or with your elbow when coughing or sneezing and wash hands or use hand sanitizer immediately after. If sick contact SHSO/PM and leave Site immediately. • Clean work surfaces/areas with approved cleaners you're responsible for (ex: desk, office doorknob, computer, etc.) at least daily. • Avoid public spaces and going out to eat by bringing your own lunch to the Site. If performing work in high density urban areas, it is recommended all food must be consumed at or in your vehicle or within designated work trailer. Wash hands or use hand sanitizer before eating and immediately after.

Primary Infection Prevention Measures

- Wash your hands often with soap and water for at least 20 seconds.
  - If soap and water are not available, use an alcohol-based sanitizer that contains at least 60% alcohol. Key times to wash hands include after blowing your nose, coughing or sneezing, after using the restroom, and before eating or preparing food.
- Do not touch your eyes, face, nose and mouth with unwashed hands.
- Cover your mouth and nose with a tissue when you cough or sneeze or use the inside of your elbow. Throw potentially contaminated items (e.g. used tissues) in the trash.
- Avoid close contact/secondary contact with people and potentially contaminated surfaces.
  - Apply appropriate social distance (6+ feet).
  - Minimize handshaking/touching others and use caution when accessing public spaces.
- Clean frequently touched surfaces daily. Commonly touched items can include but are not limited to tables, doorknobs, light switches, countertops, handles, desks, phones, keyboard, toilets, sinks and field equipment. If surfaces are dirty, they should be cleaned with soap and water prior to disinfection. If surface cannot be cleaned/disinfected, then wash hands or use sanitizer as soon as possible.

[1] Each Job or Operation consists of a set of tasks / steps. Be sure to list all the steps needed to perform job.
[2] A hazard is a potential danger. Break hazards into six types: Contact - victim is struck by or strikes an object; Caught - victim is caught on, caught in or caught between objects; Fall - victim falls to ground or lower level (includes slips and trips); Exertion - excessive strain or stress / ergonomics / lifting techniques; Exposure - inhalation/skin hazards; Energy source – electricity, pressure, compression/tension.
[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

APPENDIX C

How to Remove Gloves

How to Remove Gloves

To protect yourself, use the following steps to take off gloves

1



Grasp the outside of one glove at the wrist. Do not touch your bare skin.

2



Peel the glove away from your body, pulling it inside out.

3



Hold the glove you just removed in your gloved hand.

4



Peel off the second glove by putting your fingers inside the glove at the top of your wrist.

5



Turn the second glove inside out while pulling it away from your body, leaving the first glove inside the second.

6



Dispose of the gloves safely. Do not reuse the gloves.

7



Clean your hands immediately after removing gloves.

APPENDIX D

Personal Protective Equipment (PPE) Management Program

PERSONAL PROTECTIVE EQUIPMENT MANAGEMENT PROGRAM

CORPORATE HEALTH AND SAFETY MANAGER	:	**Brian Hobbs, CIH, CSP**
EFFECTIVE DATE	:	**01/19**
REVISION NUMBER	:	**4**

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1. PURPOSE

Roux Associates, Inc. and its affiliated companies, Roux Environmental Engineering and Geology, D.P.C, and Remedial Engineering (collectively, "Roux") has instituted the following program to establish guidelines for the selection of personal protective equipment (PPE) for use by Roux personnel performing field activities in hazardous environments. PPE is not meant to be a substitute for engineering, work practice, and/or administrative controls, but PPE should be used in conjunction with these controls to protect the employees in the work place. Clothing, body coverings, and other accessories designed to prevent worker exposure to workplace hazards are all types of PPE. To ensure adequate PPE employee-owned PPE is evaluated on a case-by-case basis to insure its adequacy, maintenance and sanitation.

2. SCOPE AND APPLICABILITY

These guidelines apply to all PPE selection decisions to be made in implementing the Roux program. The foundations for this program are the numerous Occupational Health and Safety Administration (OSHA) standards related to PPE cited in 29 CFR 1910 Subpart I, 29 CFR 1926 Subpart E, and the hazardous environment work employee protection requirements under the OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) standard at 29 CFR 1910.120 and 1926.65. To ensure hazard assessments are documented the levels of protection, types of protection and tasks requiring protection are covered in site-specific Health and Safety Plans (HASPs) and Job Safety Analyses (JSAs).

3. PROCEDURES

Due to the varied nature of site activities and the different potential hazards associated with different sites, several aspects must be considered when selecting PPE. The following text describes PPE selection logic and provides guidelines and requirements for the appropriate selection and use of PPE.

3.1 Introduction

To harm the body, chemicals must first gain entrance. The intact skin and the respiratory tract are usually the first body tissues attacked by chemical contaminants. These tissues provide barriers to some chemicals but in many cases, are damaged themselves or are highly permeable by certain chemical compounds. Personal protective equipment therefore is used to minimize or eliminate chemical compounds coming into contact with these first barrier tissues.

The proper selection of equipment is important in preventing exposures. The PM making the selection will have to take several factors into consideration. The level of protection, type and kind of equipment selected depends on the hazardous conditions and in some cases cost, availability, compatibility with other equipment, and performance. An accurate assessment of all these factors must be made before work can be safely carried out.

3.2 Types of PPE

The type and selection of PPE must meet certain general criteria and requirements as required under OSHA 29 CFR 1910.132 and 1926.95. In addition to these general requirements, specific requirements and specifications exist for some types of PPE that form the basis of the protective clothing scheme. Following is a list of the common types of specific PPE and the specific requirements for the PPE type, where applicable:

1. Hard Hats - Regulated by 29 CFR 1910.135 and 1926.100; and, specified in ANSI Z89.1.

2. Face Shields and Safety Glasses - Regulated by 29 CFR 1910.133 and 1926.102; and, specified in ANSI Z87.1.
3. Respiratory Protection - Regulated by 29 CFR 1910.134 and 1926.103.
4. Hand Protection - Not specifically regulated.
5. Foot Protection - Regulated by 29 CFR 1910.136 and 1926.96; and, specified in ANSI Z41.1.
6. Protective Clothing (e.g., fully encapsulated suits, aprons) - Not specifically regulated.

3.3 Protective Clothing Selection Criteria

3.3.1 Chemicals Present

The most important factor in selecting PPE is the determination of what chemicals the employee may be exposed to. On field investigations, the number of chemicals may range from a few to several hundred. The exact chemicals or group of chemicals present at the site (certain groups tend to require similar protection) can be determined by collecting and analyzing samples of the air, soil, water, or other site media. When data are lacking, research into the materials used or stored at the site can be used to infer chemicals possibly on the site.

Once the known or suspected chemicals have been identified, and taking into consideration the type of work to be performed, the most appropriate clothing shall be selected.

Protective garments are made of several different substances for protection against specific chemicals. There is no universal protective material. All will decompose, be permeated by, or otherwise fail to protect under given circumstances. Fortunately, most manufacturers make guides to the use of their products (i.e., Dupont's Tyvek™ Permeation Guide). These guides are usually for gloves and coveralls and typically provide information regarding chemical degradation rates (failure of the material to maintain structural integrity when in contact with the chemical), and may provide information on the permeation rate (whether or not the material allows the chemical to pass through). When permeation tables are available, they shall be used in conjunction with degradation tables to determine the most appropriate protective material.

During most site work, chemicals are usually in mixed combinations and the protective materials are not in continuous contact with pure chemicals for long periods of time; therefore, the selected material may be adequate for the particular chemical and type of work being performed, yet not the "best" protecting material for all site chemicals and activities. Selection shall depend upon the most hazardous chemicals based on their hazards and concentrations. Sometimes layering, using several different layers of protective materials, affords the best protection.

3.3.2 Concentration of the Chemical(s)

One of the major criteria for selecting protective material is the concentration of the chemical(s) in air, liquid, and/or solid state. Airborne and liquid chemical concentrations should be compared to the OSHA standards and/or American Conference of Governmental Industrial Hygienists (ACGIH) and National Institute for Occupational Safety and Health (NIOSH) guidelines to determine the level of skin or other absorptive surface (e.g., eyes) protection needed. While these standards are not designed specifically for skin exposed directly to the liquid, they may provide skin designations indicative of chemicals known to have significant skin or dermal absorption effects. For example, airborne levels of PCB on-site may be

low because it is not very volatile, so the inhalation hazard may be minimal; however, PCB-containing liquid coming in direct contact with the skin may cause overexposure. Thus, PCB has been assigned a skin designation in both the OSHA and ACGIH exposure limit tables.

3.3.3 Physical State

The characteristics of a chemical may range from nontoxic to extremely toxic depending on its physical state. Inorganic lead in soil would not be considered toxic to site personnel, unless it became airborne, since it is generally not absorbed through the intact skin. Organic lead in a liquid could be readily absorbed. Soil is frequently contaminated with hazardous materials. Concentrations will vary from a few parts per million to nearly one hundred percent. The degree of hazard is dependent on the type of soil and concentration of the chemical. Generally speaking, "dry" soils do not cause a hazard to site personnel if they take minimal precautions such as wearing some type of lightweight gloves.

3.3.4 Length of Exposure

The length of time a material is exposed to a chemical increases the probability of breakthrough. Determinations of actual breakthrough times for short-term exposures indicate that several different materials can be used which would be considered inadequate under long-term exposures. It should be kept in mind that during testing, a pure (100% composition) liquid is usually placed in direct contact with the material producing a worst-case situation.

3.3.5 Abrasion

When selecting protective clothing, the job the employee is engaged in must be taken into consideration. Persons moving drums or performing other manual tasks may require added protection for their hands, lower chest and thighs. The use of leather gloves and a heavy apron over the other normal protective clothing will help prevent damage to the normal PPE and thus reduce worker exposures.

3.3.6 Dexterity

Although protection from skin and inhalation hazards is the primary concern when selecting PPE, the ability to perform the assigned task must be maintained. For example, personnel cannot be expected to perform work that requires fine dexterity if they must wear a thick glove. Therefore, the PPE selection process must consider the task being performed and provide PPE alternatives or techniques that allow dexterity to be maintained while still protecting the worker (e.g., wearing tight latex gloves over more bulky hand protection to increase dexterity).

3.3.7 Ability to Decontaminate

If disposable clothing cannot be used, the ability to decontaminate the materials selected must be taken into consideration. Once a chemical contacts the material, it must be cleaned before it can be reused. If the chemical has completely permeated the material, it is unlikely that the clothing can be adequately decontaminated and the material should be discarded.

3.3.8 Climactic Conditions

The human body works best with few restraints from clothing. Protective clothing adds a burden by adding weight and restricting movement as well as preventing the natural cooling process. In severe situations, a modified work program must be used.

Some materials act differently when they are very hot and very cold. For example, PVC becomes almost brittle in very cold temperatures. If there are any questions about the stability of the protective materials under different conditions, the manufacturer should be contacted.

3.3.9 Work Load

Like climactic conditions, the type of work activity may affect work duration and the ability or personnel to perform certain tasks. Similarly, the amount of protective materials a person wears will affect their ability to perform certain tasks. For example, a person in a total encapsulating suit, even at 72 ^{o}F, cannot work for more than a short period of time without requiring a break.

The work schedule should be adjusted to maintain the health of the employees. Special consideration should be given to the selection of clothing that both protects and adds the least burden when personnel are required to perform strenuous tasks. Excessive bodily stress frequently represents the most significant hazard encountered during field work.

3.4 Types of Protective Materials

1. Cellulose or Paper
2. Natural and Synthetic Fibers
    a. Tyvek™
    b. Nomex™
3. Elastomers
    a. Polyethylene
    b. Saran
    c. Polyvinyl Chloride (PVC)
    d. Neoprene
    e. Butyl Rubber
    f. Viton

3.5 Protection Levels

3.5.1 Level A Protection

Level A protection (a fully encapsulated suit) is used when skin hazards exist or when there is no known data that positively rule out skin and other absorption hazards. Since Level A protection is extremely physiologically and psychologically stressful, the decision to use this protection must be carefully considered. At no time will Level A work be performed without the consent of the OM. The following conditions suggest a need for Level A protection:

- confined facilities where probability of skin contact is high;
- sites containing known skin hazards;
- sites with no established history to rule out skin and other absorption hazards;
- atmosphere immediately dangerous to life and health (IDLH) through the skin absorption route;
- site exhibiting signs of acute mammalian toxicity (e.g., dead animals, illnesses associated with past entry into site by humans);

- sites at which sealed drums of unknown materials must be opened;
- total atmospheric readings on the Photoionization Detector (PID), Flame Ionization Detector (FID), and similar instruments indicate 500 to 1,000 ppm of unidentified substances; and
- extremely hazardous substances (e.g., cyanide compounds, concentrated pesticides, Department of Transportation Poison "A" materials, suspected carcinogens and infectious substances) are known or suspected to be present and skin contact is possible.

The following items constitute Level A protection:

- open circuit, pressure-demand self-contained breathing apparatus (SCBA);
- totally encapsulated suit;
- gloves, inner (surgical type);
- gloves, outer;
- chemical protective;
- boots, chemical protective, steel toe and shank;
- radiation detector (if applicable); and
- communications.

3.5.2 Level B Protection

Level B protection is utilized when the highest level of respiratory protection is needed but hazardous material exposure to the few unprotected areas of the body is unlikely.

The following conditions suggest a need for Level B protection:

- the type and atmospheric concentration of toxic substances have been identified and they require the highest level of respiratory protection;
- IDLH atmospheres where the substance or concentration in the air does not present a severe skin hazard;
- the type and concentrations of toxic substances do not meet the selection criteria permitting the use of air purifying respirators; and
- it is highly unlikely that the work being done will generate high concentrations of vapors, gases or particulates, or splashes of materials that will affect the skin of personnel.

Personal protective equipment for Level B includes:

- open circuit, pressure-demand SCBA;
- chemical protective clothing:
- overalls and long-sleeve jacket; or
- coveralls;
- gloves, inner (surgical type); gloves, outer, chemical protective;
- boots, chemical protective, steel toe and shank; and
- communications optional.

3.5.3 Level C Protection

Level C protection is utilized when both skin and respiratory hazards are well defined and the criteria for the use of negative pressure respirators have been fulfilled (i.e., known contaminants and contaminant concentrations, acceptable oxygen levels, approved filter/cartridge available, known cartridge service life, etc.). Level C protection may require carrying an emergency escape respirator during certain initial entry and site reconnaissance situations, or when applicable thereafter.

Personal protective equipment for Level C typically includes:

- full facepiece air-purifying respirator;
- emergency escape respirator (optional);
- chemical protective clothing:
  - overalls and long-sleeved jacket; or
  - coveralls;
- gloves, inner (surgical type);
- gloves, outer, chemical protective; and
- boots, chemical protective, steel toe and shank.

3.5.4 Level D Protection

Level D is the basic work uniform. Personal protective equipment for Level D includes:

- coveralls;
- safety boots/shoes;
- eye protection;
- hand protection;
- reflective traffic safety vest (mandatory for traffic areas or railyard);
- hard hat (with face shield is optional); and
- emergency escape respirator is optional.

3.5.5 Level E Protection

Level E protection is used when radioactivity above 10 mr/hr is detected at the site. Personal protective equipment for Level E includes:

- coveralls;
- air purifying respirator;
- time limits on exposure;
- appropriate dermal protection for the type of radiation present; and
- radiation dosage monitoring.

3.5.6 Additional Considerations

Field work will contain a variety of situations due to chemicals in various concentrations and combinations. These situations may be partially ameliorated by following the work practices listed below:

1. Some sort of foot protection is needed on a site. If the ground to be worked on is contaminated with liquid and it is necessary to walk in the chemicals, some sort of protective "booties" can be worn over the boots. This cuts down on decontamination requirements. They are designed with soles to help prevent them from slipping around. If non-liquids are to be encountered, a Tyvek™ bootie could be used. If the ground contains any sharp objects, the advantage of booties is questionable. Boots should be worn with either cotton or wool socks to help absorb the perspiration.

2. If the site situation requires the use of hard hats, chin straps should be used if a person will be stooping over where his/her hat may fall off. Respirator straps should not be placed over the hard hats. This will affect the fit of the respirator.

   Some types of protective materials conduct heat and cold readily. In cold conditions, natural material clothing should be worn under the protective clothing. Protective clothing should be removed prior to allowing a person "to get warm". Applying heat, such as a space heater, to the outside of the protective clothing may drive the contaminants through. In hot weather, under clothing will absorb sweat. It is recommended that workers use all cotton undergarments.

3. Body protection should be worn and taped to prevent anything from running into the top of the boot. Gloves should be worn and taped to prevent substances from entering the top of the glove. Duct tape is preferred, but masking tape can be used. When aprons are used, they should be taped across the back for added protection. However, this should be done in such a way that the person has mobility.

4. Atmospheric conditions such as precipitation, temperature, wind direction, wind velocity, and pressure determine the behavior of contaminants in air or the potential for volatile material getting into the air. These parameters should be considered in determining the need for and the level of protection.

5. A program must be established for periodic monitoring of the air during site operations. Without an air monitoring program, any changes would go undetected and might jeopardize response personnel. Monitoring can be done with various types of air pumps and filtering devices followed by analysis of the filtration media; personnel dosimeters; and periodic walk-throughs by personnel carrying real-time survey instruments.

6. For operations in the exclusion zone, different levels of protection may be selected, and various types of chemical-resistant clothing may be worn. This selection should be based on the job function, reason for being in the area, and the potential for skin contact with, or inhalation of, the chemicals present.

7. Escape masks must be readily available when levels of respiratory protection do not include a SCBA and the possibility of an IDLH atmosphere exists. Their use can be made on a case-by-case basis. Escape masks could be strategically located at the site in areas that have higher possibilities of vapors, gases or particulates.

APPENDIX E

Subsurface Utility Clearance Management Program

SUBSURFACE UTILITY CLEARANCE MANAGEMENT PROGRAM

CORPORATE HEALTH AND SAFETY MANAGER	**:**	**Brian Hobbs, CIH, CSP**
EFFECTIVE DATE	**:**	**01/19**
REVISION NUMBER	**:**	**2**

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1. PURPOSE

Roux Associates, Inc. and its affiliated companies, Roux Environmental Engineering and Geology, D.P.C, and Remedial Engineering (collectively, "Roux") has instituted the following program for completing proper utility mark-outs and for conducting subsurface clearance activities. This establishes a method to ensure, to the greatest extent possible, that utilities have been identified and contact and/or damage to underground utilities and other subsurface structures will be avoided.

2. SCOPE AND APPLICABILITY

The Subsurface Utility Clearance Management Program applies to all Roux employees, its contractors and subcontractors. Employees are expected to follow this program for all intrusive work involving Roux or other personnel (e.g., contractors/subcontractors) working for Roux unless the client's requirements are more stringent. Deviation from the program regardless of the specific work activity or work location must be pre-approved based on client's site knowledge, site experience and client's willingness for the use of this program. Any and all exceptions shall be documented and pre-approved by the Project Principal and the Office Manager.

3. PROCEDURES

3.1 Before Intrusive Activities

During the project kick-off meeting for intrusive activities the PM will review the Roux Subsurface Utility Clearance Checklist and Utility Verification (Appendix C) / Site Walkthrough Record (Appendix D) and the below bullet points with the project field team:

(Please note that these are intended as general reminders only and should not be solely relied upon.)

- Ensure the Mark-out / Stake-out Request Information Sheet (or one-call report) is complete and accurate for the site including address and cross streets and review for missing utilities. (Note: utility mark-out organizations do not have contracts with all utilities and it is often necessary to contact certain utilities separately such as the local water and sewer authorities).
- Have written confirmation prior to mobilizing to the site that the firm or Roux personnel performing the intrusive activity has correctly completed the mark-out notification process including requesting mark-outs, waiting for mark-outs to be applied to ground surfaces at the site, and receiving written confirmation of findings (via fax or email) from utility operators for all known or suspected utilities in the proposed area of intrusive activity, and provided utility owner written confirmation to Roux personnel for review and project files documentation.
- Do not begin any intrusive activity until all utilities mark-out has been completed (i.e., did all utilities mark-out the site?) and any unresolved mark-out issues are finalized. Perform a site walk to review the existing utilities and determine if said utilities have been located by the utility locators.

  (Note: The Tolerance Zone is defined as two feet plus half of the diameter or half of the greatest dimension (for elliptical sewers, duct banks and other non-cylindrical utilities) of a utility and two feet from the outside edge of any subsurface structure.)
- Install Pre-Clearance exploratory test holes (e.g., hand-dug test holes or other soft digging techniques) for the first 5-ft below land surface (BLS) at each location prior to conducting mechanized intrusive activities. The size of the pre-clearance exploratory test hole should be at a minimum twice the diameter of any downhole tool or boring device. (Note: Pre-Clearance exploratory test holes should be defined in the SOW/proposal provided to the client to prevent project delays and to allow adequate time for PM and PP to evaluate alternative approaches for the project. Alternative approaches will need to be pre-approved by the OM.

- For excavations, all utilities need to be marked and then exposed by hand following the protocols in this program. Pre-clearing for excavations may be performed by the "moat" technique (i.e., soft digging around the perimeter). In these cases, dig in small lifts (<12" for first 5 feet) using a dedicated spotter.) For Tolerance Zone work, unless otherwise agreed upon with the Utility Operator, work within the tolerance zone requires verification by means of hand-dug test holes performed to expose the utility. Once structures have been verified a minimum clearance of two feet must be maintained between the utility and any powered equipment.
- In addition, the following activities should be conducted:
  - Review the work scope to be performed with the site owner/tenant to determine if it may impact any utilities;
  - Attempt to procure any utility maps or historic drawings of subsurface conditions of the site;
  - **Determine the need for utility owner companies to be contacted or to have their representatives on site**;
  - Where mark-outs terminate at the property boundary, consider the use of private utility locating / GPR / geophysical-type services which may be helpful in locating utilities. Use of private utility locating firms, however, does not eliminate the legal requirement for the Excavator firm to submit a request for Public Utility Mark-outs. Also, the information provided by the service may be inaccurate and unable to locate subsurface utilities and structures in urban areas, landfills, urban fill areas and below reinforced slabs, etc. They should not be relied upon as the only means of performing utility clearance;
  - Documented description of the dig site which is included in the projects Health and Safety Plan (HASP) and one call report will be maintained in the field and distributed amongst Roux personnel its contractors and subcontractors; and
  - Documentation of the actual placement of mark outs in the field shall be collected using dated pictures, videos and/or sketches with distance from markings to fixed objects. All documentation shall be maintained within the project file.

3.2 During Intrusive Activities

The PM, field team lead or personnel performing oversight is to:

- Ensure the mark-out remains valid. (In certain states there are limits regarding the duration of time after the mark-out was applied to the ground surface work can be started or interrupted.) Additionally, the mark-outs must be maintained, documented, and in many cases refreshed periodically to be considered valid, this will be accomplished through calls to the one call center.
- Ensure intrusive activities are only performed within the safe boundaries of the mark-out as detailed in the One-Call Report.
- Halt all work if intrusive activities have resulted in discovery of an unmarked utility. Roux personnel shall notify the facility owner/operator and the one call center. All incidents such as this will be reported as per Roux Incident Investigation and Reporting Management Program.
- Halt all work if intrusive activities must take place outside of the safe boundaries of a mark-out and only proceed after new mark-outs are performed.
- Halt the intrusive activities and immediately consult with the PP if an unmarked utility is encountered.
- Completing any subsurface utility clearance incident reports that are necessary.

- If a utility cannot be found as marked Roux personnel shall notify the facility owner/operator directly or through the one call center. Following notification, the excavation may continue, unless otherwise specified in state law.
- Contractors/subcontractors must contact the one-call center to refresh the ticket when the excavation continues past the life of the ticket. Ticket life shall be dictated by state law however at a maximum ticket life shall not exceed 20 working days.

3.3 Stop Work Authority

Each Roux employee has Stop Work Authority which he or she will execute upon determination of any imminent safety hazard, emergency situation, or other potentially dangerous situation, such as hazardous weather conditions. This Stop Work Authority includes subsurface clearance issues such as the adequacy of a mark-out or identification during intrusive operations of an unexpected underground utility. Authorization to proceed with work will be issued by the PM/PP after such action is reviewed and resolved. The PM will initiate and execute all management notifications and contact with emergency facilities and personnel when this action is appropriate.

Appendix A - Definitions

Intrusive Work Activities	All activities such as digging or scraping the surface, including but not limited to, excavation, test pitting or trenching, soil vapor sampling or the installation of soil borings, soil vapor monitoring points and wells, or monitoring wells, and drilling within the basement slab of a recently demolished building.
Mark-out / Stake Out	The process of contracting with a competent and qualified company to confirm the presence or absence of underground utilities and structures. This process will clearly mark-out and delineate utilities that are identified so that intrusive work activities can be performed without causing disturbance or damage to the subsurface utilities and structures. After utility mark-outs are completed the soft digging will be completed prior to intrusive work.
Tolerance Zone	Defined as two feet on either side of the designated centerline of an identified utility, plus half of the diameter or half of the greatest dimension (for elliptical sewers, duct backs and other non-cylindrical utilities) of that utility and two feet from the outside edge of any subsurface structure.
Structure	For the purpose of this program a structure is defined as any underground feature that may a present potential source(s) of energy such as, but not limited to, utility vaults, bunkers, piping, electrical boxes, wires, conduits, culverts, utility lines, underground tanks and ducts.
Soft Digging	The safest way to remove material from unknown obstructions or services is by using tools such as a vactor or air knife, non-mechanical tools, or hand tools. The methods are clean and non-evasive and used for uncovering and exposing buried services, excavating and for providing a quick method of soil removal from sensitive areas.
Verification	Exploratory test-hole dug with hand tools within the Tolerance Zone to expose and verify the location, type, size, direction-of-run and depth of a utility or subsurface structure. Vacuum excavation (soft dig) methods can further facilitate exposure of a subsurface utility and accurately provide its location and identification prior to intrusive work approaching the Tolerance Zone.

Appendix B - Example of Completed One Call Report

Example Completed One-Call Report

New York 811

Send To: C_EMAIL Seq No: 744

Ticket No: 133451007 ROUTINE

Start Date: 12/16/13 Time: 7:00 AM Lead Time: 20

State: NY County: QUEENS Place: QUEENS
Dig Street: 46TH AVE Address:
Nearest Intersecting Street: VERNON BLVD
Second Intersecting Street: 11TH ST

Type of Work: SOIL BORINGS
Type of Equipment: GEOPROBE
Work Being Done For: ROUX

In Street: X On Sidewalk: X Private Property: Other:
On Property Location if Private: Front: Rear: Side:

Location of Work: MARK THE ENTIRE NORTH SIDE OF THE STREET AND SIDEWALK OF: 46TH AVE BETWEEN VERNON BLVD AND 11TH STREET

Remarks:

Nad: Lat: Lon: Zone:
ExCoord NW Lat: 40.7475399 Lon: -73.9534811 SE Lat: 40.7457406 Lon: -73.9493680

Company : ZEBRA ENVIROMENTAL Best Time: 6AM-5PM
Contact Name: DAVID VINES Phone: (516)596-6300
Field Contact: DAVID VINES Phone: (516)596-6300
Caller Address: 30 N PROSPECT AVE Fax Phone: (516)596-4422
LYNBROOK, NY 11563
Email Address: david@zebraenv.com

Additional Operators Notified:
ATTNY01 AT&T CORPORATION (903)753-3145
CEQ CONSOLIDATED EDISON CO. OF N.Y (800)778-9140
MCINY01 MCI (800)289-3427
PANYNJ01 PORT AUTHORITY OF NY & NJ (201)595-4841
VZQ VERIZON COMMUNICATIONS (516)297-1602

Link to Map for C_EMAIL: http://ny.itic.occinc.com/XGMZ-DF2-L23-YAY

Original Call Date: 12/11/13 Time: 1:15 PM Op: webusr
IMPORTANT NOTE: YOU MUST CONTACT ANY OTHER UTILITIES DIRECTLY

Appendix C - Roux Subsurface Utility Clearance Checklist

Roux Subsurface Utility Clearance Checklist ***Date of Revision – 12/3/14***

Work site set-up and work execution

ACTIVITY	Yes	No	N/A	COMMENTS INCLUDING JUSTIFICATION IF RESPONSE IS NO OR NOT APPLICABLE
Daily site safety meeting conducted, SPSAs performed, JSAs reviewed, appropriate work permits obtained.				
HASP is available and reviewed by site workers / visitors.				
Subsurface Utility Clearance Procedure has been reviewed with all site workers.				
Work area secured; traffic control established as needed. Emergency shut-off switch located. Fire extinguishers / other safety equipment available as needed.				
Utility mark-outs (public / private) clear and visible. Provide Excavator's Stake-Out Reference Number / Request Date / Time.				
Tolerance zone work identified.				
Work execution plan reviewed and adhered to (ground disturbance methods, clearance depths, any special utility protection requirements, or any other execution requirements; especially for Tolerance Zone work).				
Verbal endorsement received from Roux PM for any required field deviations to work execution plan.				

Key reminders for execution:

The Subsurface Utility Clearance Protocol should be referenced to determine all requirements while executing subsurface work. The bullet points below are intended as general reminders only and should not be solely relied upon.

- Tolerance zone is defined as two feet plus half of the diameter or half of the greatest dimension (for elliptical sewers, duct banks and other non-cylindrical utilities) of a utility and two feet from the outside of any subsurface structure.
- Install Pre-Clearance exploratory test holes (e.g., hand-dug test holes or vacuum excavation) must be performed for the first five feet below land surface (BLS) at each location prior to conducting mechanized intrusive activities. The size of the pre-clearance exploratory test hole should be at a minimum twice the diameter of any downhole tool or boring device. (Note: Pre-clearance exploratory test holes should be defined in the SOW/proposal provided to the client to prevent project delays and to allow adequate time for PM and PP to evaluate alternative approaches for the project. Alternate approaches will need to be pre-approved by the OM.
- For excavations, all utilities need to be marked and then exposed by hand following the protocols in this program. Pre-clearing for excavations may be performed by the "moat" technique (i.e., soft

digging around the perimeter). In these cases, dig in small lifts (<12" for first five feet) using a dedicated spotter.) For Tolerance Zone work, unless otherwise agreed upon with the Utility Operator, work within the tolerance zone requires verification by means of hand-dug test holes to expose the utility. Once structures have been verified a minimum clearance of two feet must be maintained between the utility and any powered equipment.

Appendix D - Utility Verification/Site Walkthrough Record

Employee Name: _____

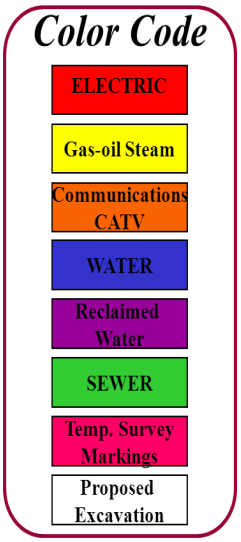
Date: _____

Instructions: For each utility suspected at the job site, indicate location on the job site, approximate burial depth, and means of detecting the utility. Leave blank if that utility is not believed to be present.

Utility	Description of Utility Location Identified Onsite	Approx. Depth (bls)	Method / Instrumentation used to determine Utility Location	Utility Owner Response (Date/Time)	Mark Out Indicates (Clear / Conflict)
Electrical Lines					
Gas Lines					
Pipelines					
Steam Lines					
Water Lines					
Sanitary and Stormwater Sewer lines					
Pressured Air-Lines					
Tank Vent Lines					
Fiber Optic Lines					
Underground Storage Tanks					
Phone Lines/ Other					

* bls - below land surface

Site Sketch Showing Utilities:



Other Comments / Findings:

Completed by: _____

Signature: _____ Date: _____

APPENDIX F

Heavy Equipment Exclusion Zone Policy

HEAVY EQUIPMENT EXCLUSION ZONE MANAGEMENT PROGRAM

CORPORATE HEALTH AND SAFETY MANAGER	:	**Brian Hobbs, CIH, CSP**
EFFECTIVE DATE	:	**01/2019**
REVISION NUMBER	:	**1**

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1. PURPOSE

The purpose of the Exclusion Zone Management Program is to establish the minimum clearance distance that must be maintained between workers and heavy equipment while equipment is in operation (i.e., engaged or moving). The intent is to have no personnel or equipment entering the Exclusion Zone while the equipment is in operation or moving to ensure that Roux and Subcontractor employees are not unnecessarily exposed to the hazards of the equipment.

2. SCOPE AND APPLICABILITY

This Management Program applies to all Roux Associates, Inc. and its affiliated companies, Roux Environmental Engineering and Geology, D.P.C, and Remedial Engineering (collectively, "Roux") employees and their subcontractors who are performing field work and are potentially exposed to heavy equipment. For the purpose of this program, heavy equipment includes, but is not necessarily limited to: excavation equipment, drill rigs, vacuum trucks, forklifts, lull telehandlers, man lifts, bobcats, delivery trucks, etc.

3. PROCEDURES

As specified in the following sections of this Program, an Exclusion Zones must be established and maintained during activities involving the movement/operation of heavy equipment. The Exclusion Zone requirements apply to all personnel on the site but are primarily focused on those personnel who are required to be working in the vicinity of the equipment. The exclusion zone is in effect when heavy equipment is moving or engaged (ex. movement of an arm or bucket of an excavator, rotation of an auger, lifting of a load with a forklift, raising/lowering of a man lift, etc.).

1. The Exclusion Zone must meet the following minimum requirements:
   - A minimum distance of 10 feet from all heavy equipment and loads being moved by the equipment;
   - Greater than the swing/reach radius of any moving part on the heavy equipment (i.e., for large equipment this may mean an exclusion zone distance larger than 20 feet);
   - Greater than the tip-over distance of the heavy equipment; and
   - Greater than the radius of blind spots.

   The size of the Exclusion Zone will need to be determined on a task-specific basis considering the size of the heavy equipment in use and the task being performed. Prior to all heavy equipment operations, the Exclusion Zone(s) distance must be specifically identified in the Job Safety Analysis (JSA).
2. The spotter (or another individual) should be assigned responsibility for enforcing the Exclusion Zone. The spotter should be positioned immediately outside of the Exclusion Zone within a clear line of sight of the equipment operator. The spotter must signal the operator to stop work if anyone or anything has the potential to enter or compromise the Exclusion Zone. The operator should stop work if the spotter is not within his/her line of sight. If multiple pieces of equipment are being used, each piece of equipment must have its own Exclusion Zone and spotter. For large excavation and demolition projects the spotter should be in constant radio contact (not cell phone) with the machine driver.
3. If an individual must enter the Exclusion Zone, the designated Spotter must signal the Equipment Operator to stop the equipment. Once the equipment is no longer moving (ex. movement of an arm of an excavator is STOPPED, lifting of a load with a forklift STOPPED, raising/lowering of a man lift is

STOPPED, etc.), the operator must DISENGAGE THE CONTROLS and STOP and SIGNAL BY "SHOWING HIS HANDS". This signal will indicate that it is safe for the personnel to enter the limits of the Exclusion Zone to perform the required activity. The equipment must remain completely stopped/disengaged until all personnel have exited the limits of the Exclusion Zone and the designated Spotter has signaled by "SHOWING HIS HANDS" to the Equipment Operator that it is safe to resume operations.

4. When entering the limits of the Exclusion Zone, personnel must at a minimum:
   - Establish eye contact with the operator and approach the heavy equipment in a manner that is in direct line of sight to the Equipment Operator;
   - Never walk under any suspended loads or raised booms/arms of the heavy equipment; and
   - Identify a travel path that is free of Slip/Trip/Fall hazards.
5. The Exclusion Zone should be delineated using cones with orange snow fence or solid poles between the cones, barrels, tape or other measures. For work in rights-of-way rigid barriers, such as Jersey barriers or temporary chain link fence should be used. For certain types of wide-spread or moving/mobile equipment operations, such delineation may not be practicable around pieces of equipment or individual work areas. In such instances, it is expected that the entire operation will be within a larger secure work area or that additional means will be utilized to ensure security of the work zone.

All subcontractors who provide heavy equipment operations to field projects must implement a program that meets or exceeds the expectations described above as well as any additional requirements that may be required on a client or site-specific basis.

3.1 Exceptions

It is recognized that certain heavy equipment activities may require personnel to work within the limits of the Exclusion Zone as specified in this program. Such activities may include certain excavation clearance tasks, drill crew activities or construction tasks. However, any such activity must be pre-planned with emphasis on limiting the amount and potential exposure of any activity required within the zone. The critical safety steps to mitigate the hazards associated with working within the Exclusion Zone must be defined in the JSA and potentially other project-specific plans (i.e., critical lift plans, etc.), and approved by the Roux Project Principal and client representative, if required, prior to implementation.

4. TRAINING

Many Roux projects have different requirements that are client-specific or site-specific in nature. It is the responsibility of the Project Principal (or Project Manager if delegated this responsibility by the Project Principal) to ensure that the workers assigned to his/her projects are provided orientation and training with respect to these client and/or site-specific requirements.

APPENDIX G

Incident Investigation and Reporting Program

INCIDENT INVESTIGATION AND REPORTING MANAGEMENT PROGRAM

CORPORATE HEALTH AND SAFETY MANAGER	:	**Brian Hobbs, CIH, CSP**
EFFECTIVE DATE	:	**01/19**
REVISION NUMBER	:	**4**

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Appendix B – Near Loss Form 1

Appendix C – Injury Illness Reporting Flow Chart 1

APPENDICES

Appendix A – Accident Report and Investigation Form

Appendix B – Near Loss Form

Appendix C – Injury Illness Reporting Flow Chart

1. PURPOSE

Roux Associates, Inc. and its affiliated companies, Roux Environmental Engineering and Geology, D.P.C, and Remedial Engineering (collectively, "Roux") has instituted the following management program for reporting Environmental Health and Safety (EHS) incidents and near losses, investigation and correcting the causes of incidents, tracking incidents and corrective actions taken, and sharing the cause and corrective actions with Roux personnel. These practices and procedures establish a method to track progress and improvements to the company EHS performance.

2. SCOPE AND APPLICABILITY

These procedures apply to all Roux employees. Employees are required to follow these procedures for all incidents involving Roux personnel, or other personnel (e.g., subcontractors) working for Roux, regardless of the specific work activity or work location.

This program is intended, in part, to fulfill the Occupational Safety and Health Administration (OSHA) occupational injury and illness reporting and recording requirements cited in the Code of Federal Regulations (CFR) at 29 CFR 1904.

3. RESPONSIBILITIES

It shall be the responsibility of all Roux employees to report all incidents as soon as possible to the PM (or Administrative Manager for office-related incidents), SHSO, OHSM and OM, regardless of severity. Additionally, the following positions have specific responsibilities for implementing this specific SOP.

3.1 Corporate Health and Safety Manager (CHSM)

- The CHSM has the responsibility of ensuring that a system is in place for reporting, investigation, correction, and communicating of EHS incidents and near losses.
- The CHSM has the overall responsibility of implementing and communicating the contents of this program to Office Health and Safety Managers (OHSMs).
- The CHSM will review all incidents and corrective actions taken. The CHSM will provide a summary of serious incidents to the Board of Directors.
- The CHSM will communicate learnings from incidents and corrective actions taken to all personnel, through quarterly communications.
- The CHSM will periodically review and evaluate the effectiveness of this procedure.

3.2 Office Manager (OM)

- The OM will designate the individual to serve as the OHSM responsibility for ensuring that requirements in this procedure are met.
- The OM will ensure that sufficient resources are allocated to fulfill the requirements of this procedure.
- The OM will conduct final review of all incident reports prepared under this procedure.

3.3 Office Health and Safety Manager (OHSM)

- It is the responsibility of the OHSM to review draft incident reports and assist the OM in finalizing reports of all accidents, illnesses and incidents related to work activity, and to assist the SHSO when necessary.

- The OHSM may not approve a site-specific HASP unless the HASP includes incident reporting procedures and forms.
- The OHSM will suggest and implement corrective actions to prevent the same type of incident from re-occurring.
- The OHSM will keep all incident reports, corrective action taken, and follow-up forms on file. The OHSM will provide copies of all final reports and forms to the CHSM within one week of the incident. If a serious incident occurs, the CHSM will be notified as soon as possible.
- The occurrence of a serious incident will trigger an EHS audit by the OHSM.

3.4 Project Manager (PM)

- It shall be the PM's responsibility to promptly correct any deficiencies that were determined to cause or contribute to the incident investigated.
- If a site-specific HASP is not utilized, the PM must ensure that field personnel have copies of the Roux Accident Reporting and Investigation Forms.
- The PM has the responsibility of ensuring that the SHSO and other field personnel understand the need for timely incident reporting.
- In the event of an incident, the PM will determine the root cause of the incident with the assistance of the SHSO and/or OHSM. The PM should provide input as to corrective preventative measures.

3.5 Site Health and Safety Officer (SHSO)

- The SHSO shall provide the details of the incident to the OHSM, PM and OM. The OM or his delegate will provide additional notifications, such as, in the event of a work-related motor vehicle accident, to include Roux Legal.
- It is the SHSO's responsibility to immediately notify the OHSM and the PM when any incident occurs. Such notification should take place immediately following the completion of any emergency actions required by the HASP.
- The SHSO should provide input as to corrective preventative measures.
- The SHSO must ensure that corrective actions proposed by the OHSM or OM are carried out.

3.6 All Personnel

- All personnel are responsible for reporting and describing the details of any incident in which they are involved to the SHSO and PM. Such notification should take place immediately following the completion of any emergency actions required by the HASP and after the loss and before the scene is disturbed or vehicles moved.

4. PROCEDURE

4.1 Incident Investigation

On receiving a report of incident or near loss occurrence from a Roux employee, the SHSO or OHSM shall immediately investigate the circumstances and shall make appropriate recommendations to prevent recurrence. The Incident Report form can be found in **Appendix A**, and Near Loss form can be found in **Appendix B**. The OHSM may participate in the investigation of more serious accidents and incidents that occur on-site. The Corporate Health and Safety Manager (CHSM) shall also be immediately notified by telephone on occurrence of a serious accident or incident. At the CHSM's discretion, he may also participate in the investigation.

4.2 Incident Report

Details of the incident shall be documented using the Accident Report and Investigation Forms (Appendix A) within twenty-four (24) hours of the incident and shall be distributed to the SHSO, the OHSM, PM, OM and the CHSM. The CHSM will update OSHA Forms 301 and the 300 log when necessary.

Appendix A – Accident Report and Investigation Form

☐ Roux Environmental Engineering and Geology, D.P.C.
☐ Roux Associates, Inc. ☐ Remedial Engineering, P.C.

ACCIDENT REPORT

Brian Hobbs, Corporate Health and Safety Manager
Cell: (631) 807-0193; Office: (631) 630-2416

PART 1: ADMINISTRATIVE INFORMATION

Project #: _____
Project Name: _____
Project Location (street address/city/state)**:**
_____
_____
Client Corporate Name / Contact / Address / Phone #:
_____
_____
_____
_____
_____

Immediate Verbal Notifications Given To:

Corporate Health & Safety	☐Yes	☐No
Office Health & Safety	☐Yes	☐No
Office Manager	☐Yes	☐No
Project Principal	☐Yes	☐No
Project Manager	☐Yes	☐No
Client Contact	☐Yes	☐No

REPORT STATUS (time due):
☐ Initial (24 hr) Date: _____
☐ Final (5-10 days) Date: _____

Accident Report Delivered To:

Corporate Health & Safety	☐Yes	☐No
Office Health & Safety	☐Yes	☐No
Office Manager	☐Yes	☐No
Project Principal	☐Yes	☐No
Project Manager	☐Yes	☐No

REPORT TYPE: ☐ Loss ☐ Near Loss Estimated Costs: $ _____

OSHA CASE # Assigned by Corporate Health & Safety if Applicable:

Corporate Health & Safety Confirmed Final Accident Report
☐Yes ☐No

DATE OF INCIDENT: _____

TIME INCIDENT OCCURRED: _____ ☐AM ☐PM

INCIDENT LOCATION – City, State, and Country (If outside U.S.A.) _____

INCIDENT TYPES: (Select most appropriate if Loss occurred.)
From lists below, please select the option that best categories the incident. When selecting an injury or illness, also indicate the severity level.

☐**INJURY** ☐**ILLNESS**

----------**Severity Level**----------

☐Fatality ☐First Aid ☐Medical Treatment
☐Restricted Work ☐Lost Time

OTHER INCIDENT TYPES

☐Spill / Release
Material involved: _____
Quantity (U.S. Gallons): _____

☐Misdirected Waste ☐Consent Order ☐NOV
☐Property Damage ☐Exceedance
☐Motor Vehicle ☐Fine / Penalty

ACTIVITY TYPE (Check most appropriate one.)

☐CAMP ☐Construction ☐Drilling ☐Driving ☐Excavation / Trenching
☐Gauging ☐O&M ☐Other Soil Work (e.g. Compaction) ☐Sampling ☐Site Walk/Inspection
☐Subsurface Clearance ☐Trucking ☐Waste Mgmt. ☐Work Area Prep. ☐Other

INJURY TYPE (Check all applicable.)

☐Abrasion ☐Amputation ☐Burn ☐Cold/Heat Stress ☐Inflammation ☐Laceration
☐Occupational Illness ☐Puncture ☐Rash ☐Repetitive Motion ☐Sprain/Strain ☐Other_____

BODY PART AFFECTED (Check all applicable.)

☐Respiratory ☐Neck ☐Chest ☐Abdomen ☐Groin ☐Back
☐Shoulder ☐Arm ☐Wrist ☐Hand/Fingers ☐Eye ☐Head
☐Face ☐Leg ☐Knee ☐Ankle ☐Foot/Toes ☐Other_____

I. PERSON(S) DIRECTLY / INDIRECTLY INVOLVED IN INCIDENT (Attach additional information as necessary/applicable.)

Name/Phone # of Each Person Directly/Indirectly Involved in Incident:	Designate: Roux/Remedial Employee Roux/Remedial Subcontractor Client Employee Client Contractor Third Party	As applicable, Current Occupation; Yrs in Current Occupation; Current Position; and Yrs in Current Position:	As applicable, Employer Name; Address; and Phone #:	As applicable, Supervisor Name; and Phone #:
1)				
2)				

II. PERSONS INJURED IN INCIDENT (Attach additional information as necessary/applicable.)

Name/Phone # of Each Person Injured in Incident:	Designate: Roux/Remedial Employee Roux/Remedial Subcontractor Client Employee Client Contractor Third Party	As applicable, Current Occupation; Yrs in Current Occupation; Current Position; and Yrs in Current Position:	As applicable, Employer Name; Address; and Phone #:	As applicable, Supervisor Name; and Phone #:	Description of Injury:
1)					
2)					

III. PROPERTY DAMAGED IN INCIDENT (Attach additional information as necessary/applicable.)

Property Damaged:	Property Location:	Owner Name, Address & Phone #:	Description of Damage:	Estimated Cost:
1)				
2)				$

IV. WITNESSES TO INCIDENT (Attach additional information as necessary/applicable.)

Witness Name:	Address:	Phone #:
1)		
2)		

PART 2: WHAT HAPPENED AND INCIDENT DETAILS

PROVIDE FACTUAL DESCRIPTION OF INCIDENT (e.g., describe loss/near loss, injury, response / treatment).

I. AUTHORITIES/GOVERNMENTAL AGENCIES NOTIFIED (Attach additional information as necessary/applicable.)

Authority/Agency Notified:	Name/Phone #/Fax # of Person Notified:	Address of Person Notified:	Date & Time of Notification:	Exact Information Reported/Provided:

II. PUBLIC RESPONSES TO INCIDENT (if applicable)

Response/Inquiry By: (check one)	Entity Name:	Name/Phone # of Respondent/ Inquirer:	Address of Entity/Person:	Date & Time of Response/Inquiry:
☐Newspaper ☐Television ☐Community Group ☐Neighbors ☐Other _____				

Describe Response/Inquiry:

Roux/Remedial Response:

(Check all that apply.) (Attach photos, drawings, etc. to help illustrate the incident.)
ATTACHED INFORMATION: ☐Photo ☐Sketches ☐Vehicle Acord Form ☐Police Report ☐Other

Name(s) of person(s) who prepared Initial and Final Report:	**Title(s):**	**Phone number(s):**

PART 3: INVESTIGATION TEAM ANALYSIS

Date Investigation Started (MM/DD/YYYY):

Factors, Root Causes, and Solution (FRCS): Complete FRCS form and answer all 7 factor questions. If answering NO to Factors 1 – 4 identify root cause(s) and explain why QIs) occurred. If answering YES to Factors 5 – 7 circle the root cause(s). Transfer the solutions guidance that addresses each root cause from the FRCS form to this form. Attach your completed FRCS Worksheet. If Factors 1-7 do not apply to the incident, write "External Cause" in the Factor column below and leave the remaining fields blank.

DESCRIPTION OF UNDESIRABLE BEHAVIOR/CONDITION

1.

2.

FACTOR(S) AND SOLUTION(S): HOW TO REDUCE POSSIBILITY OF INCIDENT RECURRING
Selection of factors and solutions reflects the analysis of investigation team and is not meant to be a legally binding conclusion as to the Root Cause and/or solution.

CAUSAL FACTOR/ BEHAVIOR/ CONDITION	ROOT CAUSE	SOLUTION(S) [Must Match Root Cause(s)]	PERSON RESPONSIBLE	AGREED DUE DATE	ACTUAL COMPLETION DATE

INVESTIGATION TEAM:

PRINT NAME	JOB POSITION	DATE	SIGNATURE

QUALITY REVIEW Correct root cause(s) identified? Do root cause(s) and solution(s) match? Are solution(s) feasible / maintainable?

Name: **Job Title:**

PART 4: Date Solutions were Implemented & Validated (Were Solutions Effective?)

Date	Solution	Verifier / Validator Name and Job Title	**Details** (of I & V performed)

Appendix B – Near Loss Form

HEALTH & SAFETY NEAR LOSS
ROUX REPORT FORM

☐ **Roux Environmental Engineering and Geology, D.P.C.**
☐ **Roux Associates, Inc.** ☐ **Remedial Engineering, P.C.**

(Check applicable company name)

PART 1: ADMINISTRATIVE INFORMATION

Office: ☐ New York ☐ Massachusetts ☐ New Jersey ☐ Illinois ☐ CA - Los Angeles ☐ CA - Oakland

Project Manager:	**Project Principal:**
Project Name:	**Project Location:**

PART 2: NEAR LOSS INCIDENT DETAILS

Date\Time Occurred (MM/DD/YYYY HH:MM)**:**	**Date\Time Submitted** (MM/DD/YYYY HH:MM)**:**

NEAR LOSS INCIDENT TYPE - What could have happened? - Select all that apply (1-7)

1. ☐ Fire / Explosion
2. ☐ Injury / Illness
3. ☐ Security (e.g., theft, trespassing, vandalism)
4. ☐ Environmental (Spill, permit exceedance, etc.)
5. ☐ Transportation of personnel (vehicle accident)
6. ☐ Property/Equipment Damage
7. ☐ Business Interruption

Event Leading to Potential Injury/Illness:

Job Task*:	**Equipment Involved*:**

WHAT HAPPENED? Do not include individuals' names. Ensure photos, sketches, etc. are not personally identifiable unless written consent has been obtained.

Summary (1-2 sentences. Provide brief description of the incident. Provide facts only, no speculation or opinion)**:**

Incident Details (Brief factual details of what, where, when; include photos, sketches, etc. as attachments)**:**

Immediate Corrective Actions Taken:

SERIOUS INJURY OR FATALITY (SIF): IF AN ACTUAL SIF, USE EXISTING ROUX ACCIDENT REPORTING FORM

Could this have resulted in a SIF? ☐ **Yes** ☐ **No**

A potential SIF is defined as likely to have caused an injury resulting in significant physical body damage with probable long term and/or life altering complications.

INCIDENT INVOLVED:

Roux Employee: ☐ **Yes** ☐ **No** **Subcontractor Company Name:**

INVESTIGATION TEAM

NAME	JOB TITLE	NAME	JOB TITLE

PART 3: INCIDENT INVESTIGATION FINDINGS AND REPORT QUALITY REVIEW

Date Investigation Started (mm/dd/yyyy):

Factors, Root Causes, and Solution (FRCS): Complete FRCS form and answer all 7 factor questions. If answering NO to Factors 1 – 4 identify root cause(s) and explain why QIs) occurred. If answering YES to Factors 5 – 7 circle the root cause(s). Transfer the solutions guidance that addresses each root cause from the FRCS form to this form. Attach your completed FRCS Worksheet. If Factors 1-7 do not apply to the incident, write "External Cause" in the Factor column below and leave the remaining fields blank. Do not include individuals' names.

DESCRIPTION OF UNDESIRABLE BEHAVIOR/CONDITION

1.

2.

FACTOR(S) AND SOLUTION(S): HOW TO REDUCE POSSIBILITY OF INCIDENT RECURRING
Selection of factors and solutions reflects the analysis of investigation team and is not meant to be a legally binding conclusion as to the Root Cause and/or solution.

Behavior / Condition	Root Cause	Solution(s) (Must Match Root Cause)	Person Responsible for Completion	Completion Target Date	Completion Actual Date

QUALITY REVIEW Correct root cause(s) identified? Do root cause(s) and solution(s) match? Are solution(s) feasible / maintainable?

Name: **Job Title:**

PART 4: Date Solutions were Implemented & Validated (Were Solutions Effective?)

Date	Solution	Verifier / Validator Name and Job Title	**Details** (of I & V performed)

***JOB TASK - Select the most appropriate one** (primary job associated with incident-related work activity, avoid "Other" if possible)

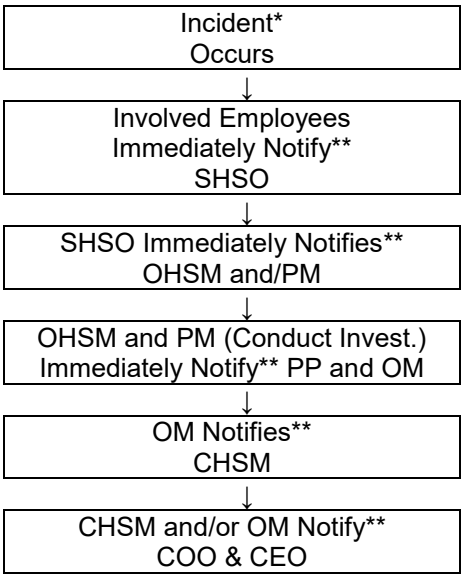
1. CAMP
2. Construction
3. Drilling
4. Driving
5. Excavation/Trenching
6. Gauging
7. O&M
8. Other Soil Work (e.g. Compaction)
9. Sampling
10. Site Walk/ Inspection
11. Subsurface Clearance
12. Trucking
13. Waste Management
14. Work Area Preparation
15. Other

***EQUIPMENT INVOLVED THAT CONTRIBUTED TO H&S NEAR LOSS - Select all that apply**

1. Air Stripper
2. API Separator
3. Automobile
4. Boom Material
5. Bulldozer
6. Cable
7. Carbon Drum / Vessel
8. Chain Block
9. Compressor, Air
10. Control Panel (local)
11. Crane (mobile)
12. Drill Rig
13. Drilling Equipment, Vacuum
14. Drum, Vertical
15. Dump Truck
16. Electric Heater
17. Electrical Power Supply
18. Engine, Combustion
19. Equipment Safety Grounding
20. Excavator / Power Shovel
21. Exclusion Zone Equipment
22 Fan / Blower
23 Fencing
24 Filter
25. Fire Extinguisher
26. Forklift
27. Front End Loader
28. Grader
29. Hammer
30. Knife
31. Non-Powered Equipment
32. Powered Equipment
33. Drill
34. Grinder
35. Hydraulic Torque Wrench
36. Powered Saw
37. Impact Wrench
38. Saw
39. Screwdriver
40. Shears
41. Shovel
42. Snip
43. Wrench
44. Hoist
45, Hook/Clamp/Buckle, etc.
46. Jack
47. Ladder, Extension
48. Ladder, Platform
49. Ladder, Step
50. Lock Out / Tag Out
51. Maintenance Tool, General
52. Manifold
53, Manlift/Basket/Cherry Picker
54. Motor, Electric
55. Oxidizer
56. Pallet
57. Piping
58. Piping, Hose
59. Piping, Injection/Mixing Point
60. Hydrojet
61. Centrifugal Pump
62. Diaphragm Pump
63. Reciprocating Pump
64. Regenerative Pump
65. Rotary Pump
66. Transfer Pump
67. Submersible Pump
68. Face Shield
69. Fall Protection
70. Gloves
71. Hard Hat / Helmet
72. Hearing Protection
73. Respiratory PPE (Chemical)
74. Respiratory PPE (Particulate)
75. Safety Glasses
76. Safety Goggles
77. Safety Shoes / Boots
78. Safety Vest / Clothing
79. Rope
80. Bailer
81. Geoprobe
82. Hand Auger
83. PID
84. Multi-Gas Meter
85. Sample Container
86. Split-Spoon Sampler
87. Sling
88. Snow Blower
89. Snow Plow
90. Space Heater
91. Air Sparging System
92. Carbon Treatment Sys
93. Chemical Oxidation S
94. Dual Phase Product Recovery System
95. Groundwater Pump and Treat System
96. POET System
97. Shed or Trailer
98. Vapor Extraction System
99. Vapor-Phase Treatment System
100. Other System, Type:___
101. Surge Tank
102. Underground Tank
103. Telemetry System
104. Testing Devices
105. Tractor Trailer
106. Truck, Flatbed
107. Truck, Pickup
108. Truck, Tank Truck
109. Truck, Vacuum
110. Safety Valve
111. Block Valve
112. Extraction Well
113. Monitoring Well
114. Recovery Well
115. Winch
116. Wire Rope
117. No Equipment Involved
118. MPT – Traffic Control Devices
118. Not in List (describe):___

Appendix C – Injury Illness Reporting Flow Chart

Health & Safety Near/Loss – Loss (Incident)*
Notification Flow Chart



* Incident – any work or site-related occurrence that resulted in, or could potentially have resulted in, the need for medical care or in property damage (i.e., all injuries or illnesses, exposure to toxic materials or any other significant occurrence resulting in property damage or in a "near loss")

** Verbal Notification

Initial Incident Report (written) to SHSO, OHSM, OM and CHSM within 24 hours
Follow-up Report within one week.

APPENDIX H

Generic Community Air Monitoring Plan (CAMP)

APPENDIX G

New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. 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 the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical-specific monitoring with appropriately sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should 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 the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can 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 must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can 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 must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should 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 must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-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 provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 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 mcg/m^3 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 concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

APPENDIX G

Quality Assurance Project Plan (QAPP) /
Field Sampling Plan (FSP)

Quality Assurance Project Plan/Field Sampling Plan

1612 5th Avenue
Bay Shore, New York

March 31, 2026

Prepared for:

Fifth XNY, LLC
2100 Ross Avenue, Suite 895
Dallas, Texas 75201

Prepared by:

Roux Environmental Engineering and Geology, D.P.C.
209 Shafter Street
Islandia, New York 11749

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& Management
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rouxinc.com

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2. Laboratory's Standard Operating Procedures
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1. Introduction

Roux Environmental Engineering and Geology, D.P.C. (Roux), on behalf of Fifth XNY, LLC (The Applicant), has prepared this c to describe the measures that will be taken to ensure the data generated during performance of the Remedial Action Work Plan (RAWP) for the 1612 Fifth Avenue Site located at 1612 5th Avenue, Bay Shore, New York (Site) are of quality sufficient to meet project-specific data quality objectives (DQOs). This QAPP/FSP also includes field sampling procedures.

The Site is enrolled in the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP). Site Number C152008 is assigned to the Site. RAWP activities will be conducted under the NYSDEC BCP. This QAPP/FSP was prepared in accordance with the guidance provided in NYSDEC Technical Guidance DER-10 Technical Guidance for Site Investigation and Remediation (DER-10), the NYSDEC BCP Guide, and the United States Environmental Protection Agency's (USEPA's) Guidance for the Data Quality Objectives Process (EPA QA/G 4).

1.1 Purpose

The QAPP/FSP describes in detail the field sampling and quality assurance/quality control (QA/QC) methods to be used during soil, soil vapor, and groundwater sampling tasks performed during the RI.

This QAPP/FSP provides guidelines and procedures to be followed by field personnel during performance of sampling during the RI. Information contained in this QAPP/FSP relates to:

- sampling objectives (Section 2);
- project organization (Section 3);
- sample media, sampling locations, analytical suites, sampling frequencies and analytical laboratory (Section 4);
- field sampling procedures (Section 5);
- sample handling, sample analysis, and quality assurance/quality control (Section 6); and
- site control procedures and decontamination (Section 7).

2. Sampling Objectives

The sampling program is designed to meet the data quality objectives (DQOs) set forth in DER-10. Specifically, the potential sampling objectives for this Site are:

- Analyze endpoint documentation and confirmation samples.
- Analyze soil designated for off site disposal for parameters required by the selected disposal facility.
- Analyze off site backfill to evaluate its suitability for use as backfill that meets the lower of the Restricted Residential Use Soil Cleanup Objectives (SCOs) or the Protection of Groundwater SCO, presented in Table 6.8 (b) of the latest version of Title 6 of New York Code of Rules and Regulations (NYCRR) Part 375 (Part 375).

Sampling procedures are discussed in Section 5 of this QAPP/FSP. A discussion of the DQOs and quality assurance/quality control is provided in Section 6.

3. Project Organization

A general and generic summary of the overall management structure and responsibilities of project team members are presented below. Professional profiles for the team are provided in Attachment 1.

Project Principal

Frank Cherena, P.G. will serve as Project Principal. The Project Principal is responsible for defining project objectives and bears ultimate responsibility for the successful completion of the remedy.

Remedial Engineer

The Remedial Engineer for this project will be Paul Martorano, P.E. 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 RAWP and future remedial program for the Site. The Remedial Engineer will certify in the Final Engineering Report that the remedial activities were observed by qualified environmental professionals under supervision as well as any other relevant provisions of ECL 27-1419 have been achieved in full conformance with the RAWP.

Project Manager

Camila Israel of Roux will serve as Project Manager. The Project Manager is responsible for assisting the Principal in defining project objectives and ensuring successful completion of the work. The Project Manager will provide overall management for the implementation of the scope of work and will coordinate all field activities. The Project Manager is also responsible for data review/interpretation and report preparation.

Field Team Leader

The Field Team Leader will be determined prior to the start of work. The Field Team Leader bears the responsibility for the successful execution of the field program. The Field Team Leader will direct the activities of the technical staff in the field, as well as all subcontractors. The Field Team Leader will also assist in the interpretation of data and in report preparation. The Field Team Leader reports to the Project Manager.

Laboratory Project Manager

The Laboratory Project Manager will be determined prior to the start of work. The Laboratory Project Manager is responsible for sample container preparation, sample custody in the laboratory, and completion of the required analysis through oversight of the laboratory staff. The Laboratory Project Manager will ensure that quality assurance procedures are followed and that an acceptable laboratory report is prepared and submitted. The Laboratory Project Manager reports to the Project Principal and Project Manager.

Quality Assurance Officer

Rachel Henke of Roux will serve as the Quality Assurance Officer (QAO) for this project. The QAO is responsible for conducting reviews, inspections, and audits to ensure that the data collection is conducted in accordance with the FSP and QAPP. The QAO's responsibilities range from ensuring effective field equipment decontamination procedures and proper sample collection to the review of all laboratory analytical data for completeness and usefulness. The QAO reports to the Project Manager and makes independent recommendations to the Field Team Leader.

4. Sample Media, Locations, Analytical Suites, and Frequency

The media to be sampled during implementation of the RAWP include soil sampling. Sampling locations, analytical suites, and frequency may vary by medium. A discussion of the sampling schedule for each medium is provided below, while the assumed number of field samples to be collected for each medium, including quality control (QC) samples, is shown in Tables 1 and 2. Specifics regarding the collection of samples at each location and for each task are provided in Section 5 of this QAPP/FSP.

4.1 Soil Sampling

Hot-Spot Excavation End-Point Samples

End-point samples are proposed for the three shallow hot spot areas in the vicinity of RXSB-15, RXSB-19 and RXSB-32 which exhibited exceedances of the TCLP USEPA Regulatory Level for hazardous waste for mercury. The sampling frequency will be one sample from the top of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area. Samples will be collected in-situ ahead of the excavation, to minimize the handling of hazardous waste soil.

The end-point samples will be analyzed for volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 8260, semivolatile organic compounds (SVOCs) using USEPA Method 8270, metals using USEPA Methods 6010 and 7471, polychlorinated biphenyls (PCBs) using USEPA Method 8082, and pesticides using USEPA Method 8081A to demonstrate compliance with the SCOs.

QA/QC samples will be collected for documentation samples.

Confirmatory Samples

For all other areas of the Site, and given the Site area and the extensive sampling conducted during RI and PDI, documentation sampling will be conducted at a frequency of one sample per approximately 7,500 square feet of the Site. Documentation samples will be analyzed for VOC, SVOCs, Pesticides, PCB and metals. Due to the fact that PDI soil detections of PFOS and PFOA were found at concentrations below the applicable ISCOs, no PFOS and PFAS sampling will be conducted. The frequency of bottom sampling proposed for this RAWP is a modification to the guidance provided in NYSDEC DER-10 Section 5.4 based on the overall Site perimeter being greater than 300 feet.

QA/QC samples will be collected for documentation samples.

5. Field Sampling Procedures

This section provides a detailed discussion of the field procedures to be used during sampling as part of the RAWP. The sample locations will be determined following completion of the excavation. Additional details regarding sampling procedures and protocols are described in Roux's relevant SOPs, which are provided in Attachment 3.

5.1 Soil Sampling

Details for the collection of soil samples is provided below.

5.1.1 Soil Sampling

Hot-Spot Excavation End-Point Samples will be collected from the sidewalls and bottom of the excavation area. Confirmatory samples will be collected below the demarcation layer or at the final depth of excavation.

The soil will be observed for lithology and evidence of contamination (e.g., staining, odors, and/or visible free-product) and placed immediately thereafter into large Ziploc® bags for recording headspace using a PID. After a minimum of 15 minutes for equilibration with the headspace in the Ziploc® bag, each sample will be screened for organic vapors using a PID equipped with a 10.6 eV lamp. Samples for possible VOC analysis will be placed in a laboratory-supplied jar or encore sampler prior to screening, due to the potential for loss of VOCs through volatilization. The samples will be placed in the laboratory-supplied containers and shipped to the laboratory under chain of custody procedures in accordance with Roux's SOPs in Attachment 3.

6. Sample Handling and Analysis

To ensure quality data acquisition and collection of representative samples, there are selective procedures to minimize sample degradation or contamination. These include procedures for preservation of the samples, as well as sample packaging, shipping procedures, and QA/QC.

6.1 Field Sample Handling

A discussion of the proposed number and types of samples to be collected during each task, as well as the analyses to be performed, can be found in Section 4 of this QAPP/FSP. The types of containers, volumes, and preservation techniques for the aforementioned testing parameters are presented in Table 3.

6.2 Sample Custody Documentation

The purpose of documenting sample custody is to ensure that the integrity and handling of the samples is not subject to question. Sample custody will be maintained from the point of sampling through the analysis (and return of unused sample portion, if applicable).

Each individual collecting samples is personally responsible for the care and custody of the samples. All sample labels should be pre printed or filled out using waterproof ink. The technical staff will review all field activities with the Field Team Leader to determine whether proper custody procedures were followed during the field work and to decide if additional samples are required.

All samples being shipped offsite for analysis must be accompanied by a properly completed chain of custody form. The sample numbers will be listed on the chain of custody form. When transferring the possession of samples, individuals relinquishing and receiving will sign, date, and note the time on the record. This record documents transfer of custody of samples from the sampler to another person, to/from a secure storage area, and to the laboratory.

Samples will be packaged for shipment and dispatched to the appropriate laboratory for analysis with a separate signed custody record enclosed in each sample box or cooler. Shipping containers will be locked and/or secured with strapping tape in at least two locations for shipment to the

6.3 Sample Shipment

If sample shipment is necessary, sample packaging and shipping procedures are based upon USEPA specifications, as well as DOT regulations. The procedures vary according to potential sample analytes, concentration, and matrix and are designed to provide optimum protection for the samples and the public. Sample packaging and shipment must be performed using the general outline described below.

All samples will be shipped within 24 hours of collection and will be preserved appropriately from the time of sample collection. A description of the sample packing and shipping procedures is presented below:

1. Prepare cooler(s) for shipment:
    - tape drain(s) of cooler shut;
    - affix “This Side Up” arrow labels and “Fragile” labels on each cooler; and
    - place mailing label with laboratory address on top of cooler(s).
2. Arrange sample containers in groups by sample number.

3. Ensure that all bottle labels are completed correctly. Place clear tape over bottle labels to prevent moisture accumulation from causing the label to peel off.
4. Arrange containers in front of assigned coolers.
5. Place packaging material approximately at the bottom of the cooler to act as a cushion for the sample containers.
6. Arrange containers in the cooler so that they are not in contact with the cooler or other samples.
7. Fill remaining spaces with packaging material.
8. Ensure all containers are firmly packed in packaging material.
9. If ice is required to preserve the samples, ice cubes should be repackaged in Ziploc® bags and placed on top of the packaging material.
10. Sign chain of custody form (or obtain signature) and indicate the time and date it was relinquished to courier as appropriate.
11. Separate chain of custody forms. Seal proper copies within a large Ziploc® bag and tape to inside cover of cooler. Retain copies of all forms.
12. Close lid and latch.
13. Secure each cooler using custody seals.
14. Tape cooler shut on both ends.
15. Relinquish to overnight delivery service as appropriate. Retain air bill receipt for project records. (Note: All samples will be shipped for "NEXT A.M." delivery).

6.4 Quality Assurance/Quality Control

The primary intended use for the RI data is to characterize Site conditions and determine if remediation needs to be undertaken at the Site. The primary DQO of the soil, groundwater, and soil vapor programs, therefore, is that data be accurate and precise, and hence representative of the actual Site conditions. Accuracy refers to the ability of the laboratory to obtain a true value (i.e., compared to a standard) and is assessed through the use of laboratory quality control (QC) samples, including laboratory control samples and matrix spike samples, as well as through the use of surrogates, which are compounds not typically found in the environment that are injected into the samples prior to analysis. Precision refers to the ability to replicate a value and is assessed through both field and laboratory duplicate samples.

Sensitivity is also a critical issue in generating representative data. Laboratory equipment must be of sufficient sensitivity to detect target compounds and analytes at levels below NYSDEC standards and guidelines whenever possible. Equipment sensitivity can be decreased by field or laboratory contamination of samples, and by sample matrix effects. Assessment of instrument sensitivity is performed through the analysis of reagent blanks, near-detection-limit standards, and response factors. Potential field and/or laboratory contamination is assessed through use of trip blanks, method blanks, and equipment rinse blanks (also called "field blanks"). Field blanks for PFAS will be collected at a minimum frequency of one per day. A laboratory SOP for analysis of PFAS is included in Attachment 2.

Table 1 lists the requirements for field and laboratory QC samples that will be analyzed to assess data accuracy and precision, as well as to determine if equipment sensitivity has been compromised. Table 2 lists the number/type of field and QA/QC samples that will be collected during the RI. Table 3 lists the preservation, holding times and sample container information.

All RAWP “assessment” analyses (i.e. TCL/Part 375 plus 30/ TAL) will be performed in accordance with the NYSDEC Analytical Services Protocol (ASP), using USEPA SW 846 methods. The laboratory selected to analyze the field samples collected during implementation of the RAWP shall maintain a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) Contract Laboratory Protocol (CLP) certification for each of the “assessment” analyses listed in Section 2.0.

All laboratory data are to be reported in NYSDEC ASP Category B deliverables and will be delivered to NYSDEC in electronic data deliverable (EDD) format as described on NYSDEC’s website (http://www.dec.ny.gov/chemical/62440.html), except for waste characterization samples. A Data Usability Summary Report (DUSR) will be prepared meeting the requirements in Section 2.2(a)1.ii and Appendix 2B of DER-10 for all data packages generated for the RAWP.

7. Site Control Procedures

Site control procedures have been developed to minimize both the risk of exposure to contamination and the spread of contamination during field activities at the Site. In order to accomplish this objective, the QAPP addresses three main considerations:

- The establishment of discrete work zones during performance of the Work;
- The decontamination of field equipment; and
- The disposal of all waste.

All personnel who come into designated work areas, including contractors and observers, will be required to adhere strictly to the conditions imposed herein and to the provisions of a Site-Specific Health and Safety Plan (HASP). The HASP is included as Appendix F to the RAWP.

7.1 Field Work Zones

Field work zones will be limited to areas where excavation, stockpiling, and soil sampling is being conducted. Access to these areas will be limited in accordance with the HASP. Control of work zone access will be the responsibility of the individual(s) designated as a Site Health and Safety Manager. At the completion of each work day, all loose equipment (e.g., sampling equipment, coolers, etc.) will be secured. Equipment will remain onsite within an established, secured zone.

7.2 Decontamination

To avoid the spread of contamination, all sampling equipment must be decontaminated at a reasonable frequency in a properly designed and located decontamination area. Detailed procedures for the decontamination of field and sampling equipment are included in Roux's SOPs for the Decontamination of Field Equipment located in Attachment 3. The location of the decontamination area will be determined prior to the start of field operations. The decontamination area will be constructed to ensure that all wash water generated during decontamination can be collected and containerized for proper disposal. As mentioned above, only Alconox or Liquinox will be used during decontamination procedures when groundwater sampling is underway.

7.3 Waste Handling and Disposal

All waste materials (drill cuttings, decontamination water, etc.) generated during the RAWP will be consolidated, and stored in appropriate labeled bulk containers (drums, etc.), and temporarily staged at an investigation derived waste storage area onsite. Roux will then coordinate waste characterization and disposal by appropriate means.

TABLES

1. Field and Laboratory QC Summary
2. Remedial Investigation Sampling Summary
3. Preservation, Holding Times, and Sample Containers

Table 1. Field and Laboratory QC Summary

QC Check Type	Minimum Frequency	Use
Field QC		
Duplicate	1 per matrix per 20 samples or SDG	Precision
Trip Blank	1 per VOC cooler	Sensitivity
Field Blank	1 per matrix per 20 samples, 1 per day when sampling for PFAS	Sensitivity
Equipment Blank	1 per day when sampling for PFAS	Sensitivity
Laboratory QC		
Laboratory Control Sample	1 per matrix per SDG	Accuracy
Matrix Spike/Matrix Spike Duplicate/Matrix Duplica	1 per matrix per SDG	Accuracy/Precision
Surrogate Spike	All organics samples	Accuracy
Laboratory Duplicate	1 per matrix per SDG	Precision
Method Blank	1 per matrix per SDG	Sensitivity

* SDG - Sample Delivery Group - Assumes a single extraction or preparation
** Provided to lab by field sampling personnel
PFAS - Per- and Polyfluoroalkyl Substances

Table 2. Remedial Action Implementation Estimated Sampling Summary

Sample Medium	Target Analytes	Approx. Field Samples	Replicates[1]	Trip Blanks[2]	Field Blanks[1]	Matrix Spikes[1]	Spike Duplicates[1]	Total No. of Samples
Soil - Documentation Samples	TCL VOCs +10	126	7	15	7	7	7	169
	TCL VOCs	126	7	15	7	7	7	169
	TCL SVOCs +20	126	7	-	7	7	7	154
	TCL SVOCs	126	7	-	7	7	7	154
	TCL Pesticides	126	7	-	7	7	7	154
	TCL Herbicides	126	7	-	7	7	7	154
	TCL PCBs	126	7	-	7	7	7	154
	TAL Metals	126	7	-	7	7	7	154
	Total Cyanide	126	7	-	7	7	7	154
	1,4-Dioxane	126	7	-	7	7	7	154
	Total Cyanide	126	7	-	7	7	7	154
	Hexavalent Chromium	126	7	-	7	7	7	154
Soil - End Point Samples (4 samples per hot spot excavation)	TCL VOCs +10	12	1	3	3	3	3	25
	TCL VOCs	12	1	3	3	3	3	25
	TCL SVOCs +20	12	1	-	3	3	3	22
	TCL SVOCs	12	1	-	3	3	3	22
	TCL Pesticides	12	1	-	3	3	3	22
	TCL Herbicides	12	1	-	3	3	3	22
	TCL PCBs	12	1	-	3	3	3	22
	TAL Metals	12	1	-	3	3	3	22
	Total Cyanide	12	1	-	3	3	3	22
	1,4-Dioxane	12	1	-	3	3	3	22
	Total Cyanide	12	1	-	3	3	3	22
	Hexavalent Chromium	12	1	-	3	3	3	22

All totals are estimated based on scope of work as written, actual sample quantities may vary based on field conditions. QA/QC sample quantities will be adjusted accordingly.

[1] Based on 1 per 20 samples or 1 per Sample Delivery Group (3 days max)

[2] Based on 1 cooler per day

TCL - USEPA Contract Laboratory Program Target Compound List

USEPA - United States Environmental Protection Agency

VOCs - Volatile Organic Compounds

SVOCs - Semivolatile Organic Compounds

PCBs - Polychlorinated Biphenyls

EPH - Extractable Petroleum Hydrocarbons

RCRA - Resource Conservation and Recovery Act

TCLP - Toxicity Characteristic Leaching Procedure

TAL - USEPA Contract Laboratory Program Target Analyte List

Table 3. Preservation, Holding Times and Sample Containers

Analysis	Matrix	Bottle Type	Preservation(a)	Holding Time(b)
TAL Metals (total & dissolved)	Soil	8 oz wide mouth glass, teflon lined cap	Cool to 4°C	180 days, Hg 28 days
SW-846 6020B/7471B	Water	250 mL plastic, teflon lined cap	Nitric acid	
Hexavalent Chromium\Trivalent Chromium(calculate	Soil	2 oz wide mouth glass, teflon lined cap	None	180 days
SW-846 7196A\6010C	Water	500 mL Plastic		24 hours from sample collection
Total Cyanide	Soil	4 oz wide mouth glass, teflon lined cap	Cool to 4°C	14 days from sample collection
SW-846 9012B	Water	250 mL Plastic	NaOH	14 days from sample collection
1,4-Dioxane	Soil	8 oz wide mouth glass, teflon lined cap	Cool to 4°C	14 days from sample collection
SW-846 8270D GS/MS SIM/Isotope Dilution	Water	2 x 500 mL amber wide mouth glass	Cool to 4°C	7 days from sample collection
Per- and Polyfluoroalkyl Substances (PFAS)	Soil	8 oz plastic container (non teflon lined)	Cool to 4°C	28 days from sample collection
EPA Method 1633	Water	2 - 250 mL plastic	Trizma	14 days from sample collection
Volatile Organic Compounds (VOCs)	Air	6 liter Summa Canister for 2-hr sampling	None	14 days from sample collection
TO-15	Air	1 liter Summa Canister for 2-hr sampling	None	14 days from sample collection
Methane	Air	6 liter Summa Canister for 2-hr sampling	None	30 days from sample collection
3C	Air	1 liter Summa Canister for 2-hr sampling	None	30 days from sample collection
Target Compound List (TCL)				
TCL Volatile Organic Compounds (VOCs) + 10 TICS	Soil	Encore	Cool to 4°C	24 hours from sample collection
SW-846 8260C	Water	40mL voa vial, teflon lined cap	Hydrochloric Acid	14 days from sample collection
TCL Semivolatile Organic Compounds (SVOCs) +20	Soil	8 oz wide mouth glass, teflon lined cap	Cool to 4°C	14 days to extract, 40 days to analysis
SW-846 8270D	Water	1 liter amber glass, teflon lined cap		7 days to extract, 40 days to analysis
TCL Pesticides	Soil	8 oz wide mouth glass, teflon lined cap	Cool to 4°C	14 days to extract, 40 days to analysis
SW-846 8081B	Water	1 liter amber glass, teflon lined cap		7 days to extract, 40 days to analysis
TCL Herbicides	Soil	8 oz wide mouth glass, teflon lined cap	Cool to 4°C	14 days to extract, 40 days to analysis
SW-846 8151A	Water	1 liter amber glass, teflon lined cap		7 days to extract, 40 days to analysis
TCL Polychlorinated biphenyls (PCBs)	Soil	8 oz wide mouth glass, teflon lined cap	Cool to 4°C	14 days to extract, 40 days to analysis
SW-846 8082A	Water	1 liter amber glass, teflon lined cap		7 days to extract, 40 days to analysis

(a) All soil and groundwater samples to be preserved in ice during collection and transport

(b) Days from date of sample collection.

TAL - Target Analyte List

TCL - USEPA Contract Laboratory Program Target Compound List

Gas chromatography-mass spectrometry (GC/MS) in selected ion monitoring (SIM) mode

ATTACHMENTS

1. Professional Profiles
2. Laboratory's Standard Operating Procedures
3. Roux's Standard Operating Procedures
4. NYSDEC PFAS Sampling Guidance

ATTACHMENT 1

Professional Profiles

ATTACHMENT 2

Laboratory's Standard Operating Procedures

ATTACHMENT 3

Roux's Standard Operating Procedures

ATTACHMENT 4

NYSDEC PFAS Sampling Guidance

APPENDIX H

R&M Engineering Stormwater Pollution Protection Plan

R&M ENGINEERING

STORMWATER POLLUTION PREVENTION PLAN

for

CONSTRUCTION ACTIVITIES

1612 Fifth Avenue

Hamlet of Bay Shore
Town of Islip, Suffolk County, New York 11706

Prepared for
Fifth XNY, LLC., c/o Gretchen Kendrick
2100 Ross Avenue, Suite 895
Dallas, TX 75201

September 4, 2023
Revised June 19, 2024
Revised June 10, 2025

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Responsible Corporate Officer	**Signature of Engineer**
Gretchen Kendrick	*Christopher W. Robinson, P.E.*
Printed Name	**Printed Name**
Authorized Signatory	*President, R&M Engineering*
Title	**Title**
6/11/25	06/11/2025
Date	**Date**

SP2023-089
TM# 0500-223.00-02.00 Lots 054.001 & 057.001
TM# 0500-224.00-01.00 Lot 080.003 (Independence Street)
TM# 0500-244.00-02.00 Lots 056.000 & 057.000

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O. Copy of New York State Department of Environmental Conservation 'SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES From CONSTRUCTION ACTIVITY'; *Permit GP-0-25-001; Effective January 29,2025, Expiration January 28, 2030.*

1. Introduction

Location Information

The project is located in Bay Shore, Town of Islip, County of Suffolk, and State of New York. The subject site is located on the west side of Drayton Avenue and is directly adjacent to Fifth Avenue. The site is identified on the Town of Islip, Suffolk County, NY Tax Map as District 500, Section 223, Block 2, Lots 54.1 & 57.1; Section 224, Block 1, Lot 80.3; Section 244, Block 2, Lots 56 & 57. The site address is 1612 Fifth Avenue in the Site Location map below.

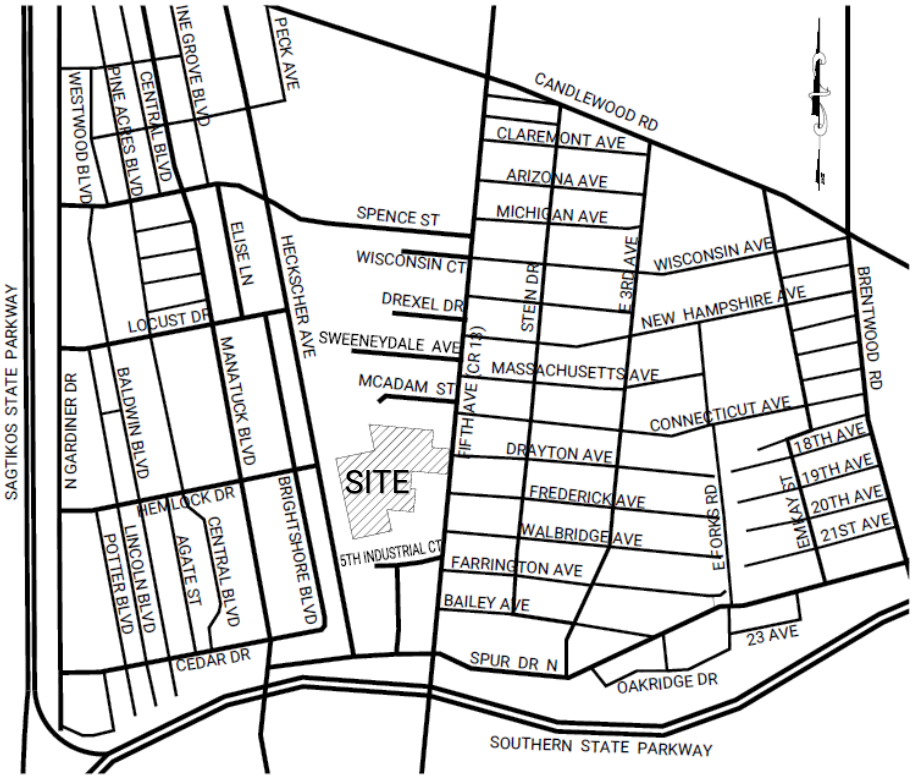


Figure 1: Site Location

General Site Description

The project site was a former sand and gravel yard, with stockpiles, a maintenance building and varying concrete pavement. The site area is approximately 937,503 SF (21.52 Acres) and is located in the Industrial (IND1) zoning district. The site is graded with a man-made berm along the west and south property lines with gravel and sandy soil and is sloped in some areas. The site contains deep areas of fill material.

Surface Waters

There are no surface waters located within the proposed development. See Appendix J for the surface water location map.

Scope of the Project

The property owner, Fifth XNY, LLC, is planning to erect a one (1) one-story warehouse facility.

The scope of the project includes removal of existing conditions including but not limited to drainage systems, pavement, buildings, and concrete on-site. The proposed building is to be erected along with various site upgrades which include new parking pavement, concrete curbing and walkways, landscaping, installation of a subsurface drainage system and miscellaneous site finishes.

The utility component will include new gas and electric services, phone/cable service, fiber optic, as well as a fire main loop and domestic water service line. Sanitary services will be treated on-site by use of an I/AOWTS onsite septic system.

Storm water run-off for the site will be collected by precast concrete leaching pool structures through catch basins on site and roof run-off will be dispensed through roof leaders into the drainage system as required by the local municipality. The precast concrete leaching pools are designed to store as much as 3.0 inches of rainfall, exceeding the 2.9” inches rainfall in the NYSDEC SWPPP requirements.

The site will be graded to keep all run-off on-site and the measures proposed in the Storm Water Pollution Prevention Plan will be maintained by the property owner upon completion of the project.

Final Stabilization will include general site clean-up and fine grading along with landscape installation.

2. Storm Water Objectives

General

During construction, the contractor is required to install and maintain temporary erosion and sediment control measures to prevent sediment and debris from washing into the drainage systems and/or leaving the site. At such time that all the restoration of the construction is completed and the areas of disturbance are permanently stabilized, the contractor will then be permitted to remove the temporary erosion and sediment control devices.

The temporary erosion and sediment control devices will be installed prior to the start of any disturbance of the existing ground surface and will remain in place until all disturbed areas are properly stabilized. In addition to the temporary erosion and sediment control devices indicated on the Stormwater Pollution Prevention Plans, the contractor shall be responsible for installing any additional measures that may be needed. These additional erosion preventative measures will be installed in accordance with the "New York State Standards & Specifications for Erosion and Sediment Control a.k.a. Blue Book."

The objective of the storm water pollution prevention plan is to provide measures to minimize storm water runoff entering adjacent property and public roadways. In addition, the plan will guide the developer through the various steps of managing runoff discharges from the site as well as treatment and implementation of green infrastructure methods (refer to the 6 Step Process, Chapter 5).

In order to minimize the impact to surrounding areas, the following actions will be implemented and monitored throughout the construction;

- Installation of fence along clearing limits
- Stabilized Construction Entrances with gates
- Filter Fabric Storm Drain Inlet Protection
- Tire wash area
- Temporary Construction Fences w/gates
- Silt fencing
- Construction staging areas
- Tree protection
- Dust control measures (winter cover crop, temporary seeding, watering)
- Delineation of property e.g. silt fence, straw bales & orange construction fence
- Material Storage Areas
- Waste Storage Areas
- Concrete Washout Area

3. Pre-Development Conditions

Topography
The site's relatively flat with elevations ranging from approximately EL 65 feet on the east side of the property to EL 71 feet on the southwest side of the property. There are densely buffered areas to the west and to the south of the property line. The northwest, west, and south sides of the property are surrounded by a dirt berm that ranges in EL from 70 to 90 feet.

Existing Drainage Area
The existing on-site drainage pipe, inlets, manholes and leaching pools are minimal and they will be removed with the redevelopment of the property. The removed structures will be disposed of in their entirety, or properly abandoned and filled in place.

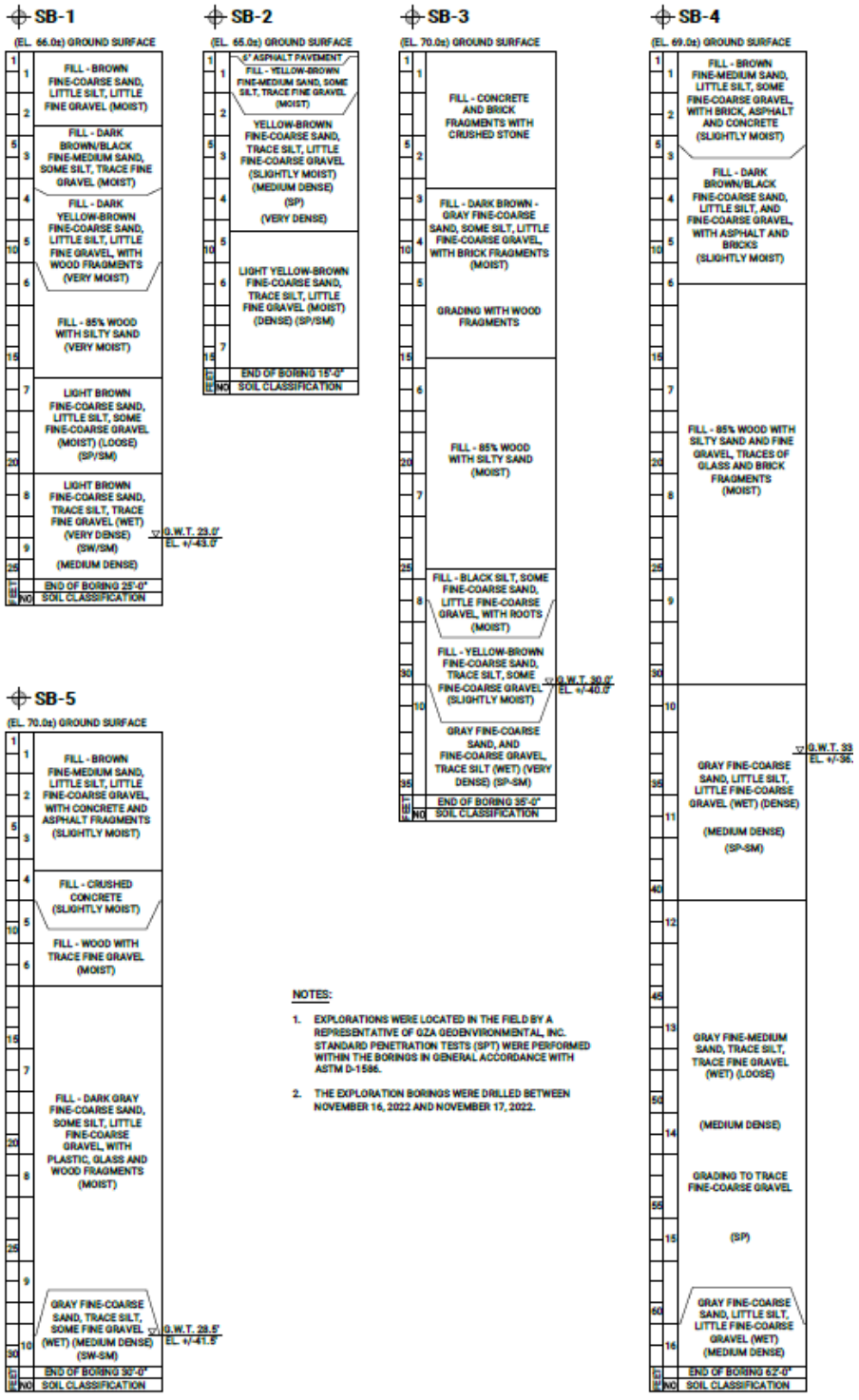
Utility Information
All existing utilities are to be removed or brought back to the property line along 5th Avenue for reuse. The site will utilize proposed utility connections that will connect to existing main services within 5th Avenue.

Surrounding Waters
The closest surface water appears to be the O-co-nee Lake approximately 13,100 ft to the south. Watchogue Creek is approximately 13,900 feet to the southeast, and the Orowoc Lake is approximately 14,000 feet to the southeast.

Soil Conditions
According to the National Cooperative Soil Survey, prepared by the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants, as of September 5, 2023, the predominate soil type in the vicinity of the proposed project is 83.6% Gravel pits, 15.1% Riverhead sandy loam, 3 to 8 percent slopes, (RdB), 0.6% Haven loam, 0 to 2 percent slopes, (HaA), and 0.6% Plymouth loamy coarse sand, 0 to 3 percent slopes, (PlA).

The predominate soil of the site is indicated in the Notice of Intent as 83.6% not being identified in a Hydrological Soil Group. 15.7% of the property can be classified in Hydrological Soil Group "A". Hydrological Soil Group "A" soils have a high infiltration rate when thoroughly wet. These consist chiefly of deep, well drained soils that have moderately course to course textures. These soils have a high rate of water transmission.

Soil Borings



4. Future Conditions

Proposed Development

The proposed development can be divided into three (3) phases; Pre-Construction Preparation, Excavation & Clearing and Site Work Construction (refer to Construction Schedule)

- Pre-Construction Preparation will include the establishment of erosion and sediment control features. The erosion and sediment control features will include the installation of inlet protection within adjacent public roadways, tree protection, stabilized construction entrances and delineated staging areas. Additionally, the contractor will establish a field office to work from with temporary utilities as well as temporary utilities servicing the construction phase. In addition, a temporary 6-foot chain link fence with filter fabric will be established around the perimeter of the site prior to actual construction. It is recommended to put down a cover crop prior to winter setting in, to control erosion and soil movement.

- Excavation & Clearing will involve the excavation/clearing of landscaping and removal of site rubbish upon complete installation of erosion and sediment control features. Demolition debris will either be carted to a local landfill by a licensed company and trees may be chipped and stockpiled on-site for reuse as stabilization base and dust prevention. No additional debris will be buried on site. Areas that will remain undisturbed for more than 14 days should be seeded with a cover crop appropriate for the season. Erosion control measures to be installed prior to the start of any site demolition, clearing or grading activities. Soils containing large volumes of organic materials or contaminants shall not be reused as fill materials on site.

- The Site Work Construction phase for the development will include grading and excavating operations for the building, and installation of drainage systems. Contractor shall stock pile deep soils excavated from foundation and drainage system until final grading around the parking facility have been established. Top soil can be stored on site, covered and protected by silt fencing until needed. The contractor will also need to maintain the erosion control features and reestablish many of those features as the progression of the construction causes their relocation and replacement. The final site finishes are installation of curbing, parking lot, utilities, fencing, general clean-up, removal of SWPPP measures and punch list items.

Soil Restoration

Soil restoration will be part of the last phase of the project in order to obtain healthy soil suitable for planting and seeding, and to increase porosity of the soil. In areas where only topsoil was stripped, 6-inches of topsoil need to be re-applied. Cut and fill areas need to be aerated and 6 inches of top soil applied. In heavy traffic area (around structures) apply full soil restoration, consisting of 3 inches of compost, till to a depth of 12 inches, thereafter 6 inches of top soil shall be applied.

Disturbed Area

The total disturbed area will encompass approximately 814,086 SF (+/- 18.7 Ac.) (total area). The contractor shall sequence construction in phases limiting disturbance to 5 Acres at a time as outlined in the Phasing shown on the SWPPP Plan. Modification to phasing must be approved by Engineer. Prior to moving to another phase, the prior phase must be 85% stabilized to the satisfaction of the Engineer of record. It shall be noted that the site is an existing sand and gravel construction material supply yard and has already been cleared of existing vegetation.

Duration of Activity

The project duration from clearing phase through final construction is anticipated to last approximately 18 months. This will include site stabilization in conformance with the General SPDES Permit GP-0-25-001.

Impervious Area

Proposed impervious area, including building roof area, will cover approximately 69% of the site, or 14.67 acres.

Stormwater Drainage Design

The on-site drainage system will be broken up into six (6) separate drainage areas consisting of precast concrete leaching pools and catch basins. Precast concrete leaching pools will be interconnected unless otherwise indicated on the approved site plan.

The first drainage area has been designed for retention of all stormwater runoff emanating from the site resulting from a 3.0-inch rainfall event with a runoff coefficient of 1.0 for impervious areas, and 0.2 for landscaped/natural areas. The on-site drainage system will be comprised of twenty-two (22) proposed precast concrete drainage leaching pools measuring 12’-0” Dia. X 12’-0” deep.

The second area has been designed for retention of all stormwater runoff emanating from the site resulting from a 3.0-inch rainfall event with a runoff coefficient of 1.0 for the impervious parking areas, and 0.2 for landscaping/natural areas on the north side of the proposed structure. The on-site drainage system will be comprised of forty-five (45) proposed precast concrete drainage leaching pools measuring 12'-0" Dia. X 12'-0" deep.

The third area has been designed for retention of all stormwater runoff emanating from the site resulting from a 3.0-inch rainfall event with a runoff coefficient of 1.0 for impervious areas, 1.0 for the roof area, and 0.2 for landscaped/natural areas northwest and west side of the proposed structure. The on-site drainage system will be comprised of fifteen (15) proposed precast concrete drainage leaching pools measuring 12'-0" Dia. X 12'-0" deep.

The fourth area has been designed for retention of all stormwater runoff emanating from the site resulting from a 3.0-inch rainfall event with a runoff coefficient of 1.0 for impervious areas, 1.0 for the roof area, and 0.2 for landscaped/natural areas southeast and east side of the proposed structure. The on-site drainage system will be comprised of thirty-five (35) proposed precast concrete drainage leaching pools measuring 12'-0" Dia. X 12'-0" deep.

The fifth area has been designed for retention of all stormwater runoff emanating from the site resulting from a 3.0-inch rainfall event with a runoff coefficient of 1.0 for impervious areas, 1.0 for the roof area, and 0.2 for landscaped/natural areas south and southwest side of the proposed structure. The on-site drainage system will be comprised of twenty-seven (27) proposed precast concrete drainage leaching pools measuring 12'-0" Dia. X 12'-0" deep.

The sixth area has been designed for retention of all stormwater runoff emanating from the site resulting from a 3.0-inch rainfall event with a runoff coefficient of 0.2 for landscaped/natural areas east of the proposed structure. The on-site drainage system will be comprised of one (1) proposed precast concrete drainage leaching pool measuring 8'-0" Dia. X 12'-0" deep

5. NYS Storm Water Management '6 Step Process"

STEP 1: Site Planning

The proposed development of the site has been designed to minimize disturbance to existing perimeter and reducing area of impervious surfaces. The following considerations to the design were implemented:

- 100% of the stormwater runoff is collected and directed to subsurface drainage system for infiltration.
- Replanting of site in conformance with Town Standards; planting of native trees and shrubs and re-seeding/sod within disturbed areas.

STEP 2: Determine Water Quality Treatment Volume (WQv)

As per the 2020 New York State Stormwater Management Design Manual, the "Water Quality Volume (denoted as the WQv) is intended to improve the water quality by capturing and treating runoff from small, frequent storm events that tend to contain higher pollutants". A site that is designed using the WQv will be able to capture and treat the entire runoff generated from the entire 90th percentile rain event (1.5 inches for Bay Shore).

Using the formula provided in Section 4.2 of the 2015 New York State Stormwater Design Manual, the required WQv for this project was calculated to be 1.78 (in acre-feet of storage). This calculation can be seen in more detail in Appendix K.

STEP 3: Apply Runoff Reduction Techniques and Standard SMP's with RRv Capacity to Reduce Total WQv

In order to reduce 100% of the WQv calculated in Step 2, Reduced Runoff Techniques and Standard SMPs with RRv capacity were used. Site Plans show the following Reduction Runoff Techniques and Standard SMP's with RRv Capacity to be implemented:

- Conservation of Berm Areas.
- Infiltration basins designed for the volumetric equivalent to a 3.0-inch rainfall event, exceeding the New York State requirement of a 2.9-inch rainfall event.

The total RRv provided by using Reduction Runoff Techniques and Standard SMP's with RRv Capacity was calculated to be 4.003 acre-feet. The total RRv provided is therefore greater than the WQv required.

STEP 4: Determine the minimum RRv required

As per Section 4.3 of the 2020 New York State Stormwater Design Manual, Step 4 is not necessary as the site captures 100% of the contributing area WQv volume with Standard SMP's with RRv capacity.

STEP 5: Apply Standard Stormwater Management Practices to Address Remaining Water Quality Volume

As per Section 4.3 of the 2020 New York State Stormwater Design Manual, Step 5 is not necessary as the site captures 100% of the contributing area WQv volume with Standard SMP's with RRv capacity. RRv requirements have been met.

Site Plans show the following SMPs to be implemented before and during the construction:

- Proper and accurate grading guiding run-off towards open inlet drainage structures;
- Infiltration basins designed for the volumetric equivalent to a 3.0-inch rainfall event, exceeding the required 2.9-inch amount listed in the New York State Stormwater Management Design Manual.

STEP 6: Apply Volume and Peak Rate Control Practices if Still Needed to Meet Requirements.

Total Channel Protection Volume (CPv) required for the site was calculated at 3.912 acre-feet, based upon a 1-year, 24 hour rainfall event within the Bay Shore region (2.9 inches). The provided CPv was calculated for 4.003 acre-feet which is greater than the required, therefore water quality requirements have been met.

6. Pollution Prevention Measures

1. **Stabilized Construction Entrance/Exit:** A stabilized pad of aggregate underlain with filter cloth located at the point where traffic will be entering and exiting the construction site to or from the adjacent roadway. The stabilized construction exit is intended to reduce or eliminate the tracking of sediment onto common roadway. The paved streets adjacent to the site entrance will be inspected daily and swept as necessary to remove any excess mud, dirt, or rock tracked from the site. Additionally, dump trucks hauling material from the construction site will be covered with a tarpaulin.

2. **Construction Road Stabilization**: The stabilization of temporary construction access routes, on-site vehicle transportation routes, and construction parking areas.

3. **Silt Fence**: A temporary barrier of geotextile fabric used to intercept sediment laden runoff from disturbed soil. The silt fence serves to reduce runoff velocity and effect the deposition of transported sediment load. The silt fence will be constructed around the limits of construction in order to protect surrounding areas from debris and migration of sedimentation. Silt fencing will be also placed around temporary soil stockpiles.

4. **Filter Fabric Inlet Protection**: A temporary barrier of geotextile fabric framed around a drainage inlet designed to intercept and trap sediment carried by sediment laden runoff from entering the drainage structure. The geotextile fabric will need to be maintained and the trapped sediment removed periodically.

5. **Surface Stabilization**: Stabilization of the surface will be accomplished with vegetation and mulch as specified in the Landscape plan. Temporary hydroseeding, (contractors mix) shall be used on construction areas that have temporarily ceased activities. Driveway lot base courses will be installed as soon as finished grade is reached.

6. **Dust Control**: Dust control measures shall be utilized to prevent or control surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards and traffic safety problems. Should excessive dust be generated, it will be controlled by temporary vegetative cover, such quick growth hydroseed mixtures or mulch cover. Short term methods such as spraying of access roads and work areas until the surfaces are wet can be especially effective during dry periods.

7. **Natural Site Features**: Natural areas surrounding the site will be left untouched as part of the provisions required by the town and therefore in conjunction with silt fence will aid in sediment laden runoff from leaving the site boundaries.

8. **Truck Wash-out Area:** An area shall be designated for washing off concrete from trucks and chutes prior to leaving the site. This area should be in close proximity to the construction entrance, so it can be utilized as a truck tire wash area as well. Upon completion of the project the area should be ridden of dried up concrete and other construction materials.

9. **Perimeter Sediment Control:** Installation silt fencing should be utilized wherever there are potential of run-off leaving the site (see above measures and plans)

   Disturbed site areas, i.e. bare soils, shall be stabilized either by temporary seeding, placement of straw, or provided some other means of temporary erosion control cover.

7. Construction Schedule

Intended Sequence of Construction

A description of the intended sequence of major activities which disturb soils for major portions of the site (e.g., grubbing, excavation, grading, utilities and infrastructure installation).

The following is an approximate sequence of soil disturbing activities for the length of the project. The actual schedule of activities will be included in the inspection forms due to the variable nature of the construction activities. (The actual schedule of activities will be shown on the phasing log to be completed by the general contractor.) An estimated construction schedule of major activities is provided at the end of this section detailing duration and acreage of each major construction milestone for the project.

Below are some examples of Construction Activities and BMP's that should be in place for duration of these activities to reduce, minimize or eliminate pollution from the site.

Construction Activity/Sequence	Erosion & Sediment Control / Pollution Prevention Measures
Soil Disturbance Activities (including Demo and Grading activities)	Silt Fence: *Set as a temporary barrier to reduce the velocity of runoff for settling of sediment load. To be installed around the perimeter of the site for protection of surrounding sites. Shall also be placed around temporary soil stockpiles.* Straw Bales: *Utilized in conjunction with Silt Fencing for slope protection.* Stabilized Construction Entrance: *Used at the entrance/exist of construction vehicles for reduction or elimination of sediment tracking out into the roadways.* Dust Control: *Used to prevent dust from disturbed soil areas from being carried through the air to surrounding properties.*
Subsurface System Drainage Installation	Silt Fence: *Set around new/existing drainage inlets as a preventative barrier for sediment loaded storm runoff to keep silt from infiltrating and clogging the drainage system.* Straw Bales & Storm Sock: *Used as an alternate infiltration technique for filtering out silt and sediments and preventing it from entering the drainage system.*

Building Foundations and Concrete Curb/Pavement	Silt Fence: *Installed around the building pad entrance before major construction begins.* Material Management: *Staging area shall be set up with designated storage area provided for building materials.* Solid Waste Management: *Trash receptacles with lockable lids should be on site once work on structure begins and emptied regularly.* Wash Station: *Dedicated washout area for concrete truck.*
Site Stabilization *(refer also to Paragraph 'H' on page 18 for additional information)*	Permanent Landscaping: *Installation of permanent vegetation should take place as soon as practicable.* Removal of Temporary BMP's: *Once site is 80% stabilized, all temporary BMP's can be removed and disposed of.*
Onsite Fuel Storage	If required during construction activity, fuel storage tanks will be stored away from storm drains. Tanks will be labeled so they can be identified and will have secondary containment so they will have low potential of leaking. Petroleum products will be stored according to local code. **Following the completion of construction, all fuel storage tanks and petroleum products shall be removed from the site as on-site refueling and storage of petroleum products is not permitted per the Planning Board Special Permit for the subject site.**
Buried Utility Lines	During utility installation, BMP's will be implemented to reduce exposure; At the first sign of rainfall, straw bales or other temporary erosion control methods will be properly placed to stop any erosion potential.
Storm Sewer Network	Storm sewer inlets existing offsite will be covered as needed to collect sediments that may escape from the construction site. The erosion control BMP associated with the excavation, installation and backfill of buried utility lines is accommodated by the down slope silt fence and/or detention ponds. When the storm sewer inlet boxes are installed, silt fences or inlet filters will be used to prevent erosion/sediment from impacting the receiving waters. The use of silt fences around the outfalls will act as a sediment trap and a velocity dissipater. Prior to the start of on site activities, the first downstream inlet from the site on public roadways to be provided inlet sediment protection.

Estimated timeline	Area	Construction Activity and BMP Descriptions
Week 1 - Week 4	Phase 1 (4.97 Ac) Phase 2 (4.95 Ac) Phase 3 (3.79 Ac) Phase 4 (4.97 Ac)	***Before any site grading activities begin*** 1. Coordinate with the Authority having Jurisdiction (AHJ) prior to the start of any work. 2. Install perimeter silt fences 3. Install storm drain inlet protection on all open grates (On & Off Site) 4. Install stabilized construction entrance at site entry point 5. Previous phases of construction to be stabilized prior to clearing subsequent phases.
Week 4 - Week 15	Phase 1 (4.97 Ac) Phase 2 (4.95 Ac) Phase 3 (3.79 Ac) Phase 4 (4.97 Ac)	***Site grading*** 1. Clearing and rough grading of roadway and plots in accordance with approved plans 2. Establish topsoil stockpile, installing a silt fence around the perimeter 3. Previous phases of construction to be stabilized prior to clearing subsequent phases.
Week 15 - Week 30	Phase 1 (4.97 Ac) Phase 2 (4.95 Ac) Phase 3 (3.79 Ac) Phase 4 (4.97 Ac)	***Infrastructure (utilities, parking lot, etc.)*** 1. Construct staging and materials storage areas 2. Install utilities, drainage, sanitary sewers, and water services 3. Maintain perimeter silt fence and storm drain inlet protection
Week 30 - Week 60	Phase 1 (4.97 Ac) Phase 2 (4.95 Ac) Phase 3 (3.79 Ac) Phase 4 (4.97 Ac)	***Building Construction*** 1. Construct temporary concrete washout area 2. Begin construction of any building foundation and structure 3. Install gutters, curbs, and prepare pavement subgrade 4. Pave parking lot and finish building exterior 5. Remove temporary concrete washout area
Week 60 - Week 72	Phase 1 (4.97 Ac) Phase 2 (4.95 Ac) Phase 3 (3.79 Ac) Phase 4 (4.97 Ac)	***Final stabilization and landscaping*** 1. Finalize pavement activities 2. Remove all temporary control BMPs and stabilize any areas disturbed by their removal with erosion controls 3. Prepare final seeding and landscaping 4. Monitor stabilized areas until final stabilization is reached 5. Previous phases of construction to be stabilized prior to clearing subsequent phases.

8. Contractor Maintenance Plan of BMP's

1. All erosion and sediment control measures shall be put in place prior to the start of any ground disturbances. The installation of the temporary control devices will be completed in accordance with both the information and details shown on the civil-site plans for the project.

2. Install in accordance with the Manual of New York State Standards and Specifications for Erosion and Sediment Control, and required additional erosion control devices that may be required by the Engineer.

3. Temporarily stabilize all landscaping areas by seeding and provide silt fencing along the bottom of all slopes. All areas of bare soils not actively involved in construction shall be seeded if dormant for 14 days or longer.

4. Temporarily stabilize all stockpiled materials by seeding and/or constructing silt fences around the base of the stockpiled materials.

5. Complete stabilization of disturbed areas.

6. Maintain all erosion control devices for the duration of the construction work by cleaning, repairing and/or replacing the control measures as may be necessary or as directed by the engineer.

7. Immediately cleanup all materials spilled, dropped, washed or tracked onto any paved surfaces beyond the limits of the project.

8. The applicant or developer or his or her representative shall be on site at all times when construction or grading activity takes place and shall inspect and document the effectiveness of all erosion and sediment control practices. At least one on –site representative shall be certified by the NYSDEC and completed the 4 hour Erosion & Sediment Control Training course. The representative shall be responsible for inspections not covered by the design processionals' weekly inspection. Qualified Inspection Reports shall be completed every seven days. Inspections after a significant rainfall event are in excess of the General Permit requirements, but are considered a necessary best practice by R&M Engineering. The reports shall be delivered to the General Contractor, Owner and any other party at the owner's request. The completed Inspection Report shall be copied to the SWPPP Ledger.

9. For the purposes of Town of Islip Code compliance, Town personnel, including but not limited to Building Inspectors, Ordinance Inspectors, Engineering Inspectors, Highway/DPW Personnel, Planning Personnel, and/or representatives from the Department of Environmental Control, are authorized to access construction site.

10. The SWPPP will be available on-site at all times along with related plans. The project sponsor shall explain the SWPPP requirements to all construction personnel and subcontractors. A sign shall be place on the site indicating where the SWPPP can be viewed.

11. No vegetation and/or trees may be cleared without first receiving a mark-out from Planning and/or Engineering Inspectors. Existing vegetation and trees shall remain in place until after construction is complete. Only vegetation and trees specifically in the path of construction activity may be removed.

12. No earth, fill or construction material shall be allowed to migrate off site from this project on to the Town of Islip roadway and/or storm drain system or an adjacent property.

13. No fill shall be brought into a site without the express approval of a Building or Engineering inspector. Piles of fill shall be stabilized and/or contained with grass seed, silt fences, or other approved methods.

14. At the end of each workday the adjacent roadway and/or storm drain system shall be self-inspected for material. All construction sites and adjacent roadways shall be cleared of soil and other material at the end of each day.

15. All construction and demolition debris and materials, including wet concrete, shall be disposed of at an appropriate facility in accordance with all Town of Islip and NYSDEC solid waste management regulations. The discharge of any liquid, semi-liquid, or other materials from a construction site into storm drains, roadways, or vacant property is grounds for a violation.

16. Litter shall be picked up on a daily basis from the site, adjacent properties and/or the road system.

17. Trash cans with lockable lids shall be provided through-out the site and placed in areas where workers are taking breaks & by coffee truck area.

18. Toilet facilities (either portable or existing) shall be provided for the workers on the site during the construction period.

19. All municipal or private drainage inlets adjacent to area of construction shall be protected from pollutants through the use of products/sponges designed for this purpose.

20. On areas of steep slopes and areas cleared of vegetation, suitable stabilization methods, as shown on approved site plans and stormwater pollution prevention plan (SWPPP), shall be employed to prevent soil migration and stormwater runoff.

21. All exposed expanses of soil shall be stabilized with annual grass seed as soon as areas will no longer be needed for construction staging, or if areas will remain undisturbed for two weeks or longer.

22. The applicant or developer of the land development activity shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the applicant or developed to achieve compliance with the conditions of this chapter. Sediment shall be removed from stormwater structures whenever their design capacity has been reduced by 50%. Street sweeping by broom or machine or other suitable means of cleanup shall be conducted daily as necessary for any sediment or material that has inadvertently migrated off site. Litter shall also be removed on a daily basis from the site or off site.

9. Post-Construction Stormwater Management Maintenance Plan

The following is a list of maintenance operations that shall be completed biannually in order to ensure proper functionality of the post construction stormwater maintenance practices (SMP) installed at the above mentioned site in accordance with the NYSDEC SWPPP. These biannual operations shall be conducted on or about March 15 and September 15 every year for preparation of the impending seasonal spring and fall heightened rain events. The owner/operator is responsible for obtaining Town of Islip approval of a formal maintenance agreement for the Stormwater Management Facilities binding on all subsequent landowners.

Subsurface Drainage Infiltration System

The overall system has been designed for retention of all stormwater runoff emanating from contributory areas and is based on a 3-inch rainfall event as required by the Town of Islip. The leaching pools are provided with access manholes for inspection/cleaning purposes.

The following measures shall be taken to ensure the system functions as intended:

- The leaching pools are to be monitored for illegal dumping. The system is only to receive onsite storm surface runoff from the tributary site and building roof drainage system. All onsite staff shall be made aware that no dumping of any other liquids or hazardous material shall be poured into the stormwater leaching system.
- The parking areas shall be cleaned and swept on a weekly basis to remove garbage and debris from the pavement surface. Garbage receptacles shall be placed at pedestrian paths and emptied on a regular basis.

Onsite Plantings and Landscaping

All areas not covered by impervious material and buildings are planted for soil stabilization to prevent erosion during rainfall events from soil runoff. It is very important that the onsite landscaping be kept in vigorous growth and in a healthy condition to insure the stabilization of the onsite soils. Soil stabilization will prevent erosion from water runoff as well as dust during windy conditions by keeping the soils secure and moist.

The following measures shall be taken to ensure the landscape remains in an acceptable state to reduce erosion:

- All tree pits and planting beds shall be re-mulched to meet the minimum planting requirements of the Town approved site plan.
- Any dead or sick plantings shall be removed and replaced in kind to the minimum sizes as approved by the Town Engineering Dept. and in accordance with the approved site plan for this parcel.

Maintenance Agreement

The maintenance operations mentioned above are to be the responsibility of the owner/operator for the project site. The owner or operator of a property where permanent stormwater management systems are installed in accordance with this law shall operate and maintain to achieve the goals of this law. These measures for continued stormwater pollution prevention shall be in accordance with the Stormwater Control Facility Maintenance Agreement agreed upon by the Declarant, Fifth XNY, LLC. Proper operation and maintenance also includes, as a minimum, the following:

- The operator shall perform routine maintenance of all permanent stormwater management controls and drainage structures to ensure that discharges from on-site stormwater management structures do not exceed design criteria or cause or contribute to water quality standard violations.
- Operator shall, at its own expense, repair or replace any failing permanent stormwater management control system or structure in the event same shall fail to operate as per the manufacturers' specifications to ensure future discharges from on-site stormwater management controls do not exceed design criteria or cause or contribute to water quality standard violations.
- The Declarants shall allow an authorized representative of the Town of Islip access, at reasonable times, to routinely inspect all permanent stormwater management controls.
- A preventative/corrective maintenance program for all crucial facilities and systems of treatment and control (or related appurtenances) which are installed or used by the owner or operator or person in charge of property to achieve the goals of this Article.
- Written procedures for operation and maintenance of the stormwater management systems and the training of new maintenance personnel.
- Discharges from the SMPs shall not exceed design criteria or cause or contribute to water quality standard violations in accordance with Chapter 246-4.13.
- Executed contract with outside maintenance operators.

Spill Prevention and Response Procedures

The Operator will train all personnel in the proper handling and cleanup of spilled materials. No spilled hazardous materials or hazardous wastes will be allowed to come in contact with storm water discharges. If such contact occurs, the storm water discharge will be contained on site until appropriate measures in compliance with state and federal regulations are taken to dispose of such contaminated storm water. It shall be the responsibility of the Operator to properly train all personnel in spill prevention and clean up procedures.

A. In order to minimize the potential for a spill of hazardous materials to come into contact with storm water, the following steps will be implemented:

    1. All materials with hazardous properties (such as pesticides, petroleum products, fertilizers, detergents, chemicals, acids, paints, paint solvents, cleaning solvents, etc.) will be stored in a secure location, with their lids on, preferably under cover, when not in use. Following the completion of construction, all fuel storage tanks and petroleum products shall be removed from the site as no on-site refueling and storage of petroleum products is permitted per the Planning Board Special Permit.

    2. The minimum practical quantity of all such materials will be kept on the site.

    3. A spill control and containment kit (containing absorbent materials, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) should be maintained on-site.

    4. Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.

B. In the event of a spill, the following procedure shall be followed;

    1. All spills will be cleaned up immediately after discovery.
    2. The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with hazardous substances.
    3. Spills of toxic or hazardous materials will be reported to the appropriate federal, state, and/or local government agency, regardless of the size of the spill. Spills of amounts that exceed Reportable Quantities of certain substances specifically mentioned in federal regulations (40 CFR 110, 40 CFR 117, and 40 CFR 302) must be immediately reported to the EPA National Response Center, telephone 1-800-424-8802.

10. Stormwater Pollution Prevention Program

A. RESPONSIBILITIES OF CONTRACTOR REGARDING THE CONSTRUCTION GENERAL PERMIT: The Contractor shall manage the discharge of storm water from the site in accordance with the ***NYSDEC*** Construction General Permit for Construction Activities conditions and the following provisions of this section of the specifications. The Contractor shall be responsible for conducting the storm water management practices in accordance with the permit. The Contractor shall be responsible for complying with all directives from the inspector as they relate to the enforcement of the provision of the SWPPP and the General Permit. The Contractor shall be responsible for any enforcement action taken or imposed by federal, state, or local agencies, including the cost of fines, construction delays, and remedial actions resulting from the Contractor's failure to comply with the permit provisions. It shall be the responsibility of the Contractor to make any changes to the SWPPP necessary when the Contractor or any of his subcontractors elects to use borrow or fill or material storage sites, either contiguous to or remote from the construction site, when such sites are used solely for this construction site. Such sites are considered to be part of the construction site covered by the permit and this SWPPP. Off-site borrow, fill, or material storage sites which are used for multiple construction projects are not subject to this requirement, unless specifically required by state or local jurisdictional entity regulations. Source of any imported materials are subject to Town of Islip Engineering Department approval. The Contractor should consider this requirement in negotiating with earthwork subcontractors, since the choice of an off-site borrow, fill, or material storage site may impact their duty to implement, make changes to, and perform inspections required by the SWPPP for the site.

B. **NOTICE OF INTENT:** The Operator has petitioned the ***NYSDEC*** for the storm water discharges during construction at this site to be covered by the ***NYSDEC*** General Permit for Construction Activity for the State of New York. A Notice of Intent (NOI) to be covered under this permit has been filed by the Operator.

C. **REQUIREMENTS FOR THE GENERAL CONTRACTOR AND SUBCONTRACTOR(S):** The *SWPPP Ledger* shall provide forms for both the General Contractor and Subcontractor(s) identifying the Company Name, Business Address and Telephone Number along with the Responsible Person for the Contractor and all subcontractors' who will implement the measures identified in the SWPPP. The General Contractor shall sign Form A, "General Contractor's Certification" and all Subcontractors shall sign Form B, "Subcontractor's Certification", verifying they have been instructed on how to comply with and fully understand the requirements of the ***NYSDEC*** and SWPPP.

D. **STORM WATER POLLUTION PREVENTION PROGRAM LOCATION REQUIREMENTS:** The *SWPPP Ledger* is meant to be a working document that shall be maintained at the site of the Construction Activities at all times throughout the project, shall be readily available upon request by the Operator's personnel or ***NYSDEC*** or any other agency with regulatory authority over storm water issues, and shall be kept on-site until the site complies with the Final Stabilization section of this document. A sign or other notice must be posted near the main entrance of the construction site which contains a completed NOI, the location of the SWPPP and the name and phone number of a contact person responsible for scheduling SWPPP viewing times, and any other state specific requirements. The Notice of Coverage (NOC) or other form notifying the applicant that coverage under the applicable permit has been obtained must also be posted, once received.

E. **SWPPP LEDGER:** Two (2) copies of the SWPPP Ledger, in three (3) ring binders shall be provided by the Operator's Engineer. One (1) copy shall be provided to the Construction Site Superintendent and one (1) copy shall be provided to the Operator's Project Manager. The Ledgers shall be tabbed and indexed for the following sections:

- Table of Contents.
- Written SWPPP.
- Site Map
- Erosion and Sedimentation Control Plan(s).
- Signed Notice of Intent (NOI).
- Confirmation of NOI Delivery.
- Copy of Notice of Permit Coverage.
- Copy of NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity.
- General Contractor's Certification (Form A)
- Subcontractor's Certification (Form B)
- Inspection Report (Form C)
- Modification Report (Form D)
- Final Stabilization/Termination Checklist (Form E)
- Reportable Quantity Release Form (Form F)
- Construction Site Notice (Form G)

The Operator's Project Manager must review and evaluate for compliance the *SWPPP Ledger* at each Project Review. All Inspection and Maintenance Forms must be signed by the Operator's Engineer at this review and be submitted with the Contractor's Monthly Application for Payment. The approval of the Contractor's Application for Payment will be withheld until the *SWPPP Ledger* is deemed in compliance and all

SWPPP Inspection and Maintenance Forms and have been submitted to the satisfaction of the Operator.

F. **INSPECTIONS AND RECORD-KEEPING:** Inspections are required at least once *every seven (7) calendar days or more often if dictated by a State Permit or other requirement* and within 24 hours following a significant rainfall event and shall continue until the site complies with the Final Stabilization section of this document. Inspections after a significant rainfall event are in excess of the General Permit requirements, but are considered a necessary best practice by R&M Engineering. Inspections must be conducted by a "Qualified" Inspector. "Qualified" Inspector is defined as a person knowledgeable in the principles and practices of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity. **All Qualified Inspectors who are not a licensed PE, Registered RLA or Certified Professional in Erosion and Sediment Control *MUST* have completed the NYSDEC 4 hour certification *AND* be under the direct supervision of a licensed PE or licensed RLA in accordance with the General Permit.** Each inspection must be followed up by a report documenting the inspector's findings and request the required maintenance and/or repair for the erosion and sedimentation control measures. It is imperative that the Contractor documents the Inspection and Maintenance of all erosion and sediment control measures as soon as possible after the inspection and/or maintenance are completed. These records are used to prove that the required inspection and maintenance were performed and shall be placed in the *SWPPP Ledger*. In addition to inspection and maintenance reports, records should be kept of the Construction Activities that occur on the site. The Owner/Operator shall retain copies of the SWPPP, all reports and data for a minimum of **five (5) years** after the project is complete in paper and CD format.

The following list identifies the **required** Inspection and Maintenance documentation that must be maintained by the Owner/Operator under this SWPPP.

- **Form C Inspection Report**
- **Form D Modification Report**
- **Form F Reportable Quantity Release Form**

G. **SWPPP MODIFICATIONS:** The inspection report should also identify if any revisions to the SWPPP are warranted due to unexpected conditions. Any modification of the SWPPP must be forwarded to the Town of Islip. The SWPPP is meant to be a dynamic working guide that is to be kept current and amended whenever:

- There is a change in design, construction, operation, or maintenance at the construction site that has or could have a significant effect on the discharge of

pollutants to the waters of the United States that has not been previously addressed in the SWPPP. In addition to modifying the SWPPP, the site map may also require an amendment.

- Inspections or investigations by site staff, or by local, state or federal officials, determine that the discharges the SWPPP is ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the construction site.

- Based on the results of an inspection, it must be modified as necessary to include additional or modified BMPs designed to correct problems identified. Revisions to the SWPPP must be completed within seven (7) calendar days following the inspection.

- There is a release containing a hazardous substance or oil in an amount equal or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302 occurs during a 24 hour period. Revisions to the SWPPP must be completed within seven (7) calendar days of knowledge of the release.

- <u>The following must be completed prior to the winter months</u>:

    - *All exposed soils must be stabilized by establishing vegetation, straw or mulch, matting, rock or other approved product such as rolled erosion control product. Seeding of areas along with mulching is encouraged, however seeding alone is not considered acceptable for proper stabilization.*

    - *Barriers must be properly installed at all necessary perimeters and sensitive locations.*

    - *All slopes and grades must be properly stabilized with approved methods. Rolled erosion control products must be used on all slopes greater than 3:1, or where conditions for erosion dictate such measures.*

    - *Stockpiled soils must be protected by the use of established vegetation, an anchored-down straw or mulch, rolled erosion control product or other durable covering. A barrier must be installed around pile to prevent erosion away from that location.*

- *All entrances and exits to the site must be properly stabilized and must be maintained to accommodate snow management as set forth in the NYS Standards and Specifications for Erosion and Sediment Control.*

- *Snow management practices must not destroy or degrade erosion and sediment control practices.*

Any such changes made to the SWPPP must be noted on the "Modification Report" **(Form D)** within 7 days of the date such modification or amendment is made. The Contractor's failure to modify the SWPPP to include off-site borrow or fill areas used solely for the project or to monitor or report deficiencies to the Operator will result in the Contractor being liable for fines and construction delays resulting from any federal, state, or local agency enforcement action. Any significant modification of the SWPPP must be forwarded to the Town of Islip.

H. FINAL STABILIZATION AND TERMINATION OF PERMIT COVERAGE:

A site can be considered finally stabilized when all soil disturbing activities have been completed and a uniform perennial vegetative cover with a density of 85% for the unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures have been established and the facility no longer discharges storm water associated with construction activities and a Notice of Termination (NOT) form filed by the Operator(s) with the *NYSDEC*. The Operator's Project Engineer must complete the NOT. The NOT must be signed by the signatory (or equivalent position) on the NOI and subsequently submitted to the *NYSDEC*. The Operator's Project Manager must provide a completed copy of the NOT to the Contractor for inclusion in the SWPPP, which will then be optically scanned into the final SWPPP document as required. This filing terminates coverage under the General Permit and terminates the Contractor's responsibility to implement the SWPPP, but the requirements of the SWPPP, including periodic inspections, must be continued until the NOT is filed. Upon achieving this milestone, the Contractor shall also submit "Final Stabilization Certification/Termination Checklist" (Form E). Final payment and/or the release of retainage will be withheld until all provisions of the SWPPP have been submitted, completed and accepted by the Operator. Documentation to be submitted to the Town of Islip.

I. RUNOFF COEFFICIENT, SOILS, AND RAINFALL INFORMATION

The site has soils, which are described by the USDA Soil Conservation Service (refer to Pre-Development Conditions Section).

The site is on Long Island**,** which receives an average of *45 inches* rainfall annually with the highest amounts of precipitation received in the months of *March, April, August, November and December (Information usually available in county soils report and from National Climate Data Center at http://www.ncdc.noaa.gov/regionalclimatecenters.html.)*

J. RUNOFF COEFFICIENT, SOILS, AND RAINFALL INFORMATION

The Contractor will obtain copies of any and all local and state regulations which are applicable to storm water management, erosion control, and pollution minimization at this job site and will comply fully with such regulations. The Contractor will submit written evidence of such compliance if requested by the Operator or any agent of a regulatory body. The Contractor will comply with all conditions of the *NYSDEC* Construction General Permit, including the conditions related to maintaining the SWPPP and evidence of compliance with the SWPPP at the job site and allowing regulatory personnel access to the job site and to records in order to determine compliance.

K. INSPECTION AND MAINTENANCE PROCEDURES

The following inspection and maintenance practices will be used to maintain erosion and sediment controls and stabilization measures.

1. All control measures will be inspected by the *Qualified Inspector* (Refer to GP-0-25-001 Part IV.C) at least once weekly every seven (7) calendar days and within 24 hours following a significant rainfall event *(For projects in excess of 5 acres, inspected at least twice weekly, separated by a minimum of two (2) full calendar days). Inspections performed after significant rainfall event exceed that required by the General Permit, but are required by R&M Engineering. For purposes of this SWPPP a significant rainfall event shall be defined as a storm producing a total of 1 inch of rain or more within a 24 hour time period.*

2. The *Trained Contractor* (Refer to GP-0-25-001 Part III.A.7 & IV.B) is to insure that all measures are maintained in good working order; if repairs or other measures are found to be necessary by the Qualified Inspector at the time of inspection, they are to be implemented within 24 hours of report.

3. The Trained Contractor is to remove built up sediment from silt fence when it has reached one-third the height of the fence.

4. Silt fences will be inspected by the Qualified Inspector for depth of sediment, tears, etc., to see if the fabric is securely attached to the fence posts, and to see that the fence posts are securely in the ground.

5. The sediment basin, if present, will be inspected by the Qualified Inspector for depth of sediment, and built up sediment. Built up sediment is to be removed by the Trained Contractor when it reaches 25 percent of the design capacity.

6. Temporary and permanent seeding and all other stabilization measures will be inspected by the Qualified Inspector for bare spots, washouts, and healthy growth.

7. The two (2) weekly inspections will be performed by a *qualified inspector* as indicated in the GP-0-25-001, Part IV.C.2 page 39. The owner or operator will be responsible for selecting a qualified inspector, who will be responsible for these inspections, maintenance and repair activities, and filling out inspection and maintenance reports. Copies of the report forms completed by the Qualified Inspector are inserted into this SWPPP binder when received.

8. Inspections reports will be prepared by *qualified inspector*, and forwarded via email to responsible contractor and owner/operator, whom should insert into provided binder to remain at the site.

9. All measures will be maintained in good working order; if repairs or other measures are found to be necessary, they will be initiated within 24 hours of report.

10. The job site superintendent will be responsible for selecting and training the individuals who will be on site and identified as the Trained Contractor. The Trained Contractor will then be responsible for correcting issues brought about by the inspections, maintenance and repair activities, and filling out onsite inspection logs and executing maintenance reports.

11. Personnel selected for the *Trained Contractor* responsibilities shall receive training from the NYSDEC 4 hour certification course. They will be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls that are used onsite in good working order. They will also be trained in the completion of, initiation of actions required by, and the filing of the inspection forms. Documentation of this personnel training will be kept on site with the SWPPP.

12. Disturbed areas and materials storage areas will be inspected by the *Qualified Inspector* for evidence of or potential for pollutants entering stormwater systems.

13. The *Qualified Inspector* or *Trained Contractor* shall report to *NYSDEC* within 24 hours any noncompliance with the SWPPP that will endanger public health or

the environment. Follow up with a written report within 5 days of the noncompliance event. The following events require 24 hour reporting: a) any unanticipated bypass which exceeds any effluent limitation in the permit, b) any upset which exceeds any effluent limitation in the permit, and c) a violation of a maximum daily discharge limitation for any of the pollutants listed by the EPA in the permit to be reported within 24 hours. The written submission must contain a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times, and if the non-compliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the non-compliance.

14. Releases of hazardous substances or oil in excess of reportable quantities (as established under 40 CFR 110, 40 CFR 117 or 40 CFR 302) must be reported by either the Trained Contractor or Qualified Inspector.

Please refer to SPDES General Permit GP-0-25-001 located within the SWPPP binder for additional inspection information.

L. INSPECTION AND MAINTENANCE REPORT FORMS

Once installation of any required or optional erosion control device or measure has been implemented, at least twice every seven (7) calendar days, separated with a minimum of two (2) calendar days, *inspections* of each measure shall be performed by a **Qualified Inspector**. Inspections performed after significant rainfall event (1 inch and above) are not required by the General Permit, but are required by R&M Engineering as a Best Practice for pollution control. The forms found in this SWPPP shall be used by the inspectors to inventory and report the condition of each measure to assist in maintaining the erosion and sediment control measures in good working order.

These report forms shall become an integral part of the SWPPP and shall be made readily accessible to governmental inspection officials, the Operator's Engineer, and the Operator for review upon request during visits to the project site. In addition, copies of the reports shall be provided to any of these persons, upon request, via mail or facsimile transmission. Inspection and maintenance report forms are to be maintained by the permittee for five years following the final stabilization of the site.

M. OTHER RECORD-KEEPING REQUIREMENTS

The Contractor shall keep the following records related to construction activities at the site:

- Dates when major grading activities occur and the areas which were graded
- Dates and details concerning the installation of structural controls
- Dates when construction activities cease in an area
- Dates when an areas is stabilized, either temporarily or permanently
- Dates of rainfall and the amount of rainfall
- Dates and descriptions of the character and amount of any spills of hazardous materials
- Records of reports filed with regulatory agencies if reportable quantities of hazardous materials spilled

N. MATERIALS MANAGEMENT PLAN

MATERIALS COVERED

The following materials or substances are expected to be present onsite during construction:

Concrete/Additives/Wastes	Cleaning solvents
Detergents	Petroleum based products
Concrete Block/Brick	Asphalt
Timber	Soil stabilization additives
Paints/Solvents	Pesticides
Acids	Fertilizers
Solid and construction wastes	Sanitary wastes

Piping (PVC, Ductile/Cast Iron, Asbestos Coated, Polyethylene, Steel, Clay)

MATERIAL MANAGEMENT PRACTICES

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff. The job site superintendent will be responsible for ensuring that these procedures are followed.

A. Good Housekeeping

The following good housekeeping practices will be followed onsite during the construction project.

1. An effort will be made to store only enough products required to do the job.
2. All materials stored onsite will be stored in a neat, orderly manner and, if possible, under a roof or in a containment area. At a minimum, all

containers will be stored with their lids on when not in use. Drip pans shall be provided under all dispensers.

3. Products will be kept in their original containers with the original manufacturer's label in legible condition.
4. Substances will not be mixed with one another unless recommended by the manufacturer.
5. Whenever possible, all of a product will be used up before disposing of the container.
6. Manufacturer's recommendations for proper use and disposal will be followed.
7. The job site superintendent will be responsible for daily inspections to ensure proper use and disposal of materials.

B. Hazardous Products

These practices will be used to reduce the risks associated with hazardous materials. Material Safety Data Sheets (MSDS's) for each substance with hazardous properties that is used on the job site will be obtained and used for the proper management of potential wastes that may result from these products. An MSDS will be posted in the immediate area where such product is stored and/or used and another copy of each MSDS will be maintained in the SWPPP file at the job site construction trailer office. Each employee who must handle a substance with hazardous properties will be instructed on the use of MSDS sheets and the specific information in the applicable MSDS for the product he/she is using, particularly regarding spill control techniques.

1. Products will be kept in original containers with the original labels in legible condition.
2. Original labels and material safety data sheets (MSDS's) will be procured and used for each material.
3. If surplus product must be disposed of, manufacturers or local/state/federal recommended methods for proper disposal will be followed.

C. Hazardous Waste

All hazardous waste materials will be disposed of by the Contractor in the manner specified by local, state, and/or federal regulations and by the manufacturer of such products. Site personnel will be instructed in these practices by the job site superintendent, who will also be responsible for seeing that these practices are followed.

D. Product Specific Practices

The following product specific practices will be followed on the job site.

1. Petroleum Products

All on-site vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. During construction activities, any petroleum storage tanks stored onsite will be located within a containment area that is designed with an impervious surface between the tank and the ground. The secondary containment must be designed to provide a containment volume that is equal to 110% of the volume of the largest tank. Drip pans shall be provided for all dispensers. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations. The location of any fuel tanks and/or equipment storage areas must be identified on *SWPPP plan* by the contractor once the locations have been determined. Following the completion of construction, all fuel storage tanks and petroleum products shall be removed from the site as on-site refueling and storage of petroleum products is not permitted per the Planning Board Special Permit for the subject site.

2. Fertilizers

Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked in the soil to limit exposure to stormwater. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

3. Paints, Paint Solvents, and Cleaning Solvents

All containers will be tightly sealed and stored when not in use. Excess paint and solvents will not be discharged to the storm sewer system but will be properly disposed of according to manufacturer's instructions or state and federal regulations.

4. Concrete Wastes

Concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water on the site, but only in either (1)

specifically designated diked areas which have been prepared to prevent contact between the concrete and/or wash out and storm water which will be discharged from the site or (2) in locations where waste concrete can be poured into forms to make riprap or other useful concrete products.

The hardened residue from the concrete wash out diked areas will be disposed of in the same manner as other non-hazardous construction waste materials or may be broken up and used on site as deemed appropriate by the Contractor and the Town of Islip Engineering Field Inspector. The job site superintendent will be responsible for seeing that these procedures are followed.

The project may require the use of multiple concrete wash out areas. All concrete wash out areas will be located in an area where the likelihood of the area contributing to storm water discharges is negligible. If required, additional BMPs must be implemented to prevent concrete wastes from contributing to storm water discharges. The location of concrete wash out area(s) must be identified on *SWPPP plan* by the contractor once the locations have been determined.

5. Solid and Construction Wastes

All waste materials will be collected and stored in an appropriately covered container and/or securely lidded metal dumpster rented from a local waste management company which must be a solid waste management company licensed to do business in *New York*. The dumpster will comply with all local and state solid waste management regulations.

All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied a minimum of twice per week or more often if necessary, and the trash will be hauled to a landfill approved by *NYSDEC*. No construction waste materials will be buried on site. All personnel will be instructed regarding the correct procedures for waste disposal.

All waste dumpsters and roll-off containers will be located in an area where the likelihood of the containers contributing to storm water discharges is negligible. If required, additional BMPs must be implemented, such as sandbags around the base, to prevent wastes from contributing to storm water discharges. The location of waste

dumpsters and roll-off containers must be identified on *SWPPP plan* by the contractor once the locations have been determined.

6. Sanitary Wastes

   All sanitary waste will be collected from the portable units a minimum of three times per week by a licensed portable facility provider in complete compliance with local and state regulations.

   All sanitary waste units will be located in an area where the likelihood of the unit contributing to storm water discharges is negligible. If required, additional BMPs must be implemented, such as sandbags around the base, to prevent wastes from contributing to storm water discharges. The location of sanitary waste units must be identified on *SWPPP plan* by the contractor once the locations have been determined.

7. Contaminated Soils

   Any contaminated soils (resulting from spills of materials with hazardous properties) which may result from construction activities will be contained and cleaned up immediately in accordance with the procedures given in the Materials Management Plan and in accordance with applicable state and federal regulations.

SPILL PREVENTION AND RESPONSE PROCEDURES

The Contractor will train all personnel in the proper handling and cleanup of spilled materials. No spilled hazardous materials or hazardous wastes will be allowed to come in contact with storm water discharges. If such contact occurs, the storm water discharge will be contained on site until appropriate measures in compliance with state and federal regulations are taken to dispose of such contaminated storm water. It shall be the responsibility of the job site superintendent to properly train all personnel in spill prevention and clean up procedures.

A. In order to minimize the potential for a spill of hazardous materials to come into contact with storm water, the following steps will be implemented:

   1. All materials with hazardous properties (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, cleaning solvents, additives for soil stabilization, concrete curing compounds and additives, etc.) will be stored in a secure location, with their lids on, preferably under cover, when not in use.

2. The minimum practical quantity of all such materials will be kept on the job site.

3. A spill control and containment kit (containing, for example, absorbent materials, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided at the storage site.

4. Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.

B. In the event of a spill, the following procedures should be followed

1. All spills will be cleaned up immediately after discovery.

2. The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with the hazardous substances.

3. The project manager and the Engineer of Record will be notified immediately.

   Spills of toxic or hazardous materials will be reported to the appropriate federal, state, and/or local government agency, regardless of the size of the spill. Spills of amounts that exceed Reportable Quantities of certain substances specifically mentioned in federal regulations (40 CFR 110, 40 CFR 117, and 40 CFR 302) must be immediately reported to the EPA National Response Center, telephone 1-800-424-8802.

4. If the spill exceeds a Reportable Quantity, the SWPPP must be modified within seven (7) calendar days of knowledge of the discharge to provide a description of the release, the circumstances leading to the release, and the date of the release. The plans must identify measures to prevent the recurrence of such releases and to respond to such releases. Form G-1 must be completed in accordance with this requirement.

C. The job site superintendent will be the spill prevention and response coordinator. He will designate the individuals who will receive spill prevention and response training. These individuals will each become responsible for a particular phase of prevention and response. The names of these personnel will be posted in the material storage area and in the office trailer onsite.

11. Appendices

A. General Contractor's Certification (Form A)
B. Subcontractor's Certification (Form B)
C. Inspection Report (Form C)
D. Modification Report (Form D)
E. Final Stabilization/Termination Checklist (Form E)
F. Reportable Quantity Release Form (Form F)
G. Construction Site Notice (Form G)
H. NYS Parks, Recreation & Historical Preservation Letter
I. Soil Map/Report
J. Surface Water Location Map
K. Reduced Site Map
L. Electronic Notice of Intent (eNOI)
M. MS4 Acceptance Form
N. Provided Plans (See Map Pocket)
O. Copy of New York State Department of Environmental Conservation 'SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES From CONSTRUCTION ACTIVITY'; *Permit GP-0-25-001; Effective January 29, 2025, Expiration January 28, 2030.*

STORM WATER POLLUTION PREVENTION PLAN
GENERAL CONTRACTOR'S CERTIFICATION (Form A)

GENERAL CONTRACTOR'S CERTIFICATION:

"I certify under penalty of law that I understand the terms and conditions of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Construction Activities that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification. Further, by my signature, I understand that I am fully responsible, along with all other contractors and subcontractors signing such certifications who are performing work activities under this contract, to comply with all provisions and requirements of the NPDES General Permit for Storm Water Discharges from Construction Activities and this Storm Water Pollution Prevention Plan. I understand that I, and my company, am legally required under the Clean Water Act, to ensure compliance with the terms and conditions of NPDES storm water permit and Storm Water Pollution Prevention Plan (SWPPP) developed under the NPDES stormwater permit. I further certify that I and my company will provide all necessary training and continuing education to all applicable personnel and subcontractors to ensure a complete understanding of all provisions and requirements of the NPDES General Permit for Storm Water Discharges from Construction Activities and this Storm Water Pollution Prevention Plan prior to each of these entities beginning any work activities on this site."

Name: _____
(Print)

Signature: _____

Title: _____

Company Name: _____

Address: _____

Telephone Number: _____

Date: _____

[A signed copy of this form shall be returned to the Operator's Project Manager and Engineer prior to the commencement of construction]

STORM WATER POLLUTION PREVENTION PLAN
SUBCONTRACTOR'S CERTIFICATION (Form B)

SUBCONTRACTOR'S CERTIFICATION:

"I certify under penalty of law that I understand the terms and conditions of the ***National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Construction Activities*** that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification. Further, by my signature, I understand that I am fully responsible, along with all other contractors and subcontractors signing such certifications who are performing work activities under this contract, to comply with all provisions and requirements of the ***NPDES General Permit for Storm Water Discharges from Construction Activities*** and this ***Storm Water Pollution Prevention Plan***. I understand that I, and my company, are legally required under the Clean Water Act, to ensure compliance with the terms and conditions of ***NPDES storm water permit*** and ***Storm Water Pollution Prevention Plan (SWPPP)*** developed under the NPDES storm water permit as it pertains to the **scope of my services."**

Name: _____
(Print)

Signature: _____

Title: _____

Company Name: _____

Address: _____

Telephone Number: _____

Date: _____

[A signed copy of this form shall be returned to the Operator's Project Manager and Engineer prior to the commencement of construction]

INSPECTION REPORT (Page 1 of 3)

STORM WATER POLLUTION PREVENTION PLAN

Inspections/reports must be completed every seven (7) days.

Inspection Type: ☐ **Routine (every 7 calendar days)** ☐ **Pre-Storm**
☐ **Storm** ☐ **Post-Storm** ☐ **Other_____**

Date: _____ Week Ending: _____

Weather/Storm Event Information:

Storm Start Time: _____ Storm Duration: _____

Time Elapsed Since Last Storm: _____ Approximate Amount of Rainfall (inches): _____

Based on the results of the inspection, necessary control modifications shall be implemented within seven (7) calendar days. These reports shall be kept on file as part of the Storm Water Pollution Prevention Plan for at least five (5) years from the date of completion and submission of the Final Stabilization Certification/Termination Checklist and Notice of Termination. A copy of the SWPPP shall be kept at the site at all times during construction.

Certification Statement:
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name of Inspector: _____ Inspector's Signature: _____

Reviewed By: _____ Reviewer's Signature: _____

Construction phasing/sequencing is consistent with the SWPPP and Erosion Control Plans: ☐**Yes** ☐ **No**

Compliance Certification
I certify that, based on no incidents of non-compliance identified during the inspection, the site is in compliance with the SWPPP and the Construction General Permit.

Inspector's Signature: _____ Date: _____

*Note: This Compliance Certification is only to be signed when there are no **"unsatisfactory" conditions and the construction phasing/sequencing is consistent with the SWPPP, rendering the site in full compliance with** the SWPPP and the Construction General Permit.

INSPECTION REPORT (Page 2 of 3)

Inspection Areas	Satisfactory	Unsatisfactory (provide location or numeric identification per plan sheet)	N/A	Corrective Action Required	Implementation Date of Corrective Action
Construction Entrance/Exit					
Perimeter Silt Fence					
Inlet Protection					
Waste Storage Areas					
Temporary Sediment Basin					
Material Laydown/ Staging Area					
Slope Protection					
Curb/Curb & Gutter System					
Storm Water Retention System					
Curb Inlet Protection					
Discharges of Sediments or Other Pollutants from Site					
Material Storage Areas					

INSPECTION REPORT (Page 3 of 3)

Inspection Areas (Others)	Satisfactory	Unsatisfactory (provide location or numeric identification per plan sheet)	N/A	Corrective Action Required	Implementation Date of Corrective Action

Comments/Notes:

STORM WATER POLLUTION PREVENTION PLAN
MODIFICATION REPORT

Any modifications to the SWPPP must be noted. Whenever there is a change in design, construction, operation, or maintenance at the construction site or if inspections or investigations by site staff, local, state or federal officials determine that modifications are required or the SWPPP is ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the construction site, or based on the results of an inspection, the SWPPP must be modified to include additional or modified BMPs designed to correct identified problems. Revisions must be completed within seven (7) calendar days following the inspection. The Contractor must note the changes in this report and on the SWPPP.

MODIFICATIONS & REASONS: _____

STORM WATER POLLUTION PREVENTION PLAN
Final Stabilization Certification / Notice of Termination Checklist (Form E)

1. ☐ **All soil disturbing activities are complete.**

2. ☐ **Temporary Erosion and Sediment Control Measures have been removed or will be removed at the appropriate time.**

3. ☐ **All areas of the Construction Site not otherwise covered by a permanent pavement or structure have been stabilized with a uniform perennial vegetative cover with a density of 85% or equivalent measures have been employed.**

CONTRACTOR'S CERTIFICATION:

"I certify under penalty of law that all storm water discharges associated with construction activity from the identified project that are authorized by the NPDES Construction General Permit have been eliminated and that all disturbed areas and soils at the construction site have achieved Final Stabilization and all temporary erosion and sediment control measures have been removed or will be removed at the appropriate time."

Company Name _____

Name (Print) _____

Signature _____

Title _____

Date _____

4. **Retention of Records –** The operator shall retain copies of SWPPPs and any reports submitted in conjunction with this permit, and records of all data used to complete the NOI to be covered by this permit, for a period of at least three years from the date that the site is finally stabilized. This period may be extended by the Department, in its sole discretion, at any time upon written notification.

5. **Maintenance of SWPPP and any reports at the construction site –** The operator shall retain a copy of the SWPPP required by this permit at the construction site from the date of initiation of construction activities to the date of final stabilization.

STORM WATER POLLUTION PREVENTION PLAN
Reportable Quantity Release Form (Form F)

The discharges of hazardous substances or oil in storm water discharges from construction sites must be prevented or minimized in accordance with the SWPPP. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under 40CFR110, 40CFR117 and 40CFR302 occurs, the following steps must be taken:

i. All measures must be taken to contain and abate the spill and to prevent the discharge of the pollutant(s) to storm water or off-site.
ii. Notice must be provided to the National Response Center (NRC) at 1-800-424-8802 [include other applicable agencies and phone numbers as required] in accordance with regulations referenced above as soon as site staff has knowledge of the discharge.
iii. Contact the Operator's Project Manager or Engineer of Record immediately upon knowledge of release.
iv. The SWPPP must be modified within seven (7) calendar days of knowledge of the discharge to provide a description of the release, the circumstances leading to the release, and the date of the release. The plans must identify measures to prevent the recurrence of such releases and to respond to such releases.

Date of Spill	Material Spilled	Approximate Quantity of Spill (in gallons)	Agency(s) Notified	Date of Notification	SWPPP Revision Date

STORM WATER POLLUTION PREVENTION PLAN

CONSTRUCTION SITE NOTICE

The following information is posted in compliance with the Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) and the State of New York NPDES Permit

Contact Name and Phone Number:	
Brief Project Description:	**Demolition & clearing of site & construction of new warehouse building and parking lot with associated drainage.**
Location of Storm Water Pollution Prevention Plan (SWPPP):	**The SWPP Plan is located within the Ledger to be kept at the project site at all times. (Construction Trailer)**

A Storm Water Pollution Prevention Plan (SWPPP) has been developed and implemented according to Permit requirements. A full copy of the SWPPP for this construction project can be found at the location identified above.

This permit does not provide the public with any right to trespass on a construction site for any reason, including inspection of a site; nor does this permit require that permittees allow members of the public access to a construction site.

*This notice must be posted conspicuously near the main entrance of the construction site and shall also include the NPDES Permit Number for the project or a "completed" copy of the Notice of Intent (NOI) or other form of request required to obtain coverage under the applicable storm water permit if a number has not yet been assigned. This notice must be updated whenever information related to the contact person has changed or the location of the SWPPP has changed.

NYS Parks, Recreation & Historical Preservation Letter

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

March 15, 2022

Joseph Breitenstein
R & M Engineering
50 Elm Street
Huntington, NY 11793

Re: SEQRA
Warehouse
1612 5th Ave, Bay Shore, NY 11706
22PR01576

Dear Joseph Breitenstein:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the OPRHP and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6 NYCRR Part 617).

Based upon this review, it is the opinion of OPRHP that no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be impacted by this project.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

R. Daniel Mackay

Deputy Commissioner for Historic Preservation
Division for Historic Preservation

Soil Map/Report

Custom Soil Resource Report
Soil Map



Map Scale: 1:3,160 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

Surface Water Location Map



1612 FIFTH AVENUE

BAY SHORE, NY 11706

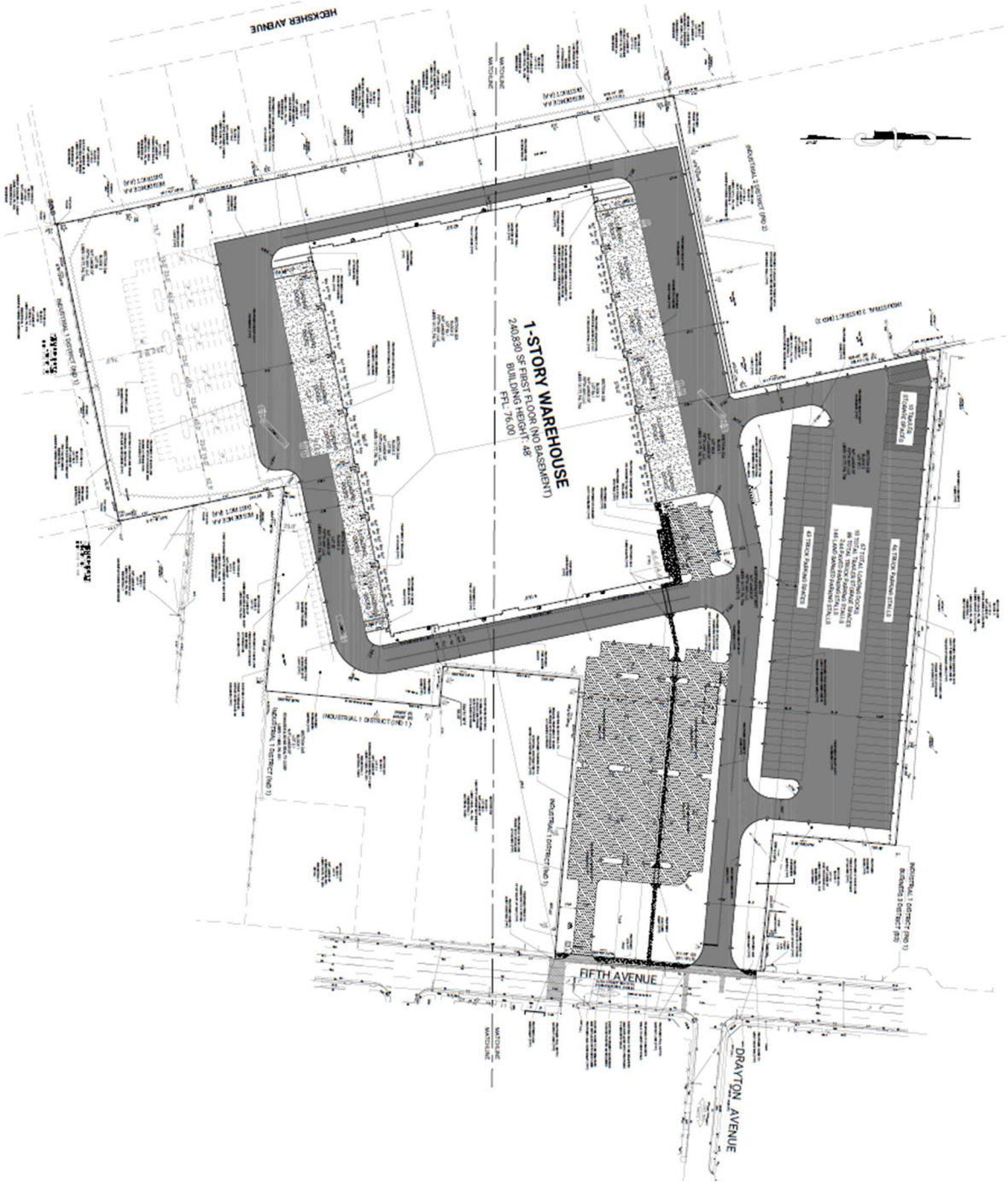
APPENDIX J SURFACE WATER LOCATION MAP

R&M ENGINEERING

Robinson & Muller Engineers, P.C.
50 Elm Street
Huntington, NY 11743
Office: (631) 271-0576
Fax: (631) 271-0592
www.rmengineering.com

DATE:	09-01-23
SCALE:	1" = 2500'
JOB No.	2022-001
SHEET:	SW-1

Reduced Site Map



Electronic Notice of Intent (eNOI)

Construction General Permit (CGP) Electronic Notice of Intent (eNOI) GP-0-25-001

version 1.11

(Submission #: HQD-7H9H-Z97KK, version 1)

Details

Originally Started By	JOSEPH BREITENSTEIN
Alternate Identifier	1612 Fifth Avenue—Region 1
Submission ID	HQD-7H9H-Z97KK
Status	Draft

Form Input

Eligibility

Disturbance Threshold

1. Will the construction activity involve soil disturbances listed in Part I.A.1 of GP-0-25-001?
Yes

1.a. Will any runoff from the site enter a sewer system classified as a combined sewer?
No

1.b. Is this a remediation project being done under a Department approved work plan (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) with a SWPPP which meets the substantive requirements of GP-0-25-001?
No

1.c. Is the construction activity related to a stormwater discharge that does not require a permit as described in 40 CFR 122.3(e), e.g. non-point source agriculture or silviculture activities?
No

Other SPDES Permits

2. Will the discharge from the construction activity meet all conditions listed in Part I.A.2 of GP-0-25-001?
Yes

Threatened and Endangered Species

3. Will the construction activity potentially adversely affect a species that is endangered or threatened per Part I.A.3.?
No

State Historic Preservation Act (SHPA)

4. Is the construction activity designated by the Commissioner of the Office of Parks, Recreation and Historic Preservation (OPRHP), pursuant to 9 NYCRR §§428.12 or 428.13 as exempt from the SHPA review (see Attachment 2 of the Letter of Resolution between NYSDEC and OPRHP, dated January 9, 2015)?
Yes

State Environmental Quality Review (SEQR)

5. Is the construction activity subject to SEQR (Part I.A.5.), or the equivalent environmental review from another NYS or federal agency (Part I.A.6.)?
Yes

5.a. Has the owner/operator obtained documentation that the project review pursuant to SEQR, or the equivalent, has been satisfied per Part I.A.5. or I.A.6. of GP-0-25-001?
Yes

Uniform Procedures Act (UPA) Permits

6. Has the owner/operator obtained all necessary UPA permits from NYSDEC, or the equivalent from another NYS or federal agency per Part I.A.7.a. of GP-0-25-001?
Yes

Steep Slope

7. Is the construction activity within the watershed of surface waters of the State classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website?
No

Owner/Operator Information

8. Owner/Operator Name
Fifth XNY, LLC

9. Owner/Operator Contact Person Information

First and Last Name	Phone	E-mail
Gretchen Kendrick	201-600-0401	NedD@xebecrealty.com

10. Owner/Operator Mailing Address

2100 Ross Avenue
Suite 895
Dallas, TX 75201
USA

11. Is the billing contact different from the Owner/Operator Contact?
No

12. What type of organization is the owner/operator?
Private Owner

Site Information

13. Project/Site Name
1612 Fifth Avenue

14. Site Address

1612 Fifth Avenue
Town of Islip, NY 11706
Suffolk

DEC Region
1

15. Site Latitude & Longitude
40.756,-73.263

Project Details

16. This eNOI submission is for:
An entire common plan of development or sale in accordance with Part I.D.1.b.

17. Does the project type fall under Table 1 or Table 2 of Appendix B of GP-0-25-001? If any portion of the construction activity falls under Table 2, regardless of the size of the disturbance, select "Table 2".
Table 2

18. Consistent with Part III.B.1.c.i. of GP-0-25-001, provide a concise overview of the project. Describe existing and proposed conditions, and include any other relevant information.
The applicant seeks to clear the existing sand and gravel pit to construct a new 240,830 SF 1-story warehouse with loading docks and trailer storage. The site will also be improved with new paved parking areas, concrete curbs, subsurface drainage and utilities, and landscpaing.

Enter the total project site acreage, the acreage to be disturbed, and the future impervious area (acreage) within the disturbed area, rounded to the nearest tenth of an acre.

19. Total Site Area (acres)
21.5

20. Total Area to be Disturbed (acres)
18.7

21. Existing Impervious Area to be Disturbed (acres)
6.0

22. Future Impervious Area Within Disturbed Area (acres)
14.7

Nature of the project:
Redevelopment with increase in impervious area

23. Do you plan to disturb more than 5 acres of soil at any one time?
No

24. Indicate the percentage (%) of each Hydrologic Soil Group(HSG) at the site.

A (%)
99

B (%)
1

C (%)
0

D (%)
0

25. Enter the planned start and end dates of the disturbance activities.

Start Date
09/01/2025

End Date
03/01/2027

26. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.
O-co-nee Lake

27. Type of waterbody identified in question 26?
Lake Off Site

28. Has the surface waterbody in question 26 been identified as a 303(d) segment in Appendix D of GP-0-25-001?
No

29. Is this project located in one of the Watersheds identified in Appendix C of GP-0-25-001?
No

30. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area?
No

31. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?
No

32. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?
No

33. Is this property owned by a state authority, state agency, federal government or local government?
No

Required SWPPP Components

General SWPPP Requirements

34. Has a SWPPP been developed in conformance with the requirements in Part III. of GP-0-25-001?
Yes

35. Does the SWPPP demonstrate consideration of the future physical risks due to climate change pursuant to the CRRA, 6 NYCRR Part 490, and associated guidance per Part III.A.2. of GP-0-25-001?
Yes

36. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?
Yes

37. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the NYS Stormwater Management Design Manual?
Yes

37.a. Which version of the NYS Stormwater Management Design Manual was used to develop the SWPPP?
2015

SWPPP Preparer

39. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:
Professional Engineer (P.E.)

40. Name of the person who prepared the SWPPP
Christopher Robinson

41. SWPPP Preparer Organization Name
R&M Engineering

42. SWPPP Preparer Contact Information

First and Last Name	Phone	E-mail
Christopher Robinson	631-271-0576	crobinson@rmengineering.com

43. SWPPP Preparer Address

50 Elm Street

Huntington, NY 11743

Download SWPPP Preparer Certification Form

Please take the following steps to prepare and upload your preparer certification form:

1) Click on the link below to download a blank certification form
2) The certified SWPPP preparer should sign this form
3) Upload the completed form

Download SWPPP Preparer Certification Form

44. Please upload the SWPPP Preparer Certification

2025-06-11 SWPPP Cover 2022-001 (Rev.2) Executed.pdf - 06/12/2025 03:00 PM

Comment

NONE PROVIDED

44.a. Has the SWPPP Preparer Certification Form been signed by the SWPPP preparer in accordance with Part VII.J of GP-0-25-001?

Yes

Erosion & Sediment Control Criteria

45. Has a construction sequence schedule for the planned management practices been prepared?

Yes

Post-Construction Criteria

Site Planning and Soil Restoration

46. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

Reduction of Clearing and Grading
Sidewalk Reduction

47. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6 ("Soil Restoration") of the Design Manual.

All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

Water Quality Criteria

49. Water Quality Sizing Criteria

Total WQv required (acre-feet)	Total RRv provided (acre-feet)	Minimum RRv (acre-feet)	Total WQv provided (acre-feet)	Sum of RRv and WQv provided
1.780	4.003			NaN

Water Quantity Criteria

50. Per Section 9.2.1.C.VI and VII of the 2024 Design Manual, is there 0% change to hydrology that increases the discharge rate and volume from the project site?

Yes

Operation and Maintenance

53. Has a long-term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?

Yes

53.a. Identify the entity responsible for the long-term Operation and Maintenance.

Fifth XNY, LLC

Post-Construction SMP Identification

54. Post-Construction RR Techniques and Standard SMPs

RR Techniques and SMPs	Contributing Impervious Area (acres)	Total Contributing Area (acres)
Underground Infiltration System (I-4)	21.520	

55. Alternative SMPs

Type of Alternative SMP	Manufacturer of the Alternative SMP	Name of the Alternative SMP	Contributing Impervious Area (acres)
NONE PROVIDED	*NONE PROVIDED*	*NONE PROVIDED*	*NONE PROVIDED*

Other Permits

56. Identify other permits, existing and new, that are required for this project/facility.

None

57. Is this NOI for a change in owner/operator per Part I.G.?
No

MS4 SWPPP Acceptance

59. Will the construction activities be within the municipal boundary(ies) of Traditional Land Use Control MS4 Operator(s) and discharge to the MS4(s)?
Yes

59.a. Which form is required per Part I.D.2.b.ii.?
MS4 SWPPP Acceptance Form

MS4 SWPPP Acceptance Form Download

Download the MS4 SWPPP Acceptance Form from the link below.
MS4 SWPPP Acceptance Form

60. MS4 Acceptance or No Jurisdiction Form Upload

2025-06-10 (2022-001) MS4 Acceptance Form UNSIGNED.pdf - 06/12/2025 03:02 PM
Comment
NONE PROVIDED

60.a. Has the form been signed by the principal executive officer or ranking elected official—or duly authorized representative of that person—in accordance with Part VII.J. and submitted along with this NOI?
Yes

Owner/Operator Certification

Owner/Operator Certification Form Download

Download the Owner/Operator Certification Form by clicking the link below.
Owner/Operator Certification Form

61. Upload Owner/Operator Certification Form

2025-06-11 (2022-001) SWPPP Owner-Operator Certification Form SIGNED.pdf - 06/12/2025 03:00 PM
Comment
NONE PROVIDED

61.a. Has the Owner/Operator Certification Form from Appendix J been signed by the owner/operator, or a representative of the owner/operator in accordance with Part VII.J of GP-0-25-001 and uploaded to the eNOI?
Yes

Additional Project Information

62. Enter any additional pertinent project information in the text box below.
NONE PROVIDED

Attachments

Date	Attachment Name	Context	User
6/12/2025 3:02 PM	2025-06-10 (2022-001) MS4 Acceptance Form UNSIGNED.pdf	Attachment	JOSEPH BREITENSTEIN
6/12/2025 3:00 PM	2025-06-11 (2022-001) SWPPP Owner-Operator Certification Form SIGNED.pdf	Attachment	JOSEPH BREITENSTEIN
6/12/2025 3:00 PM	2025-06-11 SWPPP Cover 2022-001 (Rev.2) Executed.pdf	Attachment	JOSEPH BREITENSTEIN

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

Project/Site Name:	1612 Fifth Avenue
eNOI Submission ID:	HQD-7H9H-Z97KK
Owner/Operator Name:	Fifth XNY, LLC - Gretchen Kendrick

Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) has been prepared in accordance with the requirements of GP-0-25-001. I certify under penalty of law that the SWPPP and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Christopher	W	Robinson
SWPPP Preparer First Name	MI	SWPPP Preparer Last Name



Signature

6/11/2025

Date

Revised: January 2025

Owner/Operator Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b. or Part I.F.2. and 3., the completed form must be attached to the eNOI or the Request to Continue Coverage, and submitted to NYSDEC electronically.

Project/Site Name: 1612 Fifth Ave

eNOI Submission ID: HQD-7H9H-Z97KK

eNOI Submitted by: ☐ **Owner/Operator** ☑ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

I hereby certify that I read, and will comply with, the GP-0-25-001 permit requirements. I understand that authorization to discharge under the permit for the project/site named above is dependent on receipt of a Letter of Authorization (LOA) or a Letter of Continued Coverage (LOCC) from the New York State Department of Environmental Conservation (NYSDEC) in accordance with CGP Part I.D.3.b. or Part I.F.4. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Gretchen		Kendrick
Owner/Operator First Name	MI	Owner/Operator Last Name



Signature

6/11/2025

Date

Revised: January 2025

MS4 Acceptance Form

MS4 SWPPP Acceptance Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information	
1. Owner/Operator Name:	Fifth XNY, LLC.
2. Contact Person:	Gretchen Kendrick
3. Street Address:	2100 Ross Avenue, Suite 895
4. City/State/Zip:	Dallas, TX 75201
II. Project Site Information	
5. Project/Site Name:	1612 Fifth Avenue
6. Street Address:	1612 5th Avenue
7. City/State/Zip:	Bay Shore, NY 11706
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information	
8. SWPPP Reviewed by:	
9. Title/Position:	
10. Date Final SWPPP Reviewed and Accepted:	
IV. Regulated MS4 Information	
11. Name of MS4 Operator:	
12. MS4 SPDES Permit Identification Number: NYR20A	
13. Street Address:	
14. City/State/Zip:	
15. Telephone Number:	

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in section II. of this form has been reviewed and meets the substantive requirements in the SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP). Note: The MS4 Operator, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 Operator does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name[1]:

Title/Position:

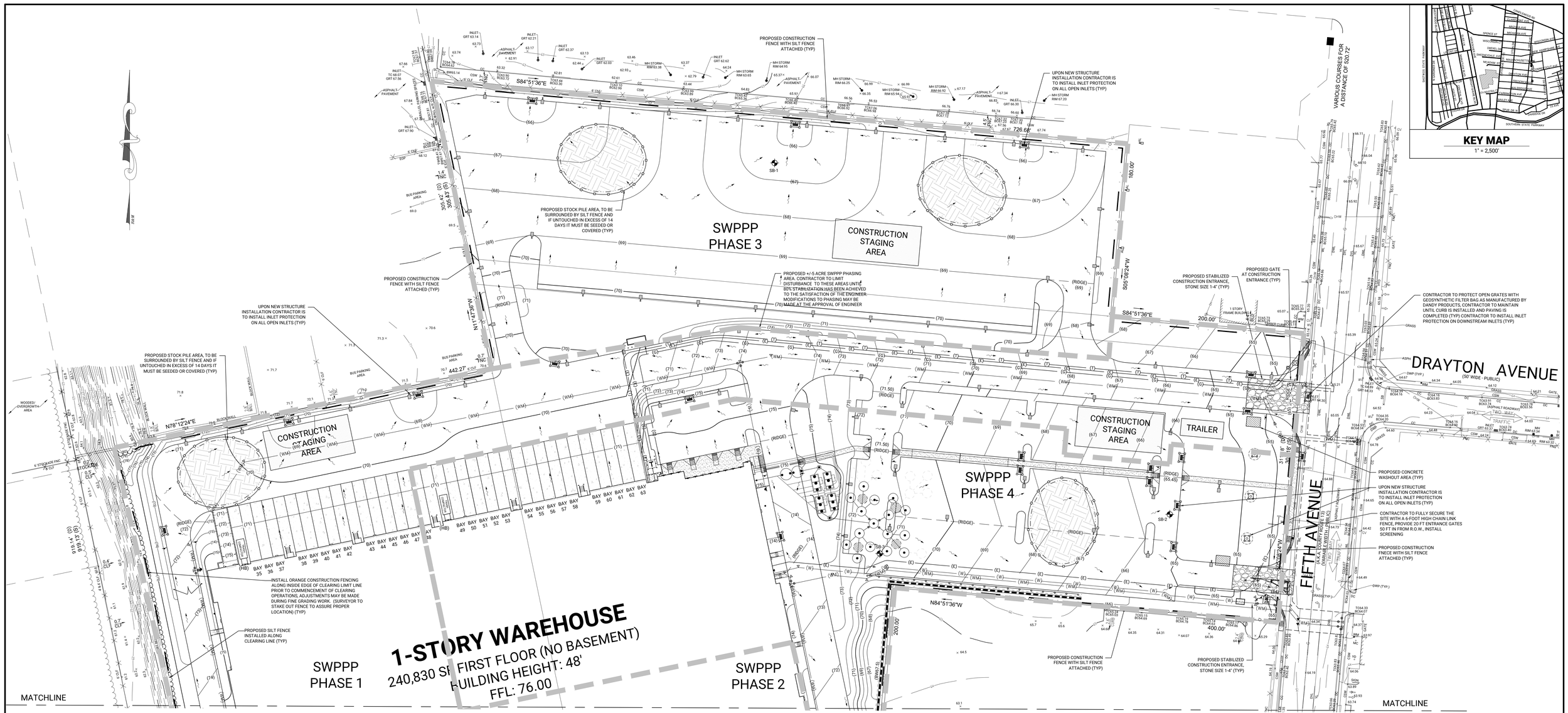
Signature:

Date: 6/11/2025

VI. Additional Information

[1] Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.

Provided Plans (See map Pocket)



EROSION CONTROL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NEW YORK STATE DEC GUIDELINES FOR URBAN EROSION AND SEDIMENT CONTROL MANUAL AND THE NEW YORK STATE STORMWATER MANAGEMENT DESIGN MANUAL, LATEST EDITIONS. CONTRACTOR SHALL REFER TO THESE GUIDELINES FOR ADDITIONAL INFORMATION.
2. CONTRACTOR SHALL ONLY CLEAR AND GRUB AREAS WITHIN THE LIMITS OF CLEARING.
3. CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN EROSION CONTROL MEASURES FOR THE DURATION OF THE PROJECT AND/OR A.O.B.E. OR MUNICIPAL AGENCY HAVING JURISDICTION ON A DAILY BASIS.
4. PERIMETER SLOPES - ALL EMBANKMENT SIDE SLOPES SHALL NOT EXCEED A MAXIMUM 3:1 RATIO.
5. CONSTRUCTION AND WASTE MATERIALS SHALL BE STORED IN ROLL-OFF CONTAINERS TO BE CARTED OFF-SITE BY LICENSED WASTE HAULER WEEKLY.
6. DOUBLE CONTAINMENT TANKS SHALL BE UTILIZED BY THE CONTRACTOR WHEN STORING POTENTIAL POLLUTANTS ON-SITE TO MINIMIZE EXPOSURE OF THESE MATERIALS TO STORM WATER.
7. LANDSCAPING AS PER THE TOWN OF ISLIP APPROVED PLAN SHALL BE INSTALLED AND MAINTAINED AS A PERMANENT STRUCTURAL AND VEGETATIVE MEASURE FOR SOIL STABILIZATION, RUNOFF CONTROL AND SEDIMENT CONTROL.

SWPPP LEGEND

- FILTER FABRIC DROP INLET CONTROL (TO BE INSTALLED ON ALL ON-SITE OPEN INLETS) OPTION: STORM SOK AS MANUFACTURED BY STORMWATERWORKS OR APPROVED EQUAL
- STORM SOK, DANDY CURB SACK OR APPROVED EQUAL INLET CONTROL (TO BE INSTALLED ON OFF-SITE OPEN INLETS)
- SILT FENCE PROTECTION BARRIER
- SITE CONSTRUCTION FENCE
- CONSTRUCTION ENTRANCE
- CONSTRUCTION STAGING AREA
- PROPOSED FLOW ARROW
- (ODB) OIL & DEBRIS BLOCKER AS MANUFACTURED BY CAMPBELL FOUNDRY, (TO BE INSTALLED ON ALL CATCH BASINS)

Know what's below. Call before you dig.

CAUTION-NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION WORK COMMENCES. THE CONTRACTOR SHALL RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

THIS SITE PLAN IS BASED ON A SURVEY BY GALLAS SURVEYING GROUP DATED MARCH 02, 2022.

SEQUENCE OF CONSTRUCTION

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PUT IN PLACE PRIOR TO THE START OF ANY GROUND DISTURBANCES. THE INSTALLATION OF THE TEMPORARY CONTROL DEVICES WILL BE COMPLETED IN ACCORDANCE WITH BOTH THE INFORMATION AND DETAILS SHOWN ON THE CIVIL-SITE PLANS FOR THE PROJECT.
2. INSTALL IN ACCORDANCE WITH THE MANUAL OF NEW YORK GUIDELINES FOR URBAN EROSION AND SEDIMENT CONTROL, ANY REQUIRED ADDITIONAL EROSION CONTROL DEVICES THAT MAY BE REQUIRED BY THE ENGINEER.
3. TEMPORARILY STABILIZE ALL LANDSCAPING AREAS BY SEEDING AND PROVIDE SILT FENCING ALONG BOTTOM OF ALL SLOPES.
4. TEMPORARILY STABILIZE ALL STOCKPILED MATERIALS BY SEEDING AND/OR SILT FENCES AROUND THE BASE OF THE STOCKPILED MATERIALS.
5. COMPLETE FINAL STABILIZATION OF DISTURBED AREAS.
6. MAINTAIN ALL EROSION CONTROL DEVICES FOR THE DURATION OF THE CONSTRUCTION WORK BY CLEANING, REPAIRING AND/OR REPLACING THE CONTROL MEASURES AS MAY BE NECESSARY OR AS DIRECTED BY THE ENGINEER.
7. IMMEDIATELY CLEANUP MATERIALS SPILLED, DROPPED, WASHED OR TRACKED ONTO ANY PAVED SURFACES BEYOND THE LIMITS OF THE PROJECT.
8. THE APPLICANT OR DEVELOPER OR HIS OR HER REPRESENTATIVE SHALL BE ON SITE AT ALL TIMES WHEN CONSTRUCTION OR GRADING ACTIVITY TAKES PLACE AND SHALL INSPECT AND DOCUMENT THE EFFECTIVENESS OF ALL EROSION AND SEDIMENT CONTROL PRACTICES. INSPECTION REPORTS SHALL BE COMPLETED EVERY SEVEN DAYS AND WITHIN 24 HOURS OF ANY STORM EVENT PRODUCTING 0.5 INCHES OF PRECIPITATION OR MORE. WHEN AREA OF DISTUBANCE IS 5 ACRES INSPECTIONS SHALL TAKE PLACE TWICE AT TWO DAY INTERVALS. THE REPORTS SHALL BE DELIVERED TO THE ENGINEERING DIVISION AND ALSO COPIED TO THE SITE LOG BOOK.
9. FOR PURPOSES OF TOWN OF ISLIP CODE COMPLIANCE, TOWN PERSONNEL, INCLUDING BUT NOT LIMITED TO BUILDING INSPECTORS, ORDINANCE INSPECTORS, ENGINEERING INSPECTORS, HIGHWAY/DPW PERSONNEL, PLANNING PERSONNEL, AND/OR REPRESENTATIVES FROM THE DEPARTMENT OF ENVIRONMENTAL CONTROL, ARE AUTHORIZED TO ACCESS CONSTRUCTION SITE.
10. THE SWPPP WILL BE AVAILABLE ON-SITE AT ALL TIMES ALONG WITH RELATED PLANS. THE PROJECT SPONSOR SHALL EXPLAIN THE SWPPP REQUIREMENTS TO ALL CONSTRUCTION PERSONNEL AND SUBCONTRACTORS. A SIGN SHALL BE PLACED ON THE SITE INDICATING WHERE THE SWPPP CAN BE VIEWED.
11. NO VEGETATION AND/OR TREES MAY BE CLEARED WITHOUT FIRST RECEIVING A MARKOUT FROM PLANNING AND/OR ENGINEERING INSPECTORS. EXISTING VEGETATION AND TREES SHALL REMAIN IN PLACE UNTIL AFTER CONSTRUCTION IS COMPLETE. ONLY VEGETATION AND TREES SPECIFICALLY IN THE PATH OF CONSTRUCTION ACTIVITY MAY BE REMOVED.
12. NO EARTH, FILL OR CONSTRUCTION MATERIAL SHALL BE ALLOWED TO MIGRATE OFF SITE FROM THIS PROJECT ON TO THE TOWN OF ISLIP ROADWAY AND/OR STORM DRAIN SYSTEM OR AN ADJACENT PROPERTY.
13. NO FILL SHALL BE BROUGHT INTO A SITE WITHOUT THE EXPRESS APPROVAL OF A BUILDING OR ENGINEERING INSPECTOR. PILES OF FILL SHALL BE STABILIZED AND/OR CONTAINED WITH GRASS SEED, SILT FENCES, OR OTHER APPROVED METHODS.
14. AT THE END OF EACH WORKDAY THE ADJACENT ROADWAY AND/OR STORM DRAIN SYSTEM SHALL BE SELF-INSPECTED FOR MATERIAL. ALL CONSTRUCTION SITES AND ADJACENT ROADWAYS SHALL BE CLEARED OF SOIL AND OTHER MATERIAL AT THE END OF EACH DAY.
15. ALL CONSTRUCTION AND DEMOLITION DEBRIS AND MATERIALS, INCLUDING WET CONCRETE, SHALL BE DISPOSED OF AT AN APPROPRIATE FACILITY IN ACCORDANCE WITH ALL TOWN OF ISLIP AND NYSDEC SOLID WASTE MANAGEMENT REGULATIONS. THE DISCHARGE OF ANY LIQUID, SEMI-LIQUID, OR OTHER MATERIALS FROM A CONSTRUCTION SITE INTO STORM DRAINS, ROADWAYS, OR VACANT PROPERTY IS GROUNDS FOR A VIOLATION. ON-SITE CONCRETE WASHOUT FACILITY TO BE PROVIDED AND UTILIIZED. APPROPRIATE TRASH ROLL-OFF CONTAINERS TO BE USED FOR DEBRIS HOLDING, SEE GENERAL STORMWATER PREVENTION NOTE 11.
16. LITTER SHALL BE PICKED UP ON A DAILY BASIS FROM THE SITE, ADJACENT PROPERTIES AND/OR THE ROAD SYSTEM.
17. TOILET FACILITIES (EITHER PORTABLE OR EXISTING) SHALL BE PROVIDED FOR THE WORKERS ON THE SITE DURING THE CONSTRUCTION PERIOD.
18. ALL MUNICIPAL OR PRIVATE DRAINAGE INLETS ADJACENT TO AREA OF CONSTRUCTION SHALL BE PROTECTED FROM POLLUTANTS THROUGH THE USE OF PRODUCTS/SPONGES DESIGNED FOR THIS PURPOSE. SEE PLAN AND SWPPP LEGEND FOR SPECIFIC PRODUCTS.
19. ON AREAS, OF STEEP SLOPES AND AREAS CLEARED OF VEGETATION, SUITABLE STABILIZATION METHODS, AS SHOWN ON APPROVED SITE PLANS AND STORMWATER POLLUTION PREVENTION PLANS (SWPPP), SHALL BE EMPLOYED TO PREVENT SOIL MIGRATION AND STORMWATER RUNOFF.
20. SLOPES THAT ERODE EASILY OR WILL NOT BE DISTURBED FOR MORE THAN 14 DAYS SHALL BE TEMPORARY SEEDED AS THE WORK PROGRESSES WITH A WHEAT, RYE, OATS APPLICATION, OR AS OTHERWISE ORDERED BY ENGINEER.
21. THE APPLICANT OR DEVELOPER OF THE LAND DEVELOPMENT ACTIVITY SHALL AT ALL TIMES PROPERLY OPERATE AND MAINTAIN ALL FACILITIES AND SYSTEMS OF TREATMENT AND CONTROL (AND RELATED APPURTENANCES) WHICH ARE INSTALLED OR USED BY THE APPLICANT OR DEVELOPER TO ACHIEVE COMPLIANCE WITH THE CONDITIONS OF THIS CHAPTER. SEDIMENT SHALL BE REMOVED FROM STORMWATER STRUCTURES WHENEVER THEIR DESIGN CAPACITY HAS BEEN REDUCED BY 50%. STREET SWEEPING BY BROOM OR MACHINE OR OTHER SUITABLE MEANS OF CLEANUP SHALL BE CONDUCTED DAILY AS NECESSARY FOR ANY SEDIMENT OR MATERIAL THAT HAS INADVERTENTLY MIGRATED OFF SITE. LITTER SHALL ALSO BE REMOVED ON A DAILY BASIS FROM THE SITE OR OFF SITE.
22. ALL STORM DRAINAGE SYSTEMS PROTECTED OR IMPACTED BY THIS CONSTRUCTION ACTIVITY SHALL BE CLEANED AND INSPECTED AT THE CONCLUSION OF CONSTRUCTION TO THE SATISFACTION OF THE ISLIP ENGINEERING FIELD INSPECTOR.

GENERAL STORMWATER PREVENTION NOTES

1. THE CONTRACTOR SHALL MAINTAIN THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) ON SITE IN ACCORDANCE WITH PROVISION OF THE NEW YORK STATE STORMWATER MANAGEMENT PROGRAM AS ADMINISTERED BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
2. THE CONTRACTOR SHALL REVIEW SITE CONDITIONS THROUGHOUT DURATION OF PROJECT, MONITOR, MODIFY AND UPDATE ONGOING EROSION PROTECTION MEASURES AS NECESSARY.
3. ALL REQUIRED MODIFICATIONS TO THE SWPPP MUST BE COMPLETED WITHIN SEVEN (7) DAYS OF NOTIFICATION. CONTRACTOR SHALL KEEP DISTURBED AREAS TO A MINIMUM REQUIRED TO ADEQUATELY PERFORM THE WORK. AT ALL TIMES THE CONTRACTOR SHALL MAINTAIN THE SITE IN SUCH A MANNER THAT MINIMIZES EROSION OF THE SITE. PLACE EROSION CONTROL SYSTEMS IN ACCORDANCE WITH SOUND JUDGMENT AND GOOD CONSTRUCTION PRACTICE OR AS ORDERED BY THE TOWN, DEC OR ENGINEER.
4. THE OWNER AND/OR ENGINEER HAS THE AUTHORITY TO LIMIT THE SURFACE AREA OF ERODABLE EARTH MATERIAL EXPOSED BY CLEARING AND GRUBBING, EXCAVATION, BORROW AND EMBANKMENT OPERATIONS AND TO DIRECT THE CONTRACTOR TO PROVIDE IMMEDIATE PERMANENT OR TEMPORARY POLLUTION CONTROL MEASURES. THE CONTRACTOR WILL BE REQUIRED TO INCORPORATE ALL PERMANENT EROSION CONTROL FEATURES INTO THE PROJECT AT THE EARLIEST PRACTICAL TIME TO MINIMIZE THE NEED FOR TEMPORARY CONTROLS. CUT SLOPES SHALL BE PERMANENTLY SEEDED AND MULCHED AS THE EXCAVATION PROCEEDS TO THE EXTENT CONSIDERED DESIRABLE AND PRACTICAL.
5. THE TEMPORARY EROSION CONTROL SYSTEMS INSTALLED BY THE CONTRACTOR SHALL BE MAINTAINED AS DIRECTED BY THE OWNER AND/OR ENGINEER TO CONTROL SILTATION AT ALL TIMES DURING THE LIFE OF THE CONTRACT. THE CONTRACTOR MUST RESPOND TO ANY MAINTENANCE OR ADDITIONAL WORK ORDERED BY THE OWNER WITHIN A 48-HOUR PERIOD.
6. SLOPES THAT ERODE EASILY OR WILL NOT BE DISTURBED FOR MORE THAN 14 DAYS SHALL BE TEMPORARY SEEDED AS THE WORK PROGRESSES WITH A WHEAT, RYE, OATS APPLICATION, OR AS OTHERWISE ORDERED BY ENGINEER.
7. ALL PERIMETER EROSION CONTROL BARRIERS REQUIRED UNDER THE PROJECT SWPPP SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY.
8. THE BARRIERS SHALL BE SILT FENCE, OR BIO BAGS PLACED AS SHOWN ON THE DRAWINGS AND DETAILS.
9. BARRIERS SHALL BE MAINTAINED IN GOOD WORKING CONDITION AND REPLACED WHEN DAMAGED.
10. FILTER FABRIC INLET PROTECTION SHALL BE PLACED AT ALL CATCH BASINS AND DRAINAGE INLETS WHERE SITE DRAINAGE IS DIRECTED.
11. CONSTRUCTION AND WASTE MATERIALS SHALL BE STORED IN 5 CUBIC YARD MINIMUM CONTAINERS TO BE CARTED OFF-SITE BY LICENSED WASTE HAULER.
12. DOUBLE CONTAINMENT TANKS SHALL BE UTILIZED BY THE CONTRACTOR WHEN STORING POTENTIAL POLLUTANTS ON-SITE TO MINIMIZE EXPOSURE OF THESE MATERIALS TO STORM WATER.
13. PERMANENT LANDSCAPING IN ACCORDANCE WITH THE APPROVED LANDSCAPE PLAN SHALL BE INSTALLED AND MAINTAINED AS SOON AS PRACTICABLE AS A PERMANENT STRUCTURAL AND VEGETATIVE MEASURE FOR SOIL STABILIZATION, RUNOFF CONTROL AND SEDIMENT CONTROL.
14. THE CONTRACTOR SHALL BE BOUND BY THE PROVISIONS OUTLINED IN THE SWPPP NARRATIVE REPORT AS PREPARED BY R&M ENGINEERING AND THE NYSDEC SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY (GP-20-001).
15. THE CONTRACTOR WILL BE PROVIDED WITH A COPY OF THE REPORT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE REPORT MUST BE AVAILABLE ON SITE AND UPDATED IN ACCORDANCE WITH REVISIONS WITHIN.
16. CONTRACTOR TO PROVIDE 18" OIL/DEBRIS SNOUT WITH BIO-SKIRT FOR ALL CATCH BASINS IN DEPRESSED LOADING AREAS AS MEANS OF NON-POINT SOURCE POLLUTION MITIGATION TECHNIQUES AS REQUIRED BY TC5064(3)b.2.

0 40 80
SCALE: 1" = 40'

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11.	REVISED PER TOI COMMENTS	12-17-24	AR
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2.	GENERAL REVISIONS	04-21-23	M,JM
1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
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PARTIAL SWPPP PLAN

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

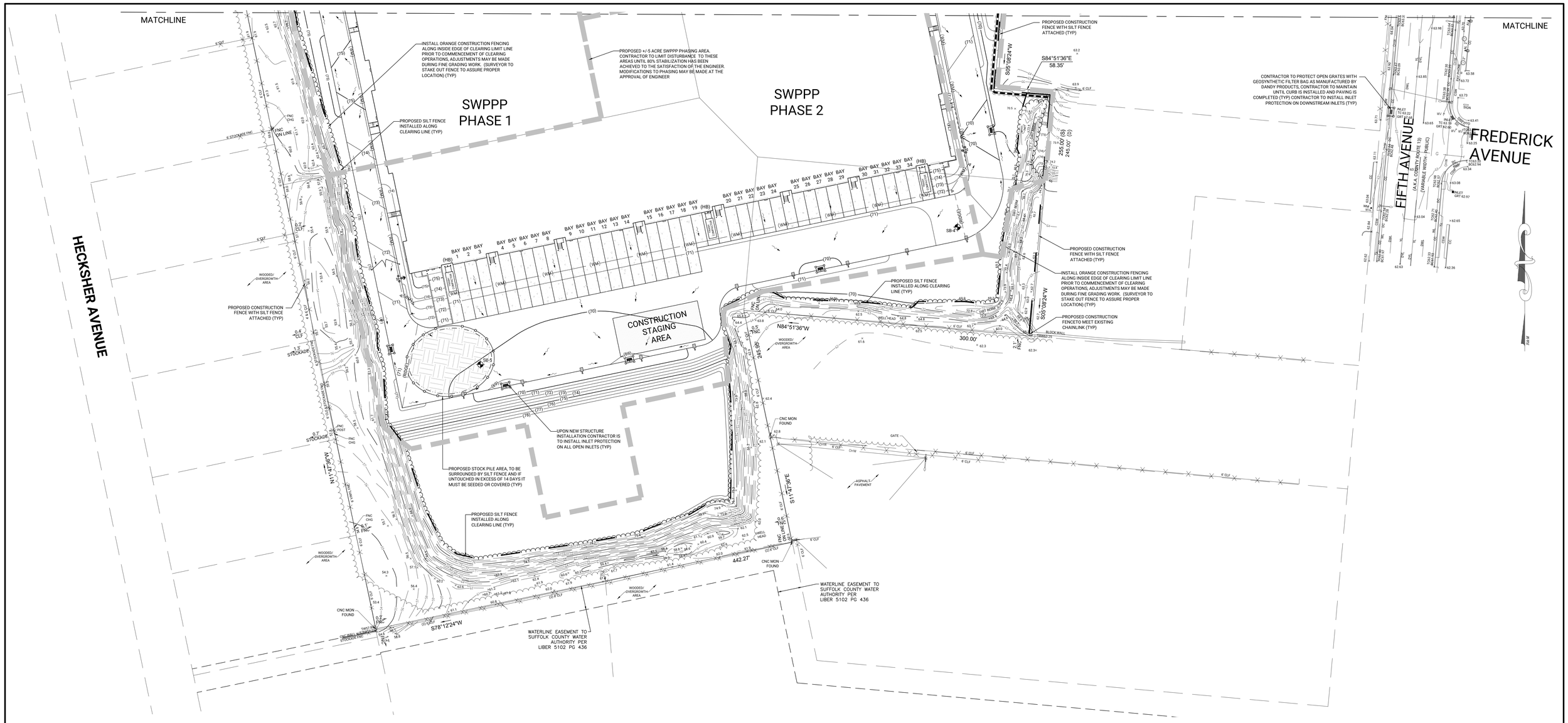
SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

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DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	1" = 40'	SHEET:	SP-9A
DATE:	08-20-22	DATE:	09-12-22	JOB No.:	2022-001		

Drawing Name: P:\2022 Projects\2022-001\CAD\2025-06-04 (2022-001) 5th Avenue Site Plan (24X36) Rev.12.dwg Last Modified: Jun 12, 2025 - 1:43pm Plotted on: Jun 12, 2025 - 1:57pm by jbrebenstein



EROSION CONTROL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NEW YORK STATE DEC GUIDELINES FOR URBAN EROSION AND SEDIMENT CONTROL MANUAL AND THE NEW YORK STATE STORMWATER MANAGEMENT DESIGN MANUAL, LATEST EDITIONS. CONTRACTOR SHALL REFER TO THESE GUIDELINES FOR ADDITIONAL INFORMATION.
2. CONTRACTOR SHALL ONLY CLEAR AND GRUB AREAS WITHIN THE LIMITS OF CLEARING.
3. CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN EROSION CONTROL MEASURES FOR THE DURATION OF THE PROJECT AND/OR A.O.B.E. OR MUNICIPAL AGENCY HAVING JURISDICTION ON A DAILY BASIS.
4. PERIMETER SLOPES - ALL EMBANKMENT SIDE SLOPES SHALL NOT EXCEED A MAXIMUM 3:1 RATIO.
5. CONSTRUCTION AND WASTE MATERIALS SHALL BE STORED IN ROLL-OFF CONTAINERS TO BE CARTED OFF-SITE BY LICENSED WASTE HAULER WEEKLY.
6. DOUBLE CONTAINMENT TANKS SHALL BE UTILIZED BY THE CONTRACTOR WHEN STORING POTENTIAL POLLUTANTS ON-SITE TO MINIMIZE EXPOSURE OF THESE MATERIALS TO STORM WATER.
7. LANDSCAPING AS PER THE TOWN OF ISLIP APPROVED PLAN SHALL BE INSTALLED AND MAINTAINED AS A PERMANENT STRUCTURAL AND VEGETATIVE MEASURE FOR SOIL STABILIZATION, RUNOFF CONTROL AND SEDIMENT CONTROL.

SWPPP LEGEND

- FILTER FABRIC DROP INLET CONTROL (TO BE INSTALLED ON ALL ON-SITE OPEN INLETS) OPTION: STORM SOK AS MANUFACTURED BY STORMWATERWORKS OR APPROVED EQUAL
- STORM SOK, DANDY CURB SACK OR APPROVED EQUAL INLET CONTROL (TO BE INSTALLED ON OFF-SITE OPEN INLETS)
- SILT FENCE PROTECTION BARRIER
- SITE CONSTRUCTION FENCE
- CONSTRUCTION ENTRANCE
- CONSTRUCTION STAGING AREA
- PROPOSED FLOW ARROW
- (ODB) OIL & DEBRIS BLOCKER AS MANUFACTURED BY CAMPBELL FOUNDRY, (TO BE INSTALLED ON ALL CATCH BASINS)

Know what's below. Call before you dig.

CAUTION-NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION WORK COMMENCES. THE CONTRACTOR SHALL RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

THIS SITE PLAN IS BASED ON A SURVEY BY GALLAS SURVEYING GROUP DATED MARCH 02, 2022.

SEQUENCE OF CONSTRUCTION

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PUT IN PLACE PRIOR TO THE START OF ANY GROUND DISTURBANCES. THE INSTALLATION OF THE TEMPORARY CONTROL DEVICES WILL BE COMPLETED IN ACCORDANCE WITH BOTH THE INFORMATION AND DETAILS SHOWN ON THE CIVIL-SITE PLANS FOR THE PROJECT.
2. INSTALL IN ACCORDANCE WITH THE MANUAL OF NEW YORK GUIDELINES FOR URBAN EROSION AND SEDIMENT CONTROL, ANY REQUIRED ADDITIONAL EROSION CONTROL DEVICES THAT MAY BE REQUIRED BY THE ENGINEER.
3. TEMPORARILY STABILIZE ALL LANDSCAPING AREAS BY SEEDING AND PROVIDE SILT FENCING ALONG BOTTOM OF ALL SLOPES.
4. TEMPORARILY STABILIZE ALL STOCKPILED MATERIALS BY SEEDING AND/OR SILT FENCES AROUND THE BASE OF THE STOCKPILED MATERIALS.
5. COMPLETE FINAL STABILIZATION OF DISTURBED AREAS.
6. MAINTAIN ALL EROSION CONTROL DEVICES FOR THE DURATION OF THE CONSTRUCTION WORK BY CLEANING, REPAIRING AND/OR REPLACING THE CONTROL MEASURES AS MAY BE NECESSARY OR AS DIRECTED BY THE ENGINEER.
7. IMMEDIATELY CLEANUP MATERIALS SPILLED, DROPPED, WASHED OR TRACKED ONTO ANY PAVED SURFACES BEYOND THE LIMITS OF THE PROJECT.
8. THE APPLICANT OR DEVELOPER OR HIS OR HER REPRESENTATIVE SHALL BE ON SITE AT ALL TIMES WHEN CONSTRUCTION OR GRADING ACTIVITY TAKES PLACE AND SHALL INSPECT AND DOCUMENT THE EFFECTIVENESS OF ALL EROSION AND SEDIMENT CONTROL PRACTICES. INSPECTION REPORTS SHALL BE COMPLETED EVERY SEVEN DAYS AND WITHIN 24 HOURS OF ANY STORM EVENT PRODUCTING 0.5 INCHES OF PRECIPITATION OR MORE. WHEN AREA OF DISTUBANCE IS 5 ACRES INSPECTIONS SHALL TAKE PLACE TWICE AT TWO DAY INTERVALS, THE REPORTS SHALL BE DELIVERED TO THE ENGINEERING DIVISION AND ALSO COPIED TO THE SITE LOG BOOK.
9. FOR PURPOSES OF TOWN OF ISLIP CODE COMPLIANCE, TOWN PERSONNEL, INCLUDING BUT NOT LIMITED TO BUILDING INSPECTORS, ORDINANCE INSPECTORS, ENGINEERING INSPECTORS, HIGHWAY/DPW PERSONNEL, PLANNING PERSONNEL, AND/OR REPRESENTATIVES FROM THE DEPARTMENT OF ENVIRONMENTAL CONTROL, ARE AUTHORIZED TO ACCESS CONSTRUCTION SITE.
10. THE SWPPP WILL BE AVAILABLE ON-SITE AT ALL TIMES ALONG WITH RELATED PLANS. THE PROJECT SPONSOR SHALL EXPLAIN THE SWPPP REQUIREMENTS TO ALL CONSTRUCTION PERSONNEL AND SUBCONTRACTORS. A SIGN SHALL BE PLACED ON THE SITE INDICATING WHERE THE SWPPP CAN BE VIEWED.
11. NO VEGETATION AND/OR TREES MAY BE CLEARED WITHOUT FIRST RECEIVING A MARKOUT FROM PLANNING AND/OR ENGINEERING INSPECTORS. EXISTING VEGETATION AND TREES SHALL REMAIN IN PLACE UNTIL AFTER CONSTRUCTION IS COMPLETE. ONLY VEGETATION AND TREES SPECIFICALLY IN THE PATH OF CONSTRUCTION ACTIVITY MAY BE REMOVED.
12. NO EARTH, FILL OR CONSTRUCTION MATERIAL SHALL BE ALLOWED TO MIGRATE OFF SITE FROM THIS PROJECT ON TO THE TOWN OF ISLIP ROADWAY AND/OR STORM DRAIN SYSTEM OR AN ADJACENT PROPERTY.
13. NO FILL SHALL BE BROUGHT INTO A SITE WITHOUT THE EXPRESS APPROVAL OF A BUILDING OR ENGINEERING INSPECTOR. PILES OF FILL SHALL BE STABILIZED AND/OR CONTAINED WITH GRASS SEED, SILT FENCES, OR OTHER APPROVED METHODS.
14. AT THE END OF EACH WORKDAY THE ADJACENT ROADWAY AND/OR STORM DRAIN SYSTEM SHALL BE SELF-INSPECTED FOR MATERIAL. ALL CONSTRUCTION SITES AND ADJACENT ROADWAYS SHALL BE CLEARED OF SOIL AND OTHER MATERIAL AT THE END OF EACH DAY.
15. ALL CONSTRUCTION AND DEMOLITION DEBRIS AND MATERIALS, INCLUDING WET CONCRETE, SHALL BE DISPOSED OF AT AN APPROPRIATE FACILITY IN ACCORDANCE WITH ALL TOWN OF ISLIP AND NYSDEC SOLID WASTE MANAGEMENT REGULATIONS. THE DISCHARGE OF ANY LIQUID, SEMI-LIQUID, OR OTHER MATERIALS FROM A CONSTRUCTION SITE INTO STORM DRAINS, ROADWAYS, OR VACANT PROPERTY IS GROUNDS FOR A VIOLATION. ON-SITE CONCRETE WASHOUT FACILITY TO BE PROVIDED AND UTILIIZED. APPROPRIATE TRASH ROLL-OFF CONTAINERS TO BE USED FOR DEBRIS HOLDING, SEE GENERAL STORMWATER PREVENTION NOTE 11.
16. LITTER SHALL BE PICKED UP ON A DAILY BASIS FROM THE SITE, ADJACENT PROPERTIES AND/OR THE ROAD SYSTEM.
17. TOILET FACILITIES (EITHER PORTABLE OR EXISTING) SHALL BE PROVIDED FOR THE WORKERS ON THE SITE DURING THE CONSTRUCTION PERIOD.
18. ALL MUNICIPAL OR PRIVATE DRAINAGE INLETS ADJACENT TO AREA OF CONSTRUCTION SHALL BE PROTECTED FROM POLLUTANTS THROUGH THE USE OF PRODUCTS/SPONGES DESIGNED FOR THIS PURPOSE. SEE PLAN AND SWPPP LEGEND FOR SPECIFIC PRODUCTS.
19. ON AREAS, OF STEEP SLOPES AND AREAS CLEARED OF VEGETATION, SUITABLE STABILIZATION METHODS, AS SHOWN ON APPROVED SITE PLANS AND STORMWATER POLLUTION PREVENTION PLANS (SWPPP), SHALL BE EMPLOYED TO PREVENT SOIL MIGRATION AND STORMWATER RUNOFF.
20. SLOPES THAT ERODE EASILY OR WILL NOT BE DISTURBED FOR MORE THAN 14 DAYS SHALL BE TEMPORARY SEEDED AS THE WORK PROGRESSES WITH A WHEAT, RYE, OATS APPLICATION, OR AS OTHERWISE ORDERED BY ENGINEER.
21. THE APPLICANT OR DEVELOPER OF THE LAND DEVELOPMENT ACTIVITY SHALL AT ALL TIMES PROPERLY OPERATE AND MAINTAIN ALL FACILITIES AND SYSTEMS OF TREATMENT AND CONTROL (AND RELATED APPURTENANCES) WHICH ARE INSTALLED OR USED BY THE APPLICANT OR DEVELOPER TO ACHIEVE COMPLIANCE WITH THE CONDITIONS OF THIS CHAPTER. SEDIMENT SHALL BE REMOVED FROM STORMWATER STRUCTURES WHENEVER THEIR DESIGN CAPACITY HAS BEEN REDUCED BY 50%. STREET SWEEPING BY BROOM OR MACHINE OR OTHER SUITABLE MEANS OF CLEANUP SHALL BE CONDUCTED DAILY AS NECESSARY FOR ANY SEDIMENT OR MATERIAL THAT HAS INADVERTENTLY MIGRATED OFF SITE. LITTER SHALL ALSO BE REMOVED ON A DAILY BASIS FROM THE SITE OR OFF SITE.
22. ALL STORM DRAINAGE SYSTEMS PROTECTED OR IMPACTED BY THIS CONSTRUCTION ACTIVITY SHALL BE CLEANED AND INSPECTED AT THE CONCLUSION OF CONSTRUCTION TO THE SATISFACTION OF THE ISLIP ENGINEERING FIELD INSPECTOR.

GENERAL STORMWATER PREVENTION NOTES

1. THE CONTRACTOR SHALL MAINTAIN THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) ON SITE IN ACCORDANCE WITH PROVISION OF THE NEW YORK STATE STORMWATER MANAGEMENT PROGRAM AS ADMINISTERED BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
2. THE CONTRACTOR SHALL REVIEW SITE CONDITIONS THROUGHOUT DURATION OF PROJECT, MONITOR, MODIFY AND UPDATE ONGOING EROSION PROTECTION MEASURES AS NECESSARY.
3. ALL REQUIRED MODIFICATIONS TO THE SWPPP MUST BE COMPLETED WITHIN SEVEN (7) DAYS OF NOTIFICATION. CONTRACTOR SHALL KEEP DISTURBED AREAS TO A MINIMUM REQUIRED TO ADEQUATELY PERFORM THE WORK. AT ALL TIMES THE CONTRACTOR SHALL MAINTAIN THE SITE IN SUCH A MANNER THAT MINIMIZES EROSION OF THE SITE. PLACE EROSION CONTROL SYSTEMS IN ACCORDANCE WITH SOUND JUDGMENT AND GOOD CONSTRUCTION PRACTICE OR AS ORDERED BY THE TOWN, DEC OR ENGINEER.
4. THE OWNER AND/OR ENGINEER HAS THE AUTHORITY TO LIMIT THE SURFACE AREA OF ERODABLE EARTH MATERIAL EXPOSED BY CLEARING AND GRUBBING, EXCAVATION, BORROW AND EMBANKMENT OPERATIONS AND TO DIRECT THE CONTRACTOR TO PROVIDE IMMEDIATE PERMANENT OR TEMPORARY POLLUTION CONTROL MEASURES. THE CONTRACTOR WILL BE REQUIRED TO INCORPORATE ALL PERMANENT EROSION CONTROL FEATURES INTO THE PROJECT AT THE EARLIEST PRACTICAL TIME TO MINIMIZE THE NEED FOR TEMPORARY CONTROLS. CUT SLOPES SHALL BE PERMANENTLY SEEDED AND MULCHED AS THE EXCAVATION PROCEEDS TO THE EXTENT CONSIDERED DESIRABLE AND PRACTICAL.
5. THE TEMPORARY EROSION CONTROL SYSTEMS INSTALLED BY THE CONTRACTOR SHALL BE MAINTAINED AS DIRECTED BY THE OWNER AND/OR ENGINEER TO CONTROL SILTATION AT ALL TIMES DURING THE LIFE OF THE CONTRACT. THE CONTRACTOR MUST RESPOND TO ANY MAINTENANCE OR ADDITIONAL WORK ORDERED BY THE OWNER WITHIN A 48-HOUR PERIOD.
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9. BARRIERS SHALL BE MAINTAINED IN GOOD WORKING CONDITION AND REPLACED WHEN DAMAGED.
10. FILTER FABRIC INLET PROTECTION SHALL BE PLACED AT ALL CATCH BASINS AND DRAINAGE INLETS WHERE SITE DRAINAGE IS DIRECTED.
11. CONSTRUCTION AND WASTE MATERIALS SHALL BE STORED IN 5 CUBIC YARD MINIMUM CONTAINERS TO BE CARTED OFF-SITE BY LICENSED WASTE HAULER.
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14. THE CONTRACTOR SHALL BE BOUND BY THE PROVISIONS OUTLINED IN THE SWPPP NARRATIVE REPORT AS PREPARED BY R&M ENGINEERING AND THE NYSDEC SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY (GP-20-001).
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PARTIAL SWPPP PLAN

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
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Drawing Name: P:\2022 Projects\2022-001\R&M\2025-06-04 (2022-001) 5th Avenue Site Plan (2405) Rev.12.dwg Last Modified: Jun 12, 2025 - 1:43pm Plotted on: Jun 12, 2025 - 2:10pm by jbrebenstein

EROSION CONTROL AND LANDSCAPING NOTES

SPECIFICATIONS AND GUIDELINES

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NEW YORK STATE GUIDELINES FOR URBAN EROSION AND SEDIMENT CONTROL MANUAL, LATEST EDITION.

EROSION CONTROL

CONSTRUCT ALL SWALES AND BERMS AS SHOWN OR AS REQUIRED TO DIRECT AND CONTROL STORMWATER RUNOFF AND PREVENT EXCESS EROSION. 33% (3 :1) SLOPES STEEPER THAN (3:1) SHALL BE STABILIZED BY HYDROSEEDED WITH MULCH BINDER TYPE "AH", TYPE "A" OR BY USING JUTE MESH AS LISTED IN THE EROSION MANUAL OR AS SPECIFIED BY THE ENGINEER

TOPSOIL

ALL DISTURBED SOIL AREAS, EXCLUDING PAVED AREAS AND RECHARGE BASINS, MUST BE COVERED WITH A MINIMUM OF 6" (INCHES) OF NATIVE TOPSOIL PRIOR TO THE REMOVAL OF EXCESS TOPSOIL.

LIME AND FERTILIZER

ALL AREAS SPECIFIED TO BE SEEDED SHALL RECEIVE LIME AND SPECIFIED AS RECHARGE BASINS SHALL RECEIVE LIME AND FERTILIZER. FERTILIZER AS SPECIFIED BY EROSION CONTROL MANUAL OR AS ORDERED BY ENGINEER.

MULCHING

ALL AREAS RECEIVING SEED AND ELSEWHERE AS NOTED, SHALL BE MULCHED AND ANCHORED.

TYPE OF SEED, HYDROSEEDING OR ALTERNATE STABILIZATION

TYPE "A" NORMAL LAWN SEEDING

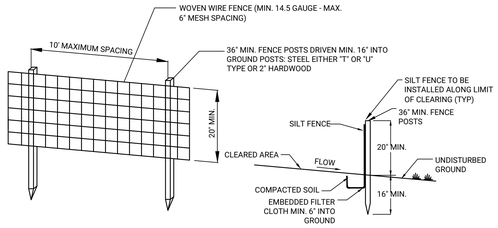
IN THE SPRING OR FALL USE A MIXTURE OF 30% OF MERION BLUE GRASS, 65% CREEPING RED FESCUE AND 5% REDTOP AT A RATE OF 3 LBS. MIN. PER 1,000 SQUARE FEET.

TYPE "B" - HYDROSEED MIX "B"

50% TALL FESCUE
20% SHEEP FESCUE
15% INTERMEDIATE WHEATGRASS
5% RED FESCUE
5% REUBENS CANADA BLUEGRASS
5% KENTUCKY BLUEGRASS

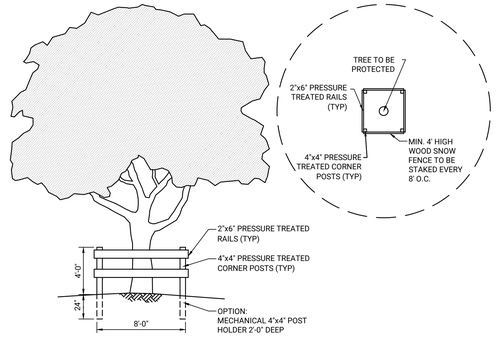
TREE AND SHRUB PLANTING

1. ALL TREES AND SHRUBS SHALL BE PLANTED IN CIRCULAR PITS 1 FOOT CLEAR ON ALL SIDES AND BOTTOM OF ROOT BALL AND BACKFILL WITH A MIXTURE OF 7 PARTS TOPSOIL, 1 PART ROTTED MANURE.
2. ALL PLANT MATERIAL SHALL HAVE VIGOROUS ROOT GROWTH AND BE FREE FROM ROOT INJURY AND DISEASE IN ANY FORM.
3. STREET TREES SHALL NOT BE PLANTED WITHIN 10' OF A FIRE HYDRANT, DRIVEWAY APRON OR STORMWATER PIPE/CATCH BASIN OR WITHIN 25' OF ANY STREET LIGHT, STREET SIGN OR POINT OF CURVATURE OR TANGENCY OF ANY CORNER.
4. ALL EXISTING TREES SHALL REMAIN EXCEPT AS NOTED.
5. A BRIGHTLY COLORED CONSTRUCTION FENCE SHALL BE ERECTED ALONG CONSTRUCTION CLEARING LIMITS AND AROUND EXISTING TREES TO MITIGATE THE IMPACT OF COMPACTION OVER CRITICAL ROOTS, INJURIES TO BARK AND LIMBS, SPILLS OF OIL, CONCRETE OR OTHER HARMFUL CHEMICALS.



SILT FENCE DETAIL

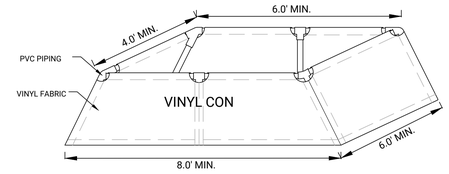
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO (2) SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX (6) INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE. FENCE.



TREE PROTECTION DETAIL

ALL PROTECTION MUST REMAIN UNTIL COMPLETION OF CONSTRUCTION. ANY GRADING (MINOR ONLY ALLOWED) DONE WITHIN THE PROTECTION ZONES SHALL BE DONE WITH ONLY HAND TOOLS.

EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH A MINIMUM 8' x 8' ENCLOSURE CONSTRUCTED AS PER THE ABOVE DETAIL & WITH A WOOD SNOW FENCE TO BE INSTALLED AT A DISTANCE IN FEET FROM THE TREE EQUAL TO THE DIAMETER OF THE TRUNK IN INCHES, MEASURED TWELVE (12) INCHES FROM GRADE.



CONCRETE WASH-OUT

NOTES:

1. CONTRACTOR SHALL PROVIDE A CONCRETE WASH-OUT MODEL VINYL-CON 810 BY RTC SUPPLY 1-530-589-2007 (WEBSITE www.rtcsupply.com) OR APPROVED EQUAL
2. LINERS FOR THE WASHOUT ARE AVAILABLE FROM RTC SUPPLY FOR MULTIBLE USES
3. CONTRACTOR SHALL MAINTAIN UNIT IN WORKING ORDER THROUGHOUT PROJECT DURATION. UNITS SHALL BE CLEANED ANS CONTENTS DISPOSED OF PER NYSDEC REQUIREMENTS. WASTE SHALL NOT EXCEED 75% OF UNIT CAPACITY.
4. UNIT SHALL BE REPLACED IF TORN OR DAMAGED.

DUST CONTROL NOTES

DEFINITION

THE CONTROL OF DUST RESULTING FROM LAND-DISTURBING ACTIVITIES.

PURPOSE

TO PREVENT SURFACE AND AIR MOVEMENT OF DUST FROM DISTURBED SOIL SURFACES THAT MAY CAUSE OFF-SITE DAMAGE, HEALTH HAZARDS AND TRAFFIC SAFETY PROBLEMS.

CONDITIONS WHERE PRACTICE APPLIES

ON CONSTRUCTION ROADS, ACCESS POINTS AND OTHER DISTURBED AREAS SUBJECT TO SURFACE DUST MOVEMENT AND DUST BLOWING WHERE OFF-SITE DAMAGE MAY OCCUR IF DUST IS NOT CONTROLLED.

DESIGN CRITERIA

CONSTRUCTION OPERATIONS SHOULD BE SCHEDULED TO MINIMIZE THE AMOUNT OF AREA DISTURBED AT ONE TIME. BUFFER AREAS OF VEGETATION SHOULD BE LEFT WHERE PRACTICAL. TEMPORARY MEASURES SHOULD BE INSTALLED. NO SPECIFIC DESIGN CRITERIA IS GIVEN; REFER TO CONSTRUCTION SPECIFICATIONS BELOW FOR COMMON METHODS OF DUST CONTROL.

CONSTRUCTION SPECIFICATIONS

VEGETATIVE COVER - FOR DISTURBED AREAS NOT SUBJECT TO TRAFFIC; VEGETATION PROVIDES THE MOST PRACTICAL METHOD OF DUST CONTROL. TEMPORARY SEEDING SHALL BE AS FOLLOWS:

A. RYE GRASS (ANNUAL OR PERENNIAL AT 20 POUNDS PER ACRE (0.7 LBS / 1,000 SF)
B. CERTIFIED "AROOSTOOK" WINTER RYE (CEREAL RYE) AT 100 POUNDS PER ACRE (2.5 LBS / 1,000 SF) USE WINTER RYE IF SEEDING IN OCTOBER OR NOVEMBER.
C. MULCH, INCLUDING GRAVEL MULCH, OFFERS A FAST EFFECTIVE MEANS OF CONTROLLING DUST.

SPRAY ADHESIVES - EXAMPLES OF SPRAY ADHESIVES FOR USE ON MINERAL SOILS ARE SHOWN IN THE FOLLOWING TABLE:

MATERIAL	WATER DILUTION	TYPE OF NOZZLE	APPLICATION GALLONS PER ACRE
ACRYLIC POLYMER	9:1	COURSE SPRAY	500
LATEX EMULSION	12.5:1	FINE SPRAY	235
RESIN IN WATER	4:1	FINE SPRAY	300

WATER QUALITY SHOULD BE CONSIDERED WHEN MATERIALS ARE SELECTED FOR DUST CONTROL.

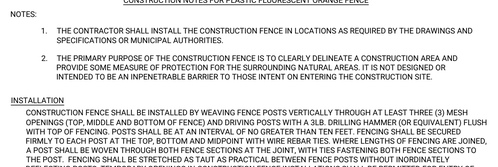
ROADS AND ACCESS ROUTES.

THE USE OF STONE FOR CONSTRUCTION ROADS IS ALSO EFFECTICE FOR DUST CONTROL.

BARRIERS - A FENCE OR SIMILAR BARRIER CAN CONTROL AIR CURRENTS AT INTERVALS EQUAL TO FIFTEEN TIMES THE BARRIER HEIGHT. PRESERVE EXISTING WIND BARRIER VEGETATION AS MUCH AS PRACTICAL.

MAINTENANCE

MAINTAIN DUST CONTROL MEASURES THROUGH DRY WEATHER PERIODS UNTIL ALL DISTURBED AREAS ARE STABILIZED.



CONSTRUCTION FENCE DETAIL

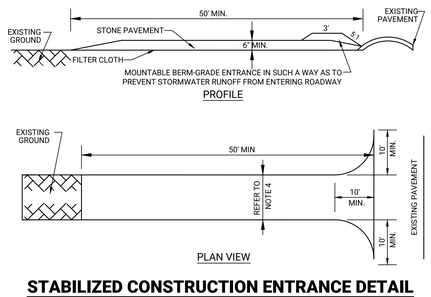
CONSTRUCTION NOTES FOR PLASTIC FLUORESCENT ORANGE FENCE

NOTES:

1. THE CONTRACTOR SHALL INSTALL THE CONSTRUCTION FENCE IN LOCATIONS AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS OR MUNICIPAL AUTHORITIES.
2. THE PRIMARY PURPOSE OF THE CONSTRUCTION FENCE IS TO CLEARLY DELINEATE A CONSTRUCTION AREA AND PROVIDE SOME MEASURE OF PROTECTION FOR THE SURROUNDING NATURAL AREAS. IT IS NOT DESIGNED OR INTENDED TO BE AN INPENETRABLE BARRIER TO THOSE INTENT ON ENTERING THE CONSTRUCTION SITE.

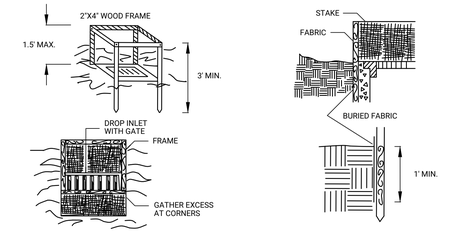
INSTALLATION

CONSTRUCTION FENCE SHALL BE INSTALLED BY WEAVING FENCE POSTS VERTICALLY THROUGH AT LEAST THREE (3) MESH OPENINGS (TOP, MIDDLE AND BOTTOM OF FENCE) AND DRIVING POSTS WITH A 3LB. DRILLING HAMMER (OR EQUIVALENT) FLUSH WITH TOP OF FENCING. POSTS SHALL BE AT AN INTERVAL OF NO GREATER THAN TEN FEET. FENCING SHALL BE SECURED FIRMLY TO EACH POST AT THE TOP, BOTTOM AND MIDPOINT WITH WIRE REBAR TIES. WHERE LENGTHS OF FENCING ARE JOINED, A POST SHALL BE WOVEN THROUGH BOTH FENCE SECTIONS AT THE JOINT, WITH TIES FASTENING BOTH FENCE SECTIONS TO THE POST. FENCING SHALL BE STRETCHED AS TAUT AS PRACTICAL BETWEEN FENCE POSTS WITHOUT INORDINATELY DEFLECTING POSTS. TEMPORARY OPENINGS IN CONSTRUCTION FENCE INSTALLATIONS SHALL BE PERMITTED FOR ENTRY OF WORKERS, MATERIALS AND EQUIPMENT. SUCH OPENINGS SHALL BE SECURED AT THE END OF EACH WORK DAY IN THE MANNER AFOREMENTIONED FOR JOINING FENCE SECTIONS.



STABILIZED CONSTRUCTION ENTRANCE DETAIL

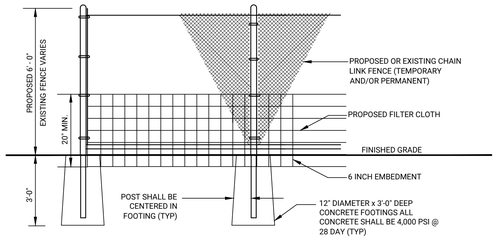
1. STONE SIZE - USE 2" CRUSHED STONE AGGREGATE OR CRUSHED CONCRETE, NO FINES.
2. LENGTH - NOT LESS THAN 50 FEET.
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN 24 FEET, THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT THE TRANSPORT OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT TRANSPORTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A WASH STATION IF EXCESSIVE MUD FROM VEHICLE TIRES IS TRACKED ONTO R.O.W.



FILTER FABRIC DROP INLET DETAIL

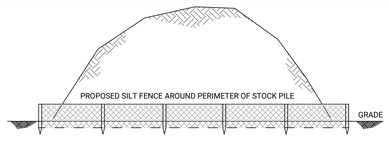
N.T.S.

ALTERNATE INLET PROTECTION. CONTRACTOR MAY USE IN LIEU OF STRAW BALE INLET PROTECTION.



SILT FENCE ATTACHED TO CHAIN LINK FENCE DETAIL

1. FILTER CLOTH TO BE FASTENED SECURELY TO CHAIN LINK FENCE WITH WIRE OR PLASTIC LOCKING TIES, SPACED EVERY 24" AT TOP AND BOTTOM SECTION.
2. WHEN TWO (2) SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX (6) INCHES AND FOLDED.
3. FILTER CLOTH SHALL BE IMBEDDED MIN. 6 INCHES INTO GROUND (REFER TO DETAIL SW-A FOR EMBEDMENT PROCEDURE)
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REPLACES EVERY 6 MONTHS OR AS DIRECTED BY ENGINEER.



TYPICAL STOCK PILE PROTECTION DETAIL

STOCKPILES NOTES:

1. STOCKPILES MANAGEMENT INCLUDES MEASURES TO MINIMIZE EROSION AND SEDIMENT TRANSPORT FROM SOILS OR OTHER ERODIBLE MATERIALS STORED AT THE CONSTRUCTION SITE. SPECIAL ATTENTION SHOULD BE GIVEN TO STOCKPILES IN CLOSE PROXIMITY TO NATURAL OR MANMADE STORM SYSTEMS. PROTECTION OF STOCKPILES IS A YEAR-ROUND REQUIREMENT.
2. THIS DETAIL DOES NOT APPLY TO CONTAMINATED MATERIALS WHICH REQUIRE ADDITIONAL MEASURES.
3. LOCATE STOCKPILES AS FAR AWAY FROM BODIES OF WATER, INFILTRATION AREAS, INLETS AND OTHER DRAINAGE SYSTEM COMPONENTS AS POSSIBLE SO AS NOT TO OBSTRUCT NATUAL DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE.
4. LOCATE STOCKPILES A MINIMUM 50 FEET AWAY FROM CONCENTRATED FLOWS OF STORMWATER, DRAINAGE AND INLETS.
5. WEEDS SHOULD NOT BE ALLOWED TO GROW ON STOCKPILES.
6. WHEN THE STOCKPILE IS NO LONGER NEEDED. PROPERLY DISPOSE OF EXCESS MATERIALS AND RE-VEGETATE OR OTHERWISE STABILIZE THE GROUND SURFACE WHERE THE STOCKPILE WAS LOCATED.
7. FOR STOCKPILES MAINTAINED FOR MORE THAN ONE DAY, A SEDIMENT CONTROL SYSTEM, CONSISTING OF SILT FENCING OR COIR LEG, SHALL BE INSTALLED AND MAINTAINED AROUND THE STOCKPILE TO CONTAIN MATERIAL.

   7.1 FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWN-GRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

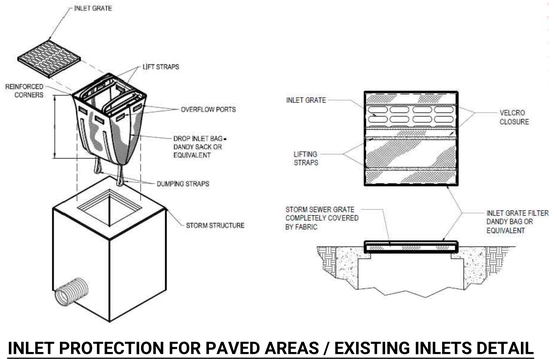
   7.2 PROTECT ALL STOCKPILES FROM STORMWATER RUN-ON.

   7.3 FOR STOCKPILES IN ACTIVE USE, PROVIDE A STABILIZED DESIGNATED ACCESS POINT ON THE UPGRADIENT SIDE OF THE STOCKPILE.

   7.4 SEDIMENTS SHALL BE REMOVED WHEN SEDIMENT ACCUMULATION REACHES ONE-THIRD (1/3) OF THE BARRIER HEIGHT.

   7.5 INSPECT STOCKPILE SEDIMENT CONTROL SYSTEM IMMEDIATELY AFTER MODIFYING STOCKPILE.

   7.6 REPAIR AND/OR REPLACE PERIMETER CONTROLS AND COVERS AS NEEDED, OR AS DIRECTED BY THE ENGINEER, TO KEEP THEM FUNCTIONING PROPERLY.
8. THE TOE OF STOCKPILES SHALL NOT BE WITHIN 10' OF SITE PERIMETER SEDIMENT CONTROL.
9. FOR STOCKPILES INACTIVE FOR MORE THAN 14 DAYS, STABILIZE THE STOCKPILE TO PREVENT SEDIMENT TRANSPORT USING AN EROSION CONTROL SYSTEM, CONSISTING OF TEMPORARY SEEDING AND MULCHING, PLASTIC/GEOTEXTILES COVERING, SOIL BINDERS, OR EROSION CONTROL BLANKETS. USE OF MULCH OR SOIL BINDERS ONLY IS ACCEPTABLE IF THE STOCKPILES WILL BE IN PLACE FOR NO MORE THAN 60 DAYS.
10. IMPLEMENT DUST CONTROL PRACTICES AS APPROPRIATE ON ALL STOCKPILED MATERIAL.



INLET PROTECTION FOR PAVED AREAS / EXISTING INLETS DETAIL

N.T.S.

No.	REVISION DESCRIPTION	DATE	BY
12.	REVISED PER TOI COMMENTS	06-12-25	JB
11.	REVISED PER TOI COMMENTS	12-17-24	AR
10.	NO REVISIONS THIS SHEET	05-30-24	CB
9.	REVISED PER TOI COMMENTS	01-10-24	CB
8.	NO REVISIONS THIS SHEET	11-08-23	CB
7.	NO REVISIONS THIS SHEET	08-25-23	CB
6.	NO REVISIONS THIS SHEET	08-08-23	CB
5.	NO REVISIONS THIS SHEET	07-17-23	AR
4.	NO REVISIONS THIS SHEET	06-16-23	CB
3.	NO REVISIONS THIS SHEET	05-10-23	MJM
2.	NO REVISIONS THIS SHEET	04-21-23	MJM
1.	REVISED PER TOWN COMMENTS	01-20-23	CB

T.O.I. REF.# PB 2023-003
REF.# SP 2023-089

OWNER/APPLICANT:
FIFTH AVE, LLC, C/O GRETCHEN KENDRICK
1612 FIFTH AVENUE, SUITE 910
CALLAS, TX 75201
PHONE: 201-600-0401
EMAIL: NEDS@NESECREALTY.COM

SWPPP DETAILS

1612 FIFTH AVENUE

SITUATED IN

BAY SHORE
TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

SCTM: DISTRICT 0500, SECTION 223, BLOCK 02, LOTS 54.1 & 57.1
DISTRICT 0500, SECTION 224, BLOCK 01, LOT 80.3 (INDEPENDENCE STREET)
DISTRICT 0500, SECTION 244, BLOCK 02, LOTS 56 & 57

Christopher W. Robinson, P.E.
NY State License No. 067519

Robinson & Muller Engineers, P.C.
50 Elm Street
Huntington, NY 11743
Office: (631) 271-0576
Fax: (631) 271-0592
www.rmengineering.com

DWN. BY:	CB	CHK'D. BY:	GT	SCALE:	N.T.S.	SHEET:	SP-15
DATE:	08-09-22	DATE:	08-20-22	JOB No.:	2022-001		

Drawing Name: P:\2022 Projects\2022-001\V&M\V025-08-04 (2022-001) Details (30x42) Rev.12.dwg Last Modified: Jun 12, 2025 - 1:43pm Plotted on: Jun 12, 2025 - 2:06pm by jberkenstein

NYSDEC SPDES General Permit

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL
CONSERVATION (NYSDEC)

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP-0-25-001

Construction General Permit (CGP)

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2025 Expiration Date: January 28, 2030

Scott E. Sheeley

Chief Permit Administrator

Scott E. Sheeley JAN. 29, 2025

Authorized Signature Date

Address: NYSDEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act (CWA), and 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), *stormwater discharges* from certain *construction activities* are unlawful unless they are authorized by a National Pollutant Discharge Elimination System (NPDES) permit or by a state permit program. New York State administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, and Article 70, as well as 6 NYCRR Parts 621 and 750.

C*onstruction activities* constitute construction of a *point source* and, therefore, pursuant to ECL sections 17-0505, 17-0701, and 17-0803, the *owner or operator* must have coverage under a SPDES permit prior to *commencement of construction activities*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES CONSTRUCTION GENERAL PERMIT (CGP) GP-0-25-001
FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

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Part I. How to Obtain Coverage and General Requirements

To be covered under this permit, the *owner or operator* must meet all eligibility requirements in Part I.A. and follow the requirements for obtaining permit coverage in Part I.D., F., or G.

A. Eligibility Requirements

For a *common plan of development or sale*, the *phase(s)* that meet the eligibility requirements in Part I.A. may obtain coverage under this permit even if other *phase(s)* of the same *common plan of development or sale* do not meet the eligibility requirements and require an individual SPDES permit.

1. The *owner's or operator's construction activities* involve soil disturbances of:

    a. one or more acres; or

    b. less than one acre which are part of a *common plan of development or sale* that will ultimately disturb one or more acres; or

    c. less than one acre where NYSDEC has determined that a SPDES permit is required for *stormwater discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of pollutants to *surface waters of the State*.

        i. 5,000 square feet or more, but less than one acre, and are in the New York City Watershed located east of the Hudson River, Appendix C Figure 1; or

        ii. 20,000 square feet or more, but less than one acre, within the municipal boundaries of the City of New York (NYC); or

        iii. less than 20,000 square feet which are part of a *common plan of development or sale* that will ultimately disturb 20,000 square feet or more, but less than one acre, within the municipal boundaries of NYC; or

        iv. that creates 5,000 square feet or more of *impervious area* within the municipal boundaries of NYC.

2. *Discharges* from the *owner's or operator's construction activities* are/were not:

    a. already covered by a different SPDES permit; or

    b. covered under a different SPDES permit that was denied, terminated, or revoked; or

    c. identified in an expired individual SPDES permit that was not renewed; or

    d. required to obtain an individual SPDES permit or another general SPDES permit in accordance with Part VII.K.

3. If *construction activities* may adversely affect a species that is endangered or threatened, the *owner or operator* must obtain a:

    a. permit issued pursuant to 6 NYCRR Part 182 for the project; or

    b. letter issued by NYSDEC of non-jurisdiction pursuant to 6 NYCRR Part 182 for the project.

4. If *construction activities* have the potential to affect an *historic property*, the *owner or operator* must obtain one of the following:

    a. documentation that the *construction activity* is not within an archeological buffer area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant:

        i. 1-5 acres of disturbance - 20 feet; or

        ii. 5-20 acres of disturbance - 50 feet; or

iii. 20+ acres of disturbance - 100 feet.

b. NYSDEC consultation form sent to OPRHP,[1] and copied to NYSDEC's Agency Historic Preservation Officer (APO), and

i. the State Environmental Quality Review Act (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or

ii. documentation from OPRHP that the *construction activity* will result in No Impact; or

iii. documentation from OPRHP providing a determination of No Adverse Impact; or

iv. a Letter of Resolution signed by the *owner or operator*, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA).

c. documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

i. No Affect; or

ii. No Adverse Affect; or

iii. Executed Memorandum of Agreement.

d. documentation that SHPA Section 14.09 has been completed by NYSDEC or another state agency.

5. If *construction activities* are subject to SEQR, the *owner or operator* must obtain documentation that SEQR has been satisfied.

6. If *construction activities* are not subject to SEQR, but subject to the equivalent environmental review from another New York State or federal agency, the

[1] The consultation form can be submitted, along with other project information, through OPRHP's Cultural Resource Information System (CRIS) portal. If submitted through CRIS, paper copies of the consultation form need not be mailed.

owner or operator must obtain documentation that project review, pursuant to a process equivalent to SEQR from another New York State or federal agency, has been satisfied.

7. If *construction activities* require Uniform Procedures Act (UPA) Permits (see 6 NYCRR Part 621) from NYSDEC, or the equivalent from another New York State or federal agency, the *owner or operator* must:

    a. obtain all such necessary permits; or

    b. receive notification from NYSDEC pursuant to 6 NYCRR 621.3(a)(4) excepting Part I.A.7.a.

8. *Construction activities* are not eligible if they meet the following criteria in Part I.A.8.a. or b.:

    a. For linear transportation and linear utility project types, the *construction activities*:

        i. are within the watershed of *surface waters of the State* classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website; and

        ii. are undertaken on land with no existing *impervious cover*; and

        iii. disturb two or more acres of *steep slope*.

    b. For all other project types, the *construction activities*:

        i. are within the watershed of *surface waters of the State* classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website; and

        ii. are undertaken on land with no existing *impervious cover*; and

        iii. disturb one or more acres of *steep slope*.

B. Types of *Discharges* Authorized

1. The following *stormwater discharges* are authorized under this permit:

   a. *Stormwater discharges*, including *stormwater* runoff, snowmelt runoff, and surface runoff and drainage, associated with *construction activity*, are authorized under this permit provided that appropriate *stormwater* controls are designed, installed, and maintained in accordance with Part II. and Part III.

   b. *Stormwater discharges* from construction support activities at the *construction site* (including concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, and borrow areas) if the following requirements are met:

      i. The support activity is directly related to the *construction site* required to have permit coverage for *stormwater discharges*; and

      ii. The support activity is not a commercial operation, nor does it serve multiple unrelated *construction sites*; and

      iii. The support activity does not continue to operate beyond the completion of the *construction activity* at the site it supports; and

      iv. *Stormwater* controls are implemented in accordance with Part II. and Part III. for *discharges* from the support activity areas.

2. The following non-*stormwater discharges* associated with *construction activity* are authorized under this permit:

   a. Non-*stormwater discharges* listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "*Discharges* from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; and

   b. Non-*stormwater discharges* of waters to which other components have not been added that are used in accordance with the *SWPPP* to control dust or irrigate vegetation in stabilized areas; and

   c. Uncontaminated *discharges* from *dewatering* operations

3. Authorized *discharges* of *stormwater* or authorized *discharges* of non-*stormwater*, commingled with a *discharge* authorized by a different SPDES permit and/or a *discharge* that does not require SPDES permit authorization, are also authorized under this permit.

C. Prohibited *Discharges*

1. Non-*stormwater discharges* prohibited under this permit include but are not limited to:

    a. Wastewater from washout of concrete; and

    b. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials; and

    c. Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance; and

    d. Soaps, solvents, or detergents used in vehicle and equipment washing or external building washdown; and

    e. Toxic or hazardous substances from a spill or other release.

D. Electronic Notice of Intent (eNOI) Submittal

To receive authorization in accordance with Part I.D.3.b., the *owner or operator* must submit a complete eNOI in accordance with the requirements in Part I.D. The eNOI contains questions to: ensure eligibility requirements in Part I.A. have been met; obtain *owner or operator* contact information; obtain the total area to be disturbed and the existing/future *impervious areas* (rounded to the nearest tenth of an acre); confirm *Traditional Land Use Control MS4 Operator* jurisdiction over construction projects; satisfy the EPA eRule requirements; confirm that the Water Quality-Based Effluent Limitations in Part II. have been met; demonstrate consideration of the future risks due to climate change in accordance with Part III.A.2.; and confirm that the other *Stormwater Pollution Prevention Plan (SWPPP)* requirements in Part III. have been met.

1. An eNOI may be submitted for:

    a. *construction activities* that are not part of a *common plan of development or sale*; or

b. an entire *common plan of development or sale*; or

c. separate *phase(s)* of a *common plan of development or sale* if the following requirements are met:

    i. the *common plan of development or sale* meets the eligibility requirements of Part I.A.5. or 6.; and

    ii. the *phase(s)* meet(s) all other eligibility requirements of Part I.A.; and

    iii. Part III.C. Required *SWPPP* Components by Project Type is based on the *common plan of development or sale*, not the *phase(s)*; or

d. *tree clearing* that is associated with, or will support, a *renewable energy* generation, transmission, or storage project that meets Part I.A.5. and 6., if the *tree clearing*:

    i. meets all other eligibility requirements of Part I.A.; and

    ii. will occur in NYSDEC's Regions 3-9; and

    iii. is not within ¼ mile of a bat hibernaculum protected pursuant to 6 NYCRR Part 182; and

    iv. will occur between November 1st and March 31st.

2. As prerequisites for submitting an eNOI, the *owner or operator* must:

    a. prepare a *SWPPP* for Part I.D.1.a., b., c., or d. in accordance with Part III.; and

    b. based on the following criteria, upload the following signature forms signed in accordance with Part VII.J. to the eNOI prior to submission:

        i. for all eNOIs:

            1. the SWPPP Preparer Certification Form, Appendix F, signed by the *SWPPP* preparer; and

2. the Owner/Operator Certification Form, Appendix J, signed by the *owner or operator*; and

ii. if an eNOI includes *construction activities* within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)* that will *discharge* to the *MS4(s)*:

1. determine if the *Traditional Land Use Control MS4 Operator(s)* have review authority. A *Traditional Land Use Control MS4 Operator* does not have review authority where:

a. the *owner or operator* of the *construction activities* in Part I.D.2.b.ii. is the same entity as the *Traditional Land Use Control MS4 Operator* identified in Part I.D.2.b.ii.; or

b. there is a statute exempting the *owner or operator* from zoning review by the *Traditional Land Use Control MS4 Operator*; or

c. there is no such statute per Part I.D.2.b.ii.1.b., the *Traditional Land Use Control MS4 Operator* concludes, after public hearing, that it does not have zoning review authority in accordance with Legal Memorandum LU14 Updated January 2020 “Governmental Immunity from Zoning and Other Legislation”; and

2. if the *Traditional Land Use Control MS4 Operator(s)* have review authority, submit the *SWPPP* to the *Traditional Land Use Control MS4 Operator(s)* for review and have:

a. if outside the municipal boundaries of NYC: the MS4 SWPPP Acceptance Form, Appendix G, signed by the principal executive officer or ranking elected official from the *Traditional Land Use Control MS4 Operator,* or by a duly authorized representative of that person in accordance with Part VII.J.2.; or

b. if within the municipal boundaries of NYC: The City of New York Department of Environmental Protection (NYCDEP) SWPPP Acceptance/Approval Form, Appendix H, signed by the principal executive officer or ranking elected official from the Traditional Land Use Control MS4 Operator, or by a duly authorized representative of that person in accordance with Part VII.J.2.; and

3. if the *Traditional Land Use Control MS4 Operator* does not have review authority, have the MS4 No Jurisdiction Form, Appendix I, signed by the principal executive officer or ranking elected official from the *Traditional Land Use Control MS4 Operator,* or by a duly authorized representative of that person in accordance with Part VII.J.2.

3. Submitting an eNOI:

a. The *owner or operator* must submit a complete Notice of Intent electronically using a NYSDEC approved form.[2]

b. The *owner or operator* is authorized to *commence construction activity* as of the authorization date indicated in the Letter of Authorization (LOA), which is sent by NYSDEC after a complete eNOI is submitted.

i. If an eNOI is received for a *SWPPP* that deviates from one of the technical standards but demonstrates *equivalence* in accordance with Part III.B.1.a.ii. or Part III.B.2.b.ii., if the *SWPPP* includes *construction activities* that are not within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)*, and/or if the *SWPPP* includes *construction activities* within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)* that do not have review authority in accordance with Part I.D.2.b.ii.1., the authorization date indicated in the LOA will be 60 business days after the eNOI submission date.

[2] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

c. If *Traditional Land Use Control MS4 Operator(s)* have review authority in accordance with Part I.D.2.b.ii.2., the *owner or operator* must, within five business days of receipt of the LOA, send an electronic copy of the LOA to the *Traditional Land Use Control MS4 Operator(s)* with review authority.

E. General Requirements for *Owners or Operators* with Permit Coverage

1. As of the date the LOA is received, the *owner or operator* must make the eNOI, *SWPPP*, and LOA available for review and copying in accordance with the requirements in Part VII.H. When applicable, as of the date an updated LOA is received, the *owner or operator* must make the updated LOA available for review and copying in accordance with the requirements in Part VII.H.

2. The *owner or operator* must ensure compliance with all requirements of this permit and that the provisions of the *SWPPP*, including any changes made to the *SWPPP* in accordance with Part III.A.5., are properly implemented and maintained from the *commencement of construction activity* until:

   a. all areas of disturbance have achieved *final stabilization;* and

   b. the owner's or operator's coverage under this permit is terminated in accordance with Part V.A.5.a.

3. As of the date of the *commencement of construction activities* until Part I.E.2.a. and b. have been met, the *owner or operator* must maintain at the *construction site*, a copy of:

   a. all documentation necessary to demonstrate eligibility with this permit; and

   b. this permit; and

   c. the *SWPPP*; and

   d. the signed SWPPP Preparer Certification Form; and

   e. the signed MS4 SWPPP Acceptance Form or signed NYCDEP SWPPP Acceptance/Approval Form or signed MS4 No Jurisdiction Form (when applicable); and

   f. the signed Owner/Operator Certification Form; and

g. the eNOI; and

h. the LOA; and

i. the LOA transmittal to the Traditional Land Use Control MS4 Operator in accordance with Part I.D.3.c. (when applicable).

4. The *owner or operator* must maintain at the *construction site*, until Part I.E.2.a. and b. have been met, as of the date the documents become final or are received, a copy of the:

   a. responsible contractor's or subcontractor's certification statement(s) in accordance with Part III.A.7.; and

   b. inspection reports in accordance with Part IV.C.4. and 6.; and

   c. Request to Disturb Greater Than Five Acres and the Authorization Letter to Disturb Greater Than Five Acres in accordance with Part I.E.6. (when applicable); and

   d. Request to Continue Coverage and the Letter of Continued Coverage (LOCC) in accordance with Part I.F.2. and 4. (when applicable); and

   e. The updated LOA(s) in accordance with Part I.E.9. (when applicable).

5. The *owner or operator* must maintain the documents in Part I.E.3. and 4. in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection. The documents must be paper documents unless electronic documents are accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be. If electronic documents are kept on site, the *owner or operator* must maintain functional equipment on site available to an inspector during normal hours of operation such that an inspector may view the electronic documents in a format that can be read in a similar manner as a paper record and in a legally dependable format with no less evidentiary value than their paper equivalent.

6. The *owner or operator* must meet the following requirements prior to disturbing greater than five acres of soil at any one time:

   a. The *owner or operator* must submit a written Request to Disturb Greater Than Five Acres to:

i. NYSDEC's Regional Office Division of Water staff based on the project location, Appendix E, if a *Traditional Land Use Control MS4 Operator* does not have review authority in accordance with Part I.D.2.b.ii.1.; or

ii. the *Traditional Land Use Control MS4 Operator*, if a *Traditional Land Use Control MS4 Operator* has review authority in accordance with Part I.D.2.b.ii.1.; or

iii. NYSDEC's Regional Office Division of Water staff based on the project location, Appendix E, and each involved *Traditional Land Use Control MS4 Operator*, if the project spans multiple municipalities with more than one *Traditional Land Use Control MS4 Operator* involved with review authority in accordance with Part I.D.2.b.ii.1.

b. The written Request to Disturb Greater Than Five Acres must include:

i. The SPDES permit identification number (Permit ID); and

ii. Full technical justification demonstrating why alternative methods of construction that would result in five acres of soil disturbance or less at any one time are not feasible; and

iii. The phasing plan for the project and sequencing plans for all *phases* from the *SWPPP* in accordance with Part III.B.1.d.; and

iv. Plans with locations and details of erosion and sediment control practices such that the heightened concern for erosion when disturbing greater than five acres at one time has been addressed; and

v. Acknowledgment that "the *owner or operator* will comply with the requirements in Part IV.C.2.b."; and

vi. Acknowledgment that "the *owner or operator* will comply with the requirements in Part II.B.1.b."

c. The *owner or operator* must be in receipt of an Authorization Letter to Disturb Greater Than Five Acres, which will include when the

authorization begins and ends and indicate a maximum area (acres) of soil disturbance allowed at any one time, from:

i. NYSDEC, if Part I.E.6.a.i. or iii. apply; or

ii. the *Traditional Land Use Control MS4 Operator*, if Part I.E.6.a.ii. applies.

7. Upon a finding of significant non-compliance with the practices described in the *SWPPP* or violation of this permit, NYSDEC may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order must be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

8. If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE).[3] *Construction activity* shall not resume until written permission to do so has been received from the RWE.

9. To be authorized to implement modifications to the information previously submitted in the eNOI, the *owner or operator* must:

   a. notify NYSDEC via email at Stormwater_info@dec.ny.gov requesting access to update the eNOI; and

   b. update the eNOI to reflect the modifications and resubmit the eNOI in accordance with Part I.D.; and

   c. receive an updated LOA.

10. The eNOI, *SWPPP*, LOA, updated LOAs (when applicable), and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

[3] The Regional Water Manager where a DEC Region does not have a RWE.

F. Permit Coverage for *Discharges* Authorized Under GP-0-20-001

When applicable:

1. Upon the effective date of this permit, an *owner or operator* of *a construction activity*, with coverage under GP-0-20-001, will have interim coverage under GP-0-25-001 for 45 calendar days starting on the effective date of GP-0-25-001 so long as the *owner or operator* maintains compliance with all applicable requirements of this permit.

2. Within 30 calendar days of the effective date of this permit, the *owner or operator*, with coverage under GP-0-20-001, must submit a complete Request to Continue Coverage electronically using a NYSDEC approved form,[4] which contains the information identified in Part I.F.3. below, if:

   a. the *owner or operator* continues to implement the SMP component in conformance with the technical standards in place at the time of initial project authorization; and

   b. the *owner or operator* will comply with all non-design requirements of GP-0-25-001.

3. The Request to Continue Coverage form contains questions to: ensure eligibility requirements in Part I.A. have been met; verify *owner or operator* contact information; verify the permit identification number; verify the original eNOI submission ID, if applicable; verify Part I.F.2.a. and b.; verify the version of the Design Manual that the technical/design components conform to; and receive an updated Owner/Operator Certification Form, Appendix I.

4. The *owner or operator* has obtained continued coverage under GP-0-25-001 as of the date indicated in the LOCC, which is sent by NYSDEC after a complete Request to Continue Coverage form is submitted.

5. If the owner or operator does not submit the Request to Continue Coverage form in accordance with Part I.F.2. and 3., coverage under this permit is automatically terminated after interim coverage expires.

[4] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

G. Change of *Owner or Operator*

When applicable:

1. When property ownership changes, or when there is a change in operational control over the construction plans and specifications, the following process applies:

    a. The new *owner or operator* must meet the applicable prerequisites for submitting an eNOI in accordance with Part I.D.2.; and

    b. The new *owner or operator* must submit an eNOI in accordance with Part I.D.3.; and

    c. Permit coverage for the new *owner or operator* will be effective upon receipt of the LOA in accordance with Part I.D.3.b.; and

    d. The new *owner or operator*, upon receipt of their LOA, must provide their Permit ID to the original *owner or operator*; and

    e. If the original *owner or operator* will no longer be the *owner or operator* of the *construction activity* identified in the original *owner's or operator's* eNOI, the original *owner or operator*, upon receipt of the new *owner's or operator's* Permit ID in accordance with Part I.G.1.d., must submit to NYSDEC a completed eNOT in accordance with Part V. that includes the name and Permit ID of the new *owner or operator*; or

    f. If the original *owner or operator* maintains ownership of a portion of the *construction activity*, the original *owner or operator* must maintain their coverage under the permit by modifying their eNOI; modifications to the eNOI must include:

        i. the revised area of disturbance and/or *impervious area(s)*; and

        ii. the revised SMP information, if applicable; and

        iii. a narrative description of what has changed; and

        iv. the new *owner's or operator's* Permit ID for the portion of the project removed from the eNOI.

    Owners or operators must follow Part I.E.9. to modify the eNOI.

Part II. Water Quality-Based Effluent Limitations

A. Maintaining Water Quality

NYSDEC expects that compliance with the requirements of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any *discharge* to either cause or contribute to a violation of the following *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York:

1. There must be no increase in turbidity that will cause a substantial visible contrast to natural conditions; and

2. There must be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There must be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the *stormwater discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standard,* the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this permit and document in accordance with Part IV.C.4. of this permit. To address the *water quality standard* violation the *owner or operator* must include and implement appropriate controls in the *SWPPP* to correct the problem or obtain an individual SPDES permit.

If, despite compliance with the requirements of this permit, it is demonstrated that the *stormwater discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if NYSDEC determines that a modification of this permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit, and the *owner or operator* must obtain an individual SPDES permit prior to further *discharges* from the *construction site*.

B. Effluent Limitations Applicable to *Discharges* from *Construction Activities*

*Discharge*s authorized by this permit must achieve, at a minimum, the effluent limitations in Part II.B.1.a., b., c., d., and e. These limitations represent the

degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement, and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part II.B.1.a., b., c., d., and e. and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control (BB), dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in *SWPPP* the reason(s) for the deviation, or alternative design, and provide information in the *SWPPP* demonstrating that the deviation or alternative design is *equivalent* to the technical standard.

    a. **Erosion and Sediment Controls.** At a minimum, erosion and sediment controls must be selected, designed, installed, implemented, and maintained to:

        i. *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s; and

        ii. Control *stormwater discharge*s, including both peak flow rates and total *stormwater* volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points; and

        iii. *Minimize* the amount of soil exposed during *construction activity*; and

        iv. *Minimize* the disturbance of *steep slope*; and

        v. *Minimize* sediment *discharge*s from the site; and

        vi. Provide and maintain *natural buffers* around surface waters, direct *stormwater* to vegetated areas and maximize *stormwater* infiltration to reduce *pollutant discharge*s, unless *infeasible*; and

        vii. *Minimize* soil compaction. *Minimizing* soil compaction is not required

where the intended function of a specific area of the site dictates that it be compacted; and

viii. Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

ix. *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of *pollutants* that could be discharged from the site.

b. **Soil Stabilization**. In areas where soil disturbance activity has ceased, whether permanently or *temporarily ceased*, the application of soil stabilization measures must be initiated by the end of the next business day and completed within 14 calendar days from the date the current soil disturbance activity ceased. For *construction sites* that *directly discharge* to one of the 303(d) segments listed in Appendix D, or are located in one of the watersheds listed in Appendix C, or are authorized to disturb greater than five acres in accordance with Part I.E.5.a.viii., the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven calendar days from the date the soil disturbance activity ceased.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Select, design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be selected, designed, installed, implemented, and maintained to:

i. *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. Soaps, detergents and solvents cannot be used; and

ii. *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation

and to *stormwater*. *Minimization* of exposure is not required in cases where the exposure to precipitation and to *stormwater* will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of *stormwater* contamination (such as final products and materials intended for outdoor use); and

iii. Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Surface Outlets.** When discharging from basins and impoundments, the surface outlets must be designed, constructed, and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-Construction Stormwater Management Practice (SMP) Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction SMPs, in accordance with Part III.C., must select, design, install, implement, and maintain the SMPs to meet the *performance criteria* in the New York State Stormwater Management Design Manual, dated July 31, 2024 (DM), using sound engineering judgment. Where SMPs are not designed in conformance with the *performance criteria* in the DM, the *owner or operator* must include in the *SWPPP* the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity*, that requires SMPs in accordance with Part III.C., must design the practices to meet the applicable *sizing criteria* in Part II.C.2.a., b., c., or d.

a. Sizing Criteria for *New Development*

i. Runoff Reduction Volume (RRv) and Water Quality Volume (WQv):

1. Reduce the total WQv by application of RR techniques and standard SMPs with RRv capacity. The total WQv must be calculated in accordance with the criteria in Section 4.2 of the DM; or

2. Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the requirements in Part II.C.2.a.i.1. due to *site limitations* must direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv must be documented in the *SWPPP*. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the *SWPPP* must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible*.

   In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 4.4 of the DM. The remaining portion of the total WQv that cannot be reduced must be treated by application of standard SMPs.

ii. Channel Protection Volume (CPv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event, remaining after runoff reduction. Where a CPv control orifice is provided, the minimum orifice size must be 3 inches, with acceptable external trash rack or orifice protection. The CPv requirement does not apply when:

   1. Reduction of the entire CPv is achieved by application of runoff reduction techniques or infiltration systems; or

   2. The 1-year post-development peak *discharge* is less than or equal to 2.0 cfs without detention or velocity controls; or

   3. The site *directly discharges* into a fifth order or larger water body (stream, river, or lake), or tidal waters, where the increase in smaller flows will not impact the stream bank or channel integrity. However, the point of *discharge* must be adequately protected against scour and erosion by the increased peak *discharge*.

iii. *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams, or

2. A downstream analysis reveals that *overbank* control is not required.

iv. Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams, or

2. A downstream analysis reveals that *overbank* control is not required.

b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watersheds

i. Runoff Reduction Volume (RRv) and Water Quality Volume (WQv):

1. Reduce the WQv by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24-hour design storm over the post-developed watershed and must be calculated in accordance with the criteria in Section 4.3 of the DM; or

2. Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part II.C.2.b.i.1. due to *site limitations* must direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv must be documented in the *SWPPP*. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the *SWPPP* must include

documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 4.5 of the DM. The remaining portion of the total WQv that cannot be reduced must be treated by application of standard SMPs.

ii. Channel Protection Volume (CPv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event, remaining after runoff reduction. Where a CPv control orifice is provided, the minimum orifice size must be 3 inches, with acceptable external trash rack or orifice protection. The CPv requirement does not apply when:

1. Reduction of the entire CPv is achieved by application of runoff reduction techniques or infiltration systems; or

2. The 1-year post-development peak *discharge* is less than or equal to 2.0 cfs; or

3. The site *directly discharges* to tidal waters, or a fifth order or larger water body (stream, river, or lake) where the increase in smaller flows will not impact the stream bank or channel integrity. However, the point of *discharge* must be adequately protected against scour and erosion by the increased peak *discharge*.

iii. *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams; or

2. A downstream analysis reveals that *overbank* control is not required.

iv. Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams; or

2. A downstream analysis reveals that *overbank* control is not required.

c. *Sizing Criteria* for *Redevelopment Activity*

i. Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* must be addressed by one of the following options, as outlined in Section 9.2.1. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C) must calculate the WQv in accordance with Section 4.3 of the DM. All other *redevelopment activities* must calculate the WQv in accordance with Section 4.2 of the DM.

1. Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the DM must be applied to all newly created pervious areas; or

2. Capture and treat 100% of the required WQv, for a minimum of 25% of the disturbed redevelopment *impervious area*, by implementation of standard SMPs or reduced by application of runoff reduction techniques; or

3. Capture and treat 100% of the required WQv, for a minimum of 75% of the disturbed redevelopment *impervious area*, by implementation of a volume-based alternative SMP, as defined in Section 9.4 of the DM; or

4. Capture and treat 100% of the required WQv, for a minimum of 75% of the disturbed redevelopment *impervious area*, by implementation of a flow-through alternative SMP sized to treat the peak rate of runoff from the WQv design storm; or

5. Application of a combination of 1 through 4 above that provide a weighted average of at least two of the above methods. Application of this method must be in accordance with the criteria in Section 9.2.1(A)(V) of the DM; or

6. If there is an existing SMP located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 through 5 above.

ii. Channel Protection Volume (CPv) is not required if there is 0% change to hydrology that increases the *discharge* rate and volume from the project site.

iii. *Overbank* Flood Control (Qp) is not required if there is 0% change to hydrology that increases the *discharge* rate from the project site.

iv. Extreme Flood Control (Qf) is not required if there is 0% change to hydrology that increases the *discharge* rate from the project site.

d. *Sizing Criteria* for Combination of *Redevelopment Activity* and *New Development*

Construction projects, that include both *new development* and *redevelopment activity*, must use SMPs that meet the *sizing criteria* calculated as an aggregate of the *sizing criteria* in Part II.C.2.a. or b. for the *new development* portion of the project and Part II.C.2.c. for the *redevelopment activity* portion of the project.

Part III. Stormwater Pollution Prevention Plan (SWPPP)

A. General *SWPPP* Requirements

1. A *SWPPP* must be prepared and implemented by the *owner or operator* of all *construction activity* covered by this permit. All authorized *discharges* must be identified in the *SWPPP*. The *SWPPP* must document the selection, design, installation, implementation and maintenance of the control measures and

practices that will be used to meet the effluent limitations in Part II.B. and, where applicable, the SMP requirements in Part II.C.

2. The *SWPPP* must demonstrate consideration in narrative format of the future physical risks due to climate change pursuant to the Community Risk and Resiliency Act (CRRA), 6 NYCRR Part 490, and associated guidance.

    a. The owner or operator must consider:

        i. the following physical risks due to climate change:

            (i) increasing temperature; and

            (ii) increasing precipitation; and

            (iii) increasing variability in precipitation, including chance of drought; and

            (iv) increasing frequency and severity of flooding; and

            (v) rising sea level; and

            (vi) increasing storm surge; and

            (vii) shifting ecology.

        ii. for each of the following:

            (i) overall site planning; and

            (ii) location, elevation, and sizing of:

                a. control measures and practices; and

                b. conveyance system(s); and

                c. detention system(s).

3. The *SWPPP* must describe the erosion and sediment control practices and where required, SMPs that will be used and/or constructed to reduce the *pollutants* in *stormwater discharges* and to assure compliance with the

requirements of this permit. In addition, the *SWPPP* must identify potential sources of pollution which may reasonably be expected to affect the quality of *stormwater discharges*.

4. All *SWPPPs*, that require the SMP component in accordance with Part III.B.2., must be prepared by a *qualified professional*.

5. The *owner or operator* must keep the *SWPPP* current so that, at all times, it accurately documents the erosion and sediment control practices that are being used or will be used during construction, and all SMPs that will be constructed on the site. At a minimum, the *owner or operator* must modify the *SWPPP*, including construction drawings:

   a. whenever the current provisions prove to be ineffective in *minimizing pollutants* in *stormwater discharges* from the site; and

   b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*; and

   c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* NYSDEC, or other regulatory authority; and

   d. to document the final construction conditions in an as-built drawing.

6. NYSDEC may notify the *owner or operator* at any time that the *SWPPP* does not meet one or more of the minimum requirements of this permit. The notification must be in writing and identify the provisions of the *SWPPP* that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by NYSDEC, the *owner or operator* must make the required changes to the *SWPPP* and submit written notification to NYSDEC that the changes have been made. If the *owner or operator* does not respond to NYSDEC's comments in the specified time frame, NYSDEC may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4.

7. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting, and maintaining the erosion and sediment control practices included in the *SWPPP* and the

contractor(s) and subcontractor(s) that will be responsible for constructing the SMPs included in the *SWPPP*. The *owner or operator* must have each of the contractors and subcontractors identify at least one person from their company to be *trained contractor* that will be responsible for implementation of the *SWPPP*. The *owner or operator* must ensure that at least one *trained contractor* is on site daily when soil disturbance activities are being performed.

The *owner or operator* must have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before the *commencement of construction activities*:

> "I hereby certify under penalty of law that I understand and agree to comply with the requirements of the *SWPPP* and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with the requirements of the most current version of the New York State Pollutant Discharge Elimination System (SPDES) Construction General Permit (CGP) for Stormwater Discharges from Construction Activities and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the *SWPPP* that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for *SWPPP* implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* must attach the certification statement(s) to the copy of the *SWPPP* that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the *SWPPP* after the *commencement of construction activities*, they must also sign the certification statement and provide the information listed above prior to performing *construction activities*.

B. Required *SWPPP* Contents

1. Erosion and sediment control component - The *owner or operator* must prepare a *SWPPP* that includes erosion and sediment control practices.

    a. Erosion and sediment control practices must be designed:

        i. in conformance with the BB; or

        ii. *equivalent* to the BB if deviating from Part III.B.1.a.i.

    b. If the erosion and sediment control practices are designed in conformance with Part III.B.1.a.ii., the *SWPPP* must include a demonstration of *equivalence* to the BB.

    c. At a minimum, the erosion and sediment control component of the *SWPPP* must include the following:

        i. Background information about the scope of the project, including the location, type and size of project; and

        ii. A site map/construction drawing(s) with north arrows for the project, including a general location map. At a minimum, the site map must show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the *stormwater discharge*(s) and receiving surface water(s); and

        iii. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG); and

        iv. A phasing plan for the project and sequencing plans for all *phases*, both of which must address clearing and grubbing, excavation and grading, utility and infrastructure installation, *final stabilization*,

and any other *construction activity* at the site that will result in soil disturbance.

1. The phasing plan must include:

    a. a map delineating and labeling the limits of soil disturbance for all *phases* of a project; and

    b. a table identifying the order and intended schedule of when each *phase* will begin and end its sequencing plan. The table must identify the total disturbed area for each *phase* at any one time and the total disturbed area for the overall project at any one time all on one timeline showing all overlapping quantities of disturbed area at any one time; and

2. A sequencing plan for a specific *phase* must include:

    a. a table indicating the order and intended schedule of *construction activities* within a *phase*, and corresponding construction drawings with a description of the work to be performed; and

    b. all permanent and *temporary stabilization* measures; and

v. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented; and

vi. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice; and

vii. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any

temporary sediment basins and structural practices that will be used to divert flows from exposed soils; and

viii. A maintenance inspection schedule for the contractor(s) and subcontractor(s) identified in Part III.A.7. to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection schedule must be in accordance with the requirements in the BB technical standard; and

ix. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the *stormwater discharges*; and

x. A description and location of any *stormwater discharges* associated with industrial activity other than construction at the site, including, but not limited to, *stormwater discharges* from asphalt plants and concrete plants located on the *construction site*; and

xi. Identification of any elements of the design that are not in conformance with the design criteria in the BB technical standard. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. SMP component – The *owner or operator* of *construction activity* identified in Table 2 of Appendix B must prepare a *SWPPP* that includes SMPs.

   a. SMPs must be designed in conformance with the applicable *sizing criteria* in Part II.C.2.a., c., or d.; and

   b. SMPs must be designed in conformance with the *performance criteria*:

      i. in the DM; or

      ii. *equivalent* to the DM if deviating from Part III.B.2.b.i.; or

      iii. in the New York State Stormwater Management Design Manual, dated January 2015 (2015 Design Manual), or *equivalent* to it, if the following criteria are met:

1. The eNOI is submitted in accordance with Part I.D. before January 29, 2027 for *construction activities* that are either:

    a. subject to governmental review and approval:

        i. where the *owner or operator* made any application to that governmental entity prior to the effective date of this permit; and

        ii. such application included a *SWPPP* developed using the 2015 Design Manual or *equivalent* to it; or

    b. not subject to governmental review and approval:

        i. where a fiscal allocation for the *construction activities* has been developed and approved by a governmental entity; and

        ii. the *SWPPP* was developed using the 2015 Design Manual or *equivalent* to it; and

c. If SMPs are designed in conformance with Part III.B.2.b.ii., the *SWPPP* must include the reason(s) for the deviation or alternative design and a demonstration of *equivalence* to the DM; and

d. If SMPs are designed in conformance with Part III.B.2.b.iii., the *SWPPP* must include supporting information or documentation demonstrating that Part III.B.2.b.iii.1.a. or b. apply; and

e. The SMP component of the *SWPPP* must include the following:

    i. Identification of all SMPs to be constructed as part of the project, including which option the SMP designs conform to, either Part III.B.2.b.i., ii., or iii. Include the dimensions, material specifications and installation details for each SMP; and

    ii. A site map/construction drawing(s) showing the specific location and size of each SMP; and

iii. A Stormwater Modeling and Analysis Report that includes:

(i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points; and

(ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and SMPs; and

(iii) Results of *stormwater* modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre- and post-development runoff rates and volumes for the different storm events; and

(iv) Summary table, with supporting calculations, which demonstrates that each SMP has been designed in conformance with the *sizing criteria* included in the DM; and

(v) Identification of any *sizing criteria* that is not required based on the requirements included in Part II.C.; and

(vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the DM. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the DM.

iv. Soil testing results and locations (test pits, borings); and

v. Infiltration test results, when required in accordance with Part III.B.2.a.; and

vi. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each SMP. The plan must identify the entity

that will be responsible for the long-term operation and maintenance of each practice; and

3. Enhanced Phosphorus Removal Standards - The *owner or operator* of *construction activity* identified in Table 2 of Appendix B that is located in a watershed identified in Appendix C must prepare a *SWPPP* that includes SMPs designed in conformance with the applicable *sizing criteria* in Part II.C.2.b., c., or d. and the *performance criteria* Enhanced Phosphorus Removal Standards included in the DM. At a minimum, the SMP component of the *SWPPP* must meet the requirements of Part III.B.2.

C. Required *SWPPP* Components by Project Type

Owners or operators of *construction activities*, identified in Table 1 of Appendix B, are required to prepare a *SWPPP* that only includes erosion and sediment control practices designed in accordance with Part III.B.1. *Owners or operators* of the *construction activities*, identified in Table 2 of Appendix B, must prepare a *SWPPP* that also includes SMPs designed in accordance with Part III.B.2 or 3.

For the entire area of disturbance, including the entire *common plan of development or sale* if applicable, the owner or operator must evaluate every bullet from Appendix B Table 1 and Table 2 separately. If bullets from both Table 1 and Table 2 apply, the *SWPPP* must include erosion and sediment control practices for all *construction activities* but SMPs for only those portions of the *construction activities* that fall under Table 2 bullet(s).

Part IV. Inspection and Maintenance Requirements

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures), and all SMPs identified in the *SWPPP*, are inspected and maintained in accordance with Part IV.B. and C.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity*, identified in Tables 1 and 2 of Appendix B, must have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being

implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor must:

a. if the corrective action does not require engineering design:

    i. begin implementing corrective actions within one business day; and

    ii. complete the corrective actions within five business days; or

b. if the corrective action requires engineering design:

    i. begin the engineering design process within five business days; and

    ii. complete the corrective action in a reasonable time frame but no later than within 60 calendar days.

2. For *construction sites* where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections in accordance with Part IV.B.1. The *trained contractor* must begin conducting the maintenance inspections in accordance with Part IV.B.1. as soon as soil disturbance activities resume.

3. For *construction sites* where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections in accordance with Part IV.B.1. if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational.

C. *Qualified Inspector* Inspection Requirements

1. With the exception of the following *construction activities* identified in Tables 1 and 2 of Appendix B, a *qualified inspector* must conduct site inspections for all other *construction activities* identified in Tables 1 and 2 of Appendix B:

    a. the construction of a single-family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than or equal to five (5) acres and is

not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D; and

b. the construction of a single-family home that involves soil disturbances of one (1) or more acres but less than or equal to five (5) acres and is not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D; and

c. construction on *agricultural property* that involves soil disturbances of one (1) or more acres but less than five (5) acres; and

d. *construction activities* located in the New York City Watershed located east of the Hudson River, see Appendix C Figure 1, that involve soil disturbances of 5,000 square feet or more, but less than one acre.

2. The *qualified inspector* must conduct site inspections in accordance with the following timetable:

a. For *construction sites* where soil disturbance activities are on-going, the *qualified inspector* must conduct a site inspection at least once every seven (7) calendar days; or

b. For *construction sites* where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part I.E.6. to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* must conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections must be separated by a minimum of two (2) full calendar days; or

c. For *construction sites* where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* must conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* must notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix E) or, in areas under the jurisdiction of a *Traditional Land Use Control MS4 Operator,* the *Traditional Land Use Control MS4 Operator* (provided the *Traditional Land Use Control MS4 Operator* is not the *owner or operator* of the *construction activity*) by hard copy or email prior to reducing the inspections to this frequency and again by hard copy or email prior to re-commencing construction; or

d. For *construction sites* where soil disturbance activities have been shut down with partial project completion, the requirement to have the *qualified inspector* conduct inspections ceases if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational. The *owner or operator* must notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix E) or, in areas subject to the review authority of *Traditional Land Use Control MS4 Operator(s)* in accordance with Part I.D.2.b.ii.1., the *Traditional Land Use Control MS4 Operator(s)* (provided the *Traditional Land Use Control MS4 Operator(s)* are not the *owners or operators* of the *construction activity*) in writing prior to the shutdown and again in writing prior to resuming *construction activity*. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* must terminate coverage by meeting the requirements of Part V; or

e. For *construction sites* involving soil disturbance of one (1) or more acres that *directly discharge* to one of the 303(d) segments listed in Appendix D or is located in one of the watersheds listed in Appendix C, the *qualified inspector* must conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections must be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* must inspect:

   a. all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness; and

   b. all SMPs under construction to ensure that they are constructed in conformance with the *SWPPP*; and

   c. all areas of disturbance that have not achieved *final stabilization*; and

   d. all points of *discharge* to *surface waters of the State* located within, or immediately adjacent to, the property boundaries of the *construction site*; and

   e. all points of *discharge* from the *construction site*.

4. The *qualified inspector* must prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report must include and/or address all of the following, for all *construction activities* except those listed in Part IV.C.1.:

   a. Permit identification number; and

   b. Date and time of inspection; and

   c. Name and title of person(s) performing inspection; and

   d. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection, including the temperature at the time of the inspection; and

   e. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This must include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow; and

   f. A description of the condition of all *surface waters of the State* located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This must include identification of any *discharges* of sediment to the *surface waters of the State*; and

   g. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance; and

   h. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced; and

   i. Description and sketch (map) of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection; and

   j. Estimates, in square feet or acres, of the following areas:

i. Total area with active soil disturbance (not requiring either *temporary stabilization* or *final stabilization*); and

ii. Total area with inactive soil disturbance (requiring either *temporary stabilization* or *final stabilization*); and

iii. Total area that has achieved *temporary stabilization*; and

iv. Total area that has achieved *final stabilization*; and

k. Current stage of construction of all SMPs and identification of all *construction activity* on site that is not in conformance with the *SWPPP* and technical standards; and

l. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the SMP(s); and

m. Identification and status of all corrective actions that were required by previous inspection; and

n. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* must attach color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* must also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* must attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* must notify the *owner or operator*, and appropriate contractor or subcontractor identified in Part III.A.7., of any corrective actions that need to be taken. The contractor or subcontractor must:

a. if the corrective action does not require engineering design:

i. begin implementing corrective actions within one business day; and

ii. complete the corrective actions within five business days; or

b. if the corrective action requires engineering design:

i. begin the engineering design process within five business days; and

ii. complete the corrective action in a reasonable time frame but no later than within 60 calendar days.

6. All inspection reports must be signed by the *qualified inspector.* In accordance with Part I.E.3., the inspection reports must be maintained on site with the *SWPPP*.

Part V. How to Terminate CGP Coverage

A. Electronic Notice of Termination (eNOT) Submittal

The eNOT contains questions to ensure requirements in Part V.A. have been met.

1. An *owner or operator* must terminate coverage when one or more of the following requirements have been met:

a. Total project completion:

i. all *construction activity* identified in the *SWPPP* has been completed; and

ii. all areas of disturbance have achieved *final stabilization*; and

iii. all temporary, structural erosion and sediment control measures have been removed; and

iv. all SMPs have been constructed in conformance with the *SWPPP* and are operational; and

v. an as-built drawing has been prepared; or

b. Planned shutdown with partial project completion:

   i. all soil disturbance activities have ceased; and

   ii. all areas disturbed as of the project shutdown date have achieved *final stabilization*; and

   iii. all temporary, structural erosion and sediment control measures have been removed; and

   iv. all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational; and

   v. an as-built drawing has been prepared; or

c. In accordance with Part I.G. Change of Owner or Operator; or

d. The *owner or operator* has obtained coverage under an alternative general SPDES permit or an individual SPDES permit.

2. For *construction activities* that require *qualified inspector* inspections in accordance with Part IV.C.1. and have met Part V.A.1.a. or b., the *owner or operator* must have the *qualified inspector* perform a final site inspection prior to submitting the eNOT. The *qualified inspector* must, by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice(s)" certification statements on the eNOT, certify that all the requirements in Part V.A.1.a. or b. have been achieved.

3. For *construction activities* that are subject to the review authority of *Traditional Land Use Control MS4 Operator(s)* in accordance with Part I.D.2.b.ii.1. and meet Part V.A.1.a. or b., the *owner or operator* must have the *Traditional Land Use Control MS4 Operator(s)* sign the "MS4 Acceptance" statement on the eNOT in accordance with the requirements in Part VII.J. A *Traditional Land Use Control MS4 Operator* official, by signing this statement, determined that it is acceptable for the *owner or operator* to submit the eNOT in accordance with the requirements of this Part. A *Traditional Land Use Control MS4 Operator* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) when required in Part V.A.2.

4. For *construction activities* that require SMPs and meet Part V.A.1.a. or b., the *owner or operator* must, prior to submitting the eNOT, ensure one of the following:

    a. for SMP(s) that were constructed by a private entity, but will be owned, operated, and maintained by a public entity, the SMP(s) and any right-of-way(s) needed to operate and maintain such practice(s) have been deeded to the municipality in which the practice(s) is located; or

    b. for SMP(s) that are privately owned, but will be operated and maintained by a public entity, an executed operation and maintenance agreement is in place with the municipality that will operate and maintain the SMP(s); or

    c. for SMP(s) that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record; or

    d. for SMP(s) that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility, the *owner or operator* has policies and procedures in place that ensure operation and maintenance of the practices in accordance with the operation and maintenance plan.

5. An *owner or operator* that has met the requirements of Part V.A.1., 2., 3., and 4. must request termination of coverage under this permit by submitting a complete Notice of Termination form electronically using a NYSDEC approved form.[5]

    a. The owner's or operator's coverage is terminated as of the termination date indicated in the Letter of Termination (LOT), which is sent by NYSDEC after a complete eNOT is submitted.

[5] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

Part VI. Record Retention and Reporting

A. Record Retention

The *owner or operator* must retain a copy of the documents listed in Part I.E.3. and a copy of the LOT for a period of at least five years from the date that NYSDEC accepts a complete NOT submitted in accordance with Part V.

B. Reporting

Except for the eNOI, the signature forms associated with the eNOI, and the eNOT, all other written correspondence requested by NYSDEC, including individual permit applications, must be sent to the address of the appropriate DOW (SPDES) Program contact at the Regional Office listed in Appendix E.

Part VII. Standard Permit Requirements

For the purposes of this permit, examples of contractors and subcontractors include: third-party maintenance and construction contractors.

A. Duty to Comply

The *owner or operator*, and all contractors or subcontractors, must comply with all requirements of this permit. Any non-compliance with the requirements of this permit constitutes a violation of the New York State Environmental Conservation Law (ECL), and its implementing regulations, and is grounds for enforcement action. Filing of a request for termination of coverage under this permit, or a notification of planned changes or anticipated non-compliance, does not limit, diminish or stay compliance with any requirements of this permit.

B. Need to Halt or Reduce Activity Not a Defense

The necessity to halt or reduce the *construction activity* regulated by this permit, in order to maintain compliance with the requirements of this permit, must not be a defense in an enforcement action.

C. Penalties

There are substantial criminal, civil, and administrative penalties associated with violating the requirements of this permit. Fines of up to $37,500 per day for each

violation and imprisonment for up to 15 years may be assessed depending upon the nature and degree of the offense.

D. False Statements

Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, or other document filed or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance must, upon conviction, be punished in accordance with ECL §71-1933 and or New York State Penal Law Articles 175 and 210.

E. Re-Opener Clause

Upon issuance of this permit, a determination has been made on the basis of a submitted Notice of Intent, plans, or other available information, that compliance with the specified permit requirements will reasonably protect classified water use and assure compliance with applicable *water quality standards*. Satisfaction of the requirements of this permit notwithstanding, if operation pursuant to this permit causes or contributes to a condition in contravention of State *water quality standards* or guidance values, or if NYSDEC determines that a modification is necessary to prevent impairment of the best use of the waters or to assure maintenance of *water quality standards* or compliance with other provisions of ECL Article 17 or the Clean Water Act (CWA), or any regulations adopted pursuant thereto, NYSDEC may require such modification and the Commissioner may require abatement action to be taken by the *owner or operator* and may also prohibit such operation until the modification has been implemented.

F. Duty to Mitigate

The *owner or operator*, and its contractors and subcontractors, must take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

G. Requiring Another General Permit or Individual SPDES Permit

NYSDEC may require any *owner or operator* authorized to *discharge* in accordance with this permit to apply for and obtain an individual SPDES permit or apply for authorization to *discharge* in accordance with another general SPDES permit.

1. Cases where an individual SPDES permit or authorization to discharge in accordance with another general SPDES permit may be required include, but is not limited to the following:

a. the *owner or operator* is not in compliance with the conditions of this permit or does not meet the requirements for coverage under this permit; and

b. a change has occurred in the availability of demonstrated technology or practices for the control or abatement of *pollutants* applicable to the *point source*; and

c. new effluent limitation guidelines or new source performance standards are promulgated that are applicable to *point sources* authorized to *discharge* in accordance with this permit; and

d. existing effluent limitation guidelines or new source performance standards that are applicable to *point sources* authorized to *discharge* in accordance with this permit are modified; and

e. a water quality management plan containing requirements applicable to such *point sources* is approved by NYSDEC; and

f. circumstances have changed since the time of the request to be covered so that the *owner or operator* is no longer appropriately controlled under this permit, or either a temporary or permanent reduction or elimination of the authorized *discharge* is necessary; and

g. the *discharge* is in violation of section 17-0501 of the ECL; and

h. the *discharge(s)* is a significant contributor of *pollutants*. In making this determination, NYSDEC may consider the following factors:

   i. the location of the *discharge(s)* with respect to *surface waters of the State*; and

   ii. the size of the *discharge(s)*; and

   iii. the quantity and nature of the *pollutants discharged* to *surface waters of the State*; and

   iv. other relevant factors including compliance with other provisions of ECL Article 17, or the CWA.

2. When NYSDEC requires any *owner or operator* authorized by this permit to apply for an individual SPDES permit as provided for in this subdivision, it must notify the *owner or operator* in writing that a permit application is required. This notice must include a brief statement of the reasons for this decision, an application

form, a statement setting a time for the *owner or operator* to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from the *owner's or operator's* receipt of the notification letter, whereby the authorization to *discharge* under this permit must be terminated. NYSDEC may grant additional time upon demonstration, to the satisfaction of the RWE,[6] that additional time to apply for an alternative authorization is necessary or where NYSDEC has not provided a permit determination in accordance with 6 NYCRR Part 621.

3. When an individual SPDES permit is issued to an *owner or operator* authorized to *discharge* under this permit for the same *discharge(s)*, this permit authorization for *construction activities* authorized under the individual SPDES permit is automatically terminated on the effective date of the individual SPDES permit unless termination is earlier in accordance with 6 NYCRR Part 750.

H. Duty to Provide Information

The *owner or operator* must furnish to NYSDEC, within five business days, unless otherwise set forth by NYSDEC, any information that NYSDEC may request to determine whether cause exists to determine compliance with this permit or to determine whether cause exists for requiring an individual SPDES permit in accordance with 6 NYCRR 750-1.21(e) (see Part VII.G. Requiring Another General Permit or Individual Permit).

The *owner or operator* must make available to NYSDEC, for inspection and copying, or furnish to NYSDEC within 25 business days of receipt of a NYSDEC request for such information, any information retained in accordance with this permit.

Except for Part I.D.4. and 5. and Part I.G., the following applies: where the *owner or operator* becomes aware that it failed to submit any relevant facts on the Notice of Intent, or submitted incorrect information in a Notice of Intent or in any report to NYSDEC, the *owner or operator* must submit such facts or corrected information to NYSDEC within five business days.

I. Extension

In the event a new permit is not issued and effective prior to the expiration of this permit, and this permit is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, then the *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the requirements of this permit until a new permit is issued and effective.

[6] The Regional Water Manager where a DEC Region does not have a RWE.

J. Signatories and Certification

The Notice of Intent, Notice of Termination, and reports required by this permit must be signed as provided in 40 CFR §122.22.

1. All Notices of Intent and Notices of Termination must be signed as follows:

    a. For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

        (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or

        (ii) the manager of one or more manufacturing, production or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for Notice of Intent or Notice of Termination requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

        Note: NYSDEC does not require specific assignments or delegations of authority to responsible corporate officers identified in 40 CFR §122.22(a)(1)(i). NYSDEC will presume that these responsible corporate officers have the requisite authority to sign the Notice of Intent or Notice of Termination unless the corporation has notified NYSDEC to the contrary. Corporate procedures governing authority to sign a Notice of Intent or Notice of Termination may provide for assignment or delegation to applicable corporate positions under 40 CFR §122.22(a)(1)(ii) rather than to specific individuals.

    b. For a partnership or sole proprietorship. By a general partner or the proprietor, respectively.

c. For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

    1. the chief executive officer of the agency; or

    2. a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. All reports required by this permit, and other information requested by NYSDEC, must be signed by a person described in Part VII.J.1., or by a duly authorized representative of that person. A person is a duly authorized representative only if:

    a. The authorization is made in writing by a person described in Part VII.J.1. or using the Duly Authorized Form, found on the DEC website; and

    b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

    c. The written authorization is submitted to NYSDEC.

3. Changes to authorization. If an authorization under Part VII.J.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the *construction activity*, a new authorization satisfying the requirements of Part VII.J.2. must be submitted to NYSDEC prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under Part VII.J.1. or 2. must make the following certification:

    I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who

manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

5. Electronic reporting. If documents described in Part VII.J.1. or 2. are submitted electronically by or on behalf of the *construction activity* with coverage under this permit, any person providing the electronic signature for such documents must meet all relevant requirements of this section, and must ensure that all of the relevant requirements of 40 CFR Part 3 (including, in all cases, subpart D to Part 3) (Cross-Media Electronic Reporting) and 40 CFR Part 127 (NPDES Electronic Reporting Requirements) are met for that submission.

K. Inspection and Entry

The *owner or operator* must allow NYSDEC, the USEPA Regional Administrator, the applicable county health department, or any authorized representatives of those entities, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the *discharge*, upon the presentation of credentials and other documents as may be required by law, to:

1. enter upon the *owner's or operator's* premises where a regulated facility or activity is located or conducted or where records must be kept under the requirements of this permit; and

2. have access to and copy at reasonable times, any records that must be kept under the requirements of this permit, including records required to be maintained for purposes of operation and maintenance; and

3. inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

4. sample or monitor at reasonable times, for the purposes of assuring general SPDES permit compliance or as otherwise authorized by the CWA or ECL, any substances or parameters at any location; and

5. enter upon the property of any contributor to the regulated facility or activity under authority of the *owner or operator*.

L. Confidentiality of Information

The following must not be held confidential: this permit, the fact sheet for this permit, the name and address of any *owner or operator*, effluent data, the Notice of Intent, and information regarding the need to obtain an individual permit or an alternative general SPDES permit. This includes information submitted on forms themselves and any attachments used to supply information required by the forms (except information submitted on usage of substances). Upon the request of the *owner or operator*, NYSDEC must make determinations of confidentiality in accordance with 6 NYCRR Part 616, except as set forth in the previous sentence. Any information accorded confidential status must be disclosed to the Regional Administrator upon his or her written request. Prior to disclosing such information to the Regional Administrator, NYSDEC will notify the Regional Administrator of the confidential status of such information.

M. Other Permits May Be Required

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

N. NYSDEC Orders or Civil Decrees/Judgments

The issuance of this permit by the NYSDEC, and the coverage under this permit by the *owner or operator*, does not supersede, revoke, or rescind any existing order on consent or civil Decree/Judgment, or modification to any such documents or to any order issued by the Commissioner, or any of the terms, conditions, or requirements contained in such order or modification therefore, unless expressly noted.

O. Property Rights

Coverage under this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations, nor does it obviate the necessity of obtaining the assent of any other jurisdiction as required by law for the *discharge* authorized.

P. Compliance with Interstate Standards

If the *construction activity* covered by this permit originates within the jurisdiction of an interstate water pollution control agency, then the *construction activity* must also comply with any applicable effluent standards or *water quality standards* promulgated by that interstate agency and as set forth in this permit for such *construction activities*.

Q. Oil and Hazardous Substance Liability

Coverage under this permit does not affect the imposition of responsibilities upon, or the institution of any legal action against, the *owner or operator* under section 311 of the CWA, which must be in conformance with regulations promulgated pursuant to section 311 governing the applicability of section 311 of the CWA to *discharges* from facilities with *NPDES* permits, nor must such issuance preclude the institution of any legal action or relieve the *owner or operator* from any responsibilities, liabilities, or penalties to which the *owner or operator* is or may be subject pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. section 9601 et seq. (CERCLA).

R. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, must not be affected thereby.

S. NYSDEC Approved Forms

The *owner or operator* must provide all relevant information that is requested by NYSDEC, and required by this permit, on all NYSDEC approved forms.

APPENDIX A – Abbreviations and Definitions

Abbreviations

APO – Agency Preservation Officer
BB – New York State Standards and Specifications for Erosion and Sediment Control (Blue Book), dated November 2016
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
CPv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DM – New York State Stormwater Management Design Manual (Design Manual), dated July 31, 2024
DOW – Division of Water
EAF – Environmental Assessment Form
ECL – chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law
EPA – U.S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
NYC – The City of New York
NYCDEP – The City of New York Department of Environmental Protection
NYSDEC – The New York State Department of Environmental Conservation
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RR – Runoff Reduction
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SMP – Post-Construction Stormwater Management Practice
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit. If a word is not italicized in the permit, use its common definition.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property – the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023).

Alter Hydrology from Pre- to Post-Development Conditions – the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer System – a sewer system which conveys sewage and *stormwater* through a single pipe system to a publicly owned treatment works.

Commence (Commencement of) Construction Activities – the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the *SWPPP*. See definition for "*Construction Activity(ies)*" also.

Common Plan of Development or Sale – a contiguous area where multiple separate and distinct *construction activities* are occurring, or may occur, under one plan. The "common plan" of development or sale is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQR) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating *construction activities* may occur on a specific plot. A *common plan of development or sale* is comprised of two or more *phases*.

Common plan of development or sale does not include separate and distinct *construction activities* that are occurring, or may occur, under one plan that are at least 1/4 mile apart provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

Construction Activity(ies) – identified within 40 CFR 122.26(b)(14)(x), 122.26(b)(15)(i), and 122.26(b)(15)(ii), any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, mechanized logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal.

Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, which is excluded from the calculation of the soil disturbance for a project. Routine maintenance includes, but is not limited to:

- Re-grading of gravel roads or parking lots; and
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity of the ditch; and
- Replacement of existing culverts that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity of a ditch; and
- Replacement of existing bridges that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity beneath the bridges; and
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch); and
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*; and
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material; and
- Long-term use of equipment storage areas at or near highway maintenance facilities; and
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*; and
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts; and
- Maintenance of ski trails including brush hog use and mowing; and
- Above ground snowmaking pipe replacement; and
- Replacement of existing utility poles; etc.

Construction Site – the land area where *construction activity(ies)* will occur. See also the definitions for "*Commence (Commencement of) Construction Activities"* and "*Common Plan of Development or Sale."*

Dewatering – the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Directly Discharge(s)(ing) (to a specific surface waterbody) – runoff flows from a *construction site* by overland flow and the first point of *discharge* is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system and the first point of *discharge* from the separate storm sewer system is the specific surface waterbody.

Discharge(s)(d) – any addition of any *pollutant* to waters of the State through an outlet or *point source*.

Embankment – an earthen or rock slope that supports a road/highway.

Equivalent (Equivalence) – the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization – all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other *equivalent* stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

Historic Property – any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) – all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and compacted gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – not technologically possible, or not economically practicable and achievable considering best industry practices.

Minimize(ing)(ation) – reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer System (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

1. owned or operated by a State, city, town, village, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, *stormwater*, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA, that *discharges* to *surface waters of the State*; and

2. designed or used for collecting or conveying *stormwater*; and

3. which is not a *combined sewer system*; and

4. which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Natural Buffer(s) – an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – any land disturbance that does not meet the definition of *Redevelopment Activity* included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

Nonpoint Source(s) – any source of water pollution or *pollutants* which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank – flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator – the person, persons, or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit requirements.

Performance Criteria – the six performance criteria for each group of SMPs in Chapters 5 and 6 of the technical standard, New York State Stormwater Management Design Manual (DM), dated July 31, 2024. These include feasibility, conveyance, pretreatment, treatment, landscaping, and maintenance. It does not include the *Sizing Criteria* (i.e. WQv, RRv, CPv, Qp and Qf) in Part I.C.2. of the permit.

Phase – a defined area in which *construction activities* are occurring or will occur separate from other defined area(s).

Point Source – any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be *discharged*.

Pollutant(s) – dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast *discharged* into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq.

Qualified Inspector – a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, *New York State Erosion and Sediment Control Certificate Program* holder or other NYSDEC endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of NYSDEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any SMPs that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional – a person that is knowledgeable in the principles and practices of *stormwater* management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other NYSDEC endorsed individual(s). Individuals preparing *SWPPPs* that require the SMP component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the *SWPPP* that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – the disturbance and reconstruction of existing *impervious area*, including *impervious areas* that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Renewable Energy – electricity or thermal energy generated by renewable energy systems through use of the following technologies: solar thermal, photovoltaics, on land and offshore wind, hydroelectric, geothermal electric, geothermal ground source heat, tidal energy, wave energy, ocean thermal, and fuel cells which do not utilize a fossil fuel resource in the process of generating electricity.

Site Limitations – site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical *site limitations* include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of *site limitations* shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – the criteria included in Part I.C.2 of the permit that are used to size SMPs. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

Steep Slope – land area designated on the current United States Department of Agriculture (USDA) Soil Survey as Soil Slope Phase D, (provided the map unit name or description is inclusive of slopes greater than 25%), or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Stormwater – that portion of precipitation that, once having fallen to the ground, is in excess of the evaporative or infiltrative capacity of soils, or the retentive capacity of surface features, which flows or will flow off the land by surface runoff to waters of the State.

Streambank – the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – a project specific report, including construction drawings, that among other things: describes the *construction activity(ies)*, identifies the potential sources of pollution at the *construction site*; describes and shows the *stormwater* controls that will be used to control the *pollutants* (i.e. erosion and sediment controls; for many projects, includes SMPs); and identifies procedures the *owner or operator* will implement to comply with the requirements of the permit. See Part III of the permit for a complete description of the information that must be included in the *SWPPP*.

Surface Waters of the State – shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization – exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Load (TMDL) – the sum of the allowable loads of a single *pollutant* from all contributing point and *nonpoint source*s. It is a calculation of the maximum amount of a *pollutant* that a waterbody can receive and still meet *water quality standards*, and an allocation of that amount to the *pollutant's* sources. A TMDL stipulates Waste Load Allocations (WLA) for *point source discharges*, Load Allocations (LA) for *nonpoint source*s, and a margin of safety (MOS).

Traditional Land Use Control MS4 Operator – a city, town, or village with land use control authority that is authorized to *discharge* under New York State DEC's SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Trained Contractor – an employee from the contracting (construction) company, identified in Part III.A.7., that has received four (4) hours of NYSDEC endorsed training

in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.7., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, *New York State Erosion and Sediment Control Certificate Program* holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of NYSDEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity).

The *trained contractor* is responsible for the day-to-day implementation of the *SWPPP*.

Tree Clearing – *construction activities* limited to felling and removal of trees.

Tree clearing does not include hand felling and leaving the trees in place with no support from mechanized equipment, which is not considered *construction activity* requiring coverage under this permit.

Water Quality Standard – such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following *construction activities* that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single-family home not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family residential subdivisions with 25% or less *impervious cover* at total site build-out and not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.
- Structural agricultural conservation practices as identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023) that include construction or reconstruction of *impervious area* or *alter hydrology from pre- to post-development* conditions.

The following *construction activities* that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

- All construction activities located in the New York City Watershed located east of the Hudson River, see Appendix C Figure 1, that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

Within the municipal boundaries of NYC:

- Stand-alone road reconstruction, where the total soil disturbance from only that road construction, is less than one (1) acre of land.

The following *construction activities*:

- Installation of underground linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation, *stormwater* retrofits, stream restoration, and resiliency projects that reconstruct shoreline areas to address sea level rise
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an *impervious cover*
- Cross-country ski trails, walking/hiking trails, and mountain biking trails, including a de minimis parking lot (maximum 10 spaces total, sized for passenger cars) with 35 feet minimum preservation of undisturbed area downgradient from the parking lot
- Dam rehabilitation (the structure of the dam itself)
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are not part of residential, commercial, or institutional development;
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path, or walking path.

Table 1 (Continued)
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following *construction activities*:

- Slope stabilization
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics
- Spoil areas that will be covered with vegetation
- Vegetated open space (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) that do not *alter hydrology from pre- to post-development* conditions
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre- to post-development* conditions
- Demolition where vegetation will be established, and no *redevelopment activity* is planned[1]
- Installation or replacement of either an overhead electric transmission line or a ski lift tower that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*.
- Solar array field areas that have tables elevated off the ground, spaced one table width apart, do not *alter hydrology from pre- to post-development conditions*, and address water quality volume and runoff reduction volume by maintaining sheet flow on slopes less than 8%.
- Structural agricultural conservation practices as identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023) that do not include construction or reconstruction of *impervious area* and do not *alter hydrology from pre- to post-development* conditions.
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary *impervious areas* that will be restored to pre-construction conditions once the *construction activity* is complete (in this context, "temporary" means the *impervious area* will be in place for two years or less)
- Other *construction activities* that do not include the construction or reconstruction of *impervious area*, and do not *alter hydrology from pre- to post-development* conditions, and are not listed in Table 2.

1. If the site is redeveloped in the future, a new eNOI must be submitted.

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES (SMPS)

The following *construction activities*:

- Single-family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family home that disturbs five (5) or more acres of land
- Single-family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% *impervious cover* at total site build-out
- Single-family residential subdivisions that involve soil disturbances of between 20,000 square feet and one (1) acre of land within the municipal boundaries of NYC with greater than 25% *impervious cover* at total site build-out
- Single-family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single-family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a *common plan of development or sale* that will ultimately disturb five (5) or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Creation of 5,000 square feet or more of *impervious area* in the municipal boundaries of NYC
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of *impervious area* (>5% of disturbed area) or *alter the hydrology from pre- to post-development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) that involves soil disturbance greater than five acres.
- Structural agricultural conservation practices as identified in Table II in the “Agricultural Best Management Practice Systems Catalogue” (dated June 2023) that involves soil disturbance greater than five acres and include the construction or reconstruction of *impervious area* or *alter hydrology from pre- to post-development* conditions.
- Facility buildings, including ski lodges, restroom buildings, pumphouses, ski lift terminals, and maintenance and groomer garages
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills; including creation of landfills or capping landfills.
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTWs, water treatment plants, and water storage tanks
- Golf courses
- Office complexes

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES (SMPS)

The following *construction activities*:

- Permanent laydown yards and equipment storage lots
- Playgrounds that include the construction or reconstruction of *impervious area*
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surfaces
- Road construction or reconstruction, outside the municipal boundaries of NYC
- Road construction within the municipal boundaries of NYC
- Stand-alone road reconstruction, within the municipal boundaries of NYC where the total soil disturbance from that road reconstruction involves soil disturbance of one (1) acre or more of land
- Parking lot construction or reconstruction (as with all Table 2 bullets, this includes parking lots constructed as part of the *construction activities* listed in Table 1, unless a Table 1 bullet specifies otherwise)
- Athletic fields (natural grass) that include the construction or reconstruction of *impervious area* (>5% of disturbed area) or *alter the hydrology from pre- to post-development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations, and well drilling pads, surfaced with *impervious cover,* and constructed as part of an overhead electric transmission line, wind-power, cell tower, oil or gas well drilling, sewer or water main, ski lift, or other linear utility project
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are part of a residential, commercial or institutional development
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are part of highway construction or reconstruction
- Solar array field areas on slopes greater than 8% that cannot maintain sheet flow using management practices identified in the BB or the DM
- Solar array field areas on slopes less than 8% that will *alter the hydrology from pre- to post-development* conditions
- Solar array field areas with tables that are not elevated high enough to achieve *final stabilization* beneath the tables
- Traditional *impervious areas* associated with solar development (e.g. roads, buildings, transformers)
- Utility pads surfaced with *impervious cover*, including electric vehicle charging stations
- All other *construction activities* that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre- to post-development* conditions, and are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of *construction activities* identified in Table 2 of Appendix B must prepare a *SWPPP* that includes SMPs designed in conformance with the Enhanced Phosphorus Removal Standards included in the DM technical standard.

- Entire New York City Watershed located east of the Hudson River – Figure 1
- Onondaga Lake Watershed – Figure 2
- Greenwood Lake Watershed – Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

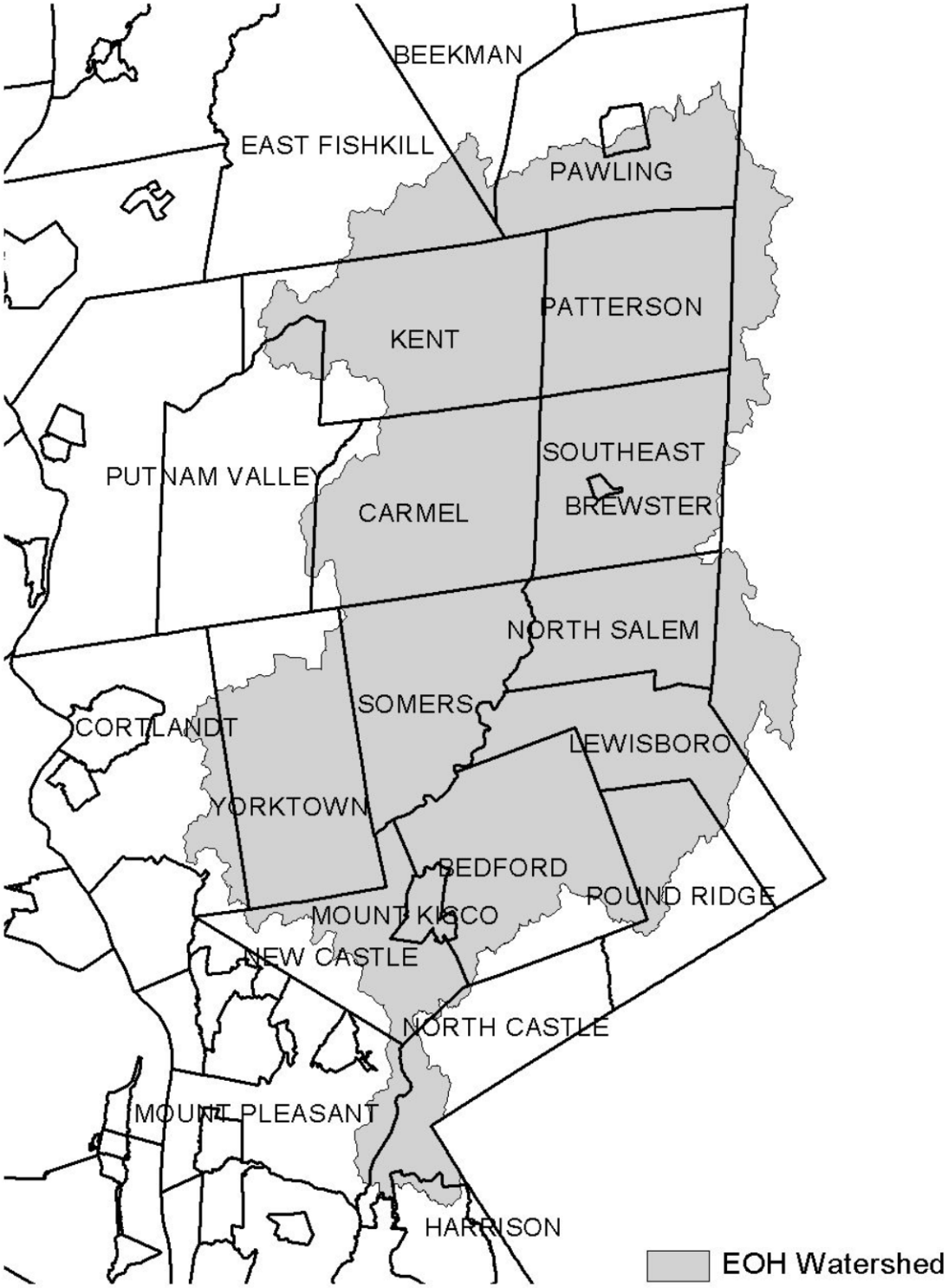


Figure 2 - Onondaga Lake Watershed



Figure 3 - Greenwood Lake Watershed

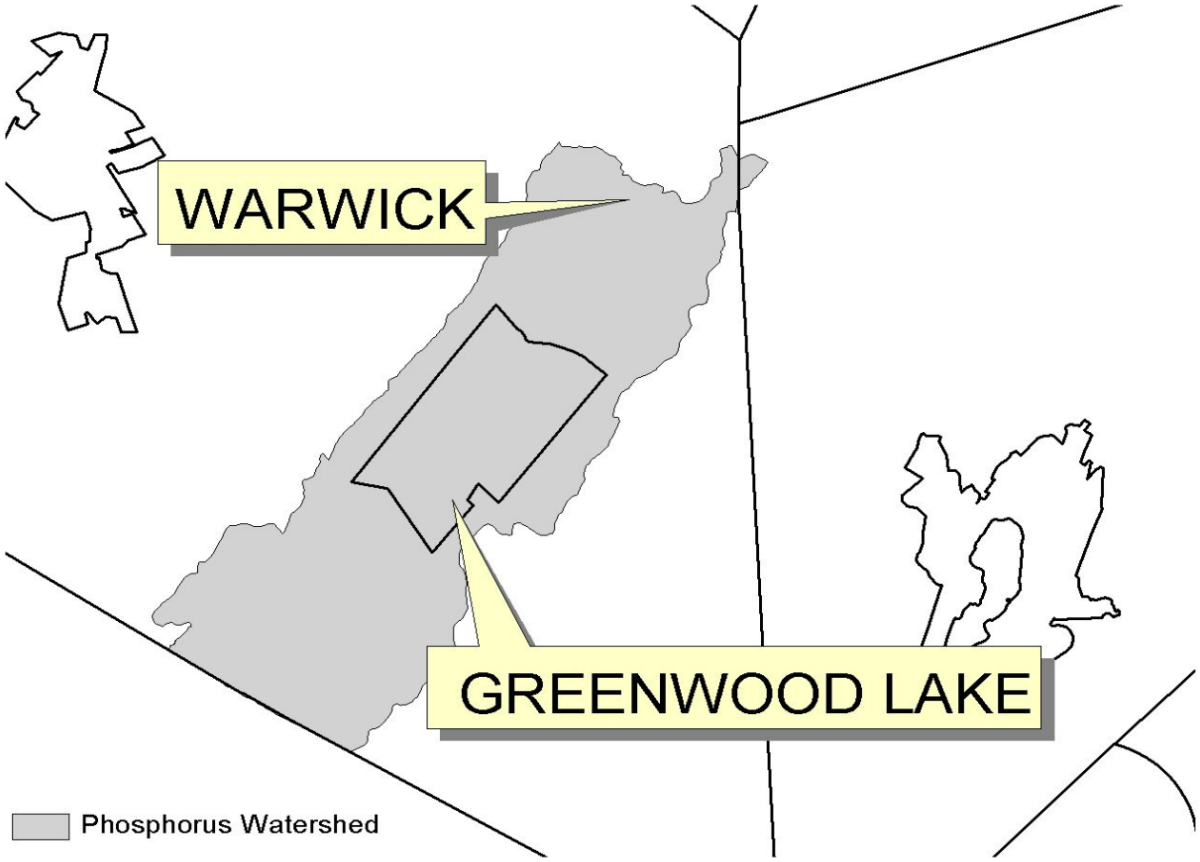


Figure 4 - Oscawana Lake Watershed

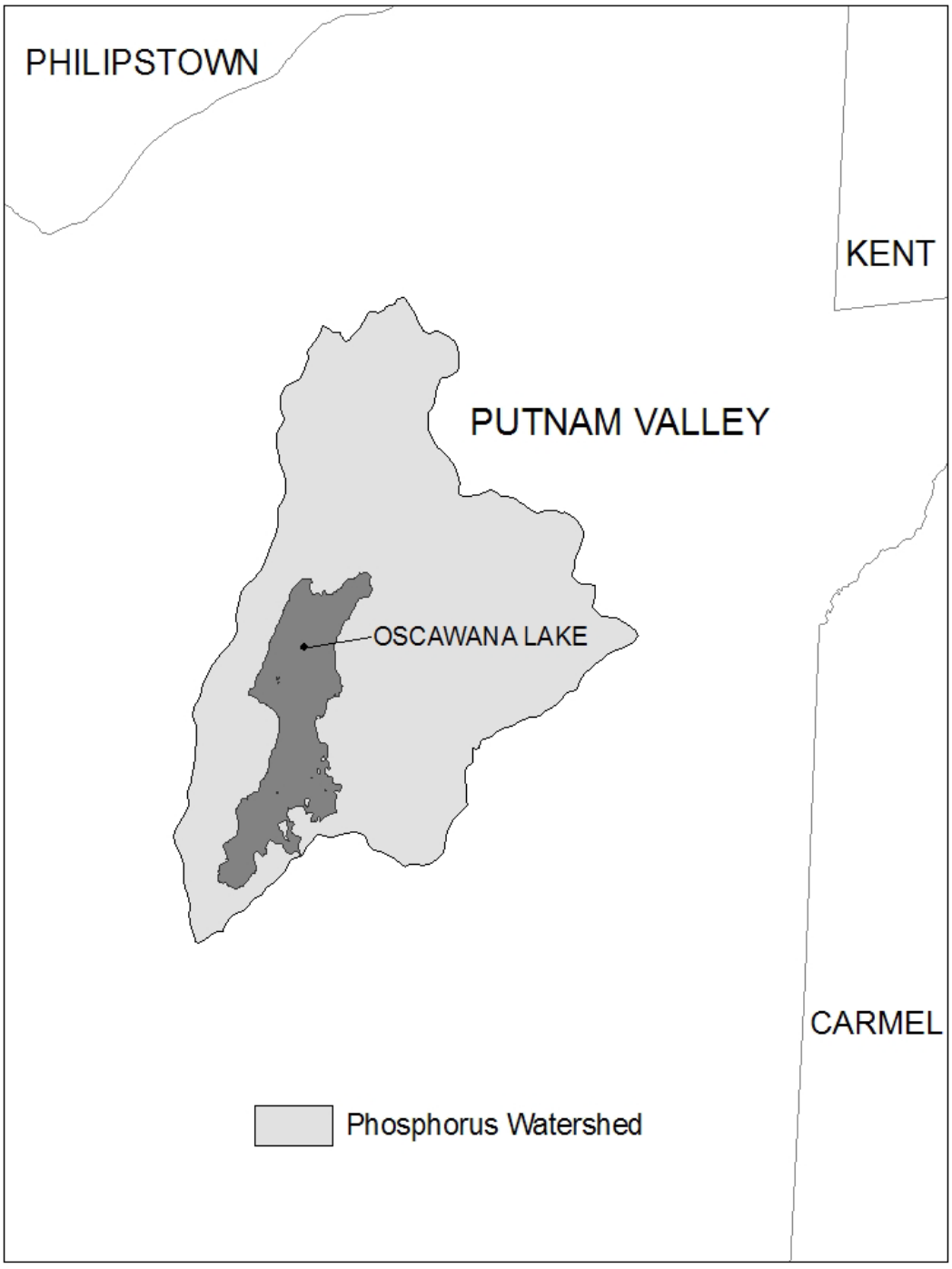
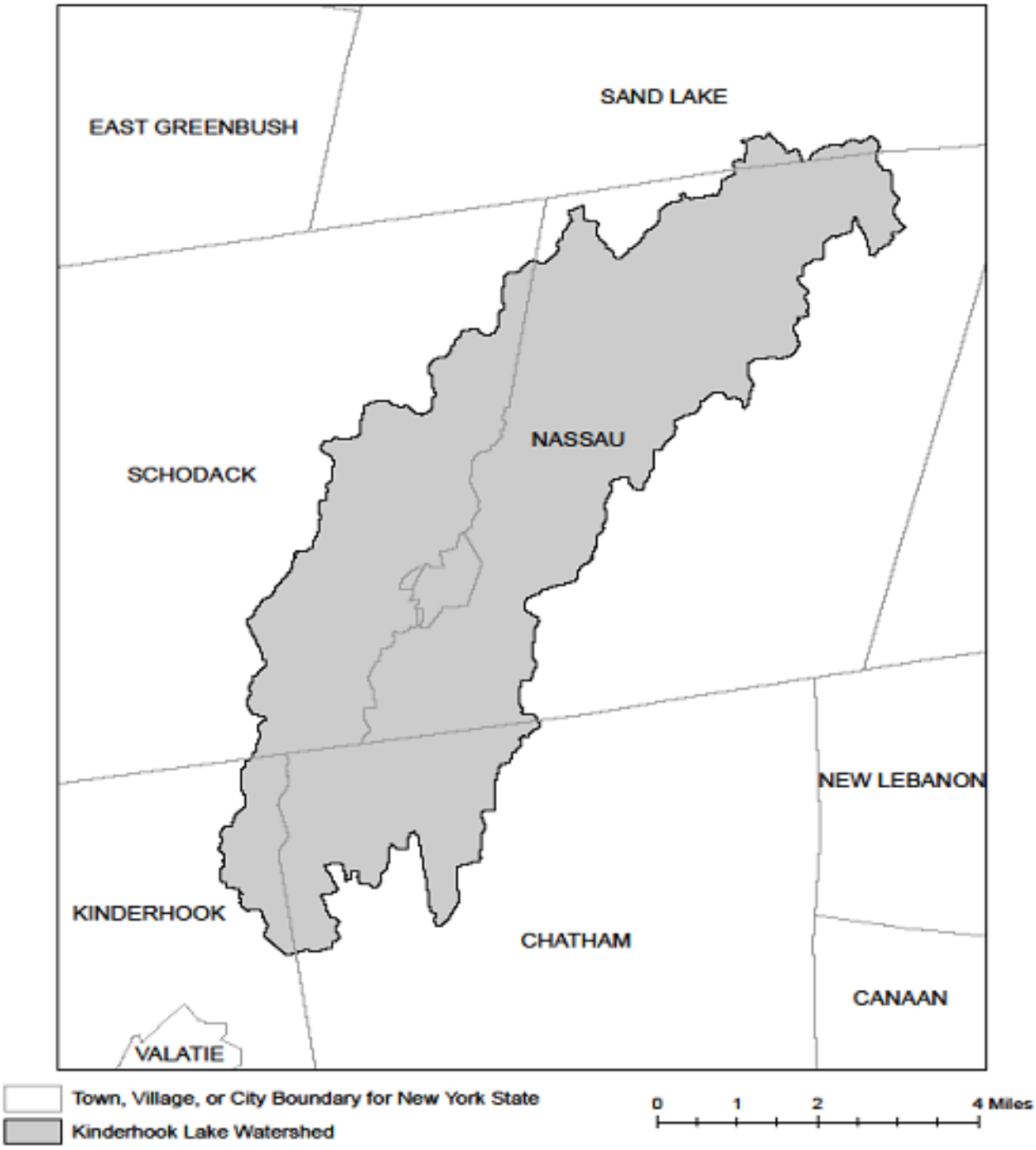


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Impaired Waterbodies (by Construction Related Pollutants)

List of waterbodies impaired by *pollutants* related to *construction activity*, including turbidity, silt/sediment, and nutrients (e.g. nitrogen, phosphorus). This list is a subset of "The Final New York State 2018 Section 303(d) List of Impaired Waters Requiring a TMDL" dated June 2020.

County	Waterbody	Pollutant
Albany	Ann Lee (Shakers) Pond, Stump Pond (1201-0096)	Phosphorus
Albany	Lawsons Lake (1301-0235)	Phosphorus
Allegany	Amity Lake, Saunders Pond (0403-0054)	Phosphorus
Allegany	Andover Pond (0403-0056)	Phosphorus
Bronx	Reservoir No.1/Lake Isle (1702-0075)	Phosphorus
Bronx	Van Cortlandt Lake (1702-0008)	Phosphorus
Broome	Blueberry, Laurel Lakes (1404-0033)	Phosphorus
Broome	Fly Pond, Deer Lake (1404-0038)	Phosphorus
Broome	Minor Tribs to Lower Susquehanna (0603-0044)	Phosphorus
Broome	Whitney Point Lake/Reservoir (0602-0004)	Phosphorus
Cattaraugus	Allegheny River/Reservoir (0201-0023)	Phosphorus
Cattaraugus	Beaver Lake/Alma Pond (0201-0073)	Phosphorus
Cattaraugus	Case Lake (0201-0020)	Phosphorus
Cattaraugus	Linlyco/Club Pond (0201-0035)	Phosphorus
Cayuga	Duck Lake (0704-0025)	Phosphorus
Cayuga	Owasco Inlet, Upper, and tribs (0706-0014)	Nutrients
Chautauqua	Chadakoin River and tribs (0202-0018)	Phosphorus
Chautauqua	Hulburt/Clymer Pond (0202-0079)	Phosphorus
Chautauqua	Middle Cassadaga Lake (0202-0002)	Phosphorus
Clinton	Great Chazy River, Lower, Main Stem (1002-0001)	Silt/Sediment
Columbia	Robinson Pond (1308-0003)	Phosphorus
Cortland	Dean Pond (0602-0077)	Phosphorus
Dutchess	Fallkill Creek (1301-0087)	Phosphorus
Dutchess	Hillside Lake (1304-0001)	Phosphorus
Dutchess	Wappingers Lake (1305-0001)	Phosphorus
Dutchess	Wappingers Lake (1305-0001)	Silt/Sediment
Erie	Beeman Creek and tribs (0102-0030)	Phosphorus
Erie	Delaware Park Pond (0101-0026)	Phosphorus
Erie	Ellicott Creek, Lower, and tribs (0102-0018)	Phosphorus
Erie	Ellicott Creek, Lower, and tribs (0102-0018)	Silt/Sediment
Erie	Green Lake (0101-0038)	Phosphorus
Erie	Little Sister Creek, Lower, and tribs (0104-0045)	Phosphorus
Erie	Murder Creek, Lower, and tribs (0102-0031)	Phosphorus

Erie	Rush Creek and tribs (0104-0018)	Phosphorus
Erie	Scajaquada Creek, Lower, and tribs (0101-0023)	Phosphorus
Erie	Scajaquada Creek, Middle, and tribs (0101-0033)	Phosphorus
Erie	Scajaquada Creek, Upper, and tribs (0101-0034)	Phosphorus
Erie	South Branch Smoke Cr, Lower, and tribs (0101-0036)	Phosphorus
Erie	South Branch Smoke Cr, Lower, and tribs (0101-0036)	Silt/Sediment
Genesee	Bigelow Creek and tribs (0402-0016)	Phosphorus
Genesee	Black Creek, Middle, and minor tribs (0402 0028)	Phosphorus
Genesee	Black Creek, Upper, and minor tribs (0402-0048)	Phosphorus
Genesee	Bowen Brook and tribs (0102-0036)	Phosphorus
Genesee	LeRoy Reservoir (0402-0003)	Phosphorus
Genesee	Mill Pond (0402-0050)	Phosphorus
Genesee	Oak Orchard Cr, Upper, and tribs (0301-0014)	Phosphorus
Genesee	Oatka Creek, Middle, and minor tribs (0402-0031)	Phosphorus
Genessee	Tonawanda Cr, Middle, Main Stem (0102-0002)	Phosphorus
Greene	Schoharie Reservoir (1202-0012)	Silt/Sediment
Greene	Sleepy Hollow Lake (1301-0059)	Silt/Sediment
Herkimer	Steele Creek tribs (1201-0197)	Phosphorus
Herkimer	Steele Creek tribs (1201-0197)	Silt/Sediment
Kings	Hendrix Creek (1701-0006) 18	Nitrogen
Kings	Prospect Park Lake (1701-0196)	Phosphorus
Lewis	Mill Creek/South Branch, and tribs (0801-0200)	Nutrients
Livingston	Christie Creek and tribs (0402-0060)	Phosphorus
Livingston	Conesus Lake (0402-0004)	Phosphorus
Livingston	Mill Creek and minor tribs (0404-0011)	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs (0402-0033)	Phosphorus
Monroe	Buck Pond (0301-0017)	Phosphorus
Monroe	Cranberry Pond (0301-0016)	Phosphorus
Monroe	Durand, Eastman Lakes (0302-0037)	Phosphorus
Monroe	Lake Ontario Shoreline, Western (0301-0069) 9	Phosphorus
Monroe	Long Pond (0301-0015)	Phosphorus
Monroe	Mill Creek and tribs (0302-0025)	Phosphorus 2
Monroe	Mill Creek/Blue Pond Outlet and tribs (0402-0049)	Phosphorus
Monroe	Minor Tribs to Irondequoit Bay (0302-0038)	Phosphorus
Monroe	Rochester Embayment - East (0302-0002) [9]	Phosphorus
Monroe	Rochester Embayment - West (0301-0068) 9	Phosphorus
Monroe	Shipbuilders Creek and tribs (0302-0026)	Phosphorus 2
Monroe	Thomas Creek/White Brook and tribs (0302-0023)	Phosphorus

Nassau	Bannister Creek/Bay (1701-0380)	Nitrogen
Nassau	Beaver Lake (1702-0152)	Phosphorus
Nassau	Browswere Bay (1701-0383)	Nitrogen
Nassau	Camaans Pond (1701-0052)	Phosphorus
Nassau	East Meadow Brook, Upper, and tribs (1701-0211)	Silt/Sediment
Nassau	East Rockaway Channel (1701-0381)	Nitrogen
Nassau	Glen Cove Creek, Lower, and tribs (1702-0146)	Silt/Sediment
Nassau	Grant Park Pond (1701-0054)	Phosphorus
Nassau	Hempstead Bay, Broad Channel (1701-0032)	Nitrogen
Nassau	Hempstead Lake (1701-0015)	Phosphorus
Nassau	Hewlett Bay (1701-0382)	Nitrogen
Nassau	Hog Island Channel (1701-0220)	Nitrogen
Nassau	Massapequa Creek, Upper, and tribs (1701-0174)	Phosphorus
Nassau	Milburn/Parsonage Creeks, Upp, and tribs (1701-0212)	Phosphorus
Nassau	Reynolds Channel, East (1701-0215) [12]	Nitrogen
Nassau	Reynolds Channel, West (1701-0216) 12	Nitrogen
Nassau	Tidal Tribs to Hempstead Bay (1701-0218)	Nitrogen
Nassau	Tribs (fresh) to East Bay (1701-0204)	Silt/Sediment
Nassau	Tribs (fresh) to East Bay (1701-0204)	Phosphorus
Nassau	Tribs to Smith Pond/Halls Pond (1701-0221)	Phosphorus
Nassau	Woodmere Channel (1701-0219)	Nitrogen
New York	Harlem Meer (1702-0103)	Phosphorus
New York	The Lake in Central Park (1702-0105)	Phosphorus
Niagara	Bergholtz Creek and tribs (0101-0004)	Phosphorus
Niagara	Hyde Park Lake (0101-0030)	Phosphorus
Niagara	Lake Ontario Shoreline, Western (0301-0053) 9	Phosphorus
Niagara	Lake Ontario Shoreline, Western (0301-0072) 9	Phosphorus
Oneida	Ballou, Nail Creeks (1201-0203)	Phosphorus
Onondaga	Ley Creek and tribs (0702-0001) 10	Nutrients (phosphorus)
Onondaga	Minor Tribs to Onondaga Lake (0702-0022) 10	Nutrients (phosphorus)
Onondaga	Minor Tribs to Onondaga Lake (0702-0022) 10	Nitrogen (NH3, NO2)
Onondaga	Onondaga Creek, Lower (0702-0023) 10	Nutrients (phosphorus)
Onondaga	Onondaga Creek, Lower, and tribs (0702-0023)	Turbidity
Onondaga	Onondaga Creek, Middle, and tribs (0702-0004)	Turbidity
Onondaga	Onondaga Creek, Upper, and tribs (0702-0024)	Turbidity
Ontario	Great Brook and minor tribs (0704-0034)	Phosphorus 2
Ontario	Great Brook and minor tribs (0704-0034)	Silt/Sediment

Ontario	Hemlock Lake Outlet and minor tribs (0402-0013)	Phosphorus
Ontario	Honeoye Lake (0402-0032)	Phosphorus
Orange	Brown Pond Reservoir (1303-0013)	Phosphorus
Orange	Lake Washington (1303-0012)	Phosphorus
Orange	Minor Tribs to Middle Wallkill (1306-0061)	Phosphorus
Orange	Monhagen Brook and tribs (1306-0074)	Phosphorus
Orange	Orange Lake (1301-0008) [16]	Phosphorus
Orange	Quaker Creek and tribs (1306-0025)	Phosphorus
Orange	Wallkill River, Middle, Main Stem (1306-0038)	Phosphorus
Orange	Wallkill River, Upper, and Minor tribs (1306-0017)	Phosphorus
Orleans	Glenvwood Lake (0301-0041)	Phosphorus
Orleans	Lake Ontario Shoreline, Western (0301-0070) 9	Phosphorus
Orleans	Lake Ontario Shoreline, Western (0301-0071) 9	Phosphorus
Oswego	Lake Neatahwanta (0701-0018)	Nutrients (phosphorus)
Oswego	Pleasant Lake (0703-0047)	Phosphorus
Putnam	Lost Lake, Putnam Lake (1302-0053)	Phosphorus
Putnam	Minor Tribs to Croton Falls Reservoir (1302-0001)	Phosphorus
Queens	Bergen Basin (1701-0009) 18	Nitrogen
Queens	Jamaica Bay, Eastern, and tribs, Queens (1701-0005) 18	Nitrogen
Queens	Kissena Lake (1702-0258)	Phosphorus
Queens	Meadow Lake (1702-0030)	Phosphorus
Queens	Shellbank Basin (1701-0001) 18	Nitrogen
Queens	Willow Lake (1702-0031)	Phosphorus
Rensselaer	Nassau Lake (1310-0001)	Phosphorus
Rensselaer	Snyders Lake (1301-0043)	Phosphorus
Richmond	Grassmere Lake/Bradys Pond (1701-0357)	Phosphorus
Rockland	Congers Lake, Swartout Lake (1501-0019)	Phosphorus
Rockland	Rockland Lake (1501-0021)	Phosphorus
Saratoga	Ballston Lake (1101-0036)	Phosphorus
Saratoga	Dwaas Kill and tribs (1101-0007)	Phosphorus
Saratoga	Dwaas Kill and tribs (1101-0007)	Silt/Sediment
Saratoga	Lake Lonely (1101-0034)	Phosphorus
Saratoga	Round Lake (1101-0060)	Phosphorus
Saratoga	Tribs to Lake Lonely (1101-0001)	Phosphorus
Schenectady	Collins Lake (1201-0077)	Phosphorus
Schenectady	Duane Lake (1311-0006)	Phosphorus
Schenectady Lake	Mariaville Lake (1201-0113)	Phosphorus
Schuyler	Cayuta Lake (0603-0005)	Phosphorus

Seneca	Reeder Creek and tribs (0705-0074)	Phosphorus
St.Lawrence	Black Lake Outlet, Black Lake (0906-0001)	Phosphorus
St.Lawrence	Fish Creek and minor tribs (0906-0026)	Phosphorus
Steuben	Smith Pond (0502-0012)	Phosphorus
Suffolk	Agawam Lake (1701-0117)	Phosphorus
Suffolk	Big/Little Fresh Ponds (1701-0125)	Phosphorus
Suffolk	Canaan Lake (1701-0018)	Phosphorus
Suffolk	Canaan Lake (1701-0018)	Silt/Sediment
Suffolk	Fresh Pond (1701-0241)	Phosphorus
Suffolk	Great South Bay, East (1701-0039)	Nitrogen
Suffolk	Great South Bay, Middle (1701-0040)	Nitrogen
Suffolk	Great South Bay, West (1701-0173)	Nitrogen
Suffolk	Lake Ronkonkoma (1701-0020)	Phosphorus
Suffolk	Mattituck/Marratooka Pond (1701-0129)	Phosphorus
Suffolk	Mill and Seven Ponds (1701-0113)	Phosphorus
Suffolk	Millers Pond (1702-0013)	Phosphorus
Suffolk	Moriches Bay, East (1701-0305)	Nitrogen
Suffolk	Moriches Bay, West (1701-0038)	Nitrogen
Suffolk	Quantuck Bay (1701-0042)	Nitrogen
Suffolk	Shinnecock Bay and Inlet (1701-0033)	Nitrogen
Suffolk	Tidal Tribs to West Moriches Bay (1701-0312)	Nitrogen
Sullivan	Bodine, Mongomery Lakes (1401-0091)	Phosphorus
Sullivan	Davies Lake (1402-0047)	Phosphorus
Sullivan	Evens Lake (1402-0004)	Phosphorus
Sullivan	Pleasure Lake (1402-0055)	Phosphorus
Sullivan	Swan Lake (1401-0063)	Phosphorus
Tompkins	Cayuga Lake, Southern End (0705-0040)	Phosphorus
Tompkins	Cayuga Lake, Southern End (0705-0040)	Silt/Sediment
Ulster	Ashokan Reservoir (1307-0004)	Silt/Sediment
Ulster	Esopus Creek, Lower, Main Stem (1307-0010) [17]	Turbidity
Ulster	Esopus Creek, Middle, Main Stem (1307-0003) 17	Turbidity
Ulster	Esopus Creek, Upper, and minor tribs (1307-0007)[3]	Silt/Sediment
Ulster	Wallkill River, Lower, Main Stem (1306-0027)	Phosphorus
Warren	Hague Brook and tribs (1006-0006)	Silt/Sediment
Warren	Huddle/Finkle Brooks and tribs (1006-0003)	Silt/Sediment
Warren	Indian Brook and tribs (1006-0002)	Silt/Sediment
Warren	Lake George (1006-0016) and tribs	Silt/Sediment
Warren	Tribs to Lake George, East Shore (1006-0020)	Silt/Sediment
Warren	Tribs to Lake George, Lk.George Village (1006-0008)	Silt/Sediment

Washington	Wood Cr/Champlain Canal and tribs (1005-0036)	Phosphorus
Westchester	Lake Katonah (1302-0136)	Phosphorus
Westchester	Lake Lincolndale (1302-0089)	Phosphorus
Westchester	Lake Meahagh (1301-0053)	Phosphorus
Westchester	Lake Mohegan (1301-0149)	Phosphorus
Westchester	Lake Shenorock (1302-0083)	Phosphorus
Westchester	Mamaroneck River, Lower (1702-0071)	Silt/Sediment
Westchester	Mamaroneck River, Upp, & minor tribs (1702-0123)	Silt/Sediment
Westchester	Saw Mill River (1301-0007)	Phosphorus
Westchester	Saw Mill River, Middle, and tribs (1301-0100)	Phosphorus
Westchester	Sheldrake River (1702-0069)	Phosphorus
Westchester	Sheldrake River (1702-0069)	Silt/Sedimnt
Westchester	Silver Lake (1702-0040)	Phosphorus
Westchester	Teatown Lake (1302-0150)	Phosphorus
Westchester	Truesdale Lake (1302-0054)	Phosphorus
Westchester	Wallace Pond (1301-0140)	Phosphorus

APPENDIX E – List of NYSDEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	220 White Plains Road, Suite 110 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	1115 State Route 86, Po Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Golf Course Road Warrensburg, NY 12885-1172 Tel. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	5786 WIDEWATERS PARKWAY SYRACUSE, NY 13214-1867 TEL. (315) 426-7438	5786 WIDEWATERS PARKWAY SYRACUSE, NY 13214-1867 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	700 DELAWARE AVENUE BUFFALO, NY 14209-2999 TEL. (716) 851-7165	700 DELAWARE AVENUE BUFFALO, NY 14209-2999 TEL. (716) 851-7070

APPENDIX F – SWPPP Preparer Certification Form

The SWPPP Preparer Certification Form required by this permit begins on the following page.

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

Project/Site Name:	1612 Fifth Avenue
eNOI Submission ID:	HQD-7H9H-Z97KK
Owner/Operator Name:	Fifth XNY, LLC - Gretchen Kendrick

Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) has been prepared in accordance with the requirements of GP-0-25-001. I certify under penalty of law that the SWPPP and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Christopher	W	Robinson
SWPPP Preparer First Name	MI	SWPPP Preparer Last Name

	6/11/2025
Signature	Date

Revised: January 2025

APPENDIX G – MS4 SWPPP Acceptance Form

The MS4 SWPPP Acceptance Form required by this permit begins on the following page.

MS4 SWPPP Acceptance Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information	
1. Owner/Operator Name:	Fifth XNY, LLC.
2. Contact Person:	Gretchen Kendrick
3. Street Address:	2100 Ross Avenue, Suite 895
4. City/State/Zip:	Dallas, TX 75201
II. Project Site Information	
5. Project/Site Name:	1612 Fifth Avenue
6. Street Address:	1612 5th Avenue
7. City/State/Zip:	Bay Shore, NY 11706
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information	
8. SWPPP Reviewed by:	
9. Title/Position:	
10. Date Final SWPPP Reviewed and Accepted:	
IV. Regulated MS4 Information	
11. Name of MS4 Operator:	
12. MS4 SPDES Permit Identification Number: NYR20A	
13. Street Address:	
14. City/State/Zip:	
15. Telephone Number:	

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in section II. of this form has been reviewed and meets the substantive requirements in the SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP). Note: The MS4 Operator, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 Operator does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name[1]:

Title/Position:

Signature:

Date: 6/11/2025

VI. Additional Information

[1] Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.

APPENDIX H – NYCDEP SWPPP Acceptance/Approval Form

The City of New York Department of Environmental Protection (NYCDEP) SWPPP Acceptance/Approval form required by this permit begins on the following page.

THE CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Environmental Planning and Analysis
59-17 Junction Blvd., 9th Floor; Flushing, NY 11373

SWPPP Acceptance/Approval

Application Number:

I. Project Owner/Operator Information

1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:

II. Project Site Information

5. Project/Site Name:
6. Street Address:
7. City/State/Zip:

III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance/Approval

8. SWPPP Reviewed by:
9. Title/Position: /
10. Date Final SWPPP Reviewed and Accepted:
11. Acceptance/Approval Expiration Date:

IV. Regulated MS4 Information for projects that require coverage under the NY State Pollution Discharge Elimination System General Permit for Stormwater Discharges from Construction Activity

12. Name of MS4: *CITY OF NEW YORK*
13. MS4 SPDES Permit Identification Number: *NY-0287890*
14. Contact Person:
15. Street Address: *59-17 Junction Blvd. 9th Floor*
16. City/State/Zip: *Flushing, NY 11373*
17. Telephone Number:

Projects in the MS4 area must submit a copy of this SWPPP Acceptance with a Notice of Intent for coverage under the NY SPDES General Permit for Stormwater Discharges from Construction Activity to: NYS Department of Environmental Conservation, Division of Water; 625 Broadway, 4th Floor; Albany, New York 12233-3505.

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).

Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

VI. Conditions of Acceptance/Approval and Additional Information

Projects in the MS4 area must submit a copy of this SWPPP Acceptance with a Notice of Intent for coverage under the NY SPDES General Permit for Stormwater Discharges from Construction Activity to: NYS Department of Environmental Conservation, Division of Water; 625 Broadway, 4th Floor; Albany, New York 12233-3505.

APPENDIX I – MS4 No Jurisdiction Form

The MS4 No Jurisdiction Form required by this permit begins on the following page.

MS4 No Jurisdiction Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information

a. Owner/Operator Name:

b. Contact Person:

c. Street Address:

d. City/State/Zip:

II. Project Site Information

a. Project/Site Name:

b. Street Address:

c. City/State/Zip:

d. eNOI Submission ID: HQD-7H9H-Z97KK

III. Traditional Land Use Control MS4 Operator Information

a. Name of MS4 Operator:

b. MS4 SPDES Permit ID Number: NYR20A

c. Street Address:

d. City/State/Zip:

e. Telephone Number:

IV. Certification Statement

In accordance with CGP Part I.D.2.b.ii.3., I hereby certify that the Traditional Land Use Control MS4 Operator identified in section III. of this form does not have review authority over the construction project identified in section II. of this form, which is owned/operated by the entity identified in section I. of this form. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

a. Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.:

b. Title/Position:

c. Signature:

d. Date: 6/11/2025

APPENDIX J – Owner/Operator Certification Form

The Owner/Operator Certification Form required by this permit begins on the following page.

Owner/Operator Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b. or Part I.F.2. and 3., the completed form must be attached to the eNOI or the Request to Continue Coverage, and submitted to NYSDEC electronically.

Project/Site Name: 1612 Fifth Ave

eNOI Submission ID: HQD-7H9H-Z97KK

eNOI Submitted by: ☐ **Owner/Operator** ☑ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

I hereby certify that I read, and will comply with, the GP-0-25-001 permit requirements. I understand that authorization to discharge under the permit for the project/site named above is dependent on receipt of a Letter of Authorization (LOA) or a Letter of Continued Coverage (LOCC) from the New York State Department of Environmental Conservation (NYSDEC) in accordance with CGP Part I.D.3.b. or Part I.F.4. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Gretchen		Kendrick
Owner/Operator First Name	MI	Owner/Operator Last Name



Signature

6/11/2025

Date

Revised: January 2025

APPENDIX I

Professional Profiles

PROFESSIONAL PROFILE



CONTACT INFORMATION

Main: (631) 630-2486
Direct: (347) 745-2191
Email: cisrael@rouxinc.com
Website: www.rouxinc.com

252 W 37th Street, Suite 1800E
New York, NY 10018

EDUCATION

BS, Chemical Engineering, America University, Bogota, Colombia, 2000

PROFESSIONAL TRAININGS

OSHA 40-Hour HAZWOPER Certified
OSHA 8-Hour Supervisor Certified
New York State Erosion and Sediment Control Certified
GIS Mapping and Surveying

Camila Israel

Senior Engineer II

EXPERIENCE SUMMARY

Camila Israel is a Senior Engineer II at Roux with over twenty years of professional experience in environmental engineering and consulting services in the Northeast and Southeast regions of the United States, as well as Latin America. Ms. Israel specializes in technical and financial evaluation of hazardous and non-hazardous contaminated sites providing in-depth knowledge of environmental regulations focusing on compliance to NYSDEC programs such as the Brownfield Cleanup Program, inactive hazardous waste disposal sites, petroleum bulk storage, the State Pollutant Discharge Elimination System, and reviews under other NYS/NYC agencies. Her expertise includes due diligence assessments, sites investigations, evaluation of remedial alternatives, wastewater and stormwater management, and project scoping and budgeting for real estate development clients; clean energy developers; and energy, healthcare, and public sector clients. Ms. Israel is fluent in Spanish.

TECHNICAL SPECIALTIES

Ms. Israel's technical specialties include due diligence, site investigations, remediation of brownfield sites, spill cleanup projects, and waste characterization and management.

REPRESENTATIVE PROJECTS

- **NYS BCP Site, Affordable Housing Project in Yonkers, New York.** Served as Senior Project Manager (PM) assisting the developer and construction team during the implementation of post-remediation activities in accordance with the Site Management Plan (SMP). Some of these activities included disturbing of remaining contamination for the construction of a 6-story building, composing a waste management plan to characterize up to 14,000 tons of material, evaluation of soil data for on-site reuse and/or off-site disposal, preparation of design packages for the installation of a vapor management system and preparing post-construction work plan for operation and management of engineering controls. Presently, managing environmental services related to post-construction work.
- **NYS BCP Site, Affordable Housing Development in Chappaqua, New York.** Senior PM leading the technical team during the implementation of remedial activities and reporting efforts required to achieve the remediation goals for the residential usage of the Site. Coordinated remediation efforts with contractors and project stakeholders that included the NYSDEC, New York State Department of Health (NYSDOH), Town of New Castle, Metro Transit Authority (MTA), and town residents. The remedial actions and engineering control were successfully implemented, and the Site received a Certificate of Completion.
- **NYS BCP Site, Kimball Residence, Yonkers, New York.** The Site is a volunteer participant under the NYS Brownfield Cleanup Program. PM leading the project team during the preparation of the Remedial Investigation Report/Remedial Action Work Plan (RIR/RAWP). The proposed remedial action includes excavation of soil to bedrock and a multi-level ventilated subsurface parking garage designed to effectively mitigate soil vapor intrusion. It's anticipated that the Site will achieve Track 1 - Unrestricted Soil Cleanup Objectives.
- **NYS BCP Site, Chappaqua Station, Chappaqua, New York.** The Site is a volunteer participant under the NYS Brownfield Cleanup Program. PM responsible for the implementation of remedial actions required by the NYSDEC Record of Decision document. Communicated with construction team and remedial contractor to ensure adherence with project milestone and budget.

Led a team of professionals during the preparation of construction documents and preparation of the Final Engineering Report (FER) and SMP.

- **NYS BCP Site, Former Glenwood Container Site, Yonkers, New York.** The Site is a volunteer participant under the NYS Brownfield Cleanup Program. Reviewed and interpreted soil, groundwater, and soil vapor data collected during the RI to investigate the nature and extent of subsurface contamination related to historical site use and impacted fill materials. PM leading the project team in the preparation of the Remedial Action Work Plan for the NYSDEC. Prepared a work plan for the NYSDEC for the investigation of emerging contaminants (i.e., PFAS, 1,4- dioxane). Currently, managing effort related to remedial design and preparation of the RAWP.
- **NYS BCP Site, Former Glenwood Power Plant, Yonkers, New York.** The Site is a volunteer participant under the NYS BCP. PM for the implementation of remedial actions including the installation of a site cover system across the site and stone revetment along the southern portion of the Site's shoreline. Due to the proximity of the Site to the Hudson River, coordinated extensive project communication, that included the NY Department of State (DOS), United States Army Corps of Engineers (USACE), NYSDEC, NY State Historic Preservation Office (SHPO), NYSDEC, MTA, and legal attorneys and client, associated to the environmental permitting of the proposed remedial actions.
- **NYS BCP Site, Due Diligence, Main Street, Hempstead, New York.** Acted as the Senior PM coordinating site assessment activities (e.g., Phase I and Phase II, asbestos-containing material survey, lead survey, etc.) during due diligence period. Coordinated and planned the execution of environmental review as required by the United States Department of Housing and Urban Development (US HUD) for New York State Division of Housing and Community Renewal-funded projects. Designed a sampling plan to properly assess subsurface conditions for eligibility review and acceptance into the NYS BCP. Additionally, designed a waste characterization sampling approach to characterize approximately 60,000 CY of excess soil for acceptance at disposal facilities. Led the team of engineers and scientists to propose remedial actions to effectively remediate the site for restrictive residential use.
- **NYS BCP Site, Queens Plaza, Residential Development, Long Island City, New York.** The Site consists of three different Brownfield sites, under the NYSDEC Brownfield Program. Responsibilities include supporting the engineering team during the design and installation of a groundwater capturing well system and water treatment system as part of engineering controls of the remedial action; review laboratory reports for completeness and accuracy; and supervise preparation and submission of electronic data deliverable (EDDs) into NYSDEC EQuIS. Supported the client negotiations and access agreements with the Metro-North railroad for the required site remediation access and construction monitoring efforts.
- **NYS BCP Site, West 17th Street and 10th Avenue Redevelopment, New York, New York.** The Site is approximately 1.2 acres and was recently redeveloped and remediated for petroleum-related impacts under the NYS BCP. Managed the SMP, that includes sampling and inspections of engineering controls (i.e., sub-slab depressurization system and composite site cover) on a routine basis, and preparation of periodic annual reports for NYSDEC.
- **City of Yonkers Department of Public Works, Yonkers, New York.** Conducted environmental review of the potential environmental impacts associated to a legacy spill at a Department of Public Works (DPW) facility. As part of the remedial strategy evaluation, in situ chemical oxidation pilot test and groundwater sampling events were conducted. As the environmental consultant for the City, facilitated discussion between the City of Yonkers and NYSDEC staff during remedial selection and spill remediation efforts. The spill was closed in 2022. In addition, supported DPW Commissioner and City Engineer in managing the stormwater sampling program for compliance with the State Pollutant Discharge Elimination System (SPDES) Permit for the DPW facility. Acted as the signatory authority for NetDMR reporting.
- **Confidential Utility Client, Fresh Kills Creek, Staten Island, New York.** Coordinated with environmental team to oversee horizontal directional drilling for the installation of transmission cable in Fresh Kills Creek. Managed the implementation of waste characterization plans and prepared 'ready to approve' waste characterization reports for waste receiving facilities and obtained expediated approvals for disposal. Also, coordinated and managed field and reporting aspects related to Stormwater Pollution Prevention Plan (SWPPP) inspections.
- **Confidential Utility Client, NYC, Nassau and Suffolk Counties, New York.** Lead Senior PM handling the execution of environmental consulting work conducted under two master services agreements (MSAs), which were successfully extended in 2023 and 2024. Work includes assisting client's licensing and permitting team as well as the engineering/construction team during the evaluation of ecological, natural, and cultural resources for infrastructure improvement work and preparation of permit packages for agency concurrence and/or approvals. Served as the client point of contact for additional engineering, surveying, and architectural services under these MSAs.
- **Confidential Utility Client, Article VII, Long Island, New York.** Lead the environmental team during the preparation of a site

assessment and waste characterization work plan for a ~7-mile project route. Conducted audits to review compliance with approved work plans and adherence to client health and safety protocols.

- **Major Oil Storage Terminal, Brooklyn, New York.** Assisted the engineering team of a major oil company in the preparation of a permitting package to obtain pertinent permits for the repair of 18-linear-feet of bulkhead and the installation of 56-foot-high interlocking sheet piles in Newtown Creek. Work required coordination with multiple agencies: NYC Small Business Services (SBS), USACE, NYDOS, NYSDEC, and NYCDEP.
- **Real Estate Investment Trust, New Jersey & Pennsylvania.** Served as regional PM responsible for managing client outsourced environmental liability and management of a portfolio comprised of over 100 service stations in New Jersey and Pennsylvania. Responsibilities included budget forecasting and environmental lifecycle management of a portfolio of sites with total annual budgets of over $2MM. Selected and supervised environmental consulting firms to manage remediation projects.
- **Inactive Hazardous Waste Site, Maspeth, New York.** The Site is listed as a Class "2" site in the State Registry of Inactive Hazardous Waste Disposal Sites (list of NY State Superfund sites). A Class 2 site represents a significant threat to public health or the environment; action is required. PM overseeing the design and preparation of the Interim Remedial Action Plan for the installation of a soil vapor extraction (SVE) system to address chlorinated soil vapor organics. The interim remedial measure (IRM) was approved by NYSDEC. Supported client negotiations and access agreements with the Metro-North railroad for the required site remediation, access, and construction monitoring efforts.
- **Park Avenue, Due Diligence, New York, New York.** Completed a Phase I ESA, and subsequently a Phase II ESA for a 13,324 SF property located in New York as part of a due diligence review. Due to the proximity of the Project Site to the Metro-North railroad, supported client negotiations and access agreements with the Metro-North railroad for the required site remediation access and construction monitoring efforts.
- **Private Client, Bus Depot, Yonkers, New York.** PM coordinating stormwater sampling required for compliance under the EPA Multi-Sector General Permit (MSGP) for this transportation facility.
- **Retail Gas Station, Queens, New York.** Served as project manager during the investigation and remedial alternative evaluation of a NYSDEC Spill incident site in Queens. Soil impacts were identified in the vicinity of the pump island. Prepared the feasibility pilot test work plan for the NYSDEC to evaluate in situ injection of a Trap & Treat technology (BOS200). The in situ direct-push injections of BOS200 were completed in 2018.
- **Retail Petroleum Facilities Portfolio, New York, New York.** Served as Senior PM for remediation projects associated with multiple retail petroleum sites in the metro area. Responsibilities included budget forecasting and management of a portfolio ranging from $500,000 to $1,000,000 annual revenue, designing remedial investigation and feasibility studies, and coordinating and implementing remedial actions that include soil excavation and in situ treatments.
- **West 29th Street Redevelopment, New York, New York.** Designed a sampling plan to properly characterize soil waste for acceptance at disposal facilities. The Site was remediated to meet the requirements of Highline/West Chelsea Rezoning E-Designation for hazardous material, noise, and air quality. In addition, managed the implementation of the remedial actions that included the excavation of petroleum- and metal-impacted soils, implementation of Community Air Monitoring Plan (CAMP), and installation of engineering controls to mitigate vapor intrusion of contaminants. Prepared Remedial Closure Reports. Supervised preparation and submission of electronic data deliverable into NYSDEC EQuIS.
- **Stormwater Monitoring, Department of Environmental Facilities, Westchester County, New York.** PM coordinating stormwater compliance sampling at several transfer stations across the county. Coordinated sample collection with the client and submitted quarterly, semi-annual, and annual reports of the results of the monitoring program.
- **Confidential Utility Client, Western Nassau Transmission Project East Garden City to Valley Stream Article VII, Long Island, New York.** Lead the environmental team during the preparation of a site assessment and waste characterization work plans for the approximately 7-mile project route. Conducted audits to review compliance to approved work plans and adherence to client health and safety protocols.
- **Confidential Utility Client, Plainfield, New Jersey.** Coordinated scheduling of regional resources during the implementation of remedial actions at this manufactured gas plant (MGP) site. Assisted the client during the preparation of fact sheet in adherence with community participation programs.
- **Confidential Utility Client, Paterson, New Jersey.** Coordinated scheduling of regional resources during the implementation of remedial actions at this MGP site. Assisted the client during the preparation of fact sheet in adherence with community participation programs.

PROFESSIONAL PROFILE



CONTACT INFORMATION
Main: (631) 232-2600
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Email: dhignell@rouxinc.com
Website: www.rouxinc.com

209 Shafter Street
Islandia, NY 11749

EDUCATION
BS, Chemical Engineering,
Cornell University, 2000

Dana M. Hignell

Senior Engineer II

EXPERIENCE SUMMARY
Over twenty years of experience: Staff, Project, and Senior Engineer with Roux.

TECHNICAL SPECIALTIES
Engineering services for the investigation, design, construction, and operation and maintenance of remedial systems for the treatment of contaminated soil, sediment, and groundwater. Remedial designs have included excavation, in-situ groundwater remediation, groundwater pump and treat systems, air sparging with soil vapor extraction, vapor barriers and sub slab depressurization systems, and landfill soil cover systems.

REPRESENTATIVE PROJECTS

- Senior Engineer and Project Manager of a former wire and conduit manufacturer (former NYS Inactive Hazardous Waste Site) remediation in Syosset, NY. The Site was accepted into the NYSDEC BCP to support additional remediation and future redevelopment. Activities completed included development of RIR/RAWP and manage oversight of construction activities for approved remedy.
- Senior Engineer and Project Manager for the design and installation of a Constructed Treatment Wetlands (CTW) to treat nitrogen loading from a sanitary system in Brentwood, New York.
- Senior Engineer for the investigation of nitrogen loading to a creek in East Hampton, New York that is part of the Peconic Bay Estuary, and evaluation of the use of a permeable reactive barrier to reduce the flux of nitrogen.
- Senior Engineer for the design and start-up of a soil vapor extraction (SVE) and air sparge (AS) system at an active gasoline station in Staten Island, New York. The system was installed to address soil and groundwater contaminants and consists of 17 vertical SVE wells and 10 AS wells. The recovered soil vapor is treated by catalytic oxidation before being discharged. Over 1,200 pounds of hydrocarbon have been recovered since the system start-up.
- Senior Engineer for the design of in-situ groundwater remediation to treat chlorinated volatile organic compounds (CVOCs) at a former dry cleaner in Bronx, New York. In-situ chemical oxidation (ISCO) was selected as the groundwater remedy, with injections completed over a half an acre of property. The ISCO remedy was successful and allowed for redevelopment of the property within the required schedule.
- Senior Engineer for the design and implementation of a passive product-recovery system using horizontal recovery wells at a former bus garage in Newark, New Jersey. The remedial action also included excavation and offsite disposal of approximately 7,000 tons of petroleum contaminated soil, and in-situ chemical oxidation to treat residual soil and groundwater contamination.
- Senior Engineering managing the investigation, design, and implementation of product-recovery skimming systems for a former petroleum refinery in Queens, New York. Over 100,000 gallons of product has been recovered to date.
- Senior Engineer for the design of a sub-slab depressurization system with vapor barrier for the construction of a 19-story residential building in Brooklyn, New York.

- Senior Engineer for the investigation, design, and implementation of a soil remediation project at a Former Oil Terminal in Sag Harbor, New York. The remedy completed includes excavation and offsite disposal of approximately 2,000 tons of petroleum contaminated soil in an active roadway surrounded by underground utilities.
- Senior Engineer for the investigation, design, and implementation of a soil remediation project at a 4-acre Former Oil Terminal in Cold Spring Harbor, New York. The remedy completed includes excavation and offsite disposal of approximately 20,000 tons of petroleum contaminated and/or hazardous lead contaminated soil in accordance with the future use of the site under an Environmental Easement. Additional activities completed at the site included asbestos remediation followed by building demolition, UST removal, and cesspool remediation.
- Project Engineer for the complete design for a 9-acre landfill in Rensselaer, New York as part of the NYSDEC Voluntary Cleanup Program. The design was in accordance with the future use of the Site as a landfill with an integrated wildlife habitat vegetative cap and included hot spot soil excavation and installation of a vegetative cap.
- Project Engineer for the design of a soil and groundwater remediation system for a Former Oil Terminal in Oceanside, New York. A risk based remedial approach that called for the remediation of "hot spot" source area soils, and mass-reduction of VOCs in groundwater was successfully utilized for the Site. To address the soil contamination in the source areas, "hot spot" soil excavation was completed. A groundwater pump and treat system was designed, constructed, and continues to be operated and maintained to address the VOC contaminants in groundwater. The system consists of seven recovery wells, an oil/water separator, and a packed column air stripping tower. Over 11 million gallons of groundwater have been recovered and treated.
- Project Engineer for the design and startup of a soil vapor extraction (SVE) and air sparge (AS) system at an 11-acre active Oil Terminal in Glenwood Landing, New York. The system was installed to address soil and groundwater contaminants and consists of four horizontal SVE wells and 8 AS wells. The recovered soil vapor is treated by carbon units before being discharged. Approximately 12,000 pounds of hydrocarbon have been recovered since system start up.
- Project Engineer for the design and startup of a soil vapor extraction (SVE) and air sparge (AS) system at an 11-acre active Oil Terminal in Inwood, New York. The system was installed to address soil and groundwater contaminants and consists of 4 vertical SVE wells and six AS wells. The recovered soil vapor is treated by carbon units before being discharged. Approximately 32,000 pounds of hydrocarbon have been recovered since system start up.

Operation and Maintenance (O&M) Experience

- Project Engineer responsible for the O&M and monitoring of a SVE system and a dual-pump, product recovery system at an active Oil Terminal in Inwood, New York. O&M activities included system operation and maintenance, performance monitoring, and preparation of quarterly status reports for submission to the NYSDEC. The SVE system consists of 5 SVE wells and was designed, constructed, operated, and maintained for a period of approximately 6 years. The SVE system was permanently shut down and this area of the Site is currently in the post-remediation monitoring phase. The dual-pump system, including groundwater and product recovery and packed column air stripping towers, is currently still in operation.
- Project Engineer responsible for the operation and maintenance of soil and groundwater remediation systems for an active Oil Terminal in Glenwood Landing, New York. A groundwater pump and treat system, consisting of 1 recovery well, two packed column air stripping towers, bag filters and granular activated carbon units, has been in operation at the Site to address VOC contaminants in groundwater. In addition, an SVE/AS system, previously installed, was upgraded to further address soil and groundwater contaminants at the Site boundaries. The SVE system consisted of vertical wells in an area of shallow groundwater. The system was upgraded with seven horizontal wells and an additional five AS wells were installed. Following an on-site diesel spill of approximately 5,000 gallons in 2005, free-product recovery efforts were implemented, including removal of saturated soils and installation of a free-product recovery system.
- Staff Engineer responsible for the O&M and monitoring of an SVE/AS system for nationwide distribution center in Brooklyn, New York as part of the NYSDEC Voluntary Cleanup Program. O&M activities included system operation and maintenance, performance monitoring, soil gas monitoring, quarterly monitoring, and preparation of quarterly and annual status reports for submission to the NYSDEC. The SVE and AS system consists of 8 SVE wells and 17 AS wells and was designed, constructed, operated and maintained for a period of approximately 3 years. The SVE and AS system is permanently shut down and the Site is currently in the post-remediation monitoring phase.
- Staff Engineer responsible for the O&M of a 430 gpm, dual-pump, product recovery system in Greenpoint, Brooklyn, New York. Processes and system maintained include dual-pump groundwater and product recovery, low profile air strippers and a catalytic oxidation unit. The Site encompasses one of the nation's largest petroleum releases (18 million gallons).

UST Experience

- Project Engineer for the management of the excavation and removal of a 10,000-gallon UST and four ASTs ranging from 284,000-gallon capacity to 976,000-gallon capacity at a former Oil Terminal in Cold Spring Harbor, New York. The scope of

work entailed preparation of a UST and AST closure work plan, project management of the field work, post excavation and tank footprint sampling and preparation of a UST and AST Closure Report.

- Project Engineer for the excavation oversight of a 2,000-gallon heating oil UST at an active Oil Terminal in Glenwood Landing, New York. Field oversight included post-excavation and waste characterization soil sampling, health and safety monitoring, supervision during the removal, cleaning, and disposal of the USTs and preparation of a Closure Report.
- Project Engineer for the excavation oversight of a 2,000-gallon heating oil UST at an active Oil Terminal in Inwood, New York. Field oversight included post-excavation and waste characterization soil sampling, health and safety monitoring, supervision during the removal, cleaning, and disposal of the USTs and preparation of a Closure Report. Also included was the management and field oversight of the closure of an in-ground oil/water separator at an active Oil Terminal Inwood, New York. The scope of work entailed preparation of an oil/water separator closure work plan, project management of the field work, excavation of petroleum contaminated soils associated with the separator, post-excavation sampling, and preparation of an Oil/Water Separator Closure Report.
- Staff Engineer for the excavation oversight of three 8,000-gallon USTs, two pump islands and three hydraulic lifts and all associated piping at a former service station in Norwalk, Connecticut. Field oversight included post-excavation and waste characterization soil sampling, health and safety monitoring, supervision during the removal, cleaning, and disposal of the USTs, and preparation of a Closure Report.
- Staff Engineer for the excavation oversight of three 8,000-gallon USTs, two pump islands and all associated piping at a former service station in Hartford, Connecticut. Field oversight included post-excavation and waste characterization soil sampling, health and safety monitoring, supervision during the removal, cleaning, and disposal of the USTs and preparation of a Closure Report.

Soil and Groundwater Remediation

- Project Engineer for the design of soil remediation at an active Oil Terminal in Stamford, Connecticut to remove contaminated soils following a 30,000-gallon petroleum spill in 2006. The remediation included excavation of approximately 1,000 cubic yards of petroleum-impacted soil with post-excavation sampling.
- Staff Engineer responsible for construction management of remediation of a former major pharmaceutical plant located in Hicksville, New York as part of the State Superfund Program. The project consisted of the excavation of non-hazardous soil from five on-site drywells and a former waste disposal area, implementation of a community air monitoring plan, coordination with the Long Island Rail Road (LIRR) for work performed within the LIRR's right of way, steel sheeting installation and removal, backfilling, monitoring well abandonment and replacement, transportation and disposal of 3,300 tons of VOC, SVOC and metal contaminated soil, and restoration of approximately 9,800 square feet of asphalt. A 7-foot diameter steel caisson was used to support the deeper excavation required at the invert of two drywells. This innovative approach saved the client approximately $50,000 in costs that would have been incurred by using a traditional steel sheeting support system to protect the on-site commercial building.

Stormwater

- Project Engineer for the design and construction management of a stormwater drainage upgrade project for the parking lot of a former manufacturing facility (costume jewelry and then surgical needles) located in Queens Village, New York. The stormwater drainage system consisted of multiple catch basins, a new drain and curb, and all associated piping.
- Project Engineer for the design and construction of two stormwater management ponds and swales for a former landfill in Rensselaer, New York. The ponds and swales were constructed as part of the landfill cap project to direct stormwater to existing catch basins, allow stormwater overflow control and to enhance the wildlife habitat.

PROFESSIONAL PROFILE



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EDUCATION
BA, Geology, Colgate University, 2003

PROFESSIONAL LICENSES
New York Licensed Professional Geologist #720
Connecticut Licensed Environmental Professional #610
Accredited AHERA Inspector, 2004
NJ UST Subsurface Evaluator Certification #491925
Waterfront Edge Design Guidelines Professional

Frank Cherena, PG, LEP, WEDG

National Director of Real Estate Services
Vice President | Principal Geologist

EXPERIENCE SUMMARY
Twenty years of experience: Vice President/Principal Geologist with Roux, Islandia, New York; Staff Geologist with RTP Environmental Associates, Inc., Green Brook, New Jersey.

TECHNICAL SPECIALTIES
Conducted, managed, or overseen Phase I and Phase II investigations and remediation at contaminated sites, specializing in developing innovative cost-saving solutions that focus on integrating remedies into redevelopment scenarios. Experience working with multiple agencies and stakeholders including negotiation and coordination with lenders, tenants, and community stakeholders to secure funding and approvals.

REPRESENTATIVE PROJECTS
- Principal-in-charge of large university tech development project in New York City. The project consists of the demolition and decommissioning of a former hospital building, and excavation for redevelopment of four separate buildings for the first phase of campus construction. Environmental considerations on the project included site assessment, remediation design and oversight, SDPES permitting (construction dewatering and geothermal well discharge), soil characterization for reuse and capping of soils. Coordinated with NYCDEP, and other project stakeholders concerning community protection and monitoring concerns.
- Principal-in-charge of redevelopment of a former powerplant into an industrial arts complex. Remediation consisted of removal and containment of TSCA-regulated PCB-impacted soils, groundwater, and building material, and remediation waste. Successfully obtained Certificate of Completion for NYSDEC BCP, clean up and continue to coordinate Site redevelopment activities under a Site Management Plan. Included significant coordination and correspondence with USEPA to negotiate installation of a consent order for bulkhead installation along the Gowanus Canal Superfund Site.
- Principal-in-charge of redevelopment of shopping mall in Staten Island, New York. The Site will consist of the construction of two commercial out parcel buildings, a new parking deck, and an expansion of the existing mall building. Areas of concern include historical fill, site-wide soil contamination (arsenic and pesticides). In addition, also responsible for agency coordination with FDNY, NYSDEC, and NYCOER for mitigation of methane and chlorinated volatile organic compounds vapor issues.
- Principal-in-charge for the redevelopment of a 5-acre live-work-play campus in Hunts Point, Bronx. The residential component of the Project is comprised of 100% affordable housing and is currently enrolled in the NYSDEC BCP. Mr. Cherena has also negotiated/coordinated with lenders, coordinated with multiple disciplines on the design team to create a RAP to comply with NYCOER air/noise requirements, and assisted in remedial design and estimation.
- Principal-in-charge for new development of a large regional mall in Norwalk, Connecticut with underground parking. The proposed redevelopment will result in the construction of retail shops, restaurants, hotel, and entertainment. Previous usage of the property included over 30 different parcels including three establishments, gasoline filling stations, fuel oil terminal storage, hazardous waste disposal areas. The project includes investigation and subsequent remediation of petroleum and hazardous waste releases, filing of the Environmental Conditions Assessment Form (ECAF) associated with the three transfer act parcels, and coordination with the CT DEEP and CT DECD to obtain CT Brownfields Grant funds.
- Principal-in-charge for two adjoining multifamily NYSDEC BCP redevelopment sites in Mott Haven, Bronx, New York along the Harlem River. Project

includes characterization, excavation, and disposal of over 40,000 tons of soil, support for obtaining a SPDES discharge permit for construction water, along with attending public meetings and creating public participation plans. Project tasks include community air monitoring, shoreline permitting, and construction monitoring while minimizing cost impact by sharing resources between both projects.

- Principal-in-charge for the largest redevelopment project in New York City (over $4.5 billion). Project includes Phase I and Phase II ESAs (investigation of soil, groundwater, and soil vapor) at over 75 properties; Construction support for excavation of one million cubic yards of soil including implementing an in situ waste characterization program; Environmental support for demolition, asbestos and lead abatement, site remediation using In Situ Chemical Oxidation, and relocating of an active 9-acre 100-year old railyard; Property acquisition support throughout the project (7 city blocks); and Agency support for NYSDEC, NYCDEP, MTA (LIRR/NYCT), and ESDC. The environmental data was used as an integral component of the New York State Environmental Quality Review Act (SEQRA) final Environmental Impact Statement (EIS). The project encompasses 336,000 sq ft of office space, 6.4 million sq ft of residential space, an 18,000 seat sports and entertainment venue: the Barclays Center (home of the Nets professional basketball team), 247,000 sq ft of retail space, a 165,000 square-foot hotel, and over 8 acres of intricately designed publicly accessible open space.
- Principal-in-charge of redevelopment and rehabilitation of the Nassau Coliseum Event Center in Uniondale, Long Island, New York. Services included Phase I and Phase II ESA to obtain approvals and entitlements, along with providing consulting services for asbestos abatement and operations and maintenance. Also was responsible for diesel generator tank removal and replacement tank design and installation.
- Principal-in-charge for a remedial investigation and real estate transaction negotiation for a contaminated former industrial property in Glen Cove, Long Island, New York. Activities included due diligence including document review and historical research to develop and implement a cost efficient investigation scope that was able to identify presence of contamination that was used to negotiate property transaction. Investigation was also designed to develop red mediation and construction budget to support future mixed use redevelopment of the over 12 acre property.
- Principal-in-charge of numerous due diligence projects for owners, developers, managers, municipalities, and lenders at commercial and industrial properties throughout the Northeast. Activities included performance of UST evaluations and closures, hot spot remediations, Phase I and Phase II Site Assessments, vapor intrusion studies and mitigation, lead based paint, asbestos and hazardous materials surveys, interaction with regulatory agencies on behalf of clients and development of remedial cost estimates for planning and negotiation.
- Principal-in-charge for investigation and review of a former electroplating facility in Bay Shore, New York with chlorinated solvent DNAPL. Activities included historical document review, subsurface investigation, and coordination with outside legal counsel and NYSDEC.
- Project manager for a property transfer support project at a heavily contaminated state-of-the-art distribution facility in the Bronx, New York. The site was a former MGP being handled under the VCP in central office, the site had an open spill under the regional spills group and the site was attempting to apply to the BCP through the regional office. Roux performed a Phase I for the buyer, a Phase II and remedial cost estimate for the owner and negotiated with the buyer's consultant and NYSDEC to limit the scope of the investigation and cleanup.
- Principal-in-charge of NYSDEC BCP redevelopment project in Island Park, Long Island, New York. Property was the location of a former oil terminal with extensive degraded petroleum contamination. Contracted services included, management of contaminated soil, import of recycled soil to bring the site above the flood plain, and negotiation with the NYSDEC. Project remediation schedule was extremely tight, and a COC was achieved before the requisite deadline.
- Served as Environmental Professional on hundreds of Phase I Environmental Site Assessments according to ASTM E1527-00, ASTM E1527-05, and ASTM E1527-13 for due diligence of large retail shopping centers, industrial facilities, and office buildings. Associated activities included agency contact, database management and interpretation, report preparation, and recommendations for additional work.
- Implemented GIS analysis and mapping for a remedial study and alternative analysis report (AAR) for an active petroleum storage terminal in Buffalo, New York under jurisdiction of the NYSDEC. The AAR required spatial analyses in order to categorize and analyze contaminant data from multiple investigations, investigate remedial alternatives, and to help focus ongoing additional investigations.

PROFESSIONAL TRAININGS

OSHA 40-Hour Hazardous Materials Training, 2003

OSHA 8-Hour Supervisor Training, 2004

PROFESSIONAL PROFILE



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EDUCATION

MEng, Biological and Environmental Engineering, Cornell University
BS, Biological and Environmental Engineering, Cornell University

PROFESSIONAL LICENSES

Professional Engineer, New York #088403

Paul Martorano, PE

Technical Director

EXPERIENCE SUMMARY

Mr. Martorano is a registered Professional Engineer with over 22 years of experience. He specializes in providing comprehensive services in environmental remedial investigation, remedial design, construction management, cost estimating, site management, stormwater permitting and program and project management. Experience includes Technical Director at Roux, April 2024 to present; Principal Environmental Engineer at Arcadis, 2012 to 2024; Staff Environmental Engineer at D&B Engineers and Architects, 2004 to 2011.

TECHNICAL SPECIALTIES

Mr. Martorano has a strong background in managing, scoping, budgeting, and implementing projects and program for both public and private sector clients. His expertise includes groundwater and soil vapor engineered treatment systems, excavation, and off-site disposal, in situ biodegradation, and abatement/demolition. His extensive experience includes treatment technologies for emerging contaminants such as 1,4-dioxane, PFAS, and VOCs. He is well-versed in digital tools for investigation, design and construction, financial estimating and reserve forecasting, multi-disciplined design management, waste characterization, and NYSDEC reporting.

REPRESENTATIVE PROJECTS

Large Plume Groundwater Superfund Site: Design, Construction Management and Design During Construction, Groundwater Pump and Treat System Construction, Confidential Client, Long Island, New York. Project manager and engineering design manager for a large-scale remediation program for a chlorinated solvent plume with 1,4-dioxane and other contaminants of concern. Program elements included: feasibility study-level conceptual design, costing, and analysis; pre-design installation and data analysis from deep vertical profile borings with monitoring wells; pre-design infiltration studies to evaluate discharge alternatives; land survey and utility locate through residential, County and Town roads; assessment of EVS/3D modeled plume to support design of three (3) large diameter, deep extraction wells and below-grade wellhead vaults; remedial design of a 3.6 MGD groundwater pump and treat system in a 3,500 square foot PEMB with associated building systems (electrical, HVAC, fire, sanitary, plumbing) for treatment of 1,4-dioxane (hydrogen peroxide/ozone AOP; pH adjustment), chlorinated solvents (AOP; LPGAC), and inorganic solids (horizontal pressure filtration, inclined plate clarifier, volute press); remedial design of 2-miles of dual-walled HDPE piping with leak detection; remedial action/construction management (submittal review, RFI management, delegated design review, Change Order management, resolution of design-based conflicts) for all elements; permitting with the Town, Fire Marshal, Department of Health and NYSDEC; support for public meetings; and site management/OM&M of the treatment system which included development of a new Health and Safety Plan. All elements within the community were closely managed with the client and helped support public meetings with community stakeholders. Design managed with a digital 3D BIM model and 4D BIM schedule to coordinate workflow, manage clashes with design trades, ensure adequate scheduling of work and create presentation-ready material for citizen participation activities. Oversaw a team of 10-20 design engineers and geologists across multiple offices and had responsibility for the overall contract/purchase order finances (invoices, cash flow, purchase order budgets, 30-year reserve projections/updates). A Construction Certification Report, OM&M Manual, and Site Management Plan were certified and submitted at the project conclusion. Estimated program value of $50-60M.

- **CVOC Soil Source Zone Feasibility Study, Confidential Client, Long Island, New York.** Feasibility study evaluation and cost estimate for a superfund site with VOC, PCB and Metal soil impacts from historic site operations. An EVS/3D model of the contaminants of concern was utilized to devise multiple alternative analyses, which considered both traditional solutions (capping; excavation/disposal) and more innovative solutions (in-situ thermal desorption; electrical resistive heating; ex-situ thermal desorption; in situ solidification and stabilization; soil washing) remedial alternatives. At the conclusion of the evaluation, an option was proposed to remediate the VOC impacts with ISSS and the PCB & Metal impacts with soil washing, which was estimated to reduce the original remedy cost from an estimated $54 million to $12 million. Final deliverable included a detailed cost breakdown and a high-level cost estimate summary.
- **Program and Project Management, NYS Superfund Environmental Remediation Site, Confidential Client, Long Island, New York.** Program management, project management and remedial design services related to a large and complex site management program for a NYS Superfund Environmental Remediation Site which included OM&M of three (3) groundwater pump and treat systems, OM&M of two (2) soil vapor extraction systems, and on-site/off-site groundwater monitoring. The program averaged $3-5M on a routine yearly basis. As a lead for this program, responsible for budgeting and scoping work orders, coordinated and communicated with the client on day-to-day items, prepared updated quarterly 30-year financial forecasts for the entire program, oversaw the work activities of 10-20 junior/mid-level engineers, scientist and geologists, supported annual updated to the Health and Safety Plan, and provided QA/QC review and certification of engineering deliverables.
- **ExxonMobil Greenpoint Petroleum Remediation Project, Brooklyn, New York.** Remedial design lead for various elements of new consolidated groundwater treatment facility with a design flow rate of 750 gallons per minute. Work included design of a new vapor phase granular activated carbon treatment system, to supplement an existing flame oxidation system, due to the increase in total air and contaminant mass flow rate from the new system. Design was done in conjunction with a retrofit of an existing space and included updates to the NYSDEC Air Facility Registration permit equivalency. Also provided site management support for the OM&M program, to upgrade the data management of site collected field data through a cloud-based platform and automated reporting of field and SCADA-data through a separate digital platform. Most recently lead the design for the demolition of an existing treatment system building and its associated structures, which included coordination for the NYCDOB demolition, preparation of contract drawings and specifications, and management of the subcontractor bidding and procurement.
- **ExxonMobil Former Pratt Oil Works Project, Long Island City, Queens, New York.** Lead professional engineer for permitting, design and construction management of an LNAPL recovery system consisting of a 2,000 gallon above-ground PBS tank, eight (8) recovery well vaults with pneumatic pumps, and electrical/mechanical controls for the automated operation of the system. Work at the site also includes the assessment of the site soil cover system to ensure compliance with the Remedial Action Work Plan requirements, start-up testing and OM&M for the LNAPL recovery system, and preparation of the FER following completion of remedial actions.
- **Design and Procurement Services, PFAS Water Treatment System, Balt MAES AEC BRAC, Vint Hills, Virginia.** Design manager and lead engineer for a PFAS water treatment system for a potable supply well. Lead and coordinated the design process from the initial 30 percent design, though the 100 percent complete Issued for Construction package. Managed various lead engineers in their respective disciplines, to ensure the preparation of an accurate, cost effective, and safe design. The design utilized a digital 3D BIM model platform, which provided for seamless integration of the various engineering work products, checked for conflicts in a 3D space to minimize the potential for construction field issues, and ultimately provided a tool to better visualize the entire project from start-to-finish. Design work was completed on an expedited schedule, given pending commercial construction that would increase the overall water demand in the area and to meet client budget requirements. Procurement work for the building, equipment and subcontractors was also completed in support of the
- **NYS SPDES Multi-Sector General Permit (MSGP) Compliance and Design Services, Confidential Client, Brooklyn, New York.** Lead professional engineer for a client site which required MSGP compliance and design services related to a NYSDEC consent order. Work included support for review and update of the site's best management practices, update of the site's Stormwater Pollution Prevention Plan, collection and analysis of discharge samples, and consent order negotiations. Preparation of a new site-wide drainage and discharge filtration system design is on-going, with final design and construction expected by the end of 2026.
- **Industrial Wastewater Treatment, Active Nonwoven Sheet Products Manufacturing Facility, Green Island, New York.** Remedial design engineer in support of manufacturing facility with 1.5 MGD discharge to a POTW, to improve an existing effluent discharge treatment process to further remove total

suspended solids. As the lead engineer, worked in conjunction with other engineers and the facility to review existing documentation (as-built drawings, permits, operational records, sampling data) to determine an optimal treatment process. Worked in conjunction with equipment vendors to perform bench testing/treatability studies to select an appropriate coagulant and flocculant to work with either a gravity settling clarifier, dissolved air flotation (DAF) clarifier, or a batch process filtration system. The DAF clarifier was ultimately selected based on site space constraints and its overall ability to achieve the updated POTW discharge criteria. Work also included meetings and negotiations with the POTW Authority, to incorporate a phased update to the discharge criteria, which enabled the client to maintain production capacity while optimizing the DAF clarifier process following construction.

- **Sub-Slab Depressurization System (SSDS) Design and Start-Up, Various Site, NYC-Metro & Long Island.** Lead professional engineer for SSDS designs for various sites throughout the NYC-metro areas and Long Islands. Sites were a mix of residential apartments, commercial retail buildings, and industrial warehouses. Designs included coordination with the architect, structural and MEP engineers to layout the SSDS piping network, riser pipes, and blower assemblies to minimize clashes and ensure compliance with applicable regulations. Designs included calculations to assess the overall flow and vacuum needs, to specify and select the blower. Also conducted oversight and monitoring of SSDS start-ups associated with the design systems. Preparation and certification of the FER and SMP were completed for sites which were also enrolled in the Brownfields Cleanup Program.
- **Former Landfill Remedial Investigation and Design, 1612 5th Avenue, Bay Shore, New York.** Lead professional engineer for a Brownfield Cleanup Program (BCP) site remedial investigation/feasibility study and remedial design. The site is a former C&D landfill, which is contaminated with SVOCs, metals and PFAS in both soil, groundwater and soil vapor. The former landfill is also exhibiting signs of elevated methane levels. Provided review and support of the final remedial investigation activities and the preparation of the remedial action work plan. The selected remedy for the site includes a site cover system for soil contamination, sub-slab depressurization system with vapor barrier to mitigate potential soil vapor intrusion, and an active perimeter gas control system to mitigate potential methane concerns around the site and at the property boundary. Remedial Action (RA)/Construction Management is expected to start at the end of 2026 and will be followed by preparation of the Final Engineering Report and Site Management for the final remedial measures.
- **Former Dry Cleaner Remedial Investigation and Remedial Design, Mr. Cleaners-Shrub Oak Shopping Center, Shrub Oak, New York.** Lead professional engineer for a Brownfield Cleanup Program (BCP) site remedial investigation/feasibility study and remedial design. The site is a former drycleaner, which is contaminated with tetrachloroethane (PCE) in soil, groundwater and soil vapor. Provided review and support of the final remedial investigation activities and the preparation of the remedial action work plan. The site currently has an IRM to mitigate soil vapor intrusion and a final remedy to treat the below-slab soil contamination and groundwater is in the feasibility study phase though will likely include a site cover system for soil contamination, soil vapor extraction with potential air sparge, downgradient in-situ treatment of PCE and associated breakdown products, and continued operation of the sub-slab depressurization system to mitigate soil vapor intrusion issues. Remedial Action (RA)/Construction Management is expected to start in the second half of 2026 and will be followed by preparation of the Final Engineering Report and Site Management for the final remedial measures.
- **Construction Oversight and Management, Landfill Redevelopment, New York City Dept. of Parks & Recreation, Staten Island, New York.** Project construction management and quality assurance services for the $30M Phase I development of the North Park section of Fresh Kills Landfill. Work included management and oversight of two full-time resident engineers and Construction Quality Assurance inspection and testing for environmental capping and landfill infrastructure modifications. Oversight included: source approval, sampling, and inspection of all imported fill materials in accordance with NYSDEC Part 360; Storm Water Pollution Prevention Plan (SWPPP) inspections and reporting; SPDES monitoring, sampling, and reporting; review and processing of submittals, payment applications, RFIs, Change Orders, Schedule updates, and other project deliverables; and management of construction progress meetings. A Site Management Plan and Construction Certification Report as the “Engineer of Record” were completed and submitted to the NYSDEC at the project conclusion in 2023.
- **Construction Management and Design During Construction, Removal and Installation of PBS Fuel Tanks, NYS Parks, Recreation and Historic Preservation, Sunken Meadow State Park, New York.** Construction management, design administration, and environmental quality control services for removal and disposal of petroleum bulk storage USTs and replacement with concrete reinforced ASTs. Advised and supported all environmental aspects for the project, including notification to NYSDEC, oversight of tank removal and decommissioning activities, endpoint sampling management, reviewing laboratory results against NYSDEC Part 375, and

negotiating with regulatory agencies. Work also included review and response to contractor submittals, resolution of RFIs, coordination with contractor and vendors on Shop Drawings and delegated design submittals, and resolution of design-based conflicts that required revisions to the original Contract. Preparation of a final Tank Closure Report was completed and submitted at the project conclusion in 2023.

- **Construction Oversight and Management, Excavation and Off-Site Disposal, Glen Cove Community Development Agency, Glen Cove, New York.** Construction oversight and management of soil excavation and off-site disposal. Responsible for project management and engineering certification of the site work. Worked with the City's contractor to execute the work as specified and designed and coordinated with NYSDEC and USEPA. Site work included: surface water/sediment controls; dust, chemical, and asbestos air monitoring; contaminated soil excavation and disposal; bulkhead stabilization; fill material chemical and geotechnical sampling; unknown gasoline UST removal, disposal, and closeout; asbestos and lead-based paint abatement; and building demolition. The work also included the review and approval of all contractor submittals, weekly progress meetings, approval daily field activity reports, and review and certification of Contractor payment applications. A Final Engineering Report, in accordance with DER-10 and Part 375, was completed and submitted at the project conclusion.
- **Construction Oversight and Management, Storage Tank Removal and Disposal, Orange County, Chester, New York.** Construction oversight and management of AST and UST removal and disposal at the Glenmere Lake Brownfields Site. Work was upload of Glenmere Lake, a drinking water source for the Village of Florida, a wetland, and a habitat for a NYSDEC endangered species (Northern Cricket Frog). Project involved working with the City's contractor to execute the work as specified and designed, as well as coordination with the NYSDEC. Site work included: surface water/ sediment controls; endangered species controls and monitoring; dust and chemical air monitoring; contaminated soil excavation and disposal; backfill material chemical sampling, installation, compaction, and geotechnical testing; and tank removal, disposal, and closeout in accordance with NYS PBS permitting and NY Spills closure requirements.
- **Construction Oversight and Management, Soil Excavation and Off-Site Disposal, Long Island Railroad (LIRR), New York.** Construction oversight and management in support of metals-contaminated soil excavation and off- site disposal. Project was completed as part of a NYS Voluntary Cleanup Agreement. Site work included: surface water/sediment controls; dust and chemical air monitoring; contaminated soil excavation and disposal; fill material chemical and geotechnical sampling; and Underground Injection Control closeout of cesspools, septic systems, and drywells, in accordance with USEPA requirements.
- **Construction Oversight and Management, Soil Excavation and Off-Site Disposal, NYSDEC Bouchard Junkyard Site, New Lebanon, New York.** Construction oversight and management of PCB-contaminated soil excavation and off- site disposal. The Site was located adjacent to a Federal and State wetland. The project involved the characterization and disposal of over 44,000 cubic yards of soil and wetland sediment contaminated with hazardous and non-hazardous level of PCB's, including site and wetland restoration. Site work included: surface water/sediment controls; dust and chemical air monitoring; contaminated soil excavation and disposal; and fill material chemical and geotechnical sampling.
- **Construction Monitoring and Inspection, Sub-Slab Gas Vapor Barrier & Depressurization Systems, New York City School Construction Authority, PS48Q & PS3Q, Queens, New York.** Third-party inspection and oversight of environmental systems and components at several existing and new NYC public schools. Work involved multiple detailed inspections of contractor-installed sub-slab gas vapor barrier and depressurization systems to ensure compliance with regulatory, contract and client requirements, and preparation of detailed field activity reports to document findings.
- **B204 Remedial Action, Port Authority of NY & NJ, Jamaica, New York.** Oversight of fuel-oil contaminated soil remediation, including excavation and in situ biological degradation. Work was conducted as part of a property redevelopment at JFK Airport. Responsibilities included meetings with the client and property developer, oversight of excavation, endpoint sampling, and application of sulfate salts to facilitate aerobic biological oxidation of residual fuel oils at the groundwater interface. Upon completion of the work, field GPS assessment of the excavation extents was completed, and a final remediation report was issued to the client and regulatory agency.
- **Solid Waste Management Unit Decontamination, International Business Machines, East Fishkill, New York.** Field project engineer responsible for overseeing the decommissioning and cleaning of 50+ solid waste management units, within five months. The work included scoping and management of the entire field project, coordination with and scheduling of cleaning subcontractor, leading team project meetings with various client representatives and subcontractor, and rinse sampling the cleaned units. Upon completion, a final report with certifications was submitted to the NYSDEC to document the closure of the units.

- **Demolition and Hazardous Materials Abatement Design, New York State Department of Parks, Recreation and Historic Preservation, Kings Park Psychiatric Center, New York.** Project engineer for the design of demolition and hazardous materials abatement of 13 buildings at the former Kings Park Psychiatric Center. Project involved the on-site assessment of 13 structures/buildings, extensive review of as-built and historical files for the property to determine special requirements for the demolition, assistance with hazardous material survey and sampling, oversight of field work to assess former steam tunnels construction, oversight of core drilling of building foundations/walls to determine if asbestos containing materials were present, and preparation of detailed contract specifications and drawings to support bidding of the abatement and demolition work.
- **Remedial Technology Assessment and Selection, Brookhaven National Laboratory, Upton, New York.** Remedial technology assessment for a closed trap and skeet range. Historic usage resulted in ~2,100 pounds of lead deposited on the surface of the range, annually. The assessment reviewed excavation, soil washing, stabilization and chemical extraction. Technologies were evaluated based on their ability to meet NYSDEC requirements. The most protective and cost effective option utilized a combined approach of in situ stabilization of hazardous areas, followed by excavation and off-site disposal.
- **Groundwater & Soil Vapor Extraction Treatment Systems Operation, Maintenance and Monitoring (OM&M), Various Clients.** Management and engineering quality control support related to OM&M of groundwater (40 gpm to 2,500 gpm) and soil vapor extraction systems. Groundwater systems utilized air stripping (VOCs) or advanced oxidation (1,4-dioxane) for groundwater and vapor phase granular activated carbon (some with steam regenerative solvent recovery) or potassium permanganate zeolite for air treatment. Work included response for alarms and troubleshooting, summary reports for identified O&M issues, field digital data collection, and SCADA programming with automatic data congregation, management, and output reporting. Quarterly and annual reports were also prepared and submitted.
- **Operation, Maintenance and Monitoring, Groundwater Extraction and Treatment, NYSDEC Franklin Cleaners Site, Hempstead, NY & Active Industrial Uniform Site, Lindenhurst, New York.** Project engineer responsible for operation, monitoring and maintenance of the groundwater pump and treatment system at two NYSDEC Class 2 Inactive Hazardous Waste Site. Initially, Mr. Martorano was responsible for performance monitoring activities at the site which included weekly system monitoring, bi-weekly sampling of influent and effluent water and air streams, and scheduling and oversight of subcontractor maintenance activities. Reports summarizing all chemical analysis, groundwater monitoring trends, system performance and maintenance activities, as well as recommendations to improve the overall treatment system performance, were completed and submitted to the NYSDEC on a quarterly schedule. Additional work completed in support of the Franklin Cleaners Site included the preparation of the Final Remediation Report for the on-site soil vapor extraction/air sparge system and remedial construction oversight for the installation of an on-site sub-slab depressurization system. Reporting deliverable included a Site Management Plan and Periodic Review Report, in accordance with NYSDEC DER-10.
- **Construction Oversight, Sub-Slab Depressurization, NYSDEC 34th Avenue/62nd Street Plume Site, Jackson Heights, New York.** Project field engineer responsible for the installation of an active sub-slab depressurization system at the NYSDEC 34th Avenue/62nd Street Plume Site. Work involved oversight of the system installation, review of contractor's submittals and final review and approval of the work.
- **Site Closure Reporting, National Grid, Glenwood Landing, New York.** Project engineer for the preparation of site closure reports for the remediation of a former manufactured gas plant site in Glenwood Landing, NY. Reports included a Final Engineering Report and Site Management Plan in accordance with NYSDEC DER-10. Also assisted with the preparation of the Environmental Easement for the property, to maintain the existing use, restrict future soil excavation activities at the site and minimize exposure to contaminated soil remaining on-site below soil and clay caps.

PROFESSIONAL TRAININGS

40-Hour Health and Safety Training for Hazardous Waste Sites (29 CFR 1910.120(e))

8-Hour Refresher for Hazardous Waste Operations Training (29 CFR 1910.120)

10-Hour OSHA Construction

Confined Space Entry Training (29 CFR 1910.146)

Asbestos Awareness Training

APPENDIX J

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

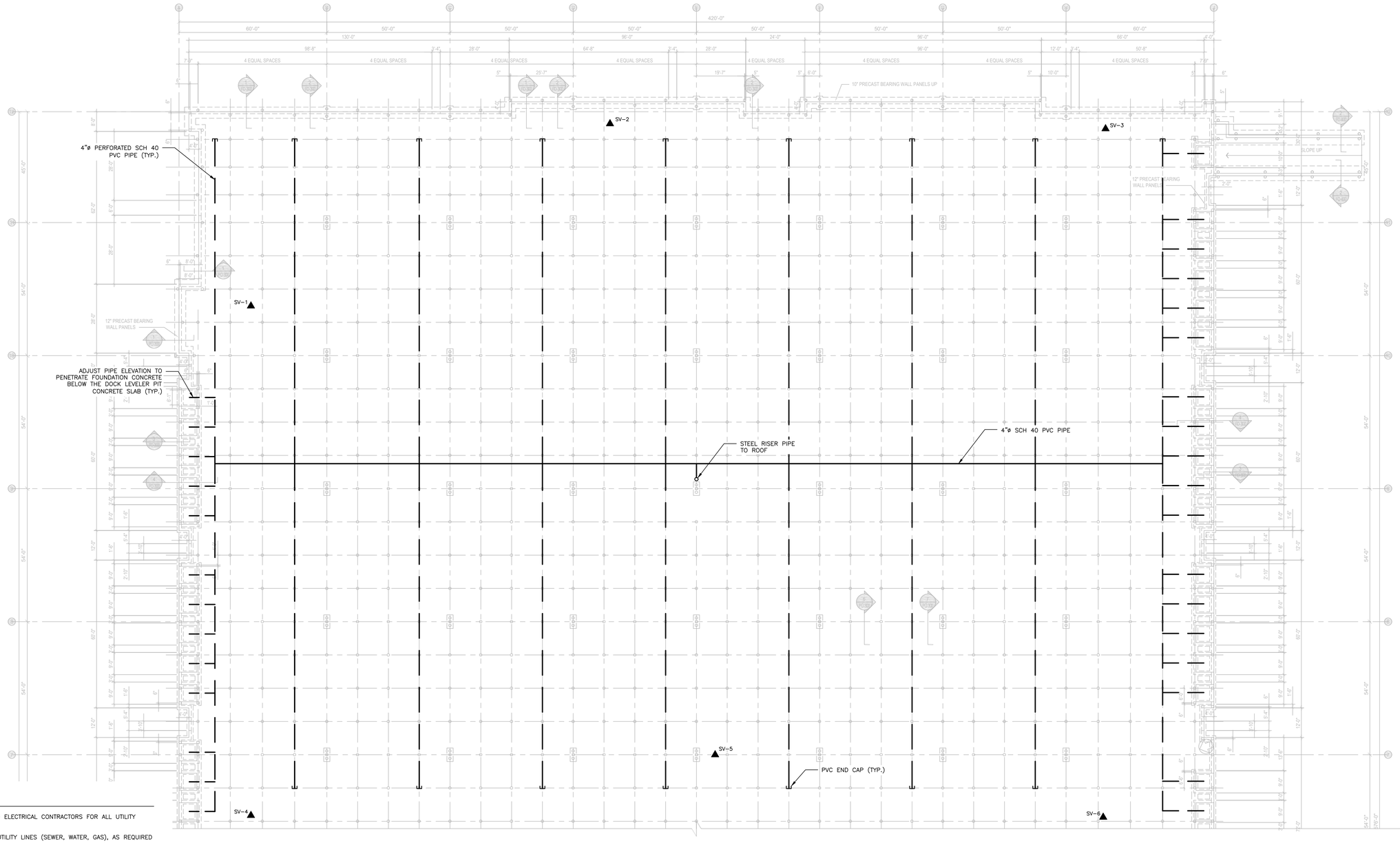
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Firm

Revised April 2023

APPENDIX K

Sub-slab Depressurization System Plan and Details



LEGEND

SV-1 ▲ LOCATION AND DESIGNATION OF SOIL VAPOR MONITORING POINT (SEE DRAWING 3, DETAIL 1)

SUB-SLAB DEPRESSURIZATION SYSTEM NOTES

1. CONTRACTOR SHALL COORDINATE WITH PLUMBING, MECHANICAL, CIVIL AND ELECTRICAL CONTRACTORS FOR ALL UTILITY CROSSINGS.
2. THE PERFORATED PIPE MAY BE ROUTED AROUND OR UNDERNEATH ANY UTILITY LINES (SEWER, WATER, GAS), AS REQUIRED AND AS APPROVED BY THE ENGINEER.
3. THE SURFACES TO BE LINED WITH GEOTEXTILE SHALL BE FREE OF ALL ROCKS, STONES, SHARP OBJECTS OR CONSTRUCTION DEBRIS OF ANY KIND.
4. INSTALL GEOTEXTILE NONWOVEN FABRIC DIRECTLY ON FILL. MATERIAL OVERLAPS SHALL BE A MINIMUM OF 12 INCHES. THE OVERLAPPED SEAMS WILL BE SEALED WITH TAPE.
5. ALL PENETRATIONS THROUGH THE SLAB ON GRADE (SOG) SHALL BE SEALED USING SILICONE BASED WATERPROOF SEALANT OR APPROVED EQUAL.
6. THIS SUB-SLAB DEPRESSURIZATION SYSTEM WAS DESIGNED TO MINIMIZE GRADE BEAM AND PILE CAP CROSSINGS. FIELD VERIFICATION OF LOCATIONS SHOULD BE MADE TO ENSURE CROSSINGS ARE MINIMIZED.
7. VAPOR BARRIER SYSTEM SHALL CONSIST OF STEGO WRAP 20-MIL CLASS A VAPOR BARRIER AS MANUFACTURED BY STEGO INDUSTRIES LLC BELOW THE SLAB THROUGHOUT THE FULL BUILDING AREA. ALL SEAMS WILL BE TAPED WITH STEGO TAPE. BITUTHENE LIQUID MEMBRANE BY GCP APPLIED TECHNOLOGIES WILL BE APPLIED AS LIQUID SEALANT TO SEAL HOLES IN THE MEMBRANE AND AROUND PILES.

NO.	DATE	REVISION DESCRIPTION	INT.

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DESIGNED BY:	R.F.	CHECKED BY:	P.M.
DRAWING SCALE:	AS SHOWN	PLOT SCALE:	1:1
DRAWING DATE:	19FEB26	PRINT TYPE:	B&W
OFFICE:	NY	PAPER SIZE:	ARCH D
PROJECT NO.:	3900.0001Y003		
DRAWING FILE:	3900.0001Y121.02.DWG		

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(631) 232-2600

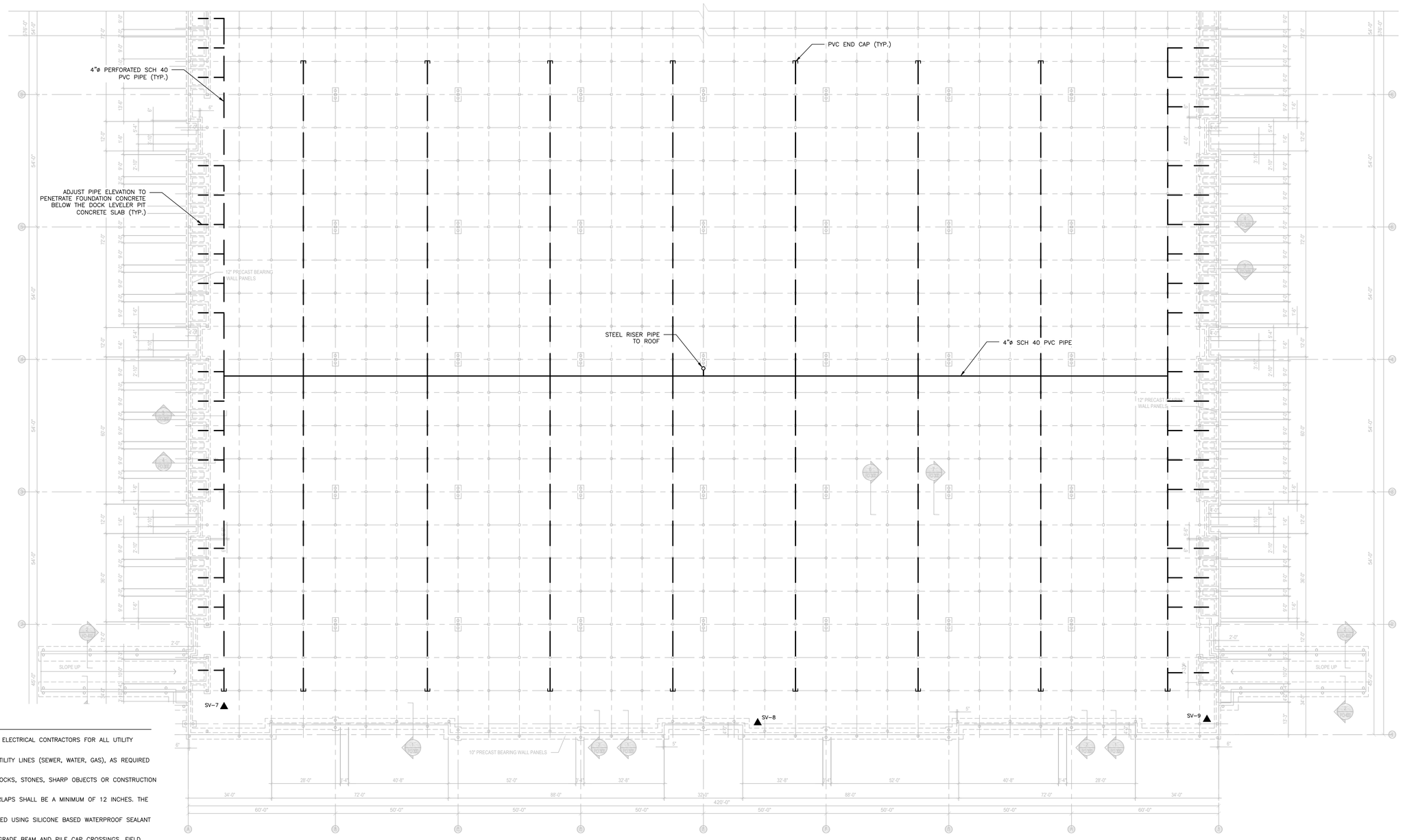
PROJECT NAME:
1612 5TH AVENUE
BAY SHORE, NEW YORK 11706

PROJECT FOR:
FIFTH XNY, LLC

TITLE:
SUB-SLAB DEPRESSURIZATION SYSTEM PLAN - EAST

DRAWING NO.
1
DRAWING 1 OF 3

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LEGEND

SV-6 ▲ LOCATION AND DESIGNATION OF SOIL VAPOR MONITORING POINT (SEE DRAWING 3, DETAIL 1)

SUB-SLAB DEPRESSURIZATION SYSTEM NOTES

1. CONTRACTOR SHALL COORDINATE WITH PLUMBING, MECHANICAL, CIVIL AND ELECTRICAL CONTRACTORS FOR ALL UTILITY CROSSINGS.
2. THE PERFORATED PIPE MAY BE ROUTED AROUND OR UNDERNEATH ANY UTILITY LINES (SEWER, WATER, GAS), AS REQUIRED AND AS APPROVED BY THE ENGINEER.
3. THE SURFACES TO BE LINED WITH GEOTEXTILE SHALL BE FREE OF ALL ROCKS, STONES, SHARP OBJECTS OR CONSTRUCTION DEBRIS OF ANY KIND.
4. INSTALL GEOTEXTILE NONWOVEN FABRIC DIRECTLY ON FILL. MATERIAL OVERLAPS SHALL BE A MINIMUM OF 12 INCHES. THE OVERLAPPED SEAMS WILL BE SEALED WITH TAPE.
5. ALL PENETRATIONS THROUGH THE SLAB ON GRADE (SOG) SHALL BE SEALED USING SILICONE BASED WATERPROOF SEALANT OR APPROVED EQUAL.
6. THIS SUB-SLAB DEPRESSURIZATION SYSTEM WAS DESIGNED TO MINIMIZE GRADE BEAM AND PILE CAP CROSSINGS. FIELD VERIFICATION OF LOCATIONS SHOULD BE MADE TO ENSURE CROSSINGS ARE MINIMIZED.
7. VAPOR BARRIER SYSTEM SHALL CONSIST OF STEGO WRAP 20-MIL CLASS A VAPOR BARRIER AS MANUFACTURED BY STEGO INDUSTRIES LLC BELOW THE SLAB THROUGHOUT THE FULL BUILDING AREA. ALL SEAMS WILL BE TAPED WITH STEGO TAPE. BITUTHENE LIQUID MEMBRANE BY GCP APPLIED TECHNOLOGIES WILL BE APPLIED AS LIQUID SEALANT TO SEAL HOLES IN THE MEMBRANE AND AROUND PILES.

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DESIGNED BY:	R.F.	CHECKED BY:	P.M.
DRAWING SCALE:	AS SHOWN	PLOT SCALE:	1:1
DRAWING DATE:	19FEB26	PRINT TYPE:	B&W
OFFICE:	NY	PAPER SIZE:	ARCH D
PROJECT NO.:	3900.0001Y013		
DRAWING FILE:	3900.0001Y121.02.DWG		

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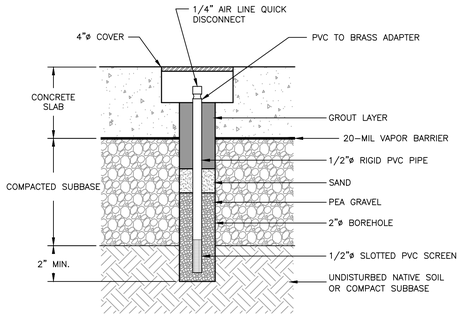
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1612 5TH AVENUE
BAY SHORE, NEW YORK 11706

PROJECT FOR:
FIFTH XNY, LLC

TITLE:
SUB-SLAB DEPRESSURIZATION SYSTEM PLAN - WEST

DRAWING NO.
2
DRAWING 2 OF 3

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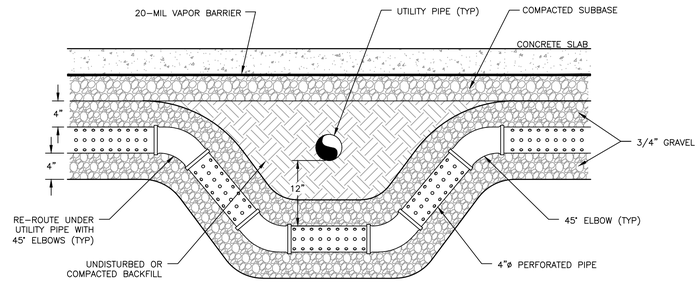


NOTE

DEPICTED LOCATIONS OF SOIL VAPOR MONITORING POINTS ARE APPROXIMATE AND SHALL BE COORDINATED AND CONFIRMED WITH THE CONTRACTOR AND ROUX PRIOR TO CONSTRUCTION.

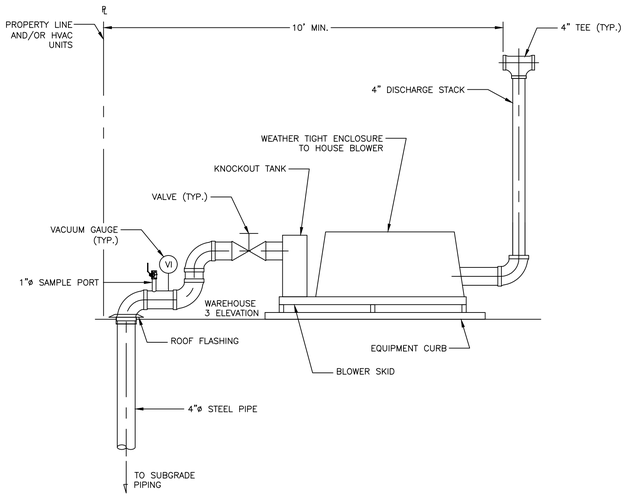
1 SOIL VAPOR MONITORING POINT DETAIL

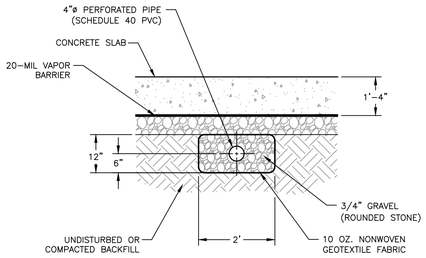
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2 TYPICAL UTILITY PIPE CROSSING

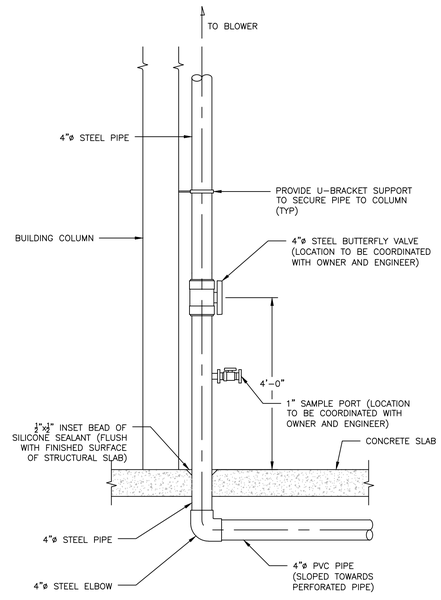
SCALE: NOT TO SCALE





3 SUB-SLAB DEPRESSURIZATION SYSTEM PIPE DETAIL

SCALE: NOT TO SCALE



4 RISER DETAIL

SCALE: NOT TO SCALE

BLOWER NOTES

1. PROVIDE ELECTRICAL/CONTROL CONDUIT TO BLOWERS. COORDINATE WITH ELECTRICAL CONTRACTOR.
2. ELECTRICAL CONDUIT SHALL BE SIZED FOR 230 VOLT, THREE PHASE, 60 HZ, FOR THE BLOWER MOTORS.
3. EACH BLOWER (EAST AND WEST SYSTEM) SHALL BE A 7.5 HP, AMETEK ROTRON MODEL EN858BA72WL OR APPROVED EQUAL.
4. THE BLOWERS SHALL BE PROVIDED WITH A WEATHER TIGHT ENCLOSURE GASHO ALUMINUM CUSTOM ENCLOSURE OR APPROVED EQUAL.
5. THE BLOWER SKIDS SHALL INCLUDE A WEATHER TIGHT ENCLOSURE, KNOCKOUT TANK (WITH HIGH LEVEL ALARM), VACUUM RELIEF VALVE, LOW VACUUM SWITCH, GAUGES, AND INTERCONNECTING PIPING/FITTINGS.
6. EACH KNOCKOUT TANK (EAST AND WEST SYSTEM) SHALL BE AMETEK ROTRON MODEL MS350BS, OR APPROVED EQUAL
7. CONTROL PANELS SHALL BE PROVIDED WITH EACH BLOWER SKID. THE CONTROL PANELS SHALL HAVE GREEN OPERATING LIGHTS AND RED ALARM LIGHTS. THE CONTROL PANELS SHALL HAVE AN ALARM FOR WATER LEVEL IN KNOCKOUT TANK, LOW VACUUM AND NO POWER. THE ALARM SIGNAL SHALL BE SENT TO AN APPROPRIATE LOCATION IN THE PROPOSED BUILDING (I.E., SUPERINTENDENT'S OFFICE) AND SHALL ALSO BE AUDIBLE.
8. PROVIDE ALL NECESSARY PIPE SUPPORTS FOR RISERS FROM THE CONCRETE SLAB TO THE BLOWER ON THE ROOF.
9. THE ALARMS SHALL BE A MCMASTER-CARR SIGNAL LIGHT WITH AUDIBLE ALARM (PART NO. 5753T71) OR APPROVED EQUAL.
10. SSDS VENT EXHAUSTS SHALL BE OFFSET A MINIMUM OF 10 FEET FROM PROPERTY LINES, HVAC/AIR INTAKES, OPERABLE OPENINGS AND ANY OUTDOOR RECREATIONAL SPACES.

5 TYPICAL BLOWER DETAIL

SCALE: NOT TO SCALE

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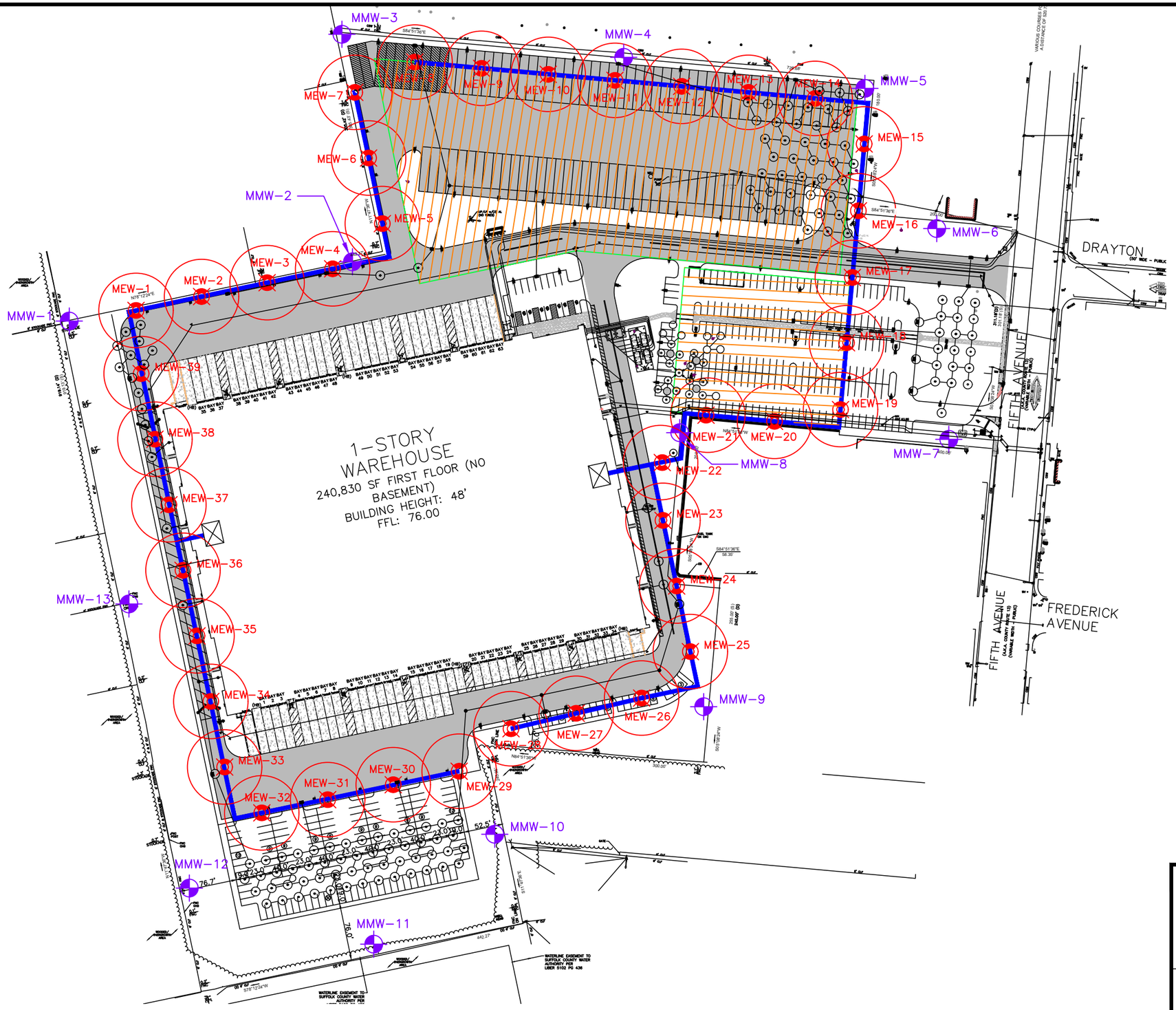
PROJECT FOR:
FIFTH XNY, LLC

TITLE:
SUB-SLAB DEPRESSURIZATION SYSTEM DETAILS

DRAWING NO.
3
DRAWING 3 OF 3

APPENDIX L

Perimeter Methane Collection System



LEGEND

- MMW-6 — PERMANENT METHANE MONITOR WELL (MMW)
- MEW-7 — METHANE EXTRACTION WELL (MEW)
- ESTIMATED METHANE EXTRACTION WELL (MEW) RADIUS (50')
- METHANE HEADER COLLECTION TRENCH (MHCT)
- DRAINTUBE GEOCOMPOSITE
- APPROXIMATE BLOWER LOCATION

NOTE(S)

1. BASE MAPS TAKEN FROM R&M ENGINEERING SP2&3 ALIGNMENT PLAN (DATED 2/18/2026) AND SP-6 UTILITY PLAN WBLOCK (DATED 2/18/2026)
2. MONITOR WELLS ARE SPACED AT 400-FOOT MAXIMUM INTERVALS
3. EXTRACTION WELLS OVERLAP APPROXIMATELY 10 FEET OR MORE

N

140' 0 140'

Title:

METHANE EXTRACTION WELL LAYOUT
XEBEC 1612 5TH AVE

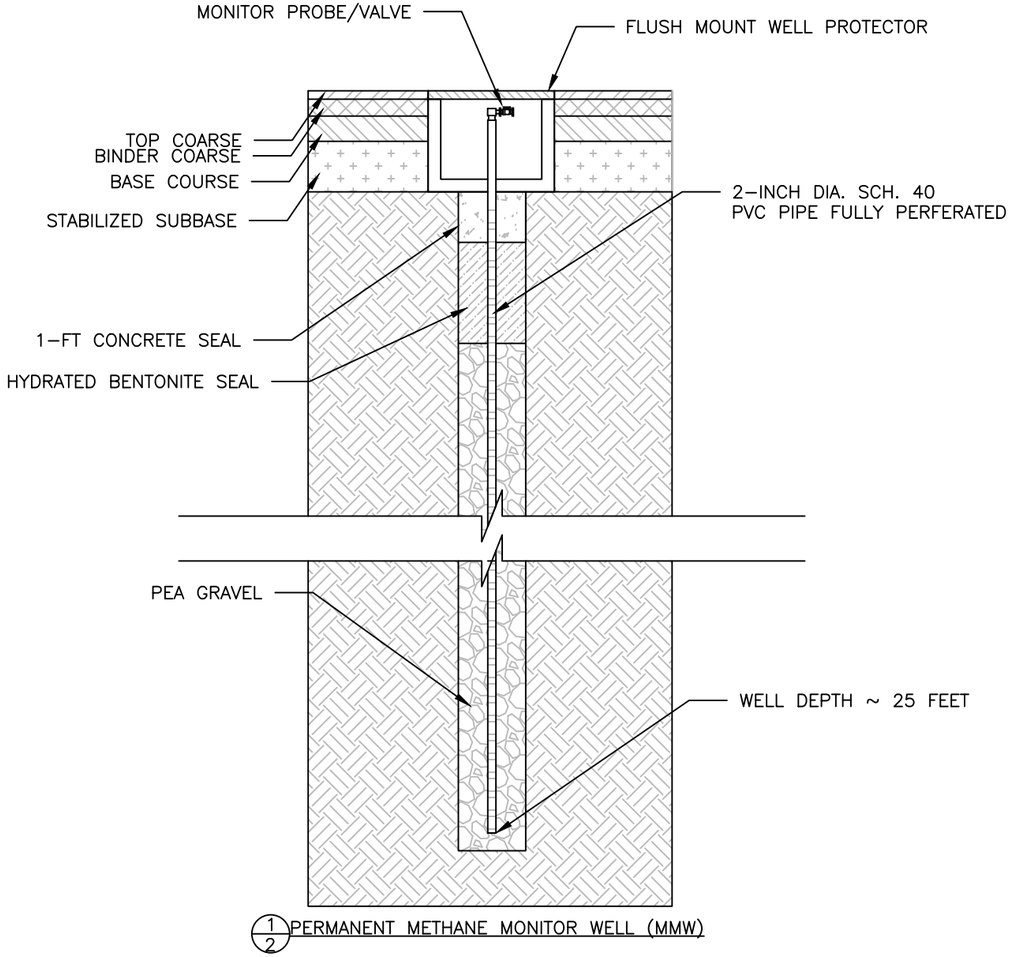
Prepared for:

FIFTH XNY, LLC

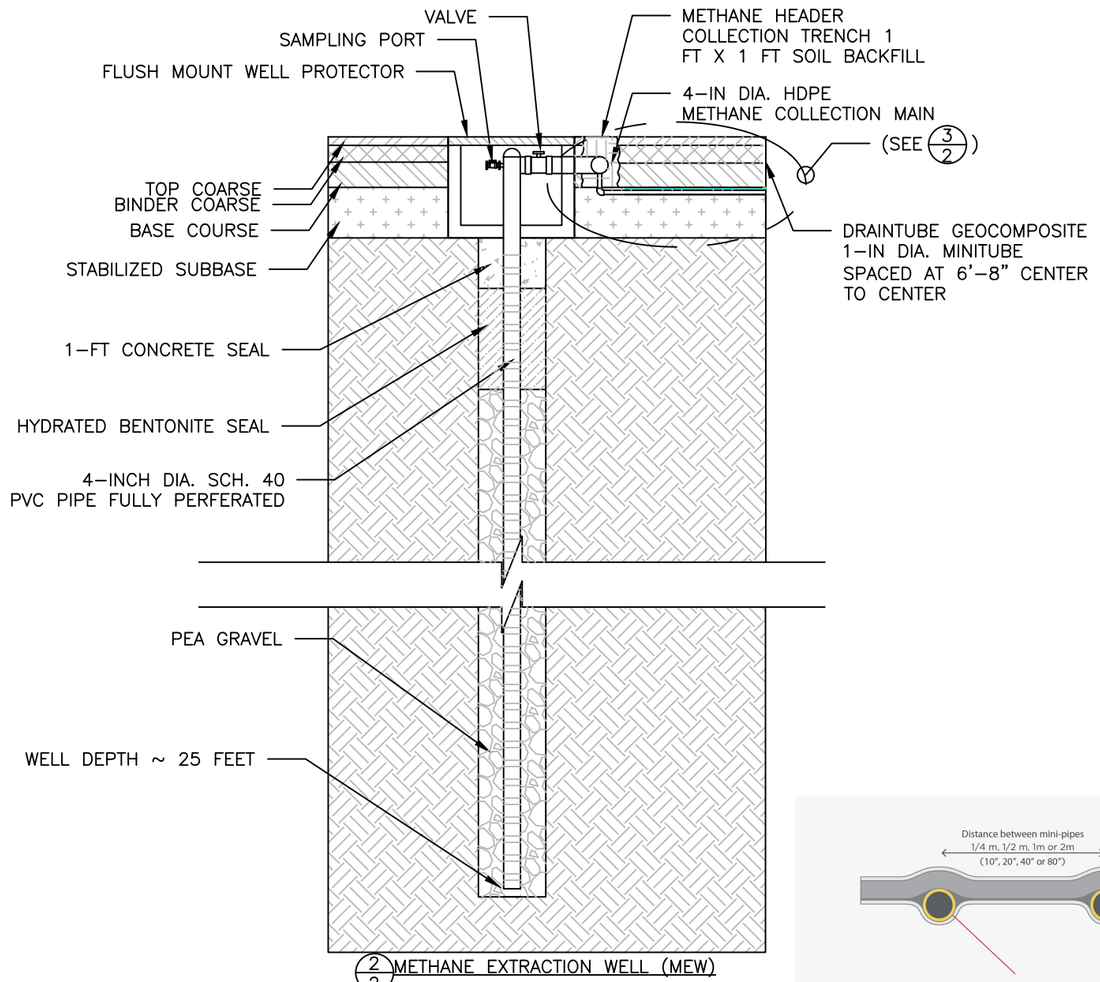
ROUX

Compiled by: FJ	Date: MAR 2026	FIGURE
Prepared by: FJ	Scale: AS SHOWN	1
Project Mgr: PM	Project: 3900.0001P003	
File: G22002-CF ACTIVE WELL ESTIMATIONS 2.6.26.DWG		

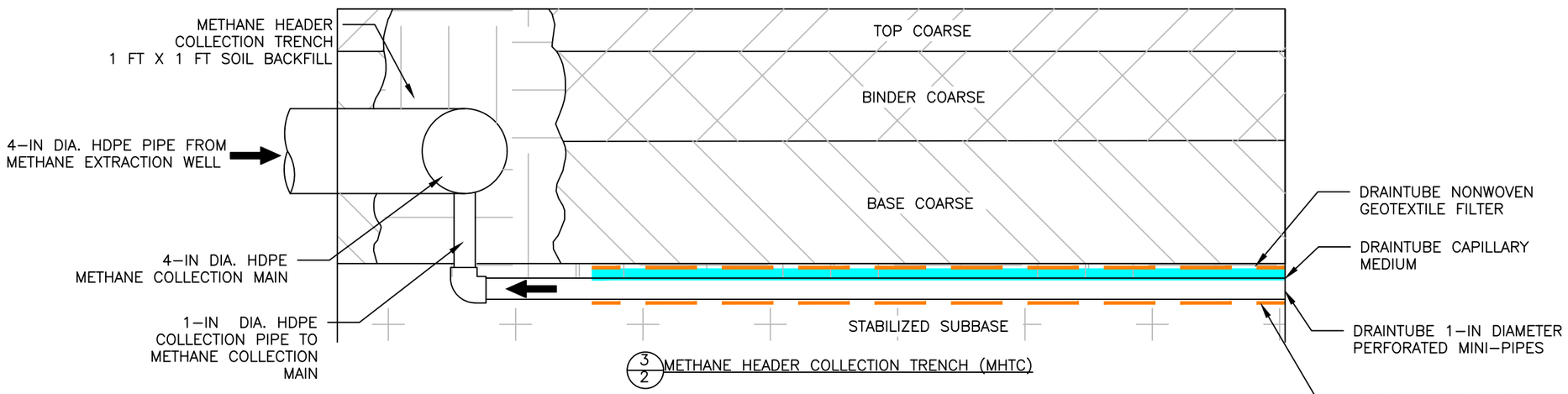
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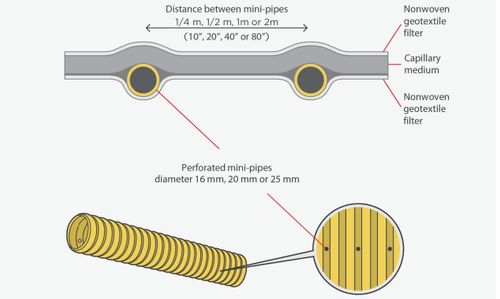
1/2 PERMANENT METHANE MONITOR WELL (MMW)



2/2 METHANE EXTRACTION WELL (MEW)



3/2 METHANE HEADER COLLECTION TRENCH (MHTC)



DRAINTUBE GEOCOMPOSITE

Title:

METHANE WELL STANDARD DETAILS
XEBEC 1612 5TH AVE

Prepared for:

FIFTH XNY, LLC

ROUX

Compiled by: FJ	Date: MAR 2026
Prepared by: FJ	Scale: AS SHOWN
Project Mgr: PM	Project: 3900.0001P003
File: G22002-CF ACTIVE WELL ESTIMATIONS 2.6.26.DWG	

FIGURE 2

\\SRVIDNYFP7\NYSHARED\CLIENTS\XEBEC\1612 5TH AVENUE - BAY SHORE\11. RAWP\DESIGN_METHANE GAS VENTING\CAD\G22002-CF ACTIVE WELL ESTIMATIONS 2.6.26.DWG

DRAINTUBE

Enhanced Gas Collection Blanket



Landfill Gas Management solutions

Geocomposite drainage solutions you can count on

Afitexinov specializes in drainage geocomposites for over 25 years and is considered a leader in this field in Europe.

Texel, founded in 1967, is now manufacturing a large range of non-woven materials, including very high quality geosynthetics, and is recognized as a leader in North America.

The experience and expertise of both Afitex and Texel stand for excellence in designing, developing, manufacturing and marketing high quality specialized synthetic materials, such as DRAINTUBE®.

DRAINTUBE® combines standard pipe and geotextile technology into a unique package offering superior long term drainage capacity and performance.

DRAINTUBE® standard roll size is 3,200 sf (13.1' x 246') and can cover over 30% more area than other geocomposites. DRAINTUBE® is installed like traditional geotextiles, and DRAINTUBES's panels can be easily sewn or thermally fused.

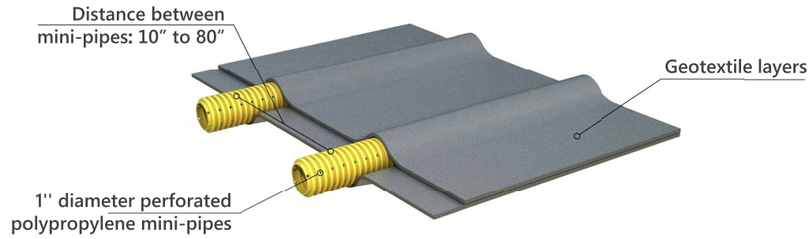
In addition, DRAINTUBE's installation is fast and headache-free because DRAINTUBE® has no plastic nets to tie together, and the material at the end of a DRAINTUBE® roll lays flat unlike traditional geocomposites.

Our Lymphea design software and our talented professionals are available to help make your project a success from concept to completion.



DRAINTUBE® GAS TO COLLECT AND CONTROL GAS EMISSIONS AT EACH STAGE OF THE LANDFILL'S LIFE





During operation
Horizontal LFG collection within the waste mass

Landfill gas (LFG) needs to be effectively extracted from active landfills to comply with air regulations and reach the 75% lifetime gas capture rate recommended for MSW landfills.

Placed directly within the waste mass, **DRAINTUBE® GAS Plus** replaces traditional horizontal LFG trenches.

DRAINTUBE® GAS Plus is unrolled directly on the waste and connected to the LFG system conveyance piping using Quick Connect System.



During operation
Temporary cap with LFG collection

Temporary caps are used on open landfill cells to limit rainfall infiltration into the waste and prevent gas from escaping the sides of the landfill.

Installed directly under the geomembrane, **DRAINTUBE® GAS** collects the gas and controls the LFG pressure build-up. In addition, DRAINTUBE® can be connected into an LFG system conveyance piping using Quick Connect System.

Flexible and easy to install, **DRAINTUBE® GAS** provides a dense mini-pipe network able to solve any LFG surface emission concerns.



To further limit air intrusion into the gas network, DRAINTUBE® geocomposite can be manufactured with an associated coated woven polyethylene geomembrane on its upper side.

Closure
LFG drainage within the final cover system

The final cover system must include a gas venting layer to provide a conduit for LFG to travel to gas wells. **DRAINTUBE® GAS Plus** improves the collection rate, limits the gas pressure under the geomembrane, and protects it from unexpected mechanical damages.

DRAINTUBE® GAS Plus can be connected to the LFG network through a regular collector trench or directly to a manifold using Quick Connect System.



Quick Connect System
Gas fittings



The DRAINTUBE® mini-pipes can be positively connected to interceptor drains without trenches with the Quick Connect System.

Quick Connect System creates an airtight connection between the gas piping network and DRAINTUBE®.







Design considerations

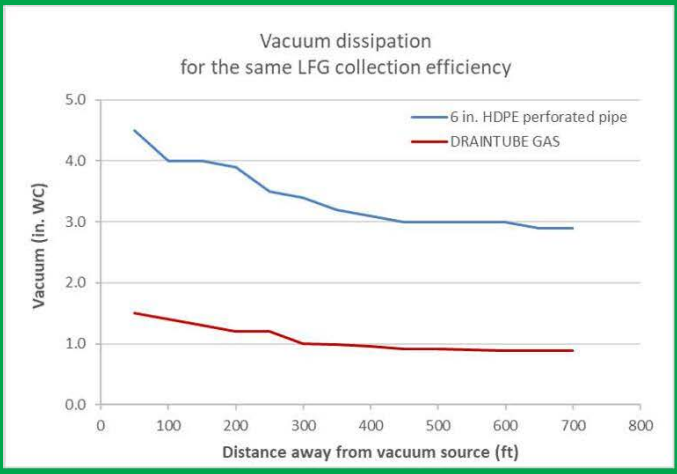
Long term behavior

DRAINTUBE® offers better long-term performance than any other drainage geocomposite. DRAINTUBE's superior performance is because DRAINTUBE's flow capacity remains the same even under high loads (tests carried out under a normal load up to 50,000 psf). DRAINTUBE's unaffected flow capacity leads to a higher safety factor on performance design.

DRAINTUBE's improved long-term performance is achieved through soil arching over the pipes when confined. In addition, the structure of DRAINTUBE® is not susceptible to geotextile intrusion, which has been shown to reduce flow in standard geocomposites. Eliminating geotextile intrusion increases options for the types of geotextiles to be used in the geocomposite.

Head loss calculation

Thanks to Lymphea software, the DRAINTUBE® collection flow rate can be determined for each project function of the type of gas, the applied vacuum and the length of drainage.





Comparative studies of LFG collector designs, Cedar Hills Regional Landfill WA, 2016

Produced by

afitex • Texel GEOSYNTHETICS

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Sainte-Marie, Quebec G6E 1G8
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www.afitextexel.com
info@afitextexel.com

DRAINTUBE GAS

TECHNICAL DATASHEET

draintube

ASTM D4439 Terminology	Multi-linear drainage geocomposite
Composition	Polypropylene and/or Polyester
Main function	Gas collection

The product consists of:

- Two 100 g/m^2 (3 oz/sy) geotextile layers comprised of polypropylene or polyester needle-punched short synthetic staple fibers
- Perforated corrugated polypropylene mini-pipes embedded at regular intervals
- Mini-pipe perforation pattern: Two perforations per corrugation at 180° angles, alternating at 90°

Property	Test Method	Reference	Metric	Imperial
Geotextile				
Mass per unit area	ASTM D5261		100 g/m^2	3 oz/yd^2
Grab Tensile Strength	ASTM D4632	MD/CD	135 N	30 lb
Grab Elongation	ASTM D4632	MD/CD	50 %	
CBR Puncture Strength	ASTM D6241	MD/CD	500 N	112 lb
Apparent Opening Size (AOS)	ASTM D4751		0.180 mm	80 US Sieve
Permittivity	ASTM D4491		1.80 sec^{-1}	
Water Flow Rate	ASTM D4491		6 927 l/min/m^2	170 gal/min/ft^2
Perforated mini-pipe				
Outside Diameter	ASTM D2122		25 mm	1.0 in
Pipe stiffness at 5% deflection	ASTM D2412		3 000 kPa	435 psi
Spacing between mini-pipes	N/A	1 mini-pipe per meter of width	1 m	40 in
Geocomposite				
Geocomposite Transmissivity [1]	ASTM D4716 / GRI GC15	Normal load = 480 kPa (10,000 psf) Hydraulic gradient = 0.02 Seating time = 100 h	2 x 10^{-3} m^2/sec	9.7 gal/min/ft
Structural Reduction Factor (SRF) [2]	N/A		1.0	
Physical properties				
Roll Width	N/A		3.98 m	13 ft
Roll Length	N/A		75 m	247 ft
Area per roll	N/A		298.5 m^2	3 213 ft^2

Properties are minimum average roll values except AOS which is maximum average roll value, Outside Diameter which is nominal value and Transmissivity which is typical value.

1 - Transmissivity measured on a 250 mm wide specimen with one pipe in the middle of the sample in the longitudinal direction, installed as follows : sealed sand / geocomposite / geomembrane / sealed sand. The given transmissivity is obtained from a linear relationship between the number of mini-pipes and the measured transmissivity.

2 - Structural Reduction Factor (SRF) is a reduction factor that must be applied on the Index Transmissivity and Index Flow Rate to take into account the creep and the intrusion factors. SRF = RF_{CR} x RF_{IN}. For Draintube Multi-linear drainage geocomposite, RF_{CR} = 1.0 and RF_{IN} = 1.0. The SRF value is a product/technology specific value.

Our quality management system is certified by ISO-9001 standard.
Our internal laboratory is certified by the Geosynthetic Accreditation Institute - Laboratory Accreditation Program (GAI-LAP).

REV 01-2025

Afitex-Texel reserves the right to modify existing properties contingent on the evolution of technical knowledge. Each user is invited to verify if this document represents the most recent update. Afitex-Texel offers no guarantee and assumes no responsibility regarding usage, installation and/or convenience of usage. Afitex-Texel must be informed of all product defects or product nonconformity prior to installation. Responsibility is limited to replacement of non-compliant or defective product.

afitex•Texel GEOSYNTHETICS

APPENDIX M

Correspondence with NYSDEC related to RAWP

NEW YORK STATE | Department of Environmental Conservation

KATHY HOCHUL
Governor

AMANDA LEFTON
Acting Commissioner

SENT VIA EMAIL 01/30/26

Frank Cherena
Roux Inc
209 Shafter St
Islandia, NY 11749
fcherena@rouxinc.com

RE: Pre Design Investigation Report
1612 Fifth Avenue, Bay Shore, New York (BCP Site No. C152008)

Mr. Cherena,

The NYSDEC, in consultation with the New York State Department of Health, has reviewed the Pre-design Investigation Report for the 1612 Fifth Avenue site. The Department hereby accepts the document.

If there are any questions, please contact me at (518) 402-9758 or patrick.powers@dec.ny.gov

Sincerely,

Patrick Powers
Project Manager, Remedial Bureau A
Division of Environmental Remediation

ec:
J. Swartwout, NYSDEC
A. Perretta, NYSDOH
S. Selmer, NYSDOH
C. Israel, Roux, Inc.
P. Martorano, Roux, Inc.

NEW YORK STATE | Department of Environmental Conservation

KATHY HOCHUL
Governor

AMANDA LEFTON
Acting Commissioner

SENT VIA EMAIL 12/10/25

Robert Kovacs
Roux Inc
209 Shafter St
Islandia, NY 11749
rkovacs@rouxinc.com

RE: Pre Design Investigation Report
1612 Fifth Avenue, Bay Shore, New York (BCP Site No. C152008)

Mr. Kovacs,

The NYSDEC, in consultation with the New York State Department of Health, has reviewed the Pre-design Investigation Report for the 1612 Fifth Avenue site. The Department has the following comments:

1. Section 4.3: The table in this section is a GW exceedance table. The description above it reads, “The top three highest PFOS and PFOA soil concentrations are shown below”. Revise ‘soil’ to ‘groundwater’.

2. Section 4.4: Reads “obtained via NYSDEC Doc Locator” revise to “obtained via NYSDEC Info Locator”.

If there are any questions, please contact me at (518) 402-9758 or patrick.powers@dec.ny.gov

Sincerely,

Patrick Powers
Project Manager, Remedial Bureau A
Division of Environmental Remediation

ec:

J. Swartwout, NYSDEC
A. Perretta, NYSDOH
S. Selmer, NYSDOH
D. Hignell, Roux, Inc.
P. Martorano, Roux, Inc.

NEW YORK STATE | Department of Environmental Conservation

KATHY HOCHUL
Governor

AMANDA LEFTON
Acting Commissioner

SENT VIA EMAIL 1/30/26

Frank Cherena
Roux Inc
209 Shafter St
Islandia, NY 11749
fcherena@rouxinc.com

RE: Remedial Investigation Report
1612 Fifth Avenue, Bay Shore, New York (BCP Site No. C152008)

Mr. Cherena,

The NYSDEC, in consultation with the New York State Department of Health, has reviewed the Remedial Investigation Report for the 1612 Fifth Avenue site. The Department hereby approves the document.

If there are any questions, please contact me at (518) 402-9758 or patrick.powers@dec.ny.gov

Sincerely,



Patrick Powers, GIT
Project Manager, Remedial Bureau A
Division of Environmental Remediation

ec:
J. Swartwout, NYSDEC
A. Perretta, NYSDOH
S. Selmer, NYSDOH
C. Israel, Roux, Inc.
P. Martorano, Roux, Inc.

From: Powers, Patrick J (DEC)
To: Camila Israel
Subject: Re: BCP Site #C152008 - 1612 Fifth Avenue Remedial Investigation Reports
Date: Thursday, February 19, 2026 2:36:17 PM
Attachments: image003.png
image004.png
image005.png
image006.png
image007.png

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Camila,

Thanks for the update. I am confirming the RI tables should be consistent between both documents, and do not require revision.

Thanks,

Patrick Powers, G.I.T. *He/Him/His*
Assistant Geologist,
Remedial Bureau A, Section C
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, Albany, NY 12233-7015
w: (518) 402-9758| c: (518) 641-2538 | patrick.powers@dec.ny.gov
dec.ny.gov | @NYSDEC on Social Media | Podcast
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From: Camila Israel <cisrael@rouxinc.com>
Sent: Thursday, February 19, 2026 12:38 PM
To: Powers, Patrick J (DEC) <patrick.powers@dec.ny.gov>
Subject: RE: BCP Site #C152008 - 1612 Fifth Avenue Remedial Investigation Reports

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Hi Patrick-

We are making progress on the RAWP preparation.
Understanding that updates in Part 375 were effective in December 2025.

Can you please confirm that the current tables as presented in the now DEC-approved RIR do not need to be revised for inclusion in the RAWP?

Camila Israel | Senior Engineer II
252 W 37th Street, Suite 1800E, New York, NY 10018
Direct: 347.745.2191
Email: cisrael@rouxinc.com | Website: www.rouxinc.com

ROUX

California | Illinois | Massachusetts | New Jersey | New York | Texas | Virginia

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From: Powers, Patrick J (DEC) <patrick.powers@dec.ny.gov>
Sent: Friday, January 30, 2026 1:51 PM
To: Frank Cherena <fcherena@rouxinc.com>
Cc: Camila Israel <cisrael@rouxinc.com>; Swartwout, John (DEC) <john.swartwout@dec.ny.gov>; Perretta, Anthony C (HEALTH) <anthony.perretta@health.ny.gov>; Selmer, Stephanie L (HEALTH) <stephanie.selmer@health.ny.gov>; Paul Martorano <pmartorano@rouxinc.com>
Subject: BCP Site #C152008 - 1612 Fifth Avenue Remedial Investigation Reports

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Good afternoon,

Attached please find approval letters regarding the Remedial Investigation and Pre-design Investigation Reports for the above referenced site.

Regards,

Patrick Powers, G.I.T. *He/Him/His*
Assistant Geologist,
Remedial Bureau A, Section C
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, Albany, NY 12233-7015
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dec.ny.gov | @NYSDEC on Social Media | Podcast
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From: Powers, Patrick J (DEC)
To: Paul Martorano
Cc: Swartwout, John (DEC); Frank Cherena; Camila Israel
Subject: Re: Methane at 1612 Fifth Ave Site
Date: Wednesday, December 3, 2025 2:58:08 PM

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Paul,

Thanks for pointing that out.

To clarify, the methane concentration *in facility structures* must not exceed **25% of the LEL**, which would be 1.25%. You are correct, RCRA states that the concentrations in perimeter wells must not exceed 5% by volume in air.

I will hopefully get any comments on the PDI back to Roux before the RAWP is submitted.

Pat

Patrick Powers, G.I.T. *He/Him/His*
Assistant Geologist,
Remedial Bureau A, Section C
New York State Department of Environmental Conservation
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From: Paul Martorano <pmartorano@rouxinc.com>
Sent: Wednesday, December 3, 2025 2:15 PM
To: Powers, Patrick J (DEC) <patrick.powers@dec.ny.gov>
Cc: Swartwout, John (DEC) <john.swartwout@dec.ny.gov>; Frank Cherena <fcherena@rouxinc.com>; Camila Israel <cisrael@rouxinc.com>
Subject: Re: Methane at 1612 Fifth Ave Site

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Patrick

Thank you for the initial feedback regarding the site methane levels, ahead of any final comments on the PDI.

I wanted to clarify the methane concentration you noted below, since there seems to be a typo. The LEL for methane is 5% by volume or under standard conditions this is approximately 35,700,000 ug/m3.

Paul Martorano, P.E. – NY | Environmental Technical Director
209 Shafter Street, Islandia, NY 11749
Main: 631.232.2600 | Direct: 631.630.2471 | Mobile: 631.626.0844
Email: pmartorano@rouxinc.com | Website: www.rouxinc.com

From: Powers, Patrick J (DEC) <patrick.powers@dec.ny.gov>
Sent: Wednesday, December 3, 2025 11:33 AM
To: Camila Israel <cisrael@rouxinc.com>
Cc: Paul Martorano <pmartorano@rouxinc.com>; Swartwout, John (DEC) <john.swartwout@dec.ny.gov>
Subject: Re: Methane at 1612 Fifth Ave Site

This message originated outside your organization. Please use caution!

To clarify, the end use of the site must comply with *6 CRR-NY 363-9.7 — End Use* of closed landfills.

Please let me know if you have any questions.

Pat

Patrick Powers, G.I.T. *He/Him/His*
Assistant Geologist,
Remedial Bureau A, Section C
New York State Department of Environmental Conservation
Division of Environmental Remediation
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Files can be sent to me via our File Transfer System HERE

From: Powers, Patrick J (DEC) <patrick.powers@dec.ny.gov>
Sent: Tuesday, November 25, 2025 11:09 AM
To: cisrael@rouxinc.com <cisrael@rouxinc.com>
Cc: Paul Martorano <pmartorano@rouxinc.com>; Swartwout, John (DEC) <john.swartwout@dec.ny.gov>

Subject: Methane at 1612 Fifth Ave Site

Good morning Camila,

While reviewing the project documents, I have been in contact with DEC's Department of Materials Management (DMM) regarding the elevated levels of methane at the site. Based on the detections, the site will likely need to have a active/passive gas collection system, gas monitoring wells around the perimeter of the site, any buildings must have a soil vapor barrier (already planned) and a methane monitoring system with an alarm (permitted by the fire Marshal). Further, a methane monitoring requirement must be attached to the deed. When the RAWP is submitted I will share with DMM for their input.

(DMM regulations state that methane levels cannot exceed 25% of the LEL at a perimeter well, which is around 200,500,00 ug/m^3).

Since the RAWP is still in development I am letting you know about this now so you can incorporate it into the document. Please let me know if you have any questions.

-Pat

Patrick Powers, G.I.T. *He/Him/His*
Assistant Geologist,
Remedial Bureau A, Section C
New York State Department of Environmental Conservation
Division of Environmental Remediation
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