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REMEDIAL ACTION WORK PLAN
1003 EAST 173RD STREET DEVELOPMENT
1003 EAST 173RD STREET
BRONX COUNTY, NEW YORK
NYSDEC BCP SITE NO. C203181

by
H & A of New York Engineering and Geology, LLP
New York, New York

for
The Vaja Group LLC
Brooklyn, New York

File No. 0211679
August 2026

H & A OF NEW YORK ENGINEERING
AND GEOLOGY, LLP
213 W 35TH STREET
7TH FLOOR
NEW YORK, NY 10001
646.277.5685

SIGNATURE PAGE FOR

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NYSDEC SITE C203181

PREPARED FOR
THE VAJA GROUP LLC
BROOKLYN, NEW YORK

PREPARED BY:

Ali Reach
Project Geologist
H & A of New York Engineering and Geology, LLP

Elizabeth Fitzgerald
Project Manager
H & A of New York Engineering and Geology, LLP

REVIEWED AND APPROVED BY:

Zhan Shu, Ph.D., P.E.
Senior Project Manager
H & A of New York Engineering and Geology, LLP

Certification

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

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.



NYS Professional Engineer No. 112052	August 7, 2026 Date	Zhan Shu Signature

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

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List of Acronyms and Abbreviations

Acronym Symbol	Definition
µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
A	
AOC	Area of Concern
ASP	Analytical Services Protocol
AST	aboveground storage tank
AWQS	Ambient Water Quality Standards
B	
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, xylenes
btoc	below top of casing
C	
C&D	Construction and Demolition
CAMP	Community Air Monitoring Plan
CFR	Code of Federal Regulations
CHASP	Construction Health & Safety Plan
CO2e	greenhouse gas emissions
COC	Contaminant of Concern
CP-43	Commissioner Policy-43: Groundwater Monitoring Well Decommissioning Policy
CP-51	Commissioner Policy-51: Soil Cleanup Guidance
CPP	Citizen Participation Plan
CQAP	Construction Quality Assurance Plan
CSM	Conceptual Site Model
cu yd	cubic yard
CVOC	chlorinated volatile organic compound
D	
DER	Division of Environmental Remediation
DER-10	Division of Environmental Remediation-10 *(specifically "May 2010 NYSDEC Technical Guidance for Site Investigation and Remediation")*
DMM	Division of Materials Management
DUSR	Data Usability Summary Report
DustTrak	TSI DustTrak® Environmental Monitor

List of Acronyms and Abbreviations

Acronym	Definition
E	
EC	Engineering Controls
ECL	Environmental Conservation Law
EDD	electronic data deliverable
EE	Environmental Easement
El.	elevation
ELAP	Environmental Laboratory Approval Program
ESA	Environmental Site Assessment
ESI	Environmental Site Investigation
Eurofins	Eurofins Scientific, Inc.
F	
FER	Final Engineering Report
ft	feet/foot
G	
GPRS, Inc.	GPRS
GSR	Green and Sustainable Remediation
GV	Guidance Value
H	
Haley & Aldrich of New York	H & A of New York Engineering and Geology, LLP
HAP	Hazardous Air Pollutants
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
I	
IC	Institutional Control
in.	inches
IRM	Interim Remedial Measures
L	
Lakewood	Lakewood Environmental Services, Corp.
lbs	pounds
LSDF	low-sulfur diesel fuel
M	
MMBtus	million metric British thermal units
MTBE	Methyl Tert-Butyl Ether
mg/kg	milligrams per kilogram
MS/MSD	matrix spike/matrix spike duplicate
MW	Monitoring Well

List of Acronyms and Abbreviations

Acronym	Definition
N	
NAVD	North American Vertical Datum
ND	non-detect
Nox	nitrogen oxides
NTU	nephelometric turbidity unit
NYCDEP	New York City Department of Environmental Protection
NYCDOB	New York City Department of Buildings
NYCDOT	New York City Department of Transportation
NYCRR	New York Codes, Rules and Regulations
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
O	
OSHA	Occupational Safety and Health Administration
P	
PBS	Petroleum Bulk Storage
PCB	polychlorinated biphenyl
PCE	perchloroethylene/tetrachloroethene
PFAS	per- and polyfluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonate
PGWSCO	Protection of Groundwater Soil Cleanup Objective
PID	photoionization detector
PM	particulate matter
PM-10	particles with diameters generally less than 10 micrometers and smaller
PPE	personal protective equipment
ppm	parts per million
ppt	parts per trillion
PVC	polyvinyl chloride
Q	
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
QEP	Qualified Environmental Professional
QHHEA	Qualitative Human Health Exposure Assessment

List of Acronyms and Abbreviations

Acronym	Definition
R	
RA	Remedial Action
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCA	Recycled Concrete Aggregate
RCRA	Resource Conservation and Recovery Act
RE	Remedial Engineer
REC	Recognized Environmental Condition
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
RRSCO	Restricted Residential Soil Cleanup Objective
S	
SCG	Standards, Criteria, and Guidelines
SCO	Soil Cleanup Objective
SDS	safety data sheet
SEFA	Spreadsheets for Environmental Footprint Analysis
Site	1003 East 173rd Street, Bronx, New York
S/MMP	Soil/Materials Management Plan
SMP	Site Management Plan
SOE	support-of-excavation
Sox	sulfur oxides
SPDES	State Pollutant Discharge Elimination System
sq ft	square feet
SVI	soil vapor intrusion
SVOC	semi-volatile organic compound
SWPPP	Stormwater Pollution Prevention Plan
T	
TAL	Total Analyte List
TCE	trichloroethylene
TCL	Target Compound List
TOGS 1.1.1	Technical and Operational Guidance Series 1.1.1 *(Specifically "June 1998 NYSDEC Division of Water Technical and Operational Guidance Series 1.1.1 Ambient Water Quality Standards and Guidance Values, Class GA for the protection of a source of drinking water modified per the April 2000 addendum")*

List of Acronyms and Abbreviations

Acronym	Definition
U	
USEPA	United States Environmental Protection Agency
USGS	U.S. Geological Survey
UST	underground storage tank
UUSCO	Unrestricted Use Soil Cleanup Objective
V	
VOC	Volatile Organic Compound
Volunteer	The Vaja Group LLC

Executive Summary

This Remedial Action Work Plan (RAWP) was developed by H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) on behalf of The Vaja Group LLC for the 1003 East 173rd Street Development Site, located at 1003 East 173rd Street, Bronx, New York (the "Site"). The Vaja Group LLC applied to and was accepted into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) as a Volunteer. A Brownfield Cleanup Agreement (BCA) was executed by the NYSDEC on May 7, 2025, with The Vaja Group LLC (the "Volunteer") (BCP Site No. C203181).

This RAWP summarizes the nature and extent of contamination on the Site as determined from data gathered during the Phase I Environmental Site Assessment (ESA) completed by Haley & Aldrich of New York in September 2024, the Limited Phase II Environmental Site Investigation (ESI) performed by Haley & Aldrich of New York in September 2024, and the Remedial Investigation (RI) performed by Haley & Aldrich of New York in July 2025 through March 2026 (2026 RI). It provides an evaluation of a Track 1 cleanup and other applicable Remedial Action Alternatives, their associated costs, and the recommended and preferred remedy. The remedies described in this document are consistent with the procedures defined in the NYSDEC Division of Environmental Remediation (DER) Program Policy: Technical Guidance for Site Investigation and Remediation (DER-10) and comply with applicable federal, state, and local laws, regulations, and requirements.

Site Description/Physical Setting/Site History

The Site is located in the Crotona neighborhood of the Bronx and is identified as Block 3009, Lot 25 on the New York City tax map. The Site is approximately 20,000 square feet (sq ft) (0.46-acres) and is bound to the north by East 173rd Street, followed by a multi-story commercial building; to the northeast the intersection of East 173rd Street and Boone Avenue, followed by an active BCP Site (No. C203130); to the east by Boone Avenue, followed by a multi-story building consisting of a health care center, a school, and a residential apartment building; to the south by a multi-story residential building that is currently under construction and is a closed BCP Site (No. C203141); and to the west by multi-story residential buildings. The Project Locus is shown on **Figure 1**, and existing Site features are displayed on the Site Map provided as **Figure 2**. Site survey maps are provided in **Appendix A**.

According to the New York City Planning Commission Zoning Map 3d, the Site is located within a residential R6-A zoning district with the intended post-development use as two seven-story residential l buildings.

Based on the findings of the Phase I ESA completed by Haley & Aldrich of New York in September 2024, the Site was developed in the early 1920s with a single-story warehouse building. Historical uses of the Site include a garage and repair facility in the early 1950s, a warehouse facility and moving company from the late 1970s through the mid-1990s, and an auto repair facility and warehouse from the late 1990s through the most recent Sanborn Map, dated 2007. Sanborn Maps identify two 550-gallon gasoline underground storage tanks (USTs) in the northwestern portion of the Site building from the early 1950s to at least 2007. The structure remained relatively unchanged since it was constructed in the early 1920s until it was demolished in late 2025. The Phase I ESA revealed three Recognized Environmental Conditions (RECs) in connection with the Site. The Site is currently vacant.

The area surrounding the Site consists mainly of residential and commercial-use properties.

Summary of the Remedial Investigation

The RI was completed in accordance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and the Remedial Investigation Work Plan (RIWP) prepared by Haley & Aldrich of New York and approved by NYSDEC in May 2025. The objectives of the RI were to determine the nature and extent of contamination in soil, groundwater, and soil vapor. The RI was performed from July 21, 2025, through March 6, 2026.

A summary of the environmental findings of the RI and associated supplemental sampling includes the following.

- The Site is underlain by a narrow interval of fill material observed immediately beneath the existing grade to depths between 0 and 4 feet below ground surface (ft bgs). The fill material consists of a brown fine sand with trace to some silt, trace fine gravel, and varying amounts of brick, asphalt, coal, and ceramics. The fill layer is underlain by brown silty fine sand with varying amounts of fine gravel and weathered bedrock, which extends to termination due to presumed bedrock, corresponding to depths of about 4 to 12 ft bgs. A blueish-gray to tannish-gray low plasticity clay layer was observed in two soil borings (B-06 and B-09) from depths between 3 and 7 ft bgs. Weathered bedrock was encountered between 4 and 8 ft bgs at boring locations B-01 through B-03 and B-05 through B-12. Boring locations B-04 and B-13 encountered bedrock at depths of 12 and 11 ft bgs, respectively. Due to the presence of shallow bedrock at approximately 4 to 12 ft bgs, there is a low likelihood that contaminants migrated through the bedrock and vertically impacted underlying soils.
- Groundwater was encountered at depths ranging from approximately 6.00 to 10.45 ft below top of casing (btoc), and groundwater beneath the Site generally flows from the southwest to northeast. Groundwater elevations ranged from elevation (El.) 26.47 ft at MW-02 to El. 30.29 at MW-04 (North American Vertical Datum of 1988 [NAVD88]).
- Soil analytical results were compared to NYSDEC Title 6 of the New York Codes, Rules and Regulations (NYCRR) Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs), Restricted Residential Soil Cleanup Objectives (RRSCOs), and applicable Protection of Groundwater Soil Cleanup Objectives (PGWSCOs). Note that no standards for per- and polyfluoroalkyl substances (PFAS) in soil currently exist in New York State; however, the NYSDEC published soil Guidance Values (GVs) for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) in October 2020 (latest revision April 2023). PFOA and PFOS soil sample results are compared to the UUSCO, RRSCO, and PGWSCO GVs outlined in the April 2023 PFAS Guidance.
- Groundwater analytical results were compared to 6 NYCRR Part 703.5 NYSDEC Technical and Operational Guidance Series 1.1.1 Ambient Water Quality Standards (AWQS) and GVs for Class GA Water. Emerging contaminants PFOA and PFOS were compared to the GVs for PFOA and PFOS outlined in the NYSDEC April 2023 PFAS Guidance. Emerging contaminant 1,4-dioxane was compared to the GV as set by NYSDEC in March 2023.
- Site contaminants of concern (COCs) are primarily metals in soil, and petroleum-related volatile organic compounds (VOCs) and chlorinated volatile organic compounds (CVOCs) in soil vapor.

- Subsurface soils are impacted with elevated concentrations of metals, which is consistent with characteristics of contaminated fill found throughout the New York City area. Fill material varies in depth throughout the Site, with the majority of Site-wide fill located from 0 to 4 ft bgs.
- The sources of metals contamination in soil and petroleum-related VOCs and CVOCs in soil vapor are attributed to former commercial operations, including activities related to an auto repair shop, as well as two aboveground storage tanks (ASTs) identified within the partial cellar associated with historic Site operations. The concentration levels in soil indicate degradation of VOCs over time, with contaminants phasing into soil vapor and impacts remaining between the sub-slab and shallow bedrock.

Summary of the Remedy

Alternative I, a Track 1 remedy, will include the following:

1. Development and implementation of a Construction Health and Safety Plan (CHASP) and Community Air Monitoring Plan (CAMP) for the protection of on-Site workers, the community, residents, and the environment during remediation and construction activities.
2. Design and construction of a support of excavation (SOE) system to facilitate the Track 1 remediation.
3. Implementation of soil erosion, pollution, and sediment control measures in compliance with applicable laws and regulations.
4. Removal of existing concrete cover and miscellaneous debris on the Site.
5. Decommissioning of on-Site monitoring wells, as necessary, in accordance with NYSDEC Commissioner Policy (CP)-43: Groundwater Monitoring Well Decommissioning Policy.
6. Excavation, stockpiling, off-Site transport, and disposal of contaminated soil/fill material Sitewide that exceeds UUSCOs as defined by 6 NYCRR Part 375-6.8. Sitewide excavation will extend to 3 ft bgs, or 1 ft below the majority of UUSCO exceedances, with hotspot excavations to at least 7 ft bgs centered around B-07 and B-08 to address metals (nickel, magnesium, and barium) in deeper soil, and to at least 8 ft bgs centered on B-12 to address lead in deeper soil. An estimated 2,271 cubic yards (cu yd) of soil/fill will be removed for Track 1 excavation.
7. If encountered, removal, decommissioning, and off-Site disposal of any USTs and/or associated appurtenances (e.g., fill lines, vent line, and electrical conduit) during redevelopment in accordance with DER-10, 6 NYCRR Part 613.9, NYSDEC CP-51, and other applicable NYSDEC UST closure requirements.
8. Screening for indications of contamination (by visual means, odor, and monitoring with photoionization detectors [PIDs]) of excavated material during intrusive Site work.
9. Dewatering, treatment, sampling, and disposal of water accumulated in excavations, if encountered, to a New York City Department of Environmental Protection (NYCDEP)-approved sewer/sanitary line (pending permits) in accordance with local, state, and federal regulations.
10. Implementation of a preliminary waste characterization to facilitate off-Site disposal of excavated soil/fill.
11. Appropriate off-Site disposal of material removed from the Site in accordance with federal, state, and local rules and regulations for handling, transport, and disposal.

12. Backfilling of excavated areas, as necessary for development, with certified-clean material (i.e., meeting UUSCOs), recycled concrete aggregate (RCA), or virgin, native crushed stone.
13. Collection and analysis of confirmation soil samples from the excavation base and sidewalls of the hotspot excavation areas in accordance with DER-10, to document post-excavation conditions to confirm a Track 1 remedy was achieved. If the proposed endpoint sample exceeds the Track 1 UUSCOs, over-excavation and endpoint sampling may be performed, as necessary, to meet Track 1 UUSCOs. Where bedrock is encountered, a bedrock photograph will be taken instead of a confirmation soil sample.
14. Completion of a soil vapor intrusion (SVI) evaluation in accordance with DER-10 and the New York State Department of Health (NYSDOH) Final Guidance on Soil Vapor Intrusion following remedial excavation activities and prior to occupancy.

1. Introduction

The Vaja Group LLC (the "Volunteer") entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) in May 2025 to investigate and remediate a 0.46-acre property located at 1003 East 173rd Street in the Crotona neighborhood of the Bronx, New York (the "Site"). The Vaja Group LLC is a Volunteer in the Brownfield Cleanup Program (BCP). The proposed development consists of two new seven-story residential buildings. Refer to the BCP application for additional details.

This Remedial Action Work Plan (RAWP) summarizes the nature and extent of contamination as determined from data gathered during the September 2024 Limited Phase II Environmental Site Investigation (ESI) performed by H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) and the Remedial Investigation (RI) performed by Haley & Aldrich of New York between July 21, 2025 and March 6, 2026. It provides an evaluation of Track 1 and other applicable cleanups, their associated costs, and the recommended and preferred remedy. A formal Remedial Design document will not be prepared.

The remedy described in this document is consistent with the procedures defined by the Division of Environmental Remediation (DER), specifically the *"May 2010 NYSDEC Technical Guidance for Site Investigation and Remediation"* (DER-10), DER Green Remediation (DER-31), and complies with all applicable standards, criteria, and guidance (SCG). The remedy described in this document also complies with all applicable federal, state, and local laws, regulations, and requirements.

The NYSDEC and New York State Department of Health (NYSDOH) have determined that this Site poses a significant threat to human health and the environment. The RI for this Site did not identify fish and wildlife resources.

1.1 SITE LOCATION AND DESCRIPTION

The Site is located in the Crotona neighborhood of the Bronx and is identified as Block 3009, Lot 25 on the New York City tax map. The Site is approximately 20,000 square feet (sq ft) (0.46-acres) and is bound to the north by East 173rd Street, followed by a multi-story commercial building; to the northeast by the intersection of East 173rd Street and Boone Avenue, followed by an active BCP Site (No. C203130); to the east by Boone Avenue, followed by a multi-story building consisting of a health care center, a school, and a residential apartment building; to the south by a multi-story residential building that is currently under construction and is a closed BCP Site (No. C203141); and to the west by multi-story residential buildings. The Project Locus is shown on **Figure 1**, and existing Site features are displayed on the Site Map provided as **Figure 2**. Site survey maps are provided in **Appendix A**.

The Site is currently zoned as Residential R6-A with a C2-4 commercial overlay. The Site is located in a residential area characterized by multi-story commercial and residential buildings. A copy of the zoning map is included in **Appendix B**. A boundary map is attached to the BCA as required by Environmental Conservation Law (ECL) Title 14 Section 27-1419.

1.2 CONTEMPLATED REDEVELOPMENT PLAN

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

The project will consist of two new residential buildings. One building will be a seven-story residential building with a one-level cellar encompassing the entire building footprint extending approximately 8 feet (ft) below current grade, with a localized deeper excavation to approximately 15 ft below current grade for the elevator pit. The building will be used for residential purposes, with 56 dwelling units and two outdoor recreational areas. The proposed development will include a bike parking area, refuse compactor room, mechanical room, laundry room, mailroom, stairwells, and an elevator bank on the cellar level. The second building will be a seven-story residential building with a one-level cellar encompassing a portion of the building footprint extending to approximately 9.5 ft below current grade, with a localized deeper excavation to approximately 15 ft below grade for the elevator pit. The building will be used for residential purposes, with 57 dwelling units. The proposed development will include mechanical rooms, laundry, bike storage, and an elevator bank on the cellar level.

A copy of the proposed development plans is included in **Appendix C**.

1.3 DESCRIPTION OF SURROUNDING PROPERTY

The Site is located on East 173rd Street in an urban area identified as the Crotona neighborhood in the borough of the Bronx. There are seven sensitive receptors within a 500-ft radius of the Site:

1) Essen Health Care, 1560 Boone Avenue, Bronx, New York 10460
2) Public School X458 Sumara Community School, 1570 Boone Avenue, Bronx, New York 10460
3) Smiley Face Group Day Care, 1664 Bryant Avenue, Bronx, New York 10460
4) Berean Prayer Center, 1011-1001 East 173rd Street, Bronx, New York 10460
5) Little Mt. Bethel BC, 1538 Longfellow Avenue, Bronx, New York 10460
6) Brownie Group Family Day Care, 1546 Bryant Avenue, Bronx, New York 10460
7) Blessing Bless Day Care, 1665 Bryant Avenue, Bronx, New York 10460

Properties immediately surrounding the Site consist of residential, educational, healthcare, and commercial uses, with the surrounding area generally consisting of residential and commercial uses. The south adjacent property, located at 1559 Boone Avenue, is a closed BCP Site (No. C203141) and is now in active superstructure construction. The northeast adjacent property, located across the intersection of East 173rd Street and Boone Avenue at 1600 Boone Avenue, is an active BCP Site (No. C203130). Properties immediately surrounding the Site consist of residential uses as described in the table below:

Direction	Adjoining Properties	Surrounding Properties
North	East 173rd Street, followed by Berean Prayer Center and a commercial building (A&G Gates)	Residential and commercial buildings
South	An active construction area for a multi-story residential building	Residential and commercial buildings
East	Boone Avenue, followed by an urgent care facility and an elementary school (X458 Samara Community School).	Residential and commercial buildings, Starlight Park, and the Bronx River
West	Multiple multi-story residential buildings	Residential and commercial buildings

2. Description of Remedial Investigation Findings

The Site was investigated in accordance with the scope of work presented in the NYSDEC-approved Remedial Investigation Work Plan (RIWP) dated May 2025. The RI was conducted between July 21, 2025, and March 6, 2026. The Remedial Investigation Report (RIR) was submitted to NYSDEC on April 3, 2026, and is pending NYSDEC approval.

2.1 SUMMARY OF REMEDIAL INVESTIGATIONS PERFORMED

The RI consisted of the following:

- A ground-penetrating radar survey performed on July 21, 2025, by GPRS, Inc. (GPRS) to identify the presence of any utilities, underground storage tanks (USTs), or any other anomalies that may be present in the subsurface, as well as to clear soil boring locations.
- Advancement of 13 soil borings to depths of 5 to 12 ft below ground surface (bgs), with up to three samples collected at each boring representing the surface interval from 0 to 2 ft bgs, the lowermost 2 ft of the fill layer (encountered between 0 and 4 ft bgs), and the 2-ft interval above either the groundwater interface or bedrock (whichever was encountered first). Sample depths and quantity varied in select borings due to shallow refusal depths due to shallow bedrock. A total of 28 soil samples were collected (plus quality assurance/quality control [QA/QC] samples) for laboratory analysis.
- Installation of six 2-inch (in.) groundwater monitoring wells to varied depths of approximately 11.6 to 13.4 ft bgs and the collection of six groundwater samples from the newly installed monitoring wells (plus QA/QC samples).
- Installation of seven temporary soil vapor probes to depths ranging from approximately 2 to 5 ft bgs, or approximately 2 ft above the observed groundwater table or refusal due to bedrock, and the collection of seven soil vapor samples.

All soil, groundwater, and soil vapor samples were relinquished under standard chain-of-custody protocol and delivered via courier to Eurofins Scientific, Inc. (Eurofins), an NYSDOH Environmental Laboratory Approval Program (ELAP)-certified laboratory located in Queens, New York, for analysis. Air monitoring was conducted using a roaming photoionization detector (PID) during all ground-intrusive activities.

2.1.1 Soil Borings and Monitoring Wells

Thirteen soil borings were advanced to various depths ranging from 5 to 12 ft below ground surface using a track-mounted direct-push drill rig (Geoprobe®) operated by a licensed operator provided by Lakewood Environmental Services, Corp. (Lakewood). Soil samples were collected from dedicated acetate liners using a stainless-steel trowel or sampling spoon.

Soils were logged continuously by field personnel using the Modified Burmister Soil Classification System. The presence of staining, odors, and PID response was noted in soil boring logs.

Soil samples representative of Site conditions were collected at 13 locations across the Site, as shown on **Figure 3**. One to three samples were collected at each boring, including from the surface at 0 to 2 ft bgs, at an intermediate depth within the last 2 ft of the fill layer between 0 to 4 ft bgs (when encountered), and from the first of either the 2-ft interval above the groundwater interface or the 2-ft interval above bedrock or weathered bedrock. Sample depths and quantity varied in select borings due to shallow refusal depths due to shallow bedrock.

Haley & Aldrich of New York collected 28 soil samples (plus QA/QC samples) for laboratory analysis. Soil samples were collected in laboratory-supplied containers; volatile organic compound (VOC) grab samples were collected using Terra Core ® sampling devices.

2.1.2 Groundwater Investigation

Six 2-inch (in.) diameter permanent monitoring wells were installed to depths ranging from approximately 11 to 14 ft bgs. Each monitoring well was constructed using a 2-in.-diameter polyvinyl chloride (PVC) riser pipe with 10-ft-long, 10-slot (0.01-in.) slotted screens. Each monitoring well was constructed within a 2-in. annular space backfilled with #0 or #00 certified clean sand fill, followed by a bentonite plug. Each well was completed with a stick-up PVC riser pipe. Monitoring well screens were installed to straddle the water table. Groundwater was encountered at depths ranging from approximately 6.00 to 10.45 ft below top of casing (btoc), with groundwater elevations ranging from elevation (El.) 26.47 ft at MW-02 to El. 30.29 at MW-04 (North American Vertical Datum of 1988 [NAVD88]). Groundwater flow beneath the Site is generally from the southwest to northeast. A groundwater contour map is provided on **Figure 4.**

Following installation, monitoring wells were developed by surging a pump in the well several times to pull fine-grained material from the well. Development was completed until the water turbidity was 50 nephelometric turbidity units (NTU) or less, or 10 well volumes were purged, whichever was achieved first. Haley & Aldrich of New York collected six groundwater samples (plus QA/QC samples) for laboratory analysis

2.1.3 Soil Vapor Investigation

NYSDEC DER-10 requires an assessment of soil vapor for contaminated sites to evaluate the health risk associated with potential exposure to VOCs through vapor intrusion into occupied spaces. Seven temporary soil vapor probes were installed to assess soil vapor conditions.

Seven temporary soil vapor probes (SV-01 through SV-07) were installed by Lakewood using a direct-push drilling rig (Geoprobe®) to advance the stainless-steel probes to approximately 2 to 5 ft bgs. Soil vapor points SV-03, SV-04, and SV-05 were installed approximately 2 ft above the observed groundwater table. In soil borings B-01, B-02, B-06, and B-07, refusal due to bedrock was encountered before the groundwater table was observed. The corresponding soil vapor points (SV-01, SV-02, SV-06, and SV-07) were installed 2 ft above bedrock or weathered bedrock.

The temporary stainless-steel soil vapor probes were sealed with bentonite, and a tracer gas was used in accordance with NYSDOH protocols to serve as a QA/QC measure to verify the integrity of the temporary soil vapor probe seal. In addition, one to three implant volumes were purged prior to the

collection of the soil vapor samples. Sampling occurred for the duration of two hours. At the conclusion of the sampling round, tracer monitoring was performed a second time to confirm the integrity of the probe seals.

2.1.4 Samples Collected

During the RI, a total of 28 soil samples (plus two duplicates, two matrix spike/matrix spike duplicate [MS/MSD] sets, two field blanks, and two trip blanks for QA/QC purposes) were collected from soil borings throughout the site. One to three samples were collected at each boring location, including from the surface between 0 to 2 ft bgs (B-01 through B-13), at an intermediate depth within the last 2 ft of the fill layer between 0 to 4 ft bgs (B-04, B-12, and B-13), from the first of either the 2-ft interval above the groundwater interface or the 2-ft interval above bedrock or weathered bedrock (B-01, B-03 through B-13), and from soil that had visual or olfactory observations of contamination (B-02). Samples were collected using laboratory-provided clean bottle ware, and VOC grab samples were collected using Terra Cores®.

A total of six groundwater samples, one from each monitoring well, were collected for laboratory analysis (MW-01 through MW-06). Two field blanks, two trip blanks, a duplicate sample, and two MS/MSD samples were also collected for QA/QC purposes. Groundwater monitoring wells were sampled using low-flow sampling methods. Monitoring wells were purged, and physical and chemical parameters stabilized before samples were taken.

A total of seven soil vapor samples were collected for laboratory analysis, one from each temporary soil vapor probe. Samples were collected in appropriately sized Summa® canisters that were batch-certified clean by the laboratory. Sampling occurred for the duration of two hours.

2.1.5 Chemical Analytical Work Performed

The laboratory analyses performed on the soil, groundwater, and soil vapor samples during the RI are summarized below.

Soil samples were analyzed for the following parameters:

- Target Compound List (TCL) VOCs by U.S. Environmental Protection Agency (USEPA) Method 8260B;
- TCL semi-volatile organic compounds (SVOCs) by USEPA Method 8270C;
- Total Analyte List (TAL) metals by USEPA Method 6010D;
- TCL polychlorinated biphenyl (PCBs) by USEPA Method 8082A;
- TCL pesticides by USEPA Method 8081B;
- Per- and polyfluoroalkyl substances (PFAS) by USEPA Method 1633; and
- 1,4-dioxane by USEPA Method 8270-SIM.

Samples analyzed for PFAS were collected and analyzed in accordance with the NYSDEC-issued April 2023 “Sampling, Analysis, and Assessment of PFAS Under NYSDEC’s Part 375 Remedial Programs.” As

needed, additional samples may be collected to satisfy waste characterization analytical needs for facilities located in neighboring states.

Groundwater samples collected were analyzed for the following parameters:

- TCL VOCs by USEPA Method 8260B;
- TCL SVOCs by USEPA Method 8270C;
- Total and dissolved TAL metals by USEPA Methods 6010/7471;
- Total PCBs by USEPA Method 8082;
- TCL pesticides by USEPA Method 8081B;
- 1,4-dioxane by USEPA Method 8260B; and
- PFAS by USEPA Method 1633.

Soil vapor samples were analyzed for VOCs using USEPA Method TO-15.

2.1.6 Best Management Practices

DER-31 provides examples of best practices and techniques that could be applied during all phases of remediation (Attachment 1 of the DER-31 policy). The techniques identified below were implemented during the RI when relevant to the work completed.

Practice/Technique	Potential Benefits[1]	Applicable to this Work Plan
Use renewable energy where possible or purchase Renewable Energy Credits	Reduce/supplement purchased energy use	
Use of remediation technologies with an intermittent energy supply (i.e., energy use during peak energy generation only)	Reduce energy use	X
Incorporate green building design	Reduce future use impacts	
Reuse existing buildings and infrastructure to reduce waste	Reduce waste and material use	
Reuse and recycle construction and demolition debris and other materials (i.e., grind waste wood and other organics for on-site use)	Reduce waste and material use	
Design cover systems to be usable (i.e., habitat or recreation)	Reduce construction impacts of future development	
Reduce vehicle idling	Reduce air emissions and fuel use	X
Use of low-sulfur diesel fuel (LSDF) or alternate fuels (i.e., biodiesel or E85) when possible	Reduce air emissions	X
Sequence work to minimize double-handling of materials	Reduce construction impacts	X

Practice/Technique	Potential Benefits[1]	Applicable to this Work Plan
Use energy-efficient systems and office equipment in the job trailer	Reduce energy use	X
[1] *Potential benefits listed are not comprehensive and will vary depending upon the site and implementation of the practice or technique.*		

In order to comply with the requirements of DER-31, the following actions were taken:

1. All vehicles and fuel-consuming equipment on the Site were shut off if not in use for more than three minutes;
2. Fuel-consuming equipment utilized LSDF or applicable alternate fuels when possible;
3. Work was sequenced, to the extent practicable, to limit unnecessary mobilizations to and throughout the Site; and
4. To the extent practicable, energy-efficient systems and office equipment were utilized.

2.1.7 Documentation

Below is a summary of the RI findings. Detailed discussion of analytical results is included in Section 2.5.

- In general, Site contaminants of concern (COCs) include metals in soil and petroleum-related VOCs and chlorinated volatile organic compounds (CVOCs) in soil vapor.
- Elevated concentrations of metals and emerging contaminants are present throughout the fill layer that extends from surface grade down to about 4 ft bgs. These contaminants are characteristic of contaminated fill material commonly found throughout the New York City area. Native soils are also impacted by metals in some areas.
- VOCs, including petroleum-related VOCs (benzene, toluene, ethylbenzene, xylenes [BTEX]) and CVOCs, are present in the soil vapor at the Site, and are likely the result of historical Site use, including as an auto repair, service station, and cleaning supplies storage facility.
- PFAS impacts to groundwater observed Sitewide are likely the result of region-wide impacts, as there is not a historical use indicative of source material.

2.2 SIGNIFICANT THREAT

The NYSDEC and NYSDOH have determined that the Site poses a significant threat to human health and the environment.

2.3 SITE HISTORY

2.3.1 Past Uses and Ownership

The Site was developed in the early 1920s with a single-story warehouse building. Historic uses of the Site include a garage and repair facility in the early 1950s, a warehouse facility and moving company from the late 1970s through the mid-1990s, and an auto repair facility and warehouse from the late 1990s through the most recent Sanborn Map, dated 2007. Sanborn Maps identify two 550-gallon

gasoline USTs in the northwestern portion of the subject property building from the early 1950s to at least 2007. The structure has remained relatively unchanged since the early 1920s, when it was initially constructed. The Site is currently vacant.

Historical uses of the surrounding properties upgradient and cross-gradient of the Site included residential, commercial, and industrial operations. Historical uses of adjoining and likely upgradient properties included auto body repair facilities, low-rise dwellings, and a sanitation storage garage. Auto body and manufacturing facilities may have included the use, storage, and disposal of hazardous materials and petroleum products.

2.3.2 Phase I and Phase II Reports

The following reports were prepared for the Site prior to submission of the 2026 RIR:

1. Phase I Environmental Site Assessment (ESA), prepared by Haley & Aldrich of New York, dated September 2024.
2. Limited Phase II ESI Report, prepared by Haley & Aldrich of New York, dated September 2024.

The Phase I ESA revealed three Recognized Environmental Conditions (RECs) in connection with the Site:

1. Historical use of the Site as an auto repair facility
2. Known contamination and pending remediation at the south adjoining property (BCP Site No. C203141)
3. Two undocumented 550-gallon buried gasoline storage tanks identified in the western portion of the Site. There are no closure documents regarding these tanks.

The Phase II ESI revealed impacts to soil, including metals, and impacts to soil vapor, including elevated petroleum-related VOCs and CVOCs.

Previous investigation findings are included in Appendix A of the RIWP dated May 2025, prepared by Haley & Aldrich of New York. The results of these previous investigations were relied upon in addition to the RI findings for the preparation of this RAWP.

2.3.3 Sanborn Maps

Sanborn Maps available for this Site were reviewed prior to the preparation of the RAWP and as part of the Phase I ESA (Haley & Aldrich of New York, 2024).

2.4 GEOLOGIC AND HYDROGEOLOGIC CONDITIONS

2.4.1 Contaminated Fill Material

Based on field observations from the RI, the Site is underlain by an interval of contaminated fill material observed immediately beneath the floor slab to depths between 0 and 4 ft bgs. The fill material consists of a brown fine sand with trace to some silt, trace fine gravel, and varying amounts of brick, asphalt, coal, and ceramics.

2.4.2 Native Soil

The fill is underlain by a potential native layer consisting of brown silty fine sand with varying amounts of fine gravel and weathered bedrock extending up to the terminus depth of each boring between approximately 4 to 12 ft bgs.

2.4.3 Bedrock

According to the U.S. Geologic Survey (USGS) Bedrock and Engineering Geologic Maps of Bronx County and Parts of New York and Queens Counties, New York, dated 1992, bedrock beneath the Site is a gray and gray-weathering, thinly laminated muscovite-biotite-quartz schist with minor garnet and a medium-gray, black-weathering, fine-grained biotite-muscovite-quartz schist with large muscovite flakes classified as Hartland formation of the middle Ordovician to lower Cambrian age. Based on information from the September 2024 Limited Phase II ESI Report, prepared by Haley & Aldrich of New York, fractured bedrock was encountered at depths ranging from 4 to 8 ft bgs at all boring locations except two (SB-04 and SB-05), which achieved depths of 10 and 12 ft bgs without encountering bedrock. During the RI, bedrock was encountered between 4 and 8 ft bgs at all boring locations except two (B-04 and B-13), which achieved depths of 12 and 11 ft bgs, respectively.

2.4.4 Hydrogeology

Groundwater was encountered at depths ranging from approximately 6.00 to 10.45 ft btoc during the RI. Groundwater was not encountered during the 2024 Limited Phase II ESI. Groundwater beneath the Site generally flows from the southwest to northeast, with groundwater elevations ranging from El. 26.47 ft at MW-02 to El. 30.29 at MW-04 (NAVD88). A groundwater contour map is provided in **Figure 4**.

2.5 CONTAMINATION CONDITIONS

A Conceptual Site Model (CSM) was developed based on the findings of the RI. The purpose of the model is to develop a simplified framework for understanding sources of contamination, potential migration pathways, and potentially complete exposure pathways. The following is a description of each.

2.5.1 Conceptual Model of Site Contamination

Subsurface soils are impacted with elevated concentrations of metals and PFAS, consistent with characteristics of contaminated fill found throughout the New York City area. Contaminated fill material varies throughout the Site, extending up to 4 ft bgs. Native soils, located at depths greater than approximately 4 ft bgs, are also impacted in some areas with metals.

The petroleum-related VOCs and CVOCs in soil vapor can be attributed to the former operations of the Site, including activities related to an auto repair shop and a cleaning supplies storage facility, as well as two aboveground storage tanks (ASTs) identified within the partial cellar. Concentrations of perfluorooctanoic acid (PFOA)/perfluorooctanesulfonic acid (PFOS) in groundwater are the result of region-wide impacts, as there is not a historical use indicative of source material.

2.5.2 Description of Areas of Concern

Based on Site observations, Site development history, and the findings of the previous environmental reports, two Areas of Concern (AOCs) were identified.

AOC 1 – Site-Wide Contaminated Fill in Subsurface Soils

Subsurface soils on the Site are impacted with elevated concentrations of metals and emerging contaminants. These findings are consistent with characteristics of contaminated fill found throughout the New York City area. Contaminated fill material varies in depth throughout the Site, with the majority of Sitewide fill located from 0 to 4 ft bgs.

AOC 2 – Soil Vapor Impacts

VOCs, including petroleum-related VOCs (BTEX) and CVOCs, are present in the vapor phase at the Site and are likely the result of historical Site use, including as an auto repair facility service station, and a cleaning supplies storage facility, as evidenced by detected concentrations of petroleum-related VOCs and CVOCs above laboratory detection limits in soil identified throughout the Site. Petroleum-related VOCs and CVOCs were detected in soil vapor samples at concentrations above laboratory detection limits across the Site.

2.5.3 Identification of Standards, Criteria, and Guidance

Soil analytical results were compared to NYSDEC Title 6 of the New York Codes, Rules and Regulations (NYCRR) Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs), Restricted Residential Soil Cleanup Objective (RRSCOs), and Protection of Groundwater Soil Cleanup Objectives (PGWSCOs) as applicable. PFOA and PFOS soil sample results were compared to the Unrestricted Use, Restricted Residential, and Protection of Groundwater Guidance Values (GVs) outlined in the April 2023 PFAS Guidance.

Groundwater analytical results were compared to 6 NYCRR Part 703.5 NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS). Emerging contaminants PFOA and PFOS were compared to the GVs for PFOA and PFOS outlined in the NYSDEC April 2023 PFAS Guidance. Emerging contaminant 1,4-dioxane was compared to the GV as set by NYSDEC on March 15, 2023.

Soil vapor was evaluated in comparison to laboratory detection limits, as no standards currently exist for soil vapor in New York State.

2.5.4 Soil/Fill Contamination

Table 3 of the RIR provides soil data from the sampling event.

2.5.4.1 Summary of Soil/Fill Data

Volatile Organic Compounds

Twenty VOCs were detected in soil samples at concentrations above the laboratory detection limits, but below comparison criteria.

Tetrachloroethene (PCE), a CVOC, was detected in 16 soil samples throughout the Site (B-01_0-2, B-01_3-5, B-02_0-2, B-03_0-2, B-03_4-6, DUP-02_20250723, B-04_0-2, B-05_0-2, B-06_0-2, B-07_0-2, B-08_0-2, B-09_0-2, B-10_0-2, B-11_0-2, B-12_2-4, and B-13_0-2) at concentrations ranging from 0.00034 milligrams per kilogram (mg/kg) in B-12_2-4 to 0.0036 mg/kg in B-03_0-2. Trichloroethene (TCE), a CVOC, was detected in one soil sample, B-10_0-2, at a concentration of 0.00034 mg/kg.

Petroleum-related VOCs, including benzene, toluene, ethylbenzene, m,p-xylenes, o-xylene, n-propylbenzene, 4-ethyltoluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,4-diethylbenzene, and Methyl Tert Butyl Ether (MTBE), were also detected in soil samples at concentrations above the laboratory detection limits, but below comparison criteria. Toluene was detected in two soil samples with a maximum concentration of 0.00058 mg/kg in B-02_0-2. Ethylbenzene was detected in one soil sample at a maximum concentration of 0.00062 mg/kg in B-02_0-2. m,p-Xylenes were detected in three soil samples with a maximum concentration of 0.0036 mg/kg in B-02_0-2. o-Xylene was detected in one soil sample at a concentration of 0.002 mg/kg in B-02_0-2. MTBE was detected in one soil sample (B-02_0-2) at a concentration of 0.00072 mg/kg.

Additionally, carbon disulfide was detected in two soil samples with a maximum concentration of 0.051 mg/kg in B-10_0-2. 2-butanone was detected in four soil samples with a maximum concentration of 0.0034 mg/kg in B-08_4-6.

Semi-Volatile Organic Compounds

No SVOCs were detected above the respective standards in any soil sample.

Metals

Heavy metals were detected in soil samples collected at depths up to 7 ft bgs. Each of the TAL metals was detected in at least one soil sample. Detected metals include aluminum (maximum concentration of 20,600 parts per million [ppm] in B-06_0-2), antimony (maximum concentration of 1.8 ppm in B-01_0-2), arsenic (maximum concentration of 6 ppm in B-04_0-2), barium (maximum concentration of 924 ppm in B-07_4-6), beryllium (maximum concentration of 1 ppm in B-07_4-6), cadmium (estimated maximum concentration of 0.58 ppm in B-12_0-2), calcium (maximum concentration of 44,400 ppm in B-12_0-2), chromium (maximum concentration of 52.7 ppm in B-07_4-6), cobalt (maximum concentration of 18.8 ppm in B-07_4-6), copper (maximum concentration of 50.7 ppm in B-01_0-2), iron (maximum concentration of 55,300 ppm in B-07_4-6), lead (maximum concentration of 152 ppm in B-01_0-2), magnesium (maximum concentration of 7,340 ppm in B-07_4-6), manganese (maximum concentration of 6,450 ppm in B-07_4-6), mercury (maximum concentration of 0.65 ppm in B-08_0-02), nickel (maximum concentration of 56.6 ppm in B-07_4-6), potassium (maximum concentration of 8,630 ppm in B-08_4-6), selenium (estimated maximum concentration of 0.75 ppm in B-09_0-2), silver (estimated

maximum concentration of 0.17 ppm in B-12_0-2), sodium (maximum concentration of 511 ppm in B-13_0-2), thallium (maximum concentration of 0.48 ppm in B-07_4-6), vanadium (maximum concentration of 95.8 ppm in B-01_3-5), and zinc (maximum concentration of 117 ppm in B-01_0-2).

Polychlorinated Biphenyls

No PCBs were detected in any soil samples collected.

Pesticides

No pesticides were detected in any soil samples collected.

Emerging Contaminants

1,4-dioxane was not detected above laboratory detection limits in any soil samples collected at the Site. PFOS was detected in three soil samples throughout the Site, including B-02_0-2 (0.00105 mg/kg), B-09_0-2 (0.00103 mg/kg), and B-12_2-4 (0.00104 mg/kg). Concentrations of total PFOA/PFOS ranged from non-detect (ND) to a maximum concentration of 0.00105 mg/kg in B-02_0-2.

2.5.4.2 Comparison of Soil/Fill with SCOs

Table 3 of the RIR shows exceedances from Track 1 UUSCOs for all soil/fill at the Site. **Figure 5** is a spider map that shows the location and summarizes exceedances from Track 1 UUSCOs for all soil/fill.

Volatile Organic Compounds

No VOCs were detected in any soil samples above applicable standards.

Semi-Volatile Organic Compounds

No SVOCs were detected above the respective standards in any soil sample.

Metals

Lead was detected in five soil samples at concentrations exceeding the UUSCOs, with a maximum concentration of 152 ppm in B-01_0-2.

Three metals were detected in two soil samples at concentrations exceeding the UUSCOs, RRSCOs, and/or PGWSCOs, including manganese (maximum concentration of 6450 ppm in B-07_4-6), nickel (maximum concentration of 56.6 ppm in B-07_4-6), and zinc (maximum concentration of 117 ppm in B-01_0-2). Barium was detected above UUSCOs, RRSCOs, and PGWSCOs in one sample (maximum concentration of 924 ppm in B-07_4-6). Copper was detected above UUSCOs in one sample (maximum concentration of 50.7 ppm in B-01_0-2).

Mercury was detected above the UUSCO in two soil samples at a maximum concentration of 0.65 ppm in B-08_0-02.

No other metals were detected in any soil samples above applicable standards.

Polychlorinated Biphenyls

No PCBs were detected in any soil samples collected.

Pesticides

No pesticides were detected in any soil samples collected.

Emerging Contaminants

PFOS was detected above the UUSCO of 0.00088 mg/kg and the PGWSCO of 0.001 mg/kg but below the RRSCOs in three soil samples throughout the Site, including B-02_0-2 (0.00105 mg/kg), B-09_0-2 (0.00103 mg/kg), and B-12_2-4 (0.00104 mg/kg). 1,4-dioxane and PFOA were not detected in any soil samples at concentrations above applicable GVs.

2.5.5 On-Site and Off-Site Groundwater Contamination

Table 4 of the RIR provides groundwater data from the sampling event.

2.5.5.1 Summary of Groundwater Data

Volatile Organic Compounds

Dichloromethane was detected in two samples (estimated maximum concentration of 0.74 micrograms per liter [µg/L] in MW-05). PCE was detected in all seven samples, including the MW-03 duplicate (maximum concentration of 3.9 µg/L in MW-01). TCE was detected in two samples, as well as the MW-03 duplicate sample (maximum concentration of 0.37 µg/L in the duplicate sample collected from MW-03).

Semi-Volatile Organic Compounds

SVOCs were not detected above the applicable standard, with the exception of 1,4-dioxane discussed below.

Polychlorinated Biphenyls

No PCBs were detected above laboratory detection limits in any groundwater sample.

Dissolved Metals

Dissolved metals were detected in multiple groundwater samples, including antimony (estimated maximum concentration of 0.44 µg/L in MW-05), barium (maximum concentration of 55.9 µg/L in MW-04), calcium (maximum concentration of 217,000 µg/L in MW-06), cobalt (maximum concentration of 8.6 µg/L in MW-03), iron (maximum concentration of 335 µg/L in the duplicate sample collected from

MW-03), magnesium (maximum concentration of 36,500 µg/L in MW-06), manganese (maximum concentration of 6,010 µg/L in the duplicate sample collected from MW-03), nickel (maximum concentration of 5.9 µg/L in MW-03), potassium (maximum concentration of 5,800 µg/L in MW-05), selenium (maximum concentration of 30.7 µg/L in MW-06), sodium (maximum concentration of 152,000 µg/L in MW-01), and zinc (estimated maximum concentration of 11.2 µg/L in MW-05).

Total Metals

Total metals were detected in multiple groundwater samples, including aluminum (maximum concentration of 11,100 µg/L in MW-03), antimony (estimated concentration of 0.87 µg/L in MW-03), arsenic (estimated maximum concentration of 1.4 µg/L in MW-03), barium (maximum concentration of 144 µg/L in MW-03), beryllium (estimated maximum concentration of 0.33 µg/L in MW-03), calcium (maximum concentration of 225,000 µg/L in MW-06), chromium (maximum concentration of 23 µg/L in MW-03), cobalt (maximum concentration of 16.8 µg/L in MW-03), copper (maximum concentration of 31.9 µg/L in MW-03), iron (maximum concentration of 23,500 µg/L in MW-03), lead (maximum concentration if 7.9 µg/L in MW-03), magnesium (maximum concentration of 38,200 µg/L in MW-06), manganese (maximum concentration of 7,060 µg/L in the duplicate sample collected from MW-03), nickel (maximum concentration of 25.4 µg/L in MW-03), potassium (maximum concentration of 7,940 µg/L in MW-03), selenium (maximum concentration of 31.7 µg/L in MW-06), sodium (maximum concentration of 150,000 µg/L in MW-01), thallium (estimated concentration of 0.18 µg/L in the duplicate sample collected from MW-03), vanadium (maximum concentration of 28.7 µg/L in MW-03), and zinc (estimated maximum concentration of 69.5 µg/L in MW-03).

Pesticides

No pesticides were detected above laboratory detection limits in any groundwater sample.

Emerging Contaminants

1,4-dioxane was detected in one sample (concentration of 0.27 µg/L in MW-01). PFOS was detected in each of the seven groundwater samples, including the duplicate collected at MW-03 (maximum concentration of 156 parts per trillion [ppt] in MW-02). PFOA was detected in each of the seven groundwater samples, including the duplicate collected at MW-03 (maximum concentration of 64.1 ppt in MW-05).

2.5.5.2 Comparison of Groundwater with SCGs

A table that indicates exceedances of AWQS in monitoring wells prior to the remedy is shown in Table 4 of the RIR. A spider map that indicates the locations of and summarizes exceedances of AWQS prior to the remedy is shown in **Figure 6.** Emerging contaminant data in groundwater are provided in **Figure 7**.

Volatile Organic Compounds

No VOCs were detected above the AWQS in any of the groundwater samples.

Semi-Volatile Organic Compounds

No SVOCs were detected above the AWQS in any of the groundwater samples.

Polychlorinated Biphenyls

No PCBs were detected above laboratory detection limits in any groundwater sample.

Dissolved Metals

Five dissolved metals were detected in multiple groundwater samples above the AWQS, including iron (maximum concentration of 335 µg/L in the duplicate sample collected from MW-03), magnesium (maximum concentration of 36,500 µg/L in MW-06), manganese (maximum concentration of 6,010 µg/L in the duplicate sample collected from MW-03), selenium (maximum concentration of 30.7 µg/L in MW-06) and sodium (maximum concentration of 152,000 µg/L in MW-01).

No other dissolved metals were detected above the AWQS in any groundwater sample.

Total Metals

Five total metals were detected in multiple groundwater samples above the AWQS, including iron (maximum concentration of 23,500 µg/L in MW-03), magnesium (maximum concentration of 38,200 µg/L in MW-06), manganese (maximum concentration of 7,060 µg/L in the duplicate sample collected from MW-03), selenium (maximum concentration of 31.7 µg/L in MW-06), and sodium (maximum concentration of 150,000 µg/L in MW-01).

No other total metals were detected above the AWQS in any groundwater sample.

Pesticides

No pesticides were detected above laboratory detection limits in any groundwater sample.

Emerging Contaminants

Concentrations of 1,4-dioxane were compared to the GV of 0.35 µg/L issued on March 15, 2023, by the NYSDEC. Emerging contaminant compounds PFOA/PFOS in groundwater are compared to the NYSDEC March 2023 GVs of 6.7 ppt and 2.7 ppt, respectively.

1,4-dioxane was not detected above the GV in any of the groundwater samples.

PFOS was detected above the GV of 2.7 ppt in each of the seven groundwater samples, including one duplicate, at a maximum concentration of 156 ppt in MW-02. PFOA was detected above the GV of 6.7 ppt in each of the seven groundwater samples, including one duplicate, at a maximum concentration of 64.1 ppt in MW-05.

2.5.6 On-Site and Off-Site Soil Vapor Contamination

Table 5 of the RIR provides soil vapor data from the sampling event.

2.5.6.1 Summary of Soil Vapor Data

A table of soil vapor data collected prior to the remedy is shown in Table 5 of the RIR. A spider map that indicates the location(s) of and summarizes soil vapor data prior to the remedy is shown in **Figure 8A and Figure 8B**.

Total VOC concentrations ranged from 389.52 micrograms per cubic meter (µg/m^3) in SV-06 to a maximum of 91,363 µg/m^3 in SV-02. Total CVOC concentrations ranged from 118.02 µg/m^3 in SV-06 to a maximum of 2,304.13 µg/m^3 in SV-05. Total BTEX concentrations ranged from 30.9 µg/m^3 in SV-07 to a maximum of 28,660 µg/m^3 in sample SV-02.

Several petroleum-related VOCs were detected at elevated concentrations in soil vapor samples, including benzene (maximum concentration of 660 µg/m^3 in SV-02), toluene (maximum concentration of 4,100 µg/m^3 in SV-02), ethylbenzene (maximum concentration of 3,900 µg/m^3 in SV-02), m,p-xylenes (maximum concentration 14,000 µg/m^3 in SV-02), and o-xylene (maximum concentration 6,000 µg/m^3 in SV-02).

TCE was detected in six of the seven soil vapor samples above laboratory detection limits at a maximum concentration of 99 µg/m^3 in SV-03. PCE was detected in all seven soil vapor samples above laboratory detection limits at a maximum concentration of 2,300 µg/m^3 in SV-05. Cis-1,2-dichloroethene was detected in two of the seven soil vapor samples above laboratory detection limits at a maximum concentration of 96 µg/m^3 in SV-03. Methylene chloride was detected in three soil vapor samples above laboratory detection limits at a maximum concentration of 18 µg/m^3 in SV-03. Vinyl chloride was detected in one soil vapor sample above laboratory detection limits, at a concentration of 2.4 µg/m^3 in SV-03.

The emerging contaminant 1,4-dioxane was detected in four of the seven soil vapor samples at a maximum concentration of 5.6 µg/m^3 in SV-03.

It is noted that, due to the presence of shallow bedrock at approximately 4 to 12 ft bgs, there is a low likelihood that contaminants migrated through the bedrock and vertically impacted underlying soils.

2.6 ENVIRONMENTAL AND PUBLIC HEALTH ASSESSMENTS

2.6.1 Qualitative Human Health Exposure Assessment

A Qualitative Human Health Exposure Assessment (QHHEA) consists of characterizing the exposure setting (including the physical environment and potentially exposed human populations), identifying exposure pathways, and evaluating chemical fate and transport. An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has the following five elements:

1. Receptor population;

2. Contaminant source;
3. Contaminant release and transport mechanism;
4. Point of exposure; and
5. Route of exposure.

An exposure pathway is complete when all five elements of an exposure pathway are documented; a potential exposure pathway exists when any one or more of the five elements comprising an exposure pathway is not documented but could reasonably occur. An exposure pathway may be eliminated from further evaluation when any one of the five elements comprising an exposure pathway does not exist in the present and will not exist in the future.

2.6.1.1 Receptor Population

The receptor population includes the people who are or may be exposed to contaminants at a point of exposure. The identification of potential human receptors is based on the characteristics of the site, the surrounding land uses, and the probable future land uses. The Site is currently vacant and secured with a fence. Since the Site is vacant, individual receptors would currently only include construction/maintenance workers who may be employed to perform work on the property.

The Site owner plans to redevelop the property for use as a multi-story residential building with a one-level cellar and two recreational outdoor spaces, all of which encompass the entire Site footprint and are consistent/compatible with surrounding property use and zoning. Exposed receptors under the future use scenario may comprise residents of the future building, indoor employees, outdoor employees (e.g., groundskeepers or maintenance staff), and construction workers who may be employed at or perform work on the property. Site visitors may also be considered receptors; however, their exposure would be similar to that of the indoor employees but at a lesser frequency and duration.

2.6.1.2 Contaminant Sources

The source of contamination is defined as either the source of contaminant release to the environment (such as a waste disposal area or point of discharge) or the impacted environmental medium (soil, air, water) at the point of exposure. Sections 2.5.4 to 2.5.6 discuss the COCs present in the Site media at elevated concentrations above background levels. In general, these are metals in soil; VOCs detected in soil vapor; and total/dissolved metals in groundwater.

2.6.1.3 Contaminant Release and Transport

Contaminant release and transport mechanisms carry contaminants from the source to points where people may be exposed and are specific to the type of contaminant and site use. This would include the indoor vapor intrusion pathway, also referred to as “soil vapor intrusion” (SVI). Additional pathways could include skin contact, inhalation, and incidental ingestion of VOCs present in soil and groundwater when and where construction workers are involved in subsurface activities where volatiles are present.

2.6.1.4 Exposure Route and Mechanisms

The point of exposure is a location where actual or potential human contact with a contaminated medium may occur. Based on the exceedances of UUSCOs for metals, VOCs detected in soil vapor, and exceedances of the AWQS for total/dissolved metals in groundwater, the point of exposure is defined as the entire Site.

The route of exposure is the manner in which a contaminant actually enters or contacts the human body (e.g., ingestion, inhalation, dermal absorption). Based on the types of receptors and points of exposure identified above, potential routes of exposure are listed below:

Current Use Scenario: The Site is currently vacant and secured with a locked fence. The risk of exposure to contaminated soil and contaminated groundwater is very low, other than during subsurface investigations or other activities that disturb the subsurface. Release and transport mechanisms include contaminated surface soil transported as dust, contaminated groundwater flow, and volatilization of contaminants from soil and/or groundwater into the vapor phase. Persons at risk of exposure, via the indicated exposure routes, are noted below:

- Occupant/Employee/Visitor – skin contact, inhalation, and incidental ingestion
- Construction/Utility Worker – skin contact, inhalation, and incidental ingestion

Construction/Remediation Scenario: In the continued absence of engineering controls (ECs) and institutional controls (ICs), there will be continued exposure pathways during construction/remediation, specifically related to surface soil. Planned construction/remedial activities include removal of USTs (if present), excavation and off-Site disposal of soil, and dewatering of impacted groundwater (if required) to facilitate the construction of the foundation elements. Release and transport mechanisms include disturbed and exposed soil during excavation, contaminated soil transported as dust, contaminated groundwater flow (dewatering, if required), and volatilization of contaminants from soil and/or groundwater into the vapor phase. Persons at risk of exposure, via the indicated exposure routes, are noted below.

- Construction/Utility Worker – skin contact, inhalation, and incidental ingestion
- Public Adjacent to the Site – inhalation

Future Use Scenario: The anticipated future use is as a multi-story residential building with a one-level cellar and two recreational outdoor spaces. In the absence of remedial removal of impacted material, remaining contaminant release and transport would include potential migration of contaminated groundwater and volatilization of contaminants from soil and/or groundwater into the vapor phase. Routes of future exposure include cracks in the foundation or slab, or emergency repairs to the foundation walls or slab. Persons at risk of exposure, via the indicated exposure routes, are noted below.

- Construction/Utility Worker – skin contact, inhalation, and incidental ingestion
- Occupant/Employee/Visitor – inhalation
- Public Adjacent to the Site – inhalation

SVI is a relevant transport mechanism under the current and future use scenarios. Concerning skin contact, inhalation, and incidental ingestion of volatile organics present in soil and groundwater, the potential is low for exposure to VOCs for construction workers involved in subsurface activities where volatiles are present at elevated concentrations, given the results of the RI.

2.6.1.5 Exposure Assessment

Based on the above assessment, the potential exposure pathways for the current and future use conditions are discussed below.

Current Use Scenario

Site COCs include metals in soil, total/dissolved metals in groundwater, and VOCs in soil vapor. Under current conditions, the likelihood of exposure to soil or groundwater is limited. The Site is currently vacant and secured with a locked fence. The Site entrances are each locked and secured, with Site access only granted to personnel associated with the planned development. Potable water for the Bronx will continue to be sourced from reservoirs in the Catskill and Delaware Watersheds. Intrusive work on the Site will be done in accordance with a Site-specific Health and Safety Plan (HASP) and the donning of personal protective equipment (PPE).

Construction/Remediation Scenario:

The exposure element exists for each element during the construction/remediation phase. The overall risk will be minimized by the implementation of a Site-specific Construction Health and Safety Plan (CHASP), localized monitoring of organic vapors, community air monitoring on the Site perimeter for particulates and VOCs, vapor and dust suppression techniques, installation of a stabilized entrance, cleaning truck tires and undercarriages, and use of appropriate PPE. Additionally, the Site will be remediated under this RAWP, which will include a Soil/Materials Management Plan (S/MMP) that will highlight measures for PPE, covering of stockpiles, housekeeping, suppression techniques (particulates and vapor), and measures to prevent off-Site migration of contaminants. In addition, the Site will be secured and inaccessible to the public during remedial construction.

Future Use Scenario

Under the proposed future condition (after construction/remediation), residual contaminants may remain on the Site depending on the remedy achieved. The remaining contaminants would include those listed in the current conditions. If contaminants remain on the Site after construction/remediation, the route of exposure will be mitigated by proper installation of ECs, such as a composite Site cover system, and implementation of ICs, such as land use and groundwater use restrictions, and implementation of a Site Management Plan (SMP) to manage referenced controls.

2.6.2 Fish & Wildlife Remedial Impact Analysis

NYSDEC DER-10 requires an on-site and off-site Fish and Wildlife Resource Impact Analysis if the stipulated criteria are met. The Site, which was developed in the 1920s and most recently operated as an auto repair shop and warehouse, is located in the Crotona neighborhood of the Bronx, New York. The

Site provides little or no wildlife habitat or food value and/or access to the detected subsurface contamination. No natural waterways are present on or directly adjacent to the Site. The proposed future use of the Site is as a multi-story residential building. Based on the requirements stipulated in Section 3.10 and Appendix 3C of DER-10, there was no need to prepare a Fish and Wildlife Resource Impact Analysis for the Site.

2.7 INTERIM REMEDIAL MEASURES

No Interim Remedial Measures (IRMs) have been performed or are proposed 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 with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles emanating from contaminated groundwater.

RAOs for Environmental Protection:

- Restore ground water aquifer, to the extent practicable, to pre-disposal/pre-release conditions, to the extent practicable.
- Remove the source of ground or surface water contamination.

2.8.2 Soil

RAOs for Public Health Protection:

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

RAOs for Environmental Protection:

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

2.8.3 Soil Vapor

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

3. Summary of Remedial Action

3.1 ALTERNATIVE I – TECHNICAL DESCRIPTION

Alternative I, a Track 1 remedy, will include the following tasks:

1. Development and implementation of a CHASP and Community Air Monitoring Plan (CAMP) for the protection of on-Site workers, the community, residents, and the environment during remediation and construction activities.
2. Design and construction of a support of excavation (SOE) system to facilitate the Track 1 remediation.
3. Implementation of soil erosion, pollution, and sediment control measures in compliance with applicable laws and regulations.
4. Removal of existing concrete cover and miscellaneous debris on the Site.
5. Decommissioning of on-Site monitoring wells, as necessary, in accordance with NYSDEC Commissioner Policy (CP)-43: Groundwater Monitoring Well Decommissioning Policy.
6. Excavation, stockpiling, off-Site transport, and disposal of contaminated soil/fill material Sitewide that exceeds UUSCOs as defined by 6 NYCRR Part 375-6.8. Sitewide excavation will extend to 3 ft bgs, or 1 ft below the majority of UUSCO exceedances, with hotspot excavations to at least 7 ft bgs centered around B-07 and B-08 to address metals (nickel, magnesium, and barium) in deeper soil, and to at least 8 ft bgs centered on B-12 to address lead in deeper soil. An estimated 2,271 cubic yards (cu yd) of soil/fill will be removed for Track 1 excavation.
7. If encountered, removal, decommissioning, and off-Site disposal of any USTs and/or associated appurtenances (e.g., fill lines, vent line, and electrical conduit) during redevelopment in accordance with DER-10, 6 NYCRR Part 613.9, NYSDEC CP-51, and other applicable NYSDEC UST closure requirements.
8. Screening for indications of contamination (by visual means, odor, and monitoring with PIDs) of excavated material during intrusive Site work.
9. Dewatering, treatment, sampling, and disposal of water accumulated in excavations, if encountered, to a New York City Department of Environmental Protection (NYCDEP)-approved sewer/sanitary line (pending permits) in accordance with local, state, and federal regulations.
10. Implementation of a preliminary waste characterization to facilitate off-Site disposal of excavated soil/fill.
11. Appropriate off-Site disposal of material removed from the Site in accordance with federal, state, and local rules and regulations for handling, transport, and disposal.
12. Backfilling of excavated areas, as necessary for development, with certified-clean material (i.e., meeting UUSCOs), recycled concrete aggregate (RCA), or virgin, native crushed stone.
13. Collection and analysis of confirmation soil samples from the excavation base and sidewalls of the hotspot excavation areas in accordance with DER-10, to document post-excavation conditions to confirm a Track 1 remedy was achieved. If the proposed endpoint sample exceeds

the Track 1 UUSCOs, over-excavation and endpoint sampling may be performed, as necessary, to meet Track 1 UUSCOs. Should over-excavation continue to where bedrock is encountered, a bedrock photograph will be taken instead of a confirmation soil sample.

14. Completion of an SVI evaluation in accordance with DER-10 and the NYSDOH Final Guidance on Soil Vapor Intrusion following remedial excavation activities and prior to occupancy.

The Alternative I remediation extent is shown in **Figure 9**. The requirements for each of the Alternative I tasks are described below.

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

A Site-specific CHASP is appended to this RAWP (**Appendix D**) and will be implemented during excavation and foundation construction to protect on-Site workers from accidents and acute and chronic exposures to the identified contaminated media. Public health will be protected by implementing and enforcing dust, odor, and organic vapor control and monitoring procedures included in the CAMP. The CAMP will include continuous perimeter monitoring of dust and organic vapor using TSI DustTrak® Environmental Monitor (DustTrak) aerosol monitors and PIDs (or an equivalent setup) capable of recording data and calculating 15-minute averages. Field personnel will monitor the Site perimeter for visible dust and odors.

3.1.2 Support of Excavation

To accommodate the removal of soil that exceeds Track 1 UUSCOs, as well as removal of soil related to development and for hydraulic control, a SOE system will be required. The SOE elements will be designed and installed as per the New York City Department of Buildings (NYCDOB) Code. Additional SOE to support the hotspot excavation area throughout the Site may be constructed, as necessary.

3.1.3 Waste Characterization

Waste characterization will be performed for off-Site disposal in a manner suitable to the receiving facility and in conformance with applicable permits. Sampling and analytical methods, sampling frequency, analytical results, and QA/QC results will be reported. Data available for excavated material to be disposed of at a given facility will be submitted to the disposal facility with a suitable explanation prior to shipment and receipt.

Hazardous soil, if present, will be managed in accordance with applicable federal, state, and local regulations. As such, the handling, transport, and disposal of hazardous fill material is subject to USEPA and Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations. The excavated material would be segregated in the field and temporarily placed in stockpiles or direct-loaded and transported by Part 364-permitted trucks to a facility permitted under the Resource Conservation and Recovery Act (RCRA) to accept hazardous waste.

3.1.4 Fill and Soil Removal

Metals and PFAS concentrations that exceed UUSCOs were detected in subsurface fill and soil throughout the Site. Site-wide excavation will extend from the surface to at least 3 ft bgs. Localized

areas surrounding B-07 and B-08 will be over-excavated to at least 7 ft bgs, and the area centered on B-12 will be over-excavated to at least 8 ft bgs to address metals in deeper soil exceeding the UUSCOs. The Alternative I excavation plan is shown in **Figure 9**.

The estimated volume of material requiring removal and off-Site disposal for an Alternative I (Track 1) cleanup is approximately 2,271 cu yd. The soil will be screened for visual, olfactory, and instrumental evidence of environmental impacts. Further, for development purposes, additional Sitewide excavation will be conducted to the bedrock interface at approximately 8 ft bgs; this will facilitate development. The cellar slab base will be below the water table.

3.1.5 UST Removal

If encountered, USTs and/or associated appurtenances (e.g., fill lines, vent lines, and electrical conduits) would be decommissioned in accordance with applicable NYSDEC tank closure requirements, including DER-10 Section 5.5, 6 NYCRR Part 613.9, and NYSDEC CP-51. USTs and/or associated appurtenances would be registered and administratively closed with the NYSDEC Petroleum Bulk Storage (PBS) unit.

After removal of any tank and its residual contents, confirmatory post-excavation soil samples will not be collected where the proposed remedial excavation would extend below the UST, unless visual, olfactory, or instrumental field screening techniques indicate the potential for contamination. If encountered, petroleum-impacted soil would be excavated and disposed of off the Site at a permitted disposal facility in accordance with applicable regulations. Closure documentation, such as Contractor affidavits, bills of lading for sludge disposal, and tank disposal receipts, would be provided as appendices in the Final Engineering Report (FER). Confirmation samples would then be collected once field observations indicate that the impacted soil has been removed. Samples would be collected at the frequency as required in DER-10 for compounds required in NYSDEC CP-51.

3.1.6 Excavation Backfill

To the extent required for construction purposes, imported material will consist of clean fill that meets the UUSCOs or other acceptable fill material, such as virgin stone from a quarry or RCA. If RCA is imported to the Site, it will come from an NYSDEC-registered facility in compliance with 6 NYCRR Part 360 registration and permitting requirements for the period of RCA acquisition. RCA imported from compliant facilities will not require chemical testing unless required by NYSDEC under its terms for operation of the source facility. Imported RCA must be derived from recognizable and uncontaminated concrete (less than 10 percent by weight passing through a No. 80 sieve). RCA is not acceptable for, and will not be used as, Site cover or drainage material. NYSDEC Request to Import/Reuse forms will be submitted, and a template is provided in **Appendix E.**

3.1.7 Confirmation Soil Sampling

Per NYSDEC DER-10, confirmation soil samples will be collected from the bottom of the proposed remedial excavation at a frequency of one sample per 900 sq ft, and sidewall samples and bottom samples will be collected from the hotspot excavation to confirm that Track 1 UUSCOs were achieved.

An estimated 23 confirmation soil samples, three hotspot bottom confirmation samples, and 12 sidewall confirmation samples from locations B-07, B-08, and B-12, plus QA/QC samples, would be collected and analyzed for the Part 375 list of VOCs, SVOCs, pesticides, PCBs, metals, PFAS, and 1,4-dioxane. If the proposed endpoint sample does not meet Track 1 UUSCOs, over-excavation and sampling will be performed to ensure that impacted material above Track 1 UUSCOs has been removed from the Site. Further excavation for development will proceed after confirmation samples demonstrate that Soil Cleanup Objectives (SCOs) for the Site have been achieved. Should over-excavation be required, extending to depths where bedrock is encountered, a bedrock photograph will be taken instead of a confirmation soil sample. Proposed confirmation sampling locations are shown on **Figure 10.**

3.1.8 Fluids Management

Liquids removed from the Site will be handled and disposed of in accordance with applicable local, state, and federal regulations. Fluids will not be recharged back to the land surface or subsurface. Discharge of water generated during remedial construction to surface waters (i.e., a local pond, stream, and/or river) is prohibited without a State Pollutant Discharge Elimination System (SPDES) permit.

Based on the depth to water, dewatering is not anticipated to facilitate the excavation of material that exceeds the UUSCOs; however, if needed during foundation installation, localized dewatering with containerization, classification, and disposal at an approved receiving facility may be implemented as part of development. If necessary, dewatering fluids will be removed, treated, and sampled prior to discharge into the NYCDEP sewer system through an NYCDEP-issued permit. No dewatering discharge will commence prior to the NYCDEP approval.

3.1.9 Post-Remedy Soil Vapor Intrusion Evaluation

VOC contamination, specifically petroleum-related compounds and CVOCs, was observed in soil vapor throughout the Site. Following RAs and prior to occupancy, an SVI evaluation will be conducted at the Site and submitted to NYSDEC and NYSDOH. The SVI evaluation would include indoor air sampling only, as the development depth will extend into groundwater. A total of two indoor air samples and one ambient air sample are proposed for the future development. Should the SVI evaluation indicate SVI, a potential remedial alternative/element may be proposed.

The FER will document the justification for conducting indoor air sampling only, including the groundwater table depth, slab depth of the new development, dewatering of the slab (if necessary), and the air handling characteristics of any basement or underground parking areas. Additionally, an SVI Evaluation Work Plan will be submitted under a separate cover following the completion of redevelopment.

3.2 ALTERNATIVE II – TECHNICAL DESCRIPTION

Alternative II, a Track 2 remedy, will include the following tasks:

1. Development and implementation of a CHASP and CAMP for the protection of on-Site workers, the community, residents, and the environment during remediation and construction activities.
2. Design and construction of an SOE system to facilitate the Track 1 remediation.

3. Implementation of soil erosion, pollution, and sediment control measures in compliance with applicable laws and regulations.
4. Removal of existing concrete cover and miscellaneous debris on the Site.
5. Decommissioning of on-Site monitoring wells, as necessary, in accordance with NYSDEC CP-43: Groundwater Monitoring Well Decommissioning Policy.
6. Excavation, stockpiling, off-Site transport, and disposal of contaminated soil/fill material that exceeds RRSCOs, as defined by 6 NYCRR Part 375-6.8. Excavation and off-Site disposal of contaminated soil will extend to approximately 3 ft bgs across the majority of the Site, with a deeper localized excavation down to 7 ft bgs centered around B-07 to address elevated metals (barium and manganese) that exceed RRSCOs in deeper soil. Approximately 2,237 cu yd of soil/fill will be removed as part of this Track 2 remedial excavation.
7. If encountered, removal, decommissioning, and off-Site disposal of any USTs and/or associated appurtenances (e.g., fill lines, vent lines, and electrical conduits) during redevelopment in accordance with DER-10, 6 NYCRR Part 613.9, NYSDEC CP-51, and other applicable NYSDEC UST closure requirements.
8. Screening for indications of contamination (by visual means, odor, and monitoring with PIDs) of excavated material during intrusive Site work.
9. Dewatering, treatment, sampling, and disposal of water accumulated in excavations, if encountered, to an NYCDEP-approved sewer/sanitary line (pending permits) in accordance with local, state, and federal regulations.
10. Implementation of a preliminary waste characterization to facilitate off-Site disposal of excavated soil/fill.
11. Appropriate off-Site disposal of material removed from the Site in accordance with federal, state, and local rules and regulations for handling, transport, and disposal.
12. Backfilling of excavated areas, as necessary for development, with certified-clean material (i.e., meeting RRSCOs), RCA, or virgin, native crushed stone.
13. Collection and analysis of confirmation soil samples from the excavation base and sidewalls of the hotspot excavation area in accordance with DER-10, to document post-excavation conditions to confirm that all soil containing contaminants in excess of RRSCOs has been removed. If a Track 2 Residential cleanup is achieved, ECs will not be a required element of the remedy, and NYSDEC will issue a Track 2 Certificate of Completion.
14. Completion of an SVI evaluation in accordance with DER-10 and the NYSDOH Final Guidance on Soil Vapor Intrusion following remedial excavation activities and prior to occupancy.

The Alternative II remediation extent is shown on **Figure 11.** The requirements for Alternative II tasks are described below.

Composite Cover System

A composite cover system will be installed as part of the development. No landscaped areas are proposed for the redevelopment. This composite cover system would not be considered an EC but may serve as an EC should a Track 2 remedy not be achieved.

Site Management Plan and Environmental Easement

An Environmental Easement (EE) would be recorded referencing ICs that are part of the selected remedy, which would be binding upon all subsequent owners and occupants of the property. The ICs would: 1) restrict the Site's use to Restricted Residential, Commercial, and Industrial uses, although land use is subject to local zoning laws; 2) restrict the use of groundwater as a source of potable or process water, unless it undergoes necessary water quality treatment as determined by the NYSDEC or NYSDOH; 3) require implementation of an NYSDEC-approved SMP; 4) require the completion and submission to the NYSDEC of a periodic certification of ICs and ECs in accordance with Part 375; and 5) include notice-of-use restrictions of the Site's soil.

The SMP would identify all use restrictions, ECs, and long-term monitoring and maintenance requirements to ensure the ICs and/or ECs remain in place and are effective. The SMP will include, but may not be limited to:

1. An Excavation Work Plan that details the provisions for management of future excavations in areas of remaining contamination;
2. Descriptions of the provisions of the EE, including any land use and/or groundwater use restrictions;
3. Provision for evaluation of the potential for SVI for any buildings developed on the Site, including provision for implementing actions recommended to address exposures related to SVI;
4. Provision for the management and inspection of the identified ECs;
5. Maintaining Site access controls and NYSDEC notification;
6. The steps necessary for the periodic reviews and certification of the ICs and ECs;
7. A Monitoring Plan to assess the performance and effectiveness of the remedy. The Monitoring Plan will include, but may not be limited to:
    a. Monitoring for vapor intrusion for any buildings developed on the Site, as may be required by the Institutional and Engineering Control Plan discussed above; and
8. A schedule of monitoring and frequency of submittals to NYSDEC.

3.2.1 On-Site Worker, Public Health, and Environment

A Site-specific CHASP is appended to this RAWP (**Appendix D**) and will be implemented during excavation and foundation construction to protect on-Site workers from accidents and acute and chronic exposures to the identified contaminated media. Public health will be protected by implementing and enforcing dust, odor, and organic vapor control and monitoring procedures included in the CAMP. The CAMP will include continuous perimeter monitoring of dust and organic vapor using

DustTrak aerosol monitors and PIDs (or an equivalent setup) capable of recording data and calculating 15-minute averages. Field personnel will monitor the Site perimeter for visible dust and odors.

3.2.2 Support of Excavation

To accommodate the removal of soil that exceeds Track 2 RRSCOs, as well as removal of soil related to development and for hydraulic control, an SOE system will be required. The SOE elements will be designed and installed as per the NYCDOB Code. Additional SOE to support the hotspot excavation area throughout the Site may be constructed, as necessary.

3.2.3 Waste Characterization

Waste characterization will be performed for off-Site disposal in a manner suitable to the receiving facility and in conformance with applicable permits. Sampling and analytical methods, sampling frequency, analytical results, and QA/QC results will be reported. Data available for excavated material to be disposed of at a given facility will be submitted to the disposal facility with a suitable explanation prior to shipment and receipt.

Hazardous soil, if present, will be managed in accordance with applicable federal, state, and local regulations. As such, the handling, transport, and disposal of hazardous fill material is subject to USEPA and OSHA HAZWOPER regulations. The excavated material would be segregated in the field and temporarily placed in stockpiles or direct-loaded and transported by Part 364-permitted trucks to a facility permitted under RCRA to accept hazardous waste.

3.2.4 Fill and Soil Removal

Metals concentrations that exceed RRSCOs were detected in subsurface fill and soil throughout the Site. Site-wide excavation will extend from the surface to at least 3 ft bgs. A localized area surrounding B-07 will be over-excavated to at least 7 ft bgs to address metals in deeper soil exceeding the RRSCOs. The Alternative II excavation plan is shown in **Figure 11**.

The estimated volume of material requiring removal and off-Site disposal for an Alternative II (Track 2) cleanup is approximately 2,237 cu yd. The soil will be screened for visual, olfactory, and instrumental evidence of environmental impacts. Further, to address soil vapor concerns, additional Site-wide excavation will be conducted for development purposes to approximately 8 ft bgs. This will facilitate development and have the cellar slab base below the water table.

3.2.5 UST Removal

If encountered, USTs and/or associated appurtenances (e.g., fill lines, vent lines, and electrical conduits), would be decommissioned in accordance with applicable NYSDEC tank closure requirements, including DER-10 Section 5.5, 6 NYCRR Part 613.9, and NYSDEC CP-51. USTs and/or associated appurtenances would be registered and administratively closed with the NYSDEC PBS unit.

After removal of any tank and its residual contents, confirmatory post-excavation soil samples will not be collected where the proposed remedial excavation would extend below the UST, unless visual,

olfactory, or instrumental field screening techniques indicate the potential for contamination. If encountered, petroleum-impacted soil would be excavated and disposed of off the Site at a permitted disposal facility in accordance with applicable regulations. Closure documentation, such as Contractor affidavits, bills of lading for sludge disposal, and tank disposal receipts, would be provided as appendices in the FER. Confirmation samples would then be collected once field observations indicate that the impacted soil has been removed. Samples would be collected at the frequency as required in DER-10 for compounds required in NYSDEC CP-51.

3.2.6 Excavation Backfill

To the extent required for construction purposes, imported material will consist of clean fill that meets the Allowable Constituents Levels of Imported Fill or Soil defined in DER-10 Appendix 5, or other acceptable fill material such as virgin stone from a quarry or RCA. If RCA is imported to the Site, it will come from an NYSDEC-registered source facility in compliance with 6 NYCRR Part 360 registration and permitting requirements for the period of RCA acquisition. RCA imported from compliant facilities will not require chemical testing unless required by NYSDEC under its terms for operation of the facility. Imported RCA must be derived from recognizable and uncontaminated concrete (less than 10 percent by weight passing through a No. 100 sieve). RCA is not acceptable for, and will not be used as, Site cover or drainage material. NYSDEC Request to Import/Reuse forms will be submitted, and a template is provided in **Appendix E**.

3.2.7 Confirmation and Documentation Soil Sampling

Per NYSDEC DER-10, confirmation soil samples will be collected from the bottom of the proposed remedial excavation at a frequency of one sample per 900 sq ft, and sidewall samples and bottom samples will be collected from the hotspot excavation (surrounding B-07) to confirm RRSCOs were achieved.

An estimated 23 confirmation soil samples, one hotspot bottom confirmation sample, and four sidewall confirmation samples from location B-07, plus QA/QC samples, would be collected and analyzed for the Part 375 list of VOCs, SVOCs, pesticides, PCBs, metals, PFAS, and 1,4-dioxane. If the proposed endpoint sample does not meet the applicable RRSCOs in the upper 15 ft, over-excavation and sampling will be performed to ensure that impacted material above Track 2 requirements has been removed from the Site. Further excavation for development will proceed after confirmation samples demonstrate that RRSCOs for the Site have been achieved. Should over-excavation be required, extending to depths where bedrock is encountered, a bedrock photograph will be taken instead of a confirmation soil sample.

3.2.8 Fluids Management

Liquids removed from the Site will be handled and disposed of in accordance with applicable local, state, and federal regulations. Fluids will not be recharged back to the land surface or subsurface. Discharge of water generated during remedial construction to surface waters (i.e., a local pond, stream, and/or river) is prohibited without an SPDES permit.

Based on the depth to water, dewatering is not anticipated to facilitate the excavation of material that exceeds the RRSCOs; however, if needed during foundation installation, localized dewatering with containerization, classification, and disposal at an approved receiving facility may be implemented as part of development. If necessary, dewatering fluids will be removed, treated, and sampled prior to discharge into the NYCDEP sewer system through an NYCDEP-issued permit. No dewatering discharge will commence prior to the NYCDEP approval.

3.2.9 Post-Remedy Soil Vapor Intrusion Evaluation

VOC contamination, specifically petroleum-related compounds and CVOCs, was observed in subsurface soil vapor throughout the Site. Following RAs and prior to occupancy, an SVI evaluation will be conducted at the Site and submitted to NYSDEC and NYSDOH. The SVI would include indoor air sampling only, as development depth will extend into groundwater. A total of two indoor air samples and one ambient air sample are proposed for the future development. Should the SVI evaluation indicate SVI, a potential remedial alternative/element may be proposed.

The FER will document the justification for conducting indoor air sampling only, including the groundwater table depth, slab depth of the new development, dewatering of the slab (if necessary), and the air handling characteristics of any basement or underground parking areas. Additionally, an SVI Evaluation Work Plan will be submitted under separate cover following completion of redevelopment.

3.3 EVALUATION OF REMEDIAL ALTERNATIVES

The following is an evaluation of the proposed remedy based on the BCP remedy evaluation criteria 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;
- Green and Sustainable Remediation (including climate resiliency); and
- Land use.

3.3.1 Protection of Human Health and the Environment

Alternative I – The remedy would significantly reduce the potential for each of the identified pathways of exposure to on-Site contaminated media. Remediating the Site to Track 1 standards would result in the removal of Site soil that exceeds UUSCOs. Encountered USTs would be decommissioned, removed,

and disposed of off the Site, and petroleum-impacted material, if encountered, would be excavated and disposed of off the Site. The RAOs for public health and environmental protection would be met through the removal of contaminated media at the Site to meet UUSCOs, which would significantly reduce the potential for exposure pathways via possible ingestion, inhalation, or dermal contact.

No ECs or ICs will be required because this remedy removes the potential for exposure to Site contamination; therefore, this remedy is the most protective of human health and the environment.

Alternative II – The Track 2 remedy will provide similar overall protection to public health and the environment as Alternative I. Remediating the Site to Track 2 standards will result in the removal of Site soil that exceeds RRSCOs. If encountered, USTs would be decommissioned, removed, and disposed of off the Site, and petroleum-impacted material, if encountered, would be excavated and disposed of off the Site. The RAOs for public health and environmental protection would be met through the removal of contaminated media at the Site to meet RRSCOs, which would significantly reduce the potential for exposure pathways via possible ingestion, inhalation, or dermal contact.

Public health will be protected during remediation under both remedial alternatives by implementing and enforcing dust, odor, and organic vapor control and monitoring procedures when needed. The environment will be protected by implementing and applying soil management controls as needed during future Site excavation and any other ICs through the enforcement of an EE.

3.3.2 Compliance with Standards, Criteria, and Guidance

Both alternatives will be in compliance with applicable SCGs listed in Section 4.1 by removing Site sources of contamination to achieve the RAOs. While implementing either remedy, the protection of public health and the environment will be maintained by enforcing a Site-specific CHASP and CAMP. OSHA requirements for on-Site construction safety will be followed by Site Contractors performing work.

3.3.3 Short-Term Effectiveness and Impacts

Short-term construction activities of both remedial alternatives include soil excavation, structure installation, and off-Site trucking. Remediation under both remedial alternatives will involve ground-intrusive work that would potentially cause dust, odor, and VOC migration from the Site to off-Site receptors, as well as require off-Site trucking for contaminated soil disposal, resulting in automobile emissions to the environment. Under Alternative I, the excavated soil would require approximately 114 20-cu-yd truck trips for disposal. Under Alternative II, the excavated soil and fill would require approximately 112 20-cu-yd truck trips for disposal. Both Alternative I and II would require three to five months of effort (assuming normal work hours). Therefore, the short-term impacts with respect to excavation for both alternatives are very similar.

The most significant short-term adverse impacts and risks to the community will be the potential complications and risks involved with designing and constructing the SOE and underpinning for the building and structures adjoining the Site. Potential impositions on roadway and pedestrian traffic associated with construction may result from the remedial excavation required to achieve either alternative.

Under both remedial alternatives, dust will be controlled by the on-Site application of water spray as needed. ECs, such as slowing the pace of work, applying foam and/or dust suppressant, and/or covering portions of the excavation, will be used to suppress odors/dust when required. Work will be modified or stopped according to the action levels defined in the CAMP. Therefore, short-term impacts are similar for both alternatives.

3.3.4 Long-Term Effectiveness and Performance

Alternative I will remove contaminated soil from the Site exceeding UUSCOs, while Alternative II will remove contaminated soil from the Site above RRSCOs, which will be documented in post-excavation confirmation soil sampling. Both alternatives will require a post-construction desktop SVI evaluation to be implemented to evaluate the potential for vapor intrusion into the newly constructed building. The FER will document the justification for conducting indoor air sampling only, including the groundwater table depth, slab depth of the new development, dewatering of the slab (if necessary), and the air handling characteristics of any basement or underground parking areas. Additionally, a separate SVI Evaluation Work Plan will be submitted under separate cover following completion of redevelopment. Alternative I would result in no restrictions to the use of the Site, while Alternative II would result in Restricted Residential uses.

3.3.5 Reduction of Toxicity, Mobility, or Volume of Contaminated Material

Both remedial alternatives would permanently and significantly reduce the toxicity, mobility, and volume of contamination through the removal of contaminated fill and buried solid waste through excavation and off-Site disposal.

3.3.6 Implementability

Alternative I – Implementing a Track 1 remedy will be technically challenging because of SOE requirements associated with the protection of the neighboring buildings and streets; however, the SOE requirements will be comparable to those required for construction. This remedy will consist primarily of excavation with standard bucket excavators. The availability of local contractors, personnel, and equipment suitable for working in a structurally challenging environment is high due to the frequency of this type of remediation in the region. The excavation and SOE are not expected to require schedule extensions or additional costs. If deeper contamination above UUSCOs is encountered requiring unanticipated over-excavation, the cost will be marginal compared to the benefit of achieving an Unrestricted Use remediation and avoiding long-term ECs and ICs. Additional coordination between trades may be required. This alternative is considered feasible.

Alternative II – The technical feasibility of implementing the Alternative II remedy is similar to Alternative I, if not more feasible, as less excavation and SOE will be required to achieve the Track 2 RRSCOs. This alternative will consist primarily of excavation with standard bucket excavators. The availability of local contractors, personnel, and equipment suitable for working in a structurally challenging environment is high due to the frequency of this type of remediation in the region. Additional coordination between trades may be required. This alternative is considered feasible.

3.3.7 Cost-Effectiveness

Alternative I – Based on the assumptions detailed for Alternative I, the estimated remediation cost of a Track 1 cleanup is approximately $3,008,000. A detailed cost estimate for a Track 1 cleanup is provided in **Table 1.**

Alternative II – Based on the assumptions detailed for Alternative II, the estimated remediation cost of a Track 2 cleanup is approximately $2,896,000. Alternative I is more cost-effective in the long term, as Alternative II will require long-term operation, maintenance, and monitoring for Site management. A detailed cost estimate for a Track 2 cleanup is provided in **Table 2.**

3.3.8 Community Acceptance

Both remedial alternatives should be acceptable to the community because the potential exposure pathways to on-Site contamination will be addressed upon completion of the respective remedies, and the Site will be remediated to allow for a higher-level use. The selected remedy will be subject to a 45-day public comment period in accordance with the Citizen Participation Plan (CPP), included as **Appendix F**. Substantive public comments will be addressed before the remedy is approved.

3.3.9 Green and Sustainable Remediation

An environmental footprint analysis was conducted for both remedial alternatives. Alternative I, a Track 1 remedy, would potentially export a greater volume (an additional estimated 51 tons) of non-hazardous waste off the Site to a recycling facility than Alternative II, a Track 2 remedy, due to the expected requirement of greater excavation depths. Additionally, Alternative I will potentially result in slightly more air emissions than Alternative II due to the expected additional excavation and off-Site disposal required. Both Alternative I and Alternative II may require dewatering as part of construction, which will require the collection, transportation, and analysis of dewatering influent samples, which may also result in slightly more air emissions than Alternative II.

Based on the environmental footprint analysis conducted for both remedial alternatives, Alternative I is expected to resulted in an estimated increase of 670.3 million metric British thermal units (MMBtus), 54.2 tons of total greenhouse gas emissions (CO_2e), 604.9 pounds (lbs) of nitrogen oxides (Nox) + sulfur oxides (Sox) + particulate matter (PM) emissions, and 8.2 lbs of Hazardous Air Pollutants (HAP) emissions as compared to Alternative II as a means of achieving greater overall protection of human health and the environment.

During implementation of the selected remedy, Green and Sustainable Remediation (GSR) practices will be incorporated where practicable to minimize the environmental footprint of the RA. These practices may include minimizing equipment idling, maintaining equipment in accordance with manufacturer specifications to reduce emissions, optimizing truck routes and material handling activities to reduce fuel consumption, implementing dust suppression measures, and sourcing imported backfill materials from local suppliers where feasible, and recycling construction and demolition materials to the extent practicable.

The GSR measures implemented during the RA and the associated environmental footprint evaluation will be documented in the FER.

3.3.10 Land Use

The current, intended, and reasonably anticipated future residential land use of the Site and its surroundings are compatible with both remedial alternatives. The proposed development will include the construction of a residential building. The surrounding area is comprised of mid-rise residential, commercial, manufacturing, industrial, and institutional use buildings.

3.4 SELECTION OF THE PREFERRED REMEDY

Both alternatives will be protective of human health and the environment and meet the remedy selection criteria. Alternative I achieves the RA goals established for the redevelopment project and is effective in the short term. Alternative I effectively reduces contaminant mobility and is a better alternative in the reduction of contaminant volume. Alternative I is more effective in the long term as well because the Site achieves Unrestricted Use. Alternative I is preferred over Alternative II if it can be feasibly and practically implemented at a similar cost while providing greater overall protection to human health and the environment. Therefore, Alternative I is the recommended remedial alternative for this Site. However, if Alternative I is not achievable, Alternative II is similarly protective of human health and the environment.

Figure 9 depicts the Alternative I (Track 1) soil cleanup plan. **Figure 11** depicts the Alternative II (Track 2) soil cleanup plan. The Alternative I and II remediation extents are based on data presented in the 2026 RI.

3.4.1 Zoning

The Site is currently zoned as Residential R7-1 and is located in a residential R6-A zoning district.

3.4.2 Surrounding Property Uses

The current, intended, and reasonably anticipated future land use of the Site and its surroundings are compatible with the selected remedy. The construction of a new mixed-use residential and commercial building conforms to recent development patterns in the area and current zoning.

3.4.3 Citizen Participation

Both remedial alternatives should be acceptable to the community because the potential exposure pathways to on-Site contamination will be addressed upon completion of the respective remedies, and the Site will be remediated to allow for a higher-level use. The selected remedy will be subject to a 45-day public comment period in accordance with the CPP, included as **Appendix F**. Substantive public comments will be addressed before the remedy is approved.

3.4.4 Environmental Justice Concerns

Per the "Potential Environmental Justice Areas in Southwest Bronx County, New York," the Site is in a potential Environmental Justice area, identified as Census Block Group 360050161002, with 48.22 percent of the population below the poverty level and a minority population of 98.44 percent. The NYSDEC's Office of Environmental Justice acts as an advocate on behalf of these areas, which are disproportionately affected by environmental burdens. The proposed remedy will best reduce the environmental burden on the surrounding area.

3.4.5 Land Use Designations

There are no federal or state land use designations.

3.4.6 Population Growth Patterns

The population growth patterns and projections support the current and anticipated future land uses.

3.4.7 Accessibility to Existing Infrastructure

The Site is accessible via existing infrastructure.

3.4.8 Proximity to Cultural Resources

The Site is not in close proximity to a registered landmark.

3.4.9 Proximity to Natural Resources

The Bronx River is located approximately 500 ft east and southeast of the Site, but the Site is located outside the Coastal Zone Boundary. The Site is not located in close proximity to important federal, state, or local wildlife refuges, wetlands, and critical habitats of endangered or threatened species.

3.4.10 Off-Site Groundwater Impacts

Municipal water supply wells are not present in this area of New York City; therefore, groundwater from the Site does not affect municipal water supply wells or recharge areas.

3.4.11 Proximity to Floodplains

The Site is not located in a floodplain.

3.4.12 Geography and Geology of the Site

The Site geology is described in Section 2.4 and will not pose greater challenges to the implementation of the preferred remedy than to the alternative.

3.4.13 Current Institutional Controls

There are currently no ICs being implemented at the Site.

3.5 SUMMARY OF SELECTED REMEDIAL ACTIONS

The selected Track 1 (Alternative I) remedy will include the following:

1. Development and implementation of a CHASP and CAMP for the protection of on-Site workers, the community, residents, and the environment during remediation and construction activities.
2. Design and construction of an SOE system to facilitate the Track 1 remediation.
3. Implementation of soil erosion, pollution, and sediment control measures in compliance with applicable laws and regulations.
4. Removal of existing concrete cover and miscellaneous debris on the Site.
5. Decommissioning of on-Site monitoring wells, as necessary, in accordance with NYSDEC CP-43: Groundwater Monitoring Well Decommissioning Policy.
6. Excavation, stockpiling, off-Site transport, and disposal of contaminated soil/fill material Sitewide that exceeds UUSCOs as defined by 6 NYCRR Part 375-6.8. Sitewide excavation will extend to 3 ft bgs, or 1 ft below the majority of UUSCO exceedances, with hotspot excavations to at least 7 ft bgs centered around B-07 and B-08 to address metals (nickel, magnesium, and barium) in deeper soil, and to at least 8 ft bgs centered on B-12 to address lead in deeper soil. An estimated 2,271 cu yd of soil/fill will be removed for Track 1 excavation.
7. If encountered, removal, decommissioning, and off-Site disposal of any USTs and/or associated appurtenances (e.g., fill lines, vent lines, and electrical conduits) during redevelopment in accordance with DER-10, 6 NYCRR Part 613.9, NYSDEC CP-51, and other applicable NYSDEC UST closure requirements.
8. Screening for indications of contamination (by visual means, odor, and monitoring with PIDs) of excavated material during intrusive Site work.
9. Dewatering, treatment, sampling, and disposal of water accumulated in excavations, if encountered, to an NYCDEP-approved sewer/sanitary line (pending permits) in accordance with local, state, and federal regulations.
10. Implementation of a preliminary waste characterization to facilitate off-Site disposal of excavated soil/fill.
11. Appropriate off-Site disposal of material removed from the Site in accordance with federal, state, and local rules and regulations for handling, transport, and disposal.
12. Backfilling of excavated areas, as necessary for development, with certified-clean material (i.e., meeting UUSCOs), RCA, or virgin, native crushed stone.
13. Collection and analysis of confirmation soil samples from the excavation base and sidewalls of the hotspot excavation areas in accordance with DER-10, to document post-excavation conditions to confirm a Track 1 remedy was achieved. If the proposed endpoint sample exceeds the Track 1 UUSCOs, over-excavation and endpoint sampling may be performed, as necessary,

to meet Track 1 UUSCOs. Should over-excavation continue to where bedrock is encountered, a bedrock photograph will be taken instead of a confirmation soil sample.

14. Completion of an SVI evaluation in accordance with DER-10 and the NYSDOH Final Guidance on Soil Vapor Intrusion following remedial excavation activities and prior to occupancy.

Remedial activities will be performed in accordance with this RAWP and the NYSDEC-issued Decision Document under the oversight of a New York State-licensed Professional Engineer. Deviations from the RAWP and/or Decision Document will be promptly reported to the NYSDEC for approval and explained in the FER.

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 the 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;
- Integrating the remedy with the end use where possible and encouraging green and sustainable redevelopment; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this Site, any future on-Site buildings shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

As part of the remedial design program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis was completed and is included in **Appendix G**. The environmental footprint analysis was completed using USEPA's Spreadsheets for Environmental Footprint Analysis (SEFA), which is an NYSDEC-accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction, and material use were estimated for both Alternatives. Goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, are incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable

remediation metrics will be tracked during the implementation of the RA and reported in the FER, including a comparison to the goals established during the remedial design program.

Additionally, the remedial design program includes a climate change vulnerability assessment to evaluate the impact of climate change on the project Site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress, and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities. Climate change is not expected to have a significant impact on the remedial system.

4. Remedial Action Program

4.1 GOVERNING DOCUMENTS

The primary documents governing the RA are summarized in this section.

4.1.1 Standards, Criteria, and Guidance

- 6 NYCRR Part 364 – Waste Transporter Permits
- 6 NYCRR Part 371 – Identification and Listing of Hazardous Wastes
- 6 NYCRR Part 372 – Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities
- 6 NYCRR Part 375 – Environmental Remediation Programs
- 6 NYCRR Part 376 – Land Disposal Restrictions
- 6 NYCRR Part 750 –SPDES Permits
- 6 NYCRR Subpart 373-4 – Facility Standards for the Collection of Household Hazardous Waste and Hazardous Waste from Conditionally Exempt Small Quantity Generators
- 6 NYCRR Subpart 374-1 – Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities
- 6 NYCRR Subpart 374-3 – Standards for Universal Waste
- CP-43 – Commissioner Policy on Groundwater Monitoring Well Decommissioning (December 2009)
- CP-51 – Soil Cleanup Guidance (2010)
- DER-10 – Technical Guidance for Site Investigation and Remediation (May 3, 2010)
- DER-23 – Citizen Participation Handbook for Remedial Programs (March 2010)
- DER-31 – Green Remediation (2011)
- NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances Under NYSDEC's Part 375 Remedial Programs (April 2023)
- NYSDEC Spill Response Guidance Manual
- NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006)
- Screening and Assessment of Contaminated Sediment (Division of Fish, Wildlife and Marine Resources, June 2014)
- Title 29 Code of Federal Regulations (CFR) Part 1926 - Safety and Health Regulations for Construction
- Title 29 CFR Part 1910.120 – Hazardous Waste Operations and Emergency Response

- TOGS 1.1.1 – Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations

4.1.2 Site-Specific Construction Health & Safety Plan

A Site-specific CHASP has been prepared (**Appendix D**). The CHASP will apply to remedial and construction-related work on the Site. The CHASP provides a mechanism for establishing on-Site safe working conditions, safety organization, procedures, and PPE requirements during the implementation of the remedy. The CHASP meets the requirements of 29 CFR 1910 and 29 CFR 1926 (which includes 29 CFR 1910.120 and 29 CFR 1926.65, respectively). The CHASP includes, but is not limited to, the following components:

- Organization and identification of key personnel;
- Training requirements;
- Medical surveillance requirements;
- List of Site hazards;
- Excavation safety;
- Drill rig safety;
- Work zone descriptions and monitoring procedures;
- Personal safety equipment and PPE requirements;
- Decontamination requirements;
- Standard operating procedures;
- Contingency plan;
- CAMP; and,
- Safety data sheets (SDS).

The Volunteer and associated parties preparing the remedial documents submitted to the state of New York, and those performing the construction work, are completely responsible for the preparation of an appropriate CHASP and for the performance of the work according to the CHASP and applicable laws. The CHASP and requirements defined in this RAWP pertain to all remedial and ground-intrusive work performed at the Site until the issuance of a Certificate of Completion. The Haley & Aldrich of New York Safety Coordinator will be Brian Ferguson, a resume for whom is included in **Appendix H**. If required, confined space entry will comply with OSHA requirements to address the potential risk posed by combustible and toxic gases. All remedial work performed under this plan will be in full compliance with governmental requirements, including Site and worker safety requirements federally mandated by OSHA.

4.1.3 Quality Assurance Project Plan

A Quality Assurance Project Plan (QAPP) has been prepared that describes the QC components that will ensure that the proposed remedy accomplishes the remedial goals and RAOs and is completed in accordance with the design specifications. The QAPP is provided as **Appendix I** and includes:

- Responsibilities of key personnel and their organizations for the proposed remedy;
- Qualifications of the QA Officer;
- Sampling requirements, including methodologies, quantity, volume, locations, frequency, and acceptance and rejection criteria; and
- Description of the reporting requirements for QA activities, including weekly QA review reports.

4.1.4 Construction Quality Assurance Plan

A Construction Quality Assurance Plan (CQAP) has been prepared that describes the QC components that will ensure that the proposed remedy accomplishes the remedial goals and RAOs and is completed in accordance with the design specifications. Because the remedy will be accomplished concurrently with building construction, the Contractor and Construction Manager will have the primary responsibility to provide construction quality. A list of engineering personnel involved in the implementation of the CQAP and procedures that will be carried out by the remedial engineering team are listed in Section 4.2.1. Project personnel resumes are provided in **Appendix H**.

4.1.5 Soil/Materials Management Plan

An S/MMP has been prepared that includes detailed plans for managing soils/materials that are disturbed at the Site, including excavation, handling, storage, transport, and disposal. The S/MMP also includes controls that will be applied to these efforts to facilitate effective, nuisance-free performance in compliance with applicable federal, state, and local laws and regulations (see Section 5.4).

4.1.6 Stormwater Pollution Prevention Plan

Erosion and sediment controls will be implemented as necessary in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control. Best management practices for soil erosion and sediment control will be selected to minimize erosion and sedimentation off the Site from the outset of remediation to the completion of development. Stormwater pollution prevention will be implemented as described below in Section 5.4.10. A Stormwater Pollution Prevention Plan (SWPPP) is not necessary because the project will disturb less than 1 acre, and stormwater discharge will be to a combined sewer in accordance with the New York City generic SPDES permit.

4.1.7 Community Air Monitoring Plan

Details of the CAMP are discussed in section 5.4.12.

4.1.8 Contractor Site Operations Plan

The Remedial Engineer (RE) will review plans and submittals for this remedial project, Contractor and subcontractor document submittals, and will confirm that plans and submittals are in compliance with this RAWP. The RE is responsible for ensuring that all later document submittals for this remedial project, including Contractor and subcontractor document submittals, are in compliance with this RAWP. Remedial documents, including Contractor and subcontractor document submittals, will be submitted to the NYSDEC and NYSDOH in a timely manner and prior to the start of work associated with the remedial document.

4.1.9 Citizen Participation Plan

Document repositories were established at the following locations and contain the applicable project documents:

1. Bronx Community Board 3
   610 E 169th Street
   Bronx, New York 10456
   Phone: 718.861.0372
   Email: eritter@cb.nyc.gov
   Hours: Monday to Thursday – 10 a.m. to 7 p.m.
   Friday – Saturday – 10 a.m. to 5 p.m.
   Sunday – Closed

2. New York Public Library-Clasons Point Branch
   1215 Morrison Avenue
   Bronx, New York 10472
   Phone: 718.842.1235
   Email: clasonspoint@nypl.org
   Hours: Monday to Thursday – 10 a.m. to 7 p.m.
   Friday – Saturday – 10 a.m. to 5 p.m.
   Sunday – Closed

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

A certification of mailing will be sent by the Volunteer to the NYSDEC Case Manager following the distribution of all Fact Sheets and notices that includes: (1) certification that the Fact Sheets were mailed, (2) the date they were mailed, (3) a copy of the Fact Sheet, and (4) a list of recipients (contact list).

No changes will be made to approved Fact Sheets authorized for release by NYSDEC without written consent of the NYSDEC. No other information, such as brochures and flyers, will be included with the Fact Sheet mailing.

4.2 GENERAL REMEDIAL CONSTRUCTION INFORMATION

4.2.1 Project Organization

A project team for the Site was created based on qualifications and experience with personnel suited for the successful completion of the project.

The following project personnel are anticipated for oversight of the RAWP implementation. Project personnel resumes are provided in **Appendix H**.

NYSDEC Case Manager	Elliot Jackson
NYSDOH Case Manager	Ryan Mizloff
Remedial Engineer (or the "RE")	Zhan Shu, Ph.D., P.E.
Principal/Qualified Environmental Professional (QEP)	Mari C. Conlon, P.G.
Project Manager	Elizabeth Fitzgerald
Haley & Aldrich of New York Health and Safety Director	Brian Fitzpatrick, CHMM
Health and Safety Officer	Brian Ferguson
Field Support and Coordination/ QA Officer	Alison Reach
Field Team Leader	Calvin Jackson

Haley & Aldrich of New York personnel, under the direct supervision of the QEP and the RE, will be on the Site during the implementation of the RAWP to monitor particulates and organic vapor in accordance with the CAMP. CAMP results that exceed specified action levels will be reported to the NYSDEC and NYSDOH.

Haley & Aldrich of New York personnel will meet with the Construction Superintendent daily to discuss the plans for that day and schedule upcoming activities. Field personnel will document remedial activities. Field activities will be forwarded to the Field Team Leader and Project Manager daily and to the QEP and the RE on a weekly basis. Daily reports will also be submitted to the NYSDEC and NYSDOH Case Managers by noon the following business day.

Field personnel will screen excavations with a PID during ground-intrusive work. PID readings, including specifically elevated readings, will be recorded in the project field book (or on separate logs) and reported to the NYSDEC and NYSDOH. Field personnel under the direct supervision of the RE and QEP will collect endpoint samples from the base and sidewalls of the excavation in accordance with this RAWP.

Field observations and laboratory tests will be recorded in the project field book or on separate logs. Recorded field observations may take the form of notes, charts, sketches, and/or photographs. A photo log will be kept to document construction activities during remediation.

The Field Team Leader will maintain original field paperwork during performance of the remedy. Remedial activities will be documented in the monthly BCP progress reports. The Project Manager will maintain the field paperwork after completion and will maintain submittal document files.

4.2.2 Remedial Engineer

The RE for this project will be Zhan Shu, Ph.D., P.E. The RE is a registered professional engineer licensed by the state of New York. The RE will have primary direct responsibility for the implementation of the remedial program at the Site. The RE will certify in the FER that the remedial activities were observed by qualified environmental professionals under their supervision and that the remediation requirements set forth in this RAWP and other relevant provisions of ECL 27-1419 have been achieved in substantial conformance with the RAWP.

Under the direction of the RE, the work of other Contractors and subcontractors involved in aspects of the remedial construction will be documented, including soil excavation, stockpiling, confirmation sample collection, air monitoring, emergency spill response services, import of backfill, and management of waste transport and disposal. The RE will be responsible for all appropriate communication with NYSDEC and NYSDOH.

The RE will review the pre-remedial plans submitted by Contractors and subcontractors for substantial conformance with this RAWP and will provide a certification in the FER. The RE will provide the certifications listed below in Section 9.1.

4.2.3 Remedial Action Construction Schedule

The RA construction schedule is discussed below in Section 10 and included in **Appendix J.** The NYSDEC will be promptly notified of proposed changes, delays, and/or deviations to the schedule.

4.2.4 Work Hours

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

4.2.5 Site Security

Site access will be controlled by gate entrances to the property. The Site perimeter will be secured with gated and signed plywood fencing with restricted points of entry in accordance with the NYCDOB and New York City Department of Transportation (NYCDOT) permits and requirements. The purpose of the fencing is to limit Site access to authorized personnel, protect pedestrians from Site activities, and maintain Site security.

4.2.6 Traffic Control

Site traffic will be controlled through designated points of access along East 173rd Street and/or Boone Avenue. Access points will be continuously monitored, and if necessary, a flagging system will be used to protect workers, pedestrians, and authorized guests. Traffic will also be required to adhere to applicable local, state, and federal laws.

4.2.7 Contingency Plan

Contingency plans, as described below, have been developed to effectively deal with the potential unexpected discovery of additional contaminated media or USTs.

4.2.8 Worker Training and Monitoring

Worker training and monitoring will be conducted in accordance with the Site-specific CHASP.

4.2.9 Agency Approvals

Permits or government approvals required for remedial construction have been or will be obtained prior to the start of remedial construction.

4.2.10 NYSDEC BCP Signage

Signs are optional for BCP sites and will be discussed with the NYSDEC Case Manager. If a sign is to be displayed, it will follow NYSDEC specifications for design and content. The NYSDEC Case Manager will provide details on signage protocol as necessary.

4.2.11 Pre-Construction Meeting with NYSDEC

Prior to the start of remedial construction, a meeting will be held among the NYSDEC, RE, the Volunteer, the Construction Manager, and the Remediation Contractor to discuss project roles, responsibilities, and expectations associated with this RAWP.

4.2.12 Emergency Contact Information

An emergency contact sheet that states the specific project contacts (with names and phone numbers) for use by NYSDEC and NYSDOH in case of an emergency is included in the CHASP.

4.2.13 Remedial Action Costs

Detailed summaries of the total estimated costs of the Track 1 and Track 2 remedies are included in Tables 1 and 2, respectively.

4.3 SITE PREPARATION

4.3.1 Mobilization

Prior to commencing remedial construction, the Remediation Contractor will mobilize to the Site and prepare for remedial activities. Mobilization and Site preparation activities may include the following:

- Identifying the location of aboveground and underground utilities (e.g., power, gas, water, sewer, and telephone), equipment, and structures as necessary to implement remediation;
- Mobilizing necessary remediation personnel, equipment, and materials to the Site;

- Constructing one or more stabilized construction entrance(s) consisting of non-hazardous material at or near the Site exit, which takes into consideration the Site setting and Site perimeter;
- Constructing an equipment decontamination pad for trucks, equipment, and personnel that come into contact with impacted materials during remediation; and/or
- Mark out metal hotspots and other hotspot areas (if identified during the RI or preliminary waste characterization sampling event).

4.3.2 Monitoring Well Decommissioning

Monitoring wells will be decommissioned in accordance with NYSDEC CP-43 by an experienced driller with oversight from Haley & Aldrich of New York. Decommissioning documentation will be provided in the FER.

4.3.3 Erosion and Sedimentation Controls

Since the planned earthwork activities will be below the adjacent sidewalk grade, full-time erosion and sedimentation measures are not anticipated. Best management practices for soil erosion will be implemented to minimize erosion and sedimentation off the Site.

4.3.4 Stabilized Construction Entrance(s)

Temporary stabilized construction entrances will be installed at the existing curb cuts along East 173rd Street and/or Boone Avenue. The entrances will be covered with NYSDEC-approved gravel or RCA and graded so that runoff water will be directed on the Site. Vehicles exiting construction areas will be cleaned using clean water or dry brushing, as needed, to remove Site soil from the tires and undercarriages. The Contractor will protect and maintain the existing sidewalks and roadways at both Site access points.

4.3.5 Utility Marker and Easements Layout

The Vaja Group LLC and its Contractors are solely responsible for the identification of utilities and/or easements that might be affected by work under this RAWP and implementation of the required, appropriate, or necessary health and safety measures during the performance of the work under this RAWP. The Vaja Group LLC and its Contractors are solely responsible for the safe execution of the work performed under this RAWP. The Vaja Group LLC and its Contractors must obtain the necessary local, state, and/or federal permits or approvals that may be required to perform the work detailed in this RAWP. Approval of this RAWP by the NYSDEC does not constitute satisfaction of these requirements.

4.3.6 Excavation Support

Appropriate management of the structural stability of on-Site or off-Site structures during Site activities is the sole responsibility of The Vaja Group LLC and its Contractors. The Vaja Group LLC and its Contractors are solely responsible for the safe execution of the work performed under this RAWP. The Vaja Group LLC and its Contractors must obtain the necessary local, state, and/or federal permits or

approvals that may be required to perform the work detailed in this RAWP. Additionally, The Vaja Group LLC and its Contractors are solely responsible for the implementation of the required, appropriate, or necessary health and safety measures during the performance of work conducted under this RAWP.

4.3.7 Equipment and Material Staging

The Contractor will notify the RE and The Vaja Group LLC in writing with receipt confirmed at least 30 calendar days in advance of pending Site work mobilization. During mobilization, construction equipment will be delivered to the Site, temporary facilities constructed, and temporary utilities installed. The Contractor will place and maintain temporary toilet facilities within the work areas for usage by Site personnel.

4.3.8 Decontamination Area

An outbound-truck inspection station will be set up at or near the Site exit. Before exiting the Site, trucks will be required to stop at the truck inspection station and will be examined for evidence of contaminated soil on the undercarriage, body, and wheels. If observed, soil and debris will be removed. Brooms, shovels, and potable water will be utilized for the removal of soil from vehicles and equipment, as necessary. The Contractor is responsible for collecting soil that is tracked immediately off the Site and returning the soil to the Site.

4.3.9 Site Fencing

The Site will be secured with a gated fence with appropriate signage maintained by the Contractor. The fence will limit access to authorized personnel and protect pedestrians from Site activities.

4.3.10 Demobilization

After remediation and construction are completed, the Contractor will be responsible for demobilizing equipment and materials not designated for off-Site disposal. The RE's representative will document that the Contractor performs follow-up coordination and maintenance for the following activities:

- Removal of sediment and erosion control measures and disposal of materials in accordance with applicable rules and regulations;
- Equipment decontamination;
- Refuse disposal; and
- Removal of remaining contaminated material or waste.

4.4 REPORTING

Periodic reports and an FER will be required to document the RA. The RE, Zhan Shu, Ph.D., P.E., will be responsible for certifying the FER and is licensed to practice engineering in the state of New York. Should Ms. Shu become unable to fulfill this responsibility, another suitably qualified New York State Professional Engineer will take her place. Field reports will be included as appendices to the FER. In

addition to the periodic reports and the FER, copies of the relevant Contractor documents will be submitted to the NYSDEC.

4.4.1 Daily Reports

Reports providing a summary of activities for each day of active remedial work will be emailed to the NYSDEC and NYSDOH Case Managers on a daily basis. These reports will include:

- The project number, statement of activities, an update of the progress made, locations of excavation, and other remedial work performed;
- Quantities of material imported and exported from the Site;
- Status of on-Site soil/fill stockpiles;
- A summary of citizen complaints, including relevant details (i.e., name, phone number, basis of complaint, actions taken);
- A summary of CAMP results noting exceedances; and
- Photographs of notable Site conditions and activities.

Reports are not intended to be the primary mode of communication for notifying NYSDEC of emergencies, requests for changes to the RAWP, or time-critical information. However, if these conditions occur, they will be included in the daily reports. Emergency conditions and changes to the RAWP will be directly communicated to the NYSDEC Case Manager.

Daily reports will include a description of daily activities with a Site Map that identifies work areas. These reports will include a summary of air sampling results, odor and dust problems and corrective actions, and all complaints received from the public. The NYSDEC-assigned project number will appear on all reports.

4.4.2 Monthly Reports

Monthly reports will be submitted to NYSDEC and NYSDOH Case Managers by the 10th of the following 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 (i.e., tons of material exported and imported, etc.);
- Description of approved activity modifications, including changes in work scope and/or schedule;
- Sampling results received following internal data review and validation, as applicable; and
- An update of the remedial schedule, including the percentage of project completion, unresolved delays encountered or anticipated that may affect the future schedule, and efforts made to mitigate such delays.

4.4.3 Other Reporting

Photographs of the remedial activities will be taken and included in the daily reports and FER, with provided descriptions of the representative photographs.

Progress with respect to green and sustainable remediation metrics will be tracked during the implementation of the RA and reported in the FER, including a comparison to the analyses provided in this RAWP. The climate screening process and results will be documented in the form of a completed checklist and brief letter report. A completed climate screening checklist for the remediation phase is provided in **Appendix K**. An updated checklist will be included in the FER to document the post-remediation status of the Site.

4.4.4 Complaint Management Plan

Complaints from the public regarding nuisance or other Site conditions will be addressed by notifying the NYSDEC of the complaint and investigating the cause/source of the issue. Records will be kept regarding the date and time of the complaint, the nature of the complaint, the type of communication (i.e., telephone, email, letter, etc.), and the name and contact information of the complaint provider. Corrective measures will then be formulated and put into place to address the complaint as soon as possible. The resolution will be documented and submitted to the NYSDEC. A representative of the Volunteer will reply within two weeks of receipt of the complaint to the complaint provider to ensure resolution.

4.4.5 Deviations from the Remedial Action Work Plan

Deviations from the RAWP will be communicated to and coordinated with the NYSDEC in advance. Notification will be provided to the NYSDEC by telephone and email for conditions requiring immediate action (e.g., conditions judged to be a danger to the surrounding community). Based on the significance of the deviation, an addendum to this RAWP may be necessary and will include:

- Reasons for deviating from the approved RAWP;
- Approval process to be followed for changes/editions to the RAWP; and
- Effect of the deviations on the overall remedy.

5. Remedial Action: Material Removal from Site

Remediation will include the following material removal:

- Excavation, stockpiling, off-Site transport, and disposal of up to approximately 2,271 cu yd of contaminated fill/native material that exceed UUSCOs as defined by 6 NYCRR Part 375-6.8. Excavation of material that exceeds UUSCOs is estimated to range from approximately 3 to 8 ft bgs Sitewide.

The soil will be screened for visual, olfactory, and instrumental evidence of environmental impacts.

5.1 SOIL CLEANUP OBJECTIVES

SCOs for the Site will be the Track 1 UUSCO concentrations listed in **Table 3**. Soil and materials management will be conducted in accordance with the S/MMP as described below. Soil sample locations and results that exceed the UUSCOs are shown on **Figure 5.** UST closures, as applicable, will, at a minimum, conform to the criteria defined in DER-10.

5.2 REMEDIAL PERFORMANCE EVALUATION (CONFIRMATION SAMPLING)

5.2.1 Soil Sampling Frequency

One confirmation endpoint soil sample will be collected for every 900 sq ft of excavation base, Sitewide in accordance with NYSDEC DER-10, or at an alternative frequency approved by NYSDEC. Endpoint samples will be collected to confirm that UUSCOs have been achieved. Over-excavation and endpoint sampling may be performed, as necessary, to meet Track 1 UUSCOs. Where bedrock is encountered, a bedrock photograph will be taken instead of a confirmation soil sample.

5.2.2 Methodology

Confirmation soil samples will be collected from the base of the remedial excavations in accordance with NYSDEC DER-10 to document remedial performance and will be analyzed for the Part 375 list of VOCs, SVOCs, pesticides, metals, PCBs, PFAS, and 1,4-dioxane. Samples will be collected into laboratory-provided bottle ware. VOCs will be collected into Terra Cores ® or Encores ®. Samples will be transported under chain-of-custody protocol to an ELAP-certified laboratory. Should additional soil samples be deemed necessary (e.g., additional tank closure, an unknown environmental condition through visual evidence of a remaining source, or over-excavation of a failed confirmation sample), confirmation sampling will be conducted in accordance with NYSDEC DER-10.

5.2.3 Reporting of Results

Analytical laboratories that analyze confirmation soil samples, prepare results, and perform contingency sampling will be NYSDOH ELAP-certified.

5.2.4 QA/QC

QC procedures for confirmation soil sampling are included in the QAPP (refer to **Appendix I**). Confirmation analytical results will be provided in the NYSDEC's electronic data deliverable (EDD) format for EQuIS™. Guidance on the sampling frequency is presented in NYSDEC DER-10 Section 5.4.

The QA/QC procedures required by the NYSDEC Analytical Services Protocol (ASP) and SW-846 methods will be followed. This will include instrument calibration, standard compound spikes, surrogate compound spikes, and analysis of QC samples. The laboratory will provide sample bottles, which will be pre-cleaned and preserved. Where there are differences in the SW-846 and NYSDEC ASP requirements, the NYSDEC ASP will take precedence.

5.2.5 Data Usability Summary Reports

ASP Category B deliverables will be prepared for remedial performance samples collected during the implementation of this RAWP. Data Usability Summary Reports (DUSRs) will be prepared by a qualified data validator, and the findings will be reported in the FER.

5.2.6 Reporting of Endpoint Data in FER

Chemical labs used for all endpoint sample results and contingency sampling will be NYSDOH ELAP-certified. Endpoint sampling will be performed in accordance with DER-10 sample frequency requirements. Sidewall samples will be collected around hotspots and at one per 30 linear ft. Bottom samples will be collected at a rate of one for every 900 sq ft from the base of the remedial excavation. The FER will provide a tabular and map summary of all endpoint sample results and exceedances of SCOs.

5.3 ESTIMATED MATERIAL REMOVAL QUANTITIES

Excavation on the Site for the proposed remedy is anticipated to generate approximately 2,271 cu yd of soil. A summary of anticipated material types to be excavated and disposed of off the Site is provided below:

1. Excavation, stockpiling, off-Site transport, and disposal of up to approximately 2,271 cu yd of contaminated fill/native material that exceed UUSCOs as defined by 6 NYCRR Part 375-6.8.

5.4 SOIL/MATERIALS MANAGEMENT PLAN

This section presents the approach to management, disposal, and reuse of soil, fill, and materials excavated from the Site. This plan is based on the current knowledge of Site conditions and will be altered as necessary. Field personnel, under the direction of the RE, will monitor and document the handling and transport of material removed from the Site for disposal as a regulated solid waste. Field personnel, under the direction of the RE, will assist the Remediation Contractor in (i) identifying impacted materials during remediation, (ii) determining materials suitable for direct load out versus temporary on-Site stockpiling, (iii) selecting samples for waste characterization, if necessary, and (iv) determining the proper off-Site disposal facility. Separate stockpile areas will be constructed as needed

for the various materials to be excavated or generated to avoid commingling impacted with non-impacted soil.

5.4.1 Soil Screening Methods

Visual, olfactory, and instrumental soil screening and assessment will be performed during remediation and development-related ground-intrusive activities into known or potentially contaminated material. Soil screening will be performed regardless of when the invasive work is done and will include excavation and invasive work performed during the remedy and development, such as excavations for foundations and utility work.

5.4.2 Stockpile Methods

Stockpiles will be used as necessary to separate and stage excavated material pending loading or characterization sampling. Separate stockpile areas will be constructed to avoid commingling materials. Stockpile areas will meet the following minimum requirements:

- Excavated soil will be placed onto a minimum thickness of 6-mil low-permeability liner of sufficient strength and thickness to prevent puncture during use; separate stockpiles will be created where material types are different. The use of multiple layers of thinner liners is permissible.
- Efforts will be made to place and remove the soil to minimize the potential to jeopardize the integrity of the liner.
- Stockpiles will be covered at the designated times (see below) with minimum 6-mil plastic sheeting or tarps, which will be securely anchored to the ground. Stockpiles will be routinely inspected, and broken sheeting covers will be promptly replaced.
- Stockpiles will be covered upon reaching their capacity (approximately 1,000 cu yd) until ready for loading. Stockpiles that have not reached their capacity will be covered at the end of each workday.
- Each stockpile will be encircled with silt fences and hay bales, as needed, to contain and filter particulates from rainwater that has drained off the soils and to mitigate the potential for surface water run-off.
- Stockpiles will be inspected at a minimum of once daily and after every storm event.
- If hazardous material is encountered, stockpiling on the Site will be avoided to the extent possible, in favor of live-loading into trucks permitted to transport hazardous waste.

5.4.3 Materials Excavation and Load Out

The RE or a qualified environmental professional under their supervision will monitor all ground-intrusive work and the excavation and load-out of excavated material.

Loaded vehicles leaving the Site will be appropriately lined, securely covered, manifested, and placarded in accordance with the appropriate federal, state, and local requirements, including applicable transportation requirements (i.e., New York State Department of Transportation [NYSDOT] and NYCDOT

requirements). Trucks hauling historical fill material will not be lined unless free liquids are present or the material is grossly impacted. Hazardous wastes derived from the Site will be stored, transported, and disposed of in compliance with applicable local, state, and federal regulations.

An outbound-truck inspection and wash station will be operated on the Site. Trucks will be washed, as necessary, before leaving the Site, and Site ingress and egress points will be cleaned of dirt and other materials to prevent material generated during remediation and development from being tracked off the Site.

The Volunteer and its Contractors are solely responsible for the safe performance of all invasive and other work performed under this QAPP and for the structural integrity of excavations and structures that may be affected by excavations (such as building foundations and bridge footings).

The Volunteers and associated parties will ensure that Site development activities will not interfere with, or otherwise impair or compromise, remedial activities proposed in this RAWP. 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 RAWP. Mechanical processing of historical fill and contaminated soil on the Site is prohibited unless otherwise approved by NYSDEC.

Primary contaminant sources (including, but not limited to, tanks and hotspots) identified during Site characterization, the 2026 RI, the 2024 Phase II, and implementation of the remedy will be surveyed by a surveyor licensed to practice in the state of New York. The excavation will be surveyed, and survey information will be shown on maps to be included with the FER.

5.4.4 Materials Transport Off Site

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 will be properly placarded. Trucks heading to disposal facilities will travel east on East 173rd Street, make a left on Sheridan Boulevard, and exit onto the Cross Bronx Expressway (Interstate 95 [I-95]) (or other NYSDEC-approved routes). Truck routes are shown on **Figure 12.**

Loaded trucks will exit in the vicinity of the Site using approved truck routes. These routes are the most appropriate routes to and from the Site and take into account the following:

- Limiting transport through residential areas and past sensitive sites;
- Use of city-mapped truck routes;
- Prohibiting off-Site queuing of trucks entering the facility;
- Limiting total distance to major highways;
- Promoting safety in access to highways;
- Overall safety in transport; and
- Community input (where necessary).

Trucks will be prohibited from excessive stopping and idling in the neighborhood outside of the Site. Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development. Queuing of trucks will be performed on the Site in order to minimize off-Site disturbance; off-Site queuing will be prohibited. Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid or hazardous metals-impacted material, truck liners will be used. Trucks will be washed as necessary prior to leaving the Site. Truck wash waters will be collected and disposed of off the Site in an appropriate manner.

5.4.5 Materials Disposal Off Site

Disposal location(s) will be established at a later date and will be reported to the NYSDEC Case Manager. The total quantity of material expected to be disposed of off the Site, including both remedial and development soil, is approximately 5,900 cu yd.

All soil/fill/solid waste excavated and removed from the Site will be treated as contaminated and regulated material and will be disposed of in accordance with all local, state (including 6 NYCRR 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 Case Manager. Unregulated off-Site management of materials from this Site is prohibited without formal NYSDEC approval.

Excavated material that does not meet UUSCOs, such as non-hazardous historical fill material, contaminated soil, and hazardous lead-impacted material, is prohibited from being taken to a New York State recycling facility (6 NYCRR Part 360.15 Registration Facility).

If hazardous soil is identified, it will be managed in accordance with applicable federal, state, and local regulations. As such, the handling, transport, and disposal of hazardous fill material is subject to USEPA and OSHA HAZWOPER regulations. The presence of hazardous waste requires compliance with both federal and state regulations and the following requirements:

1. Hazardous waste disposal requires obtaining a USEPA RCRA generator ID number;
2. Hazardous waste must be transported to a facility permitted by the RCRA to accept hazardous waste;
3. Hazardous waste must be segregated and cannot be commingled with other Site material; and
4. Hazardous waste must be transported and disposed of by properly permitted (Part 364) transporters and facilities.

The following documentation will be obtained and reported by the RE 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 RE or The Vaja Group LLC to the receiving facility describing the material to be disposed of and requesting formal written acceptance of the material. This letter will state that the material to be disposed of 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 RE. The letter will include, as an attachment, a summary of all chemical data for the material being transported (including Site characterization data).

- A letter from each receiving facility 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 the Site will be handled, at a minimum, as a Municipal Solid Waste per 6 NYCRR Part 360.2. The RE is responsible for assuring material is properly characterized and determining the appropriate disposal methods based on the characterization results.

Historical fill and contaminated soils from the Site are prohibited from being disposed of 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 Division of Materials Management (DMM) in NYSDEC 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 Region 2 DMM. This material is prohibited from being sent or redirected to a Part 360-15 Registered 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 an off-Site Soil Recycling Facility. The letter will provide the project identity and the name and phone number of the RE. 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 RA, including excavated soil, contaminated soil, historic fill, solid waste, hazardous waste, non-regulated material, and fluids. Documentation associated with the 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.

A 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 the 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, 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 a 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 RI;
- Replacing or substituting confirmation or documentation sampling as described in NYSDEC DER-10, Section 5.4; or
- To modify remedial decisions as formalized in an NYSDEC-approved Decision Document or Record of Decision.

5.4.6 Materials Reuse On Site

Materials reuse is not anticipated at the Site. If on-Site material is proposed for reuse, the chemical criteria for on-Site reuse of material will be approved by NYSDEC. The RE will ensure that procedures defined for materials reuse in this RAWP are followed and that unacceptable material will not remain on the Site. A "Request to Import/Reuse Fill Material" form will be filed with the NYSDEC Case Manager for review and approval prior to material reuse on the Site. A copy of the form is presented in **Appendix E.**

Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the Site is prohibited for reuse on the Site. Demolition material reuse is not anticipated at the Site. Concrete crushing or processing on the Site is prohibited unless NYSDEC has specifically approved on-Site processing and reuse of acceptable demolition material.

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

5.4.7 Fluids Management

Based on the depth to water, dewatering is not anticipated to facilitate the excavation of material that exceeds the UUSCOs; however, if required for the installation of foundational elements, localized dewatering with containerization, classification, and disposal at an approved receiving facility may be implemented.

5.4.8 Demarcation

Should the RA not achieve Track 1 UUSCOs after the completion of soil removal and any other invasive remedial activities, and prior to backfilling, a land survey will be performed by an NYS-licensed surveyor. The survey will define the top elevation of residual contaminated soils. A physical demarcation layer, consisting of orange snow fencing material 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 the 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 soils, pavement, sub-soils, structures, or other materials. 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

Materials proposed for import onto the Site are not anticipated as part of the Track 1 remedy. However, if imported materials are proposed, documentation of the material will be provided to NYSDEC for approval prior to its use on the Site. Imported soil for backfill must meet the requirements of 6 NYCRR Part 375-6.7(d) and NYSDEC DER-10 Section 5.4(e), Table 5.4(e)10. 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.

Backfill material will consist of clean fill (as described in the following paragraph) or other acceptable fill material, such as virgin stone from a quarry or RCA. If RCA is imported to the Site, it will be from an NYSDEC-registered facility in compliance with 6 NYCRR Part 360 registration and permitting requirements for the period of acquisition of RCA. RCA imported from compliant facilities will not require chemical testing unless required by the NYSDEC under the terms for operation of the facility. RCA imported to the Site must be derived from recognizable and uncontaminated concrete, with no more than 10 percent by weight passing through a No. 100 sieve. RCA is not acceptable for and will not be used as cover or drainage material.

Imported soil (i.e., clean fill) will meet the Allowable Constituent Levels of Imported Fill or Soil defined in DER-10 Appendix 5. Non-compliant soils will not be imported to the Site. Clean fill will be segregated at a source/facility that is free of environmental contaminants. Qualified environmental personnel will collect representative samples at a frequency consistent with NYSDEC CP-51. The samples will be analyzed for Part 375 VOCs, SVOCs, pesticides/herbicides, PCBs, cyanide, metals (including trivalent and hexavalent chromium), 1,4-dioxane, and PFAS by an NYSDOH ELAP-certified laboratory. Upon meeting these criteria, the certified-clean fill will be transported to the Site and segregated from impacted material, as necessary, on plastic sheeting until used as backfill. Trucks entering the Site with imported soils will be secured with tight-fitting covers.

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 Case Manager for review and approval prior to import to the Site. A copy of the form is presented in **Appendix E**. All materials proposed for import onto the Site will be approved by the RE 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 RE: "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".

5.4.10 Stormwater Pollution Prevention

A silt fence or hay bales will be installed as needed around the perimeter of the remedial construction area, as required. 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 maintained at the Site and available for inspection by the NYSDEC. Necessary repairs to the silt fence and/or hay bales will be made immediately. Accumulated sediments will be removed as required to keep the barriers and hay bale checks functional. The manufacturer's recommendations will be followed for replacing the silt fence damaged due to weathering. Erosion and sediment control measures identified in this RAWP will be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they will be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to the sewer system.

5.4.11 Contingency Plan

As discussed above in Section 4.2.7, if USTs or other previously unidentified contaminant sources are found during on-Site remedial excavation or development-related construction, sampling will be performed on product, if encountered, and surrounding subsurface materials (e.g., soil, stone). Chemical analyses will include Part 375 VOCs, SVOCs, PCBs, pesticides, metals, and PFAS. Analyses will not be otherwise limited without NYSDEC approval. Identification of unknown or unexpected contaminated media identified by screening during ground-intrusive work will be promptly communicated by phone to the NYSDEC Case Manager. These findings will also be detailed in the monthly BCP progress report.

Extreme Storm Preparedness and Response Contingency Plan

Damage from flooding or storm surge can include the dislocation of soil and stockpiled materials; the dislocation of Site structures, construction materials, and equipment; and the dislocation of SOE 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 of 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; and, stormwater management systems will be inspected and fortified, including, as necessary, clean and reposition silt fences and 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 the Site inspection and after the Site security is assessed, as necessary. Site conditions will be compared to the inventory of Site conditions and materials 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 two hours of identification and consistent with New York 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. SOE structures 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 the Site to adjacent properties, property owners and NYSDEC will be notified, and a 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 off-Site areas may require characterization based on Site conditions, at the discretion of NYSDEC.

If on-Site petroleum spills are identified, a qualified environmental professional will determine the nature and extent of the spill and report to NYSDEC's spill hotline at 800.457.7362 within statutorily 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 the Site inspection. Site conditions will be compared to the inventory of Site conditions and materials performed prior to the storm event, and significant differences will be noted. The Site Inspection Report will be sent to the NYSDEC Case Manager and will include the Site name, address, tax block and lot, the Site's 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 SOE; presence of on-Site or off-Site exposure pathways caused by the storm; presence of petroleum or other spills and status of spill reporting to NYSDEC; description of corrective actions; and schedule for corrective actions.

This report should be completed and submitted to the NYSDEC Case 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 will require real-time monitoring for particulates (i.e., dust) and VOCs at the upwind and downwind perimeters when ground-intrusive activities, including soil/waste excavation, soil handling, test pit excavation, and/or trenching, are in progress at the Site during remedial construction activities. The CAMP aims to provide protection for residents in the designated work area and residents of the downwind community from potential airborne releases that directly result from the remedial construction activities conducted at the Site. Adherence to the monitoring action levels specified in the CAMP requires monitoring and, when necessary, corrective actions to abate emissions, and/or shutdown work. The CAMP also helps to confirm that work activities do not spread contamination off the Site through the air. In addition, visual and olfactory observations will be made to keep dust and odors at a minimum around the work areas. VOCs will be monitored using PIDs, and particulates will be monitored using DustTrak equipment. Readings will be recorded every 15 minutes at the Site by field personnel.

The following actions will be taken based on monitoring of particulate concentrations:

- If the downwind inhalable particles with diameters generally less than 10 micrometers and smaller (PM-10) particulate level is 100 µg/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 will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 µg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 µg/m^3 above the upwind level, work will be stopped, and a re-evaluation of activities initiated. Work will resume if dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 µg/m^3 of the upwind level and in preventing visible dust migration.

The following actions will be taken based on VOC monitoring:

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 ppm above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and

monitoring continued. After these steps, work activities will resume provided that the total organic vapor level 200 ft 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 ft, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shut down.

When work areas are within 20 ft of potentially exposed populations or occupied structures, the NYSDOH special CAMP requirements will be considered. Measures may include continuous monitoring locations for VOCs and particulates reflecting the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of ECs, such as vapor/dust barriers, temporary negative pressure enclosures, or special ventilation devices, will also be considered to prevent exposures related to the work activities and to control dust and odors. Consideration will be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Background readings in the occupied spaces must be taken prior to the commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.
- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 µg/m^3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 µg/m^3 or less at the monitoring point.
- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, and carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

Exceedances observed in the CAMP will be reported to NYSDEC and NYSDOH Case Managers within 24 hours of the exceedance and will include the reason(s) for the exceedance and steps taken to address the exceedance. CAMP exceedances will be included in the daily report. The NYSDOH CAMP Guidance is included in **Appendix L**.

5.4.13 Odor, Dust, and Nuisance Control Plan

Dust, odor, and nuisance controls will be accomplished by the Remediation Contractor as described in this section.

The FER will include the following certification by the RE: “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 the Site. Specific odor control methods to be used, if needed, will include the application of foam suppressants or tarps over the odor or VOC source areas. If nuisance odors are identified, work will be halted, and the source of the odors will be identified and corrected. Work will not resume until nuisance odors have been abated. The NYSDEC and NYSDOH will be notified of odor events and other complaints about the project. Implementation of odor controls is the responsibility of the Contractor. Monitoring odor emissions, including the halt of work, will be the responsibility of the RE or their designated representative.

Necessary means will be employed to prevent on- and off-Site nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (a) direct load-out of soils to trucks for off-Site disposal; (b) use of chemical odorants in spray or misting systems (e.g., Blanket 510 Wintergreen™); and (c) use of staff to monitor odors in surrounding neighborhoods. Odor control suppressant will be utilized if necessary during ground-intrusive work.

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

The Dust Control Plan addresses dust management during ground-intrusive on-Site work and includes, at a minimum: (a) the use of a dedicated water distribution system, an on-Site water truck for road wetting, or an alternate water source with suitable supply and pressure for use in dust control; (b) the use of gravel for on-Site roads to provide a clean and dust-free road surface; and (c) the limiting of the total area of on-Site roads to minimize the area required for water spraying.

5.4.13.3 Other Nuisances

A plan for rodent control will be developed and used by the Remediation Contractor during Site preparation (including clearing and grubbing) and during remedial work. A plan for noise control will be developed and used by the Remediation Contractor during Site preparation and remedial work and will conform, at a minimum, to the NYCDEP noise control standards.

6. Residual Contamination to Remain on the Site

Residual contaminated soil will not exist beneath the development footprint after the Track 1 remedy is complete; therefore, ECs and ICs will not be required post-excavation. However, if the Track 1 remedy is not achieved, the following contingent Site management elements will be implemented prior to the Certificate of Completion:

- Establishment of an approved SMP to ensure long-term management of ECs and ICs, including the performance of periodic inspections and certification that the controls are performing as they were intended; and
- Recording of an EE to ensure future owners of the Site maintain the required ECs/ICs.

7. Engineering Controls

Following completion of the Track 1 UUSCO remedy, neither ECs nor ICs will be required as part of the RA.

8. Institutional Controls

Following completion of the Track 1 UUSCO remedy, neither ECs nor ICs will be required as part of the RA.

9. Final Engineering Report

An FER will be submitted to the NYSDEC following the implementation of the remedy defined in this RAWP. The FER will be prepared in conformance with NYSDEC DER-10 and will include the following:

- Documentation that the remedial work required under this RAWP has been completed and has been performed in substantial conformance with this plan.
- A summary of the locations and characteristics of material removed from the Site, including the surveyed map(s) of each area, as necessary.
- As-built drawings for constructed elements, certifications, manifests, and bills of lading.
- A description of the changes to the remedy from the elements provided in the RAWP and associated design documents, if any.
- A tabular summary of performance evaluation sampling results, material characterization results, and other sampling and chemical analyses performed as part of the remedy.
- Written and photographic documentation of remedial work performed under this remedy.
- A summary of confirmation sampling results to show that the remaining soil left on the Site meets the Track 1 UUSCOs.
- If necessary, a summary of remaining contamination that exceeds the Track 1 UUSCOs and an explanation for why the material was not removed as part of the remedy. A table and a map that show the remaining contamination in excess of the Track 1 UUSCOs would also be included.
- Documentation of treatment and/or disposal of material removed from the Site, including excavated contaminated soil, historical fill, solid waste, hazardous waste, non-regulated material, and fluids. Documentation associated with the disposal of material must also include records and approvals for receipt of the material.
- Documentation of the origin and chemical quality of each material type imported onto the Site.
- Discussion of the green remediation practices/technologies employed throughout the remedial program. A final footprint analysis using a DER-accepted model, and any tracking methods used through the construction, including restoration activities.

Before approval of the FER and issuance of a Certificate of Completion, the daily or weekly reports and monthly BCP progress reports must be submitted in digital format (i.e., PDF).

9.1 CERTIFICATIONS

The following certification will appear in front of the Executive Summary of the FER. The certification will be signed by the RE, Zhan Shu, Ph.D., P.E., who is a Professional Engineer registered in New York State. This certification will be appropriately signed and stamped. The certification will include the following statements:

I, _____, am currently a registered professional engineer licensed by the State of New York. I had primary direct responsibility for implementation of the remedial program for the 1003 East 173rd Street Site (NYSDEC BCA Index No. C203181-02-25 Site No. C203181).

I certify that the Site description presented in this FER is identical to the Site descriptions presented in the Environmental Easement, the Site Management Plan, and the Brownfield Cleanup Agreement for the 1003 East 173rd Street Site and related amendments.

I certify that the Remedial Action Work Plan dated [month day year] and Stipulations [if any] in a letter dated [month day year] and approved by the NYSDEC were implemented and that all requirements in those documents have been substantively complied with.

I certify that the remedial activities were observed by qualified environmental professionals under my supervision and that the remediation requirements set forth in the Remedial Action Work Plan and any other relevant provisions of ECL 27-1419 have been achieved.

I certify that all use restrictions, Institutional Controls, Engineering Controls, and all operation and maintenance requirements applicable to the Site are contained in an Environmental Easement created and recorded pursuant to ECL 71-3605 and that all 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 by the [Applicant / Volunteer / Participant] for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, and that such plan has been approved by the NYSDEC.

I certify that the export of all contaminated soil, fill, water, or other material from the property was performed in accordance with the Remedial Action Work Plan, and materials were taken to facilities licensed to accept this material in full compliance with all Federal, State and local laws.

I certify that all import of soils from off-Site, including source approval and sampling, has been performed in a manner that is consistent with the methodology defined in the Remedial Action Work Plan.

I certify that all invasive work during the remediation and all invasive development work were conducted in accordance with dust and odor suppression methodology and soil screening methodology defined in the Remedial Action Work Plan.

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

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

10. Schedule

Mobilization for implementation of the RAWP is expected to take place in about one to two weeks from receipt of the Decision Document. Once mobilization is complete, remediation of the Site will proceed. The remedy, which will be implemented in accordance with this RAWP, is anticipated to take about three to five months to complete. After completion of the remedy, an FER will be drafted and subsequently submitted to the NYSDEC for review and approval. A proposed project schedule is included in **Appendix J.**

References

1. Haley & Aldrich of New York, 2024. ASTM Phase I Environmental Site Assessment, 1003 East 173rd Street, Bronx, New York. September.

2. Haley & Aldrich of New York et al., 2024. Brownfield Cleanup Program Application, 1003 East 173rd Street, Bronx, New York. November.

3. Haley & Aldrich of New York, 2024. Limited Phase II Environmental Site Investigation Report, 1003 East 173rd Street, Bronx, New York. September.

4. Haley & Aldrich of New York, 2025. Remedial Investigation Work Plan, 1003 East 173rd Street, Bronx, New York. May.

5. Haley & Aldrich of New York, 2025. Brownfield Cleanup Program Citizen Participation Plan for 1003 East 173rd Street Development, Bronx, New York. July.

6. Haley & Aldrich of New York, 2026. Remedial Investigation Report, 1003 East 173rd Street, Bronx, New York. April.

7. New York State Department of Environmental Conservation, 2026. Part 375 of Title 6 of the New York Compilation of Codes, Rules, and Regulations. December 14.

8. New York State Department of Environmental Conservation, 2023. Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Remedial Programs. April.

9. New York State Department of Health, 2006. Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York. October.

10. New York State Division of Water, 1998. Technical and Operational Guidance Series (TOGS) (1.1.1). June.

11. New York State Department of Environmental Conservation, 2010. Program Policy DER-10: Technical Guidance for Site Investigation and Remediation. May.

12. New York State Department of Environmental Conservation, 2011. Program Policy DER-31: Green Remediation. August.

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TABLES

TABLE 1
ALTERNATIVE I REMEDIAL COST ESTIMATE
1003 EAST 173RD STREET, BRONX, NEW YORK
NYSDEC BCP SITE C203181

Consulting/Engineering Costs					
Task	**Description**	**Unit**	**Unit Cost**	**Quantity**	**Total Cost**
1	Waste Characterization	Lump Sum	$ 50,000	1	$ 50,000
2	Program Management (NYSDEC/NYSDOH Correspondence, Daily/Weekly/Monthly Reporting, etc.)	Month	$ 5,000	12	$ 60,000
3	Remedial Oversight	Month	$ 34,000	4	$ 136,000
4	Confirmation Sampling	Sample	$ 2,000	35	$ 70,000
6	Dewatering Influent Samples	Sample	$ 600	20	$ 12,000
7	Soil Vapor Intrusion Evaluation	Allowance	$ 20,000	1	$ 20,000
8	Soil Vapor Intrusion Reporting	Lump Sum	$ 9,500	1	$ 9,500
9	Final Engineering Report and COC Coordination	Allowance	$ 75,000	1	$ 75,000
				Consulting/Engineering Subtotal	$ 432,500
Contractor Costs					
Task	**Description**	**Unit**	**Unit Cost**	**Quantity**	**Total Cost**
1	Mobilization/Demobilization, Site Maintenance, Security, etc.	Allowance	$ 250,000	1	$ 250,000
3	Truck Wash Station	Month	$ 25,000	4	$ 100,000
5	Management/Handling Contaminated Material	Cubic Yard	$ 40	2,271	$ 90,840
6	Support of Excavation ($4,000/Linear Ft X Site Perimeter 410 ft = $1,640,000)	Percentage	$ 1,640,000	0.5	$ 820,000
7	Clean UST System, dispose of residuals (assume 3,000 gallons wastewater), PBS closure paperwork	Allowance	$ 35,000	1	$ 35,000
8	Transport and Disposal of Urban Fill	Ton	$ 46	3,380	$ 155,480
9	Transport and Disposal of Non-Hazardous Petroleum Impacted Fill Material	Ton	$ 55	0	$ -
10	Transport and Disposal of Hazardous Material (F Listed and/or Lead)	Ton	$ 275	25	$ 6,875
13	Backfill Procurement, Placement and Compaction	Cubic Yard	$ 28	20,000	$ 550,000
14	Localized Dewatering System	Allowance	$ 100,000	1	$ 100,000
15	Underground Storage Tank (Contingency Budget)	Allowance	$ 75,000	1	$ 75,000
				Contractor Subtotal	$ 2,183,195
				Total	$ 2,615,695
				15% Contingency	$ 392,354
				Estimated Total (Rounded to the nearest $1,000)	$ 3,008,000

Notes:

1. Assuming a Track 1 Remedy.

2. Assumes density of 1.5 tons per cubic yard of fill/soil.

3. Assumes residual soil will meet Track 1 Unrestricted Use Soil Cleanup Objectives

4. SOE Costs are based on a conventional soldier pile and timber lagging system with lateral bracing provided by either steel rakers or tiebacks; costs calculated by average cost per linear ft then multiplied by percentage of SOE accounting for remedy (Track 1 ~50%).

5. Costs are estimated and subject to change. Costs do not include new building construction.

6. RAWP implementation is assumed to take 4 months.

7. This cost estimate was prepared to compare various remedial alternatives as was based on available information at the time of preparation. The estimate may be +/- 30-50% of the actual cost. This estimate was not prepared for financial or legal consulting purposes and was not intended for use regarding compliance with financial reporting requirements or liability services.

8. This estimate does not include legal fees associated with attorneys involved in the project, insurance fees or outside consulting fees.

TABLE 2
ALTERNATIVE II REMEDIAL COST ESTIMATE
1003 EAST 173RD STREET, BRONX, NEW YORK
NYSDEC BCP SITE C203181

Consulting/Engineering Costs					
Task	**Description**	**Unit**	**Unit Cost**	**Quantity**	**Total Cost**
1	Waste Characterization	Lump Sum	$ 50,000	1	$ 50,000
2	Program Management (NYSDEC/NYSDOH Correspondence, Daily/Weekly/Monthly Reporting, etc.)	Month	$ 5,000	12	$ 60,000
3	Remedial Oversight	Month	$ 34,000	4	$ 136,000
4	Confirmation Sampling	Sample	$ 2,000	30	$ 60,000
6	Dewatering Influent Samples	Sample	$ 600	20	$ 12,000
7	Soil Vapor Intrusion Evaluation	Allowance	$ 20,000	1	$ 20,000
8	Soil Vapor Intrusion Reporting	Lump Sum	$ 9,500	1	$ 9,500
9	Final Engineering Report, Site Management Plan and COC Coordination	Allowance	$ 95,000	1	$ 95,000
10	Annual Site Management	Year	$ 15,000	4	$ 60,000
				Consulting/Engineering Subtotal	$ 502,500
Contractor Costs					
Task	**Description**	**Unit**	**Unit Cost**	**Quantity**	**Total Cost**
1	Mobilization/Demobilization, Site Maintenance, Security, etc.	Allowance	$ 250,000	1	$ 250,000
3	Truck Wash Station	Month	$ 25,000	4	$ 100,000
5	Management/Handling Contaminated Material	Cubic Yard	$ 40	2,237	$ 89,480
6	Support of Excavation ($4,000/Linear Ft X Site Perimeter 410 ft = $1,640,000)	Percentage	$ 1,640,000	0.4	$ 656,000
7	Clean UST System, dispose of residuals (assume 3,000 gallons wastewater), PBS closure paperwork	Allowance	$ 35,000	1	$ 35,000
8	Transport and Disposal of Urban Fill	Ton	$ 46	3,330	$ 153,180
9	Transport and Disposal of Non-Hazardous Petroleum Impacted Fill Material	Ton	$ 55	0	$ -
10	Transport and Disposal of Hazardous Material (F Listed and/or Lead)	Ton	$ 275	25	$ 6,875
13	Backfill Procurement, Placement and Compaction	Cubic Yard	$ 28	20,000	$ 550,000
14	Localized Dewatering System	Allowance	$ 100,000	1	$ 100,000
15	Underground Storage Tank (Contingency Budget)	Allowance	$ 75,000	1	$ 75,000
				Contractor Subtotal	$ 2,015,535
				Total	$ 2,518,035
				15% Contingency	$ 377,705
				Estimated Total (Rounded to the nearest $1,000)	$ 2,896,000

Notes:

1. Assuming a Track 1 Remedy.

2. Assumes density of 1.5 tons per cubic yard of fill/soil.

3. Assumes residual soil will meet Track 1 Unrestricted Use Soil Cleanup Objectives

4. SOE Costs are based on a conventional soldier pile and timber lagging system with lateral bracing provided by either steel rakers or tiebacks; costs calculated by average cost per linear ft then multiplied by percentage of SOE accounting for remedy (Track 1 ~50%).

5. Costs are estimated and subject to change. Costs do not include new building construction.

6. RAWP implementation is assumed to take 4 months.

7. This cost estimate was prepared to compare various remedial alternatives as was based on available information at the time of preparation. The estimate may be +/- 30-50% of the actual cost. This estimate was not prepared for financial or legal consulting purposes and was not intended for use regarding compliance with financial reporting requirements or liability services.

8. This estimate does not include legal fees associated with attorneys involved in the project, insurance fees or outside consulting fees.

TABLE 3
TRACK 1 SOIL CLEANUP OBJECTIVES
1003 EAST 173RD STREET, BRONX, NEW YORK
NYSDEC BCP SITE NO. C203181

PCBs/Pesticides (mg/kg)	
Delta-BHC	0.04
Lindane	0.025
Alpha-BHC	0.02
Beta-BHC	0.021
Heptachlor	0.013
Aldrin	0.0048
Endrin	0.014
Dieldrin	0.005
4,4'-DDE	0.0033
4,4'-DDD	0.0033
4,4'-DDT	0.0033
Endosulfan I	4.3
Endosulfan II	4.3
Endosulfan sulfate	4.3
cis-Chlordane	0.014
PCBs, Total	0.1

Volatile Organic Compounds (mg/kg)	
Methylene chloride	0.05
1,1-Dichloroethane	0.27
Chloroform	0.37
Carbon tetrachloride	0.76
Tetrachloroethene	1.3
Chlorobenzene	4.5
1,2-Dichloroethane	0.02
1,1,1-Trichloroethane	0.68
Benzene	0.06
Toluene	0.7
Ethylbenzene	1
Vinyl chloride	0.03
1,1-Dichloroethene	0.24
trans-1,2-Dichloroethene	0.19
Trichloroethene	0.47
1,2-Dichlorobenzene	1.1
1,3-Dichlorobenzene	2.6
1,4-Dichlorobenzene	1.8
Methyl tert butyl ether	0.1
Xylenes, Total	0.26
cis-1,2-Dichloroethene	0.19
Acetone	0.03
2-Butanone	0.1
n-Butylbenzene	18
sec-Butylbenzene	25
tert-Butylbenzene	11
Naphthalene	12
n-Propylbenzene	5
1,3,5-Trimethylbenzene	3.1
1,2,4-Trimethylbenzene	5.9
1,4-Dioxane	0.1

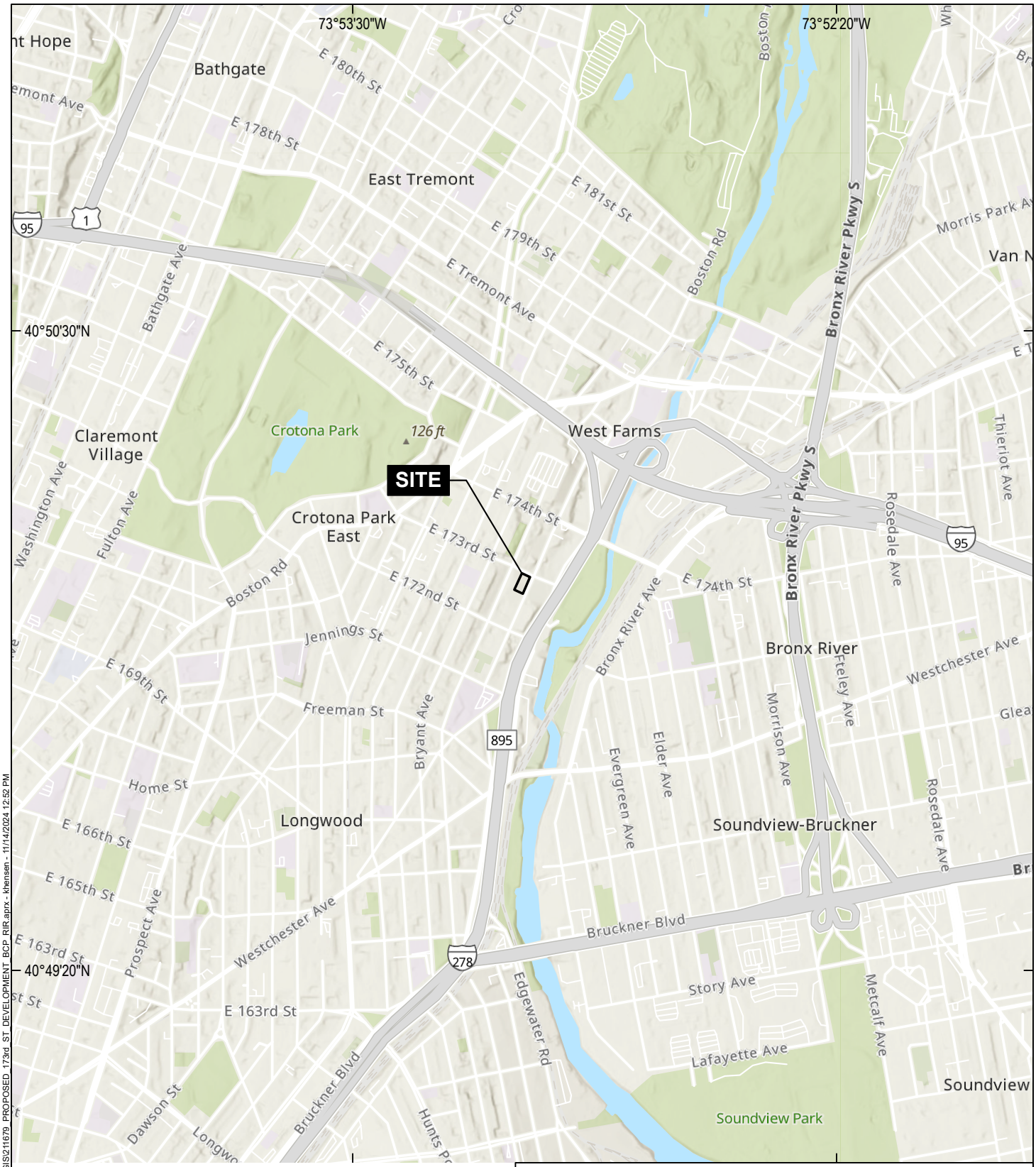
Semi-volatile Organic Compounds (mg/kg)	
Acenaphthene	20
Hexachlorobenzene	0.33
1,2-Dichlorobenzene	1.1
1,3-Dichlorobenzene	2.6
1,4-Dichlorobenzene	1.8
Fluoranthene	85
Naphthalene	12
Benzo(a)anthracene	1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	1
Benzo(k)fluoranthene	0.8
Chrysene	1
Acenaphthylene	100
Anthracene	100
Benzo(ghi)perylene	0.64
Fluorene	30
Phenanthrene	1.1
Dibenzo(a,h)anthracene	0.33
Indeno(1,2,3-cd)pyrene	0.5
Pyrene	64
Dibenzofuran	2.1
Pentachlorophenol	0.8
Phenol	0.33
2-Methylphenol	0.33
3-Methylphenol/4-Methylphenol	0.33
1,4-Dioxane	0.1

Metals (mg/kg)	
Arsenic, Total	13
Barium, Total	410
Beryllium, Total	4.4
Cadmium, Total	2.5
Copper, Total	50
Lead, Total	63
Manganese, Total	1600
Mercury, Total	0.18
Nickel, Total	30
Selenium, Total	3.9
Silver, Total	2
Zinc, Total	109

PFAS (µg/kg)	
PFOA	0.66
PFOS	0.88

Notes:
1. Criteria are 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives or NYSDEC April 2023 PFAS Guidance Values.
2. mg/kg: milligram per kilogram (parts per million [ppm])
3. µg/kg: microgram per kilogram (parts per billion [ppb])
4. Excavation to bedrock is anticipated. Confirmation samples are anticipated to be in the form of photo documentation; however, if excavation to bedrock is not achieved, confirmation samples will be collected and compared to these SCOs and Guidance Values

FIGURES



MAP SOURCE: ESRI
SITE COORDINATES: 40°50'02"N, 73°53'05"W

HALEY ALDRICH

1003 E 173rd STREET
BRONX, NEW YORK

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
AUGUST 2025

FIGURE 1

GIS: \\haleyaldrich.com\share\CF\Projects\0211679\GIS\211679_PROPOSED_173rd_ST_DEVELOPMENT_BCP_RIR.aprx - khensen - 11/14/2024 12:52 PM



LEGEND

- FORMER 275-GALLON AST IN CONTAINMENT
- FORMER UST AREA INDICATED ON SANBORN MAPS
- FORMER TRAP DOOR TO CELLAR
- EXTENT OF FORMER PARTIAL CELLAR/OFFICE AREA AT SIDEWALK GRADE
- SITE BOUNDARY
- PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK DEPARTMENT OF CITY PLANNING (CDCP)
3. AERIAL IMAGERY SOURCE: NEARMAP, JULY 3, 2025

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SCALE IN FEET

HALEY ALDRICH

1003 E 173rd STREET
BRONX, NEW YORK

SITE PLAN

MARCH 2026

FIGURE 2

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\0211679\GIS\211679_PROPOSED_173rd_ST_DEVELOPMENT_BCP_RIR.aprx - USER: pdilillo - LAST SAVED: 3/19/2026 9:34 AM



LEGEND

- SOIL BORING
- SOIL BORING/MONITORING WELL
- SOIL VAPOR PROBE;
- FORMER 275-GALLON AST IN CONTAINMENT
- FORMER UST AREA INDICATED ON SANBORN MAPS
- FORMER TRAP DOOR TO CELLAR
- EXTENT OF FORMER PARTIAL CELLAR/OFFICE AREA AT SIDEWALK GRADE
- SITE BOUNDARY
- PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK DEPARTMENT OF CITY PLANNING (CDCP)
3. AERIAL IMAGERY SOURCE: NEARMAP, JULY 3, 2025

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SCALE IN FEET

HALEY ALDRICH

1003 E 173rd STREET
BRONX, NEW YORK

SAMPLE LOCATION MAP

MARCH 2026

FIGURE 3

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\0211679\GIS\211679_PROPOSED_173rd_ST_DEVELOPMENT_BCP_RIR.aprx - USER: pdilillo - LAST SAVED: 3/31/2026 3:09 PM



LEGEND

- MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR, IN FEET. DASHED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION
- FORMER 275-GALLON AST IN CONTAINMENT
- FORMER UST AREA INDICATED ON SANBORN MAPS
- FORMER TRAP DOOR TO CELLAR
- EXTENT OF FORMER PARTIAL CELLAR/OFFICE AREA AT SIDEWALK GRADE
- SITE BOUNDARY
- PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK DEPARTMENT OF CITY PLANNING (CDCP)
3. AERIAL IMAGERY SOURCE: NEARMAP, JULY 3, 2025

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SCALE IN FEET

HALEY ALDRICH

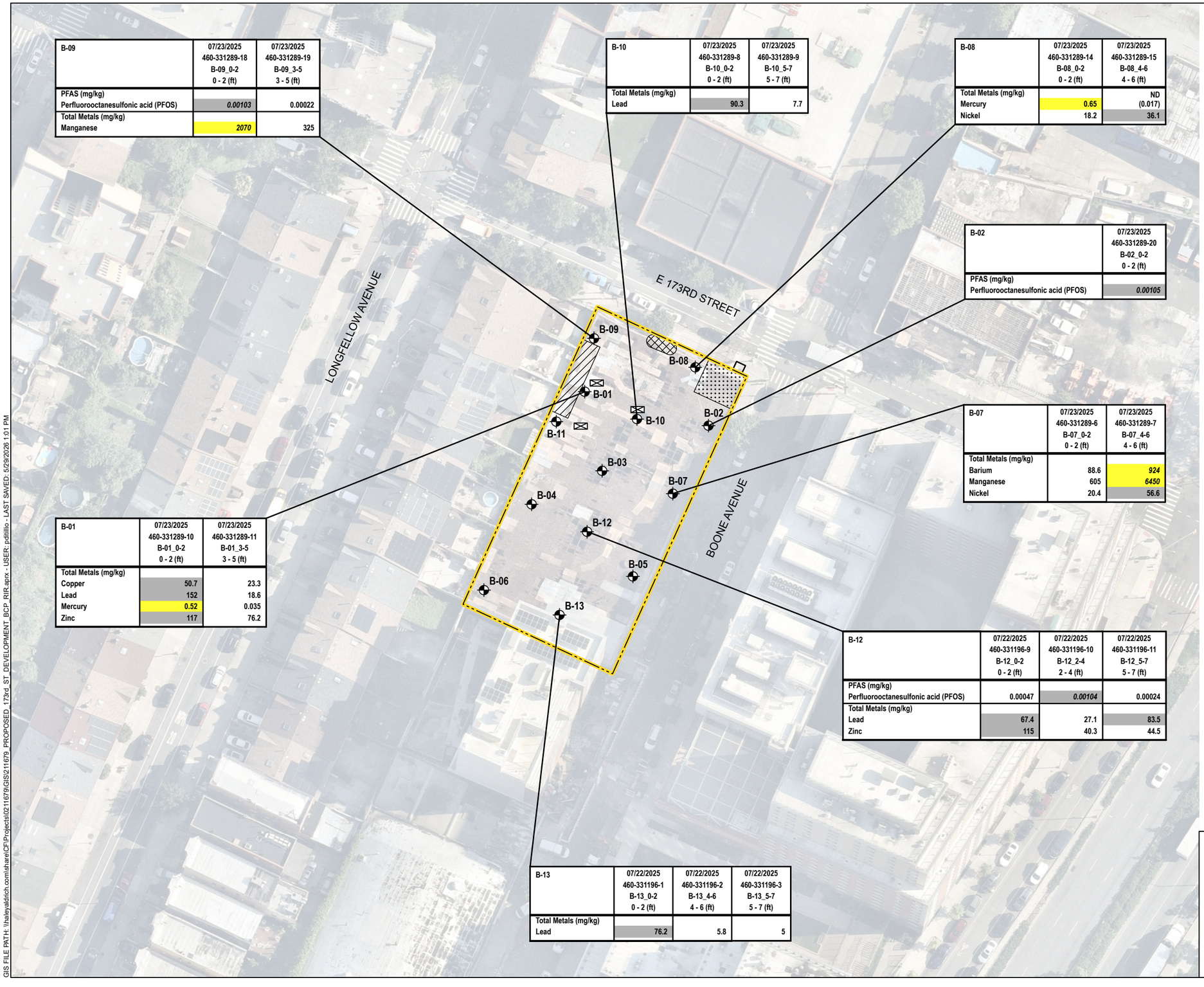
1003 E 173rd STREET
BRONX, NEW YORK

GROUNDWATER CONTOUR MAP

MARCH 2026

FIGURE 4

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\0211679\GIS\211679_PROPOSED_173rd_ST_DEVELOPMENT_BCP_RIR.aprx - USER: pdilillo - LAST SAVED: 3/19/2026 11:31 AM



B-09	07/23/2025 460-331289-18 B-09_0-2 0 - 2 (ft)	07/23/2025 460-331289-19 B-09_3-5 3 - 5 (ft)
PFAS (mg/kg)		
Perfluorooctanesulfonic acid (PFOS)	*0.00103*	0.00022
Total Metals (mg/kg)		
Manganese	*2070*	325

B-10	07/23/2025 460-331289-8 B-10_0-2 0 - 2 (ft)	07/23/2025 460-331289-9 B-10_5-7 5 - 7 (ft)
Total Metals (mg/kg)		
Lead	90.3	7.7

B-08	07/23/2025 460-331289-14 B-08_0-2 0 - 2 (ft)	07/23/2025 460-331289-15 B-08_4-6 4 - 6 (ft)
Total Metals (mg/kg)		
Mercury	0.65	ND (0.017)
Nickel	18.2	36.1

B-02	07/23/2025 460-331289-20 B-02_0-2 0 - 2 (ft)
PFAS (mg/kg)	
Perfluorooctanesulfonic acid (PFOS)	*0.00105*

B-07	07/23/2025 460-331289-6 B-07_0-2 0 - 2 (ft)	07/23/2025 460-331289-7 B-07_4-6 4 - 6 (ft)
Total Metals (mg/kg)		
Barium	88.6	*924*
Manganese	605	*6450*
Nickel	20.4	56.6

B-01	07/23/2025 460-331289-10 B-01_0-2 0 - 2 (ft)	07/23/2025 460-331289-11 B-01_3-5 3 - 5 (ft)
Total Metals (mg/kg)		
Copper	50.7	23.3
Lead	152	18.6
Mercury	0.52	0.035
Zinc	117	76.2

B-12	07/22/2025 460-331196-9 B-12_0-2 0 - 2 (ft)	07/22/2025 460-331196-10 B-12_2-4 2 - 4 (ft)	07/22/2025 460-331196-11 B-12_5-7 5 - 7 (ft)
PFAS (mg/kg)			
Perfluorooctanesulfonic acid (PFOS)	0.00047	*0.00104*	0.00024
Total Metals (mg/kg)			
Lead	67.4	27.1	83.5
Zinc	115	40.3	44.5

B-13	07/22/2025 460-331196-1 B-13_0-2 0 - 2 (ft)	07/22/2025 460-331196-2 B-13_4-6 4 - 6 (ft)	07/22/2025 460-331196-3 B-13_5-7 5 - 7 (ft)
Total Metals (mg/kg)			
Lead	76.2	5.8	5

LEGEND

- SOIL BORING
- FLOOR DRAIN
- 275-GALLON AST IN CONTAINMENT
- FORMER UST AREA INDICATED ON SANBORN MAPS
- TRAP DOOR TO CELLAR
- EXTENT OF PARTIAL CELLAR/OFFICE AREA AT SIDEWALK GRADE
- SITE BOUNDARY

Analyte	*NY-PGW*	NY-RESR	NY-UNRES
PFAS (mg/kg)			
Perfluorooctanesulfonic acid (PFOS)	0.001	0.044	0.00088
Total Metals (mg/kg)			
Barium	820	410	410
Copper	1720	280	50
Lead	450	400	63
Manganese	2000	2000	1600
Mercury	0.73	0.3	0.18
Nickel	130	320	30
Zinc	2480	6600	109

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SOIL ANALYTICAL RESULTS ARE COMPARED TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) TITLE 6 OF THE OFFICIAL COMPILATION OF NEW YORK CODES, RULES, AND REGULATIONS (NYCRR) PART 375 UNRESTRICTED USE SOIL CLEANUP OBJECTIVES (SCO), RESTRICTED-USE RESIDENTIAL SCOS, AND PROTECTION OF GROUNDWATER SCO'S.
3. EXCEEDANCES OF THE PROTECTION OF GROUNDWATER CRITERIA ARE SHOWN IN ***ITALICS***.
4. EXCEEDANCES OF THE UNRESTRICTED SCOS ARE SHADED GRAY.
5. EXCEEDANCES OF THE RESTRICTED SCOS ARE SHADED YELLOW.
6. NY-PGW - NYSDEC PART 375 PROTECTION OF GROUNDWATER CRITERIA
7. NY-RESR - NYSDEC PART 375 RESTRICTED-USE RESIDENTIAL SCOs
8. NY-UNRES - NYSDEC PART 375 UNRESTRICTED USE SCOs
9. DEFINITIONS:
   mg/kg: MILLIGRAM PER KILOGRAM
   ND (2.5): NOT DETECTED, NUMBER IN PARENTHESES IS THE LABORATORY REPORTING LIMIT
10. AERIAL IMAGERY SOURCE: NEARMAP, JULY 3, 2025

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SCALE IN FEET

HALEY ALDRICH

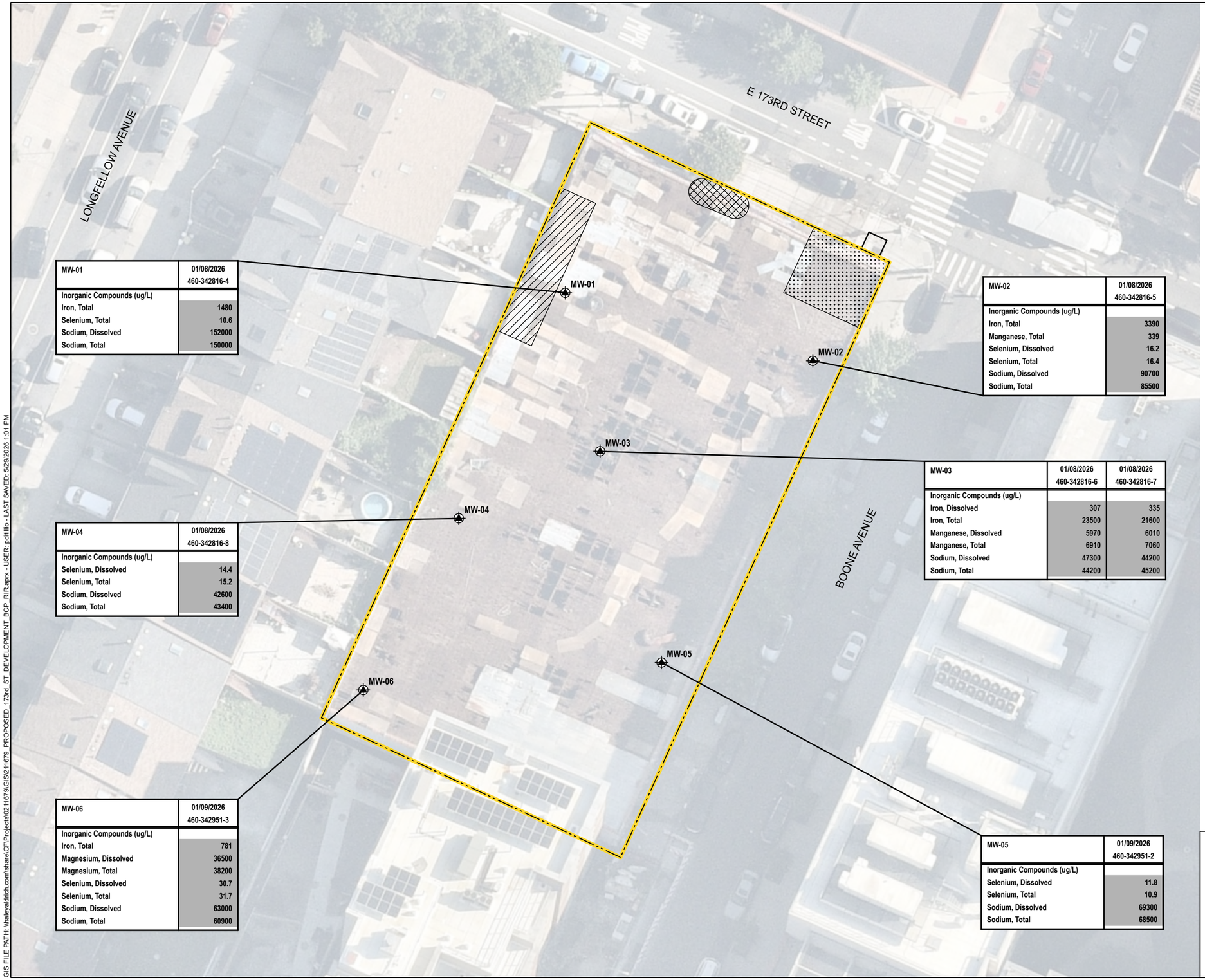
1003 E 173rd STREET
BRONX, NEW YORK

SOIL RESULTS EXCEEDANCE MAP

MAY 2026

FIGURE 5

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\0211679\GIS\211679_PROPOSED_173rd_ST_DEVELOPMENT_BCP_RIR.aprx - USER: pdifillio - LAST SAVED: 5/29/2026 1:01 PM



MW-01	01/08/2026 460-342816-4
Inorganic Compounds (ug/L)	
Iron, Total	1480
Selenium, Total	10.6
Sodium, Dissolved	152000
Sodium, Total	150000

MW-02	01/08/2026 460-342816-5
Inorganic Compounds (ug/L)	
Iron, Total	3390
Manganese, Total	339
Selenium, Dissolved	16.2
Selenium, Total	16.4
Sodium, Dissolved	90700
Sodium, Total	85500

MW-03	01/08/2026 460-342816-6	01/08/2026 460-342816-7
Inorganic Compounds (ug/L)		
Iron, Dissolved	307	335
Iron, Total	23500	21600
Manganese, Dissolved	5970	6010
Manganese, Total	6910	7060
Sodium, Dissolved	47300	44200
Sodium, Total	44200	45200

MW-04	01/08/2026 460-342816-8
Inorganic Compounds (ug/L)	
Selenium, Dissolved	14.4
Selenium, Total	15.2
Sodium, Dissolved	42600
Sodium, Total	43400

MW-05	01/09/2026 460-342951-2
Inorganic Compounds (ug/L)	
Selenium, Dissolved	11.8
Selenium, Total	10.9
Sodium, Dissolved	69300
Sodium, Total	68500

MW-06	01/09/2026 460-342951-3
Inorganic Compounds (ug/L)	
Iron, Total	781
Magnesium, Dissolved	36500
Magnesium, Total	38200
Selenium, Dissolved	30.7
Selenium, Total	31.7
Sodium, Dissolved	63000
Sodium, Total	60900

LEGEND

- MONITORING WELL
- FORMER 275-GALLON AST IN CONTAINMENT
- FORMER UST AREA INDICATED ON SANBORN MAPS
- FORMER TRAP DOOR TO CELLAR
- EXTENT OF FORMER PARTIAL CELLAR/OFFICE AREA AT SIDEWALK GRADE
- SITE BOUNDARY

	New York TOGS 111 Ambient Water Quality Standards
Metals (ug/L)	
Iron	300
Magnesium	35000
Manganese	300
Sodium	20000
Selenium	10

NOTES
1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. GROUNDWATER ANALYTICAL RESULTS ARE COMPARED TO NYSDEC TECHNICAL AND OPERATIONAL GUIDANCE SERIES (TOGS) 1.1.1 AMBIENT WATER QUALITY STANDARDS FOR CLASS GA WATER.
3. EXCEEDANCES OF THE OF THE CRITERIA ARE SHADED GRAY.
4. AERIAL IMAGERY SOURCE: NEARMAP, JULY 3, 2025

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SCALE IN FEET

HALEY ALDRICH

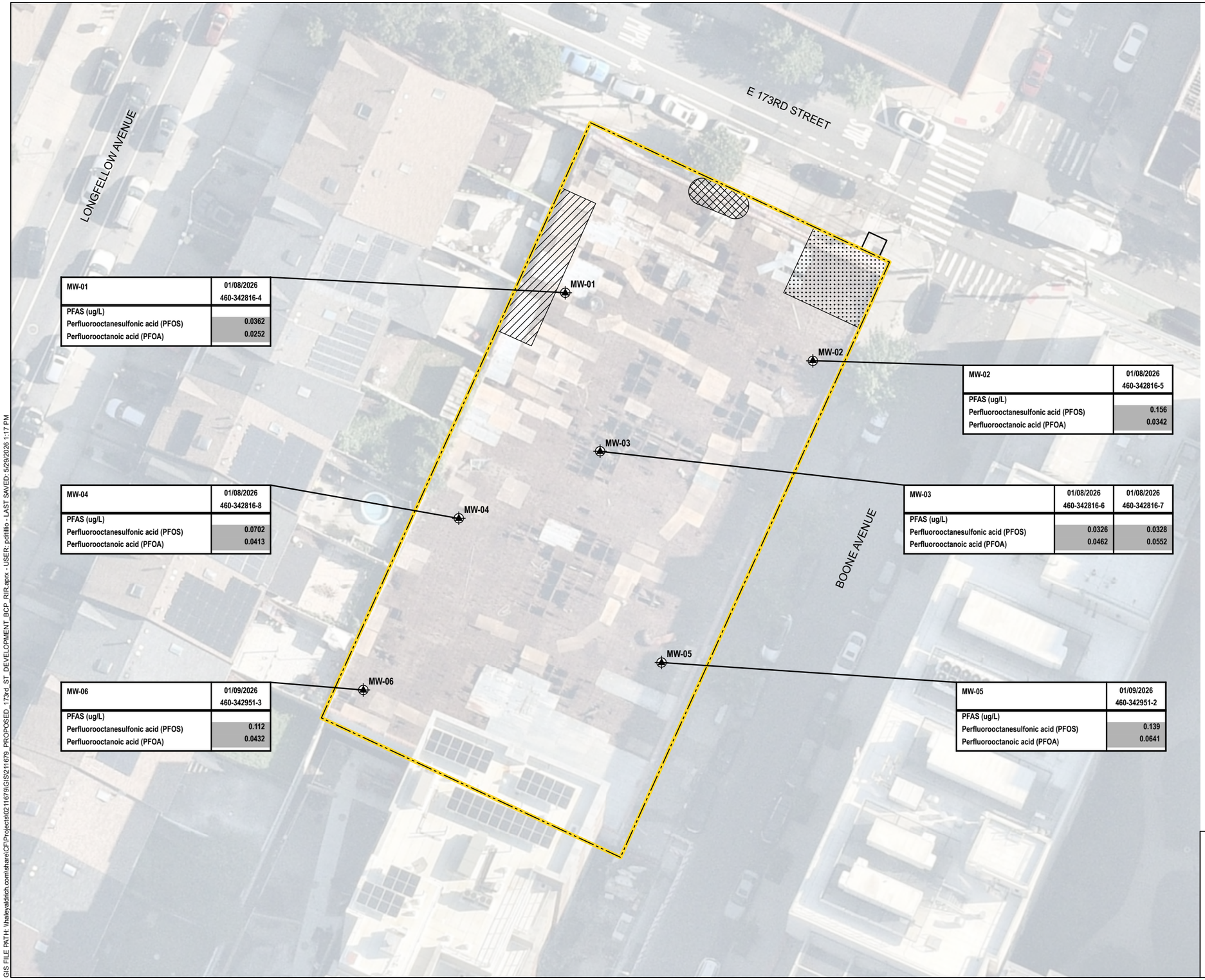
1003 E 173rd STREET
BRONX, NEW YORK

GROUNDWATER RESULTS EXCEEDANCE MAP

MAY 2026

FIGURE 6

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\0211679\GIS\211679_PROPOSED_173rd_ST_DEVELOPMENT_BCP_RIR.aprx - USER: pdilillo - LAST SAVED: 5/29/2026 1:01 PM



LEGEND

- MONITORING WELL
- FORMER 275-GALLON AST IN CONTAINMENT
- FORMER UST AREA INDICATED ON SANBORN MAPS
- FORMER TRAP DOOR TO CELLAR
- EXTENT OF FORMER PARTIAL CELLAR/OFFICE AREA AT SIDEWALK GRADE
- SITE BOUNDARY

	New York April 2023 Ambient Water Quality Guidance Values (AWQGV)
PFAS (ug/L)	
Perfluorooctanesulfonic acid (PFOS)	0.0027
Perfluorooctanoic acid (PFOA)	0.0067

NOTES
1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. PFAS: PER- AND POLYFLUOROALKYL SUBSTANCES GROUNDWATER ANALYTICAL RESULTS ARE COMPARED TO NYSDEC GUIDANCE VALUES (SGVS) FOR CLASS GA WATER.
3. EXCEEDANCES OF THE OF THE CRITERIA ARE SHADED GRAY.
4. AERIAL IMAGERY SOURCE: NEARMAP, JULY 3, 2025

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SCALE IN FEET

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1003 E 173rd STREET
BRONX, NEW YORK

EMERGING CONTAMINANTS IN GROUNDWATER RESULTS EXCEEDANCE MAP

MAY 2026

FIGURE 7

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\0211679\GIS\211679_PROPOSED_173rd_ST_DEVELOPMENT_BCP_RIR.aprx - USER: pdilillo - LAST SAVED: 5/29/2026 1:17 PM



SV-01	07/23/2025 200-78738-1
VOCs	
1,2,4-Trimethylbenzene	15
1,3,5-Trimethylbenzene	6
1,3-Butadiene	0.46
1,4-Dioxane	0.9 J
2,2,4-Trimethylpentane	9.8
2-Butanone (Methyl Ethyl Ketone)	170
2-Hexanone (Methyl Butyl Ketone)	75
2-Phenylbutane (sec-Butylbenzene)	2.3
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	2.8
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	15
Acetone	100
Benzene	4.1
Butane	41
Carbon disulfide	7.6
Carbon tetrachloride	0.37
Chlorodifluoromethane	1.3 J
Chloroform (Trichloromethane)	2.6
Chloromethane (Methyl Chloride)	1.4
Cyclohexane	5.5
Cymene (p-Isopropyltoluene)	5
Dichlorodifluoromethane (CFC-12)	2 J
Ethylbenzene	9.9
Hexane	25
Isopropyl Alcohol (2-Propanol)	6.2 J
Isopropylbenzene (Cumene)	2.7
m,p-Xylenes	42
Methyl Tert Butyl Ether (MTBE)	0.87
Methylene chloride (Dichloromethane)	0.9 J
Naphthalene	1.1 J
n-Butylbenzene	2.1
N-Heptane	37
n-Propylbenzene	2.1
o-Xylene	18
Styrene	11
Tert-Butyl Alcohol (tert-Butanol)	5.9 J
tert-Butylbenzene	2.6
Tetrachloroethene	540
Toluene	16
Trichloroethene	7.8
Trichlorofluoromethane (CFC-11)	1.8
Trifluorotrichloroethane (Freon 113)	0.55 J
Calculated Totals	
Total BTEXs	90
Total CVOCs	549.07
Total VOCs	1201.65

SV-02	07/23/2025 200-78738-2
VOCs	
1,2,4-Trimethylbenzene	5700
1,3,5-Trimethylbenzene	5800
1,3-Butadiene	15 J
2,2,4-Trimethylpentane	13000
2-Butanone (Methyl Ethyl Ketone)	550
2-Phenylbutane (sec-Butylbenzene)	530
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	4400
Benzene	660
Benzyl Chloride (alpha-Chlorotoluene)	28 J
Butane	1200
Carbon disulfide	360
Cyclohexane	4700
Cymene (p-Isopropyltoluene)	340
Ethylbenzene	3900
Hexane	7700
Isopropylbenzene (Cumene)	1400
m,p-Xylenes	14000
Methyl Tert Butyl Ether (MTBE)	580
n-Butylbenzene	420
N-Heptane	13000
n-Propylbenzene	2300
o-Xylene	6000
tert-Butylbenzene	30 J
Tetrachloroethene	650
Toluene	4100
Calculated Totals	
Total BTEXs	28660
Total CVOCs	650
Total VOCs	91363

SV-03	07/23/2025 200-78738-3
VOCs	
1,2,4-Trimethylbenzene	6.4
1,3,5-Trimethylbenzene	2.1
1,3-Butadiene	0.71
1,4-Dioxane	5.6 J
2,2,4-Trimethylpentane	14
2-Butanone (Methyl Ethyl Ketone)	13
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	1.7
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	1.6 J
Acetone	42
Benzene	6.1
Bromodichloromethane	0.58 J
Butane	15
Carbon disulfide	35
Carbon tetrachloride	0.37
Chlorodifluoromethane	1.5 J
Chloroform (Trichloromethane)	33
cis-1,2-Dichloroethene	96
Cyclohexane	3.1
Cymene (p-Isopropyltoluene)	0.58 J
Dichlorodifluoromethane (CFC-12)	2.2 J
Ethylbenzene	3.5
Hexane	6.3
Isopropylbenzene (Cumene)	0.54 J
m,p-Xylenes	15
Methyl Tert Butyl Ether (MTBE)	0.28 J
Methylene chloride (Dichloromethane)	18
Naphthalene	1 J
N-Heptane	5.9
n-Propylbenzene	0.85 J
o-Xylene	5
Styrene	1.6
Tetrachloroethene	1100
Toluene	35
trans-1,2-Dichloroethene	1.6
Trichloroethene	99
Trichlorofluoromethane (CFC-11)	1.5
Trifluorotrichloroethane (Freon 113)	0.56 J
Vinyl chloride	2.4
Calculated Totals	
Total BTEXs	64.6
Total CVOCs	1315.77
Total VOCs	1578.57

SV-04	07/23/2025 200-78738-4
VOCs	
1,2,4-Trimethylbenzene	5.2
1,3,5-Trimethylbenzene	1.1
1,3-Butadiene	1.5
1,4-Dioxane	1.2 J
2,2,4-Trimethylpentane	3.6
2-Butanone (Methyl Ethyl Ketone)	24
2-Hexanone (Methyl Butyl Ketone)	2.2
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	1.2
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	5.7
Acetone	120
Benzene	7.5
Butane	7.8
Carbon disulfide	8
Chloroform (Trichloromethane)	0.9 J
Chloromethane (Methyl Chloride)	1
Cyclohexane	1.7
Dichlorodifluoromethane (CFC-12)	2.1 J
Ethylbenzene	3.7
Hexane	13
Isopropylbenzene (Cumene)	0.45 J
m,p-Xylenes	15
N-Heptane	18
n-Propylbenzene	0.68 J
o-Xylene	4.8
Styrene	1.6
Tetrachloroethene	170
Toluene	27
Trichloroethene	0.58
Trichlorofluoromethane (CFC-11)	1.9
Trifluorotrichloroethane (Freon 113)	0.59 J
Calculated Totals	
Total BTEXs	58
Total CVOCs	170.58
Total VOCs	452

SV-05	07/23/2025 200-78738-5
VOCs	
1,2,4-Trimethylbenzene	8.3
1,3,5-Trimethylbenzene	4.9
1,3-Butadiene	0.72 J
2,2,4-Trimethylpentane	16
2-Butanone (Methyl Ethyl Ketone)	6.1
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	2.8
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	1.7 J
Acetone	37
Benzene	6.1
Butane	7.2
Carbon disulfide	16
Carbon tetrachloride	0.33 J
Chloroform (Trichloromethane)	1.1 J
Cyclohexane	1.9
Dichlorodifluoromethane (CFC-12)	2.6 J
Ethylbenzene	9.9
Hexane	50
Isopropylbenzene (Cumene)	1.5 J
m,p-Xylenes	38
Methyl Tert Butyl Ether (MTBE)	68
Methylene chloride (Dichloromethane)	1.5 J
N-Heptane	49
n-Propylbenzene	2.2
o-Xylene	16
Styrene	1.3 J
Tetrachloroethene	2300
Toluene	44
Trichloroethene	2.3
Trichlorofluoromethane (CFC-11)	1.7 J
Calculated Totals	
Total BTEXs	114
Total CVOCs	2304.13
Total VOCs	2698.15

SV-06	07/23/2025 200-78738-6
VOCs	
1,2,4-Trimethylbenzene	5.1
1,3,5-Trimethylbenzene	1.4
1,3-Butadiene	4.8
2,2,4-Trimethylpentane	5.7
2-Butanone (Methyl Ethyl Ketone)	27
2-Hexanone (Methyl Butyl Ketone)	5.6
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	0.77 J
Acetone	23
Benzene	6.1
Butane	57
Carbon disulfide	8.7
Carbon tetrachloride	0.76
Chlorodifluoromethane	4.4
Chloroform (Trichloromethane)	3.2
Chloromethane (Methyl Chloride)	1.3
cis-1,2-Dichloroethene	0.26
Cyclohexane	2.4
Cymene (p-Isopropyltoluene)	1.7
Dichlorodifluoromethane (CFC-12)	1.8 J
Ethylbenzene	13
Hexane	7
m,p-Xylenes	49
Naphthalene	0.72 J
N-Heptane	8.8
n-Propylbenzene	0.46 J
o-Xylene	11
Styrene	6.5
Tetrachloroethene	51
Toluene	12
Trichloroethene	66
Trichlorofluoromethane (CFC-11)	2.6
Trifluorotrichloroethane (Freon 113)	0.45 J
Calculated Totals	
Total BTEXs	91.1
Total CVOCs	118.02
Total VOCs	389.52

SV-07	07/23/2025 200-78738-7
VOCs	
1,2,4-Trichlorobenzene	2.3 J
1,2,4-Trimethylbenzene	12
1,3,5-Trimethylbenzene	3.8
1,3-Butadiene	1.1
1,4-Dichlorobenzene	0.47 J
1,4-Dioxane	2.7 J
2,2,4-Trimethylpentane	100
2-Butanone (Methyl Ethyl Ketone)	110
2-Hexanone (Methyl Butyl Ketone)	38
2-Phenylbutane (sec-Butylbenzene)	0.65 J
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	2.2
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	2
Acetone	97
Benzene	3.6
Butane	19
Carbon disulfide	13
Carbon tetrachloride	0.36
Chloroethane	0.5 J
Chloroform (Trichloromethane)	2.1
Chloromethane (Methyl Chloride)	1.3
Cyclohexane	16
Cymene (p-Isopropyltoluene)	3.8
Dichlorodifluoromethane (CFC-12)	2.1 J
Ethylbenzene	2.5
Hexachlorobutadiene	2.3
Hexane	11
Isopropyl Alcohol (2-Propanol)	6.1 J
Isopropylbenzene (Cumene)	2.2
m,p-Xylenes	10
Naphthalene	13
n-Butylbenzene	0.68 J
N-Heptane	14
n-Propylbenzene	1.5
o-Xylene	5.4
Styrene	11
Tetrachloroethene	560
Toluene	9.4
Trichloroethene	5
Trichlorofluoromethane (CFC-11)	1.5
Trifluorotrichloroethane (Freon 113)	0.63 J
Calculated Totals	
Total BTEXs	30.9
Total CVOCs	565.36
Total VOCs	1090.19

LEGEND

- SOIL VAPOR PROBE
- FORMER 275-GALLON AST IN CONTAINMENT
- FORMER UST AREA INDICATED ON SANBORN MAPS
- FORMER TRAP DOOR TO CELLAR
- EXTENT OF FORMER PARTIAL CELLAR/OFFICE AREA AT SIDEWALK GRADE
- SITE BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. PFAS: PER- AND POLYFLUOROALKYL SUBSTANCES GROUNDWATER ANALYTICAL RESULTS ARE COMPARED TO NYSDEC GUIDANCE VALUES (SGVS) FOR CLASS GA WATER.
3. EXCEEDANCES OF THE OF THE CRITERIA ARE SHADED GRAY.
4. AERIAL IMAGERY SOURCE: NEARMAP, JULY 3, 2025

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SCALE IN FEET

HALEY ALDRICH

1003 E 173rd STREET
BRONX, NEW YORK

SOIL VAPOR RESULTS SUMMARY MAP

MAY 2026

FIGURE 8A

GIS FILE PATH: \\haleyaldrich.com\share\CP\Projects\0211679\GIS\211679_PROPOSED_173rd_ST_DEVELOPMENT_BCP_RIR.aprx - USER: pdilillo - LAST SAVED: 5/29/2026 1:38 PM

SV-01	07/23/2025 200-78738-1
VOCs	
1,1,1-Trichloroethane	ND (1.1)
1,1-Dichloroethene	ND (0.2)
1,2,4-Trimethylbenzene	15
1,3,5-Trimethylbenzene	6
2,2,4-Trimethylpentane	9.8
Benzene	4.1
Carbon tetrachloride	0.37
cis-1,2-Dichloroethene	ND (0.2)
Cyclohexane	5.5
Ethylbenzene	9.9
Hexane	25
m,p-Xylenes	42
Methylene chloride (Dichloromethane)	0.9 J
Naphthalene	1.1 J
N-Heptane	37
o-Xylene	18
Tetrachloroethene	540
Toluene	16
Trichloroethene	7.8
Vinyl chloride	ND (0.2)

SV-03	07/23/2025 200-78738-3
VOCs	
1,1,1-Trichloroethane	ND (1.1)
1,1-Dichloroethene	ND (0.2)
1,2,4-Trimethylbenzene	6.4
1,3,5-Trimethylbenzene	2.1
2,2,4-Trimethylpentane	14
Benzene	6.1
Carbon tetrachloride	0.37
cis-1,2-Dichloroethene	96
Cyclohexane	3.1
Ethylbenzene	3.5
Hexane	6.3
m,p-Xylenes	15
Methylene chloride (Dichloromethane)	18
Naphthalene	1 J
N-Heptane	5.9
o-Xylene	5
Tetrachloroethene	1100
Toluene	35
Trichloroethene	99
Vinyl chloride	2.4

SV-04	07/23/2025 200-78738-4
VOCs	
1,1,1-Trichloroethane	ND (1.1)
1,1-Dichloroethene	ND (0.2)
1,2,4-Trimethylbenzene	5.2
1,3,5-Trimethylbenzene	1.1
2,2,4-Trimethylpentane	3.6
Benzene	7.5
Carbon tetrachloride	ND (0.22)
cis-1,2-Dichloroethene	ND (0.2)
Cyclohexane	1.7
Ethylbenzene	3.7
Hexane	13
m,p-Xylenes	15
Methylene chloride (Dichloromethane)	ND (1.7)
Naphthalene	ND (2)
N-Heptane	18
o-Xylene	4.8
Tetrachloroethene	170
Toluene	27
Trichloroethene	0.58
Vinyl chloride	ND (0.2)

SV-02	07/23/2025 200-78738-2
VOCs	
1,1,1-Trichloroethane	ND (44)
1,1-Dichloroethene	ND (8)
1,2,4-Trimethylbenzene	5700
1,3,5-Trimethylbenzene	5800
2,2,4-Trimethylpentane	13000
Benzene	660
Carbon tetrachloride	ND (8.8)
cis-1,2-Dichloroethene	ND (8)
Cyclohexane	4700
Ethylbenzene	3900
Hexane	7700
m,p-Xylenes	14000
Methylene chloride (Dichloromethane)	ND (70)
Naphthalene	ND (80)
N-Heptane	13000
o-Xylene	6000
Tetrachloroethene	650
Toluene	4100
Trichloroethene	ND (8)
Vinyl chloride	ND (8)

SV-06	07/23/2025 200-78738-6
VOCs	
1,1,1-Trichloroethane	ND (1.1)
1,1-Dichloroethene	ND (0.2)
1,2,4-Trimethylbenzene	5.1
1,3,5-Trimethylbenzene	1.4
2,2,4-Trimethylpentane	5.7
Benzene	6.1
Carbon tetrachloride	0.76
cis-1,2-Dichloroethene	0.26
Cyclohexane	2.4
Ethylbenzene	13
Hexane	7
m,p-Xylenes	49
Methylene chloride (Dichloromethane)	ND (1.7)
Naphthalene	0.72 J
N-Heptane	8.8
o-Xylene	11
Tetrachloroethene	51
Toluene	12
Trichloroethene	66
Vinyl chloride	ND (0.2)

SV-05	07/23/2025 200-78738-5
VOCs	
1,1,1-Trichloroethane	ND (2.2)
1,1-Dichloroethene	ND (0.4)
1,2,4-Trimethylbenzene	8.3
1,3,5-Trimethylbenzene	4.9
2,2,4-Trimethylpentane	16
Benzene	6.1
Carbon tetrachloride	0.33 J
cis-1,2-Dichloroethene	ND (0.4)
Cyclohexane	1.9
Ethylbenzene	9.9
Hexane	50
m,p-Xylenes	38
Methylene chloride (Dichloromethane)	1.5 J
Naphthalene	ND (4)
N-Heptane	49
o-Xylene	16
Tetrachloroethene	2300
Toluene	44
Trichloroethene	2.3
Vinyl chloride	ND (0.4)

SV-07	07/23/2025 200-78738-7
VOCs	
1,1,1-Trichloroethane	ND (1.1)
1,1-Dichloroethene	ND (0.2)
1,2,4-Trimethylbenzene	12
1,3,5-Trimethylbenzene	3.8
2,2,4-Trimethylpentane	100
Benzene	3.6
Carbon tetrachloride	0.36
cis-1,2-Dichloroethene	ND (0.2)
Cyclohexane	16
Ethylbenzene	2.5
Hexane	11
m,p-Xylenes	10
Methylene chloride (Dichloromethane)	ND (1.7)
Naphthalene	13
N-Heptane	14
o-Xylene	5.4
Tetrachloroethene	560
Toluene	9.4
Trichloroethene	5
Vinyl chloride	ND (0.2)

LONGFELLOW AVENUE

E 173RD STREET

BOONE AVENUE

SV-01

SV-02

SV-03

SV-04

SV-05

SV-06

SV-07

LEGEND

- SOIL VAPOR PROBE
- FORMER 275-GALLON AST IN CONTAINMENT
- FORMER UST AREA INDICATED ON SANBORN MAPS
- FORMER TRAP DOOR TO CELLAR
- EXTENT OF FORMER PARTIAL CELLAR/OFFICE AREA AT SIDEWALK GRADE
- SITE BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. DEFINITIONS:
   J: VALUE IS ESTIMATED
   RESULTS ARE DISPLAYED IN MICROGRAMS PER CUBIC METER (ug/m3)
   ND (2.5): NOT DETECTED, NUMBER IN PARENTHESES IS THE LABORATORY REPORTING LIMIT
3. AERIAL IMAGERY SOURCE: NEARMAP, JULY 3, 2025

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SCALE IN FEET

HALEY ALDRICH

1003 E 173rd STREET
BRONX, NEW YORK

SOIL VAPOR RESULTS SUMMARY MAP NYSDOH MATRIX COMPOUNDS

MAY 2026

FIGURE 8B

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\021679\GIS\211679_PROPOSED_173rd_ST_DEVELOPMENT_BCP_RIR.aprx - USER: pditillio - LAST SAVED: 5/29/2026 1:38 PM



LEGEND

- FORMER 275-GALLON AST IN CONTAINMENT
- FORMER UST AREA INDICATED ON SANBORN MAPS
- FORMER TRAP DOOR TO CELLAR
- EXTENT OF FORMER PARTIAL CELLAR/OFFICE AREA AT SIDEWALK GRADE
- SITE BOUNDARY
- PARCEL BOUNDARY
- 3-FOOT EXCAVATION
- 7-FOOT HOTSPOT EXCAVATION (10 X 10 FT)
- 8-FOOT HOTSPOT EXCAVATION (10 BY 10 FT)

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK DEPARTMENT OF CITY PLANNING (CDCP)
3. AERIAL IMAGERY SOURCE: NEARMAP, JULY 3, 2025

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SCALE IN FEET

HALEY ALDRICH

1003 E 173rd STREET
BRONX, NEW YORK

ALTERTNATIVE I EXCAVATION PLAN

MARCH 2026

FIGURE 9

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\0211679\GIS\211679_PROPOSED_173rd_ST_DEVELOPMENT_BCP_RIR.aprx - USER: pdilillo - LAST SAVED: 3/19/2026 9:34 AM



LEGEND

- FORMER 275-GALLON AST IN CONTAINMENT
- FORMER UST AREA INDICATED ON SANBORN MAPS
- FORMER TRAP DOOR TO CELLAR
- EXTENT OF FORMER PARTIAL CELLAR/OFFICE AREA AT SIDEWALK GRADE
- SITE BOUNDARY
- PARCEL BOUNDARY
- 7-FOOT HOTSPOT EXCAVATION (10 X 10 FT)
- 8-FOOT HOTSPOT EXCAVATION (10 BY 10 FT)
- PROPSOED CONFIRMATION SAMPLE LOCATIONS

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK DEPARTMENT OF CITY PLANNING (CDCP)
3. AERIAL IMAGERY SOURCE: NEARMAP, JULY 3, 2025

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SCALE IN FEET

HALEY ALDRICH

1003 E 173rd STREET
BRONX, NEW YORK

CONFIRMATION SAMPLE LOCATION PLAN

APRIL 2026

FIGURE 10

GIS FILE PATH: \\haleyaldrich.com\share\CFI\Projects\0211679\GIS\211679_PROPOSED_173rd_ST_DEVELOPMENT_BCP_RIR.aprx - USER: pdilillo - LAST SAVED: 3/19/2026 9:34 AM



LEGEND

- FORMER 275-GALLON AST IN CONTAINMENT
- FORMER UST AREA INDICATED ON SANBORN MAPS
- FORMER TRAP DOOR TO CELLAR
- EXTENT OF FORMER PARTIAL CELLAR/OFFICE AREA AT SIDEWALK GRADE
- SITE BOUNDARY
- PARCEL BOUNDARY
- 3-FOOT EXCAVATION
- 7-FOOT HOTSPOT EXCAVATION (10 X 10 FT)

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK DEPARTMENT OF CITY PLANNING (CDCP)
3. AERIAL IMAGERY SOURCE: NEARMAP, JULY 3, 2025

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SCALE IN FEET

HALEY ALDRICH

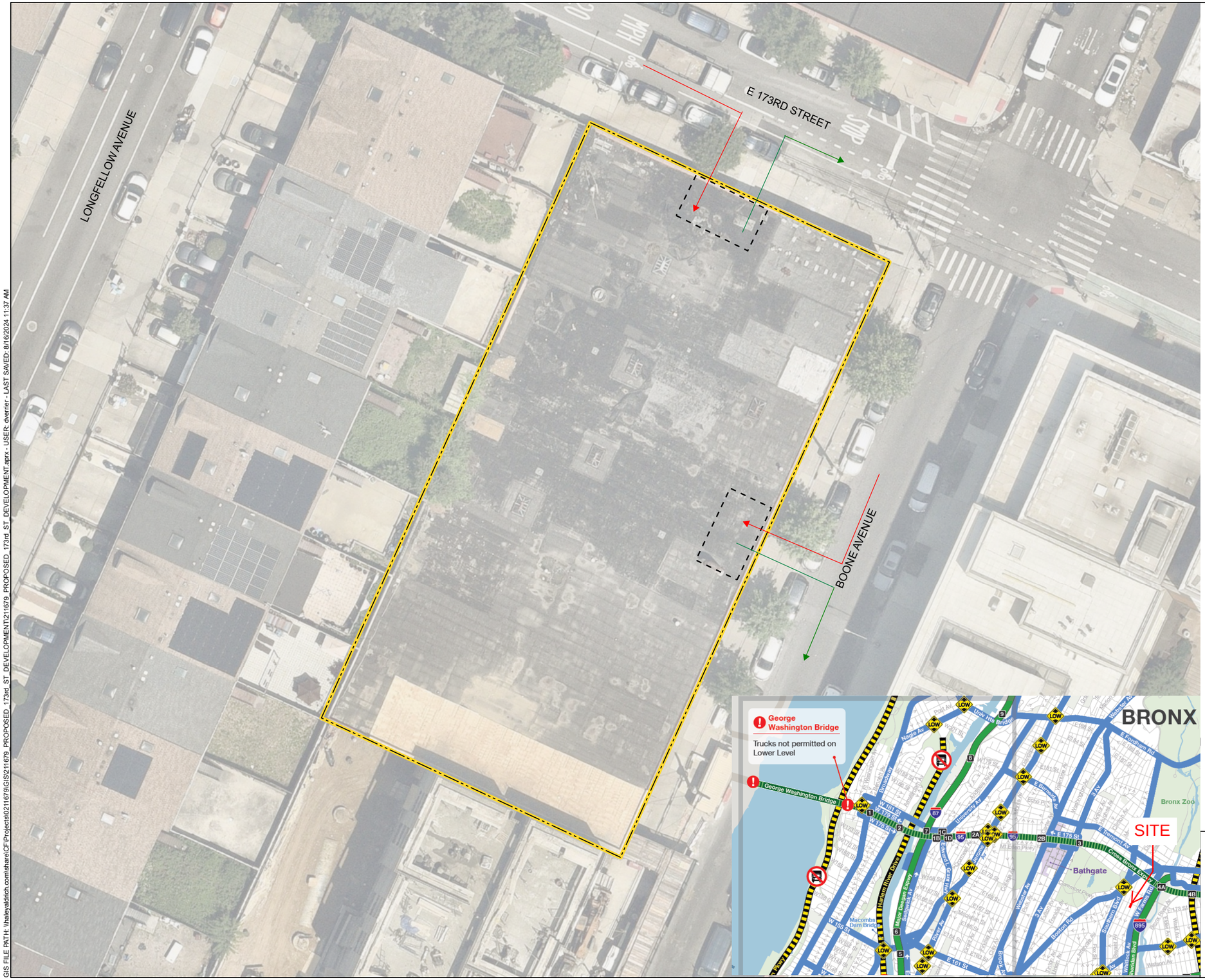
1003 E 173rd STREET
BRONX, NEW YORK

ALTERNATIVE II EXCAVATION PLAN

MARCH 2026

FIGURE 11

GIS FILE PATH: \\haleyaldrich.com\share\CFP\Projects\0211679\GIS\211679_PROPOSED_173rd_ST_DEVELOPMENT_BCP_RIR.aprx - USER: pdilillo - LAST SAVED: 3/19/2026 9:34 AM



LEGEND

- SITE BOUNDARY
- TRUCK INGRESS
- TRUCK EGRESS
- STABILIZED TRUCK PAD



NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. AERIAL IMAGERY SOURCE: NEARMAP, 18 JUNE 2024
3. TRUCK ROUTE MAP SOURCE: NEW YORK DEPARTMENT OF TRANSPORTATION, 2022

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SCALE IN FEET

HALEY ALDRICH

1003 E 173rd STREET
BRONX, NEW YORK

TRUCK ROUTE MAP

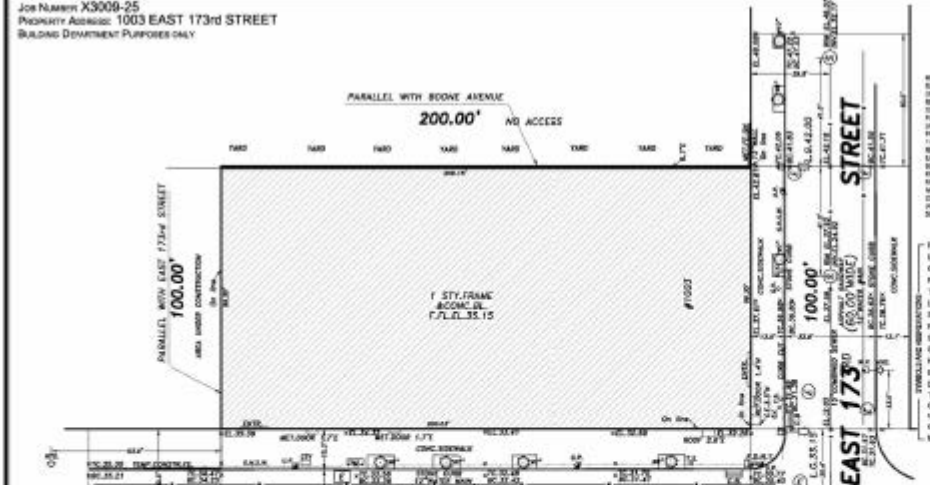
APRIL 2026

FIGURE 12

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\0211679\GIS\211679_PROPOSED_173rd_ST_DEVELOPMENT\211679_PROPOSED_173rd_ST_DEVELOPMENT.aprx - USER: dverrier - LAST SAVED: 8/16/2024 11:37 AM

APPENDIX A
Survey Map

JOB NUMBER X3009-25
PROPERTY ADDRESS: 1003 EAST 173rd STREET
BUILDING DEPARTMENT PURPOSES ONLY





AREA=20000.0 SQ.FT.

NOTES:
SURVEYED AS IN POSSESSION. OFFSETS AND/OR DIMENSIONS SHOWN BETWEEN THE STRUCTURES AND PROPERTY LINES ARE FOR SPECIFIC PURPOSES ABOVE, AND "AS-BUILT" DATA AND NOT INTENDED TO SUPERSEDE AND/OR MODIFY BOUNDARY WALLS, FENCES, PLANTINGS/HEDGES, ADDITIONS TO OR TREE TRUNKS, SHEDS, GARAGES AND ANY OTHER CONSTRUCTION AND/OR DESIGN.
FOUNDATIONS OF WALLS ARE NOT VISIBLE.
UNDERGROUND AND SUBSURFACE FACILITIES NOT LOCATED AS PART OF THIS SURVEY.
PROPERTY CORNER MONUMENTS WERE NOT PLACED AS PART OF THIS SURVEY.
THIS SURVEY WAS DONE IN PREPARATION FOR ONLY A MORTGAGE OF TITLE. OTHER AGREEMENTS, COVENANTS AND/OR RESTRICTIONS AFFECTING AND/OR BENEFITING PARCEL SURVEYED, IF ANY, ARE NOT INDICATED HEREON.
EASEMENTS IF ANY IN FACT EXIST ON THIS SURVEY ARE NOT GUARANTEED.
SCRIB DIMENSIONS, YEAR BUILT AND/OR LOCATIONS MAY NOT BE SHOWN TO SCALE TO PROVIDE CLARITY.
PARTY WALLS ARE ASSUMED AND UNVERIFIED WHICH ARE NOT SURVEYED. EXCEPTION AND EXTENTS OF PARTY WALLS ARE NOT SHOWN ON THIS SURVEY AND CANNOT BE INFERED UPON RECORD DOCUMENTS IF AVAILABLE AND/OR EXTERIOR OBSERVATION ONLY. IF POSSIBLE, PARTY WALLS AND LOCK TOGETHERS OF SAME MUST BE CONFIRMED AND VERIFIED BY THE USER OF THIS SURVEY. PARTY WALLS ARE UNDETERMINED UNLESS OTHERWISE NOTED AND NOT VERIFIED OR CERTIFIED IN THE LANGUAGE BELOW.
DO NOT USE THIS SURVEY UNLESS YOU AGREE AND CONSENT TO ALL OF THE ABOVE.

FENCE
UTILITY POLE
CATCH BASIN
PARKING METER
TRAFFIC LIGHT
LIGHT
STREET LIGHT
FIRE HYDRANT
SIAMESE CONNECTION
SHUT OFF VALVE
HANDICAPPED PARKING
EXISTING TREE
DRAINS
TRAFFIC SIGN
CURB AND GUTTER
CABLE TV MANHOLE
MANHOLES
CITY MONUMENT
CUT CROSS
SET NAIL
SET STAKE
SET MARK (TYP/ITC)
SET BENCH MARK
FIRE ESCAPE
PLATFORM
CELLAR DOORWAY
AIR VENT
CONCRETE
PAVEMENT
AIR CONDITION
METAL
NORTH OF PROPERTY LINE
SOUTH OF PROPERTY LINE
EAST OF PROPERTY LINE
WEST OF PROPERTY LINE

THE NEW YORK STATE REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE.

SUBSURFACE UTILITIES ARE NOT GUARANTEED BY SURVEYOR. HIGH CAUTION RECOMMENDED AND VERIFICATION WITH PROPER CITY AGENCIES, E-MAIL/TEXT BEFORE COMMENCING ALL NEW WORK.
ALL SUBSURFACE AND OVERHEAD UTILITIES ARE TO SIZE, TYPE AND DEPTH SHOWN ON THIS SURVEY ARE TAKEN FROM RECORDS OF GOVERNMENTAL AGENCIES AND UTILITY COMPANIES, UNLESS OTHERWISE NOTED AND SHOWN.
COVER OR DEPTH UNTIL TOPS WHICH CONFINED FROM RECORD MEASUREMENTS SHOWN ON THIS SURVEY SHOULD BE VERIFIED WITH PROPER AGENCY PRIOR TO CONSTRUCTION OF PROJECT. WHERE ELEVATIONS ARE SERVED FROM CITY AGENCY RECORDS WHEN NOT AVAILABLE BY FIELD SURVEY AND NOTED AS PER RECORD OF THE SURVEY.
ALL SUBSURFACE UTILITY RE TO LOCATION AND DEPTH, SHOULD BE RECHECKED AND LOCAL SERVICES SHOULD BE VERIFIED WITH THE TOPOGRAPHICAL BUREAU PRIOR TO ANY EXCAVATION OR COMMENCING CONSTRUCTION.
THIS IS TO CERTIFY THAT THERE ARE NO STREAMS OR NATURAL WATER COURSES ON THE SURVEYED PROPERTY EXCEPT AS SHOWN ABOVE DESCRIBED ON THIS SURVEY.
ALL EXCAVATIONS OR UNDERGROUND FACILITIES AND ALL EXCAVATORS ARE OBLIGATED TO COMPLY WITH ARTICLE 36 OF THE GENERAL BUSINESS LAW AND WITH PROVISIONS OF INDUSTRIAL CODE PART (NAD 83-26) BEFORE ANY EXCAVATION OR DEMOLITION IS COMMENCED. EVERY EXCAVATOR IS REQUIRED BY THESE LAWS TO GIVE ADVANCE NOTICE TO EVERY OPERATOR OF UNDERGROUND FACILITIES BY USE OF "DIG SAFELY" TO PERFORM EXCAVATION OR DEMOLITION WORK IN THE DESCRIBED AREA. THE USER OF THIS SURVEY EXPRESSLY UNDERSTANDS AND AGREES THAT THE SURVEYOR MAKES NO CLAIM AND DOES NOT GUARANTEE THAT THE STATED SHOWN HEREON ARE PUBLIC OR THAT ANY PROPERTIES SHOWN ON THE SURVEY WILL BE ABLE TO CONNECT TO SAME.
THE USER OF THIS SURVEY EXPRESSLY AGREES AND UNDERSTANDS THAT SHOULD JURISDICTION EXIST IN THE MATTER, PC, BE FOUND LIABLE, IN A COURT OF LAW FOR ERRORS OR OMISSIONS IN THIS SURVEY THAT THE LIMIT OF LIABILITY IS THE PRICE PAID FOR THIS SURVEY.
DO NOT USE THIS SURVEY UNLESS YOU AGREE AND CONSENT TO ALL OF THE ABOVE.
ALL ELEVATIONS SHOWN BELOW TO HAVE BE DATUM.
LEGAL BINDER SHOWN ON THE SURVEY REFER TO MISCELLANEOUS.

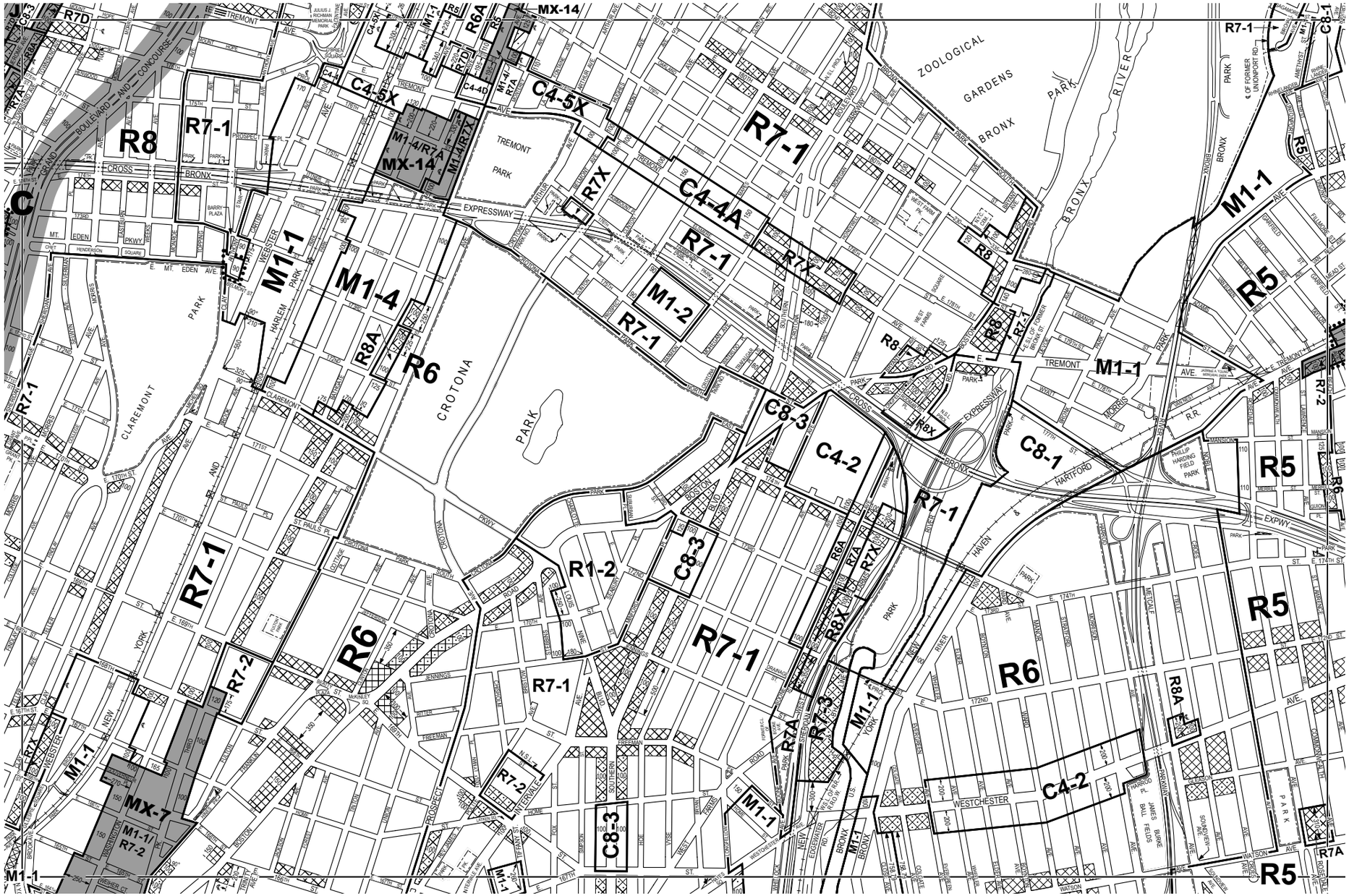
kaBA surveying
phone:718-354-7279 718-470-2368
fax:718-347-5854 718-470-2264
338 JERICHO TURNPIKE, FLORAL PARK, NY 11001
SURVEYS@KABAPLS.COM

SURVEYED & GUARANTEED FOR:
DEPARTMENT OF BUILDINGS

BOROUGH: BRONX
TOWN: THE BRONX
BLOCK: 3009 LOT: 25
SURVEYED:
JANUARY 31, 2024-ARCHITECTURAL SURVEY

UNAUTHORIZED ALTERATION OR ADDITION TO THIS SURVEY IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS SURVEY MAY NOT BE MADE OR USED IF THE SURVEYOR'S INKED SEAL OR EMBOSSED SEAL SHALL NOT BE AFFIXED. ANY COPIES NOT BEARING THE ORIGINAL INKED SEAL OR EMBOSSED SEAL SHALL NOT BE CONSIDERED TO BE A VALID COPY. GUARANTEES OR CERTIFICATIONS INDICATED HEREON SHALL RUN ONLY TO THE PERSON FOR WHOM THE SURVEY IS PREPARED AND/OR BY WHOM TO THE TITLE COMPANY, GOVERNMENTAL AGENCY AND LENDING INSTITUTION LISTED HEREON, AND TO THE ASSIGNEES OF THE LENDING INSTITUTION. GUARANTEES OR CERTIFICATIONS ARE NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.

APPENDIX B
Zoning Map



600 0 600 1200 1800 FEET

C1-1 C1-2 C1-3 C1-4 C1-5 C2-1 C2-2 C2-3 C2-4 C2-5

NOTE: Where no dimensions for zoning district boundaries appear on the zoning maps, such dimensions are determined in Article VII, Chapter 6 (Location of District Boundaries) of the Zoning Resolution.

ZONING MAP

THE NEW YORK CITY PLANNING COMMISSION

Major Zoning Classifications:

The number(s) and/or letter(s) that follows an **R**, **C** or **M** District designation indicates use, bulk and other controls as described in the text of the Zoning Resolution.

R - RESIDENTIAL DISTRICT

C - COMMERCIAL DISTRICT

M - MANUFACTURING DISTRICT

SPECIAL PURPOSE DISTRICT
The letter(s) within the shaded area designates the special purpose district as described in the text of the Zoning Resolution.

AREA(S) REZONED

Effective Date(s) of Rezoning:

10-09-2025 C 250221 ZMX

Special Requirements:

For a list of lots subject to CEQR environmental requirements, see APPENDIX C.

For a list of lots subject to "D" restrictive declarations, see APPENDIX D.

For Inclusionary Housing designated areas and Mandatory Inclusionary Housing areas on this map, see APPENDIX F.

MAP KEY

3a	3c	4a
3b	**3d**	4b
6a	6c	7a

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ZONING MAP **3d**

NOTE: Zoning information as shown on this map is subject to change. For the most up-to-date zoning information for this map, visit the Zoning section of the Department of City Planning website: **www.nyc.gov/planning** or contact the Zoning Information Desk at (212) 720-3291.

APPENDIX C
Proposed Development Plans

1003 EAST 173RD ST, BRONX, NY 10460

PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS



DRAWING LIST - ARCHITECTURAL FILING

#	SHEET #	SHEET NAME
1	T-100.00	COVER SHEET - ARCHITECTURAL SET
2	Z-101.00	PLOT PLAN, ZONING ANALYSIS, MAPS & NOTES
3	Z-102.00	FLOOR AREA CALCULATIONS
4	Z-103.00	ZONING DEDUCTIONS DIAGRAMS
5	Z-104.00	LOT COVERAGE DIAGRAMS, FEMA MAP AND SURVEY
6	Z-105.00	ISOMETERIC, HEIGHT DIAGRAM
7	Z-106.00	UAP ANALYSIS
8	G-101.00	GENERAL NOTES
9	G-102.00	GENERAL NOTES & CODE ANALYSIS
10	G-103.00	LIFE SAFETY PLANS & OCCUPANCY LOAD
11	A-101.00	CELLAR FLOOR PLAN
12	A-102.00	1ST FLOOR PLAN
13	A-103.00	TYP.2ND/3RD/4TH/5TH/ 6TH FLOOR PLAN
14	A-104.00	7TH FLOOR PLAN
15	A-105.00	ROOF AND BULKHEAD
16	A-201.00	FRONT ELEVATION (BOONE AVENUE)
17	A-202.00	SIDE ELEVATION (EAST 173RD STREET)
18	A-203.00	REAR ELEVATION
19	A-204.00	SIDE ELEVATION
20	A-301.00	LONGITUDINAL SECTION #1
21	A-302.00	LONGITUDINAL SECTION #2
22	A-401.00	WALLS, FLOORS SCHEDULE
23	A-402.00	WINDOWS & DOORS SCHEDULE
24	A-501.00	CONSTRUCTION DETAILS
25	A-502.00	CONSTRUCTION DETAILS
26	A-503.00	ADA DETAILS
27	A-504.00	ADA/UFAS COMPLIANT BATHROOMS
28	A-505.00	ADA/UFAS COMPLIANT BATHROOMS
29	A-601.00	RCP LIGHTING PLAN
30	A-602.00	RCP - NYCECC 2020 NOTES & NARRATIVE

SCOPE OF WORK: PROPOSED NEW 7 STORY RESIDENTIAL BUILDING WITH A TOTAL OF 56 DWELLING UNITS

CONTROLLED INSPECTIONS

TR1: Technical Report Statement of Responsibility

All materials designated door controlled inspections shall be inspected and / or tested to verify compliance with code requirements, unless otherwise specifically provided by code provisions. all required inspections and tests of material shall be made and / or witnessed by or on behalf of the owner or lessee.

	REQUIRED SPECIAL INSPECTIONS		
□	STRUCTURAL STEEL - WELDING		BC 1704.3.1
□	STRUCTURAL STEEL - DETAILS		BC 1704.3.2
□	STRUCTURAL STEEL - HIGH STRENGTH BOLTING		BC 1704.3.3
□	STRUCTURAL COLD-FORMED STEEL		BC 1704.3.4
□	CONCRETE - CAST-IN-PLACE		BC 1704.4
□	CONCRETE - PRECAST		BC 1704.4
□	CONCRETE - PRESTRESSED		BC 1704.4
□	MASONRY		BC 1704.5
□	WOOD INSTALLATION OF HIGH-LOAD DIAPHRAGS		BC 1704.6.1
□	WOOD INSTALLATION OF METAL-PLATE-CONNECTED TRUSSES		BC 1704.6.2
□	WOOD - INSTALLATION OF PREFABRICATED JOINTS		BC 1704.6.3
■	SUBGRADE INSPECTION		BC 1704.7.1
□	SUBGRADE CONDITIONS - FILL PLACEMENT AND& IN-PLACE DENS		BC 1704.7.2&3
■	SUBSURFACE INVESTIGATIONS (BORING/TEST PITS)	TR4	BC 1704.7.4
□	DEEP FOUNDATION ELEMENTS	TR5	BC 1704.8
□	HELICAL PILES (BB # 2014-020)	TR5H	BC 1704.8.5
□	VERTICAL MASONRY FOUNDATION ELEMENTS		BC 1704.9
■	WALL PANELS, CURTAIN WALLS AND VENEERS		BC 1704.10
□	SPARYED FIRE-RESISTANT MATERIALS		BC 1704.11
□	MASTIC AND INTUMESCENT FIRE-RESISTANT COATING		BC 1704.12
■	EXTERIOR INSULATION FINISH SYSTEMS (EIFS)		BC 1704.13
□	ALTERNATIVE MATERIALS-OTCR B. BULLETIN #___		BC 1704.14
□	SMOKE CONTROL SYSTEMS		BC 1704.15
□	MECHANICAL SYSTEMS		BC 1704.16
□	FUEL-OIL STORAGE AND FUEL-OIL PIPING SYSTEMS		BC 1704.17
□	HIGH-PRESSURE STEEL PIPING (WELDING)		BC 1704.18
□	HIGH-TEMPERATURE HOT WATER PIPING (WELDING)		BC 1704.18
□	HIGH-PRESSURE FUEL-GAS PIPING (WELDING)		BC 1704.19
□	STRUCTURAL STABILITY - EXISTING BUILDINGS		BC 1704.20.1
□	EXCAVATIONS - SHEETING, SHORING AND BRACING		BC 1704.20.2
□	UNDERPINNING		BC 1704.20.3,1814
□	MECHANICAL DEMOLITION		BC 1704.20.4
□	RAISING AND MOVING OF A BUILDING		BC 1704.20.5
■	SOIL-PERCOLATION TEST-PRIVATE ON SITE STORM WATER		BC 1704.21.1.2
□	PRIVATE ON SITE STORM WATER DRAINAGE DISPOSAL		BC 1704.21.2
□	INDIVIDUAL ON SITE STORM PPRIVATE SEWAGE DISPOSAL SYS.		BC 1704.22
□	SOIL-PERCOLATION TEST-INDIVIDUAL ON SITE PRIVATE SEWAGE		BC 1704.22
□	SPRINKLER SYSTEMS		BC 1704.23
□	STANDPIPE SYSTEMS		BC 1704.24
□	HEATING SYSTEMS		BC 1704.25
□	CHIMNEYS		BC 1704.26
□	FIRE-RESISTANT PENETRATION AND JOINTS		BC 1704.27
□	ALUMINUM WELDING		BC 1704.28
□	FLOOD ZONE COMPLIANCE (ATTACH FEMA CERTIFICATE)		BC 1704.29, G105
□	LUMINOUS EGRESS PATH MARKINGS	TR7	BC 1704.30, 1024.8
□	EMERGENCY AND STANDBY POWER SYSTEMS (GENERATORS)		BC 1704.31
□	POST-INSTALLED ANCHORS (BB# 2014-018 & 019)		BC 1704.32
□	SEISMIC ISOLATION SYSTEMS		BC 1707.8
□	CONCRETE DESIGN MIX	TR3	BC 1905.3, 1913.5
□	CONCRETE SAMPLING AND TESTING	TR2	BC 1905.6, 1913.10
	REQUIRED PROGRESS INSPECTIONS		
□	PRELIMINARY		B28-116.2.1, BC110.2
□	FOOTING AND FOUNDATION		BC 110.3.1
□	LOWEST FLOOR ELEVATION		BC 110.3.2
□	STRUCTURAL WOOD FRAME		BC 110.3.3
■	ENERGY CODE COMPLIANCE INSPECTIONS	TR8	BC 110.3.4
■	FIRE-RESISTANCE RATED CONSTRUCTION		BC 110.3.5
□	PUBLIC ASSEMBLY EMERGENCY LIGHTNING		28-116.2.2
□	FINAL		28-116.2.4.2, BC110-5

ENERGY CODE PROGRESS INSPECTIONS

TR8: Technical Report Statement of Responsibility for Energy Code Progress Inspections

NOTE#1: In accordance with section 110 of 2014bc and ecc 104.2.3, where an inspection or test fails, the construction shall be corrected and must be made available for reinspection and/or retesting by the progress inspector until it complies.
NOTE #2: In accordance with article 116 of title 28 and section 110 of 2014 bc, construction shall be scheduled to allow required progress inspections to take place, and that roofs, ceilings, exterior walls, interior walls, floors, foundations, basements and any other construction shall not be covered or enclosed until required progress inspection are completed or the progress inspector indicated that such covering or enclosure may proceed, at each stage of construction, as applicable.

	Envelope Inspections		
■	PROTECTION OF EXPOSED FOUNDATION INSULATION	IA1	IIA1
■	INSULATION PLACEMENT AND R-VALUES	IA2	IIA2
■	FENESTRATION AND DOOR U-FACTOR AND PRODUCT RATINGS	IA3	IIA3
■	FENESTRATION AIR LEAKAGE	IA4	IIA4
■	FENESTRATION AREAS	IA5	IIA5
■	AIR BARRIER – VISUAL INSPECTION	IA6	IIA6
■	AIR BARRIER – TESTING	IA7	IIA7
■	AIR BARRIER CONTINUITY PLAN TESTING		IIA8
□	VESTIBULES		IIA9
	Electrical Power and Lighting Systems		
■	METERING	IC1	IIC1
■	LIGHTING IN DWELLING UNITS		IIC2
■	INTERIOR LIGHTING POWER	IC3	IIC3
■	EXTERIOR LIGHTING POWER		IIC4
■	LIGHTING CONTROLS		IIC5
■	ELECTRIC MOTORS AND ELEVATORS		IIC6
	Other		
■	MAINTENANCE INFORMATION	ID1	IID1
■	PERMANENT CERTIFICATE	ID2	
■	ELECTRIC VEHICLE SERVICE EQUIPMENT REQUIREMENTS	ID3	

LND
Leandro Nils Dickson, Architect
Architecture . Architecture . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 509 .
www.LNDarchitect.com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

REV.	DATE	DESCRIPTION	BY
.			

PROJECT NAME:

1003 EAST 173RD STREET

Bronx, NY 10460

PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:

COVER SHEET - ARCHITECTURAL SET

JOB NO.:	X01150556-I1
SCALE :	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED :	LEANDRO NILS DICKSON
DATE :	6/16/2025 1:21:14 PM

DRAWING NO.

T-100.00

-PROPERTY INFORMATION-

BOROUGH:	BRONX	USE GROUP:	II
BLOCK:	3009	OCCUPANCY GROUP	R-2, S-2
LOT:	25	CONSTRUCTION CLASS:	TYPE I-B (2022 CODE)
ZONING DISTRICT:	R6A	PROPOSED MDL CLASSIFICATION:	HAEA
SPECIAL DISTRICT:	N/A	BUILDING CODE:	2022 CODE
COMMERCIAL OVERLAY:	N/A	LOT AREA:	10,000.20 SF
ZONING MAP:	3D	COMMUNITY BOARD:	203

ZONING FLOOR AREA SCHEDULE.

LEVEL	USE GROUP	OCC. GROUP	TOTAL GROSS F.A.	DEDUCTION AREA	ZONING FLOOR AREA	F.A.R
RESIDENTIAL						
CELLAR	II	R-2	4061.37 SF	4061.37 SF	0.00 SF	0.000
1ST FLOOR	II	R-2	6218.45 SF	824.71 SF	5393.75 SF	0.539
2ND FLOOR	II	R-2	6300.38 SF	587.30 SF	5713.08 SF	0.571
3RD FLOOR	II	R-2	6300.17 SF	587.30 SF	5712.87 SF	0.571
4TH FLOOR	II	R-2	6300.38 SF	568.55 SF	5731.83 SF	0.573
5TH FLOOR	II	R-2	6300.38 SF	540.43 SF	5759.95 SF	0.576
6TH FLOOR	II	R-2	6300.38 SF	540.43 SF	5759.95 SF	0.576
7TH FLOOR	II	R-2	5193.96 SF	486.29 SF	4707.67 SF	0.471
ROOF.	II	R-2	587.07 SF	443.58 SF	143.49 SF	0.014
BULKHEAD ROOF	II	R-2	93.24 SF	93.24 SF	0.00 SF	0.000
TOTAL			*47655.79 SF*	*8733.20 SF*	*38922.60 SF*	*3.892*

ZONING ANALYSIS

SECTION	ITEM	PERMITTED/REQUIRED	PROPOSED
ZR 22-12	USE PERMITTED	USE GROUPS: (RESIDENTIAL)II	USE GROUP: II & VII
ZR 27-14(c)	METHODS OF PROVIDING AFFORDABLE	THE AMOUNT OF AFFORDABLE FLOOR AREA IN ANY MIH SITE OR UAP SITE SHALL BE DETERMINED BASED UPON PLANS FOR SUCH MIH SITE OR UAP SITE WHICH HAVE BEEN APPROVED BY THE DEPARTMENT OF BUILDING AND WHICH INDICATE THEREON THE AMOUNT OF FLOOR AREA DEVOTED FOR AFFORDABLE HOUSING AND THE AMOUNT OF FLOOR AREA DEVOTED TO OTHER RESIDENTIAL USES.	SEE BREAKDOWN BELOW AND DIAGRAMS IN Z-102 & Z-103
ZR 27-15	UAP ZONING LOTS	THE RESIDENTIAL FLOOR AREA RATIO OF A [...] UAP ZONING LOT SHALL BE DETERMINED IN ACCORDANCE WITH THE PROVISIONS OF ZR 23-22 APPLICABLE TO QUALIFYING AFFORDABLE HOUSING: R6A: 3.90 MAX FAR PROPOSED F.A.R: 3.89	38,922.60 (PROPOSED ZFA) / 9,982.17 SF (LOT) = 3.89 PROPOSED F.A.R 38,922.60 SF(PROPOSED ZFA) - 30,000.6 SF(AS OF RIGHT) = 8,922 SF UAP UNITS DIAGRAMS IN Z-102 & Z-103
ZR 23-22	MAX FAR (RESIDENTIAL)	MAX FLOOR AREA RATIO R6 (STANDARD LOT): 3.00 R6A (QUALIFYING AFFORDABLE HOUSING): 3.90 MAX	AS OF RIGHT: 10,000.20 X 3.00 = 30,000.6 SF SEE PROPOSED ZONING FLOOR AREA BELOW AND AT SHEET Z-102 TROUGH Z-106 FOR THE AREAS BREAKDOWN
ZR 23-22	FLOOR AREA	MAX ALLOWED FLOOR AREA:	PROPOSED ZONING F.A. (SEE Z-102)
ZR 23-363(B)		RESIDENTIAL R6A: 10000.20 SF x 3.90 = 39000.79 SF LOT AREA / MAX LOT COV. ALOWED / PROP. LOT COVERAGE (%) / PROP. LOT COVERAGE (SF) (SEE Z-104) LOT AREA 10000.20 SF / 100% / 10000.20 SF / 65.51% / 6551.48 SF	38922.61 SF

DENSITY AND MIN. LOT SIZE AND WIDTH

ZR-23-52	DENSITY	MAX. ALLOWED NUMBER OF DWELLING UNITS (9,982.17 SF X 3.90) / 680 = 57.25 57 UNITS MAX	PROPOSED 56 DWELLING UNITS
ZR-23-12	MIN.LOT AREA	1700 SQ.FT.	LOT AREA: 9,982.17 SF
ZR-23-12	MIN. LOT WIDTH	18'-0"	LOT FRONT: 76.33' & 100'

YARDS

ZR 23-322	FRONT YARD	NO FRONT YARD IS REQUIRED	NO FRONT YARD PROPOSED
ZR 23-334	SIDE YARD	NO SIDE YARD IS REQUIRED, HOWEVER, IF ONE IS PROVIDED IT SHALL HAVE A MINIMUM WIDTH OF 5'-0"	NO SIDE YARDS PROPOSED
ZR 23-342	REAR YARD	FOR DETACHED AND ZERO LOT LINE BUILDINGS, FOR BUILDINGS OR PORTIONS THEREOF AT OR BELOW A HEIGHT OF 75', AS MEASURED FROM THE BASEPLANE, A REAR YARD WITH A DEPTH OF NOT LESS THAN 20 FEET SHALL BE PROVIDED AT EVERY REAR LOT LINE ON ANY ZONING LOT, FOR PORTIONS ABOVE 75', WHERE PERMITTED, A REAR YARD OF 30 FEET SHALL BE PROVIDED	27'-8" REAR YARD PROVIDE
ZR 23-62 (b)	BALCONIES	(b) WITHIN ANY OPEN AREAS, WHETHER REQUIRED OR NOT, SUCH BALCONY MAY (1) RECESSED INTO A BUILDING WALL UP TO A MAXIMUM DEPTH OF SIX FEET PROVIDED THAT AT LEAST 33 PERCENT OF THE PERIMETER OF SUCH BALCONY IS UNENCLOSED EXCEPT FOR A PARAPET, RAILING, OR SAFETY GUARD; AND (2) BE LOCATED AT LEAST 13 FEET ABOVE CURB LEVEL.	BALCONIES RECESSED INTO BUILDING WALL 6'-0, COMPLIES BALCONIES LOCATED AT LEAST 13 FEET ABOVE CURB LEVEL, COMPLIES

.HEIGHT AND SETBACK.

ZR 23-431(B)	STREET WALL LOCATION REQUIREMENTS	(B) PERCENTAGE BASED RULES: (1) ALONG WIDE STREETS AT LEAST 70% OF THE AGGREGATE WIDTH OF STREET WALLS SHALL BE LOCATED WITHIN 8 FT OF THE STREET LINE AND EXTEND TO AT LEAST THE MINIMUM BASE HEIGHT IN ZR 23-432 OR THE HEIGHT OF THE BUILDING WHICHEVER IS LESS. UP TO 30% OF THE AGGREAGATE WIDTH OF THE STREET WALLS MAY BE RECESSED BEYOND 8 FT OF THE STREET LINE PROVIDED THAT ANY SUCH RECESSES DEEPER THAN 10 FT ALONG A WIDE STREET OR 15 FT ALONG A NARROW STREET ARE LOCATED WITHIN AN OUTER COURT. (2) ALONG A NARROW STREET AT LEAST 70 PERCENT OF THE AGGREGATE WIDTH OF STREET WALL SHALL BE LOCATED WITHIN 10 FT OF THE STREET LINE AND EXTEND TO AT LEAST THE MIN BASE HEIGHT IN ZR 23-432 OR THE HEIGHT OF THE BUILDING WHICH EVER IS LESS. UP TO 30% OF THE AGGREAGET WIDTH OF THE STREET WALLS MAY BE RECESSED BEYOND 10 FT OF THE STREET LINE PROVIDED ANY RECESSES DEPPER THAN 15 FT ARE LOCATED WITHIN AN OUTER COURT.	PROPOSED STREET WALL ON NARROW STREET - TO BE LOCATED ON THE LOT LINE WITHIN 10FT OF THE STREET LINE SEE LOT DIAGRAM ON Z-101
ZR 23-432	MIN BASE HEIGHT	40'-0"	PROPOSED BASE HEIGHT: 60'-0"
ZR 23-434(a)(iii) ZR 23-434(b)	MAX BASE HEIGHT	65'-0"	
	MAX ALLOWED BUILDING HGT.	95'-0" (ELIGIBLE SITE)	PROPOSED TOTAL BUILDING HEIGHT: 87'-3"
ZR 23-432	SETBACK REGULATIONS	FOR ZONING LOTS OR PORTIONS WITHIN 100 FT OF A NARROW STREET : 15 FT MIN.	PROPOSED SETBACKS: 15'-0" FT MIN.

.PARKING REQUIREMENTS.

ZR 25-22	DEVELOPMENTS IN THE OUTER TRANSIT ZONE	PARKING REQUIREMENT FOR DU:15% 25% x 56 D.U. = 14 PARKING SPOT REQUIRED WAIVED FOR 15 OR LESS SPACES		0 PARKING SPACES PROPOSED
ZR 25-811	BICYCLE PARKING RESIDENTIAL	1 PER 2 DWELLING UNITS	56 UNITS / 2 = 28 REQUIRED	28 SPACES PROVIDED ON CELLAR

ADDITIONAL ZONING REGULATIONS

ZR-23-231	FLOOR AREA PROVISIONS FOR AMENITIES	FLOOR AREA MAY BE EXEMPT (RECREATIONAL SPACES, COWORKER AREAS, LIBRARIES, READING ROOMS, MUSIC ROOMS, PACKAGE/STORAGE, LAUNDRY OR PET FACILITIES, SHALL NOT INCLUDE CORRIDORS OR VERTICAL CIRCULATION SPACES) -NOT TO EXCEED 5% OF RESIDENTIAL FLOOR AREA RESIDENTIAL FLOOR AREA = 38,855.14 X 0.05 = 1,942.75 SF MAX TO BE EXEMPT	TOTAL AMENITIES DEDUCTION FLOOR AREA: 0% < 5% MAX ALLOWED (REFER TO SHEET Z-103)
ZR-23-232	FLOOR AREA PROVISIONS FOR CORRIDORS	50% OF F.A. MAY BE EXEMPT IF (A)(2)THE CORRIDOR HAS DAYLIGHTING THROUGH WINDOWS WITH A GLAZED AREA OF AT LEAST 20 SF, AND SUCH WINDOWS ARE LOCATED: (I) DIRECTLY WITHIN THE CORRIDOR SAME STORY THAT IS ACCESSIBLE TO RESIDENTS OF THE STORY (A)(3)THE CORRIDOR TERMINATES WITH A DWELLING UNIT THAT CONTAINS AT LEAST THREE BEDROOMS (B) LENGTH OF CORRIDOR -50% OF F.A. MAY BE EXEMPT WHERE THE LENGTH OF THE CORRIDOR, AS MEASURED FROM THE ELEVATOR CORE TO THE DOOR OF THE FURTHEST DWELLING UNIT ON THE STORY DOES NOT EXCEED 100 LINEAR FEET	CORRIDOR AT 1ST FLOOR HAS DIRECT DAYLIGHT THRU 20SF MIN GLAZED CLEAR DOOR & LENGHT FROM THE FURTHEST DOOR TO THE CORE IS LESS THAN 100FT THEREFORE 50% OF CORRIDOR HAS BEEN DEDUCTED (SEE Z-103) CORRIDORS FROM 2ND FL TO 7TH FLOOR TERMINATE WITH A 3 BEDROOM APARTMENT AND THE TOTAL LENGHT AT EACH FLOOR FROM THE FURTHEST DU TO THE ELAVTOR IS LESS THAN 100' THEREFORE 50% OF CORRIDORS HAVE BEEN DEDUCTED (SEE Z-103)
ZR-23-233	REFUSE STORAGE AND DISPOSAL	FLOOR SPACE IN A BUILDING ALLOCATED TO REFUSE STORAGE AND DISPOSAL MY BE EXEMPTED FROM FLOOR AREA IN AN AMOUNT NOT TO EXCEED 3 SF PER DWELLING UNIT IN THE BUILDING 3 SF X 56 UNITS = 168 SF MAX EXEMPT FROM F.A.	NO MORE THAN 3SF/xUNIT (FOR EACH FLOOR) OF REFUSE STORAGE AND DISPOSAL FLOOR AREA HAS BEEN EXEMPT FROM THE DEFINITION OF FLOOR AREA. 168 SF TOTAL...
ZR-23-234	ELEVATED GROUND FLOOR UNITS	RAMPS, STAIRS OR LIFTS ELEVATED, UP TO 100 S.F., MAY BE EXCLUDED FROM THE DEFINITION OF FLOOR AREA	NOT APPLICABLE
ZR-25-65	SCREENING	ALL OPEN ACCESSORY OFF-STREET GROUP PARKING FACILITIES SHALL BE SCREENED FROM DWELLING UNITS	NOT APPLICABLE
ZR-25-52	OFF SITE ACCESSORY PARKING	OFF-SITE ACCESSORY PARKING SPACES MAY BE UNENCLOSED	NOT APPLICABLE

REQUIREMENTS FOR UAP SITES

ZR 27-16(A)	LOCATION	WHERE LOCATION OF UAP SITE IS NOT LOCATED IN UAP ZONING LOT [...] NOT APPLICABLE	PROPOSED UAP SITE IS LOCATED ON A UAP ZONING LOT
ZR 27-16(B)	DISTRIBUTION OF AFFORDABLE HOUSING UNITS	IN NEW CONSTRUCTION AFFORDABLE HOUSING, WHERE ONE OR MORE OF THE DWELLING UNITS IN A UAP SITE, OTHER THAN ANY SUPER'S UNIT, ARE NOT AFFORDABLE HOUSING UNITS: (1) THE AFFORDABLE HOUSING UNITS SHALL BE DISTRIBUTED ON NOT LESS THAN 65 PERCENT OF THE RESIDENTIAL STORIES OF SUCH UAP SITE, OR, IF THERE ARE INSUFFICIENT AFFORDABLE HOUSING UNITS TO COMPLY WITH THIS REQUIREMENT, THE DISTRIBUTION OF AFFORDABLE HOUSING UNITS SHALL BE AS SPECIFIED IN THE GUIDELINES; AND (2) NOT MORE THAN TWO-THIRDS OF THE DWELLING UNITS ON ANY STORY OF SUCH UAP SITE SHALL BE AFFORDABLE HOUSING UNITS, UNLESS NOT LESS THAN TWO-THIRDS OF THE DWELLING UNITS ON EACH RESIDENTIAL STORY OF SUCH UAP SITE ARE AFFORDABLE HOUSING UNITS. HPD MAY WAIVE SUCH REQUIREMENT FOR ANY NEW CONSTRUCTION AFFORDABLE HOUSING THAT IS LOCATED ON AN INTERIOR LOT OR THROUGH LOT WITH LESS THAN 50 FEET OF FRONTAGE ALONG ANY STREET.	(1)MIN 65% DISTIBUTEDUTION: 7 STORIES x 0.65 = 4.55 =MIN DISTR. ACROSS 7 FL. (2)NO MORE THAN 2/3(66.67%) FOR EACH FLOOR PROPOSED UNITS SHOULD BE UAP 1ST FL=9 UNITS TOTAL/ 3 AFFORDABLE (30%<66.67% MAX) 2ND FL=8 UNITS TOTAL/ 2 AFFORDABLE (25%<66.67% MAX) 3RD FL=8 UNITS TOTAL/ 2 AFFORDABLE (25%<66.67% MAX) 4TH FL=8 UNITS TOTAL/ 2 AFFORDABLE (25%<66.67% MAX) 5TH FL=8 UNITS TOTAL/ 2 AFFORDABLE (25%<66.67% MAX) 6TH FL=8 UNITS TOTAL/ 2 AFFORDABLE (25%<66.67% MAX) 7TH FL=7 UNITS TOTAL/ 2 AFFORDABLE (28.57%<66.67% MAX) --- TOTAL 56 UNITS TOTAL / 13 AFFORDABLE (1)PROPOSED 13 UNITS DISTIBUTED ON 7 FLOORS > 4.55 MIN REQUIRED (2)NO MORE THAN 2/3(66.67%) FOR EACH FLOOR PROPOSED UNITS ARE UAP THEREFORE COMPLIES SEE Z-107..
ZR 27-16(C)	BEDROOM MIX OF AFFORDABLE HOUSING UNITS	(1) IN NEW CONSTRUCTION AFFORDABLE HOUSING, WHERE ONE OR MORE OF THE DWELLING UNITS IN A UAP SITE, OTHER THAN ANY SUPER'S UNIT, ARE NOT AFFORDABLE HOUSING UNITS, EITHER: (I) THE DWELLING UNITS# THAT ARE AFFORDABLE HOUSING UNITS SHALL CONTAIN A BEDROOM MIX AT LEAST PROPORTIONAL TO THE BEDROOM MIX OF THE DWELLING UNITS, OTHER THAN ANY SUPER'S UNIT, THAT ARE NOT AFFORDABLE HOUSING UNITS; OR (II) NOT LESS THAN 50 PERCENT OF THE DWELLING UNITS THAT ARE AFFORDABLE HOUSING UNITS SHALL CONTAIN TWO OR MORE BEDROOMS AND NOT LESS THAN 75 PERCENT OF THE DWELLING UNITS THAT ARE AFFORDABLE HOUSING UNITS SHALL CONTAIN ONE OR MORE BEDROOMS. HOWEVER, SUCH BEDROOM MIX REQUIREMENTS SHALL NOT APPLY TO AFFORDABLE INDEPENDENT RESIDENCES FOR SENIORS. HPD MAY ALSO WAIVE SUCH BEDROOM MIX REQUIREMENTS FOR ANY NEW CONSTRUCTION AFFORDABLE HOUSING THAT IS LOCATED ON AN INTERIOR LOT OR THROUGH LOT WITH LESS THAN 50 FEET OF FRONTAGE ALONG ANY STREET. IN ADDITION, HPD MAY WAIVE THESE REQUIREMENTS FOR #AFFORDABLE FLOOR AREA# CREATED IN A UAP SITE THROUGH ENLARGEMENT, AS SPECIFIED IN THE GUIDELINES. (2) WHERE ALL OF THE DWELLING UNITS IN AN UAP SITE, OTHER THAN ANY SUPER'S UNIT, IN NEW CONSTRUCTION AFFORDABLE HOUSING ARE AFFORDABLE HOUSING UNITS,THE BEDROOM MIX SHALL BE AS SET FORTH IN THE GUIDELINES. (3) SUPPORTIVE HOUSING UNITS SHALL CONTAIN SUCH CONFIGURATION AS HPD SHALL REQUIRE. (4) FOR PURPOSES OF THIS PARAGRAPH (C), FRACTIONS EQUAL TO OR GREATER THAN ONE-HALF RESULTING FROM ANY CALCULATION SHALL BE CONSIDERED TO BE ONE DWELLING UNIT	TOTAL A.H.U. APARTMENT BREAKDOWN 13 A.H.U TOTAL X 0.50 = 6.5 OR 7 UNITS SHALL CONTAIN 2 OR MORE BEDROOMS 13 A.H.U. TOTAL X 0.75 = 9.75 OR 10 UNITS SHALL CONTAIN 1 OR MORE BEDROOMS PROPOSE 12 UNIT WITH 2 OR MORE BEDROOMS

BASE PLANE CALCULATION

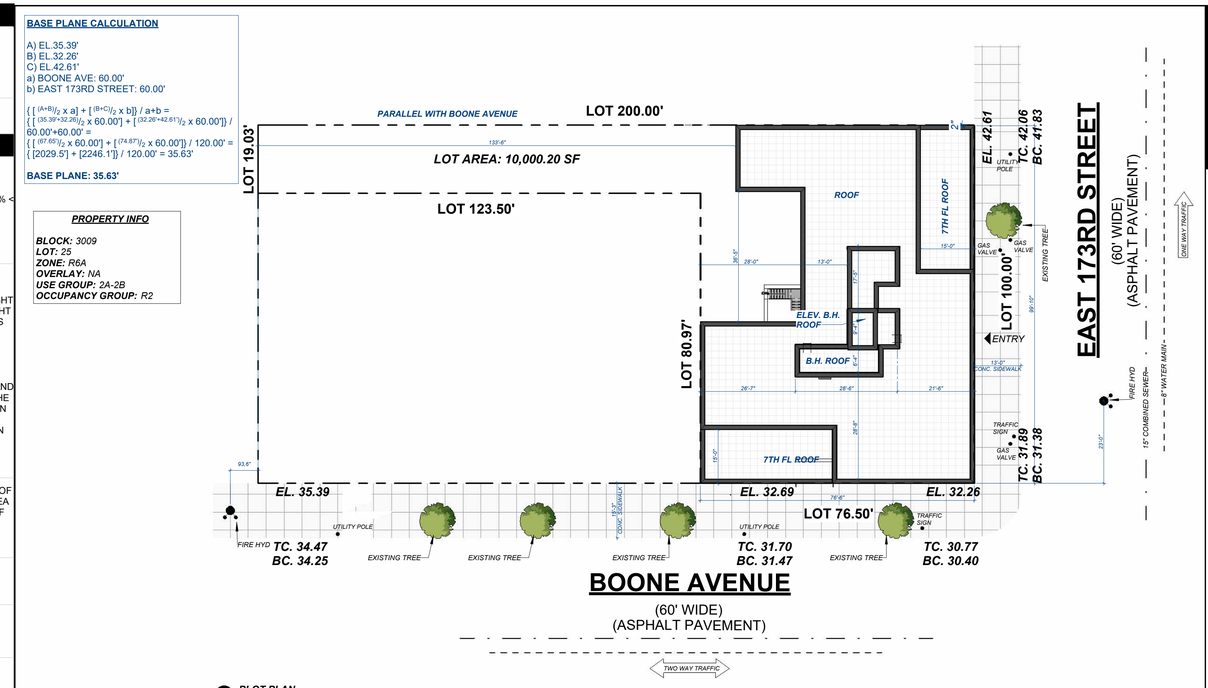
A) EL.35.39'
B) EL.32.26'
C) EL.42.61'
a) BOONE AVE: 60.00'
b) EAST 173RD STREET: 60.00'

{ [(A+B)/2 x a] + [(B+C)/2 x b]} / a+b =
{ [(35.39'+32.26')/2 x 60.00'] + [(32.26'+42.61')/2 x 60.00']} / 60.00'+60.00' =
{ [(67.65')/2 x 60.00'] + [(74.87')/2 x 60.00']} / 120.00' =
{ [2029.5'] + [2246.1']} / 120.00' = 35.63'

BASE PLANE: 35.63'

PROPERTY INFO

BLOCK: *3009*
LOT: *25*
ZONE: *R6A*
OVERLAY: *NA*
USE GROUP: *2A-2B*
OCCUPANCY GROUP: *R2*



1 ***PLOT PLAN***
1" = 20'-0"

RECREATION ANALYSIS

ZR23-63	RECREATION SPACES	THE AMOUNT OF RECREATION SPACE REQUIRED SHALL BE EQUIVALENT TO A MINIMUM OF THREE PERCENT OF THE RESIDENTIAL FLOOR AREA OF THE BUILDING. SUCH SPACE MAY BE PROVIDED INDOORS OR OUTDOORS, SINGLY OR IN COMBINATION. WHERE PROVIDED INDOORS, FLOOR SPACE MAY BE EXEMPTED FROM THE DEFINITION OF FLOOR AREA PURSUANT TO SECTION 12-10 (DEFINITIONS), PROVIDED THAT THE STANDARDS OF SECTION 23-231 (FLOOR AREA PROVISIONS FOR AMENITIES) ARE MET. ADDITIONALLY, SUCH RECREATION SPACE SHALL COMPLY WITH THE FOLLOWING STANDARDS: (A) ALL RECREATION SPACE SHALL BE ACCESSIBLE TO THE RESIDENTS OF THE BUILDING; (B) THE MINIMUM DIMENSION OF ANY RECREATION SPACE, IN ANY DIRECTION, WHETHER INDOOR OR OUTDOOR, SHALL BE 15 FEET; (C) ANY OUTDOOR RECREATION SPACE SHALL BE OPEN TO THE SKY, EXCEPT THAT: (1) BUILDING PROJECTIONS, NOT TO EXCEED SEVEN FEET IN DEPTH, MAY COVER UP TO 10 PERCENT OF THE OUTDOOR RECREATION SPACE, PROVIDED THAT THE LOWEST LEVEL OF THE PROJECTION IS AT LEAST 10 FEET ABOVE THE LEVEL OF THE OUTDOOR RECREATION SPACE; AND (2) THE COMBINATION OF BUILDING PROJECTIONS, WHERE PROVIDED, AND ANY SUN SHADING DEVICES PERMITTED PURSUANT TO 23-311, INCLUDING, BUT NOT LIMITED TO, ARBORS OR TRELLISES, AWNINGS AND OTHER SUN CONTROL DEVICES, OR CANOPIES, MAY COVER UP TO 50 PERCENT; AND (D) ANY INDOOR RECREATION ROOM SHALL HAVE AT LEAST ONE EXTERIOR WALL WITH WINDOWS, OR CEILING WITH SKYLIGHTS, THAT MEASURES NOT LESS THAN 9.5 PERCENT OF THE TOTAL FLOOR SPACE OF THE ROOM.	ALL PROPOSED RECREATION SPACES ARE ACCESSIBLE TO ALL RESIDENTS REQUIRED: 38,855.14 SF X 3% = 1,165.65 SF PROPOSED: OUT DOOR RECREATION SPACE:ON 1ST FLOOR 1,219.05 SF TOTAL: 1,219.05 SF PROPOSED RECREATION SPACE HAVE A MINIMUM WIDTH OF 15'-0" OUT DOOR RECREATION SPACES ARE OPEN TO THE SKY

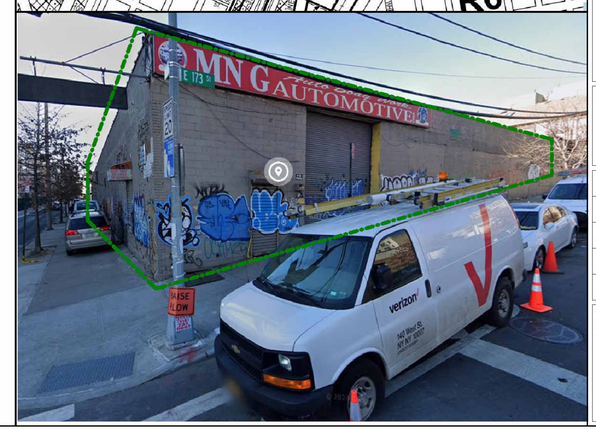
STREET TREE PLANTING

ZR23-611	STREET TREE PLANTING	WITH APPLICABILITY REQUIREMENTS OF UNDERLYING DISTRICT REGULATIONS, ONE STREET TREE, PRE-EXISTING OR NEWLY PLANTED, SHALL BE PROVIDED FOR EVERY 25 FEET OF STREET FRONTAGE OF THE ZONING LOT.	FRONTAGE: 76.33' & 100.00' 76.33' / 25 = 3 TREES 100.00' / 25 = 4 TREES TOTAL= 7 TREES 5 EXISTING TREE TO BE PROTECTED 2 TREES PAID INTO TREE FUND
ZR23-613	PLANTING STRIPS	IN RESIDENTIAL DISTRICTS R6, THE PROVISIONS OF SECTION 26-42 (PLANTING STRIPS) SHALL NOT APPLY.	PLANTING STRIP NOT PROVIDED

JOB FILED SEPARTELY

JOB	JOB NUMBER
SOE	-
FOUNDATION	-
STRUCTURAL	-
MECHANICAL	-
PLUMBING	-
SPRINKLER	-
CONSTRUCTION FENCE	-
BPP	-
FIRE ALARM	-





Leandro Nils Dickson, Architect
3-53 26th Street
Fair Lawn, NJ
07410 , 509 .
www.LNDarchitect .com

MECHANICAL ENGINEER
STRUCTURAL ENGINEER
ARCHITECT'S SEAL

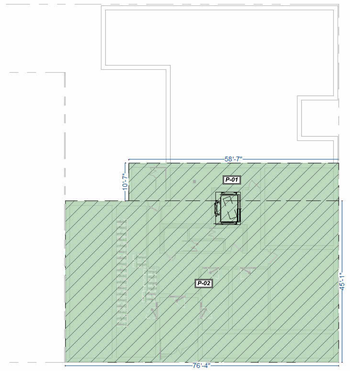
REV	DATE	DESCRIPTION
-	-	-

PROJECT NAME:
1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:
PLOT PLAN, ZONING ANALYSIS, MAPS & NOTES

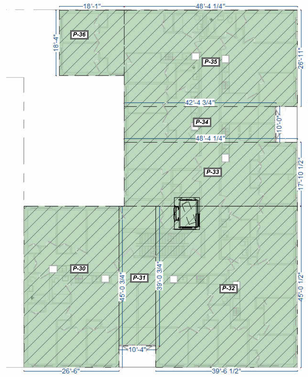
JOB NO.:	*X01150556-I1*
SCALE	*AS NOTED*
DRAWN BY:	*JOHN HURTADO*
CHECKED	*LEANDRO NILS DICKSON*
DATE	*6/16/2025 1:21:22 PM*

DRAWING NO.
Z-101.00



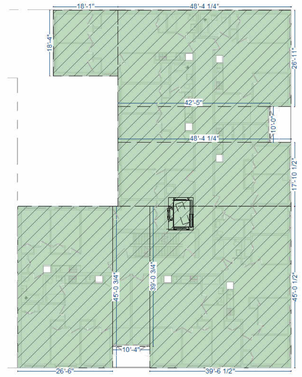
1 ***CELLAR FLOOR AREA***
1" = 20'-0"

FLOOR AREA - CELLAR		
TAG	DIMENSIONS	AREA
PROPOSED RESIDENTIAL		
P-01	(10'-7" * 58'-7")	620.01 SF
P-02	(45'-1" * 76'-4")	3,441.36 SF
TOTAL		4,061.37 SF



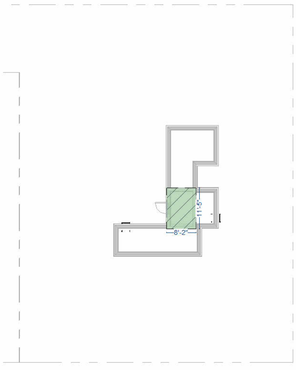
4 ***3RD FLOOR AREA DIAGRAM***
1" = 20'-0"

FLOOR AREA - 3RD FLOOR		
TAG	DIMENSIONS	AREA
PROPOSED RESIDENTIAL		
P-30	(26'-6" * 45'-0 3/4")	1,194.16 SF
P-31	(10'-4" * 39'-0 3/4")	403.65 SF
P-32	(39'-6 1/2" * 45'-0 1/2")	1,781.02 SF
P-33	(48'-4 1/4" * 17'-10 1/2")	864.33 SF
P-34	(42'-4 3/4" * 10'-0")	423.96 SF
P-35	(48'-4 1/4" * 26'-11")	1,301.53 SF
P-36	(18'-1" * 18'-4")	331.53 SF
TOTAL		6,300.18 SF



7 ***6 TH FLOOR AREA DIAGRAM***
1" = 20'-0"

FLOOR AREA - 6TH FLOOR		
TAG	DIMENSIONS	AREA
PROPOSED RESIDENTIAL		
	(26'-6" * 45'-0 3/4")	1,194.16 SF
	(18'-1" * 18'-4")	331.53 SF
	(48'-4 1/4" * 26'-11")	1,301.53 SF
	(39'-6 1/2" * 45'-0 1/2")	1,781.02 SF
	(10'-4" * 39'-0 3/4")	403.65 SF
	(48'-4 1/4" * 17'-10 1/2")	864.33 SF
	(42'-5" * 10'-0")	424.17 SF
TOTAL		6,300.39 SF



10 ***BULKHEAD FLOOR AREA***
1" = 20'-0"

FLOOR AREA - BULKHEAD ROOF		
TAG	DIMENSIONS	AREA
PROPOSED RESIDENTIAL		
P-93	(8'-2" * 11'-5")	93.24 SF
TOTAL		93.24 SF

2 ***1ST FLOOR AREA DIAGRAM***
1" = 20'-0"

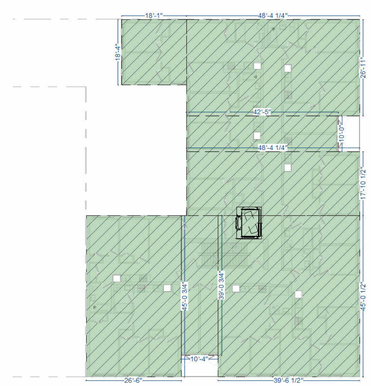
FLOOR AREA - 1ST FLOOR		
TAG	DIMENSIONS	AREA
PROPOSED RESIDENTIAL		
P-10	(26'-6" * 45'-1")	1,194.71 SF
P-11	(10'-4" * 34'-11")	360.81 SF
P-12	(39'-6" * 45'-1")	1,780.79 SF
P-13	(48'-4 1/4" * 17'-10 3/4")	865.34 SF
P-14	(38'-4 1/2" * 10'-0")	383.75 SF
P-15	(48'-4 1/4" * 26'-11")	1,301.53 SF
P-16	(18'-1" * 18'-4")	331.53 SF
		6,218.46 SF
TOTAL		6,218.46 SF

5 ***4TH FLOOR AREA DIAGRAM***
1" = 20'-0"

FLOOR AREA - 4TH FLOOR		
TAG	DIMENSIONS	AREA
PROPOSED RESIDENTIAL		
	(26'-6" * 45'-0 3/4")	1,194.16 SF
	(18'-1" * 18'-4")	331.53 SF
	(48'-4 1/4" * 26'-11")	1,301.53 SF
	(39'-6 1/2" * 45'-0 1/2")	1,781.02 SF
	(10'-4" * 39'-0 3/4")	403.65 SF
	(48'-4 1/4" * 17'-10 1/2")	864.33 SF
	(42'-5" * 10'-0")	424.17 SF
TOTAL		6,300.39 SF

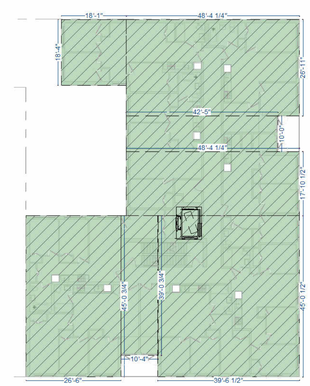
8 ***7TH FLOOR AREA DIAGRAM***
1" = 20'-0"

FLOOR AREA - 7TH FLOOR		
TAG	DIMENSIONS	AREA
PROPOSED RESIDENTIAL		
P-70	(26'-6" * 30'-0")	795.00 SF
P-71	(10'-4" * 30'-0")	310.00 SF
P-72	(39'-6" * 45'-1")	1,780.79 SF
P-73	(48'-4 1/4" * 9'-11 3/4")	482.53 SF
P-75	(33'-3 1/2" * 44'-10")	1,492.58 SF
P-76	(18'-2" * 18'-4")	333.06 SF
TOTAL		5,193.96 SF



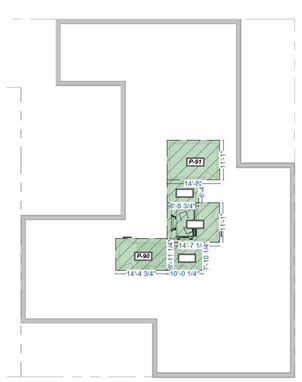
3 ***2ND FLOOR AREA DIAGRAM***
1" = 20'-0"

FLOOR AREA - 2ND FLOOR		
TAG	DIMENSIONS	AREA
PROPOSED RESIDENTIAL		
	(26'-6" * 45'-0 3/4")	1,194.16 SF
	(18'-1" * 18'-4")	331.53 SF
	(48'-4 1/4" * 26'-11")	1,301.53 SF
	(39'-6 1/2" * 45'-0 1/2")	1,781.02 SF
	(10'-4" * 39'-0 3/4")	403.65 SF
	(48'-4 1/4" * 17'-10 1/2")	864.33 SF
	(42'-5" * 10'-0")	424.17 SF
		6,300.39 SF



6 ***5 TH FLOOR AREA DIAGRAM***
1" = 20'-0"

FLOOR AREA - 5TH FLOOR		
TAG	DIMENSIONS	AREA
PROPOSED RESIDENTIAL		
	(26'-6" * 45'-0 3/4")	1,194.16 SF
	(48'-4 1/4" * 26'-11")	1,301.53 SF
	(39'-6 1/2" * 45'-0 1/2")	1,781.02 SF
	(10'-4" * 39'-0 3/4")	403.65 SF
	(48'-4 1/4" * 17'-10 1/2")	864.33 SF
	(42'-5" * 10'-0")	424.17 SF
	(18'-1" * 18'-4")	331.53 SF
TOTAL		6,300.39 SF



9 ***ROOF FLOOR AREA***
1" = 20'-0"

FLOOR AREA - ROOF FLOOR		
TAG	DIMENSIONS	AREA
PROPOSED RESIDENTIAL		
	(14'-7 1/4" * 11'-1")	161.86 SF
	(8'-8 3/4" * 6'-4")	55.28 SF
	(10'-0 1/4" * 7'-10 1/4")	78.71 SF
P-90	(14'-4 3/4" * 8'-11 1/4")	128.66 SF
P-91	(14'-8" * 11'-1")	162.56 SF
TOTAL		587.07 SF

TOTAL FLOOR AREA.	
LEVEL	PROPOSED GROSS F.A.
RESIDENTIAL	
CELLAR	4061.37 SF
1ST FLOOR	6218.45 SF
2ND FLOOR	6300.38 SF
3RD FLOOR	6300.17 SF
4TH FLOOR	6300.38 SF
5TH FLOOR	6300.38 SF
6TH FLOOR	6300.38 SF
7TH FLOOR	5193.96 SF
ROOF.	587.07 SF
BULKHEAD ROOF	93.24 SF
	47655.79 SF
TOTAL	47655.79 SF

LEGEND - FLOOR AREA		
PLAN VIEW	TAG	DESCRIPTION
	PXX	PROPOSED RESIDENTIAL FLOOR AREA

LND
Leandro Nils Dickson, Architect
Architecture . Architecture . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 509 .
www.LNDarchitect.com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

REV.	DATE	DESCRIPTION	BY
-	-	-	-

PROJECT NAME:

1003 EAST 173RD STREET

Bronx, NY 10460

PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

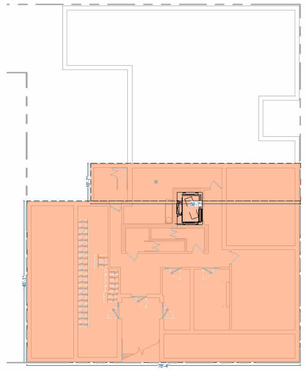
DRAWING NAME:

FLOOR AREA CALCULATIONS

JOB NO.:	X01150556-I1
SCALE :	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED :	LEANDRO NILS DICKSON
DATE :	6/16/2025 1:21:33 PM

DRAWING NO.

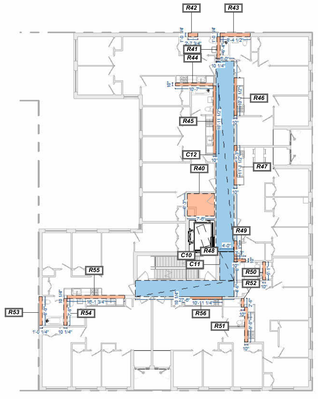
Z-102.00



1 CELLAR FLOOR DEDUCTION
1" = 20'-0"

DEDUCTIONS - CELLAR FLOOR.

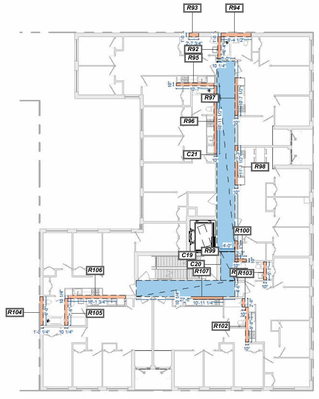
TAG	DEDUCTION TYPE	DIMENSIONS	AREA
DEDUCTIONS			
CELLAR DEDUCTION			
R-1	DEDUCTION 100%	(58'-7" * 10'-7")	620.01 SF
R-2	DEDUCTION 100%	(76'-4" * 45'-1")	3441.36 SF
TOTAL			**4061.37 SF**



3 3RD FLOOR AREA DEDUCTION
1" = 20'-0"

DEDUCTIONS - 3RD FLOOR

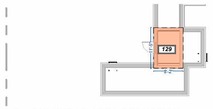
TAG	DEDUCTION TYPE	DIMENSIONS	AREA
DEDUCTIONS			
50% CORRIDOR + 50% LENGHT			
C10	50% CORR.TERM.+50% LENGHT	(4'-6" * 27'-6")	123.75 SF
C11	50% CORR.TERM.+50% LENGHT	(8'-0" * 4'-0")	32.00 SF
C12	50% CORR.TERM.+50% LENGHT	(53'-3" * 5'-0")	266.25 SF
MECHANICAL WALL			
R41	DEDUCTION 100%	(6'-4" * 10 1/4")	5.41 SF
R42	DEDUCTION 100%	(2'-7 3/4" * 1'-0 1/4")	2.70 SF
R43	DEDUCTION 100%	(8'-4 1/2" * 1'-0 1/4")	8.55 SF
R44	DEDUCTION 100%	(10'-7" * 10")	8.82 SF
R45	DEDUCTION 100%	(18'-11 1/2" * 10")	15.80 SF
R46	DEDUCTION 100%	(10'-7 1/2" * 10")	8.85 SF
R47	DEDUCTION 100%	(11'-1 1/2" * 10")	9.27 SF
R48	DEDUCTION 100%	(5'-1" * 10")	4.24 SF
R49	DEDUCTION 100%	(3'-3" * 10")	2.71 SF
R50	DEDUCTION 100%	(5'-1" * 10")	4.24 SF
R51	DEDUCTION 100%	(9'-8" * 10")	8.06 SF
R52	DEDUCTION 100%	(2'-6" * 10")	2.08 SF
R53	DEDUCTION 100%	(8'-0" * 1'-0 1/4")	8.17 SF
R54	DEDUCTION 100%	(7'-6" * 10 1/4")	6.41 SF
R55	DEDUCTION 100%	(16'-1 3/4" * 10 1/4")	13.79 SF
R56	DEDUCTION 100%	(10'-11 1/4" * 10 1/4")	9.34 SF
REFUSE			
R40	DEDUCTION 100%	(7'-6" * 6'-3")	46.87 SF
TOTAL			**587.31 SF**



9 6TH FLOOR AREA DEDUCTION
1" = 20'-0"

DEDUCTIONS - 6TH FLOOR

TAG	DEDUCTION TYPE	DIMENSIONS	AREA
DEDUCTIONS			
C19	50% CORR.TERM.+50% LENGHT	(4'-6" * 27'-6")	123.75 SF
C20	50% CORR.TERM.+50% LENGHT	(8'-0" * 4'-0")	32.00 SF
C21	50% CORR.TERM.+50% LENGHT	(53'-3" * 5'-0")	266.25 SF
R92	DEDUCTION 100%	(6'-4" * 10 1/4")	5.41 SF
R93	DEDUCTION 100%	(2'-7 3/4" * 1'-0 1/4")	2.70 SF
R94	DEDUCTION 100%	(8'-4 1/2" * 1'-0 1/4")	8.55 SF
R95	DEDUCTION 100%	(10'-7" * 10")	8.82 SF
R96	DEDUCTION 100%	(18'-11 1/2" * 10")	15.80 SF
R97	DEDUCTION 100%	(10'-7 1/2" * 10")	8.85 SF
R98	DEDUCTION 100%	(11'-1 1/2" * 10")	9.27 SF
R99	DEDUCTION 100%	(5'-1" * 10")	4.24 SF
R100	DEDUCTION 100%	(3'-3" * 10")	2.71 SF
R101	DEDUCTION 100%	(5'-1" * 10")	4.24 SF
R102	DEDUCTION 100%	(9'-8" * 10")	8.06 SF
R103	DEDUCTION 100%	(2'-6" * 10")	2.08 SF
R104	DEDUCTION 100%	(8'-0" * 1'-0 1/4")	8.17 SF
R105	DEDUCTION 100%	(7'-6" * 10 1/4")	6.41 SF
R106	DEDUCTION 100%	(16'-1 3/4" * 10 1/4")	13.79 SF
R107	DEDUCTION 100%	(10'-11 1/4" * 10 1/4")	9.34 SF
TOTAL			**540.44 SF**



8 BULKHEAD AREA DEDUCTION
1" = 20'-0"

DEDUCTIONS - BULKHEAD ROOF

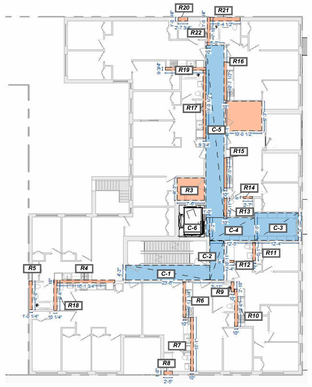
TAG	DEDUCTION TYPE	DIMENSIONS	AREA
DEDUCTIONS			
BULKHEAD DEDUCTION			
129	DEDUCTION 100%	(8'-2" * 11'-5")	93.00 SF
TOTAL			**93.00 SF**

TOTAL DEDUCTIONS SCHEDULE

LEVEL	AREA
CELLAR	4061.37 SF
1ST FLOOR	824.71 SF
2ND FLOOR	587.31 SF
3RD FLOOR	587.31 SF
4TH FLOOR	568.56 SF
5TH FLOOR	540.44 SF
6TH FLOOR	540.44 SF
7TH FLOOR	486.28 SF
ROOF.	443.57 SF
BULKHEAD ROOF	93.24 SF
TOTAL DEDUCTIONS	**8733.23 SF**

DEDUCTIONS SCHEDULE

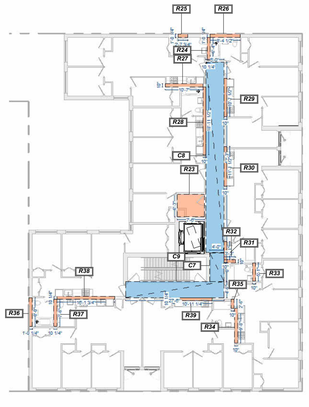
COMMENT	AREA
CELLAR	
CELLAR DEDUCTION	4061.37 SF
1ST FLOOR	
50% CORRIDOR + 50% LENGHT	562.55 SF
MECHANICAL WALL	215.29 SF
REFUSE	46.87 SF
2ND FLOOR	
50% CORRIDOR + 50% LENGHT	422.00 SF
MECHANICAL WALL	118.44 SF
REFUSE	46.87 SF
3RD FLOOR	
50% CORRIDOR + 50% LENGHT	422.00 SF
MECHANICAL WALL	118.44 SF
REFUSE	46.87 SF
4TH FLOOR	
50% CORRIDOR + 50% LENGHT	422.00 SF
MECHANICAL WALL	118.44 SF
REFUSE	28.12 SF
5TH FLOOR	
50% CORRIDOR + 50% LENGHT	422.00 SF
MECHANICAL WALL	118.44 SF
6TH FLOOR	
50% CORRIDOR + 50% LENGHT	422.00 SF
MECHANICAL WALL	118.44 SF
7TH FLOOR	
50% CORRIDOR + 50% LENGHT	384.41 SF
MECHANICAL WALL	101.87 SF
ROOF.	
MECHANICAL	443.57 SF
BULKHEAD ROOF	
BULKHEAD DEDUCTION	93.24 SF
TOTAL DEDUCTIONS	**8733.23 SF**



5 1ST FLOOR DEDUCTION
1" = 20'-0"

DEDUCTIONS - 1ST FLOOR

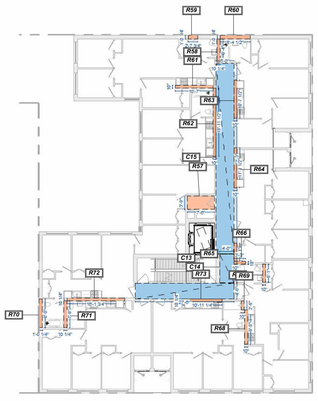
TAG	DEDUCTION TYPE	DIMENSIONS	AREA
DEDUCTIONS			
50% CORRIDOR + 50% LENGHT			
C-1	50% CORR.TERM.+50% LENGHT	(4'-2" * 23'-6")	97.92 SF
C-2	50% CORR.TERM.+50% LENGHT	(10'-11" * 3'-11")	42.76 SF
C-3	50% CORR.TERM.+50% LENGHT	(7'-10" * 12'-4")	96.61 SF
C-4	50% CORR.TERM.+50% LENGHT	(6'-5" * 12'-5")	79.67 SF
C-5	50% CORR.TERM.+50% LENGHT	(48'-1" * 5'-0")	240.42 SF
C-6	50% CORR.TERM.+50% LENGHT	(5'-2" * 1'-0")	5.17 SF
MECHANICAL WALL			
R4	DEDUCTION 100%	(8'-3" * 10'-0 1/2")	82.84 SF
R5	DEDUCTION 100%	(16'-1 3/4" * 10")	13.45 SF
R6	DEDUCTION 100%	(8'-0" * 1'-0 1/4")	8.17 SF
R7	DEDUCTION 100%	(9'-11 1/4" * 10")	8.28 SF
R8	DEDUCTION 100%	(15'-1" * 10")	12.57 SF
R9	DEDUCTION 100%	(2'-5" * 1'-0")	2.42 SF
R10	DEDUCTION 100%	(2'-10" * 10")	2.36 SF
R11	DEDUCTION 100%	(10'-6" * 10")	8.75 SF
R12	DEDUCTION 100%	(5'-1" * 10")	4.24 SF
R13	DEDUCTION 100%	(2'-4" * 6")	1.17 SF
R14	DEDUCTION 100%	(4'-11" * 10")	4.10 SF
R15	DEDUCTION 100%	(2'-7" * 6")	1.29 SF
R16	DEDUCTION 100%	(8'-5" * 10")	7.01 SF
R17	DEDUCTION 100%	(10'-7 1/2" * 10")	8.85 SF
R18	DEDUCTION 100%	(19'-0 1/2" * 9 3/4")	15.47 SF
R19	DEDUCTION 100%	(8'-6" * 10 1/4")	7.26 SF
R20	DEDUCTION 100%	(11'-5" * 9 3/4")	9.28 SF
R21	DEDUCTION 100%	(2'-7 3/4" * 1'-0 1/4")	2.70 SF
R22	DEDUCTION 100%	(8'-4 1/2" * 1'-0 1/4")	8.55 SF
REFUSE			
R3	DEDUCTION 100%	(7'-6" * 6'-3")	46.87 SF
TOTAL			**824.71 SF**



2 2ND FLOOR AREA DEDUCTION
1" = 20'-0"

DEDUCTIONS - 2ND FLOOR

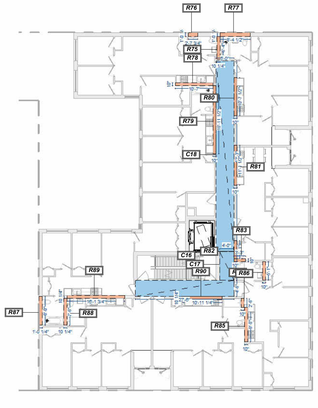
TAG	DEDUCTION TYPE	DIMENSIONS	AREA
DEDUCTIONS			
50% CORRIDOR + 50% LENGHT			
C7	50% CORR.TERM.+50% LENGHT	(8'-0" * 4'-0")	32.00 SF
C8	50% CORR.TERM.+50% LENGHT	(53'-3" * 5'-0")	266.25 SF
C9	50% CORR.TERM.+50% LENGHT	(4'-6" * 27'-6")	123.75 SF
MECHANICAL WALL			
R24	DEDUCTION 100%	(6'-4" * 10 1/4")	5.41 SF
R25	DEDUCTION 100%	(2'-7 3/4" * 1'-0 1/4")	2.70 SF
R26	DEDUCTION 100%	(8'-4 1/2" * 1'-0 1/4")	8.55 SF
R27	DEDUCTION 100%	(10'-7" * 10")	8.82 SF
R28	DEDUCTION 100%	(18'-11 1/2" * 10")	15.80 SF
R29	DEDUCTION 100%	(10'-7 1/2" * 10")	8.85 SF
R30	DEDUCTION 100%	(11'-1 1/2" * 10")	9.27 SF
R31	DEDUCTION 100%	(5'-1" * 10")	4.24 SF
R32	DEDUCTION 100%	(3'-3" * 10")	2.71 SF
R33	DEDUCTION 100%	(5'-1" * 10")	4.24 SF
R34	DEDUCTION 100%	(9'-8" * 10")	8.06 SF
R35	DEDUCTION 100%	(2'-6" * 10")	2.08 SF
R36	DEDUCTION 100%	(8'-0" * 1'-0 1/4")	8.17 SF
R37	DEDUCTION 100%	(7'-6" * 10 1/4")	6.41 SF
R38	DEDUCTION 100%	(16'-1 3/4" * 10 1/4")	13.79 SF
R39	DEDUCTION 100%	(10'-11 1/4" * 10 1/4")	9.34 SF
REFUSE			
R23	DEDUCTION 100%	(7'-6" * 6'-3")	46.87 SF
TOTAL			**587.31 SF**



4 4TH FLOOR AREA DEDUCTION
1" = 20'-0"

DEDUCTIONS - 4TH FLOOR

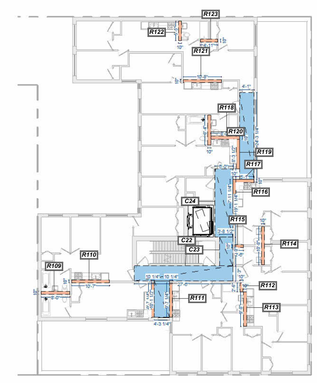
TAG	DEDUCTION TYPE	DIMENSIONS	AREA
DEDUCTIONS			
50% CORRIDOR + 50% LENGHT			
C13	50% CORR.TERM.+50% LENGHT	(4'-6" * 27'-6")	123.75 SF
C14	50% CORR.TERM.+50% LENGHT	(8'-0" * 4'-0")	32.00 SF
C15	50% CORR.TERM.+50% LENGHT	(53'-3" * 5'-0")	266.25 SF
MECHANICAL WALL			
R58	DEDUCTION 100%	(6'-4" * 10 1/4")	5.41 SF
R59	DEDUCTION 100%	(2'-7 3/4" * 1'-0 1/4")	2.70 SF
R60	DEDUCTION 100%	(8'-4 1/2" * 1'-0 1/4")	8.55 SF
R61	DEDUCTION 100%	(10'-7" * 10")	8.82 SF
R62	DEDUCTION 100%	(18'-11 1/2" * 10")	15.80 SF
R63	DEDUCTION 100%	(10'-7 1/2" * 10")	8.85 SF
R64	DEDUCTION 100%	(11'-1 1/2" * 10")	9.27 SF
R65	DEDUCTION 100%	(5'-1" * 10")	4.24 SF
R66	DEDUCTION 100%	(3'-3" * 10")	2.71 SF
R67	DEDUCTION 100%	(5'-1" * 10")	4.24 SF
R68	DEDUCTION 100%	(9'-8" * 10")	8.06 SF
R69	DEDUCTION 100%	(2'-6" * 10")	2.08 SF
R70	DEDUCTION 100%	(8'-0" * 1'-0 1/4")	8.17 SF
R71	DEDUCTION 100%	(7'-6" * 10 1/4")	6.41 SF
R72	DEDUCTION 100%	(16'-1 3/4" * 10 1/4")	13.79 SF
R73	DEDUCTION 100%	(10'-11 1/4" * 10 1/4")	9.34 SF
REFUSE			
R57	DEDUCTION 100%	(7'-6" * 3'-9")	28.12 SF
TOTAL			**568.56 SF**



6 5TH FLOOR AREA DEDUCTION.
1" = 20'-0"

DEDUCTIONS - 5TH FLOOR

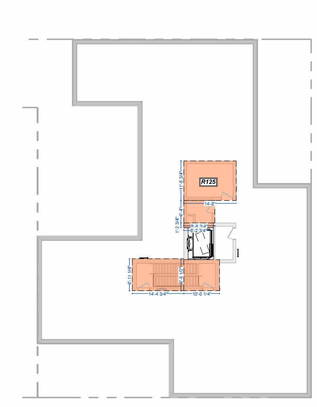
TAG	DEDUCTION TYPE	DIMENSIONS	AREA
DEDUCTIONS			
50% CORRIDOR + 50% LENGHT			
C16	50% CORR.TERM.+50% LENGHT	(4'-6" * 27'-6")	123.75 SF
C17	50% CORR.TERM.+50% LENGHT	(8'-0" * 4'-0")	32.00 SF
C18	50% CORR.TERM.+50% LENGHT	(53'-3" * 5'-0")	266.25 SF
MECHANICAL WALL			
R75	DEDUCTION 100%	(6'-4" * 10 1/4")	5.41 SF
R76	DEDUCTION 100%	(2'-7 3/4" * 1'-0 1/4")	2.70 SF
R77	DEDUCTION 100%	(8'-4 1/2" * 1'-0 1/4")	8.55 SF
R78	DEDUCTION 100%	(10'-7" * 10")	8.82 SF
R79	DEDUCTION 100%	(18'-11 1/2" * 10")	15.80 SF
R80	DEDUCTION 100%	(10'-7 1/2" * 10")	8.85 SF
R81	DEDUCTION 100%	(11'-1 1/2" * 10")	9.27 SF
R82	DEDUCTION 100%	(5'-1" * 10")	4.24 SF
R83	DEDUCTION 100%	(3'-3" * 10")	2.71 SF
R84	DEDUCTION 100%	(5'-1" * 10")	4.24 SF
R85	DEDUCTION 100%	(9'-8" * 10")	8.06 SF
R86	DEDUCTION 100%	(2'-6" * 10")	2.08 SF
R87	DEDUCTION 100%	(8'-0" * 1'-0 1/4")	8.17 SF
R88	DEDUCTION 100%	(7'-6" * 10 1/4")	6.41 SF
R89	DEDUCTION 100%	(16'-1 3/4" * 10 1/4")	13.79 SF
R90	DEDUCTION 100%	(10'-11 1/4" * 10 1/4")	9.34 SF
TOTAL			**540.44 SF**



10 7TH FLOOR AREA DEDUCTION
1" = 20'-0"

DEDUCTIONS - 7TH FLOOR

TAG	DEDUCTION TYPE	DIMENSIONS	AREA
DEDUCTIONS			
50% CORRIDOR + 50% LENGHT			
	50% CORR.TERM.+50% LENGHT	(4'-3 1/4" * 10'-1 1/2")	43.24 SF
	50% CORR.TERM.+50% LENGHT	(24'-3 1/4" * 4'-1")	99.11 SF
C22	50% CORR.TERM.+50% LENGHT	(4'-3" * 27'-6")	116.87 SF
C23	50% CORR.TERM.+50% LENGHT	(8'-0" * 3'-8 1/2")	29.67 SF
C24	50% CORR.TERM.+50% LENGHT	(19'-1 1/4" * 5'-0")	95.52 SF
MECHANICAL WALL			
	DEDUCTION 100%	(9'-7 1/4" * 10 1/4")	8.20 SF
R109	DEDUCTION 100%	(8'-0" * 10")	6.67 SF
R110	DEDUCTION 100%	(10'-7" * 10")	8.82 SF
R111	DEDUCTION 100%	(9'-7 1/4" * 10 1/4")	8.20 SF
R112	DEDUCTION 100%	(2'-6" * 10")	2.08 SF
R113	DEDUCTION 100%	(9'-8" * 10")	8.06 SF
R114	DEDUCTION 100%	(10'-8" * 10")	8.89 SF
R115	DEDUCTION 100%	(2'-6" * 10")	2.08 SF
R116	DEDUCTION 100%	(7'-11 1/4" * 10")	6.61 SF
R117	DEDUCTION 100%	(5'-1" * 10")	4.24 SF
R118	DEDUCTION 100%	(8'-0" * 10")	6.67 SF
R119	DEDUCTION 100%	(8'-3 1/2" * 10")	6.91 SF
R120	DEDUCTION 100%	(8'-4" * 10")	6.94 SF
R121	DEDUCTION 100%	(10'-8" * 10")	8.89 SF
R122	DEDUCTION 100%	(5'-5" * 10")	4.51 SF
R123	DEDUCTION 100%	(4'-11" * 10")	4.10 SF
TOTAL			**486.28 SF**



7 ROOF AREA DEDUCTION
1" = 20'-0"

DEDUCTIONS - ROOF FLOOR

TAG	DEDUCTION TYPE	DIMENSIONS	AREA
DEDUCTIONS			
MECHANICAL			
	DEDUCTION 100%	(14'-4 3/4" * 8'-11 1/4")	128.66 SF
	DEDUCTION 100%	(10'-0 1/4" * 8'-8 1/2")	87.26 SF
	DEDUCTION 100%	(8'-8 3/4" * 6'-4")	55.28 SF
	DEDUCTION 100%	(8'-2 3/4" * 1'-2 3/4")	10.12 SF
R125	DEDUCTION 100%	(14'-8" * 11'-0 3/4")	162.25 SF
TOTAL			**443.57 SF**

FLOOR AREA MAY BE EXEMPT (RECREATIONAL SPACES, COWORKER AREAS, LIBRARIES, READING ROOMS, MUSIC ROOMS, PACKAGE/STORAGE, LAUNDRY OR PET FACILITIES, SHALL NOT INCLUDE CORRIDORS OR VERTICAL CIRCULATION SPACES)
-NOT TO EXCEED 5% OF RESIDENTIAL FLOOR AREA
RESIDENTIAL FLOOR AREA = 38,916.60 X 0.05 = 1,945.83 SF MAX TO BE EXEMPT

ZR12-10 DEFINITIONS - FLOOR AREA EXCEMPTIONS
THE FLOOR AREA OF A BUILDING SHALL NOT INCLUDE:
- *ELEVATOR OR STAIR BULKHEADS, ACCESSORY WATER TANKS, OR COOLING TOWERS*
- *FLOOR SPACE USED FOR ACCESSORY MECHANICAL EQUIPMENT.*
- *FLOOR SPACE IN BUILDINGS CONTAINING MULTIPLE DWELLING RESIDENCES ALLOCATED TO BUILDING AMENITIES, CORRIDORS, REFUSE STORAGE OR DISPOSAL, OR ACCESS TO ELEVATED GROUND FLOOR DWELLING UNITS THAT IS PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 23-23, INCLUSIVE*

LEGEND - DEDUCTIONS

PLAN VIEW	TAG	DESCRIPTION
	R-XX	*RESIDENTIAL DEDUCTION* ***ZR 12-10*** *MECHANICAL SHAFTS ARE EXCLUDED FROM FLOOR AREA* ***ZR 23-233*** *MAX 35F PER DU PER FLOOR MIGHT BE EXCEMPT FROM FA*
	C-XX	*50% CORRIDOR LENGHT AREA DEDUCTION + 50% TERMINATES WITH A DWELLING W/ 3 B.R.* ***ZR 23-232*** *50% THE CORRIDOR TERMINATES WITH A DWELLING UNIT THAT CONTAINS AT LEAST THREE BEDROOMS.* *50% CORRIDORS SHALL BE DEDUCTED FROM F.A. IF LESS THAN 100' IN LENGHT*

23-232 FLOOR AREA PROVISIONS FOR CORRIDORS
FLOOR SPACE IN A BUILDING ALLOCATED TO CORRIDORS MAY BE EXEMPTED FROM FLOOR AREA PURSUANT TO THE PROVISIONS OF PARAGRAPHS (A) OR (B) OF THIS SECTION. SUCH PROVISIONS MAY BE APPLIED INDIVIDUALLY OR IN COMBINATION.

(A) CORRIDORS TERMINATION

FIFTY PERCENT OF THE FLOOR SPACE OF A CORRIDOR MAY BE EXEMPTED FROM THE DEFINITION OF FLOOR AREA WHERE ONE OF THE FOLLOWING CRITERIA ARE MET:

(1) THE CORRIDOR PROVIDES DIRECT ACCESS TO OUTDOOR SPACE ON A BALCONY OR TERRACE ON THE SAME STORY THAT IS ACCESSIBLE TO RESIDENTS OF THE STORY;

(2) THE CORRIDOR HAS DAYLIGHTING THROUGH WINDOWS WITH A GLAZED AREA OF AT LEAST 20 SQUARE FEET, AND SUCH WINDOWS ARE LOCATED:

(I) DIRECTLY WITHIN THE CORRIDOR;
(II) IN THE ENCLOSING WALLS OF A STAIRWELL ALONG SUCH CORRIDOR, AND ACCESS TO SUCH STAIRWELL FROM THE CORRIDOR IS PROVIDED THROUGH AN ENTRY DOOR ASSEMBLY WITH A MINIMUM GLAZED AREA OF AT LEAST 16 SQUARE FEET; OR (III) WITHIN COMMON SPACE ALONG SUCH CORRIDOR THAT ACCESSIBLE TO RESIDENTS OF THE STORY; OR

(3) THE CORRIDOR TERMINATES WITH A DWELLING UNIT THAT CONTAINS AT LEAST THREE BEDROOMS.

(B) LENGTH OF CORRIDOR

FIFTY PERCENT OF THE FLOOR SPACE OF A CORRIDOR MAY BE EXEMPTED FROM THE DEFINITION OF FLOOR AREA, WHERE THE LENGTH OF THE CORRIDOR, AS MEASURED FROM THE ELEVATOR CORE TO THE DOOR OF THE FURTHEST DWELLING UNIT ON THE STORY, DOES NOT EXCEED 100 LINEAR FEET.

LND
Leandro Nils Dickson, Architect
Architecture . Architecture . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 509 .
www.LNDarchitect.com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

REV	DATE	DESCRIPTION
-	-	-

PROJECT NAME:

1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:

ZONING DEDUCTIONS DIAGRAMS

JOB NO.:	X01150556-I1
SCALE	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED	LEANDRO NILS DICKSON
DATE	6/16/2025 1:21:45 PM

DRAWING NO.

Z-103.00

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' National Geodetic Vertical Datum of 1929 (NGVD 29). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was New York State Plane FIPSZONE 3104. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the National Geodetic Vertical Datum of 1929 (NGVD 29). It may be important to convert the flood elevations to ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3182
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the New York State Office of Information Technology Services, GIS Program. This information was derived from digital orthophotos produced at a scale of 1:1,200 with 2-foot pixel resolution from photography dated 2004.

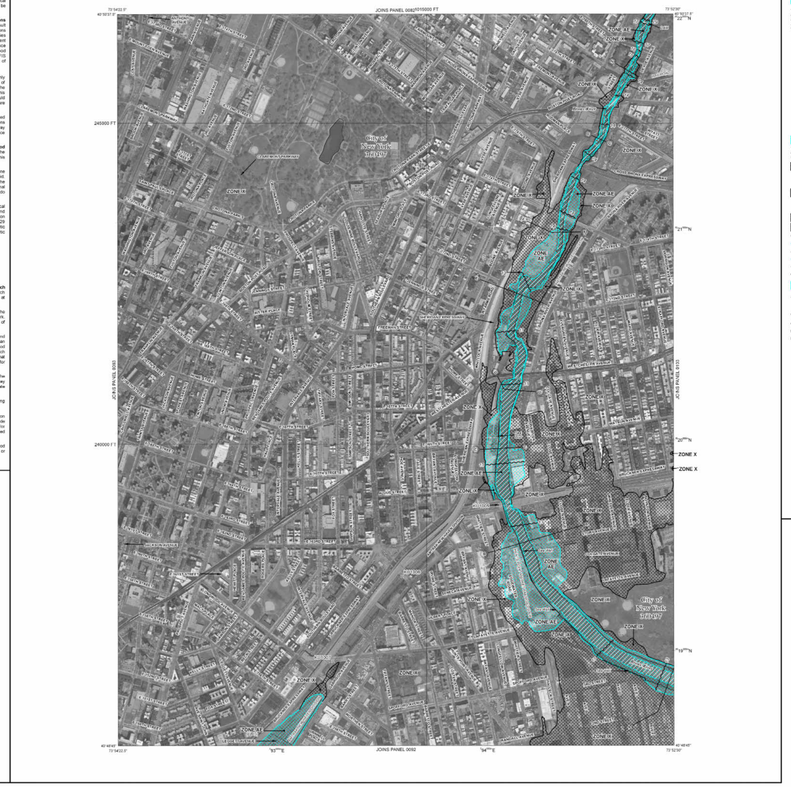
Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within this Flood Insurance Study report may reflect stream channel distances that differ from what is shown on this map. Also, the road to floodplain relationships for unmodeled streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map showing the layout of map panels for this jurisdiction.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://www.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877 FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A — No Base Flood Elevations determined.

ZONE AE — Base Flood Elevations determined.

ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR — Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet*
- (EL 987) Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the National Geodetic Vertical Datum of 1929

- Cross-section line
- Transect line
- 97°07'45", 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD83), western hemisphere
- 1000-meter Universal Transverse Mercator grid values, zone 18
- 5000-foot grid ticks: New York State Plane coordinate system, Long Island zone (FIPSZN 3104), Lambert Conformal Conic projection
- Bench mark (see explanation in Notes to Users section of this FIRM panel)
- River Mile

MAP REPOSITORIES
Refer to listing of Map Repositories on Map Index

INITIAL NFHF MAP DATE:
June 25, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS DATE(S):
January 6, 1978

FLOOD INSURANCE RATE MAP EFFECTIVE:
November 16, 1983

FLOOD INSURANCE RATE MAP REVISIONS:
September 5, 2007 - to change Special Flood Hazard Areas, to reflect updated topographic information, and to update map format

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0084F

FIRM

FLOOD INSURANCE RATE MAP

CITY OF
NEW YORK,
NEW YORK
BRONX, RICHMOND, NEW YORK,
QUEENS, AND KINGS COUNTIES

PANEL 84 OF 457

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS: COMMUNITY	NUMBER	PANEL	SUFFIX
NEW YORK, CITY OF	360497	0084	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
3604970084F

MAP REVISED
SEPTEMBER 5, 2007

Federal Emergency Management Agency

National Flood Hazard Layer FIRMette

FEMA

73°53'23"W 40°50'17"N



73°53'45"W 40°49'50"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

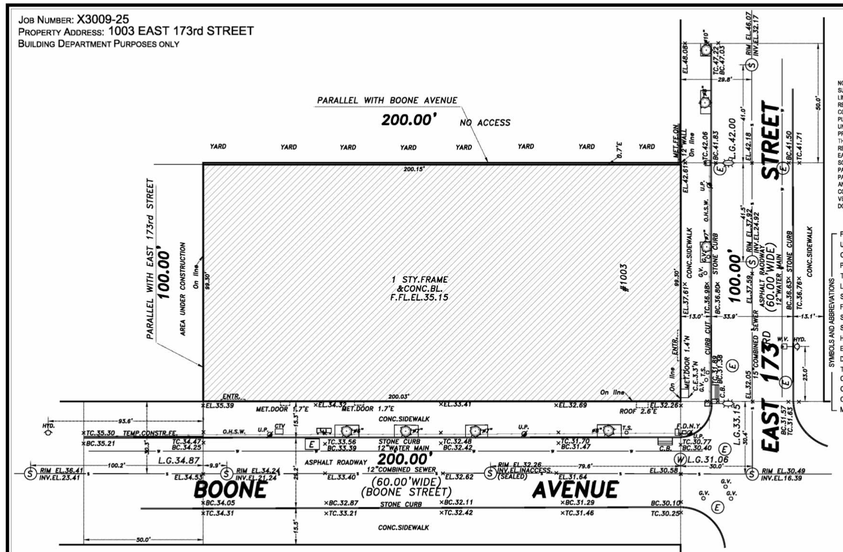
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/6/2025 at 2:06 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

JOB NUMBER: X3009-25
PROPERTY ADDRESS: 1003 EAST 173rd STREET
BUILDING DEPARTMENT PURPOSES ONLY



NOTES:
SURVEYED AS IN POSSESSION. OFFSETS AND/OR DIMENSIONS SHOWN BETWEEN THE STRUCTURES AND PROPERTY LINES ARE FOR SPECIFIC PURPOSE AND USE AND THEREFORE ARE NOT INTENDED TO GUIDE ERECTION OF FENCES, RETAINING WALLS, POOLS, PLANTING AREAS, ADDITIONS TO STRUCTURES, SHEDS, GARAGES AND ANY OTHER CONSTRUCTION AND/OR DESIGN.
PLUMBNESS OF WALLS IS NOT VERIFIED.
UNDERGROUND AND SIDEWALK VAULTS NOT LOCATED AS PART OF THIS SURVEY.
PROPERTY CORNER MONUMENTS WERE NOT PLACED AS PART OF THIS SURVEY.
THIS SURVEY HAS BEEN PREPARED WITHOUT A FULL ABSTRACT OF TITLE. OTHER AGREEMENTS, COVENANTS AND/OR RESTRICTIONS AFFECTING AND/OR BENEFITING PARCEL SURVEYED, IF ANY, NOT INDICATED HEREON.
EASEMENTS IF ANY IF NOT SHOWN ON THIS SURVEY ARE NOT GUARANTEED.
SOME DIMENSIONS, FEATURES AND/OR LOCATIONS MAY NOT BE DRAWN TO SCALE TO PROVIDE CLARITY.
PARTY WALL(S) HEREON ARE SHOWN SCHEMATICALLY ONLY AND WERE NOT SURVEYED. LOCATION AND EXTENTS OF PARTY WALL(S) ARE NOT SHOWN ON THE SURVEY AND DEMOTED BASED UPON RECORD DOCUMENTS IF AVAILABLE AND/OR EXTERIOR OBSERVATION ONLY. IF POSSIBLE, PARTY WALL(S) AND LOCATION/EXTENTS OF SAME MUST BE CONFIRMED AND VERIFIED BY THE USER OF THIS SURVEY. PARTY WALL(S) AND LOCATION/EXTENTS OF SAME ARE NOT VERIFIED OR CERTIFIED BY THE LAND SURVEYOR.
DO NOT USE THIS SURVEY UNLESS YOU AGREE AND CONSENT TO ALL OF THE ABOVE.

SYMBOLS AND ABBREVIATIONS

FENCES	CL-FENCE, METAL FENCE, WOOD FENCE	CITY MONUMENT	
UTILITY POLE	U.P. GUY WIRE	CUT CROSS	
CATCH BASIN	C.B. WITH INLET	SET NAIL	
PARKING METER	P.M.	SET STAKE	
TRAFFIC LIGHT	T.L. WITH STREET LIGHT	SET MARK (PAINTED)	
LIGHT		SET BENCHMARK	
STREET LIGHT		FIRE ESCAPE	
FIRE HYDRANT	HYD.	PL. or PLTF.	PLATFORM
SIAMESE CONNECTION		C.E.	CELLAR ENTRANCE
SHUT OFF VALVE	G.V. D.V. W.V.	A.W.	AIR WAY
HANDICAPPED PARKING		CONC.	CONCRETE
EXISTING TREE	BUP TREE GROUP	PVMT.	PAVEMENT
DRAINS	DR.	AC	AIR CONDITION
TRAFFIC SIGN		MET.	METAL
CURB AND CURB CUT	CURB CUT	N	NORTH OF PROPERTY LINE
OVERHEAD SERVICE	O.H.S.W.	S	SOUTH OF PROPERTY LINE
CABLE TV MANHOLE		E	EAST OF PROPERTY LINE
MANHOLES	G E T W S RM EL INV.EL	W	WEST OF PROPERTY LINE

THE NEW YORK STATE REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE.

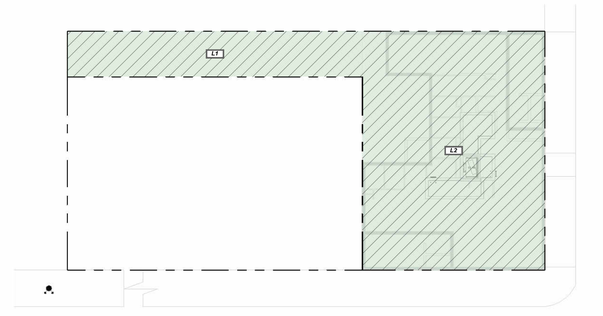
kaBA surveying
phone:718-354-7279 718-470-2358
fax:718-247-5854 718-470-2264
338 JERICHO TURNPIKE, FLORAL PARK, NY 11001
SURVEYS@KABAPLS.COM

SURVEYED & GUARANTEED FOR:
DEPARTMENT OF BUILDINGS

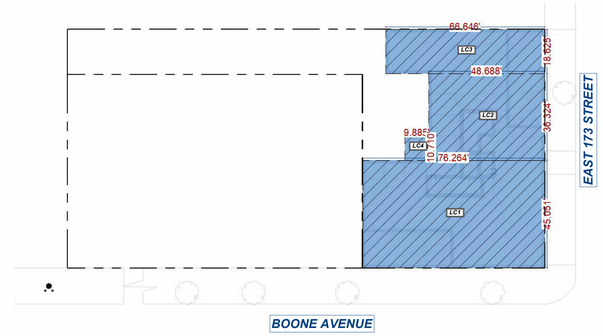
STATE OF NEW YORK — JAROSLAW W. KRAWCZYK — No. 050778 — LICENSED PROFESSIONAL ENGINEER

BOROUGH: BRONX
TOWN: THE BRONX
BLOCK: 3009 LOT: 25
SURVEYED:
JANUARY 31, 2024-ARCHITECTURAL SURVEY

UNAUTHORIZED ALTERATION OR ADDITION TO THIS SURVEY IS A VIOLATION OF SECTION 7209 OF THE **NEW YORK STATE EDUCATION LAW.** COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYOR'S INKED SEAL OR EMBOSSED SEAL SHALL NOT BE CONSIDERED TO BE A VALID COPY. GUARANTEES OR CERTIFICATIONS INDICATED HEREON SHALL RUN ONLY TO THE PERSON FOR WHOM THE SURVEY IS PREPARED AND ON HIS BEHALF. TO THE TITLE COMPANY, GOVERNMENTAL AGENCY AND LENDING INSTITUTION LISTED HEREON, AND TO THE ASSIGNEES OF THE LENDING INSTITUTION. GUARANTEES OR CERTIFICATIONS ARE NOT TRANSFERRABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.



1 **LOT AREA**
1" = 30'-0"



2 **LOT COVERAGE**
1" = 30'-0"

LOT AREA

TAG	AREA TYPE	DIMENSIONS	LOT AREA
LOT AREA			
L1	LOT AREA	(123.500' x19.03')	2350.20 SF
L2	LOT AREA	(76.500' x100.00')	7650.00 SF
			10000.20 SF
			10000.20 SF

LOT COVERAGE

TAG	AREA TYPE	DIMENSIONS	AREA
BUILDING AREA			
LC1	BUILDING AREA	(76'-3 1/4" x45'-0 1/2")	3435.80 SF
LC2	BUILDING AREA	(48'-8 1/4" x36'-4")	1768.51 SF
LC3	BUILDING AREA	(66'-7 3/4" x18'-7 1/2")	1241.29 SF
LC4	BUILDING AREA	(9'-10 1/2" x10'-8 1/2")	105.88 SF
			6551.48 SF
			6551.48 SF

LEGEND

PLAN VIEW	DESCRIPTION
	R6A ZONING LOT AREA
	LOT COVERAGE PROPOSED

ZR 23-363(B)		LOT AREA	MAX LOT COV. ALOWED	PROP. LOT COVERAGE (%)	PROP. LOT COVERAGE (SF) (SEE Z-104)
	LOT AREA	10000.20 SF	100%	10000.20 SF	65.51%	6551.48 SF

TOTAL LOT COVERAGE: 6,551.48 SF
TOTAL ALLOWED LOT COVERAGE: 10,015.17SF
6,551.48SF X 100/ 10,015.17SF= 65.42% LOT COVERAGE

Leandro Nils Dickson,
Architect . Architect . Developing
3-53 26th Street
Flat Lawn, NJ
07201 . 509 .
www.@NDarchitect .com

MECHANICAL ENGINEER:
STRUCTURAL ENGINEER:
ARCHITECT'S SEAL:

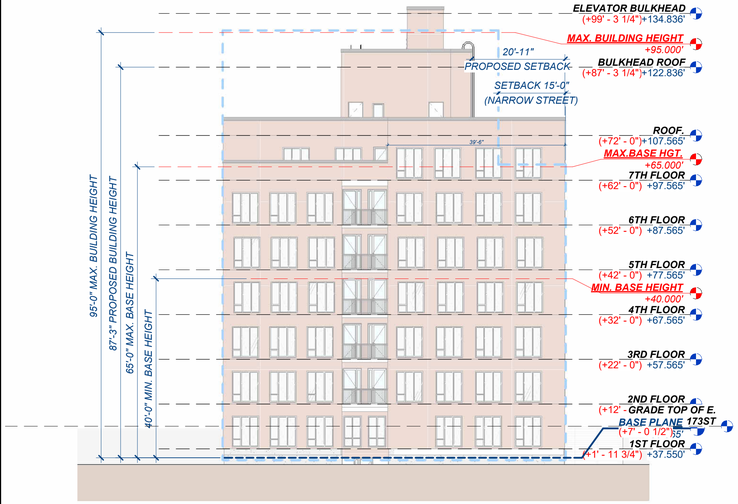
REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:
LOT COVERAGE DIAGRAMS, FEMA MAP AND SURVEY

JOB NO.:	X01150556-I1
SCALE	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED	LEANDRO NILS DICKSON
DATE	6/16/2025 1:21:52 PM

DRAWING NO.
Z-104.00



2 ***HEIGHT DIAGRAM (BOONE AVENUE)***
1/16" = 1'-0"

ZR23-413(b)(1) DORMER ANALYSIS

DORMERS SHALL BE ALLOWED AS A PERMITTED OBSTRUCTION, PROVIDED THAT ON ANY STREET FRONTAGE, THE AGGREGATE WIDTH OF ALL DORMERS AT THE MAXIMUM BASE HEIGHT DOES NOT EXCEED 60 PERCENT OF THE WIDTH OF THE STREET WALL OF THE HIGHEST STORY ENTIRELY BELOW THE MAXIMUM BASE HEIGHT. FOR EACH FOOT ABOVE THE MAXIMUM BASE HEIGHT, THE AGGREGATE WIDTH OF ALL DORMERS SHALL BE DECREASED BY ONE PERCENT OF THE STREET WALL WIDTH OF THE HIGHEST STORY ENTIRELY BELOW THE MAXIMUM BASE HEIGHT.

BOONE AVENUE: 76'-4" X 60% = 44.70'

7TH FLOOR
PROPOSED DORMER HT ABOVE MAX BASE HEIGHT =7.0'
7.0' X 1% = 7.0% , 44.70' X 7.0% = 3.12'
44.70' - 3.12' = 41.58' MAX DORMER ALLOWED
PROPOSED DORMER
39'-6" - COMPLIES

EAST 193RD STREET: 99'-10" X 60% = 59.90'

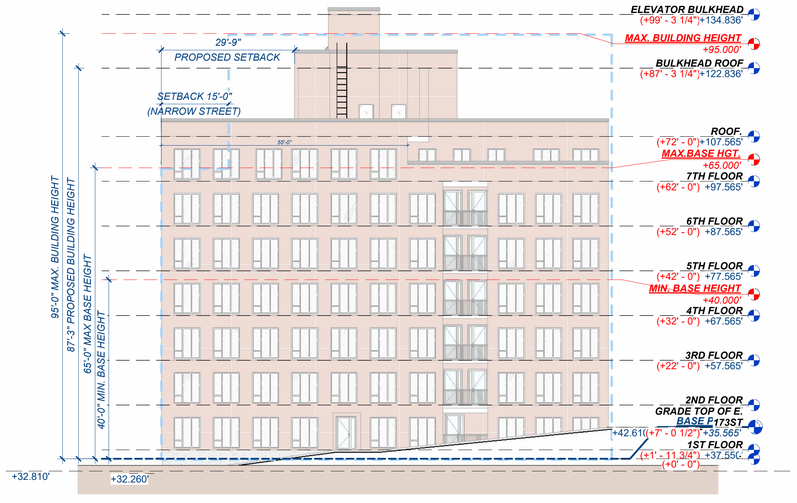
7TH FLOOR
PROPOSED DORMER HT ABOVE MAX BASE HEIGHT =7.0'
7.0' X 1% = 7.0% , 59.90' X 7.0% = 4.19'
59.90' - 4.19' = 55.71' MAX DORMER ALLOWED
PROPOSED DORMER
55'-0" - COMPLIES

BASE PLANE CALCULATION

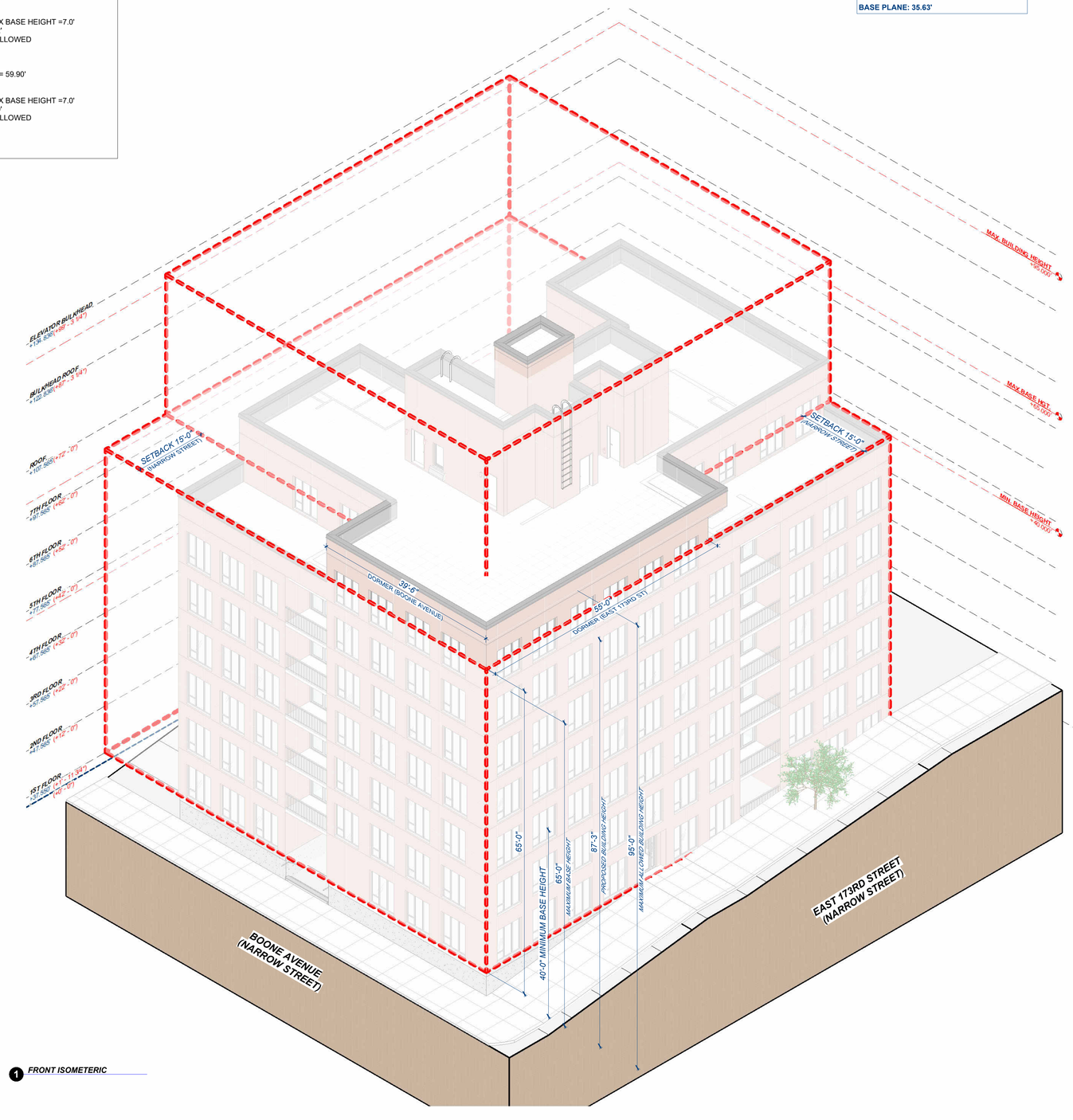
A) EL. 35.39'
B) EL. 32.26'
C) EL.42.61'
a) BOONE AVE: 60.00'
b) EAST 173RD STREET: 60.00'

$\{ [^{(A+B)}/_{2} \times a] + [^{(B+C)}/_{2} \times b] \} / a+b =$
$\{ [^{(35.39'+32.26')}/_{2} \times 60.00'] + [^{(32.26'+42.61')}/_{2} \times 60.00'] \} /$
$60.00'+60.00' =$
$\{ [^{(67.65')}/_{2} \times 60.00'] + [^{(74.87')}/_{2} \times 60.00'] \} / 120.00' =$
$\{ [2029.5'] + [2246.1'] \} / 120.00' = 35.63'$

BASE PLANE: 35.63'



3 ***HEIGHT DIAGRAM (EAST 173RD STREET)***
1/16" = 1'-0"



1 ***FRONT ISOMETERIC***

LND
Leandro Nils Dickson,
Architecture . Architecture . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 509 .
www.LNDarchitect.com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

REV.	DATE	DESCRIPTION
-	-	-

PROJECT NAME:

1003 EAST 173RD STREET

Bronx, NY 10460

PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:

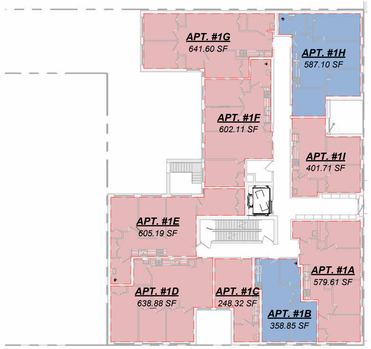
ISOMETERIC, HEIGHT DIAGRAM

JOB NO.:	X01150556-I1
SCALE	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED	LEANDRO NILS DICKSON
DATE	6/16/2025 1:21:58 PM

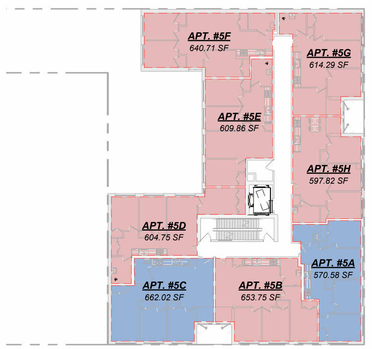
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Z-105.00

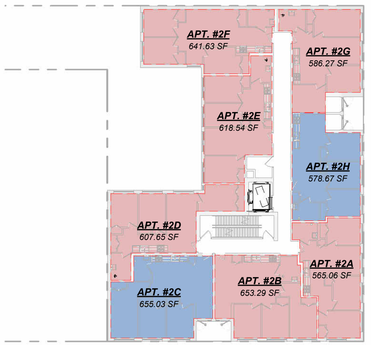
MIH UNITS IDENTIFICATION



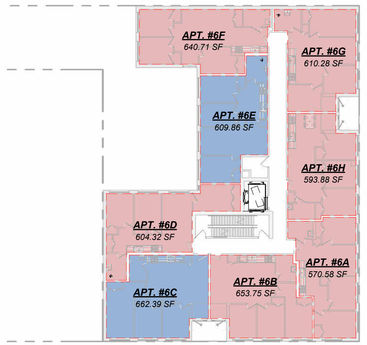
1 1ST FLOOR - MIH APARTMENTS AREA
3/64" = 1'-0"



5 5TH FLOOR - MIH APARTMENTS AREA
3/64" = 1'-0"



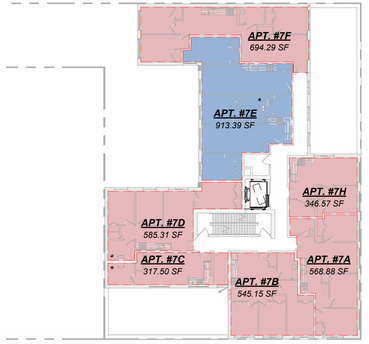
2 2ND FLOOR - MIH APARTMENTS AREA
3/64" = 1'-0"



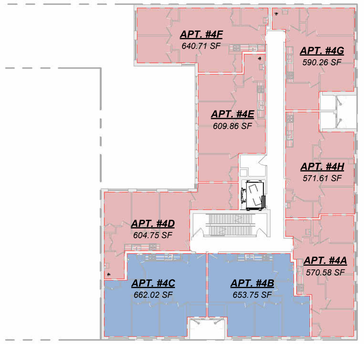
6 6TH FLOOR - MIH APARTMENTS AREA
3/64" = 1'-0"



3 3RD FLOOR - MIH APARTMENTS AREA
3/64" = 1'-0"



7 7TH FLOOR - MIH APARTMENTS AREA
3/64" = 1'-0"



4 4TH FLOOR - MIH APARTMENTS AREA
3/64" = 1'-0"

LEGEND - DWELLING UNITS TYPE

PLAN VIEW	DESCRIPTION
	MIH DWELLING UNITS
	NON MIH DWELLING UNITS

DWELLING UNITS TYPE SCHEDULE

APARTMENT #	BALCONY	MIH UNIT	APARTMENT TYPE SIZE	TOTAL AREA	NON MIH UNITS SF	MIH UNITS SF
1ST FLOOR						
APT. #1A	NO	No	3 BEDROOMS APARTEMENT	580 SF	580 SF	0 SF
APT. #1B	NO	Yes	1 BEDROOM APARTEMENT	359 SF	0 SF	359 SF
APT. #1C	NO	No	1 BEDROOM APARTEMENT	248 SF	248 SF	0 SF
APT. #1D	NO	No	2 BEDROOM APARTEMENT	639 SF	639 SF	0 SF
APT. #1E	NO	No	3 BEDROOMS APARTEMENT	605 SF	605 SF	0 SF
APT. #1F	NO	No	4 BEDROOMS APARTEMENT	602 SF	602 SF	0 SF
APT. #1G	NO	No	3 BEDROOMS APARTEMENT	642 SF	642 SF	0 SF
APT. #1H	YES	Yes	3 BEDROOMS APARTEMENT	587 SF	0 SF	587 SF
APT. #1I	YES	No	3 BEDROOMS APARTEMENT	402 SF	402 SF	0 SF
9				**4664 SF**	**3718 SF**	**946 SF**
2ND FLOOR						
APT. #2A	NO	No	3 BEDROOMS APARTEMENT	565 SF	565 SF	0 SF
APT. #2B	YES	No	3 BEDROOMS APARTEMENT	653 SF	653 SF	0 SF
APT. #2C	YES	Yes	2 BEDROOM APARTEMENT	655 SF	0 SF	655 SF
APT. #2D	NO	No	3 BEDROOMS APARTEMENT	608 SF	608 SF	0 SF
APT. #2E	NO	No	3 BEDROOMS APARTEMENT	619 SF	619 SF	0 SF
APT. #2F	NO	No	3 BEDROOMS APARTEMENT	642 SF	642 SF	0 SF
APT. #2G	YES	No	3 BEDROOMS APARTEMENT	586 SF	586 SF	0 SF
APT. #2H	YES	Yes	3 BEDROOMS APARTEMENT	579 SF	0 SF	579 SF
8				**4907 SF**	**3673 SF**	**1234 SF**
3RD FLOOR						
APT. #3A	NO	No	3 BEDROOMS APARTEMENT	565 SF	565 SF	0 SF
APT. #3B	YES	No	3 BEDROOMS APARTEMENT	653 SF	653 SF	0 SF
APT. #3C	YES	No	2 BEDROOM APARTEMENT	662 SF	662 SF	0 SF
APT. #3D	NO	Yes	3 BEDROOMS APARTEMENT	605 SF	0 SF	605 SF
APT. #3E	NO	No	3 BEDROOMS APARTEMENT	608 SF	608 SF	0 SF
APT. #3F	NO	No	3 BEDROOMS APARTEMENT	641 SF	641 SF	0 SF
APT. #3G	YES	No	3 BEDROOMS APARTEMENT	586 SF	586 SF	0 SF
APT. #3H	YES	Yes	3 BEDROOMS APARTEMENT	575 SF	0 SF	575 SF
8				**4895 SF**	**3715 SF**	**1180 SF**
4TH FLOOR						
APT. #4A	NO	No	3 BEDROOMS APARTEMENT	571 SF	571 SF	0 SF
APT. #4B	YES	Yes	3 BEDROOMS APARTEMENT	654 SF	0 SF	654 SF
APT. #4C	YES	Yes	2 BEDROOM APARTEMENT	662 SF	0 SF	662 SF
APT. #4D	NO	No	3 BEDROOMS APARTEMENT	605 SF	605 SF	0 SF
APT. #4E	NO	No	3 BEDROOMS APARTEMENT	610 SF	610 SF	0 SF
APT. #4F	NO	No	3 BEDROOMS APARTEMENT	641 SF	641 SF	0 SF
APT. #4G	YES	No	3 BEDROOMS APARTEMENT	590 SF	590 SF	0 SF
APT. #4H	YES	No	3 BEDROOMS APARTEMENT	572 SF	572 SF	0 SF
8				**4905 SF**	**3589 SF**	**1316 SF**
5TH FLOOR						
APT. #5A	NO	Yes	3 BEDROOMS APARTEMENT	571 SF	0 SF	571 SF
APT. #5B	YES	No	3 BEDROOMS APARTEMENT	654 SF	654 SF	0 SF
APT. #5C	YES	Yes	2 BEDROOM APARTEMENT	662 SF	0 SF	662 SF
APT. #5D	NO	No	3 BEDROOMS APARTEMENT	605 SF	605 SF	0 SF
APT. #5E	NO	No	3 BEDROOMS APARTEMENT	610 SF	610 SF	0 SF
APT. #5F	NO	No	3 BEDROOMS APARTEMENT	641 SF	641 SF	0 SF
APT. #5G	YES	No	3 BEDROOMS APARTEMENT	614 SF	614 SF	0 SF
APT. #5H	YES	No	3 BEDROOMS APARTEMENT	598 SF	598 SF	0 SF
8				**4955 SF**	**3722 SF**	**1233 SF**
6TH FLOOR						
APT. #6A	NO	No	3 BEDROOMS APARTEMENT	571 SF	571 SF	0 SF
APT. #6B	YES	No	3 BEDROOMS APARTEMENT	654 SF	654 SF	0 SF
APT. #6C	YES	Yes	2 BEDROOM APARTEMENT	662 SF	0 SF	662 SF
APT. #6D	NO	No	3 BEDROOMS APARTEMENT	604 SF	604 SF	0 SF
APT. #6E	NO	Yes	3 BEDROOMS APARTEMENT	610 SF	0 SF	610 SF
APT. #6F	NO	No	3 BEDROOMS APARTEMENT	641 SF	641 SF	0 SF
APT. #6G	YES	No	3 BEDROOMS APARTEMENT	610 SF	610 SF	0 SF
APT. #6H	YES	No	3 BEDROOMS APARTEMENT	594 SF	594 SF	0 SF
8				**4946 SF**	**3674 SF**	**1272 SF**
7TH FLOOR						
APT. #7A	NO	No	3 BEDROOMS APARTEMENT	569 SF	569 SF	0 SF
APT. #7B	YES	No	3 BEDROOMS APARTEMENT	545 SF	545 SF	0 SF
APT. #7C	YES	No	STUDIO APARTEMENT	318 SF	318 SF	0 SF
APT. #7D	NO	No	3 BEDROOMS APARTEMENT	585 SF	585 SF	0 SF
APT. #7E	NO	Yes	3 BEDROOMS APARTEMENT	913 SF	0 SF	913 SF
APT. #7F	NO	No	3 BEDROOMS APARTEMENT	694 SF	694 SF	0 SF
APT. #7H	YES	No	2 BEDROOM APARTEMENT	347 SF	347 SF	0 SF
7				**3971 SF**	**3058 SF**	**913 SF**
TOTAL DWELLING UNITS: 56				**33243 SF**	**25149 SF**	**8094 SF**

AFFORDABLE AREA (UAP UNITS + COMMON AREAS)

UAP ZFA	TOTAL UNITS	NON-UAP UNITS AREA	UAP UNITS AREA	UAP %OF TOTAL	COMMON AREA	PRO RATA COMMON AREA	TOTAL (UAP+COMMON)
41139.76 SF	33243 SF	25149 SF	8094 SF	24.35%	7896.76 SF	1922.70 SF	**10016.70 SF**

UNITS MIX SCHEDULE

APARTMENT TYPE SIZE	TOTAL UNITS #	TOTAL UNITS %	TOTAL UNITS AREA	UAP UNITS #	UAP UNITS %	UAP UNITS AREA	UAP UNITS AVER.SF	NON UAP UNITS #	NON UAP UNITS %	NON UAP UNITS AREA	NON UAP UNITS AVER. SF
1 BEDROOM APARTEMENT	**2**	**3.57%**	607 SF	**1**	**50.00%**	359 SF	**359.00 SF**	**1**	**50.00%**	248 SF	**248.00 SF**
2 BEDROOM APARTEMENT	**7**	**12.50%**	4289 SF	**4**	**57.14%**	2641 SF	**660.25 SF**	**3**	**42.86%**	1648 SF	**549.33 SF**
3 BEDROOMS APARTEMENT	**45**	**80.36%**	27427 SF	**8**	**17.78%**	5094 SF	**636.75 SF**	**37**	**82.22%**	22333 SF	**603.59 SF**
4 BEDROOMS APARTEMENT	**1**	**1.79%**	602 SF	**0**	**0.00%**	0 SF	**0.00 SF**	**1**	**100.00%**	602 SF	**602.00 SF**
STUDIO APARTEMENT	**1**	**1.79%**	318 SF	**0**	**0.00%**	0 SF	**0.00 SF**	**1**	**100.00%**	318 SF	**318.00 SF**
	56	**100.00%**	**33243 SF**	**13**	**124.92%**	**8094 SF**	**1656.00 SF**	**43**	**375.08%**	**25149 SF**	**2320.93 SF**

DISTRIBUTION OF AFFORDABLE HOUSING UNITS

LEVEL	TOTAL	TOTAL AREA	UAP UNITS	UAP UNITS AREA	NON-UAP UNITS	NON-UAP UNITS AREA	UAP UNITS % FLOOR
1ST FLOOR	**9**	4664 SF	**2**	946 SF	**7**	3718 SF	**20.28%**
2ND FLOOR	**8**	4907 SF	**2**	1234 SF	**6**	3673 SF	**25.15%**
3RD FLOOR	**8**	4895 SF	**2**	1180 SF	**6**	3715 SF	**24.11%**
4TH FLOOR	**8**	4905 SF	**2**	1316 SF	**6**	3589 SF	**26.83%**
5TH FLOOR	**8**	4955 SF	**2**	1233 SF	**6**	3722 SF	**24.88%**
6TH FLOOR	**8**	4946 SF	**2**	1272 SF	**6**	3674 SF	**25.72%**
7TH FLOOR	**7**	3971 SF	**1**	913 SF	**6**	3058 SF	**22.99%**
	56	**33243 SF**	**13**	**8094 SF**	**43**	**25149 SF**	

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Fair Lawn, NJ
07410 . 509 .
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MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

REV.	DATE	DESCRIPTION
-	-	-

PROJECT NAME:

1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:
UAP ANALYSIS

JOB NO.: X01150556-I1
SCALE: AS NOTED
DRAWN BY: JOHN HURTADO
CHECKED: LEANDRO NILS DICKSON
DATE: 6/16/2025 1:22:01 PM

DRAWING NO.
Z-106.00

GENERAL NYC 2014 BC NOTES

TENANT PROTECTION NOTES

1. FIRE RETARD ALL CEILINGS WITH 5/8" SHEETROCK FIRE-CODE "X" ONE HOUR RATED, UNLESS OTHERWISE NOTED.
2. ALL FOOTINGS TO BE CARRIED DOWN A MINIMUM OF 4'-0" BELOW ADJACENT GRADE AND BEAR ON UNDISTURBED SOIL HAVING A MINIMUM BEARING CAPACITY OF TWO (2) TONS PER SQUARE FOOT.
3. PROVIDE DOUBLE JOISTS UNDER PARTITIONS RUNNING PARALLEL TO FLOOR BEAMS.
4. PROVIDE TRIPLE-HEADERS AND TRIMMERS AROUND STAIRWELL OPENING, UNLESS OTHERWISE NOTED ON PLAN.
5. INSTALLATION OF INSULATION AND CONSTRUCTION OF WINDOWS AND EXTERIOR DOORS TO COMPLY WITH NEW YORK STATE ENERGY CODE.
   ROOF INSULATION: MINIMUM R21 RATED KRAFT FACED FIBERGLASS BATTS
   EXTERIOR WALLS: MINIMUM R13 RATED KRAFT FACED FIBERGLASS BATTS.
6. CHIMNEY TO BE ENCLOSED IN A MIN. ONE (1) HOUR RATED ENCLOSURE OR AS NOTES ON CONSTRUCTION DRAWINGS.
7. NEW STAIRS SHALL COMPLY WITH SECTION 28.2-1009.3:
   A. CONTRACTORS SHALL CHECK AND VERIFY STORY HEIGHTS PRIOR TO FABRICATION AND INSTALLATION OF STAIRS.
   B. MAXIMUM RISER 7" AND MINIMUM TREAD 11", IN GROUP R-2 OCCUPANCIES THE MAXIMUM RISER SHALL BE 7 3/4" AND MINIMUM TREAD DEPTH SHALL SHALL BE 9 1/2".
   C. EVERY BALUSTRADE OR RAILING SHALL BE AT LEAST 2'-6"
   D. AND MAXIMUM OF 2'-8" ABOVE THE FRONT EDGE OF THE STAIR TREADS AND 2'-8" MINIMUM, 3'-0" MAXIMUM ABOVE LEVEL OF LANDING.
   E. SOFFIT OF STAIR TO BE COVERED WITH 5/8" SHEETROCK TYPE "X".
8. EXTERIOR METAL RAILINGS:
A. EXTERIOR METAL RAILINGS SHALL BE SPACED
A. STRUCTURAL DESIGN OF RAILING TO COMPLY WITH SECTION 28.2-1012.1.
9. ALL CONCRETE FOOTING TO BE CARRIED DOWN BELOW THE LEVEL OF THE HOUSE SEWER WHERE HOUSE

GENERAL NOTES

10. ALL CONCRETE TO BE REINFORCED UNLESS OTHERWISE NOTED.
1. THE PROPOSED WORK ON THIS PLAN SHALL COMPLY WITH NEW YORK CITY BUILDING CODE REQUIREMENTS.
2. THE GENERAL CONTRACTOR SHALL OBTAIN CONSTRUCTION PERMIT AND PAY ALL REQUIRED FEES TO THE D.O.B. BASED ON THE PROPOSED WORK OF THIS DRAWING FROM NEW YORK CITY BUILDING DEPARTMENT PRIOR TO START
3. ALL ELECTRICAL WORK BEING PERFORMED SHALL BE BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH NEW YORK CITY ELECTRICAL CODE , AND SHALL BE REQUIRED TO OBTAIN ALL REQUIRED SIGN-OFFS AND CERTIFICATE OF COMPLETIONS FROM THE B.E.C.
4. ALL PLUMBING WORK SHALL BE PERFORMED BY A LICENSED PLUMBER IN ACCORDANCE WITH THE NEW YORK CITY BUILDING CODE AND INSPECTION REQUIREMENTS. HE SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED PLUMBING SIGN-OFFS AND INSPECTIONS FROM THE DEPARTMENT OF BUILDING'S PLUMBING
5. THE GENERAL CONTRACTOR SHALL CHECK AND VERIFY ALL CONDITIONS AND DIMENSIONS ON THE SITE PRIOR TO START OF WORK. HE SHALL NOTIFY THE ARCHITECT/ENGINEER OF RECORD ANY DISCREPANCIES AND/OR CHANGE OF LAYOUT BETWEEN THE FIELD CONDITIONS AND THIS DRAWINGS IMMEDIATELY. FAILURE TO DO SO WILL INDICATE THE GENERAL CONTRACTOR'S ACCEPTANCE OF THIS DRAWING(S) AND WILL TAKE F
   FULL RESPONSIBILITY FOR SAID WORK BEING PERFORMED.
6. THE ARCHITECT/ENGINEER OF RECORD HAS NOT BEEN RETAINED TO SUPERVISE THE CONSTRUCTION.
7. THE GENERAL CONTRACTOR SHALL RETAIN THE SERVICES OF A LICENSED ARCHITECT/ENGINEER FOR ALL REQUIRED CONTROLLED INSPECTIONS.
8. THE GENERAL CONTRACTOR SHALL OBTAIN SIGN-OFF FROM THE DEPARTMENT OF BUILDING AFTER COMPLETION OF WORK.
9. THE CONTRACTOR SHALL VISIT THE SITE AND SHALL BE KNOWLEDGEABLE OF CONDITIONS THEREON. HE SHALL INVESTIGATE, VERIFY AND BE RESPONSIBLE FOR ALL CONDITIONS OF THE PROJECT AND SHALL NOTIFY THE OWNER OF ANY CONDITIONS REQUIRING MODIFICATIONS BEFORE PROCEEDING WITH THE WORK.
10. NOTES APPEAR ON VARIOUS SHEETS FOR DIFFERENT SYSTEMS AND MATERIALS. SHEETS ARE TO BE REVIEWED AND NOTES ON ANY ONE SHEET ARE TO BE APPLIED ON RELATED DRAWINGS AND DETAILS.
11. DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO THOSE DETAILED. WHERE SPECIFIED DIMENSIONS, DETAILS OR DESIGN INTENT CANNOT BE DETERMINED, CONSULT THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
12. ALL ELEVATOR AND STAIR OPENINGS SHALL BE CERTIFIED BY THE ELEVATOR SUBCONTRACTOR PRIOR TO FORMING. REQUIRED MODIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR APPROVAL PRIOR TO FORMING.
13. CONTRACTOR TO COORDINATE ALL EQUIPMENT BASE AND HOUSEKEEPING PADS WITH MECHANICAL, PLUMBING AND ELECTRICAL CONTRACTORS. EQUIPMENT BASES AND HOUSEKEEPING PADS TO BE A MINIMUM OF 4" HIGH UNLESS OTHERWISE NOTED. PROVIDE ONE LAYER OF WWF 6X6XW4 WELDED WIRE FABRIC MINIMUM, TO BE INSTALLED BENEATH THE FULL PROJECTED AREA OF EQUIPMENT.
14. CONCRETE PADS AND MOUNTINGS IN MECHANICAL SPACES SHALL BE COORDINATED WITH ELECTRICAL AND PLUMBING CONTRACTORS.
15. CONTRACTOR TO COORDINATE ALL MECHANICAL AND ELECTRICAL FLOOR AND WALL SLEEVES AND ALL MECHANICAL SHAFTS WITH MECHANICAL, PLUMBING, FIRE-PROTECTION, ELECTRICAL, STRUCTURAL AND ARCHITECTURAL DRAWINGS.
16. PROVIDE ACCESS PANELS AS APPLICABLE AND AS REQUIRED FOR MECHANICAL EQUIPMENT. ALL ACCESS PANELS SHALL BE CONCEALED, AND LOCATIONS SHALL BE REVIEWED WITH THE ARCHITECT PRIOR TO PROCEEDING.
17. ALL STRUCTURAL ELEMENTS WHICH DO NOT REQUIRE FIREPROOFING SHALL BE FIELD PAINTED.
18. ALL EXTERIOR DOORS SHALL PREVENT AIR LEAKAGE/INFILTRATION AROUND THEIR
19. ALL EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, BETWEEN WALLS AND PERIMETER WHEN IN A CLOSED POSITION. FOUNDATIONS, BETWEEN WALLS AND ROOFS, AND BETWEEN WALLS AND PANELS AT PENETRATION OF UTILITIES THROUGH THE ENVELOPE SHALL BE SEALED, CAULKED OR WEATHER STRIPPED TO PREVENT AIR LEAKAGE/INFILTRATION.

MULTIPLE DWELLING & HOUSE MAINTENANCE NOTE

1. SHORING AND BRACING FOR ALL STRUCTURAL AND REMOVAL TASKS. THE CONTRACTOR SHALL HAVE SOLE RESPONSIBILITY FOR THE SAFETY OF THE BUILDING TO COMPLY WITH ALL REGULATIONS.
2. PAINTING OF UNCOVERED AND PREVIOUSLY PAINTED SURFACES OR AS NOTED ON THE EXECUTION OF WORK.
3. WALLS OF COURTS AND SHAFTS TO BE OF A LIGHT COLORED SURFACE AS PER SEC. D26-12.05 H.M.C. AND SEC. 29 M.D.L.
4. PREMISES TO BE MAINTAINED AND KEPT FREE OF RODENT AND INSECT INFESTATION AS PER SEC. D26-13.03 AND D26-13.05 M.D.L.
5. RECEPTACLES FOR THE COLLECTION OF WASTE MATTER TO BE PROVIDED AS PER SECTION D26-14.03 AND D26-14.05 H.M.C. AND SEC. 81 M.D.L. DRAINAGE OF ROOFS, COURTS AND YARDS TO COMPLY WITH SEC. D26-16.03 H.M.C. AND SEC. 77.
6. YEARLY INSPECTION OF CENTRAL HEATING PLANT BY QUALIFIED PERSON TO BE MADE AS PER SEC. D26-17.05 H.M.C. CENTRAL HEAT AND HOT WATER TO BE PROVIDED AS PER SEC. 29 SUBD.
7. PROPER ELECTRIC LIGHTING EQUIPMENT WITHIN DWELLING TO BE PROVIDED AND MAINTAINED AS PER SEC. D26-19.01, D26-19.03 AND D26-19.05 H.M.C.
8. PROPER ELECTRIC LIGHTS TO BE PROVIDED NEAR ENTRANCE WAYS, YARDS AND COURTS AS PER SEC. D26-19.07 H.M.C. ON SEPARATE CIRCUITS OR CONNECTED TO HOUSE LINE SERVICING PUBLIC HALLS, AND IN ACCORDANCE WITH REQUIREMENTS AND APPROVAL OF THE DEPARTMENT OF WATER SUPPLY, GAS AND ELECTRICITY AS PER SEC. 35 AND SEC. 26 SUBD 7A M.D.L. AND DEPARTMENT OF RULES AND REGULATIONS.
9. B.S.A. APPROVED PEEP HOLES APPROX. 5'-0" ABOVE FINISHED FLOOR TO BE PROVIDED IN ENTRANCE DOORS OF DWELLING UNITS AS PER SEC. D26-20.03 H.M.C. AND DEPARTMENT RULES AND REGULATIONS.
10. PROPERLY MOUNTED AND SECURED POLISHED METAL VIEWING MIRRORS TO BE PROVIDED WITHIN SELF SERVICE ELEVATORS (IF ANY) AS PER SEC. D26-20.03 H.M.C. AND DEPARTMENT RULES AND REGULATIONS.
11. KEY LOCKS IN THE ENTRANCE DOOR TO EACH DWELLING UNIT WITH AT LEAST ONE KEY TO BE PROVIDED BY OWNER AS PER SEC. D26-20.05 H.M.C. HEAVY DUTY LATCH SET DEAD BOLT THUMB TURN INSIDE.
12. APPROVED TYPE MAIL RECEPTACLES AND DIRECTORY OF PERSONS LIVING IN THE DWELLING TO BE PROVIDED AS PER SEC. D26-21.01 H.M.C. AND REGULATIONS OF POST OFFICE DEPARTMENT SEC. 57 M.D.L.
13. PROPER SIGNS TO BE PROVIDED IN THE PUBLIC HALLS NEAR STAIR AND ELEVATOR AND WITHIN STAIR ENCLOSURE AS PER SEC. D26-21.03 AND DEPARTMENT RULES AND REGULATIONS.
14. PROPER STREET NUMBERS TO BE PROVIDED IN FRONT OF DWELLING AS PER SEC. D26-21.05 H.M.C. AND RULES AND REGULATIONS OF BOROUGH PRESIDENT.
15. PROPER JANITORIAL SERVICES TO BE PROVIDED AS PER SEC. 26-22.03 AND D26-22.05 H.M.C.
16. EVERY KITCHEN AND KITCHENETTE TO BE PROVIDED WITH SINK HAVING MIN. 2" WASTE AND TRAP AS PER SEC. D26-32.01 H.M.C.
17. ALL COMBUSTIBLE MATERIAL WITHIN 1'(FT) OF COOKING APPARATUS TO BE PROPERLY FIRE RETARDED AND MIN. 2'(FT) CLEARANCE MAINTAINED ABOVE COOKING SURFACE. COMBUSTIBLE MATERIAL BETWEEN 2'(FT) AND 3'(FT) ABOVE EXPOSED SURFACE TO BE FIRE RETARDED. SEC. 26-32.05 H.M.C. AND DEPARTMENT RULES AND REGULATIONS SEC. 33 SUBD 3 M.D.L.
18. NO KITCHEN SHALL BE OCCUPIED FOR SLEEPING PURPOSES SEC. D26-33.05 H.M.C.
19. REGISTRATION STATEMENT TO BE FILED AS PER SEC. D26-41.01 AND D26-41.03 H.M.C.
20. REGISTRATION IDENTIFICATION SIGN CONTAINING SERIAL NUMBERS TO BE POSTED AS PER SEC. D26-41.15 H.M.C. 22. IDENTIFICATION OF MANAGING AGENT OR OWNER TO BE INDICATED ON TENANTS RENT RECEIPT AS PER SEC. D26-41.17 H.M.C.
21. ALL BATHROOMS, TOILETS AND BATHING COMPARTMENTS TO HAVE CERAMIC TILE FLOOR AND 6" MIN. CERAMIC TILE BASE. WALLS AND CEILING PLASTER AS PER SEC. 76 M.D.L. AND SEC. D26-31.03 H.M.C.
22. ALL DOORS LEADING TO PUBLIC HALLS SHALL BE SELF CLOSING. NO TRANSOM OR PLAIN GLASS PANELS.
23. BUILDING TO COMPLY WITH SEC. 64 M.D.L. GAS METER, GAS APPLIANCES AND ARTIFICIAL LIGHTING.
24. BUILDING TO COMPLY WITH LOCAL LAWS APPLICABLE TO ART. 6 WITH H.M.C. AND WITH DEPARTMENT RULES AND REGULATIONS.
25. ENTIRE BUILDING TO COMPLY WITH SEC. D26-33.03 H.M.C. MAXIMUM OCCUPANCY, MINIMUM ROOM AREA ART. 33 D26-33.01.
26. ALL NEWLY CREATED PARTITIONS IN HALLS TO BE FIRE RETARDED ON BOTH SIDES AND FIRE STOPPED AT TOP AND BOTTOM AS PER DEPARTMENT RULES AND REGULATIONS, RULE 1,2,10 AND RULE 1.7.
27. EVERY VESTIBULE ENTRANCE, PUBLIC AND STAIR HALL TO BE PROVIDED WITH MIN. OF 60 WATT LIGHT AS PER SEC. 37 SBOL M.D.L.

GENERAL REQUIREMENTS

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF NEW YORK ZONING CODE, AND THE DIRECTIONS OF THE CITY OF NEW YORK BUILDING DEPARTMENT. SOULD ANYTHING CONTAINED IN THE CONTRACT DOCUMENT BE A VARIANCE WITH SAID CODES. CONTRACTORS SHALL IMMEDIATELY INFORM THE ARCHITECT.
2. WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS ON THESE DOCUMENTS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS OF THE WORK AND THE ARCHITECT SHALL BE NOTIFIED OF ANY VARIATION FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THE DRAWINGS.
3. CONTRACTORS SHALL PROVIDE ALL ITEM AND LABOR NECESSARY FOR THE COMPLETION OF THE WORK SHOWN ON THE CONTRACT DOCUMENT WHETHER THOSE ITEMS ARE EXPRESSLY SPECIFIED OR NOT, INCLUDING, BUT NOT LIMITED TO TAX , PURCHASE DELIVERY ARRANGEMENT AND STORAGE.
4. PRIOR TO THE SUBMISSION OF BIOS, CONTRACTORS SHALL FAMILIARIZA THEMSELVES WITH CONSTRUCTION DOCUMENTS INSPECT THE EXISTING CONDITIONS AND ADVISE THE ARCHITECT OF ANY CONDITIONS WHICH MIGHT INTERFACE WITH THE WORK OR CAUSE ANY MODIFICATIONS TO THE PROPOSED NEW CONSTRUCTION.
5. CONTRACTORS SHALL PROVIDE SUPERVISION ADEQUATE FOR THE COMPLETION OF THE WORK.
6. CONTRACTORS SHALL COORDINATE ALL LABOR AND MATERIALS INVOLDED IN THE PROJECT AND BE RESPONSIBLE FOR SCHEDULING OF TRADES INVOLVED.
7. CONTRACTORS SHALL BE LICENSED AND INSURED FOR LIABILITY AND PROPERTY DAMAGE AS REQUIRED BY LAW AND THE BUILDING OWNER SHALL SUBMIT SUCH PROOF TO THE OWNER AND ARCHITECT TO VOID THAT ANY CLAIMS AND/OR LIENS ON THE WORK BE ASSOCIATED WITH THE OWNER AND ARCHITECT.
8. CONTRACTORS SHALL CARRY INSURANCE FOR A MINIMUM OF 100 PERCENT OF THE VALUE OF WORK IN PLACE AND SHALL COMPLY WITH ANY AND ALL ADITIONAL SUCH REQUIREMENTS.
9. CERTIFICATES OF INSURANCE TO BE FILED WITH THE BUILDING OWNER AND ARCHITECT LISTING EACH AS CO-INSURED.
10. CONTRACTORS SHALL BE RESPONSIBLE FOR AND SHALL OBTAIN AND PAY FEES FOR ANY ALL PERMITS NECCESSARY TO COMPLETE THE WORK , INCLUDING BUT NOT LIMITED TO, PLUMBING, MECHANICAL, AND ELECTRICAL INSPECTIONS AND WORK.
11. NO EXTRA SHALL BE PERFOMED OR ADDITIONAL CHARGES BE MADE UNLESS AUTHORIZATION IS OBTAINED IN WRITING FROM THE OWNER AND ARCHITECT PRIOR TO SUCH WORK .
12. CONTRACTORS SHALL EXAMINE CONTRACT DOCUMENT FOR ALL ITEMS AND VERIFY THEIR AVAILABILITY TO ASSURE THAT THE WORK WILL PROCEED WITHOUT DELAY. NO THEIR AVAILABILITY TO ASSURE THAT THE WORK PROCCED WITHOUT DELAY . NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT WRITTEN APPROVAL OF THE ARCHITECT.
13. CONTRACTORS SHALL MAINTAIN CONTINUOUS AND ADEQUATE PROTECTION OF ALL EXISTING CONDITIONS AND NEW CONSTRUCTION , AND SHALL REPAIR OR REPLACE ANY WORK, NEW OR EXISTING, WHICH IS DAMAGED.
14. CONTRACTORS SHALL KEEP JOB SITE FREE OF DEBRIS AND HAZARDOUS CONDITIONS AND BE RESPONSIBLE FOR THE REMOVAL OF ALL EQUIPMENT AND DEBRIS PRIOR TO RECEIPT OF PAYMENT. ALL WORK PROCEDURES AND METHODS SHALL COMPLY WITH OSHA AND OTHER APPLICABLE REGULATIONS.
15. CONTRACTORS SHALL THOROUGHLY EXAMINE ALL CONTRACT DOCUMENT AND IMMEDIATELY ADVISE THE ARCHITECT OF ANY ERROR, CONFLICTS OR DISCREPANCIES IN THE DOCUMENTS IN THE WRITING. ARCHITECT WILL NOT BE LIABLE FOR ASSUMPTIONS MADE BY THE CONTRACTOR.
16. ALL WORK AND EQUIPMENT SHALL BE FULLY GUARANTEED FOR ONE YEAR FORM THE DATE OF FINAL PAYMENT.
17. THE CONTRACTOR SHALL COOPERATE WITH OTHER REQUIRING STORAGE AT THE SITE.
18. ALL WORK SHALL BE DONE IN A WORKMANLIKE MANNER AND IN ACCORDANCE WITH GOOD BUILDING PRACTICE.
19. THE CONTRACTOR TO ENSURE ADECUATE CLEARANCE FOR MOVING ALL MATERIALS, ASSEMBLIES AND EQUIPMENT ONTO AND OFF THE SITE AS REQUIRED.
20. THE CONTRACTOR SHALL PAY ALL FEES GIVE ALL NOTICES, FILES NECESSARY DRAWINGS, ARRANGE FOR ALL INSPECTIONS, OBTAIN ALL PERMITS AND CERTIFICATE OF APPROVAL REQUIRED IN CONNECTION WITH ALL WORK UNDER THIS CONTRACT . THE SHALL COMPLY WITH ALL LOCAL LAWS, ORDINANCE, RULES AND REGULATIONS AND WITH THE CITY OF NEW YORK BUILDING CODE AND THE DIRECTION OF THE DESIGNATED BUILDING INSPECTOR.
21. CONTRACTOR SHALL APPROPRIATELY COORDINATE WORK COMPLETED AND SCHEDULE ARCHITECTS SITE OBSERVATIONS.
22. CONTRACTOR SHALL COORDINATED AND COMPLY WITH BUILDING OWNER SHEDULING REQUIREMENTS AND COMMUNICATE WITH BUILDING OWNER.
23. ALL NOTES APPLY TO BOTH THE GENERAL CONTRACTOR AND THE SUBCONTRACTORS AS WELL AS ANY WORKRS AND TRADES EMPLOYED BY THE OWNER UNDER OTHER AGREEMENTS.
24. CONTRACTORS SHALL SUCH LIST OF WORK REMAINING AFTER SUBSTANTIAL COMPLETION TO THE ARCHITECT AND PROCEED TO COMPLETE THIS WORK WITHIN A TWO WEEK PERIOD.
25. ALL MATERIALS AND EQUIPMENT SPECIFIED FOR THIS PROJECT ARE TO BE NEW AND UNUSED, BEST OF THEIR RESPECTIVE KINDS AND FREE OF DEFECTS.

CHIMNEYS

2113.1.6.1 RESPONSIBILITY OF OWNER OF TALLER BUILDING. WHENEVER A BUILDING IS ERECTED, ENLARGED, OR INCREASED IN HEIGHT SO THAT ANY PORTION OF SUCH BUILDING, EXCEPT CHIMNEYS OR VENTS, EXTENDS HIGHER THAN THE TOP OF ANY PREVIOUSLY CONSTRUCTED CHIMNEYS OR VENTS WITHIN 100 FEET (30 480 MM), THE OWNER OF SUCH NEW OR ALTERED BUILDING SHALL HAVE THE RESPONSIBILITY OF ALTERING SUCH CHIMNEYS OR VENTS TO MAKE THEM CONFORM WITH THE REQUIREMENTS OF THIS CHAPTER. A CHIMNEY OR VENT THAT IS NO LONGER CONNECTED WITH A FIREPLACE OR COMBUSTION OR OTHER EQUIPMENT FOR WHICH A CHIMNEY OR VENT WAS REQUIRED, SHALL BE EXEMPT FROM THIS REQUIREMENT. SUCH ALTERATIONS SHALL BE ACCOMPLISHED BY ONE OF THE FOLLOWING MEANS OR A COMBINATION THEREOF:

1. CARRY UP THE PREVIOUSLY CONSTRUCTED CHIMNEYS OR VENTS TO THE HEIGHT REQUIRED IN THIS CHAPTER.

2. OFFSET SUCH CHIMNEYS OR VENTS TO A DISTANCE BEYOND THAT REQUIRED IN THIS CHAPTER FROM THE NEW OR ALTERED BUILDING PROVIDED THAT THE NEW LOCATION OF THE OUTLET OF THE OFFSET CHIMNEY OR VENT SHALL OTHERWISE COMPLY WITH THE REQUIREMENTS OF THIS CHAPTER.

3. SUCH REQUIREMENTS SHALL NOT DISPENSE WITH OR MODIFY ANY ADDITIONAL REQUIREMENTS THAT MAY BE APPLICABLE PURSUANT TO RULES OF THE NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION.

2113.1.6.2 PROTECTION OF DRAFT. AFTER THE ALTERATION OF A CHIMNEY OR VENT AS REQUIRED BY THIS SECTION, IT SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE NEW OR ALTERED BUILDING TO PROVIDE ANY MECHANICAL EQUIPMENT OR DEVICES NECESSARY TO MAINTAIN THE PROPER DRAFT IN THE EQUIPMENT.

2113.1.6.3 WRITTEN NOTIFICATION. THE OWNER OF THE NEW OR ALTERED BUILDING SHALL NOTIFY THE OWNER OF THE BUILDING AFFECTED IN WRITING AT LEAST 45 DAYS BEFORE STARTING THE WORK REQUIRED AND REQUEST WRITTEN CONSENT TO DO SUCH WORK. SUCH NOTICE SHALL BE ACCOMPANIED BY PLANS INDICATING THE MANNER IN WHICH THE PROPOSED ALTERATIONS ARE TO BE MADE.

2113.1.6.4 APPROVAL. THE PLANS AND METHOD OF ALTERATION SHALL BE SUBJECT TO THE APPROVAL OF THE COMMISSIONER.

2113.1.6.5 REFUSAL OF CONSENT. IF CONSENT IS NOT GRANTED BY THE OWNER OF THE PREVIOUSLY CONSTRUCTED BUILDING TO DO THE ALTERATION WORK REQUIRED BY THIS SECTION, SUCH OWNER SHALL SIGNIFY HIS OR HER REFUSAL IN WRITING TO THE OWNER OF THE NEW OR ALTERED BUILDING AND TO THE COMMISSIONER; AND THE OWNER OF THE NEW OR ALTERED BUILDING HAVING SUBMITTED PLANS THAT CONFORM TO THE REQUIREMENTS OF THIS SECTION, SHALL THEREUPON BE RELEASED FROM ANY RESPONSIBILITY FOR THE PROPER OPERATION OF THE EQUIPMENT DUE TO LOSS OF DRAFT AND FOR ANY HEALTH HAZARD OR NUISANCE THAT MAY OCCUR AS A RESULT OF THE NEW OR ALTERED BUILDING. SUCH RESPONSIBILITIES SHALL THEN BE ASSUMED BY THE OWNER OF THE PREVIOUSLY CONSTRUCTED BUILDING. SIMILARLY, SHOULD SUCH OWNER FAIL TO GRANT CONSENT WITHIN 45 DAYS FROM THE DATE OF WRITTEN REQUEST OR FAIL TO SIGNIFY HIS OR HER REFUSAL, HE OR SHE SHALL THEN ASSUME ALL RESPONSIBILITIES AS PRESCRIBED ABOVE.

2113.1.6.6 PROCEDURE. IT SHALL BE THE OBLIGATION OF THE OWNER OF THE NEW OR ALTERED BUILDING TO:

1. SCHEDULE THIS WORK SO AS TO CREATE A MINIMUM OF DISTURBANCE TO THE OCCUPANTS OF THE AFFECTED BUILDING; AND

2. PROVIDE SUCH ESSENTIAL SERVICES AS ARE NORMALLY SUPPLIED BY THE EQUIPMENT WHILE IT IS OUT OF SERVICE. AND

HVAC NOTES

ALL MECHANICAL EQUIPMENTS TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ALL WORK SHALL COMPLY WITH THE NATIONAL PLUMBING CODE AND NYC BUILDING CODE AND SHALL BE PERFORMED BY LICENSED PLUMBER AND LICENSED HVAC INSTALLER.

4. CONTRACTOR SHALL EXAMINE THE EXISTING CONDITIONS AND INVESTIGATE THE EXACT LOCATIONS OF ALL PIPING AND DUCTWORK. CONTRACTOR SHALL INDICATE LOCATIONS OF THE NEW WORK CONNECTING TO EXISTING.

5. ALL CONFLICTS WITH THE FIELD CONDITIONS SHOULD BE BROUGHT TO THE ARCHITECT'S ATTENTION.

6. VERIFY WITH THE OWNER'S EQUIPMENT FOR THE REQUIRED ELECTRICAL SERVICE.

7. ALL CONDUITS SHALL BE CONCEALED IN WALLS, FLOORS OR CEILING.

8. AIR BALANCE SHALL BE PERFORMED AFTER THE COMPLETION OF DUCTWORK.

9. ARRANGE THE TESTING AND APPROVAL OF PIPING WORK WITH LOCAL AUTHORITIES.

10. PATCH THE FLOORS, WALLS AND CEILING TO THE STANDARDS OF BUILDING.

11. ALL PENETRATIONS THROUGH FLOORS, WALLS AND CEILING SHALL BE AIRTIGHT.

12. DUCT WORK THROUGH FIRE RATED PARTITIONS SHOWULD HAVE FIRE DAMPERS.

FINISHES & DETAILS

13. NO INTERIOR FINISH MATERIAL COVERING MORE THAN 20% OF THE AGGREGATE WALL AND CEILING AREA, SHALL BE USED IF IT DEVELOPS SMOKE IN GREATER DENSITY THAN THE RATING SHOWN IN TABLE 27-348(d).

14. ATTACHMENTS AND ADHESIVES FOR INTERIOR FINISH TO HAVE THE SAME FLAME-SPREAD, AND SMOKE DEVELOPED RATING OF THE INTERIOR FINISHES, AS PER 27-348(F).

15. NO MATERIAL SHALL BE USED IN ANY INTERIOR LOCATION WHICH WILL PRODUCE PRODUCTS MORE TOXIC THAN THOSE GIVEN OFF BY WOOD OR PAPER WHEN DECOMPOSING OR BURNING AS PER 27-348(E).

16. COATINGS APPLIED BY BRUSH OR SPRAY SHALL NOT BE USED AS FLAME-SPREAD RETARDANTS EXCEPT AS PROVIDED IN 27-349.

17. FOR CONSTRUCTION GROUP 1, COMBUSTIBLE FLOORING MAY BE USED WHEN IN COMPLIANCE WITH 27-351(B).

18. FLOORS IN REQUIRED EXITS SHALL NOT HAVE ANY CARPET. ONLY WOOL CARPETING MAY BE INSTALLED IN LOBBY AREAS, EXIT PASSAGEWAYS, AND CONVENIENCE STAIRS, AS PER 27-351(D)(1).

19. CARPET, WHEN USED AS A FLOOR COVERING, SHALL HAVE FLAMMABILITY REQUIREMENTS IN ACCORDANCE WITH RS 5-20. IF USED AS AN INTERIOR FINISH, IT SHALL COMPLY WITH PROVISIONS REGARDING INTERIOR FINISH, IT SHALL COMPLY WITH PROVISIONS REGARDING INTERIOR FINISHES AS PER

20. ALL GLASS PANELS, USED IN WINDOWS, IN DOORS, AS INTERIOR PARTITIONS, ETC., SHALL BE IN COMPLIANCE WITH SUBCHAPTER 10, ARTICLE 12, AND RS 10-68. THICKNESS, MAXIMUM GLASS PANEL AREA, STRENGTH, ETC., OF GLASS PANEL SHALL BE IN ACCORDANCE WITH TABLES 10-6, 10-7, 10-8 OF SUBCHAPTER 10 ARTICLE 12.

21. EXCEPT FOR MISCELLANEOUS TRIMS, MOLDINGS, ETC., ALL WOOD USED SHALL BE FIRE-RETARDANT, I.E. COUNTER TOPS, CABINETS, DOORS, ETC.

CONSTRUCTION FENCE

AS PER SECTION 27-1021 OF THE NYC BUILDING CODE. FENCES SHALL BE AT LEAST EIGHT FEET HIGH, AND CONSTRUCTED OF WOOD OR OTHER SUITABLE MATERIAL. THEY SHALL BE BUILT SOLID FOR THEIR ENTIRE LENGTH, EXCEPT FOR OPENINGS WITH SOLID SLIDING OR IN SWINGING SIC] GATES AS ARE REQUIRED FOR THE PROPER PROSECUTION OF THE WORK, AND FOR VIEWING PANELS, WHICH SHALL BE BLOCKED WITH PLEXIGLASS OR EQUIVALENT NON-FRANGIBLE MATERIAL

VENTILATION NOTES

1. KITCHENETTE DUCTS SHALL BE A MINIMUM 18 GAUGE GALVANIZED METAL.
2. INTERIOR BATHROOM DUCT SHALL BE A MINIMUM 24 GAUGE GALV. SHEET METAL.
3. ALL DUCTS TO BE FITTED WITH B.S.A APPROVED REGISTER & FUSABLE LINK FIRE DAMPERS.
4. ALL MECHANICAL VENTILATION DUCTS SHALL BE ENCLOSED WITH 2 LAYERS OF 1" GYPSUM COREBOARDS TO ACHIEVE A TWO HOURS FIRE RATING.
5. MECHANICAL VENTILATION DUCTS PASS THROUGH WALLS OR FLOORS, THE OPENINGS SHALL BE FIRE STOPPED WHT VERMICULITE PLASTER & MIRE MESH OR F. 60 GYPSUM BOARD.
6. ALL VENTILATION DUCTS SHALL TERMINATE AT ROOF IN AN APPROVED TYPE EXHAUST FAN. SUCH FANS SHALL HAVE CAPACITIES AS INDICATED ON THE DRAWINGS AND SHALL OPERATE CONTINUOUSLY.
7. ON COMPLETION OF MECHANICAL SYSTEM, SUCH SYSTEM SHALL BE TESTED BY OR UNDER THE SUPERVISION OF.
   A. A LICENSED PROFESSIONAL ENGINEER, QUALIFIED TO CONDUCT SUCH A TEST; OR
   B. A PERSON HAVING 5 YEARS EXPERIENCE SUPERVISING INSTALLATION OF SUCH SYSTEM & QUALIFIED TO CONDUCT SUCH A TEST. THE TEST SHALL SHOW COMPLIANCE WITH THE CODE REQUIREMENTS FOR VENTILATION AND FUNCTIONING FOR ALL OPERATING DEVICES. THE QUALIFIED TESTER SHALL FILE CERTIFICATE INDICATING THAT THE TEST SHOWS THAT THE RATE OF AIR SUPPLY MEETS REQUIREMENTS OF THE CODE.
8. OWNER SHALL FILE A CERTIFICATE INDICATING THAT THE VENTILATION SYSTEM WILL BE OPERATED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CODE.
9. PROVIDE A MINIMUM 144 SQ. IN LOUVRE IN DOORS TO ROOMS WIHT LESS THAN 18 SQ. FT. OF WINDOW AREA.
10. PROVIDE GRAVITU TYPE METAL VENTILATORS FOR COCKLOFT ROOF AREAS BEHIND EXTERIOR FACE BRICK WALLS, FREE AREA OF VENTILATORS SHALL BE A MINIMUM OF 1/300 OF ROOF AREA.

CONSTRUCTION NOTES

1. ALL WORK SHILL COMPLY WITH THE REQUIREMENTS OF THE NEW YORK CITY CODE.
2. ALL CONTRACTORS SHALL REVIEW AND STUDY THE CONTRACT DOCUMENTS THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES.
3. ALL CONTRACTORS SHALL ACQUAINT THEMSELVES WITH THE JOB AND VERIFY ALL CONDITIONINGS BEFORE COMMENCING ANY PHASE OF WORK.
4. GENERAL CONTRACTOR SHALL NOTIFY GJC OF ANY DISCREPANCY BETWEEN THE DRAWINGS. THESE NOTES, AND FIELD CONDITIONS PRIOR TO COMMENCING ANY PHASE OF WORK. IF THERE IS A DISCREPANCY, G.C. TO USE MOST STRINGENT DEFINITION.
5. ALL WOODWORK BLOCKING, AND GROUNDS ARE TO CONFORM TO ANY AND ALL BUILDING CODE REQUIREMENTS CONCERNING FIREPROOFING.
6. GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS AS REQUIRED TO PATCH AND REPAIR EXISTING FINISHES OR PROVIDE NEW FINISHES IN ORDER TO ASSURE A FINAL AND COMPLETE FINISH AFTER ALL DEMOLITION, CHOPPING, REMOVAL, ETC. FOR WORKS OF ALL TRADES.
7. ALL OPENINGS IN RATED WALLS AND ENCLOSURES SHALL BE PROTECTED WITH FIRE RATED PROTECTIVE DEVICES AS PER NEW YORK CITY BUILDING CODE.
8. GENERAL CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS AND/OR SAMPLES FOR ALL PERTINENT TRADES, INCLUDING WOODWORK, HARDWARE, ETC. TO J

NEW YORK CITY BUILDING CODE 2014 ANALYSIS

BC CHAPTER 3: USE & OCCUPANCY CLASSIFICATION

OCCUPANCY GROUP	OCCUPANCY
RESIDENTIAL R-2	
TRASH COMPACTOR ROOM USE	INCIDENTAL
MECHANICAL AND/OR ELECTRICAL EQUIP. ROOM USE	INCIDENTAL
LAUNDRY ROOM OVER 100 SF USE	INCIDENTAL

BC CHAPTER 5: GENERAL BUILDING HEIGHTS AND AREAS; SEPARATION OF OCCUPANCIES

TABLE 503: ALLOWABLE HEIGHT AND BUILDING AREAS

PROPOSED CONSTRUCTION: TYPE I-B
MAX. AREA: UNLIMITED
MAX. STORIES: UNLIMITED
SPRINKLERED BUILDING YES

TABLE 503
ALLOWABLE BUILDING HEIGHTS AND AREAS[a]
Building height limitations shown in feet above grade plane. Story limitations shown as stories above grade plane.
Building area limitations shown in square feet, as determined by the definition of "Area, building," per story.

GROUP	HEIGHT (feet)	HEIGHT (S)	TYPE OF CONSTRUCTION								
			TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
			A	B	A	B	A	B	HT	A	B
			UL	160[e]	85	55	85	55	65	50	40
A-1	S	UL	UL	UL	6	3	6	3	6	3	2
	A	UL	UL	UL	17,500	10,500	14,700	5,600	15,000	8,400	5,500
A-2	S	UL	UL	UL	6	3	6	3	6	3	2
	A	UL	UL	UL	17,500	9,500	14,000	5,600	15,000	8,400	5,500
A-3	S	UL	UL	UL	6	3	6	3	6	3	2
	A	UL	UL	UL	17,500	9,500	14,000	5,600	15,000	8,400	5,500
A-4	S	UL	UL	UL	6	3	6	3	6	3	2
	A	UL	UL	UL	17,500	9,500	14,000	5,600	15,000	8,400	5,500
A-5	S	UL	UL	UL	UL	UL	UL	UL	6	UL	UL
	A	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	S	UL	UL	UL	6	3	6	3	6	3	2
	A	UL	UL	UL	37,500	10,500	28,500	5,600	36,000	8,400	5,500
E	S	UL	UL	UL	4	3	4	3	6	3	2
	A	UL	UL	UL	26,000	10,500	23,500	5,600	25,500	8,400	5,500
F-1	S	UL	UL	6	5	3	5	2	5	3	2
	A	UL	UL	UL	12,500	7,500	7,500	3,000	10,000	3,000	1,000
F-2	S	UL	UL	UL	6	3	6	3	6	3	2
	A	UL	UL	UL	37,500	10,500	28,500	5,600	30,000	8,400	5,500
H-1	S	1	1	1	1	1	1	1	1	1	NP
	A	21,000	16,500	11,000	7,500	9,500	7,000	10,500	7,500	NP	NP
H-2[d]	S	UL	3	2	1	2	1	2	1	1	1
	A	21,000	16,500	11,000	7,500	9,500	7,000	10,500	7,500	3,000	NP
H-3[d]	S	UL	6	4	2	4	2	4	2	1	1
	A	UL	60,000	26,500	14,000	17,500	13,000	25,000	10,000	5,000	NP
H-4	S	UL	7	5	3	5	3	5	3	2	1
	A	UL	UL	37,500	17,500	28,500	17,500	36,000	18,000	6,500	NP
H-5	S	3	3	3	3	3	3	3	3	2	1
	A	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000	NP
I-1	S	UL	UL	6	NP	4	3	4	NP	NP	NP
	A	UL	UL	19,000	NP	16,500	5,600	18,000	NP	NP	NP
I-2	S	UL	6	4	4	5	3	5	3	NP	NP
	A	UL	UL	7,000	3,500	5,000	1,200	6,500	2,000	NP	NP
I-3	S	UL	4	4	3	4	2	4	3	NP	NP
	A	UL	UL	7,000	3,500	5,000	1,200	6,500	2,000	NP	NP
I-4	S	UL	UL	3	3	3	3	3	2	2	2
	A	UL	UL	26,500	9,500	23,500	5,600	25,500	8,400	5,500	
M	S	UL	UL	6	3	6	3	6	3	2	
	A	UL	UL	21,500	7,500	18,500	5,600	14,000	8,400	5,500	
R-1	S	UL	UL	6	NP	6	NP	6	NP	NP	
	A	UL	UL	UL	NP	24,000	NP	20,500	NP	NP	
R-2	S	UL	UL	6	NP	6	3	6	NP	NP	
	A	UL	UL	UL	NP	24,000	5,600	20,500	NP	NP	
R-3	S	UL	UL	6	3	6	3	6	3	3	
	A	UL	UL	17,500	10,500	14,700	5,600	30,000	8,400	5,500	
S-1	S	UL	6	5	3	4	3	4	3	2	
	A	UL	48,000	12,000	7,500	7,500	7,500	7,500	5,000	1,000	
S-2[b,c]	S	UL	UL	UL	6	3	6	4	6	3	2
	A	UL	UL	UL	15,000	10,000	10,000	8,500	10,000	8,400	5,500
U[c]	S	UL	5	4	2	3	2	4	2	1	
	A	UL	35,000	19,000	8,500	14,000	8,500	18,000	9,000	5,500	

Not permitted in Fire District

Not permitted in Fire District without sprinklers

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m².

A = building area per story, S = stories above grade plane,

UL = Unlimited, NP = Not permitted.

a. See the following sections for general exceptions to Table 503:
1. Section 504.2, Allowable height increase due to automatic sprinkler system installation.
2. Section 506.2, Allowable area increase due to frontage.
3. Section 506.3, Allowable area increase due to automatic sprinkler system installation.
4. Section 507, Unlimited area building.

b. For open parking structures, see Section 406.3.
c. For private garages, see Section 406.1.
d. See Section 415.5 for limitations.
e. Except for Occupancy Groups F-1, H-1 through H-5,I-2,I-3, S-1 and U, buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 shall be unlimited in height.

BC 504.2 HEIGHT MODIFICATIONS

WHERE A BUILDING IS EQUIPPED THROUGHOUT WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1, THE VALUE SPECIFIED IN TABLE 503 FOR MAXIMUM HEIGHT IS INCREASED BY 20 FEET AND THE MAXIMUM NUMBER OF STORIES IS INCREASED BY ONE STORY

BC 508: INCIDENTAL USE AREAS AND MIXED OCCUPANCIES:

TABLE 508.4 REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

R-2 1HR

TABLE 508.4
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

OCCUPANCY	A, E		I-1, I-3, I-4		I-2		R[a]		F-2, S-2[b], U		B		F-1		M		S-1		H-1		H-2		H-3, H-4		H-5	
	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS
A, E	N	N	1	2	2	NP	1	2	N	1	1	2	1	2	1	2	1	2	NP	NP	3	4	2	3	2	NP
I-1, I-3, I-4	--	--	N	N	2	NP	1	NP	1	2	1	2	1	2	1	2	1	2	NP	NP	3	NP	2	NP	2	NP
I-2	--	--	--	--	N	N	2	NP	2	NP	2	NP	2	NP	2	NP	2	NP	NP	NP	3	NP	2	NP	2	NP
R[a]	--	--	--	--	--	--	N	N	1[c]	1	1	2	1	2	1	2	1	2	NP	NP	3	NP	2	NP	2	NP
F-2, S-2[b], U	--	--	--	--	--	--	--	--	N	N	1	2	1	2	1	2	1	2	NP	NP	3	4	2	3	2	NP
B	--	--	--	--	--	--	--	--	--	--	N	N	2	3	1	2	2	3	NP	NP	2	3	1	2	1	NP
F-1	--	--	--	--	--	--	--	--	--	--	--	--	N	N	2	3	2	3	NP	NP	2	3	1	2	1	NP
M	--	--	--	--	--	--	--	--	--	--	--	--	--	--	N	N	2	3	NP	NP	2	3	1	2	1	NP
S-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	N	N	NP	NP	2	3	1	2	1	NP
H-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	N	NP	NP	NP	NP	NP	NP	NP
H-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	N	NP	1	NP	1	NP
H-3, H-4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1[d]	NP	1	NP
H-5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	N	NP

S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
N = No separation requirement.
NP = Not permitted.
a. See Section 420.
b. The required separation from areas used only for private or pleasure vehicles shall be reduced by 1 hour but to not less than 1 hour.
c. See Section 406.1.4.
d. Separation is not required between occupancies of the same classification.

TABLE 509 INCIDENTAL USE AREAS

ROOM OR AREA PROVIDED	FIRE SEPARATION PROTECTION
RESIDENTIAL	
STORAGE ROOM OVER 100 SF	2HR
TRASH COMPACTOR ROOM	3HR
MECHANICAL AND/OR ELECTRICAL EQUIP. ROOM	2HR
LAUNDRY ROOM OVER 100 SF	0HR

BC CHAPTER 6: TYPES OF CONSTRUCTION

TYPE I NON-COMBUSTIBLE (FROM TABLE 601 & TABLE 602) CLASS 1-B

TABLE 601: FIRE RESISTANCE RATING FOR BUILDING ELEMENTS HOURS	RATING IN
PRIMARY STRUCTURAL FRAME	2HR
BEARING WALLS - EXTERIOR	2HR
BEARING WALLS - INTERIOR	2HR
NONBEARING WALLS AND PARTITIONS EXTERIOR *	*1HR
NONBEARING WALLS AND PARTITIONS INTERIOR	0HR
FLOOR CONSTRUCTION	2HR
ROOF CONSTRUCTION	1HR

** BASED ON TABLE 602, FOR FIRE SEPARATION DISTANCE < 5FT FIRE RESISTANCE RATING FOR EXTERIOR NON BEARING WALLS FOR OCCUPANCY R = 1 HR*

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (hours)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V[f]	
	A	B	A[g]	B	A[g]	B	HT	A[g]	B
Primary structural frame[f,k] (see Section 202)	3[e]	2[e]	1	0	1	0	HT	1	0
Bearing walls Exterior[f,j]	3	2	1	0	2	2	2	1	0
Interior	3[e]	2[e]	1	0	1	0	1/HT	1	0
Nonbearing walls and partitions Exterior	See Table 602								
Nonbearing walls and partitions Interior[h]	0	0	0	0	0	0	See Section 602.4.6	0	0
Floor construction[i] and secondary members (see Section 202)	2	2	1	0	1	0	HT	1	0
Roof construction and secondary members (see Section 202)	1½[e,h]	1[h,i]	1[h,i]	0[h,i]	1[h,i]	0	HT	1[h,i]	0

For SI: 1 foot = 304.8 mm.
a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.
b. 1. Except in Group F-1, H, M and S-1 occupancies, fire protection of structural members shall not be required, including protection of roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below. Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.
2. Except in Group F occupancies subject to regulation under Sections 2641(3) and 2642(2) of the *New York State Labor Law*, and in Group I-1, R-1, and R-2 occupancies, in Types I and II construction, fire-retardant-treated wood shall be allowed in buildings including girders and trusses as part of the roof construction when the building is:
i. Type II construction of any height; or
ii. Type I construction two stories or less; or when over two stories, the vertical distance from the upper floor to the roof is 20 feet or more.
c. Except in Group F occupancies subject to regulation under Sections 2641(3) and 2642(2) of the *New York State Labor Law*, and in Group I-1, R-1 and R-2 occupancies, heavy timber shall be allowed where a 1-hour or less fire-resistance rating is required.
d. An approved automatic sprinkler system in accordance with Section 903.3.1.1 shall be allowed to be substituted for 1-hour fire-resistance-rated construction, provided such system is not otherwise required by other provisions of the code or used for an allowable area increase in accordance with Section 506.3 or an allowable height increase in accordance with Section 504.2. The 1-hour substitution for the fire resistance of exterior walls shall not be permitted.
e. Not less than the fire-resistance rating required by other sections of this code.
f. Not less than the fire-resistance rating based on fire separation distance (see Table 602).
g. Not less than the fire-resistance rating as referenced in Section 704.10.
h. See exception 2 of Table 602.
i. See Section 712.1 for additional requirements.
j. Type V construction is not permitted inside fire districts except as provided for in Section D105.1 of Appendix D.
k. See Section BC 403.2.1 for additional requirements for high-rise buildings.

TABLE 602
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a,b,g,h]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[f]	OCCUPANCY GROUP F-1, M, S-1[d]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[e]
X < 5	All	3	2	1
5 ≤ X < 10	IA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.
a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. Group U when used as accessory to Group R-3 shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet or more for the standing private garages in compliance with Section 406.1, and where the separation distance is 3 feet or more for other freestanding Group U buildings. For free-standing private garages, where the fire separation distance is less than 3 feet, protection for Section 406.1 for required fire-resistance rating for exterior walls.
c. See Section 706.1.1 for party walls.
d. Open parking garages complying with Section 406 shall not be required to have a fire resistance rating.
e. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
f. For special requirements for Group H occupancies, see Section 412.2.
g. Inside the fire district, exterior load-bearing walls of Type II buildings shall have a fire-resistance rating not less than prescribed below:

X < 5	2 hours
5 ≤ X < 10	1 hours
10 ≤ X < 30	1 hour
X ≥ 30	As per table 602.

h. Inside the fire district, exterior nonload-bearing walls of Type II buildings shall have a fire-resistance rating not less than prescribed below:

BC CHAPTER 7: FIRE RESISTANCE RATED CONSTRUCTION

TABLE 705.8: MAXIMUM AREA OF EXTERIOR WALL OPENINGS

FIRE SEPARATION DISTANCE	CLASSIFICATION OF OPENING	MAX ALLOWED RATIO
0' TO LESS THAN 3'	PROTECTED	(k) 10% PER STORY
5' TO LESS THAN 10'	PROTECTED	25% PER STORY

NOTE: THESE OPENINGS DO NOT CREDIT TOWARDS MEETING ANY MANADATORY NATURAL LIGHT OR VENTILATION REQUIREMENTS.

705.8.2 PROTECTED OPENINGS.
WHERE OPENINGS ARE REQUIRED TO BE PROTECTED,FIRE DOORS AND FIRE SHUTTERS SHALL COMPLY WITH SECTION 715.4 AND FIRE WINDOW ASSEMBLIES SHALL COMPLY WITH SECTION 715.5.

EXCEPTION:
OPENING PROTECTIVES ARE NOT REQUIRED WHERE THE BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 AND THE EXTERIOR OPENINGS ARE PROTECTED BY A WATER CURTAIN USING AUTOMATIC SPRINKLERS APPROVED FOR THAT USE. THE SPRINKLERS AND THE WATER CURTAIN SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 13, AS MODIFIED IN APPENDIX Q.

K. PROTECTED OPENINGS WITHIN A FIRE SEPARATION DISTANCE OF 3 FEET OR LESS ARE PERMITTED FOR OCCUPANCY GROUPS R-2 AND R-3 PROVIDED SUCH OPENINGS DO NOT EXCEED 10 PERCENT OF THE AREA OF THE FACADE OF THE STORY IN WHICH THEY ARE LOCATED.

TABLE 705.8 MAXIMUM AREA OF EXTERIOR WALL OPENINGS BASED ON FIRE SEPARATION DISTANCE AND DEGREE OF OPENING PROTECTION[m]

FIRE SEPARATION DISTANCE (feet)	DEGREE OF OPENING PROTECTION	ALLOWABLE AREA[a]
0 to less than 3[b, c]	Unprotected, Nonsprinklered (UP, NS)	Not Permitted
	Unprotected, Sprinklered (UP, S)[j]	Not Permitted
	Protected (P)	Not Permitted[j, k]
3 to less than 5[d, e]	Unprotected, Nonsprinklered (UP, NS)	Not Permitted
	Unprotected, Sprinklered (UP, S)[j]	15%
	Protected (P)	15%[j]
5 to less than 10[e, f]	Unprotected, Nonsprinklered (UP, NS)	10%[h]
	Unprotected, Sprinklered (UP, S)[j]	25%
	Protected (P)	25%[j]
10 to less than 15[e, f, g]	Unprotected, Nonsprinklered (UP, NS)	15%[h]
	Unprotected, Sprinklered (UP, S)[j]	45%
	Protected (P)	45%[j]
15 to less than 20[f, g]	Unprotected, Nonsprinklered (UP, NS)	25%
	Unprotected, Sprinklered (UP, S)[j]	75%
	Protected (P)	75%[j]
20 to less than 25[f, g]	Unprotected, Nonsprinklered (UP, NS)	45%
	Unprotected, Sprinklered (UP, S)[j]	No Limit
	Protected (P)	No Limit[j]
25 to less than 30[f, g]	Unprotected, Nonsprinklered (UP, NS)	70%
	Unprotected, Sprinklered (UP, S)[j]	No Limit
	Protected (P)	No Limit[j]
30 or greater	Unprotected, Nonsprinklered (UP, NS)	No Limit
	Unprotected, Sprinklered (UP, S)[j]	Not Required
	Protected (P)	Not Required

BC CHAPTER 8: INTERIOR FINISH FLAME SPREAD INDEX

TABLE 803.1 INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY

GROUP	SPRINKLERED		
	VERTICAL EXITS AND EXIT PASSAGEWAYS	EXIT ACCESS CORRIDORS AND OTHER EXITWAYS	ROOMS AND ENCLOSED SPACES
R-2	B	B	C
S-2	B	C	C

TABLE 803.1
INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY[k]

GROUP	SPRINKLERED[i]			NONSPRINKLERED		
	Exit enclosures and exit passageways[a, b]	Corridors	Rooms and enclosed spaces[c]	Exit enclosures and exit passageways[a, b]	Corridors	Rooms and enclosed spaces[c]
A-1 & A-2	B	B	C	A	A[d]	B[d]
A-3[f], A-4, A-5	B	B	C	A	A[d]	C
B, E, M, R-1	B	B	B	A	A	B
F	B	C	C	A	B	B
H	B	B	C[g]	A	A	B
I-1	B	C	C	A	B	B
I-2	B	B	B[h, l]	A	A	B
I-3	A	A[j]	C	A	A	B
I-4	B	B	B[h, l]	A	A	B
R-2	B	B	C	A	A	C
R-3	C	C	C	C	C	C
S	B	C	C	A	B	C
U	No restrictions			No restrictions		

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m².
a. Class C interior finish materials shall be permitted for wainscoting or paneling of not more than 1,000 square feet of applied surface area in the grade lobby where applied directly to a noncombustible base or over furring strips applied to a noncombustible base and fireblocked as required by Section 803.3.1.
b. In exit enclosures of buildings less than three stories above grade plane of other than Group I-3, Class B interior finish for nonsprinklered buildings and Class C interior finish for sprinklered buildings shall be permitted.
c. Requirements for rooms and enclosed spaces shall be based upon spaces enclosed by partitions. Where a fire-resistance rating is required for structural elements, the enclosing partitions shall extend from the floor to the ceiling. Partitions that do not comply with this shall be considered enclosing spaces and the rooms or spaces on both sides shall be considered one. In determining the applicable requirements for rooms and enclosed spaces, the specific occupancy thereof shall be the governing factor regardless of the group classification of the building or structure.
d. Lobby areas in Group A-1, A-2 and A-3 occupancies shall not be less than Class B materials.
e. Class C interior finish materials shall be permitted in places of assembly with an occupant load of 300 persons or less.
f. For churches and places of worship, wood used for ornamental purposes, trusses, paneling or chancel furnishing shall be permitted.
g. Class B material is required where the building exceeds two stories.
h. Class C interior finish materials shall be permitted in administrative spaces.
i. Class C interior finish materials shall be permitted in rooms with a capacity of four persons or less.
j. Class B materials shall be permitted as wainscoting extending not more than 48 inches above the finished floor in exit access corridors.
k. Finish materials as provided for in other sections of this code.
l. Applies when the exit enclosures, exit passageways, corridors, or rooms and enclosed spaces are protected by a sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

BC 2014 - CHAPTER 9 - FIRE PROTECTION SYSTEMS

908 EMERGENCY ALARM SYSTEMS

908.7 CARBON MONOXIDE ALARMS AND DETECTORS
CARBON MONOXIDE ALARMS AND DETECTORS SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH SECTIONS 908.7.1 THROUGH 908.7.4.

908.7.1 GROUP I-1 AND R OCCUPANCIES.
LISTED CARBON MONOXIDE ALARMS OR DETECTORS SHALLBE INSTALLED AS FOLLOWS:
1.GROUP R-1AND GROUP R-2 WHERE THE MAIN USE OR DOMINANT OCCUPANCY OF A BUILDING IS CLASSIFIED AS GROUP R-2 STUDENT APARTMENTS.CARBON MONOXIDE DETECTORS AND AUDIBLE NOTIFICATION APPLIANCES SHALL BE INSTALLED IN AFFECTED DWELLING UNITS AS PER SECTION 908.7.1.1 AND SHALL BE ANNUNCIATED BY DWELLING UNIT AT A CONSTANTLY ATTENDED LOCATION FROM WHICH THE FIRE ALARM SYSTEM IS CAPABLE OF BEING MANUALLY ACTIVATED

908.7.1.1 REQUIRED LOCATIONS WITHIN DWELLING UNITS
CARBON MONOXIDE ALARMS OR DETECTORS SHALL BELOCATED WITHIN DWELLING UNITS AS FOLLOWS:
1.OUTSIDE OF ANY ROOM USED FOR SLEEPING PURPOSES, WITHIN 15 FEET (4572 MM) OF THE ENTRANCE TO SUCH ROOM.
2.IN ANY ROOM USED FOR SLEEPING PURPOSES.
3.ON ANY STORY WITHIN A DWELLING UNIT, INCLUDING BELOW-GRADE STORIES AND PENTHOUSES OF ANY AREA, BUT NOT INCLUDING CRAWL SPACES AND UNINHABITABLE ATTICS.

****908.7.1.1.2 INSTALLATION REQUIREMENTS***
**SECTION 908.7.1.1.2 WAS AMENDED BY LOCAL LAW 157 OF 2016.*

LOCAL LAW 157 OF 2016.
908.7.1.1.2 INSTALLATION REQUIREMENTS. CARBON MONOXIDE ALARMS OR DETECTORS SHALL COMPLY WITH THE POWER SOURCE, INTERCONNECTION[,] AND ACCEPTANCE TESTING REQUIREMENTS AS REQUIRED FOR SMOKE ALARMS IN ACCORDANCE WITH SECTIONS 907.2.11.2 THROUGH 907.2.11.3 AND SECTION 907.7.1

BC CHAPTER 11: ACCESSIBILITY

BC 1107.2.4
ALL OPERABLE WINDOWS IN ROOM OR SPACES IN TYPE B DWELLING UNIT OR SLEEPING UNIT SHALL HAVE OPERABLE PARTS COMPLYING WITH SECTION 309(OPERABLE PARTS) OF ICC A117.1

BC CHAPTER 12: INTERIOR ENVIRONMENT

BC 1203
NATURAL VENTILATION REQUIREMENTS AS PER BC 1203.
NATURAL LIGHT AND VENTILATION HAS TO BE PROVIDED THROUGH LEGAL WINDOW.
MAXIMUM DEPTH OF A ROOM IS 30 FEET FROM OUTER FACE OF THE WINDOW

BC1207.2
ROOM CONTAINING HVAC UNITS ON EACH FLOOR HAS TO COMPLY WITH BC 1207.2. MINIMUM SOUND TRANSMISSION CLASS (STC) FOR AIR-BORN NOISE OF NOT LESS THAN 50.
TYP.

BC CHAPTER 16: STRUCTURAL DESIGN

BC 1613 EARTHQUAKE LOADS
1613.1 SCOPE. EVERY STRUCTURE, AND PORTION THEREOF, INCLUDING NONSTRUCTURAL COMPONENTS THAT ARE PERMANENTLY ATTACHED TO STRUCTURES AND THEIR SUPPORTS AND ATTACHMENTS, SHALL BE DESIGNED AND CONSTRUCTED TO RESIST THE EFFECTS OF EARTHQUAKE MOTIONS IN ACCORDANCE WITH ASCE 7-10, EXCLUDING CHAPTER 14 AND APPENDIX 11A. THE SEISMIC DESIGN CATEGORY FOR A STRUCTURE SHALL BE DETERMINED IN ACCORDANCE WITH EITHER SECTION 1613 OR ASCE 7-10.

EXCEPTIONS:
1. ONE-AND TWO-FAMILY DWELLINGS THREE STORIES OR LESS IN HEIGHT.
2. THE SEISMIC-FORCE-RESISTING SYSTEM OF WOOD-FRAME BUILDINGS THAT CONFORM TO THE PROVISIONS OF SECTION 2308.
3. AGRICULTURAL STORAGE STRUCTURES INTENDED ONLY FOR INCIDENTAL HUMAN OCCUPANCY.
4.STRUCTURES THAT REQUIRE SPECIAL CONSIDERATION OF THEIR RESPONSE CHARACTERISTICS AND ENVIRONMENT THAT ARE NOT ADDRESSED BY THIS CODE OR ASCE 7-10 AND FOR WHICH OTHER REGULATIONS PROVIDE SEISMIC CRITERIA, SUCH AS VEHICULAR BRIDGES, ELECTRICAL TRANSMISSION TOWERS, HYDRAULIC STRUCTURES, BURIED UTILITY LINES AND THEIR APPURTENANCES AND NUCLEAR REACTORS. 1613.1.1 SEISMIC IMPORTANCE FACTOR. THE VALUE FOR THE SEISMIC LOAD IMPORTANCE FACTOR, I, USED IN THE CALCULATION OF E SHALL BE DETERMINED IN ACCORDANCE WITH TABLE 1604.5.2 BASED ON THE RISK CATEGORY DETERMINED IN ACCORDANCE WITH TABLE 1604.5 WIND LOADS AND EARTHQUAKE LOADSR EFER TO STRUCTURAL DRAWINGS FOR ANALYSIS

BC CHAPTER 21: MASONRY

BC 2113. 1.6 *ADJOINING CHIMNEYS AND VENTS ADJOINING CHIMNEYS AND VENTS SHALL BE IN ACCORDANCE WITH SECTIONS 2113.1.6.1 TO 2113.1.6.8.*

BC 2113.1.6.1
RESPONSIBILITY OF OWNER OF TALLER BUILDING. WHENEVER A BUILDING IS ERECTED, ENLARGED, OR INCREASED IN HEIGHT SO THAT ANY PORTION OF SUCH BUILDING, EXCEPT CHIMNEYS OR VENTS, EXTENDS HIGHER THAN THE TOP OF ANY PREVIOUSLY CONSTRUCTED CHIMNEYS OR VENTS WITHIN 100 FEET (30 480 MM), THE OWNER OF SUCH NEW OR ALTERED BUILDING SHALL HAVE THE RESPONSIBILITY OF ALTERING SUCH CHIMNEYS OR VENTS TO MAKE THEM CONFORM WITH THE REQUIREMENTS OF THIS CHAPTER.

BC 2113.1.6.5
REFUSAL OF CONSENT. IF CONSENT IS NOT GRANTED BY THE OWNER OF THE PREVIOUSLY CONSTRUCTED BUILDING TO DO THE ALTERATION WORK REQUIRED BY THIS SECTION, SUCH OWNER SHALL SIGNIFY HIS OR HER REFUSAL IN WRITING TO THE OWNER OF THE NEW OR ALTERED BUILDING AND TO THE COMMISSIONER; AND THE OWNER OF THE NEW OR ALTERED BUILDING HAVING SUBMITTED PLANS THAT CONFORM TO THE REQUIREMENTS OF THIS SECTION, SHALL THEREUPON BE RELEASED FROM ANY RESPONSIBILITY FOR THE PROPER OPERATION OF THE EQUIPMENT DUE TO LOSS OF DRAFT AND FOR ANY HEALTH HAZARD OR NUISANCE THAT MAY OCCUR AS A RESULT OF THE NEW OR ALTERED BUILDING.

LND
Leandro Nils Dickson, Architect
3-53 26th Street
Fair Lawn, NJ
07410 . 201 . 509 . 9696
www.LNDarchitect.com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

REV	DATE	DESCRIPTION
.	.	.

PROJECT NAME:

1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:
GENERAL NOTES & CODE ANALYSIS

JOB NO.: X01150556-I1
SCALE: AS NOTED
DRAWN BY: JOHN HURTADO
CHECKED: LEANDRO NILS DICKSON
DATE: 6/16/2025 1:22:06 PM

DRAWING NO.
G-102.00

2022 BC - CHAPTER 10 MEANS OF EGRESS

1011.2 WIDTH AND CAPACITY.
THE REQUIRED CAPACITYOF STAIRWAYS SHALL BE DETERMINEDAS SPECIFIED IN SECTION 1005, BUT THE MINIMUMWIDTH SHALL BE NOT LESS THAN 44 INCHES 1117.6MM). SEE SECTION 1009.3 FOR ACCESSIBLE MEANS OF EGRESS STAIRWAYS.

EXCEPTIONS:
1.AWIDTH OF NOT LESS THAN 36 INCHES (914.4 MM) SHALL BE PERMITTED IN:
1.1.A STAIRWAY THAT SERVES AN OCCUPANT LOAD OF 50 OR LESS CUMULATIVE FOR ALL STORIES; OR
1.2.A STAIRWAY THAT PROVIDES EGRESS TO THE EXIT DISCHARGE SOLELY FOR THE USE OF GROUP R-2 OCCUPANCIES, PROVIDEDTHE BUILDING IT SERVES IS 125 FEET (38 100 MM) OR LESS IN HEIGHT, AND PROVIDED SUCH A STAIRWAY SERVES NOT MORE THAN 30 OCCUPANTS PER FLOOR.
PROPOSED TWO 36" STAIRWAYS FROM 1ST FL TO ROOF SERVE LESS THAN 50 OCCUPANTS PER FLOOR

2022 BC - CHAPTER 10 MEANS OF EGRESS

1007.1.1TWO EXITS OR EXIT ACCESS DOORWAYS.
WHERE TWO EXITS, EXIT ACCESS DOORWAYS, EXIT ACCESS STAIRWAYSOR RAMPS, OR ANY COMBINATION THEREOF, ARE REQUIRED FROM ANY PORTION OF THE EXIT ACCESS, THEY SHALL BE PLACED A DISTANCE APART EQUAL TO NOT LESS THAN ONE-HALF OF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE BUILDING OR AREA TO BE SERVED MEASURED IN A STRAIGHT LINE BETWEEN THEM.
STAIRS SHARING ANY COMMON WALL, FLOOR, CEILING,SCISSOR STAIR ASSEMBLY, OR OTHER ENCLOSURESHALL BE COUNTED AS ONE EXIT STAIRWAY.

EXCEPTIONS:
2. GROUP R-2 OCCUPANCIES.IN GROUP R-2 OCCUPANCIES, WHERE STAIRS ARE ENCLOSED IN WALLS HAVING AT LEAST A 2-HOUR FIRE RESISTANCE RATING AND CONSTRUCTED OF MASONRY OR MASONRY EQUIVALENT IN ACCORDANCE WITH DEPARTMENT RULES:
3.1.THE EXIT DOORS TO SUCH STAIRS SHALL BE PLACED A DISTANCE APART EQUAL TO NO LESS THAN **15 FEET** (4572 MM); AND
3.2.SUCH STAIRS SHALL BE PERMITTED TO SHARE COMMON WALLS, FLOORS, CEILINGS OR SCISSOR STAIRS ASSEMBLIES OR OTHER ENCLOSURES PROVIDED THAT THE CONSTRUCTION SEPARATINGTHE STAIRS IS ALSO OF AT LEAST A **2-HOUR FIRE-**RESISTANCE RATING AND CONSTRUCTED OF MASONRY OR MASONRY EQUIVALENT IN ACCORDANCE WITH DEPARTMENT RULES

2022 BC - CHAPTER 10 MEANS OF EGRESS
SECTION 1008 MEANS OF EGRESS ILLUMINATION

1008.1 MEANS OF EGRESS ILLUMINATION.
ILLUMINATION SHALL BE PROVIDED IN THE MEANS OF EGRESSIN ACCORDANCE WITH SECTION 1008.2. UNDER EMERGENCY POWER, MEANS OF EGRESS ILLUMINATION SHALL COMPLY WITH SECTION 1008.3.

1008.2ILLUMINATION REQUIRED.
EXITS, EXIT DISCHARGES AND PUBLIC CORRIDORSSHALL BE ILLUMINATED AT ALL TIMES BY EITHER DAYLIGHT OR ELECTRIC LIGHTING FIXTURES. EXIT ACCESS COMPONENTS SHALL BE ILLUMINATED BY EITHER DAYLIGHT OR ELECTRIC LIGHTING FIXTURES AT ALL TIMES THAT THE SPACE SERVED BY THE EXIT ACCESS COMPONENTIS OCCUPIED.

EXCEPTIONS:
1.OCCUPANCIES IN GROUP U.2.AISLE ACCESSWAYS IN GROUP A.3.DWELLING UNITS AND SLEEPING UNITS IN GROUPS I-1, R-1, R-2 AND R-3.4.SLEEPING UNITS OF GROUP I OCCUPANCIES.5.AREAS BEYOND SAFE DISPERSAL AREA WHERE SUCH AREAS ARE PROVIDED, AND DESIGNED IN ACCORDANCE WITH SECTION 1028.5,
EXCEPTIONS 1 THROUGH 5

1008.2.1 ILLUMINATION LEVEL UNDER NORMAL POWER
THE MEANS OF EGRESS ILLUMINATION LEVEL SHALL BE NOT LESS THAN 1 FOOTCANDLE(11 LUX) AT THE WALKING SURFACE

1008.2.3 SENSORS AND CONTROLS.
AUTOMATIC, OCCUPANT SENSOR OR PHOTOSENSOR LIGHTING CONTROLS SHALL BE PERMITTED WITHIN MEANS OF EGRESS, PROVIDED THAT THE ILLUMINATION LEVEL IS NOT REDUCED TO A LEVEL BELOW THE MINIMUM REQUIREMENTS OF SECTION 1008.2.1, AND THE SWITCH CONTROLLERS ARE EQUIPPED FOR FAIL-SAFE OPERATION ENSURING THAT IF THE SENSOR OR CONTROL FAILS, THE LIGHTING LEVELS WILL BE AT THE LEVELS REQUIRED BY SECTION 1008.2.1

TABLE 1004.1.2 - OCCUPANCY LOAD.

OCCUPANCY R-2: RESIDENTIAL (200SF x OCCUPANT)
OCCUPANCY R-2: OUTDOOR RECREATION (200SF x OCCUPANT)
OCCUPANCY R-2: CORRIDOR (RESIDENTIAL) (200SF x OCCUPANT)
OCCUPANCY R-2: STAIRS (RESIDENTIAL) (200SF x OCCUPANT)

OCCUPANCY S-2: LOW-HAZARD STORAGE, mechanical equipment room(300SF x OCCUPANT)
OCCUPANCY S-2:PARKING AREA (300SF x OCCUPANT)

AREA NAME	OCCUPANCY CLASS	OCCUPANCY LOAD (SFxPerson)	AREA	PROPOSED OCCUPANT (Area/Occ.Load)
CELLAR				
			800 SF	0
RESIDENTIAL	R-2	200	1054 SF	5
1ST FLOOR			*1854 SF*	*5*
			1797 SF	0
RESIDENTIAL	R-2	200	4555 SF	23
2ND FLOOR			*6352 SF*	*23*
			425 SF	0
RESIDENTIAL	R-2	200	4675 SF	23
3RD FLOOR			*5099 SF*	*23*
			431 SF	0
RESIDENTIAL	R-2	200	4600 SF	23
4TH FLOOR			*5031 SF*	*23*
			431 SF	0
RESIDENTIAL	R-2	200	4640 SF	23
5TH FLOOR			*5071 SF*	*23*
			431 SF	0
RESIDENTIAL	R-2	200	4682 SF	23
6TH FLOOR			*5114 SF*	*23*
			431 SF	0
RESIDENTIAL	R-2	200	4680 SF	23
7TH FLOOR			*5111 SF*	*23*
			423 SF	0
RESIDENTIAL	R-2	200	3709 SF	19
ROOF.			*4132 SF*	*19*
			240 SF	0
RESIDENTIAL	R-2	200	110 SF	1
TOTAL PROPOSED OCCUPANTS			*350 SF*	*1*
			38115 SF	*164*

NYC BC 1005.1 MINIMUM REQUIRED EGRESS WIDTH

NYC BC 1005.1
THE MEANS OF EGRESS WIDTH SHALL NOT BE LESS THAN THAT REQUIRED BY THIS SECTION. THE TOTAL WIDTH OF MEANS OF EGRESS IN INCHES (MM) SHALL NOT BE LESS THAN THE TOTAL OCCUPANT LOAD SERVED BY THE MEANS OF EGRESS MULTIPLIED BY 0.3 INCHES (7.62 MM) PER OCCUPANT FOR STAIRWAYS AND BY 0.2 INCHES (5.08 MM) PER OCCUPANT FOR OTHER EGRESS COMPONENTS.

NYC BC 10101.1.1 DOORS.
THE REQUIRED CAPACITY OF EACH DOOR OPENING SHALL BE SUFFICIENT FOR THE OCCUPANT LOAD THEREOF AND SHALL PROVIDE A MINIMUMCLEAR WIDTH OF32 INCHES

NYC BC 1020.2 CORRIDOR WIDTH
THE MINIMUM CORRIDOR WIDTH SHALL BE AS DETERMINED IN SECTION 1005.1, BUT NOT LESS THAN 44 INCHES (1118 MM).
EXEMPTION :
2. THIRTY-SIX INCHES (914 MM)—WITH A REQUIRED OCCUPANT CAPACITY OF 50 OR LESS, EXCEPT AS OTHERWISE REQUIRED BY CHAPTER 11.

1024.2.EXIT PASSAGEWAY WIDTH
THE REQUIRED CAPACITYOF EXIT PASSAGEWAYS SHALL BE DETERMINEDAS SPECIFIED IN SECTION 1005BUT THE MINIMUMWIDTH SHALL BE NOT LESS THAN 44 INCHES (1117.6MM), EXCEPT THAT EXIT PASSAGEWAYS SERVING AN OCCUPANT LOAD OF LESS THAN 50 SHALL BE NOT LESS THAN 36 INCHES (914.4MM) IN WIDTH.THE MINIMUM WIDTH OR REQUIRED CAPACITY OF EXIT PASSAGEWAYS SHALL BE UNOBSTRUCTED...

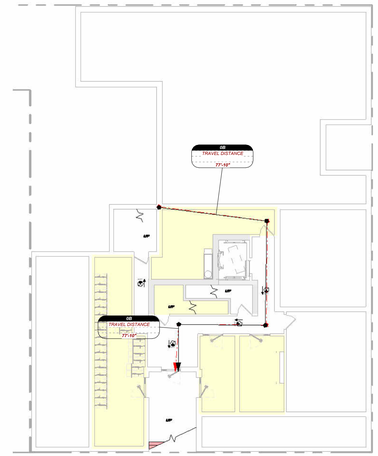
LEVEL	MANUAL OCCUPANT NUMBER	STAIRWAY MULTIPLIER	MIN.REQ CORRIDOR WIDTH	PROPOSED CORRIDOR WIDTH	OTHER EGRESS MULTIPLIER	MIN.OTHER EGRESS WIDTH	PROPOSED DOOR WIDTH
CELLAR	<varies>	0.3"	<varies>	<varies>	0.20"	<varies>	<varies>
1ST FLOOR	<varies>	0.3"	<varies>	<varies>	0.20"	<varies>	<varies>
2ND FLOOR	<varies>	0.3"	<varies>	<varies>	0.20"	<varies>	<varies>
3RD FLOOR	<varies>	0.3"	<varies>	<varies>	0.20"	<varies>	<varies>
4TH FLOOR	<varies>	0.3"	<varies>	<varies>	0.20"	<varies>	<varies>
5TH FLOOR	<varies>	0.3"	<varies>	<varies>	0.20"	<varies>	<varies>
6TH FLOOR	<varies>	0.3"	<varies>	<varies>	0.20"	<varies>	<varies>
7TH FLOOR	<varies>	0.3"	<varies>	<varies>	0.20"	<varies>	<varies>
ROOF.	<varies>	0.3"	<varies>	<varies>	0.20"	<varies>	<varies>

TRAVEL DISTANCE & COMMON PATH OF TRAVEL.

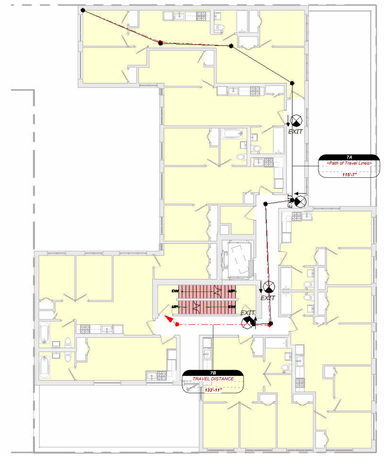
AS PER BC - "1006.2.1 Common Path of Egress Travel" & "1017.1 Travel Distance Limitations"

- "R" OCCUPANCY (SPRINKLERED):
  MAX TRAVEL DISTANCE: 200'-0"
  MAX COMMON PATH OF TRAVEL (EXCEPTION 4): 125'-0"
- "S" OCCUPANCY (SPRINKLERED):
  MAX TRAVEL DISTANCE: 300'-0"
  MAX COMMON PATH OF TRAVEL (EXCEPTION 2): 100'-0"

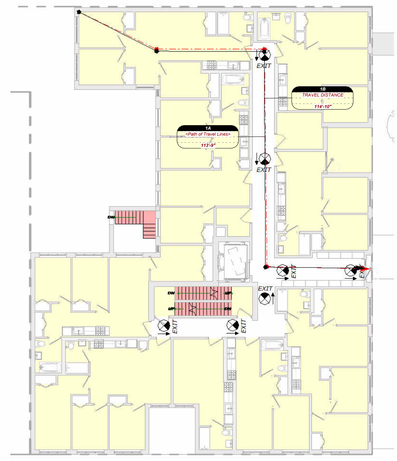
LEVEL	TAG	OCCUPANCY	LENGTH	MAX DISTANCE PERMITTED
<Path of Travel Lines>				
1ST FLOOR	1A		113'-9"	125'-0"
2ND FLOOR	2A		110'-8"	125'-0"
3RD FLOOR	3A		110'-8"	125'-0"
4TH FLOOR	4A		110'-8"	125'-0"
5TH FLOOR	5A		110'-8"	125'-0"
6TH FLOOR	6A		110'-8"	125'-0"
7TH FLOOR	7A		115'-7 1/2"	125'-0"
CELLAR	0A		77'-5"	125'-0"
ROOF.	8A		59'-5 1/2"	125'-0"
TRAVEL DISTANCE				
1ST FLOOR	1B		114'-9 3/4"	200'-0"
2ND FLOOR	2B		129'-5 1/4"	200'-0"
3RD FLOOR	3B		129'-5 1/4"	200'-0"
4TH FLOOR	4B		129'-5 1/4"	200'-0"
5TH FLOOR	5B		129'-5 1/4"	200'-0"
6TH FLOOR	6B		129'-5 1/4"	200'-0"
7TH FLOOR	7B		133'-10 1/2"	200'-0"
CELLAR	0B		77'-9 3/4"	200'-0"
ROOF.	8B		59'-8 3/4"	200'-0"



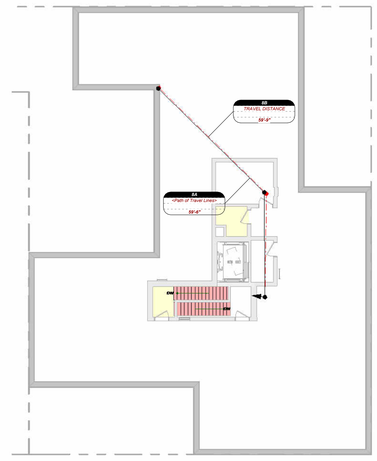
7 CELLAR PLAN LIFE SAFETY
1/16" = 1'-0"



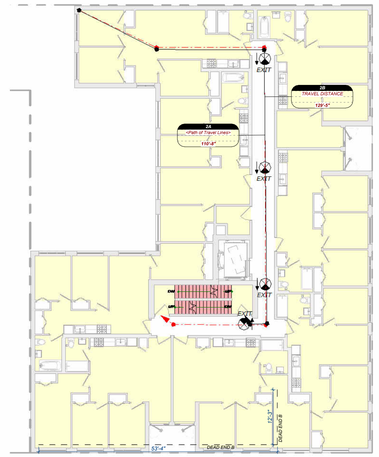
9 7TH FLOOR PLAN LIFE SAFETY
1/16" = 1'-0"

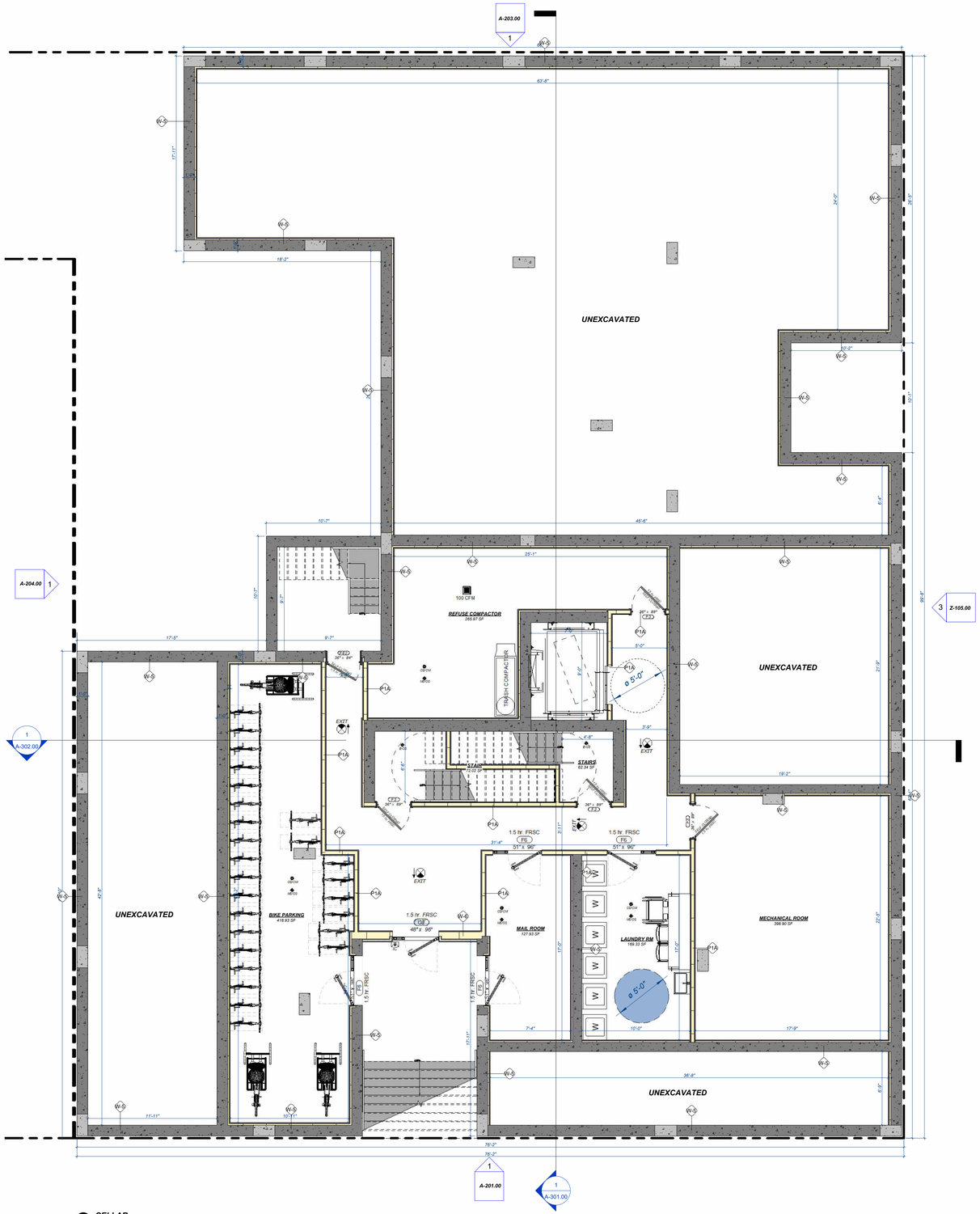


1 1ST FLOOR PLAN LIFE SAFETY
1/16" = 1'-0"



3 ROOF PLAN LIFE SAFETY
1/16" = 1'-0"


EXIT
2B
TRAVEL DISTANCE
129'-5"
2A
<Path of Travel Lines>
110'-8"
EXIT
EXIT
EXIT
EXIT



1 CELLAR
3/16" = 1'-0"

LEGEND

PLAN VIEW	TAG	DISCRIPTION	PLAN VIEW	DISCRIPTION
	W-1	PROPOSED 2HR RATED EXTERIOR WALL	75 CFM	AIR EXHAUST TO ROOF
	W-3	PROPOSED CONCRETE SHEAR WALL W/ FURRING		WINDOW TAG SEE SCHEDULE
	W4	PROPOSED SHEAR WALL WITH EPS CI INSULATION	D-1	DOOR TAG SEE SCHEDULE
	WS	PROPOSED 3HR RATED CONCRETE SHEAR WALL WITH FURRING	W-1	WALL TAG SEE SCHEDULE
	W-6	PROPOSED 3HR RATED 4" CMU WALL W/FURRING	AD	(AD) AREA - (FD) FLOOR - (RD) ROOF DRAIN
	EL-1	PROPOSED 3HR RATED ELEV. CONCRETE WALL BELOW GRADE	CO/CM	SMOKE & CARBON MONOXIDE DECTOR
	P-2	PROPOSED 4" UNRATED	FLOOR TO CEILING 0'-0"	FLOOR TO CEILING HEIGHT
	P-3	PROPOSED 4" UNRATED - MOLD RESISTANT	SH	SPRINKLER HEAD
	P-4	PROPOSED 4" 1HR FIRE RATED - MOLD RES.	EXIT	EXIT SIGN
	P-5	4" 1HR RATED - MIN 12" - KITCHENETTE SOFFIT		CENTER LINE
	P1-A	PROPOSED 6" 2HRS FIRE RATED	IC	INTERCOM AS PER BC 10008.4.4
	P1-B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ.		
	P2-B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ. & MOLD RES.		
	P1-C	PROPOSED 6" 2HRS FIRE RATED - MOLD RES.		
	P1-D	6" CHASE WALL - MOLD RESISTANT		
	P2-D	6" CHASE WALL - MASONRY EQ. & MOLD RES.		
	P3-D	4" FURRING DESIGN - MOLD RESISTANT		
	W-8	2HR RATED FRAME PARAPET WALL		

1008.4.4 INTERCOMMUNICATION SYSTEM.
BUILDINGS CONTAINING EIGHT OR MORE DWELLING UNITS SHALL BE PROVIDED WITH AN INTERCOMMUNICATION SYSTEM LOCATED AT THE DOOR GIVING ACCESS TO THE MAIN ENTRANCE LOBBY, CONSISTING OF A DEVICE OR DEVICES FOR VOICE COMMUNICATION BETWEEN THE OCCUPANT OF EACH DWELLING UNIT AND A PERSON OUTSIDE THE DOOR TO THE MAIN ENTRANCE LOBBY, AND PERMITTING SUCH DWELLING UNIT OCCUPANT TO RELEASE THE LOCKING MECHANISM OF SAID DOOR FROM THE DWELLING UNIT. IN BUILDINGS PROVIDED WITH A FULL-TIME LOBBY ATTENDANT, THE INTERCOMMUNICATION SYSTEM MAY BE BETWEEN EACH DWELLING UNIT AND THE ATTENDANT'S STATION.

1403.8 BIRD FRIENDLY MATERIALS

THE EXTERIOR WALL ENVELOPE, AND ANY ASSOCIATED OPENINGS, SHALL BE CONSTRUCTED WITH BIRD FRIENDLY MATERIALS UP TO 75 FEET (22860 MM) ABOVE GRADE. MATERIALS OTHER THAN BIRD FRIENDLY MATERIALS SHALL NOT EXCEED AN AGGREGATE OF 10 SQUARE FEET (0.93 M2) WITHIN ANY 10 FEET (3048 MM) BY 10 FEET (3048 MM) SQUARE AREA OF EXTERIOR WALL BELOW 75 FEET (22860 MM) ABOVE GRADE.

OPAQUE WALL MATERIALS: W-1, W-2, W-3, W-4 - COMPLIES
TRANSLUCENT WINDOW/DOOR: W0, W1, W2, W3, G1, G2, G3 - UV-REFLECTIVE PATTERN AND THREAT FACTOR OF *<27*
SEE PAGE A-401 & A-402

NYC 2022 BC - CHAPTER 12 INTERIOR ENVIRONMENT
SECTION 1203 GENERAL

HABITABLE SPACE:
ALL ROOMS AND SPACES WITHIN A DWELLING UNIT IN GROUP R OR I-1, INCLUDING BEDROOMS, LIVING ROOMS, STUDIES, RECREATION ROOMS, KITCHENS, DINING ROOMS AND OTHER SIMILAR SPACES.

EXCEPTION:
THE FOLLOWING SPACES WITHIN A DWELLING UNIT SHALL NOT BE CONSIDERED HABITABLE SPACES:

(5) A CORRIDOR, PASSAGEWAY, OR PRIVATE HALL; AND A FOYER USED AS AN ENTRANCE HALL IN A DWELLING UNIT, NOT EXCEEDING 10 PERCENT OF THE TOTAL FLOOR AREA OF THE DWELLING UNIT; OR NOT EXCEEDING 20 PERCENT OF THE FLOOR AREA OF THE DWELLING UNIT WHERE EVERY HABITABLE ROOM IS AT LEAST 20 PERCENT LARGER THAN THE REQUIRED MINIMUM ROOM SIZES ESTABLISHED BY THE NEW YORK CITY HOUSING MAINTENANCE CODE

1203.5.1.2.1 MINIMUM OPENING.*THE MINIMUM OPENABLE AREA TO THE OUTDOORS SHALL BE SPERCENT OF THE FLOOR AREA OF THE HABITABLE SPACE BEING VENTILATED. EVERY OPENING PROVIDING REQUIRED NATURAL VENTILATION SHALL BE AT LEAST 12 SQUARE FEET (1.1 M2) OF GLAZED AREA, PROVIDING A MINIMUM OF 6 SQUARE FEET (0.56 M2) OF OPENABLE AREA*

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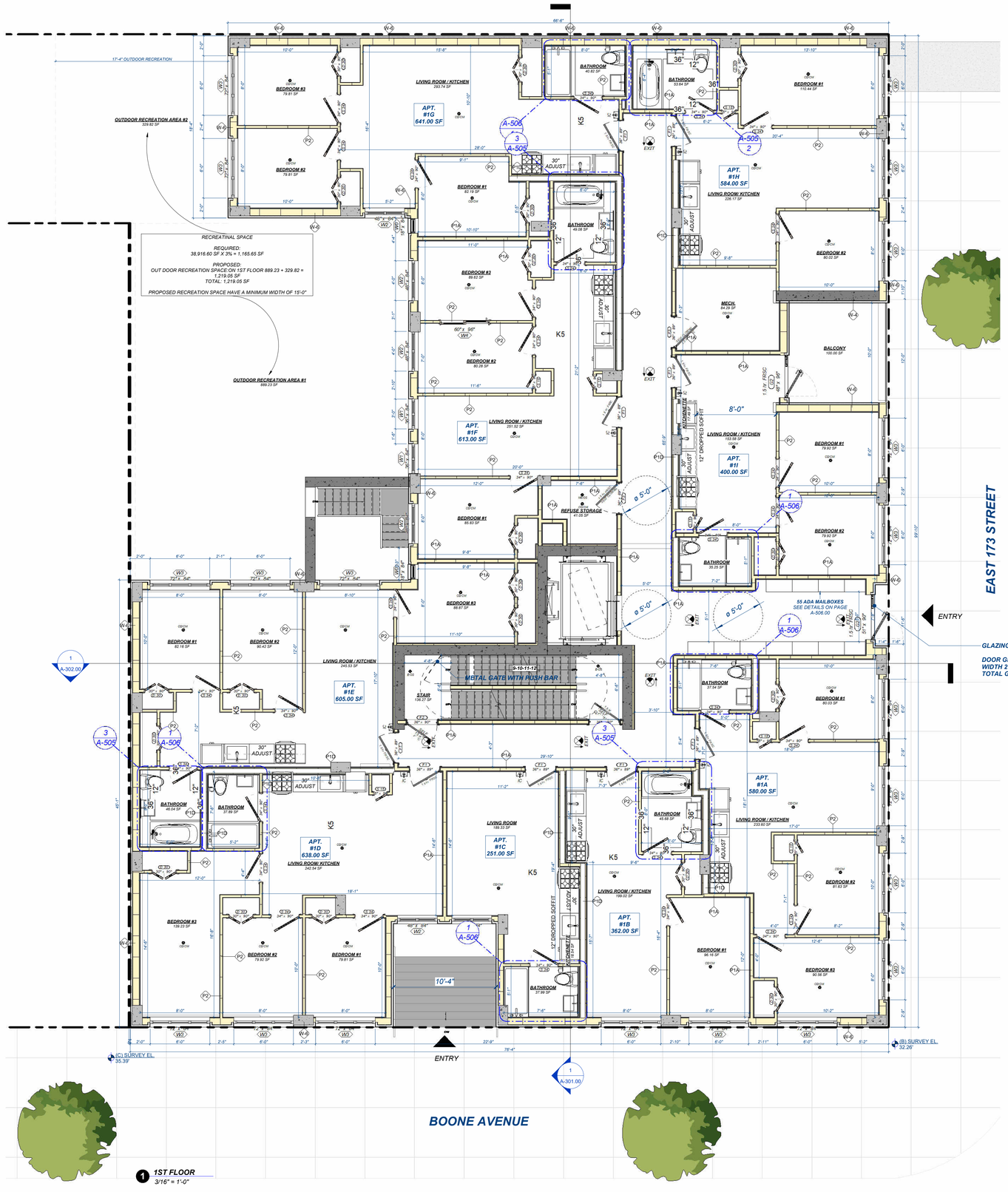
REV.	DATE	DESCRIPTION	BY
-	-	-	-

PROJECT NAME:
1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:
CELLAR FLOOR PLAN

JOB NO.:	X01150556-I1
SCALE :	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED :	LEANDRO NILS DICKSON
DATE :	6/16/2025 1:22:14 PM

DRAWING NO.
A-101.00



LIGHT & AIR CALCULATIONS - 1ST FLOOR

LOCATION		LIGHT		AIR	
Room	Area	Required 10%	Provided >10%	Required 5%	Provided >5%
APT. 1A					
BEDROOM #1	80 SF	8.00 SF	42.00 SF	4.00 SF	0.00 SF
BEDROOM #2	82 SF	8.16 SF	42.00 SF	4.08 SF	0.00 SF
BEDROOM #3	181 SF	18.11 SF	84.00 SF	9.06 SF	0.00 SF
LIVING ROOM / KITCHEN	234 SF	23.36 SF	42.00 SF	11.68 SF	0.00 SF
APT. 1B					
BEDROOM #1	96 SF	9.62 SF	42.00 SF	4.81 SF	0.00 SF
LIVING ROOM / KITCHEN	199 SF	19.90 SF	42.00 SF	9.95 SF	0.00 SF
APT. 1C					
LIVING ROOM	189 SF	18.93 SF	28.00 SF	9.47 SF	0.00 SF
APT. 1D					
BEDROOM #1	80 SF	7.98 SF	42.00 SF	3.99 SF	0.00 SF
BEDROOM #2	80 SF	7.99 SF	42.00 SF	4.00 SF	0.00 SF
BEDROOM #3	139 SF	13.92 SF	42.00 SF	6.96 SF	0.00 SF
LIVING ROOM/ KITCHEN	243 SF	24.25 SF	28.00 SF	12.13 SF	0.00 SF
APT. 1E					
BEDROOM #1	82 SF	8.22 SF	42.00 SF	4.11 SF	0.00 SF
BEDROOM #2	90 SF	9.04 SF	42.00 SF	4.52 SF	0.00 SF
BEDROOM #3	89 SF	8.89 SF	10.50 SF	4.44 SF	10.50 SF
LIVING ROOM / KITCHEN	246 SF	24.55 SF	42.00 SF	12.28 SF	0.00 SF
APT. 1F					
BEDROOM #1	86 SF	8.58 SF	28.00 SF	4.29 SF	0.00 SF
BEDROOM #2	80 SF	8.03 SF	28.00 SF	4.01 SF	0.00 SF
BEDROOM #3	90 SF	8.96 SF	28.00 SF	4.48 SF	0.00 SF
LIVING ROOM / KITCHEN	503 SF	50.30 SF	42.00 SF	25.15 SF	0.00 SF
APT. 1G					
BEDROOM #1	82 SF	8.22 SF	10.50 SF	4.11 SF	10.50 SF
BEDROOM #2	80 SF	7.98 SF	42.00 SF	3.99 SF	0.00 SF
BEDROOM #3	80 SF	7.98 SF	42.00 SF	3.99 SF	0.00 SF
LIVING ROOM / KITCHEN	294 SF	29.37 SF	28.00 SF	14.69 SF	0.00 SF
APT. 1H					
BEDROOM #1	110 SF	11.04 SF	42.00 SF	5.52 SF	0.00 SF
BEDROOM #2	80 SF	8.00 SF	42.00 SF	4.00 SF	0.00 SF
LIVING ROOM/ KITCHEN	226 SF	22.62 SF	42.00 SF	11.31 SF	0.00 SF
APT. 1I					
BEDROOM #1	80 SF	7.99 SF	42.00 SF	4.00 SF	0.00 SF
BEDROOM #2	80 SF	7.99 SF	42.00 SF	4.00 SF	0.00 SF

DWELLING UNITS FLOOR AREA - BASEMENT FLOOR

APARTMENT	AREA	FOYER AREA	FOYER %	LIGHT & AIR COMPLIANCE
APT. #1A	579.61 SF	0.00 SF	0.00%	FOYER < 10% OF TOTAL APT. SF
APT. #1B	358.85 SF	0.00 SF	0.00%	FOYER < 10% OF TOTAL APT. SF
APT. #1C	248.32 SF	0.00 SF	0.00%	FOYER < 10% OF TOTAL APT. SF
APT. #1D	638.88 SF	0.00 SF	0.00%	NO FOYER PROPOSED
APT. #1E	605.19 SF	0.00 SF	0.00%	FOYER < 10% OF TOTAL APT. SF
APT. #1F	602.11 SF	0.00 SF	0.00%	FOYER < 10% OF TOTAL APT. SF
APT. #1G	641.60 SF	0.00 SF	0.00%	FOYER < 10% OF TOTAL APT. SF
APT. #1H	587.10 SF	0.00 SF	0.00%	FOYER < 10% OF TOTAL APT. SF
APT. #1I	401.71 SF	0.00 SF	0.00%	FOYER < 10% OF TOTAL APT. SF

LEGEND

PLAN VIEW	TAG	DISCRIPTION	PLAN VIEW	DISCRIPTION
	W-1	PROPOSED 2HR RATED EXTERIOR WALL	75 CFM	AIR EXHAUST TO ROOF
	W-3	PROPOSED CONCRETE SHEAR WALL W/ FURRING		WINDOW TAG SEE SCHEDULE
	W4	PROPOSED SHEAR WALL WITH EPS CI INSULATION	D	DOOR TAG SEE SCHEDULE
	WS	PROPOSED 3HR RATED CONCRETE SHEAR WALL WITH FURRING	W-1	WALL TAG SEE SCHEDULE
	W-6	PROPOSED 3HR RATED 4" CMU WALL W/FURRING	AD	(AD) AREA - (FD) FLOOR - (RD) ROOF DRAIN
	EL-1	PROPOSED 3HR RATED ELEV. CONCRETE WALL BELOW GRADE	CO/CM	SMOKE & CARBON MONOXIDE DECTOR
	P-2	PROPOSED 4" UNRATED	FLOOR TO CEILING 10'-0"	FLOOR TO CEILING HEIGHT
	P-3	PROPOSED 4" UNRATED - MOLD RESISTANT	SPRINKLER HEAD	
	P-4	PROPOSED 4" 1HR FIRE RATED - MOLD RES.	EXIT	EXIT SIGN
	P-5	4" 1HR RATED - MIN 12" - KITCHENETTE SOFFIT		CENTER LINE
	P1-A	PROPOSED 6" 2HRS FIRE RATED	INTERCOM	INTERCOM AS PER BC 10008.4.4
	P1-B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ.		
	P2-B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ. & MOLD RES.		
	P1-C	PROPOSED 6" 2HRS FIRE RATED - MOLD RES.		
	P1-D	6" CHASE WALL - MOLD RESISTANT		
	P2-D	6" CHASE WALL - MASONRY EQ. & MOLD RES.		
	P3-D	4" FURRING DESIGN - MOLD RESISTANT		
	W-8	2HR RATED FRAME PARAPET WALL		

1008.4.4 INTERCOMMUNICATION SYSTEM.
BUILDINGS CONTAINING EIGHT OR MORE DWELLING UNITS SHALL BE PROVIDED WITH AN INTERCOMMUNICATION SYSTEM LOCATED AT THE DOOR GIVING ACCESS TO THE MAIN ENTRANCE LOBBY, CONSISTING OF A DEVICE OR DEVICES FOR VOICE COMMUNICATION BETWEEN THE OCCUPANT OF EACH DWELLING UNIT AND A PERSON OUTSIDE THE DOOR TO THE MAIN ENTRANCE LOBBY, AND PERMITTING SUCH DWELLING UNIT OCCUPANT TO RELEASE THE LOCKING MECHANISM OF SAID DOOR FROM THE DWELLING UNIT. IN BUILDINGS PROVIDED WITH A FULL-TIME LOBBY ATTENDANT, THE INTERCOMMUNICATION SYSTEM MAY BE BETWEEN EACH DWELLING UNIT AND THE ATTENDANT'S STATION.

1403.8 BIRD FRIENDLY MATERIALS

THE EXTERIOR WALL ENVELOPE, AND ANY ASSOCIATED OPENINGS, SHALL BE CONSTRUCTED WITH BIRD FRIENDLY MATERIALS UP TO 75 FEET (22860 MM) ABOVE GRADE. MATERIALS OTHER THAN BIRD FRIENDLY MATERIALS SHALL NOT EXCEED AN AGGREGATE OF 10 SQUARE FEET (0.93 M2) WITHIN ANY 10 FEET (3048 MM) BY 10 FEET (3048 MM) SQUARE AREA OF EXTERIOR WALL BELOW 75 FEET (22860 MM) ABOVE GRADE.

OPAQUE WALL MATERIALS: W-1, W-2, W-3, W-4 - COMPLIES
TRANSLUCENT WINDOW/DOOR: W0, W1, W2, W3, G1, G2, G3 - UV-REFLECTIVE PATTERN AND THREAT FACTOR OF <27
SEE PAGE A-401 & A-402

NYC 2022 BC - CHAPTER 12 INTERIOR ENVIRONMENT
SECTION 1203 GENERAL

HABITABLE SPACE:
ALL ROOMS AND SPACES WITHIN A DWELLING UNIT IN GROUP R OR I-1, INCLUDING BEDROOMS, LIVING ROOMS, STUDIES, RECREATION ROOMS, KITCHENS, DINING ROOMS AND OTHER SIMILAR SPACES.

EXCEPTION:
THE FOLLOWING SPACES WITHIN A DWELLING UNIT SHALL NOT BE CONSIDERED HABITABLE SPACES:

(5) A CORRIDOR, PASSAGEWAY, OR PRIVATE HALL; AND A FOYER USED AS AN ENTRANCE HALL IN A DWELLING UNIT; NOT EXCEEDING 10 PERCENT OF THE TOTAL FLOOR AREA OF THE DWELLING UNIT; OR NOT EXCEEDING 20 PERCENT OF THE FLOOR AREA OF THE DWELLING UNIT WHERE EVERY HABITABLE ROOM IS AT LEAST 20 PERCENT LARGER THAN THE REQUIRED MINIMUM ROOM SIZES ESTABLISHED BY THE NEW YORK CITY HOUSING MAINTENANCE CODE

1203.5.1.2.1 MINIMUM OPENING. *THE MINIMUM OPENABLE AREA TO THE OUTDOORS SHALL BE 5PERCENT OF THE FLOOR AREA OF THE HABITABLE SPACE BEING VENTILATED. EVERY OPENING PROVIDING REQUIRED NATURAL VENTILATION SHALL BE AT LEAST 12 SQUARE FEET (1.1 M2) OF GLAZED AREA, PROVIDING A MINIMUM OF 6 SQUARE FEET (0.56 M2) OF OPENABLE AREA*

LND
Leandro Nils Dickson, Architect
Architecture . Architecture . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 509 .
www.LNDarchitect.com

MECHANICAL ENGINEER:
STRUCTURAL ENGINEER:
ARCHITECT'S SEAL:

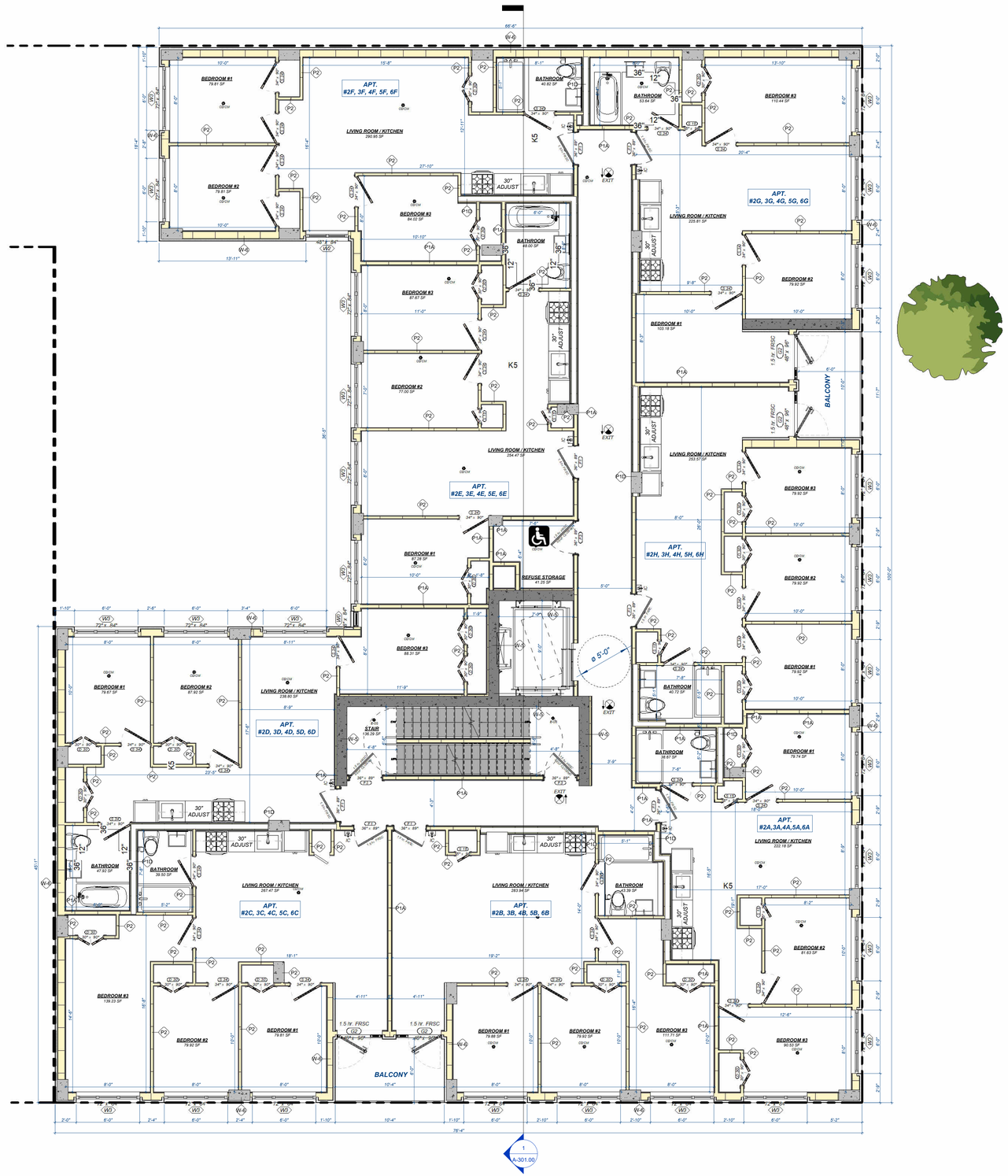
REV.	DATE	DESCRIPTION	BY
-	-	-	-

PROJECT NAME:
1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:
1ST FLOOR PLAN

JOB NO.:	X01150556-I1
SCALE:	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED:	LEANDRO NILS DICKSON
DATE:	6/16/2025 1:22:19 PM

DRAWING NO.
A-102.00



1 ***2ND, 3RD, 4T, 5TH, 6TH FLOOR***
3/16" = 1'-0"

LIGHT & AIR CALCULATIONS - 2TH/3TH/4TH/5TH/6TH FLOOR

LOCATION		LIGHT		AIR	
Room	Area	Required 10%	Provided >10%	Required 5%	Provided >5%
2A,3A,4A,5A,6A					
BEDROOM #1	80 SF	7.97 SF	42.00 SF	3.99 SF	0.00 SF
BEDROOM #2	82 SF	8.16 SF	42.00 SF	4.08 SF	0.00 SF
BEDROOM #3	91 SF	9.05 SF	84.00 SF	4.53 SF	0.00 SF
LIVING ROOM / KITCHEN	222 SF	22.22 SF	42.00 SF	11.11 SF	0.00 SF
2B,3B,4B,5B,6B					
BEDROOM #1	80 SF	7.99 SF	42.00 SF	3.99 SF	0.00 SF
BEDROOM #2	80 SF	7.99 SF	42.00 SF	4.00 SF	0.00 SF
BEDROOM #3	112 SF	11.17 SF	42.00 SF	5.59 SF	0.00 SF
LIVING ROOM / KITCHEN	284 SF	28.39 SF	32.00 SF	14.20 SF	0.00 SF
2C,3C,4C,5C,6C					
BEDROOM #1	80 SF	7.98 SF	42.00 SF	3.99 SF	0.00 SF
BEDROOM #2	80 SF	7.99 SF	42.00 SF	4.00 SF	0.00 SF
BEDROOM #3	139 SF	13.92 SF	42.00 SF	6.96 SF	0.00 SF
LIVING ROOM / KITCHEN	267 SF	26.75 SF	32.00 SF	13.37 SF	0.00 SF
2D,3D,4D,5D,6D					
BEDROOM #1	80 SF	7.97 SF	42.00 SF	3.98 SF	0.00 SF
BEDROOM #2	88 SF	8.79 SF	42.00 SF	4.40 SF	0.00 SF
BEDROOM #3	88 SF	8.83 SF	10.50 SF	4.42 SF	10.50 SF
LIVING ROOM / KITCHEN	239 SF	23.88 SF	42.00 SF	11.94 SF	0.00 SF
2E,3E,4E,5E,6E					
BEDROOM #1	87 SF	8.73 SF	42.00 SF	4.36 SF	0.00 SF
BEDROOM #2	77 SF	7.70 SF	42.00 SF	3.85 SF	0.00 SF
BEDROOM #3	88 SF	8.77 SF	42.00 SF	4.38 SF	0.00 SF
LIVING ROOM / KITCHEN	254 SF	25.45 SF	42.00 SF	12.72 SF	0.00 SF
2F,3F, 4F,5F,6F					
BEDROOM #1	80 SF	7.98 SF	42.00 SF	3.99 SF	0.00 SF
BEDROOM #2	80 SF	7.98 SF	42.00 SF	3.99 SF	0.00 SF
LIVING ROOM / KITCHEN	291 SF	29.10 SF	28.00 SF	14.55 SF	0.00 SF
2G,3G,4G,5G,6G					
BEDROOM #2	80 SF	7.99 SF	42.00 SF	4.00 SF	0.00 SF
BEDROOM #3	110 SF	11.04 SF	42.00 SF	5.52 SF	0.00 SF
LIVING ROOM / KITCHEN	226 SF	22.58 SF	42.00 SF	11.29 SF	0.00 SF
2H,3H,4H,5H6H					
BEDROOM #1	80 SF	7.99 SF	42.00 SF	4.00 SF	0.00 SF
BEDROOM #2	80 SF	7.99 SF	42.00 SF	4.00 SF	0.00 SF
BEDROOM #3	80 SF	7.99 SF	42.00 SF	4.00 SF	0.00 SF

DWELLING UNITS FLOOR AREA - TYP.2ND & 3RD FLOOR

APT.	AREA	FOYER AREA	FOYER %	LIGHT & AIR COMPLIANCE
APT. #3A	565.06 SF	0.00 SF	0%	FOYER < 10% OF TOTAL APT. SF
APT. #3B	653.29 SF	0.00 SF	0%	FOYER < 10% OF TOTAL APT. SF
APT. #3C	662.39 SF	0.00 SF	0%	FOYER < 10% OF TOTAL APT. SF
APT. #3D	605.32 SF	0.00 SF	0%	FOYER < 10% OF TOTAL APT. SF
APT. #3E	608.21 SF	0.00 SF	0%	FOYER < 10% OF TOTAL APT. SF
APT. #3F	640.71 SF	0.00 SF	0%	FOYER < 10% OF TOTAL APT. SF
APT. #3G	586.27 SF	0.00 SF	0%	FOYER < 10% OF TOTAL APT. SF
APT. #3H	574.92 SF	0.00 SF	0%	FOYER < 10% OF TOTAL APT. SF

LEGEND

PLAN VIEW	TAG	DISCRIPTION	PLAN VIEW	DISCRIPTION
	W-1	PROPOSED 2HR RATED EXTERIOR WALL	75 CFM	AIR EXHAUST TO ROOF
	W-3	PROPOSED CONCRETE SHEAR WALL W/ FURRING		WINDOW TAG SEE SCHEDULE
	W4	PROPOSED SHEAR WALL WITH EPS CI INSULATION	D-1	DOOR TAG SEE SCHEDULE
	W5	PROPOSED 3HR RATED CONCRETE SHEAR WALL WITH FURRING	W-1	WALL TAG SEE SCHEDULE
	W-6	PROPOSED 3HR RATED 4" CMU WALL W/FURRING	AD	(AD) AREA - (FD) FLOOR - (RD) ROOF DRAIN
	EL-1	PROPOSED 3HR RATED ELEV. CONCRETE WALL BELOW GRADE	CO/CM	SMOKE & CARBON MONOXIDE DECTOR
	P-1	PROPOSED 4" UNRATED	FLOOR TO CEILING 9'-0"	FLOOR TO CEILING HEIGHT
	P-3	PROPOSED 4" UNRATED - MOLD RESISTANT	SH	SPRINKLER HEAD
	P-4	PROPOSED 4" 1HR FIRE RATED - MOLD RES.	EXIT	EXIT SIGN
	P-5	4" 1HR RATED - MIN 12" - KITCHENETTE SOFFIT		CENTER LINE
	P1-A	PROPOSED 6" 2HRS FIRE RATED	IC	INTERCOM AS PER BC 10008.4.4
	P1-B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ.		
	P2-B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ. & MOLD RES.		
	P1-C	PROPOSED 6" 2HRS FIRE RATED - MOLD RES.		
	P1-D	6" CHASE WALL - MOLD RESISTANT		
	P2-D	6" CHASE WALL - MASONRY EQ. & MOLD RES.		
	P3-D	4" FURRING DESIGN - MOLD RESISTANT		
	W-8	2HR RATED FRAME PARAPET WALL		

1008.4.4 INTERCOMMUNICATION SYSTEM.
BUILDINGS CONTAINING EIGHT OR MORE DWELLING UNITS SHALL BE PROVIDED WITH AN INTERCOMMUNICATION SYSTEM LOCATED AT THE DOOR GIVING ACCESS TO THE MAIN ENTRANCE LOBBY, CONSISTING OF A DEVICE OR DEVICES FOR VOICE COMMUNICATION BETWEEN THE OCCUPANT OF EACH DWELLING UNIT AND A PERSON OUTSIDE THE DOOR TO THE MAIN ENTRANCE LOBBY, AND PERMITTING SUCH DWELLING UNIT OCCUPANT TO RELEASE THE LOCKING MECHANISM OF SAID DOOR FROM THE DWELLING UNIT. IN BUILDINGS PROVIDED WITH A FULL-TIME LOBBY ATTENDANT, THE INTERCOMMUNICATION SYSTEM MAY BE BETWEEN EACH DWELLING UNIT AND THE ATTENDANT'S STATION.

1403.8 BIRD FRIENDLY MATERIALS

THE EXTERIOR WALL ENVELOPE, AND ANY ASSOCIATED OPENINGS, SHALL BE CONSTRUCTED WITH BIRD FRIENDLY MATERIALS UP TO 75 FEET (22860 MM) ABOVE GRADE. MATERIALS OTHER THAN BIRD FRIENDLY MATERIALS SHALL NOT EXCEED AN AGGREGATE OF 10 SQUARE FEET (0.93 M2) WITHIN ANY 10 FEET (3048 MM) BY 10 FEET (3048 MM) SQUARE AREA OF EXTERIOR WALL BELOW 75 FEET (22860 MM) ABOVE GRADE.

OPAQUE WALL MATERIALS: W-1, W-2, W-3, W-4 - COMPLIES
TRANSLUCENT WINDOW/DOOR: W0, W1, W2, W3, G1, G2, G3 - UV-REFLECTIVE PATTERN AND THREAT FACTOR OF <27
SEE PAGE A-401 & A-402

NYC 2022 BC - CHAPTER 12 INTERIOR ENVIRONMENT
SECTION 1203 GENERAL

HABITABLE SPACE:
ALL ROOMS AND SPACES WITHIN A DWELLING UNIT IN GROUP R OR I-1, INCLUDING BEDROOMS, LIVING ROOMS, STUDIES, RECREATION ROOMS, KITCHENS, DINING ROOMS AND OTHER SIMILAR SPACES.

EXCEPTION:
THE FOLLOWING SPACES WITHIN A DWELLING UNIT SHALL NOT BE CONSIDERED HABITABLE SPACES:

(5) A CORRIDOR, PASSAGEWAY, OR PRIVATE HALL; AND A FOYER USED AS AN ENTRANCE HALL IN A DWELLING UNIT; NOT EXCEEDING 10 PERCENT OF THE TOTAL FLOOR AREA OF THE DWELLING UNIT; OR NOT EXCEEDING 20 PERCENT OF THE FLOOR AREA OF THE DWELLING UNIT WHERE EVERY HABITABLE ROOM IS AT LEAST 20 PERCENT LARGER THAN THE REQUIRED MINIMUM ROOM SIZES ESTABLISHED BY THE NEW YORK CITY HOUSING MAINTENANCE CODE

1203.5.1.2.1 MINIMUM OPENING.*THE MINIMUM OPENABLE AREA TO THE OUTDOORS SHALL BE SPERCENT OF THE FLOOR AREA OF THE HABITABLE SPACE BEING VENTILATED. EVERY OPENING PROVIDING REQUIRED NATURAL VENTILATION SHALL BE AT LEAST 12 SQUARE FEET (1.1 M2) OF GLAZED AREA, PROVIDING A MINIMUM OF 6 SQUARE FEET (0.56 M2) OF OPENABLE AREA*

LND
Leandro Nils Dickson, Architect
Architecture . Architect . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 509 .
www.LNDarchitect.com

MECHANICAL ENGINEER:
STRUCTURAL ENGINEER:
ARCHITECT'S SEAL:

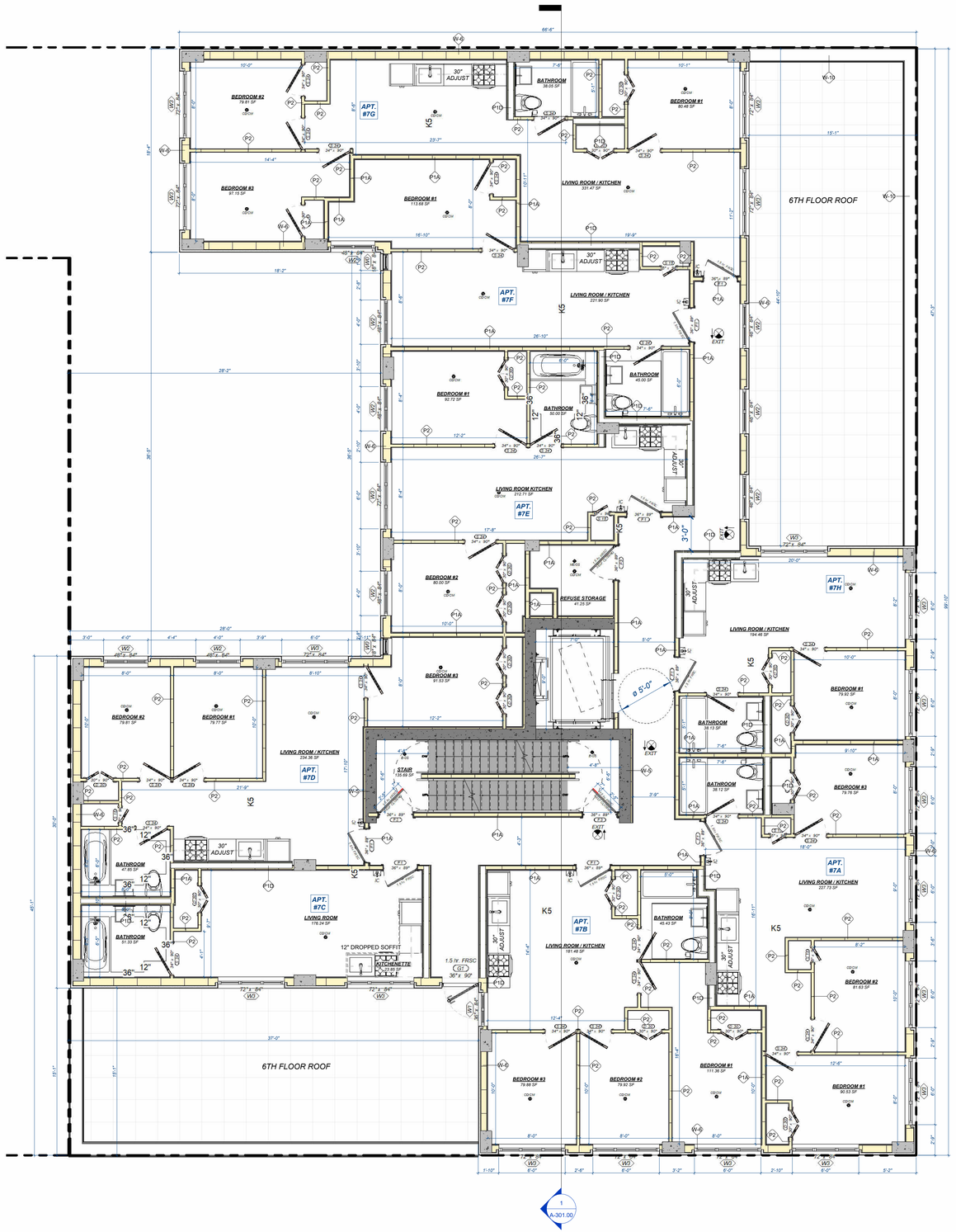
BY	DESCRIPTION	DATE	REV
			-

PROJECT NAME:
1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:
TYP.2ND/3RD/4TH/5TH/6TH FLOOR PLAN

JOB NO.:	X01150556-I1
SCALE	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED	LEANDRO NILS DICKSON
DATE	6/16/2025 1:22:24 PM

DRAWING NO.
A-103.00



2 ***7TH FLOOR.***
3/16" = 1'-0"

LIGHT & AIR CALCULATIONS - 7TH FLOOR

LOCATION		LIGHT		AIR	
Room	Area	Required 10%	Provided >10%	Required 5%	Provided >5%
APT. 7A					
BEDROOM #1	181 SF	18.11 SF	84.00 SF	9.05 SF	0.00 SF
BEDROOM #2	82 SF	8.16 SF	42.00 SF	4.08 SF	0.00 SF
LIVING ROOM / KITCHEN	228 SF	22.77 SF	42.00 SF	11.39 SF	0.00 SF
APT. 7B					
BEDROOM #1	111 SF	11.14 SF	42.00 SF	5.57 SF	0.00 SF
BEDROOM #2	80 SF	7.99 SF	42.00 SF	4.00 SF	0.00 SF
BEDROOM #3	80 SF	7.99 SF	42.00 SF	3.99 SF	0.00 SF
LIVING ROOM / KITCHEN	181 SF	18.15 SF	21.00 SF	9.07 SF	0.00 SF
APT. 7C					
KITCHENETTE	24 SF	2.39 SF	42.00 SF	1.19 SF	0.00 SF
LIVING ROOM	176 SF	17.62 SF	42.00 SF	8.81 SF	0.00 SF
APT. 7D					
BEDROOM #1	80 SF	7.98 SF	28.00 SF	3.99 SF	0.00 SF
BEDROOM #2	80 SF	7.98 SF	28.00 SF	3.99 SF	0.00 SF
BEDROOM #3	92 SF	9.15 SF	10.50 SF	4.58 SF	10.50 SF
LIVING ROOM / KITCHEN	234 SF	23.44 SF	42.00 SF	11.72 SF	0.00 SF
APT. 7E					
BEDROOM #1	93 SF	9.27 SF	28.00 SF	4.64 SF	0.00 SF
BEDROOM #2	80 SF	8.00 SF	28.00 SF	4.00 SF	0.00 SF
LIVING ROOM KITCHEN	213 SF	21.27 SF	42.00 SF	10.64 SF	0.00 SF
APT. 7F					
BEDROOM #1	114 SF	11.37 SF	28.00 SF	5.69 SF	0.00 SF
LIVING ROOM / KITCHEN	444 SF	44.38 SF	38.50 SF	22.19 SF	10.50 SF
APT. 7G					
BEDROOM #1	80 SF	8.05 SF	42.00 SF	4.02 SF	0.00 SF
BEDROOM #2	80 SF	7.98 SF	42.00 SF	3.99 SF	0.00 SF
BEDROOM #3	97 SF	9.72 SF	42.00 SF	4.86 SF	0.00 SF
LIVING ROOM / KITCHEN	331 SF	33.15 SF	42.00 SF	16.57 SF	0.00 SF
APT. 7H					
BEDROOM #1	80 SF	7.99 SF	42.00 SF	4.00 SF	0.00 SF

DWELLING UNITS FLOOR AREA - 7th FLOOR

APT	AREA	FOYER AREA	FOYER %	LIGHT & AIR COMPLIANCE
APT. #7A	568.88 SF	0.00 SF	0%	FOYER < 10% OF TOTAL APT. SF
APT. #7B	545.15 SF	0.00 SF	0%	FOYER < 10% OF TOTAL APT. SF
APT. #7C	317.50 SF	0.00 SF	0%	FOYER < 10% OF TOTAL APT. SF
APT. #7D	585.31 SF	0.00 SF	0%	FOYER < 10% OF TOTAL APT. SF
APT. #7E	913.39 SF	0.00 SF	0%	FOYER < 10% OF TOTAL APT. SF
APT. #7F	694.29 SF	0.00 SF	0%	FOYER < 10% OF TOTAL APT. SF
APT. #7H	346.57 SF	0.00 SF	0%	FOYER < 10% OF TOTAL APT. SF

LEGEND

PLAN VIEW	TAG	DISCRIPTION	PLAN VIEW	DISCRIPTION
	W-1	PROPOSED 2HR RATED EXTERIOR WALL	75 CFM	AIR EXHAUST TO ROOF
	W-3	PROPOSED CONCRETE SHEAR WALL W/ FURRING		WINDOW TAG SEE SCHEDULE
	W4	PROPOSED SHEAR WALL WITH EPS CI INSULATION	D	DOOR TAG SEE SCHEDULE
	W5	PROPOSED 3HR RATED CONCRETE SHEAR WALL WITH FURRING	W-1	WALL TAG SEE SCHEDULE
	W-6	PROPOSED 3HR RATED 4" CMU WALL W/FURRING	AD	(AD) AREA - (FD) FLOOR - (RD) ROOF DRAIN
	EL-1	PROPOSED 3HR RATED ELEV. CONCRETE WALL BELOW GRADE	CO/CM	SMOKE & CARBON MONOXIDE DECTOR
	P-2	PROPOSED 4" UNRATED	FLOOR TO CEILING 0'-0"	FLOOR TO CEILING HEIGHT
	P-3	PROPOSED 4" UNRATED - MOLD RESISTANT	SH	SPRINKLER HEAD
	P-4	PROPOSED 4" 1HR FIRE RATED - MOLD RES.	EXIT	EXIT SIGN
	P-5	4" 1HR RATED - MIN 12" - KITCHENETTE SOFFIT		CENTER LINE
	P1-A	PROPOSED 6" 2HRS FIRE RATED	IC	INTERCOM AS PER BC 10008.4.4
	P1-B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ.		
	P2-B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ. & MOLD RES.		
	P1-C	PROPOSED 6" 2HRS FIRE RATED - MOLD RES.		
	P1-D	6" CHASE WALL - MOLD RESISTANT		
	P2-D	6" CHASE WALL - MASONRY EQ. & MOLD RES.		
	P3-D	4" FURRING DESIGN - MOLD RESISTANT		
	W-8	2HR RATED FRAME PARAPET WALL		

1008.4.4 INTERCOMMUNICATION SYSTEM.
BUILDINGS CONTAINING EIGHT OR MORE DWELLING UNITS SHALL BE PROVIDED WITH AN INTERCOMMUNICATION SYSTEM LOCATED AT THE DOOR GIVING ACCESS TO THE MAIN ENTRANCE LOBBY, CONSISTING OF A DEVICE OR DEVICES FOR VOICE COMMUNICATION BETWEEN THE OCCUPANT OF EACH DWELLING UNIT AND A PERSON OUTSIDE THE DOOR TO THE MAIN ENTRANCE LOBBY, AND PERMITTING SUCH DWELLING UNIT OCCUPANT TO RELEASE THE LOCKING MECHANISM OF SAID DOOR FROM THE DWELLING UNIT. IN BUILDINGS PROVIDED WITH A FULL-TIME LOBBY ATTENDANT, THE INTERCOMMUNICATION SYSTEM MAY BE BETWEEN EACH DWELLING UNIT AND THE ATTENDANT'S STATION.

1403.8 BIRD FRIENDLY MATERIALS

THE EXTERIOR WALL ENVELOPE, AND ANY ASSOCIATED OPENINGS, SHALL BE CONSTRUCTED WITH BIRD FRIENDLY MATERIALS UP TO 75 FEET (22860 MM) ABOVE GRADE. MATERIALS OTHER THAN BIRD FRIENDLY MATERIALS SHALL NOT EXCEED AN AGGREGATE OF 10 SQUARE FEET (0.93 M2) WITHIN ANY 10 FEET (3048 MM) BY 10 FEET (3048 MM) SQUARE AREA OF EXTERIOR WALL BELOW 75 FEET (22860 MM) ABOVE GRADE.

OPAQUE WALL MATERIALS: W-1, W-2, W-3, W-4 - COMPLIES
TRANSLUCENT WINDOW/DOOR: W0, W1, W2, W3, G1, G2, G3 - UV-REFLECTIVE PATTERN AND THREAT FACTOR OF <27
SEE PAGE A-401 & A-402

NYC 2022 BC - CHAPTER 12 INTERIOR ENVIRONMENT
SECTION 1203 GENERAL

HABITABLE SPACE:
ALL ROOMS AND SPACES WITHIN A DWELLING UNIT IN GROUP R OR I-1, INCLUDING BEDROOMS, LIVING ROOMS, STUDIES, RECREATION ROOMS, KITCHENS, DINING ROOMS AND OTHER SIMILAR SPACES.

EXCEPTION:
THE FOLLOWING SPACES WITHIN A DWELLING UNIT SHALL NOT BE CONSIDERED HABITABLE SPACES:

(5) A CORRIDOR, PASSAGEWAY, OR PRIVATE HALL; AND A FOYER USED AS AN ENTRANCE HALL IN A DWELLING UNIT; NOT EXCEEDING 10 PERCENT OF THE TOTAL FLOOR AREA OF THE DWELLING UNIT; OR NOT EXCEEDING 20 PERCENT OF THE FLOOR AREA OF THE DWELLING UNIT WHERE EVERY HABITABLE ROOM IS AT LEAST 20 PERCENT LARGER THAN THE REQUIRED MINIMUM ROOM SIZES ESTABLISHED BY THE NEW YORK CITY HOUSING MAINTENANCE CODE

1203.5.1.2.1 MINIMUM OPENING.*THE MINIMUM OPENABLE AREA TO THE OUTDOORS SHALL BE 5PERCENT OF THE FLOOR AREA OF THE HABITABLE SPACE BEING VENTILATED. EVERY OPENING PROVIDING REQUIRED NATURAL VENTILATION SHALL BE AT LEAST 12 SQUARE FEET (1.1 M2) OF GLAZED AREA, PROVIDING A MINIMUM OF 6 SQUARE FEET (0.56 M2) OF OPENABLE AREA*

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Architecture . Architect . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 509 .
www.LNDarchitect.com

MECHANICAL ENGINEER:
STRUCTURAL ENGINEER:
ARCHITECT'S SEAL:

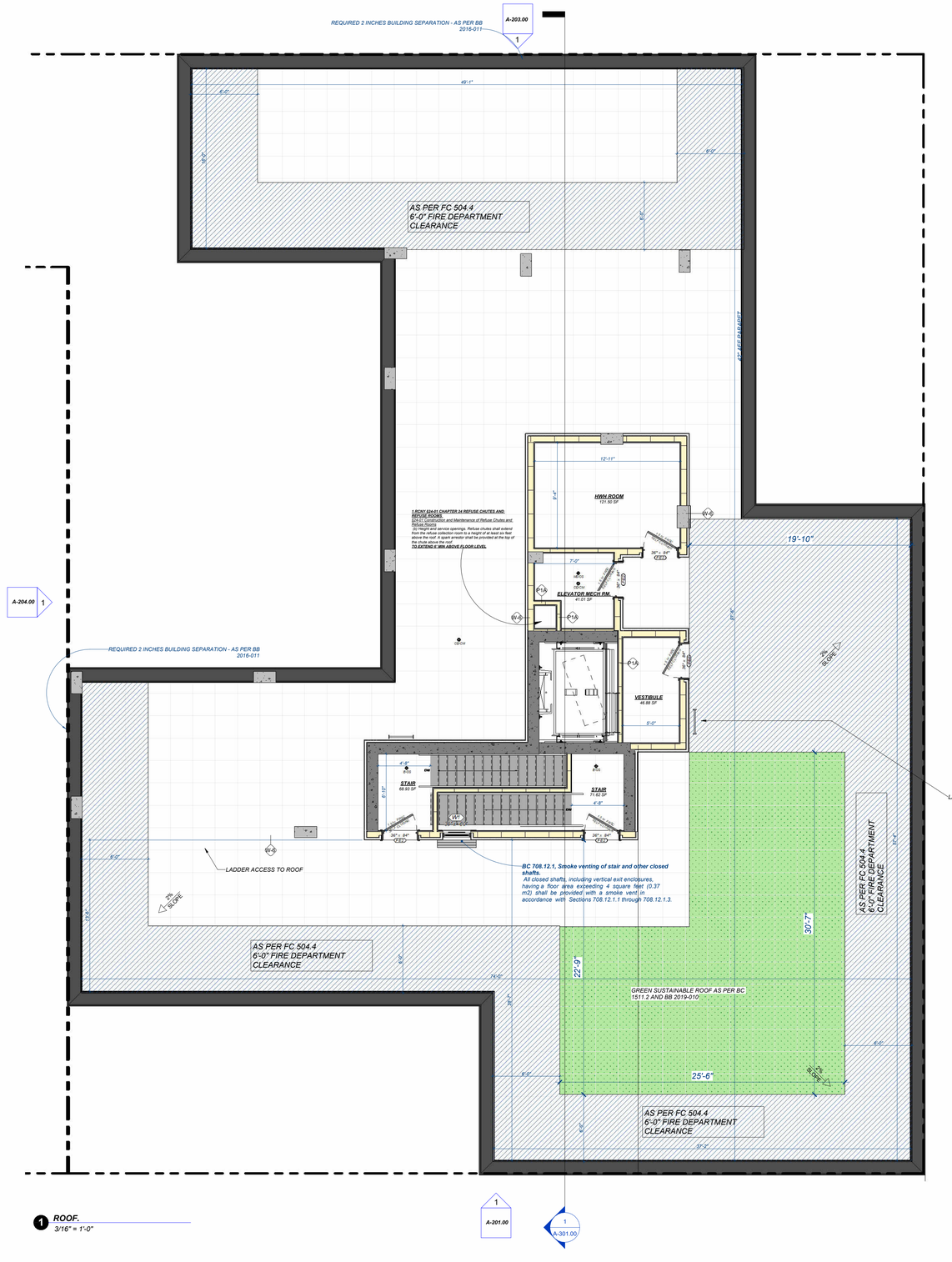
REV.	DATE	DESCRIPTION	BY
.	.	.	.

PROJECT NAME:
1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:
7TH FLOOR PLAN

JOB NO.:	X01150556-I1
SCALE :	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED :	LEANDRO NILS DICKSON
DATE :	5/16/2025 1:22:29 PM

DRAWING NO.
A-104.00

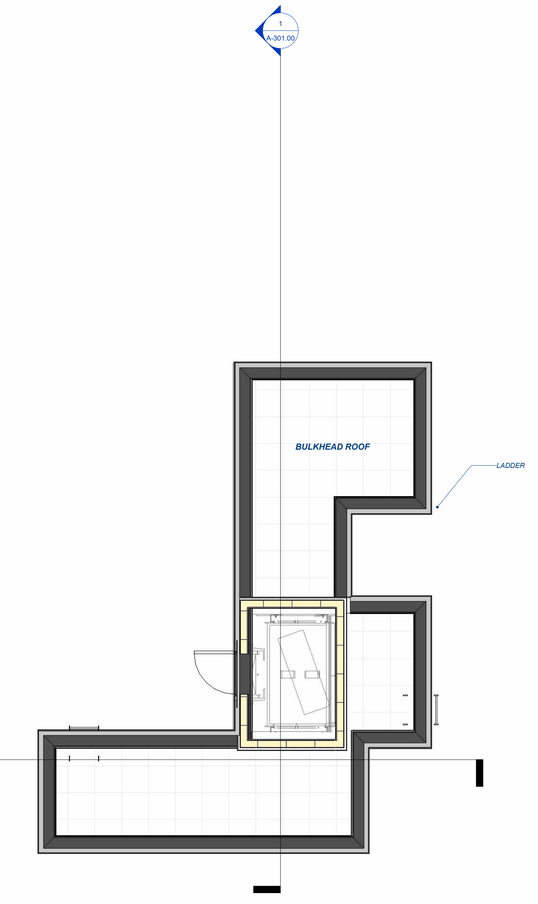


1 ROOF.
3/16" = 1'-0"

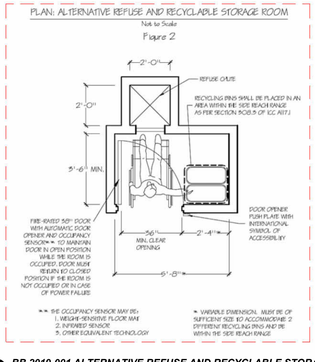
3 A-202.00

1 A-302.00

LADDER ACCESS TO ROOF



2 BULKHEAD FLOOR
3/16" = 1'-0"



A BB 2019-001 ALTERNATIVE REFUSE AND RECYCLABLE STORAGE ROOM
1/16" = 1'-0"

LEGEND

PLAN VIEW	TAG	DISCRIPTION	PLAN VIEW	DISCRIPTION
	W-1	PROPOSED 2HR RATED EXTERIOR WALL	75 CFM	AIR EXHAUST TO ROOF
	W-3	PROPOSED CONCRETE SHEAR WALL W/ FURRING		WINDOW TAG SEE SCHEDULE
	W4	PROPOSED SHEAR WALL WITH EPS CI INSULATION	D-1	DOOR TAG SEE SCHEDULE
	W5	PROPOSED 3HR RATED CONCRETE SHEAR WALL WITH FURRING	W-1	WALL TAG SEE SCHEDULE
	W-6	PROPOSED 3HR RATED 4" CMU WALL W/FURRING	AD	(AD) AREA - (FD) FLOOR - (RD) ROOF DRAIN
	EL-1	PROPOSED 3HR RATED ELEV. CONCRETE WALL BELOW GRADE	CO/CM	SMOKE & CARBON MONOXIDE DECTOR
	P-2	PROPOSED 4" UNRATED	FLOOR TO CEILING 0'-0"	FLOOR TO CEILING HEIGHT
	P-3	PROPOSED 4" UNRATED - MOLD RESISTANT	SH	SPRINKLER HEAD
	P-4	PROPOSED 4" 1HR FIRE RATED - MOLD RES.	EXIT	EXIT SIGN
	P-5	4" 1HR RATED - MIN 12" - KITCHENETTE SOFFIT		CENTER LINE
	P1-A	PROPOSED 6" 2HRS FIRE RATED	IC	INTERCOM AS PER BC 10008.4.4
	P1-B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ.		
	P2-B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ. & MOLD RES.		
	P1-C	PROPOSED 6" 2HRS FIRE RATED - MOLD RES.		
	P1-D	6" CHASE WALL - MOLD RESISTANT		
	P2-D	6" CHASE WALL - MASONRY EQ. & MOLD RES.		
	P3-D	4" FURRING DESIGN - MOLD RESISTANT		
	W-8	2HR RATED FRAME PARAPET WALL		

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Leandro Nils Dickson, Architect
Architecture . Architecture . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 201 . 509 . 9939
www.LNDarchitect.com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

BY	DESCRIPTION	DATE	REV.

PROJECT NAME:

1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING. 56 DWELLING UNITS

DRAWING NAME:
ROOF AND BULKHEAD

JOB NO.:	X01150556-I1
SCALE :	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED :	LEANDRO NILS DICKSON
DATE :	6/16/2025 1:22:31 PM

DRAWING NO.
A-105.00

ZR23-413(b)(1) DORMER ANALYSIS

DORMERS SHALL BE ALLOWED AS A PERMITTED OBSTRUCTION, PROVIDED THAT ON ANY STREET FRONTAGE, THE AGGREGATE WIDTH OF ALL DORMERS AT THE MAXIMUM BASE HEIGHT DOES NOT EXCEED 60 PERCENT OF THE WIDTH OF THE STREET WALL OF THE HIGHEST STORY ENTIRELY BELOW THE MAXIMUM BASE HEIGHT. FOR EACH FOOT ABOVE THE MAXIMUM BASE HEIGHT, THE AGGREGATE WIDTH OF ALL DORMERS SHALL BE DECREASED BY ONE PERCENT OF THE STREET WALL WIDTH OF THE HIGHEST STORY ENTIRELY BELOW THE MAXIMUM BASE HEIGHT.

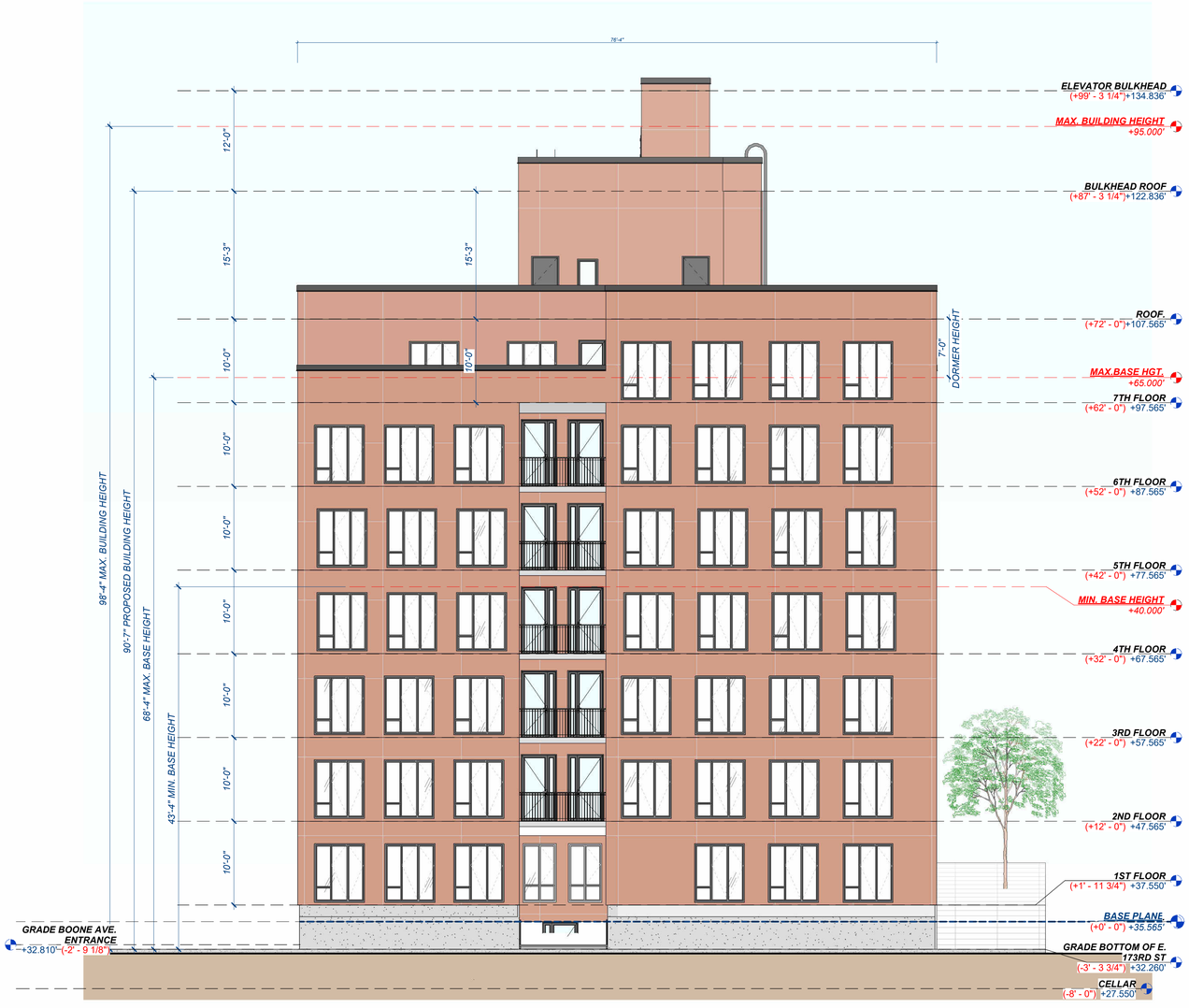
BOONE AVENUE: 76'-4" X 60% = 44.70'

7TH FLOOR
PROPOSED DORMER HT ABOVE MAX BASE HEIGHT =7.0'
7.0' X 1% = 7.0% , 44.70' X 7.0% = 3.12'
44.70' - 3.12' = 41.58' MAX DORMER ALLOWED
PROPOSED DORMER
39'-6" - COMPLIES

EAST 193RD STREET: 99'-10" X 60% = 59.90'

7TH FLOOR
PROPOSED DORMER HT ABOVE MAX BASE HEIGHT =7.0'
7.0' X 1% = 7.0% , 59.90' X 7.0% = 4.19'
59.90' - 4.19' = 55.71' MAX DORMER ALLOWED
PROPOSED DORMER
55'-0" - COMPLIES

IF THIS BUILDING IN THE FUTURE WILL BE SOLD, ANY ADDITION TO THIS BUILDING , CANNOT OBSTRUCT THE SIDE WINDOWS



1 ***BOONE AVENUE ELEVATION***
1/8" = 1'-0"

BASE PLANE CALCULATION

A) EL.35.39'
B) EL.32.26'
C) EL.42.61'
a) BOONE AVE: 60.00'
b) EAST 173RD STREET: 60.00'

$\{ [{}^{(A+B)}/_{2} \times a] + [{}^{(B+C)}/_{2} \times b] \} / a+b =$
$\{ [{}^{(35.39'+32.26')}/_{2} \times 60.00'] + [{}^{(32.26'+42.61')}/_{2} \times 60.00'] \} / 60.00'+60.00' =$
$\{ [{}^{(67.65')}/_{2} \times 60.00'] + [{}^{(74.87')}/_{2} \times 60.00'] \} / 120.00' =$
$\{ [2029.5'] + [2246.1'] \} / 120.00' = 35.63'$

BASE PLANE: 35.63'

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Architecture . Architecture . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 201 . 509 . 9393
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MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

REV.	DATE	DESCRIPTION
.	.	.

PROJECT NAME:

1003 EAST 173RD STREET

Bronx, NY 10460

PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:

FRONT ELEVATION (BOONE AVENUE)

JOB NO.:	X011150556-I1
SCALE :	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED :	LEANDRO NILS DICKSON
DATE :	6/16/2025 1:22:35 PM

DRAWING NO.

A-201.00

ZR23-413(b)(1) DORMER ANALYSIS

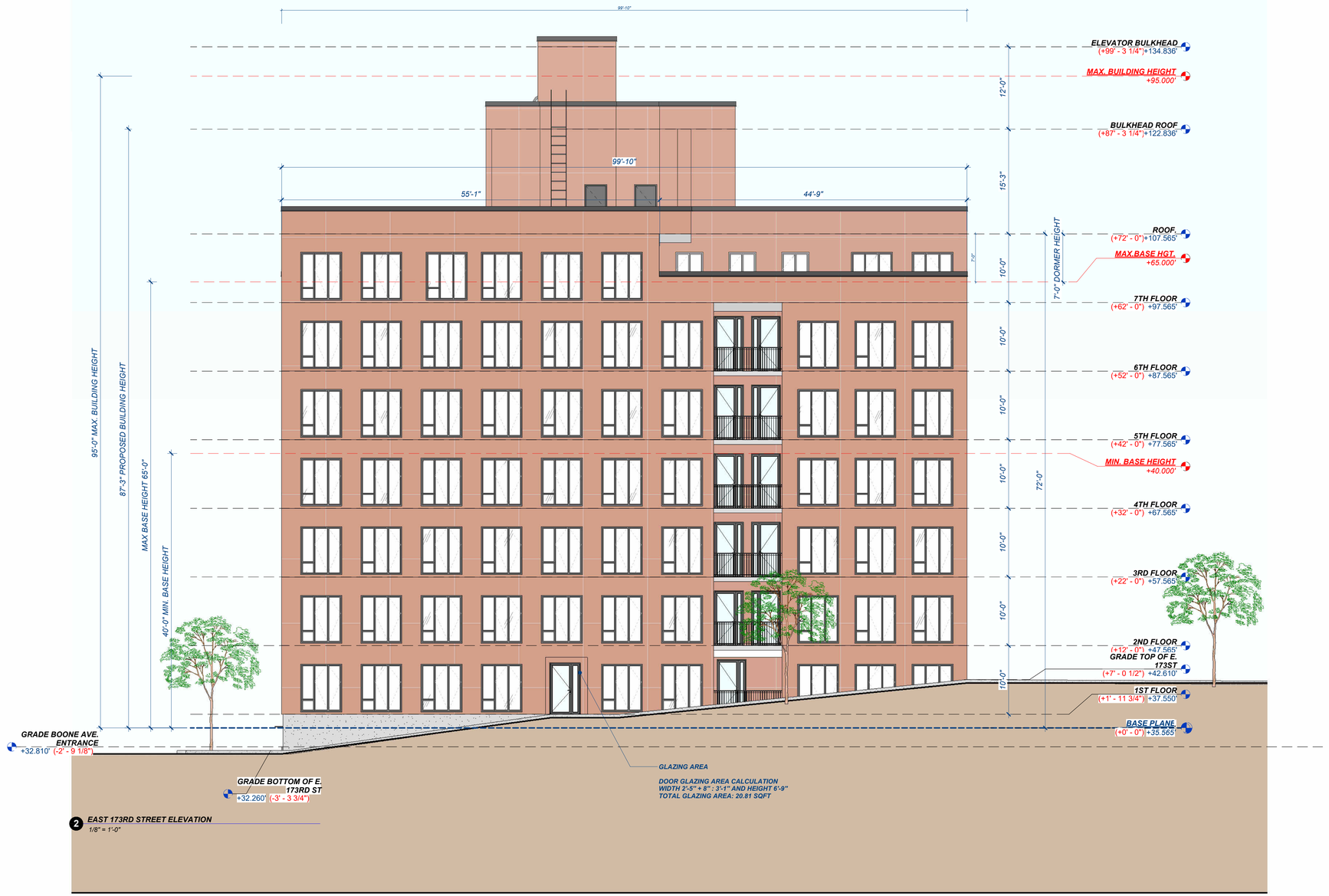
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BOONE AVENUE: 76'-4" X 60% = 44.70'

7TH FLOOR
PROPOSED DORMER HT ABOVE MAX BASE HEIGHT =7.0'
7.0' X 1% = 7.0% , 44.70' X 7.0% = 3.12'
44.70' - 3.12' = 41.58' MAX DORMER ALLOWED
PROPOSED DORMER
39'-6" - COMPLIES

EAST 193RD STREET: 99'-10" X 60% = 59.90'

7TH FLOOR
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7.0' X 1% = 7.0% , 59.90' X 7.0% = 4.19'
59.90' - 4.19' = 55.71' MAX DORMER ALLOWED
PROPOSED DORMER
55'-0" - COMPLIES



2 **EAST 173RD STREET ELEVATION**
1/8" = 1'-0"

BASE PLANE CALCULATION

A) EL.35.39'
B) EL.32.26'
C) EL.42.61'
a) BOONE AVE: 60.00'
b) EAST 173RD STREET: 60.00'

{ [$^{(A+B)}/_{2}$ x a] + [$^{(B+C)}/_{2}$ x b]} / a+b =
{ [$^{(35.39'+32.26')}/_{2}$ x 60.00'] + [$^{(32.26'+42.61')}/_{2}$ x 60.00']} / 60.00'+60.00' =
{ [$^{(67.65')}/_{2}$ x 60.00'] + [$^{(74.87')}/_{2}$ x 60.00']} / 120.00' =
{ [2029.5'] + [2246.1']} / 120.00' = 35.63'

BASE PLANE: 35.63'

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3-53 26th Street
Fair Lawn, NJ
07410 . 201 . 509 .
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MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

REV	DATE	DESCRIPTION	BY
-			

PROJECT NAME:

1003 EAST 173RD STREET

Bronx, NY 10460

PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:

SIDE ELEVATION (EAST 173RD STREET)

JOB NO.:	X01150556-I1
SCALE :	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED :	LEANDRO NILS DICKSON
DATE :	6/16/2025 1:22:39 PM

DRAWING NO.

A-202.00

ZR23-413(b)(1) DORMER ANALYSIS

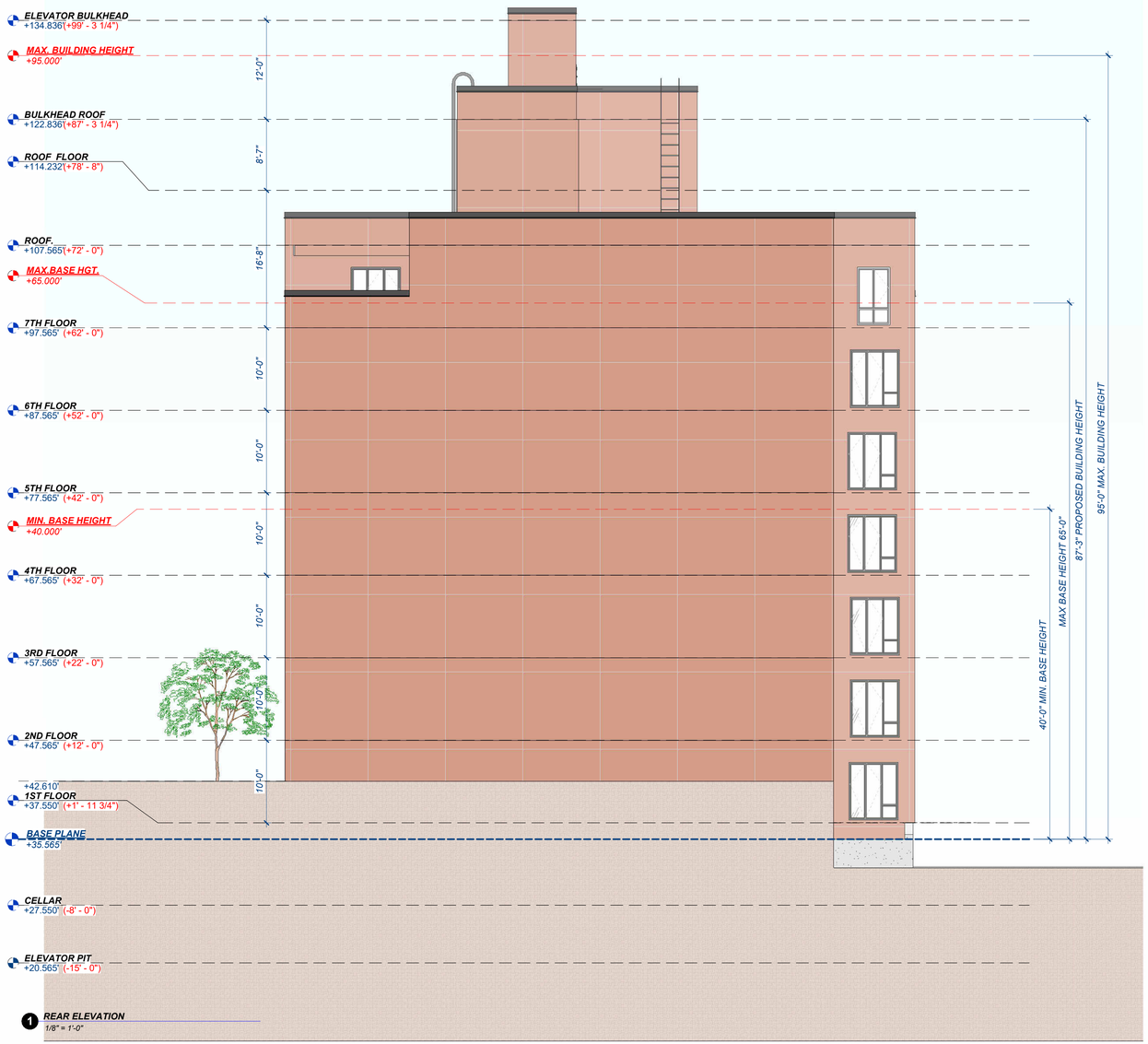
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BOONE AVENUE: 76'-4" X 60% = 44.70'

7TH FLOOR
PROPOSED DORMER HT ABOVE MAX BASE HEIGHT =7.0'
7.0' X 1% = 7.0% , 44.70' X 7.0% = 3.12'
44.70' - 3.12' = 41.58' MAX DORMER ALLOWED
PROPOSED DORMER
39'-6" - COMPLIES

EAST 193RD STREET: 99'-10" X 60% = 59.90'

7TH FLOOR
PROPOSED DORMER HT ABOVE MAX BASE HEIGHT =7.0'
7.0' X 1% = 7.0% , 59.90' X 7.0% = 4.19'
59.90' - 4.19' = 55.71' MAX DORMER ALLOWED
PROPOSED DORMER
55'-0" - COMPLIES



1 **REAR ELEVATION**
1/8" = 1'-0"

BASE PLANE CALCULATION

A) EL.35.39'
B) EL.32.26'
C) EL.42.61'
a) BOONE AVE: 60.00'
b) EAST 173RD STREET: 60.00'

{ [$^{(A+B)}/_{2}$ x a] + [$^{(B+C)}/_{2}$ x b]} / a+b =
{ [$^{(35.39'+32.26')}/_{2}$ x 60.00'] + [$^{(32.26'+42.61')}/_{2}$ x 60.00']} / 60.00'+60.00' =
{ [$^{(67.65')}/_{2}$ x 60.00'] + [$^{(74.87')}/_{2}$ x 60.00']} / 120.00' =
{ [2029.5'] + [2246.1']} / 120.00' = 35.63'

BASE PLANE: 35.63'

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MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

REV.	DATE	DESCRIPTION	BY
-	-	-	-

PROJECT NAME:
1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:
REAR ELEVATION

JOB NO.:	X01150556-I1
SCALE :	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED :	LEANDRO NILS DICKSON
DATE :	6/16/2025 1:22:42 PM

DRAWING NO.
A-203.00

ZR23-413(b)(1) DORMER ANALYSIS

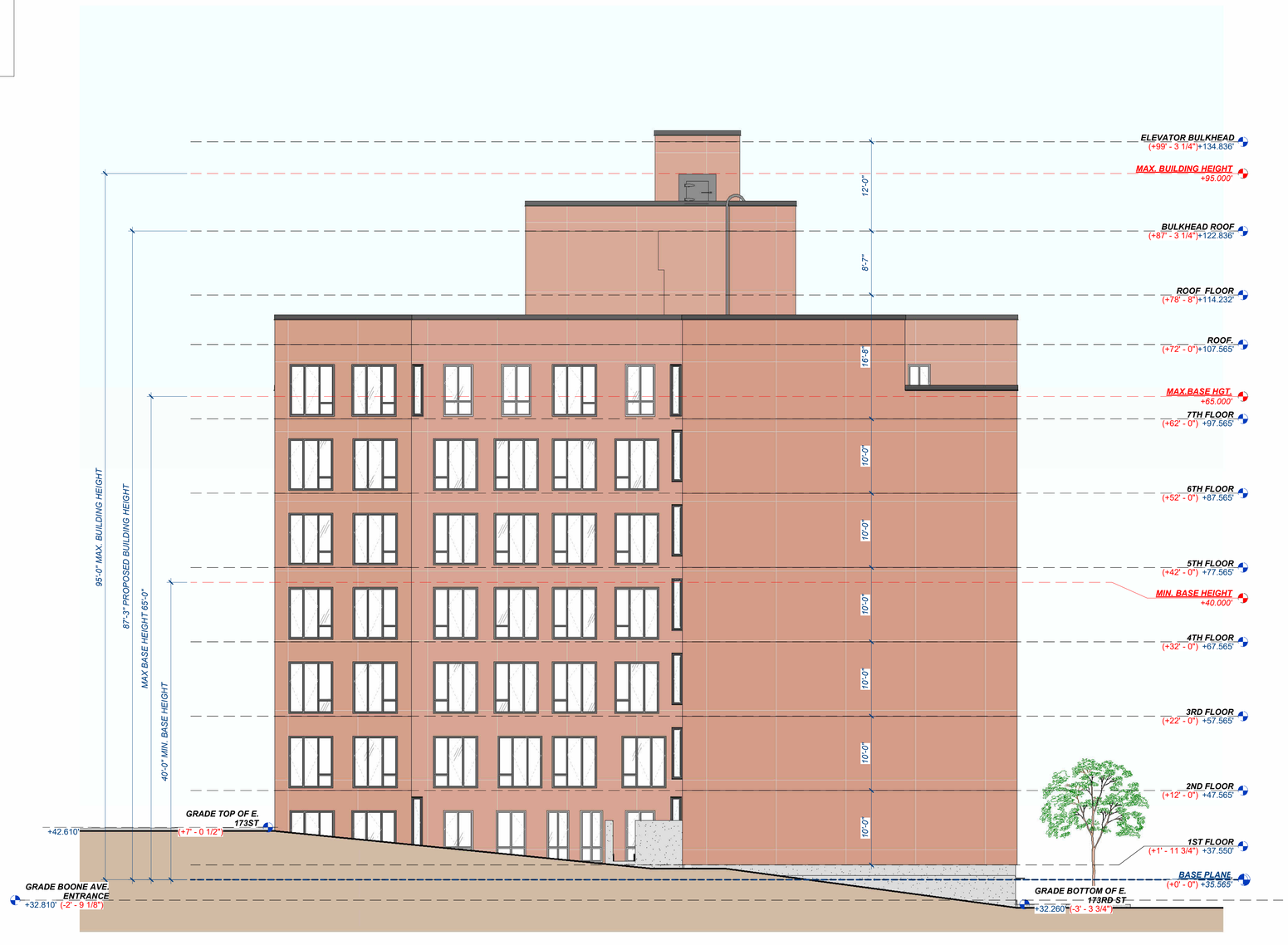
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BOONE AVENUE: 76'-4" X 60% = 44.70'

7TH FLOOR
PROPOSED DORMER HT ABOVE MAX BASE HEIGHT =7.0'
7.0' X 1% = 7.0% , 44.70' X 7.0% = 3.12'
44.70' - 3.12' = 41.58' MAX DORMER ALLOWED
PROPOSED DORMER
39'-6" - COMPLIES

EAST 193RD STREET: 99'-10" X 60% = 59.90'

7TH FLOOR
PROPOSED DORMER HT ABOVE MAX BASE HEIGHT =7.0'
7.0' X 1% = 7.0% , 59.90' X 7.0% = 4.19'
59.90' - 4.19' = 55.71' MAX DORMER ALLOWED
PROPOSED DORMER
55'-0" - COMPLIES



1 **SIDE ELEVATION**
1/8" = 1'-0"

BASE PLANE CALCULATION

A) EL.35.39'
B) EL.32.26'
C) EL.42.61'
a) BOONE AVE: 60.00'
b) EAST 173RD STREET: 60.00'

{ [$(A+B)/2$ x a] + [$(B+C)/2$ x b]} / a+b =
{ [$(35.39+32.26)/2$ x 60.00'] + [$(32.26+42.61')/2$ x 60.00']} / 60.00'+60.00' =
{ [$(67.65')/2$ x 60.00'] + [$(74.87')/2$ x 60.00']} / 120.00' =
{ [2029.5'] + [2246.1']} / 120.00' = 35.63'

BASE PLANE: 35.63'

BASE PLANE CALCULATION

Corner lot base plane elevation
- Average @ Vyse Avenue
A) EL.78.48'
B) EL.76.97'
V) Vyse Ave Lenght: 18.09'

*{[(A+B) / 2]*V}= {[(78.48' + 76.97') / 2]*68.09'}=*
*{[77.725']*68.09'}= **5292.29'***

- Average @ Freeman St
B) EL.76.97'
C) EL.76.72'
F) Freeman st Lenght: 109.42'
*{[(B+C) / 2]*F}= {[(76.97'+ 76.72') / 2]*109.42}=*
*{[76.845']*109.42'}= **8408.38'***

Corner lot B.P. Average
*{[(A+B) / 2]*V + [(B+C) / 2]*F)/ (V+F) =*
{5292.29' + 8408.38}/ (68.09'+109.42') =
*{13700.67}/ (176.51') = **77.62'***

BASEPLANE: 77.62'

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Architecture . Architecture . Developing
3-53 26th Street
Fair Lawn, NJ
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www.LNDarchitect.com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

REV.	DATE	DESCRIPTION
B		

PROJECT NAME:

1003 EAST 173RD STREET

Bronx, NY 10460

PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:

SIDE ELEVATION

JOB NO.:	X01150556-I1
SCALE :	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED :	LEANDRO NILS DICKSON
DATE :	6/16/2025 1:22:46 PM

DRAWING NO.

A-204.00

ZR23-413(b)(1) DORMER ANALYSIS

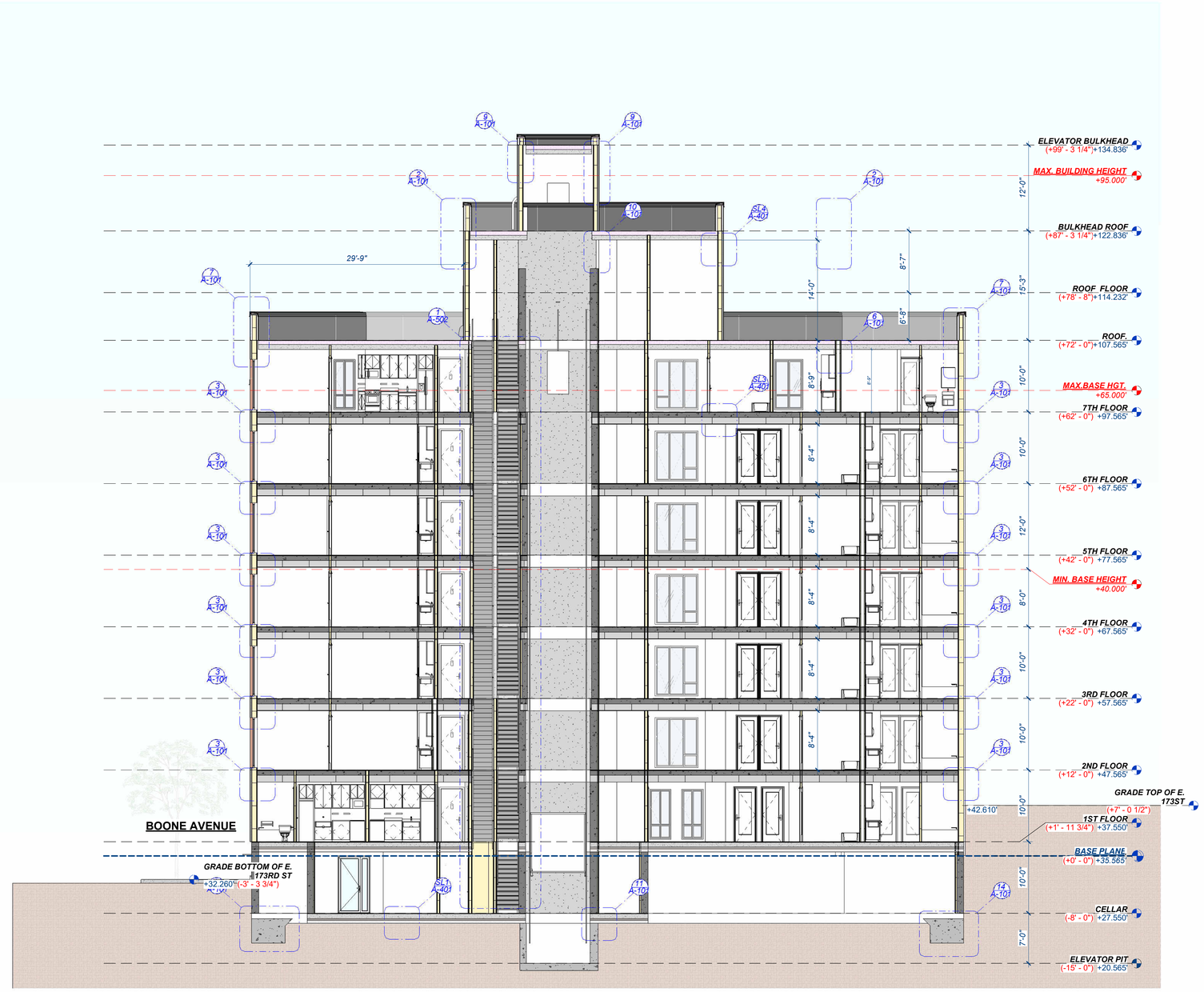
DORMERS SHALL BE ALLOWED AS A PERMITTED OBSTRUCTION, PROVIDED THAT ON ANY STREET FRONTAGE, THE AGGREGATE WIDTH OF ALL DORMERS AT THE MAXIMUM BASE HEIGHT DOES NOT EXCEED 60 PERCENT OF THE WIDTH OF THE STREET WALL OF THE HIGHEST STORY ENTIRELY BELOW THE MAXIMUM BASE HEIGHT. FOR EACH FOOT ABOVE THE MAXIMUM BASE HEIGHT, THE AGGREGATE WIDTH OF ALL DORMERS SHALL BE DECREASED BY ONE PERCENT OF THE STREET WALL WIDTH OF THE HIGHEST STORY ENTIRELY BELOW THE MAXIMUM BASE HEIGHT.

BOONE AVENUE: 76'-4" X 60% = 44.70'

7TH FLOOR
PROPOSED DORMER HT ABOVE MAX BASE HEIGHT =7.0'
7.0' X 1% = 7.0% , 44.70' X 7.0% = 3.12'
44.70' - 3.12' = 41.58' MAX DORMER ALLOWED
PROPOSED DORMER
39'-6" - COMPLIES

EAST 193RD STREET: 99'-10" X 60% = 59.90'

7TH FLOOR
PROPOSED DORMER HT ABOVE MAX BASE HEIGHT =7.0'
7.0' X 1% = 7.0% , 59.90' X 7.0% = 4.19'
59.90' - 4.19' = 55.71' MAX DORMER ALLOWED
PROPOSED DORMER
55'-0" - COMPLIES



1 **SECTION**
1/8" = 1'-0"

BASE PLANE CALCULATION

A) EL.35.39'
B) EL.32.26'
C) EL.42.61'
a) BOONE AVE: 60.00'
b) EAST 173RD STREET: 60.00'

{ [$^{(A+B)}/_{2}$ x a] + [$^{(B+C)}/_{2}$ x b]} / a+b =
{ [$^{(35.39+32.26)}/_{2}$ x 60.00'] + [$^{(32.26+42.61')}/_{2}$ x 60.00']} / 60.00'+60.00' =
{ [$^{(67.65')}/_{2}$ x 60.00'] + [$^{(74.87')}/_{2}$ x 60.00']} / 120.00' =
{ [2029.5'] + [2246.1']} / 120.00' = 35.63'

BASE PLANE: 35.63'

Leandro Nils Dickson, Architect
Architecture . Architecture . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 201 . 509 . 6939
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MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

REV	DATE	DESCRIPTION	BY

PROJECT NAME:

1003 EAST 173RD STREET

Bronx, NY 10460

PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:

LONGITUDINAL SECTION #1

JOB NO.:	X01150556-I1
SCALE :	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED :	LEANDRO NILS DICKSON
DATE :	6/16/2025 1:22:49 PM

DRAWING NO.

A-301.00

ZR23-413(b)(1) DORMER ANALYSIS

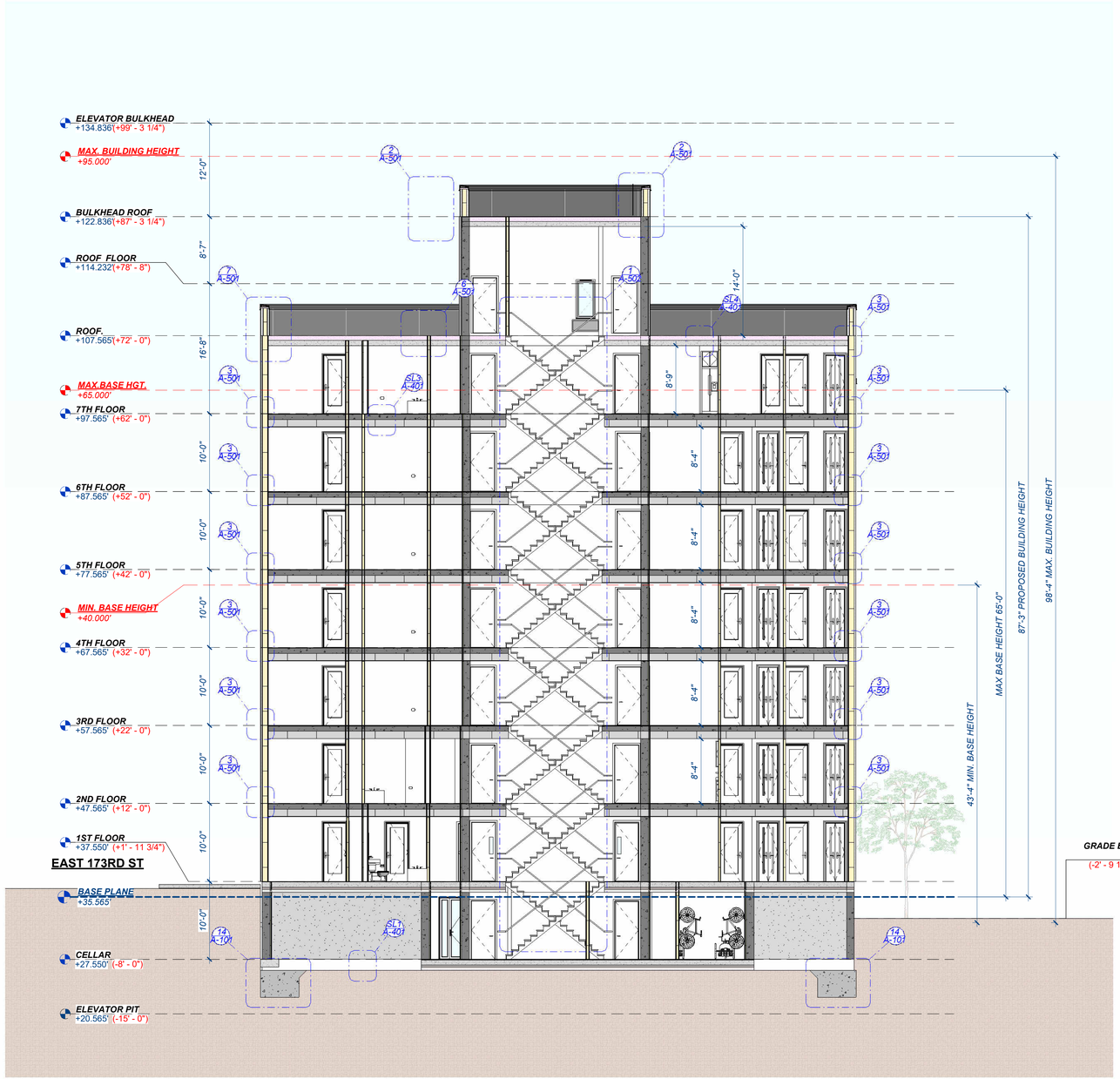
DORMERS SHALL BE ALLOWED AS A PERMITTED OBSTRUCTION, PROVIDED THAT ON ANY STREET FRONTAGE, THE AGGREGATE WIDTH OF ALL DORMERS AT THE MAXIMUM BASE HEIGHT DOES NOT EXCEED 60 PERCENT OF THE WIDTH OF THE STREET WALL OF THE HIGHEST STORY ENTIRELY BELOW THE MAXIMUM BASE HEIGHT. FOR EACH FOOT ABOVE THE MAXIMUM BASE HEIGHT, THE AGGREGATE WIDTH OF ALL DORMERS SHALL BE DECREASED BY ONE PERCENT OF THE STREET WALL WIDTH OF THE HIGHEST STORY ENTIRELY BELOW THE MAXIMUM BASE HEIGHT.

BOONE AVENUE: 76'-4" X 60% = 44.70'

7TH FLOOR
PROPOSED DORMER HT ABOVE MAX BASE HEIGHT =7.0'
7.0' X 1% = 7.0% , 44.70' X 7.0% = 3.12'
44.70' - 3.12' = 41.58' MAX DORMER ALLOWED
PROPOSED DORMER
39'-6" - COMPLIES

EAST 193RD STREET: 99'-10" X 60% = 59.90'

7TH FLOOR
PROPOSED DORMER HT ABOVE MAX BASE HEIGHT =7.0'
7.0' X 1% = 7.0% , 59.90' X 7.0% = 4.19'
59.90' - 4.19' = 55.71' MAX DORMER ALLOWED
PROPOSED DORMER
55'-0" - COMPLIES



1 ***EAST-WEST BUILDING SECTION AT DRIVEWAY***
1/8" = 1'-0"

BASE PLANE CALCULATION

A) EL.35.39'
B) EL.32.26'
C) EL.42.61'
a) BOONE AVE: 60.00'
b) EAST 173RD STREET: 60.00'

{ [$^{(A+B)}/_{2}$ x a] + [$^{(B+C)}/_{2}$ x b]} / a+b =
{ [$^{(35.39+32.26)}/_{2}$ x 60.00'] + [$^{(32.26+42.61')}/_{2}$ x 60.00']} / 60.00'+60.00' =
{ [$^{(67.65')}/_{2}$ x 60.00'] + [$^{(74.87')}/_{2}$ x 60.00']} / 120.00' =
{ [2029.5'] + [2246.1']} / 120.00' = 35.63'

BASE PLANE: 35.63'

Leandro Nils Dickson, Architect
Architecture . Architects . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 201 . 509 . 9338
www.LNDarchitect.com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

BY	DESCRIPTION	DATE	REV.

PROJECT NAME:

1003 EAST 173RD STREET

Bronx, NY 10460

PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:

LONGITUDINAL SECTION #2

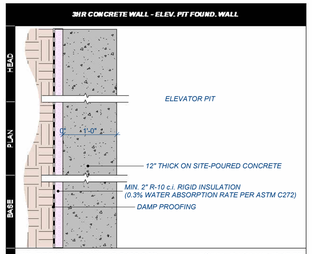
JOB NO.:	X01150556-I1
SCALE :	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED :	LEANDRO NILS DICKSON
DATE :	6/16/2025 1:22:52 PM

DRAWING NO.

A-302.00

EXTERIOR WALLS BELOW GRADE

3HR CONCRETE WALL - ELEV. PIT FOUND. WALL



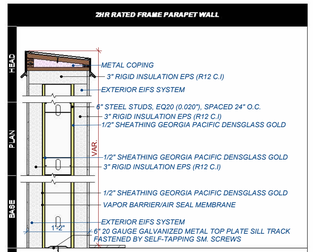
UL DESIGN - (CAN/ULC S102,2 M) — ***TOTAL R-VALUE: R-16.93***

NOTES — EL

FIRE RATING:	3
STC:	Hours
SOUND TEST:	60
SYSTEM	-

EXTERIOR WALLS - PARAPET

2HR RATED FRAME PARAPET WALL



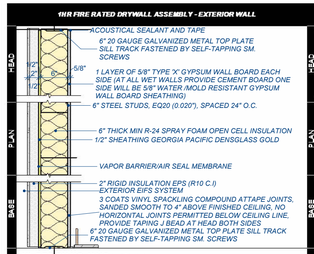
UL DESIGN NO. U419

NOTES — W-11

FIRE RATING:	2 hour
STC:	-
SOUND TEST:	-

EXTERIOR WALLS ABOVE GRADE

1HR FIRE RATED DRYWALL ASSEMBLY - EXTERIOR WALL



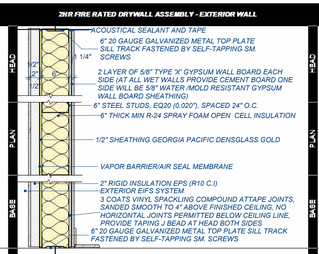
UL DESIGN NO. U415 system a

NOTES — W-10

FIRE RATING:	1 Hour	OITC 50, MIN., BASED UPON ESTIMATED WEIGHT OF 12.7 PSF
STC:	53	
SOUND TEST:	USG-170104	
SYSTEM		
THICKNESS:		

WHERE IN CONTACT WITH WET SURFACES , INTERIOR GWB LAYER IS SUBSTITUTE WITH 5/8" GYPSUM BOARD WITH WATER/MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273.

2HR FIRE RATED DRYWALL ASSEMBLY - EXTERIOR WALL



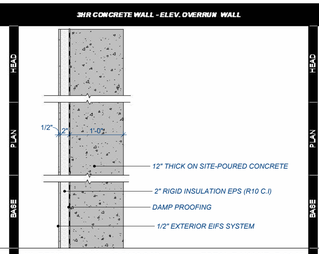
UL DESIGN NO. U415 system b

NOTES — W-10

FIRE RATING:	2 Hours	OITC 50, MIN., BASED UPON ESTIMATED WEIGHT OF 12.7 PSF
STC:	53	
SOUND TEST:	USG-170104	
SYSTEM		
THICKNESS:		

WHERE IN CONTACT WITH WET SURFACES , INTERIOR GWB LAYER IS SUBSTITUTE WITH 5/8" GYPSUM BOARD WITH WATER/MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273.

3HR CONCRETE WALL - ELEV. OVERRUN WALL

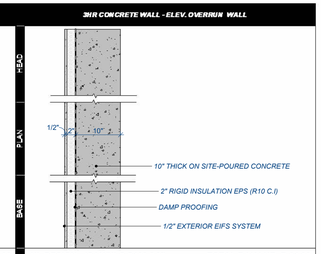


UL DESIGN - (CAN/ULC S102,2 M) — ***TOTAL R-VALUE: R-21.93***

NOTES — W-2

FIRE RATING:	3
STC:	Hours
SOUND TEST:	60
SYSTEM	-

3HR CONCRETE WALL - ELEV. OVERRUN WALL



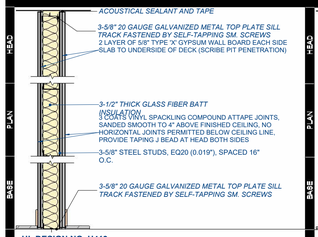
UL DESIGN - (CAN/ULC S102,2 M) — ***TOTAL R-VALUE: R-21.93***

NOTES — W-2

FIRE RATING:	3
STC:	Hours
SOUND TEST:	60
SYSTEM	-

INTERIOR WALLS

2HR FIRE RATED DRYWALL ASSEMBLY

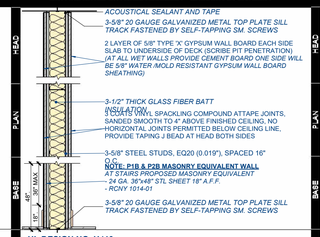


UL DESIGN NO. U419

NOTES — P1

FIRE RATING:	2 Hour
STC:	53
SOUND TEST:	USG-170104
SYSTEM	6 1/8"
THICKNESS:	

2HR FIRE RATED DRYWALL ASSEMBLY - MASONRY EQUIVALENT



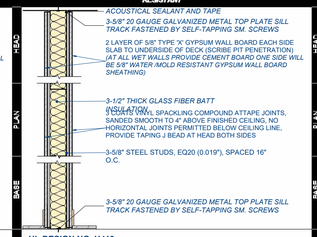
UL DESIGN NO. U419

NOTES — P1B / P2B

FIRE RATING:	2 Hour
STC:	53
SOUND TEST:	USG-170104
SYSTEM	6 1/8"
THICKNESS:	

P2B' WALL SIMILAR TO 'P1B' EXCEPT SUBSTITUTE 5/8" GYPSUM BOARD WITH WATER/MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273 PROVIDED AT ALL WET SURFACES

2HR FIRE RATED DRYWALL ASSEMBLY - WATER/MOLD RESISTANT



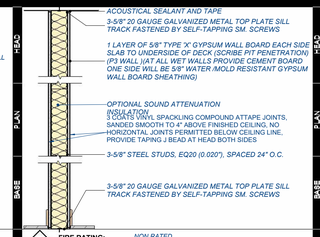
UL DESIGN NO. U419

NOTES — P1

FIRE RATING:	2 Hour
STC:	53
SOUND TEST:	USG-170104
SYSTEM	6 1/8"
THICKNESS:	

P1C' WALL SIMILAR TO 'P1A' EXCEPT ON ONE SIDE SUBSTITUTE 5/8" GYPSUM BOARD WITH MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273.

UNRATED DRYWALL ASSEMBLY

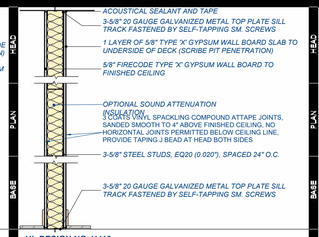


NOTES — P

FIRE RATING:	NON RATED
STC:	48
SOUND TEST:	USG-180602
SYSTEM	4 7/8"
THICKNESS:	

P3' WALL IS SIMILAR TO 'P2' EXCEPT ON ONE SIDE SUBSTITUTE 5/8" GYPSUM BOARD WITH MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273

1 HR RATED DRYWALL ASSEMBLY



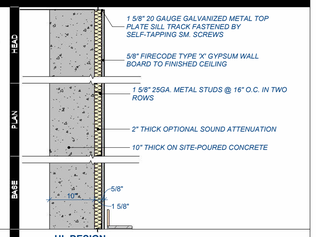
UL DESIGN NO. U419

NOTES — P4

FIRE RATING:	1 HR RATED
STC:	48
SOUND TEST:	USG-180602
SYSTEM	4 7/8"
THICKNESS:	

P4' WALL IS SIMILAR TO 'P2' EXCEPT ON ONE SIDE SUBSTITUTE 5/8" GYPSUM BOARD WITH MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273 & ON THE OTHER SIDE 5/8" FIRECODE TYPE 'X' GYPSUM WALL BOARD

ELEVATOR INTERIOR WALL WITH FURRING DESIGN



UL DESIGN

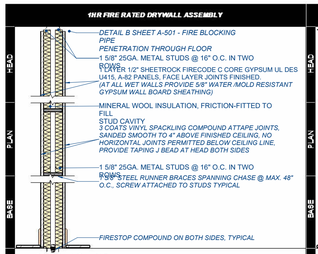
NOTES — W-2

FIRE	U419
RATING:	4 Hour
STC:	-
SOUND	-
TEST:	

WHERE IN CONTACT WITH WET SURFACES , INTERIOR GWB LAYER IS SUBSTITUTE WITH 5/8" GYPSUM BOARD WITH WATER/MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273.

INTERIOR CHASE WALLS

1HR FIRE RATED DRYWALL ASSEMBLY



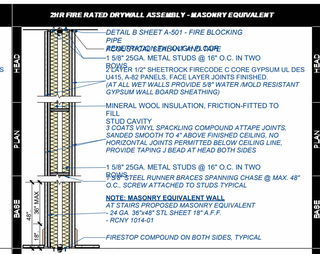
UL DESIGN NO. U415

NOTES — P1

FIRE RATING:	1 Hour
STC:	n/a
SOUND TEST:	n/a
SYSTEM	Varies
THICKNESS:	

AT ALL WET WALLS PROVIDE SUBSTITUTE 5/8" GYPSUM BOARD WITH MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273

2HR FIRE RATED DRYWALL ASSEMBLY - MASONRY EQUIVALENT



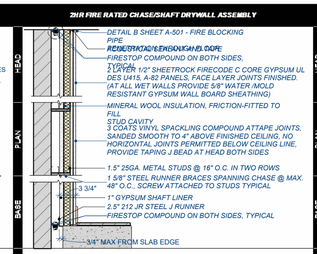
UL DESIGN NO. U415

NOTES — P2

FIRE RATING:	2 Hour
STC:	n/a
SOUND TEST:	n/a
SYSTEM	Varies
THICKNESS:	

AT ALL WET WALLS PROVIDE SUBSTITUTE 5/8" GYPSUM BOARD WITH MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273.

2HR FIRE RATED CHASE/SHAFT DRYWALL ASSEMBLY



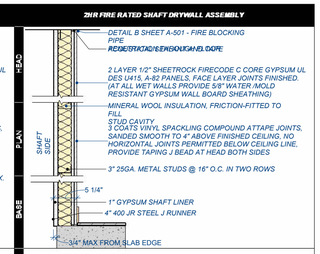
UL DESIGN NO. BW-S-0016

NOTES — P3

FIRE RATING:	2 Hour
STC:	n/a
SOUND TEST:	n/a
SYSTEM	3 3/4"
THICKNESS:	

AT ALL WET WALLS PROVIDE SUBSTITUTE 5/8" GYPSUM BOARD WITH MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273

2HR FIRE RATED SHAFT DRYWALL ASSEMBLY



UL DESIGN NO. BW-S-0016

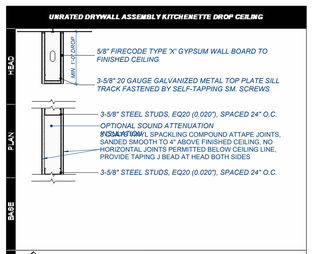
NOTES — P4D

FIRE RATING:	2 Hour
STC:	n/a
SOUND TEST:	n/a
SYSTEM	5 1/4"
THICKNESS:	

AT ALL WET WALLS PROVIDE SUBSTITUTE 5/8" GYPSUM BOARD WITH MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273

INTERIOR WALLS - KITCHENETTE

UNRATED DRYWALL ASSEMBLY KITCHENETTE DROP CEILING



NOTES — P

FIRE RATING:	NON RATED
STC:	48
SOUND TEST:	USG-180602
SYSTEM	4 7/8"
THICKNESS:	

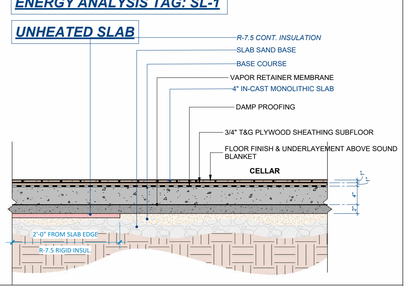
SLAB-ON-GRADE ASSEMBLY

TAG: SL1

SECTION

ENERGY ANALYSIS TAG: SL-1

UNHEATED SLAB



NOTES

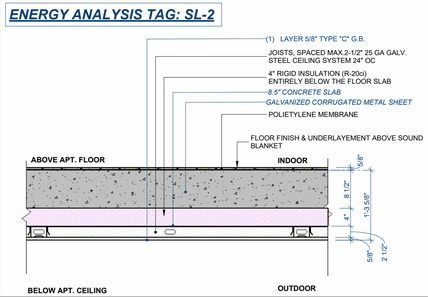
FLOOR TYPE:	PROPOSED SLAB-ON-GRADE
DESCRIPTION:	8" IN-CAST MONOLITHIC SLAB BELOW GRADE
UL DESIGN:	UL DESIGN #D502
FIRE RATING:	4 HR RATED
STC VALUE:	STC RATING > 53, AS PER ASTM E 90
R-VALUE:	R-7.5CI

4 HR RATED FLOOR ASSEMBLY - ABOVE OPEN AREA INTERIOR

TAG: SL2

SECTION

ENERGY ANALYSIS TAG: SL-2



NOTES

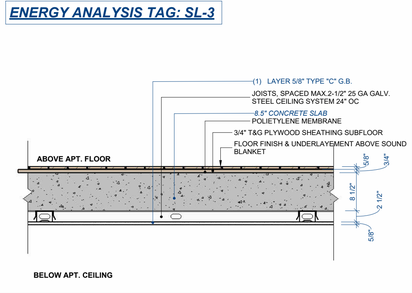
FLOOR TYPE:	FLOOR ABOVE OPEN AREA/BUILDING THERMAL BOUNDARY
DESCRIPTION:	8.5" IN-CAST MONOLITHIC SLAB
UL DESIGN:	UL DESIGN #D502
FIRE RATING:	4 HR RATED
STC VALUE:	STC RATING > 53, AS PER ASTM E 90
R-VALUE:	R-20ci

4 HR RATED FLOOR ASSEMBLY

TAG: SL3

SECTION

ENERGY ANALYSIS TAG: SL-3



NOTES

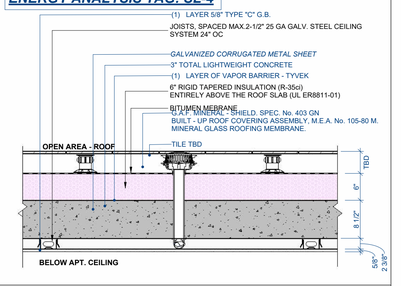
FLOOR TYPE:	REGULAR FLOOR INSIDE THE THERMAL BUILDING ENVELOPE
DESCRIPTION:	8.5" IN-CAST MONOLITHIC SLAB
UL DESIGN:	UL DESIGN #D502
FIRE RATING:	4 HR RATED
STC VALUE:	STC RATING > 53, AS PER ASTM E 90
R-VALUE:	--

4 HR RATED ROOF TOP ASSEMBLY

TAG: SL4

SECTION

ENERGY ANALYSIS TAG: SL-4



NOTES

FLOOR TYPE:	ROOF WITH TERRACE TILES
DESCRIPTION:	8.5" IN-CAST MONOLITHIC SLAB
UL DESIGN:	UL DESIGN #D502
FIRE RATING:	4 HR RATED
STC VALUE:	STC RATING > 53, AS PER ASTM E 90
R-VALUE:	R-35ci

LND
Leandro Nils Dickson, Architect
Architecture . Architecture . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 509 .
www.LNDArchitect.com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

BY	DESCRIPTION	DATE	REV
			5
			4
			3
			2
			1
			-

PROJECT NAME:

1003 EAST 173RD STREET

Bronx, NY 10460

PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:

WALLS, FLOORS SCHEDULE

JOB NO.:	X01150556-I1
SCALE	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED	LEANDRO NILS DICKSON
DATE	6/16/2025 1:22:55 PM

DRAWING NO.

A-401.00

INTERIOR DOORS SCHEDULE

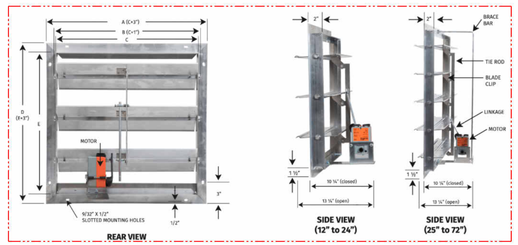
	1.5 HRS RATED APT. ENTRY	1.5 HRS RATED DOOR - INTERIOR	1.5 HRS RATED DOOR - INTERIOR	1.5 HRS RATED AUTOMATIC DOOR	CLOSET	CLOSET	CLOSET	CLOSET
TAG	F1	F2	F3	F4	S36	S24	S18	D36
ELEVATION	8'-0" (96")	8'-0" (96")	8'-0" (96")	AS PER BB 2019-001 FIRE RATED 36" DOOR W. AUTOMATIC DOOR OPENER AND SENSOR TO MAINTAIN DOOR IN POSITION WHILE THE ROOM IS OCCUPIED. DOOR MUST RETURN CLOSED POSITION IF THE ROOM IS NOT OCCUPIED OR IN CASE OF POWER FAILURE. ADA BUTTON 8'-0" (96")	8'-0" (96")	8'-0" (96")	8'-0" (96")	7'-0" (84")
	3'-0" (36")	3'-0" (36")	3'-0" (36")	3'-0" (36")	3'-0" (36")	2'-0" (24")	2'-6" (30")	3'-0" (36")
PLAN	1 1/4" MDL 36" x 96" (F1)	1.5 hr. FRSC 36" x 96" (F2)	1.5 hr. FRSC 36" x 96" (F3)	1.5 hr. FRSC 36" x 96" (F4)	36" x 96" (S36)	24" x 96" (S24)	30" x 96" (S30)	36" x 84" (D36)
MATERIAL:	METAL	METAL	METAL	METAL	Wood	Wood	Wood	Wood
FIRE RATING:	None	None	None	None	None	None	None	None
MANUFACTURER:	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
SELF-CLOSING:	Yes	Yes	Yes	Yes/Motorized	None	None	None	None
U-VALUE:	--	--	--	--	--	--	--	--
AIR LEAK:	--	--	--	--	--	--	--	--
SHGC:	--	--	--	--	--	--	--	--
GLASS TYPE:	--	--	--	--	--	--	--	--

NOTES: STC: 43, OITC: 36

FENESTRATION SCHEDULE

	CASEMENT WINDOW	CASEMENT WINDOW	CASEMENT WINDOW	ENTRY DOOR	ENTRY DOOR	ENTRY DOOR
TAG	W0	W1	W2	G1	G2	FE2
ELEVATION	3'-0" (36") 8'-0" (96") 4'-0"	7'-0" (84") 4'-0" (48") 4'-0"	7'-0" (84") 7'-0" (84") 4'-0"	3'-0" (36") 2'-0" (24") 5'-10" (70") 8'-0" (96") 2'-0" (24") 5'-0" (60")	8'-0" (96") 3'-0" (36")	7'-0" (84") 3'-0" (36")
PLAN	W0 36" x 96"	48" x 84" (W1)	84" x 84" (W2)	36" x 96" (G-1)	48" x 96" (G2) 1.5 hr. FRSC	36" x 84" (FE2)
STC: 43 OITC: 36						
MATERIAL:	METAL	METAL	METAL	METAL	METAL	METAL
TYPE:	Fixed	DOOR	DOOR	DOOR	DOOR	DOOR
MANUFACTURER:	TBD	TBD	TBD	TBD	TBD	TBD
U-VALUE:	0.27	0.27	0.27	0.27	0.27	0.27
AIR LEAK:	0.20	0.20	0.20	0.20	0.20	0.20
SHGC:	0.23	0.23	0.23	0.19	0.19	0.19
VT:	0.35	0.35	0.35	0.29	0.29	0.29
GLASS TYPE:	Clear	Clear	Clear	Clear	Clear	Clear

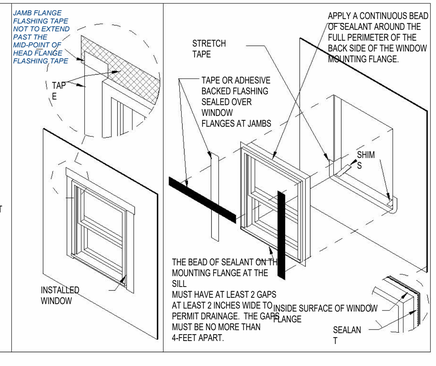
NOTES: STC: 43, OITC: 36



A ***(MD1) CLASS 1 MOTORIZED DAMPER. TYP DETAIL***
12" = 1'-0"

A CONTINUOUS AIR BARRIER SHALL BE PROVIDED THROUGHOUT THE BUILDING ENVELOPE. AIR BARRIER MATERIALS USED TO PREVENT LEAKAGE ACROSS THE BOUNDARY OF THE BUILDING :

1. PLYWOOD OR EQUIVALENT (SEE DETAILS FOR USE OF PLYWOOD.)
2. GYPSUM BOARD OR EQUIVALENT : CAN HELP DECREASE MILDEW, RESISTANCE, AND LEAKAGE. WATER ABSORBANCE. SEE DETAILS FOR USE OF GWB)
3. DENSGLASS - EXTERIOR GYPSUM SHEATHING OR EQUIVALENT : DENSGLASS PREVENTS WATER INFILTRATION WITH ITS RESISTANCE TO MOISTURE, FIRE AND MOLD. (SEE DETAILS FOR USE OF DENSGLASS.)
4. DRAINAGE MATS OR EQUIVALENT : THIS MATERIAL IS FIRE AND WATER RESISTANT AND ALSO ALLOWS FOR WATER DRAINAGE AND AIR CIRCULATION. (SEE DETAILS FOR USE OF DRAGONBOARD)
5. TYVEK WEATHER RESISTANT BARRIER OR EQUIVALENT : TYVEK HELPS PREVENT AIR INFILTRATION. TYVEK IS VAPOR-PERMEABLE WHICH HELPS MOISTURE ESCAPE THAT TESTED THE WALLS, FLOOR AND ROOF OF THE BUILDING WARM AND DRY.
6. EXTERIOR INSULATION: INSULATION USED ON THE EXTERIOR WILL HELP PREVENT BRIDGING AND REDUCE RISK OF INTERIOR CONDENSATION. IT HELPS KEEP
7. ROOF MEMBRANE: MINERAL GLASS ROOF MEMBRANE HELPS RESIST MOISTURE AND WATER MOVEMENT WHICH HELP PREVENT LEAKS.



Details

Ventilators

Product	Product Code	(L) Length	(W) Width	(P) Projection Closed-Open	Available Air Opening (Free Area)	Slot Size
SF Xtra Sound Attenuator Range - ½" slot width						
SF Xtra 418 Internal Standard Ventilator only	TA5200	16 ⅛"	1 ⅛"	⅝" – 1⅝"	6 ⅛ in²	
SF 418 External Standard Canopy only	TA5000	16 ⅛"	1⅛"	1 ⅛" – 2"	7 ⅞ in²	
SF Xtra 464 Sound Attenuator 1" V25 Ventilator	TA5221	18 ⅛"	1 ⅛"	1 ⅛" – 2"	6 ⅞ in²	14 ½"
SF 464 Sound Attenuator 1" C25 Canopy	TA5202	18 ⅛"	1 ⅛"	2 ⅛"	6 ⅞ in²	½"
SF Xtra 464 Sound Attenuator 2" V50 Ventilator	TA5223	18 ⅛"	1 ⅛"	2 ⅛" – 3"	5 ⅞ in²	
SF 464 Sound Attenuator 2" C50 Canopy	TA5204	18 ⅛"	1 ⅛"	3 ⅛"	5 ⅞ in²	
SF Xtra 464 Sound Attenuator 3" V75 Ventilator	TA5225	18 ⅛"	1 ⅛"	3 ⅛" – 4"	5 ⅞ in²	
SF 464 Sound Attenuator 3" C75 Canopy	TA5206	18 ⅛"	1 ⅛"	4 ⅛"	5 ⅞ in²	
SF Xtra 523 Sound Attenuator 3" V75 Ventilator	TA5235	20 ⅛"	1 ⅛"	3 ⅛" – 4"	8 ⅛ in²	17 ½"
SF 523 Sound Attenuator 3" C75 Canopy	TA5236	20 ⅛"	1 ⅛"	4 ⅛"	8 ⅛ in²	½"

Product	Open	Closed
V75 + C75 (SFX464)	Drum (COtt = 44 (-2-3x8)	Drum (COtt = 55 (-1-5x8)
V75 + C50 (SFX464)	Drum (COtt = 42 (-1-2x8)	Drum (COtt = 55 (-2-5x8)
V75 + Standard Canopy (SFX464)	Drum (COtt = 40 (-1-2x8)	Drum (COtt = 53 (-1-4x8)
V50 + C25 (SFX464)	Drum (COtt = 39 (-1-2x8)	Drum (COtt = 55 (-2-5x8)
V50 + Standard Canopy (SFX464)	Drum (COtt = 38 (-1-2x8)	Drum (COtt = 55 (-2-5x8)
V25 + C25 (SFX464)	Drum (COtt = 36 (0-1x8)	Drum (COtt = 55 (-1-5x8)
V25 + Standard Canopy (SFX464)	Drum (COtt = 35 (0-1x8)	Drum (COtt = 54 (-1-4x8)
Standard Vent + C25 (SFX464)	Drum (COtt = 36 (0-1x8)	Drum (COtt = 55 (1-5x8)
Standard Vent + Standard SF Canopy	Drum (COtt = 32 (1/0x8)	Drum (COtt = 52 (-2-4x8)
V75 + C75 (Hi Spec Foam) (SFX525)	Drum (COtt = 40 (-2-3x8)	Drum (COtt = 51 (-1-4x8)

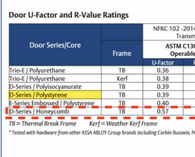
Recommended screws
No.8 Round Head or equivalent
When fitting to Vinyl screw must go through two walls or into reinforcement.

Performance
(Further test information available on request)
Free Area – See above
Air Leakage – 0.6 cfm @ 1.04 psf (Vent and Canopy only)
Water Resistance – in excess of 12.5 psf / 600Pa.
Acoustic ratings – see above.

NB: For optimum performance the ventilator should be installed on a flat surface free from defects, and sealant should be used along all edges to achieve the desired acoustic result.

Finishes
White and brown
(Other colors are available – please contact us for details)

More information
ttonino@titon.com / 574 271 9699



C402.5.2 AIR LEAKAGE OF FENESTRATION

THE AIR LEAKAGE OF FENESTRATION ASSEMBLIES SHALL MEET THE PROVISIONS OF TABLE C402.5.2. TESTING SHALL BE IN ACCORDANCE WITH THE APPLICABLE REFERENCE TEST STANDARD IN TABLE C402.5.2 BY AN ACCREDITED, INDEPENDENT TESTING LABORATORY AND LABELED BY THE MANUFACTURER.

TABLE C402.5.2
MAXIMUM AIR LEAKAGE RATE FOR FENESTRATION ASSEMBLIES

FENESTRATION ASSEMBLY	MAXIMUM RATE (CFM/FT²)	TEST PROCEDURE
Windows	0.20 [b]	AAMA/WDMA/CSA 101/I.S.2/A440 or NFRC 400
Sliding doors	0.20 [b]	
Swinging doors	0.20 [b]	
Skylights — with condensation weepage openings	0.30	
Skylights — all other	0.20 [b]	

- PROP. SWINGING DOORS AIR LEAKAGE : 0.20 CFM/FT² = 0.20 CFM/FT²
- PROP. WINDOWS AIR LEAKAGE : 0.20 CFM/FT² =0.20 CFM/FT²

C402.5.1.1 AIR BARRIER CONSTRUCTION

ALL SOURCES OF AIR LEAKAGE IN THE BUILDING THERMAL ENVELOPE ARE SEALED, CAULKED, GASKETED, WEATHER STRIPPED OR WRAPPED WITH MOISTURE VAPOR-PERMEABLE WRAPPING MATERIAL TO MINIMIZE AIR LEAKAGE.

C402.5.1.1 AIR BARRIER CONSTRUCTION

THE CONTINUOUS AIR BARRIER SHALL BE CONSTRUCTED TO COMPLY WITH THE FOLLOWING:

1. *PENETRATIONS OF THE AIR BARRIER SHALL BE CAULKED, GASKETED OR OTHERWISE SEALED IN A MANNER COMPATIBLE WITH THE CONSTRUCTION MATERIALS AND LOCATION. SEALING SHALL ALLOW FOR EXPANSION, CONTRACTION AND MECHANICAL VIBRATION. JOINTS AND SEAMS ASSOCIATED WITH PENETRATIONS SHALL BE SEALED IN THE SAME MANNER OR TAPED. SEALING MATERIALS SHALL BE SECURELY INSTALLED AROUND THE PENETRATION SO AS NOT TO DISLODGE, LOOSEN OR OTHERWISE IMPAIR THE PENETRATIONS' ABILITY TO RESIST POSITIVE AND NEGATIVE PRESSURE FROM WIND, STACK EFFECT AND MECHANICAL VENTILATION. SEALING OF CONCEALED FIRE SPRINKLERS, WHERE REQUIRED, SHALL BE IN A MANNER THAT IS RECOMMENDED BY THE MANUFACTURER. CAULKING OR OTHER ADHESIVE SEALANTS SHALL NOT BE USED TO FILL VOIDS BETWEEN FIRE SPRINKLER COVER PLATES AND WALLS OR CEILINGS.R.*

C402.5.5 AIR INTAKES, EXHAUST OPENINGS, STAIRWAYS AND SHAFTS

STAIRWAY ENCLOSURES, ELEVATOR SHAFT VENTS AND OTHER OUTDOOR AIR INTAKES AND EXHAUST OPENINGS INTEGRAL TO THE BUILDING ENVELOPE SHALL BE PROVIDED WITH DAMPERS IN ACCORDANCE WITH SECTION C403.7.7.

DAMPERS PROVIDED TO COMPLY WITH C403.7.7

Fleming Door Products
ASSA ABLOY

Energy Efficient Solutions
Fact Sheet

What do the U and R value ratings mean?

U-Factor:

Overall coefficient of heat transmittance through a door and frame assembly measured in BTU's per hour per square foot of area per degree fahrenheit temperature difference between the air on one side to the air on the two sides of the door (BTU's/hr-ft 2° F). The lower the U-Factor, the better the insulation.

R-Value:

Thermal resistance is a measure of ability to resist heat flow. R is an expression of the total resistance to heat flow through a complete panel section or construction assembly. R-Value represents a value of the thermal resistance in hours - square foot - degrees Fahrenheit per BTU. R-Value is the numerical reciprocal of the U-Value. The higher the R-Value, the higher the insulating value.

Fleming doors and frames, along with Pemko seals and thresholds combine to provide the some of the industry's most energy efficient openings available today. Our openings are tested and certified by an independent 3rd party test lab. Fleming recommends all design and building professionals compare products based on ASTM C1363 operable door assembly for a more accurate indication of thermal performance.

Fleming doors do not have to sacrifice strength in order to achieve insulating performance. For example, Fleming Trio-E has petitted to a design pressure of +/-100 psf with a hurricane rated opening.

Door U-Factor and R-Value Ratings

Door Series/Core	Frame	NFRC 102 -2014/ASTM 1363 Standardized Thermal Transmittance Test Methodology*			
		ASTM C1363 Operable		ASTM C518 Calculated	
		U-Factor	R-Value	U-Factor	R-Value
Trio-E / Polyurethane	TB	0.36	2.8	0.09	11.0
Trio-E / Polyurethane	Kerf	0.38	2.6	0.09	11.0
D-Series / Polyisocyanurate	TB	0.39	2.6	0.08	12.23
D-Series / Polystyrene	TB	0.39	2.6	0.15	6.87
K-Series Embossed / Polystyrene	TB	0.40	2.5	0.15	6.87
D-Series / Honeycomb	TB	0.57	1.8	0.38	2.62

TB = Thermal Break Frame Kerf = Weather Kerf Frame

** Tested with hardware from other ASSA ABLOY Group brands including Corbin Russwin, Pemko, McKinney, Sargent and Yale*

Air Infiltration Testing

What is air infiltration? A measurement of the air leakage around the perimeter of a door opening. CFM: Cubic Feet per minute

Door Series/Core	NFRC 400-2014/ASTM 2838 Air Infiltration Test Methodology*
	CFM/SQ FT
Any Fleming Door Construction with Fleming Thermal Break or Kerf Frame	0.1

** Tested with hardware from other ASSA ABLOY Group brands including Corbin Russwin, Pemko, McKinney, Sargent and Yale*

101 Ashbridge Circle
Woodbridge, Ontario Canada
L4L 3R5
Tel: (416) 749-2111
Toll Free: (800) 263-7515
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www.flemingdoor.com

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Vistaza V

Vi6 SERIES

630 Grand street
Window Performance Submittal

Glass Type C
04/08/2022

Operable Window - OITC 38 Glass Makeup - 1-1/2" IG (5/16" Laminated exterior, 13/16" argon, 3/8" Laminated interior)

AAMA Testing:

TITLE	RESULTS
AAMA/WDMA/CSA 101/I.S.2/A440	Class CW - PG65 1200 x 1800 (47 x 71) - DAW
Design Pressure	±3120 Pa (±65.16 psf)
Air Infiltration	0.1 L/s/m² (0.02 cfm/ft²)
Water Penetration Resistance Test Pressure	580 Pa (12.11 psf)

Passed ASTM E547, E331, @ 580 Pa (12.11psf) and E283 <0.01cfm @ 300 pa (6.27psf)

OPTION ASTM-01H

GLAZING (Nominal Dimensions)	1-1/2" IG (5/16" laminated exterior, 13/16" argon, 3/8" laminated interior), Glass temperature 75°F
STC	46
OITC	38

OITC Ratings:

Energy Ratings:

5	Plainthermi One-Lami/ARGNO/CLR-Lami (4mm/.076PVB/4mm/6mm/.076PVB/4mm) 40mm									
0.345	0.787	0.424			ARGON	0.023(W/K)	CL	A1-D	N,G,S	
U-Factor		0.26	SHGC (N / +1 / +3		0.29 / 0.26 / 0.23	VT (N / +10.4b / 0.40 / 0.35	CR		57	

Passed ASTM E547, E331, @ 580 Pa (12.11psf) and E283 <0.01cfm @ 300 pa (6.27psf)

Fixed Window - OITC 37 Glass Makeup - 1-1/2" IG (5/16" Laminated exterior, 13/16" argon, 3/8" Laminated interior)

AAMA Testing:

TITLE	RESULTS
AAMA/WDMA/CSA 101/I.S.2/A440-17	Class CW PG65 1499 x 1499 (59x59) - FW
Design Pressure	±3120 Pa (±65.16 psf)
Air Infiltration (3.57 psf)	0.1 L/s/m² (0.01 cfm/ft²)
Water Penetration Resistance Test Pressure	570 Pa (9.82 psf)

Passed ASTM E547, E331, @ 580 Pa (12.11psf) and E283 <0.01cfm @ 300 pa (6.27psf)

OPTION HI756-01H

GLAZING (Nominal Dimensions)	1-1/2" IG (5/16" laminated exterior, 13/16" argon, 3/8" laminated interior), Glass temperature 75°F
STC	45
OITC	37

OITC Ratings:

Energy Ratings:

5	Plainthermi One-Lami/ARG90/CLR-Lami (4mm/.076PVB/4mm/6mm/.076PVB/4mm) 40mm									
0.345	0.787	0.424			ARGON	0.023(W/K)	CL	A1-D	N,G,S	
U-Factor		0.27	SHGC (N / +1 / +1		0.34 / 0.31 / 0.28	VT (N / +10.5b / 0.48 / 0.43	CR		56	

Patio Door- OITC 38 Glass Makeup - 1-1/2" IG (5/16" Laminated exterior, 13/16" argon, 3/8" Laminated interior)

AAMA Testing:

TITLE	RESULTS
AAMA/WDMA/CSA 101/I.S.2/A440	Class CW - PG65 1816 x 2808 (46 x 83) - SHD
Design Pressure	±3120 Pa (±65.16 psf)
Air Infiltration at 75 Pa (1.57 psf)	0.3 L/s/m² (0.06 cfm/ft²)
Water Penetration Resistance Test Pressure	580 Pa (12.11 psf)

Passed ASTM E547, E331, @ 580 Pa (12.11psf) and E283 0.05cfm @ 300 pa (6.27psf)

OPTION HI765-01H

GLAZING (Nominal Dimensions)	1-1/2" IG (5/8" laminated exterior, 13/16" argon, 5/16" laminated interior), Glass temperature 75°F
STC	44
OITC	38

OITC Ratings:

Energy Ratings:

5	ZV7170: Plainthermi One-Lami/ARG90/CLR-Lami (4mm/.076PVB/4mm/6mm/.076PVB/4mm) 46mm									
0.345	0.787	0.424			ARGON	0.022(W/K)	CL	A1-D	N,G,S	
U-Factor		0.26	SHGC (N / +1 / +1		0.26 / 0.22 / 0.19	VT (N / +10.4b / 0.34 / 0.29	CR		58	

Additional testing data available upon request

www.vistaza.com

Leandro Nils Dickson, Architect
3-53 26th Street
Fair Lawn, NJ
07420 1 . 509 .
www.LNDarchitect .com

MECHANICAL ENGINEER:
STRUCTURAL ENGINEER:
ARCHITECT'S SEAL:

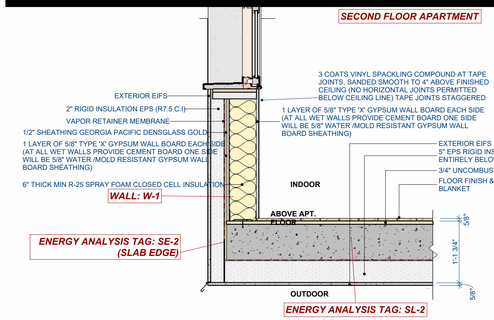
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PROJECT NAME:
1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

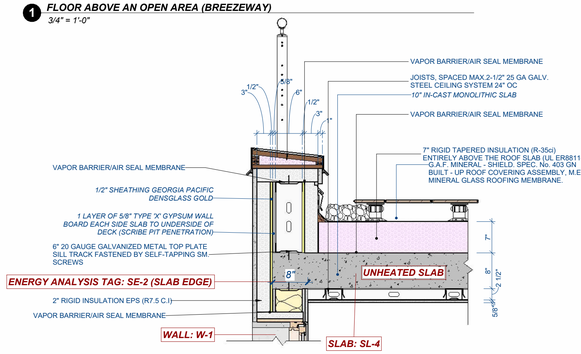
DRAWING NAME:
WINDOWS & DOORS SCHEDULE

JOB NO.: X01150556-I1
SCALE: AS NOTED
DRAWN BY: JOHN HURTADO
CHECKED: LEANDRO NILS DICKSON
DATE: 6/16/2025 1:22:58 PM
DRAWING NO.
A-402.00

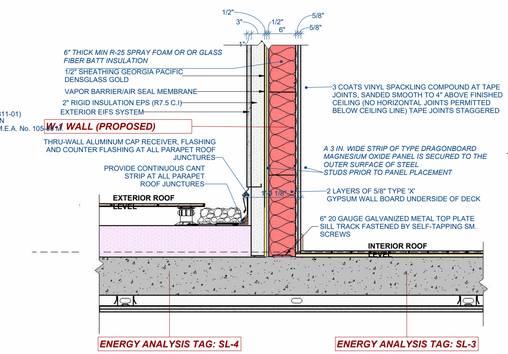
CONSTRUCTION DETAILS



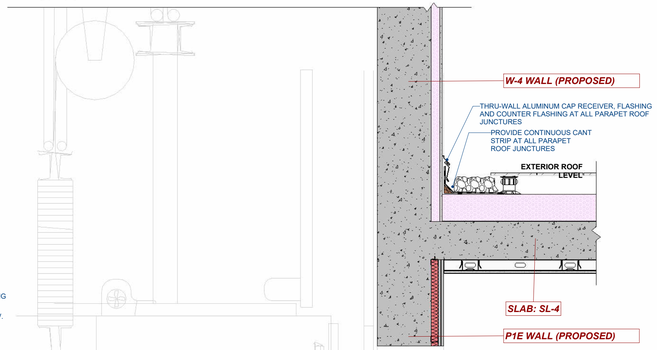
1 *FLOOR ABOVE AN OPEN AREA (BREEZEWAY)*
3/4" = 1'-0"



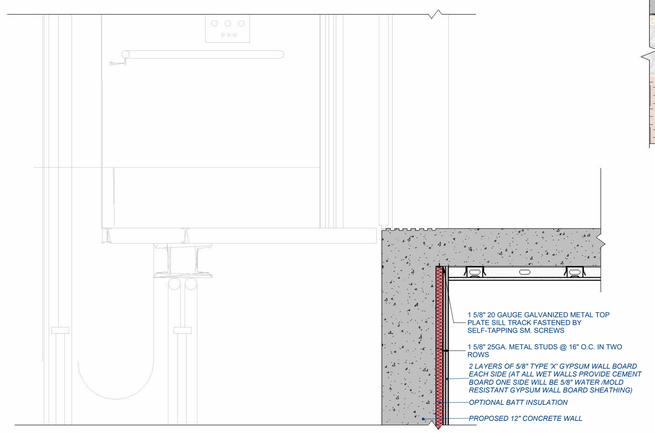
5 *PARAPET DETAIL AT ROOF*
3/4" = 1'-0"



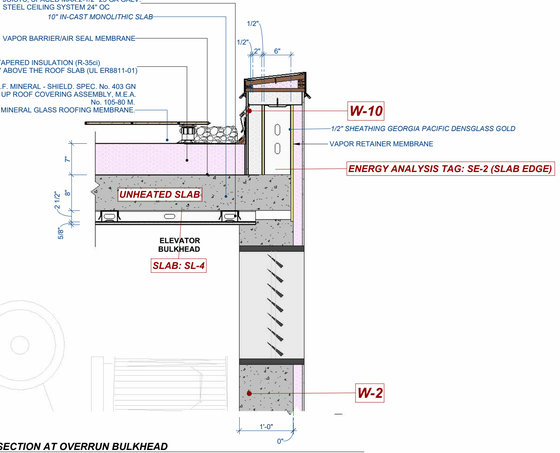
9 *ELEVATOR SHAFT SECTION AT OVERRUN BULKHEAD*
3/4" = 1'-0"

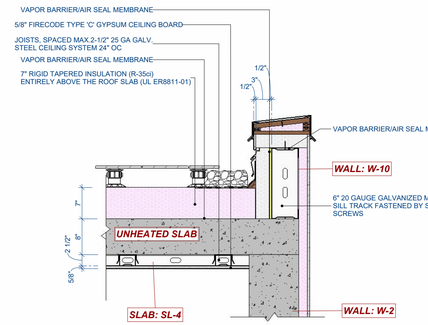


10 *ELEVATOR SHAFT SECTION AT ROOF FLOOR*
3/4" = 1'-0"

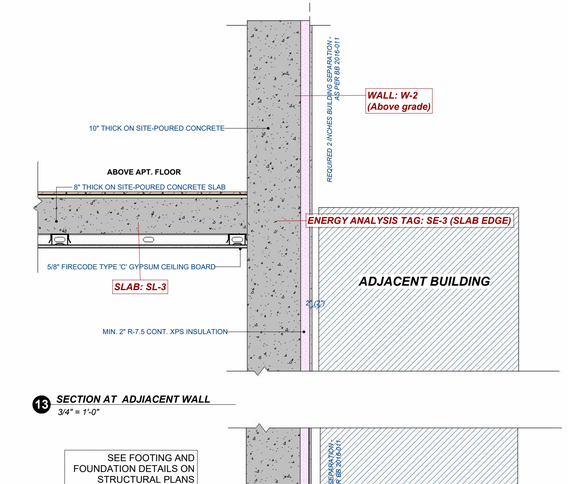


11 *ELEVATOR SHAFT SECTION AT INTER-FLOOR*
3/4" = 1'-0"

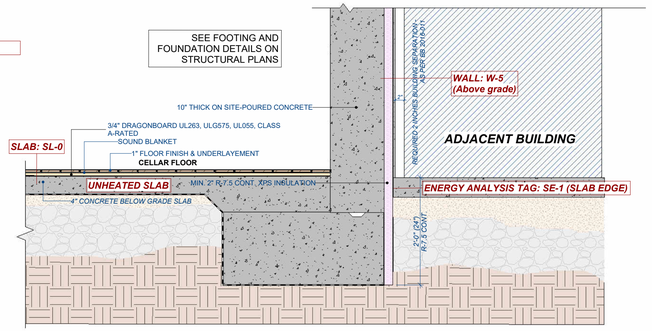




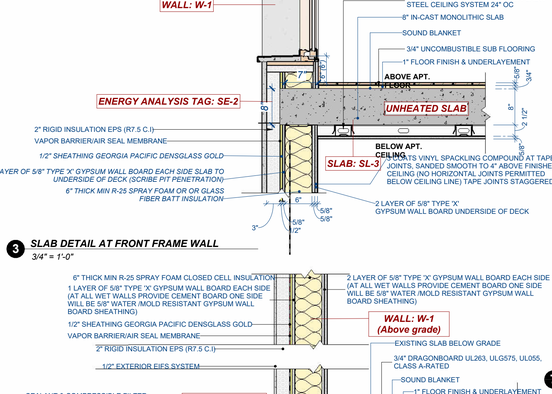
12 *BULKHEAD ROOF PARAPET*
3/4" = 1'-0"



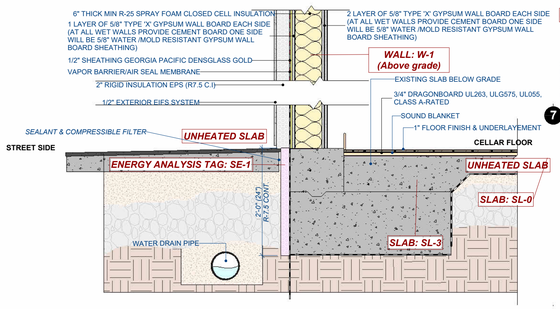
13 *SECTION AT ADJACENT WALL*
3/4" = 1'-0"



14 *SECTION AT CMU WALL*
3/4" = 1'-0"

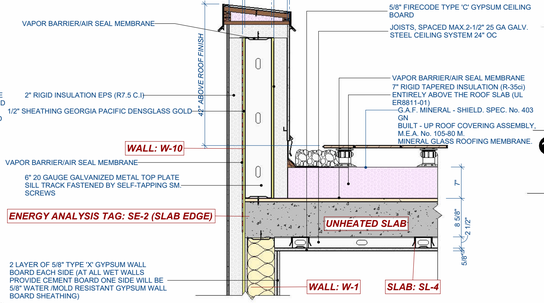


3 *SLAB DETAIL AT FRONT FRAME WALL*
3/4" = 1'-0"

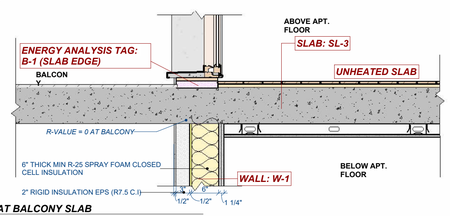


4 *FOUNDATION DETAIL AT FRONT FACADE*
3/4" = 1'-0"

SEE FOOTING AND FOUNDATION DETAILS ON STRUCTURAL PLANS



7 *RAILING DETAIL AT ROOF*
3/4" = 1'-0"



8 *DETAIL AT BALCONY SLAB*
3/4" = 1'-0"

Leandro Nils Dickson, Architect
Architecture . Architecture . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 509 .
www.LNDarchitect.com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL

REV	DATE	DESCRIPTION

PROJECT NAME:

1003 EAST 173RD STREET

Bronx, NY 10460

PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:

CONSTRUCTION DETAILS

JOB NO.: X01150556-I1

SCALE: AS NOTED

DRAWN BY: JOHN HURTADO

CHECKED: LEANDRO NILS DICKSON

DATE: 6/16/2025 1:23:01 PM

DRAWING NO.

A-501.00

NYC BC 2022 SECTION BC 1011 STAIRWAYS

1011.3 HEADROOM.
STAIRWAYS SHALL HAVE A HEADROOMCLEARANCE OF NOT LESS THAN 84INCHES (2133.6MM) MEASURED VERTICALLY FROM A LINE CONNECTING THE EDGE OF THE NOSINGS. SUCH HEADROOM SHALL BE CONTINUOUS ABOVE THE STAIRWAY TO THE POINT WHERE THE LINE INTERSECTS THE LANDING BELOW, ONE TREAD DEPTH BEYOND THE BOTTOM RISER. THE MINIMUM CLEARANCE SHALL BE MAINTAINED THE FULL WIDTH OF THE STAIRWAY AND LANDING.PROJECTIONS INTO THE REQUIRED WIDTH SHALL NOT BE LIMITED ABOVE THE MINIMUM HEADROOM HEIGHT.

EXCEPTIONS:
1.IN GROUP R-2 AND R-3 OCCUPANCIES STAIRWAYS SHALL HAVE A HEADROOM CLEARANCE OF NOT LESS THAN 80 INCHES (2032 MM).

1014.2 HEIGHT.
HANDRAIL HEIGHT, MEASURED ABOVE STAIR TREAD NOSINGS, OR FINISH SURFACE OF RAMP SLOPE, SHALL BE UNIFORM, NOT LESS THAN 34 INCHES (863.4MM) AND NOT MORE THAN 38 INCHES (965.2MM). HANDRAIL HEIGHT OF ALTERNATING TREAD DEVICES AND SHIPSLADDERS, MEASURED ABOVE TREAD NOSINGS, SHALL BE UNIFORM, NOT LESS THAN 30 INCHES (762 MM) AND NOT MORE THAN 34 INCHES (863.4MM).

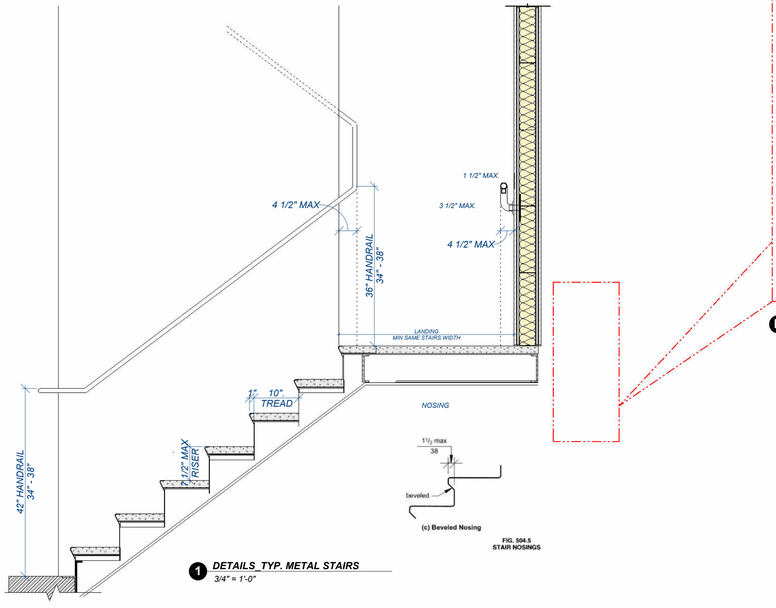
PROPOSED HANDRAIL HEIGHT : 36", THEREFORE OK

1014.8 PROJECTIONS. ON RAMPS AND ON RAMPED AISLES
THAT ARE PART OF AN ACCESSIBLE ROUTE , THE CLEAR WIDTH BETWEEN HANDRAILS SHALL BE 36 INCHES (914.4 MM)MINIMUM. PROJECTIONS INTO THE REQUIRED WIDTH OF AISLES, STAIRWAYS AND RAMPS AT EACH SIDE SHALL NOT EXCEED 4½ INCHES (114.3MM) AT OR BELOW THE HANDRAIL HEIGHT.
PROJECTIONS INTO THE REQUIRED WIDTH SHALL NOT BE LIMITED ABOVE THE MINIMUM HEADROOM HEIGHT REQUIRED IN SECTION 1011.3. PROJECTIONS DUE TO INTERMEDIATE HANDRAILS SHALL NOT CONSTITUTE A REDUCTION IN THE EGRESS WIDTH.

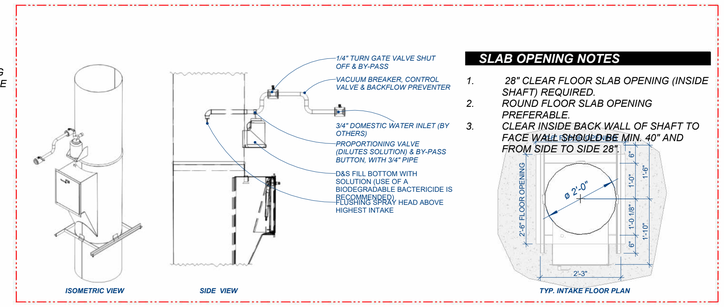
1011.8 VERTICAL RISE.
A FLIGHT OF STAIRS SHALL NOT HAVE A VERTICAL RISE GREATER THAN 12 FEET (3657.6 MM) BETWEEN FLOOR LEVELS OR LANDINGS

1011.5.2 RISER HEIGHT AND TREAD DEPTH.
1011.5.2 RISER HEIGHT AND TREAD DEPTH.STAIR RISER HEIGHTS SHALL BE 7 INCHES (177.8MM) MAXIMUM AND 4 INCHES (101.6MM) MINIMUM. THE RISER HEIGHT SHALL BE MEASURED VERTICALLY BETWEEN THE NOSINGSOF ADJACENT TREADS. RECTANGULAR TREAD DEPTHS SHALL BE 11 INCHES (279.4MM) MINIMUM MEASURED HORIZONTALLY BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AND AT A RIGHT ANGLE TO THE TREADS NOSING. THE GREATEST TREAD DEPTH WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN⅜ INCH (9.5 MM).WINDER TREADS SHALL HAVE A MINIMUM TREAD DEPTH OF 11 INCHES (279.4 MM) BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AT THE INTERSECTIONS WITH THE WALKLINE AND A MINIMUM TREAD DEPTH OF 10 INCHES (254 MM) WITHIN THE CLEAR WIDTH OF THE STAIR.
EXECEMPIONS
3.IN GROUP R-2OCCUPANCIES:
3.2.DIMENSIONS OF TREADS AND RISERS. THE MAXIMUM RISER HEIGHT SHALL BE 7¾ INCHES (196.85 MM) AND THE MINIMUM TREAD DEPTH SHALL BE 9½ INCHES (241.3 MM) PLUS NOSING. TREADS MAY BE UNDERCUT A DISTANCE EQUAL TO THE NOSING.A NOSING NOT LESS THAN ¾ INCH (19 MM) BUT NOT MORE THAN 1¼ INCHES (31.8MM) SHALL BE PROVIDED ON STAIRWAYS WITH SOLID RISERS WHERE THE TREAD DEPTH IS LESS THAN 11 INCHES (279.4MM)

RESIDENTIAL R-2	*NON RESIDENTIAL USE*
RISER HEIGHT - 7 3/4"	*RISER HEIGHT - 7"*
TREAD DEPTH - 9 1/2"	*TREAD DEPTH - 11"*



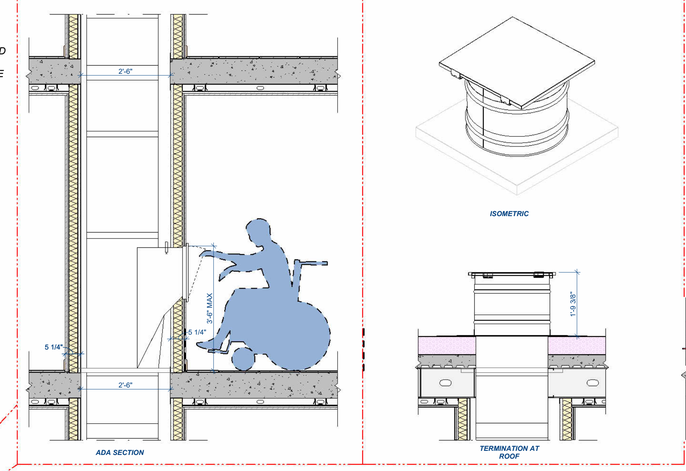
1 ***DETAILS_TYP. METAL STAIRS***
3/4" = 1'-0"



SLAB OPENING NOTES

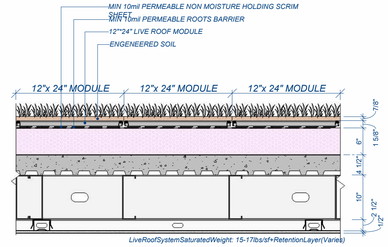
1. *28" CLEAR FLOOR SLAB OPENING (INSIDE SHAFT) REQUIRED.*
2. *ROUND FLOOR SLAB OPENING PREFERABLE.*
3. *CLEAR INSIDE BACK WALL OF SHAFT TO FACE WALL SHOULD BE MIN. 40" AND FROM SIDE TO SIDE 28".*

2 ***TYP.INTERNAL TRASH CHUTE***
1/2" = 1'-0"



D ***DETAILS_TRASH INTERNAL TRASH CHUTE DOOR***
1/2" = 1'-0"

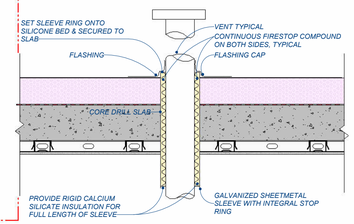
4 ***TRASH CHUTE TERMINATION AT FLAT ROOF***
1/2" = 1'-0"



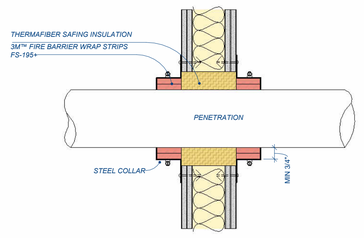
15 ***GREEN ROOF SYSTEM OVER CONVENTIONAL ROOFING ASSEMBLY***
3/4" = 1'-0"

BEVELS: CHANGES IN LEVEL CAN BE UP TO ¼" WITHOUT TREATMENT OR ½" IF BEVELED WITH A SLOPE NO STEEPER THAN 1:2. CHANGES IN LEVEL OF A ½" MUST BE TREATED AS A RAMP OR CURB RAMP (OR A WALKWAY IF A SLOPE NO STEEPER THAN 1:20 CAN BE ACHIEVED). THESE SPECIFICATIONS APPLY TO ALL PORTIONS OF ACCESSIBLE ROUTES, INCLUDING THRESHOLDS AND CARPET TRIM

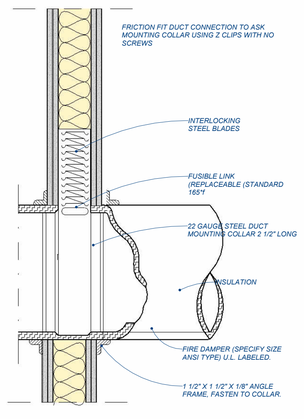
BEVEL DETAIL



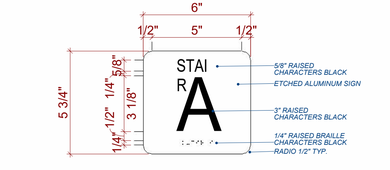
6 ***PITCH POCKET DUNNAGE SUPPORT***
3/4" = 1'-0"



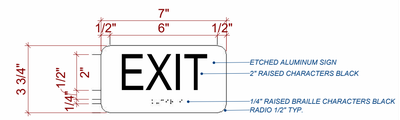
7 ***DETAILS_FIREBLOCKING PIPE PENETRATION THROUGH WALL***
1 1/2" = 1'-0"



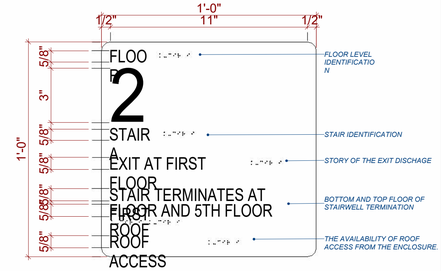
8 ***DETAILS_FIRE DAMPERS AT DUCT THRU WALL***
1 1/2" = 1'-0"



9 ***STAIRWELL DOOR SIGN BOTH SIDE OF STAIR DOOR***
3" = 1'-0"

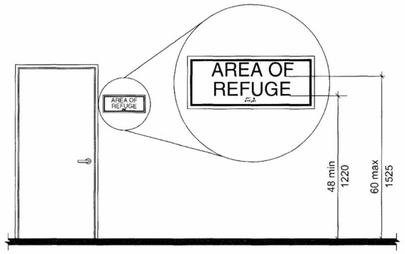


10 ***TACTILE EXIT SIGN ON EXIT DISCHARGE LEVEL***
3" = 1'-0"

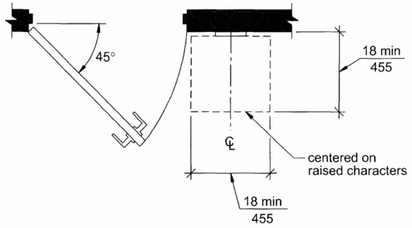


11 ***FLOOR IDENTIFICATION SIGN ON STAIRWELL SIDE***
3" = 1'-0"

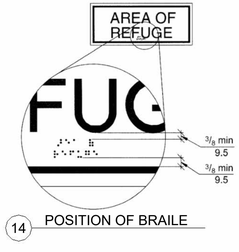
SIGNAGE LOCATION DETAILS



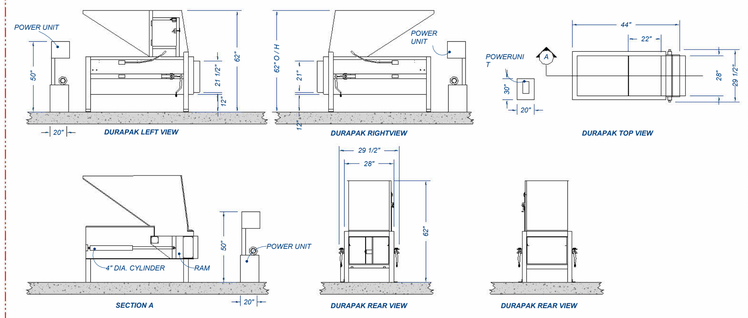
12 HEIGHT OF RAISED CHARACTERS A.F.F
SCALE: N.T.S



13 HEIGHT OF RAISED CHARACTERS A.F.F
SCALE: N.T.S



14 POSITION OF BRAILE



ALL CITY METAL MC3000-MINI COMPACTOR NOTES:

1. *INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.*
2. *THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FORPLANNINGPURPOSESONLY. THISDRAWINGMAYNOTBEUSEDFORCONSTRUCTION.*
3. *ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.*
4. *CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCENUMBER 5191-060*

DURAPAKTM 130-HD COMPACTOR
1/4" = 1'-0"

ALL-CITY METAL

APARTMENT COMPACTOR
MC3000-MINI

GENERAL DESCRIPTION:

Chute-fed, fully automatic, hydraulically operated piston extrusion type horizontal refuse compactor is operated by a single cylinder. Compacted refuse can be extruded into a individual plastic bags or reusable 2 cubic yard containers.

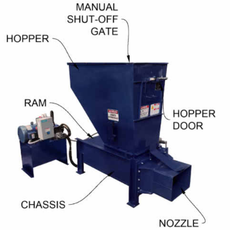
MECHANICAL FEATURES:

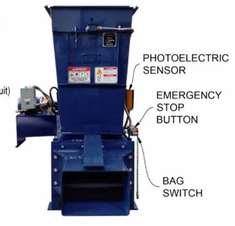
- Factory assembled
- Wired and tested prior to shipment
- Chassis (Body) - ⅜" thick
- Chassis Impact Plate - ½" thick
- Ram Housing - ⅜" thick
- Ram face plate -1" thick
- Hopper - 11 Gauge with 3/16" thick impact plate

SAFETY FEATURES:

- ANSI Z245.21 compliance (Optional)
- LED Photoelectric sensor indicating full container
- Compaction ram starts in fully retracted position
- Emergency stop button
- Automatic shutoff when refuse bag is full
- Hopper door switch shuts compactor down when opened
- Manual shut-off gate
- Ram retract button
- 5 Amp fused circuit
- Adjustable overload relay
- Optional sprinkler solenoid assembly (Requires 110v circuit)
- Optional full bag light with audible alarm

	MC3000-MINI
WEIGHT	1,200 LBS
OVERALL DIMENSIONS (W x L x H)	29½" X 61½" X 62⅝"
CYCLE TIME	13s-14s
RAM FORCE	30,000 LBS @ 2400 PSI
HYDRAULIC CYLINDER	3.5"Ø BORE, 3.14" ROD/ 2.75"Ø BORE, 2.36" ROD & 28" STROKE
CAPACITY	1200 LBS/HOUR
ELECTRIC MOTOR	5 HP, 1,750 RPM, 208/220/440 VOLTS*, 16.7 AMPS, 3 PHASE, 60 CYCLES
BUILDING UNITS	UP TO 50 UNITS





956 BRUSH HOLLOW RD.
WESTBURY, NY 11590
(718) 472-5700
EMAIL: info@allcitymetal.com
WEBSITE: www.allcitymetal.com

LND
Leandro Nils Dickson, Architecture . Architect . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 509 . 9939
www.LNDarchitect.com

MECHANICAL ENGINEER

STRUCTURAL ENGINEER

ARCHITECT'S SEAL

BY	DESCRIPTION	DATE	REV.

PROJECT NAME:

1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:
CONSTRUCTION DETAILS

JOB NO.:	X011150556-I1
SCALE	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED	LEANDRO NILS DICKSON
DATE	6/16/2025 1:23:04 PM

DRAWING NO.

A-502.00

2010 ADA STANDARDS FOR ACCESSIBLE DESIGN - GENERAL APPLICABILITY NOTES

Compliance Date for Title II
If the start date for construction is on or after March 15, 2012, all newly constructed or altered State and local government facilities must comply with the 2010 Standards. Before that date, the 1991 Standards (without the elevator exemption), the UFAS, or the 2010 Standards may be used for such projects when the start of construction commences on or after September 15, 2010.
28 CFR 35.151 New construction and alterations

(a) Design and construction.
(1) Each facility or part of a facility constructed by, on behalf of, or for the use of a public entity shall be designed and constructed in such manner that the facility or part of the facility is readily accessible to and usable by individuals with disabilities, if the construction was commenced after January 26, 1992.

(b) Alterations.
(1) Each facility or part of a facility altered by, on behalf of, or for the use of a public entity in a manner that affects or could affect the usability of the facility or part of the facility shall, to the maximum extent feasible, be altered in such manner that the altered portion of the facility is readily accessible to and usable by individuals with disabilities, if the alteration was commenced after January 26, 1992.

(2) The path of travel requirements of § 35.151(b)(4) shall apply only to alterations undertaken solely for purposes other than to meet the program accessibility requirements of § 35.150.

(3)
(i) Alterations to historic properties shall comply, to the maximum extent feasible, with the provisions applicable to historic properties in the design standards specified in § 35.151(c).
(ii) If it is not feasible to provide physical access to an historic property in a manner that will not threaten or destroy the historic significance of the building, alternative methods of access shall be provided pursuant to the requirements of § 35.150.

(4) Path of travel. An alteration that affects or could affect the usability of or access to an area of a facility that contains a primary function shall be made so as to ensure that, to the maximum extent feasible, the path of travel to the altered area and the restrooms, telephones, and drinking fountains serving the altered area are readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, unless the cost and scope of such alterations is disproportionate to the cost of the overall alteration.

(c) Accessibility standards and compliance date.
(1) If physical construction or alterations commence after July 26, 1992, but prior to the September 15, 2010, then new construction and alterations subject to this section must comply with either the UFAS or the 1991 Standards except that the elevator exemption contained at section 4.1.3(5) and section 4.1.6(1)(k) of the 1991 Standards shall not apply. Departures from particular requirements of either standard by the use of other methods shall be permitted when it is clearly evident that equivalent access to the facility or part of the facility is thereby provided.

(2) If physical construction or alterations commence on or after September 15, 2010, and before March 15, 2012, then new construction and alterations subject to this section may comply with one of the following: the 2010 Standards, UFAS, or the 1991 Standards except that the elevator exemption contained at section 4.1.3(5) and section 4.1.6(1)(k) of the 1991 Standards shall not apply. Departures from particular requirements of either standard by the use of other methods shall be permitted when it is clearly evident that equivalent access to the facility or part of the facility is thereby provided.

(3) If physical construction or alterations commence on or after March 15, 2012, then new construction and alterations subject to this section shall comply with the 2010 Standards.

(4) For the purposes of this section, ceremonial groundbreaking or razing of structures prior to site preparation do not commence physical construction or alterations.

(d) Scope of coverage.
The 1991 Standards and the 2010 Standards apply to fixed or built- in elements of buildings, structures, site improvements, and pedestrian routes or vehicular ways located on a site. Unless specifically stated otherwise, the advisory notes, appendix notes, and figures contained in the 1991 Standards and the 2010 Standards explain or illustrate the requirements of the rule; they do not establish enforceable requirements.

CHAPTER 2: SEC. 228 MAILBOXES

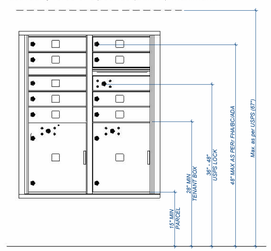
228.2 Mail Boxes
Where mail boxes are provided in an interior location, at least 5 percent, but no fewer than one, of each type shall comply with 309. In residential facilities, where mail boxes are provided for each residential dwelling unit, mail boxes complying with309 shall be provided for each residential dwelling unit required to provide mobility features complying with809.2 through 809.4.

309 Operable Parts
309.1 General
Operable parts shall comply with 309.

309.2 Clear Floor Space
A clear floor or ground space complying with305 shall be provided

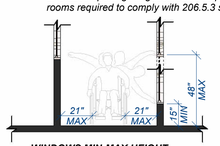
309.3 Height
Operable parts shall be placed within one or more of the reach ranges specified in308.

309.4 Operation
Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum.
EXCEPTION: Gas pump nozzles shall not be required to provide operable parts that have an activating force of 5 pounds (22.2 N) maximum.

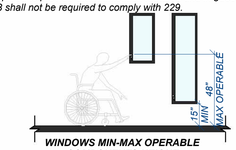


CHAPTER 2: SEC. 229 WINDOWS

229.1 General. *Where glazed openings are provided in accessible rooms or spaces for operation by occupants, at least one opening shall comply with 309. Each glazed opening required by an administrative authority to be operable shall comply with 309.*
EXCEPTION: 1. Glazed openings in residential dwelling units required to comply with 809 shall not be required to comply with 229.
2. Glazed openings in guest rooms required to provide communication features and in guest rooms required to comply with 206.5.3 shall not be required to comply with 229.



WINDOWS MIN-MAX HEIGHT



WINDOWS MIN-MAX OPERABLE COMPONENTS HEIGHT

308.1 General
Reach ranges shall comply with 308.

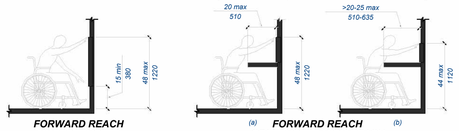
308.2 Forward Reach
308.2.1 Unobstructed
Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

308.2.2 Obstructed High Reach
Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.3 Side Reach

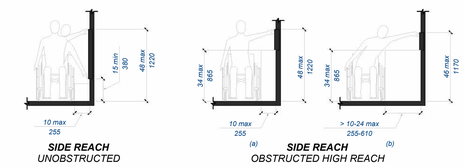
308.3.1 Unobstructed
Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the finish floor or ground.
EXCEPTIONS: 1. An obstruction shall be permitted between the clear floor or ground space and the element where the depth of the obstruction is 10 inches (255 mm) maximum.
2. Operable parts of fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

308.3.2 Obstructed High Reach
Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum for a reach depth of 24 inches (610 mm) maximum.
EXCEPTIONS: 1. The top of washing machines and clothes dryers shall be permitted to be 36 inches (915 mm) maximum above the finish floor.
2. Operable parts of fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.



FORWARD REACH
UNOBSTRUCTED

FORWARD REACH
OBSTRUCTED HIGH REACH



SIDE REACH
UNOBSTRUCTED

SIDE REACH
OBSTRUCTED HIGH REACH

CHAPTER 3: SEC. 303 CHANGE IN LEVELS

303.1 General. *Where changes in level are permitted in floor or ground surfaces, they shall comply with 303.*
EXCEPTIONS: 1. Animal containment areas shall not be required to comply with 303. 2. Areas of sport activity shall not be required to comply with 303.

303.2 Vertical. *Changes in level of ¼ inch (6.4 mm) high maximum shall be permitted to be vertical.*

303.3 Beveled. *Changes in level between ¼ inch (6.4 mm) high minimum and ½ inch (13 mm) high maximum shall be beveled with a slope not steeper than 1:2.*

Advisory 303.3 Beveled. *A change in level of ½ inch (13 mm) is permitted to be ¼ inch (6.4 mm) vertical plus ¼ inch (6.4 mm) beveled. However, in no case may the combined change in level exceed ½ inch (13 mm). Changes in level exceeding ½ inch (13 mm) must comply with 405 (Ramps) or 406 (Curb Ramps).*

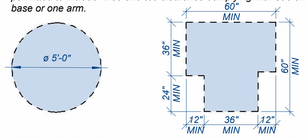


VERTICAL CHANGE IN LEVEL

BEVELED CHANGE IN LEVEL

CHAPTER 3: SEC. 304 TURNING SPACE

304.1 General. *Turning space shall comply with 304.*
304.3 Size. *Turning space shall comply with 304.3.1 or 304.3.2.*
304.3.1 Circular Space. *The turning space shall be a space of 60 inches (1525 mm) diameter minimum. The space shall be permitted to include knee and toe clearance complying with 306.*
304.3.2 T-Shaped Space. *The turning space shall be a T-shaped space within a 60 inch (1525 mm) square minimum with arms and base 36 inches (915 mm) wide minimum. Each arm of the T shall be clear of obstructions 12 inches (305 mm) minimum in each direction and the base shall be clear of obstructions 24 inches (610 mm) minimum. The space shall be permitted to include knee and toe clearance complying with 306 only at the end of either the base or one arm.*

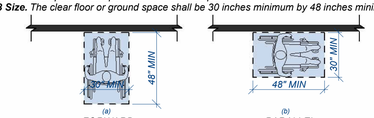


CIRCULAR SPACE

T-SHAPED TURNING SPACE

CHAPTER 3: SEC. 305 CLEAR FLOOR OR GROUND SPACE

305.1 General. *Clear floor or ground space shall comply with 305.*
305.2 Floor or Ground Surfaces. *Floor or ground surfaces of a clear floor or ground space shall comply with 302. Changes in level are not permitted.*
EXCEPTION: Slopes not steeper than 1:48 shall be permitted.
305.3 Size. *The clear floor or ground space shall be 30 inches minimum by 48 inches minimum.*



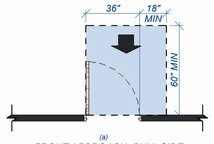
FORWARD

PARALLEL

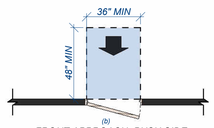
404.2 Manual Doors, Doorways, and Manual Gates. *Manual doors and doorways and manual gates intended for user passage shall comply with 404.2*

404.2.4 Maneuvering Clearances. *Minimum maneuvering clearances at doors and gates shall comply with 404.2.4. Maneuvering clearances shall extend the full width of the doorway and the required latch side or hinge side clearance.*
EXCEPTION: Entry doors to hospital patient rooms shall not be required to provide the clearance beyond the latch side of the door..
404.2.4.1 Swinging Doors and Gates. *Swinging doors and gates shall have maneuvering clearances complying with Table 404.2.4.1.*
404.2.4.2 Doorways without Doors or Gates, Sliding Doors, and Folding Doors. *Doorways less than 36 inches (915 mm) wide without doors or gates, sliding doors, or folding doors shall have maneuvering clearances complying with Table 404.2.4.2.*
Advisory 404.2.4.3 Recessed Doors and Gates. *A door can be recessed due to wall thickness or because of the placement of casework and other fixed elements adjacent to the doorway. This provision must be applied wherever doors are recessed.*

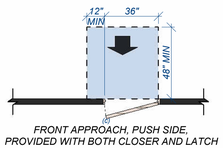
404.2.5 Thresholds. *Thresholds, if provided at doorways, shall be ½ inch (13 mm) high maximum. Raised thresholds and changes in level at doorways shall comply with 302 and 303.*
EXCEPTION: Existing or altered thresholds 34 inch (19 mm) high maximum that have a beveled edge on each side with a slope not steeper than 1:2 shall not be required to comply with 404.2.5.



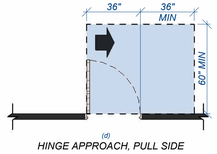
FRONT APPROACH, PULL SIDE



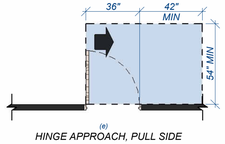
FRONT APPROACH, PUSH SIDE



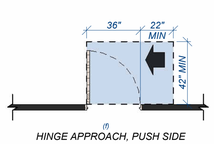
FRONT APPROACH, PUSH SIDE, PROVIDED WITH BOTH CLOSER AND LATCH



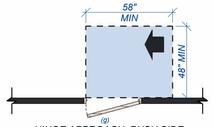
HINGE APPROACH, PULL SIDE



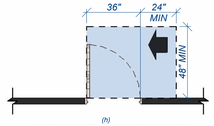
HINGE APPROACH, PULL SIDE



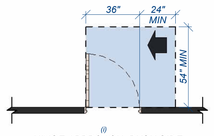
HINGE APPROACH, PUSH SIDE



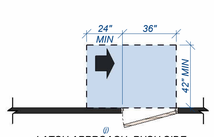
HINGE APPROACH, PUSH SIDE, DOOR PROVIDED WITH BOTH CLOSER AND LATCH



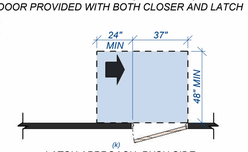
LATCH APPROACH, PULL SIDE



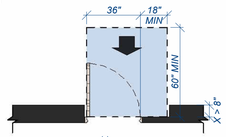
HINGE APPROACH, PUSH SIDE, DOOR PROVIDED WITH BOTH CLOSER AND LATCH



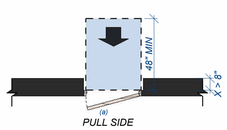
LATCH APPROACH, PUSH SIDE



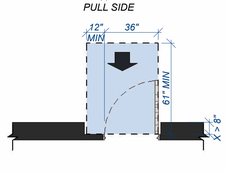
LATCH APPROACH, PUSH SIDE, DOOR PROVIDED WITH CLOSER



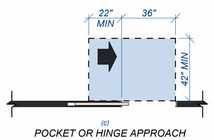
PULL SIDE



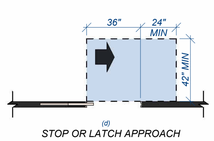
PULL SIDE



PULL SIDE



POCKET OR HINGE APPROACH



STOP OR LATCH APPROACH

607.1 General.
Elevators shall comply with 407 and with ASME A17.1 (incorporated by reference, see"Referenced Standards" in Chapter 1). They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.
Advisory 407.1 General. *The ADA and other Federal civil rights laws require that accessible features be maintained in working order so that they are accessible to and usable by those people they are intended to benefit. Building owners should note that the ASME Safety Code for Elevators and Escalators requires routine maintenance and inspections. Isolated or temporary interruptions in service due to maintenance or repairs may be unavoidable; however, failure to take prompt action to effect repairs could constitute a violation of Federal laws and these requirements.*

407.2 Elevator Landing Requirements. *Elevator landings shall comply with 407.2.*
407.2.1 Call Controls. *Where elevator call buttons or keypads are provided, they shall comply with 407.2.1 and 309.4. Call buttons shall be raised or flush.*
EXCEPTION: Existing elevators shall be permitted to have recessed call buttons.

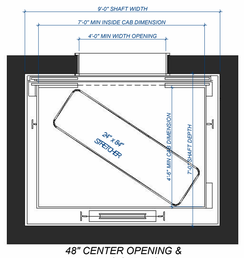
Advisory 407.2.1.3 Clear Floor or Ground Space. *The clear floor or ground space required at elevator call buttons must remain free of obstructions including ashtrays, plants, and other decorative elements that prevent wheelchair users and others from reaching the call buttons. The height of the clear floor or ground space is considered to be a volume from the floor to 80 inches (2030 mm) above the floor. Recessed ashtrays should not be placed near elevator call buttons so that persons who are blind or visually impaired do not inadvertently contact them or their contents as they reach for the call buttons.*

Advisory 407.2.1.4 Location Exception. *A destination-oriented elevator system provides lobby controls enabling passengers to select floor stops, lobby indicators designating which elevator to use, and a car indicator designating the floors at which the car will stop. Responding cars are programmed for maximum efficiency by reducing the number of stops any passenger experiences.*

407.2.2 Hall Signals. *Hall signals, including in-car signals, shall comply with 407.2.2.*
407.2.3 Hoistway Signs. *Signs at elevator hoistways shall comply with 407.2.3.*
407.3 Elevator Door Requirements. *Hoistway and car doors shall comply with 407.3.*
407.4 Elevator Car Requirements. *Elevator cars shall comply with 407.4.*
407.4.2 Floor Surfaces. *Floor surfaces in elevator cars shall comply with 302 and 303.*
407.4.3 Platform to Hoistway Clearance. *The clearance between the car platform sill and the edge of any hoistway landing shall be 1¼ inch (32 mm) maximum.*
407.4.4 Leveling. *Each car shall be equipped with a self-leveling feature that will automatically bring and maintain the car at floor landings within a tolerance of ½ inch (13 mm) under rated loading to zero loading conditions.*
407.4.5 Illumination. *The level of illumination at the car controls, platform, car threshold and car landing sill shall be 5 foot candles (54 lux) minimum.*
407.4.6 Elevator Car Controls. *Where provided, elevator car controls shall comply with 407.4.6 and 309.4.*
EXCEPTION: In existing elevators, where a new car operating panel complying with 407.4.6 is provided, existing car operating panels shall not be required to comply with 407.4.6.
407.4.8 Car Position Indicators. *Audible and visible car position indicators shall be provided in elevator cars.*
408 Limited-Use/Limited-Application Elevators (LULA)
408.1 General. *Limited-use/limited-application elevators shall comply with 408 and with ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.*
408.2 Elevator Landings. *Landings serving limited-use/limited-application elevators shall comply with 408.2.*
408.3 Elevator Doors. *Elevator hoistway doors shall comply with 408.3.*
408.3.1 Sliding Doors. *Sliding hoistway and car doors shall comply with 407.3.1 through 407.3.3 and 408.4.1.*
408.4 Elevator Cars. *Elevator cars shall comply with 408.4.*

BUILDINGS BULLETIN 2017-008 Technical

III. Elevator cab size.
A. Stretcher-sized elevator cab. *Per section BC 3002.4.2, where elevators are provided in buildings five (5) stories or more in height, or in underground buildings as described in Section 405.1, at least one elevator cab that is designed to serve as elevator-in-readiness per section BC 3003.3 shall be sized to accommodate an ambulance stretcher (see FIGURE 1 for sample cab sizes). Such elevator shall be identified, per Section BC 3002.4.2, by the international symbol for Emergency Medical Services/Star of Life (see FIGURE 2). Standby power shall be required only where one or more of the conditions in Section II, above, is met.*



48" CENTER OPENING & 5" RADIUS STRETCHER

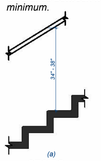
CHAPTER 5: SEC. 505 HANDRAILS

505.2 Location.
Handrails shall be provided on both sides of stairs and ramps.

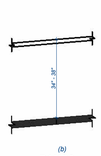
505.3 Continuity.
Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs or ramps shall be continuous between flights or runs. Other handrails shall comply with Sections 505.10 and 307.

505.4 Height.
Top of gripping surfaces of handrails shall be 34 inches (865 mm) minimum and 38 inches (965 mm maximum vertically above stair nosings, ramp surfaces and walking surfaces. Handrails shall be at a consistent height above stair nosings, ramp surfaces and walking surfaces.
"See FIG. 505.4 HANDRAIL HEIGHT"

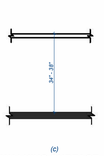
505.5 Clearance
Clearance between handrail gripping surfaces and adjacent surfaces shall be 1½ inches (38 mm) minimum.



STAIRS



RAMPS

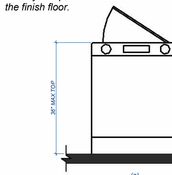


WALKING SURFACE

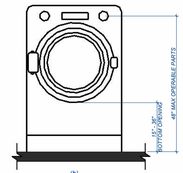


HANDRAIL

611 Washing Machines and Clothes Dryers
611.1 General
Washing machines and clothes dryers shall comply with611.
611.2 Clear Floor Space
A clear floor or ground space complying with305 positioned for parallel approach shall be provided. The clear floor or ground space shall be centered on the appliance.
611.3 Operable Parts
Operable parts, including doors, lint screens, and detergent and bleach compartments shall comply with 309.
611.4 Height
Top loading machines shall have the door to the laundry compartment located 36 inches (915 mm) maximum above the finish floor. Front loading machines shall have the bottom of the opening to the laundry compartment located 15 inches (380 mm) minimum and 36 inches (915 mm) maximum above the finish floor.



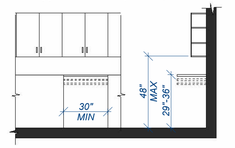
TOP LOADING



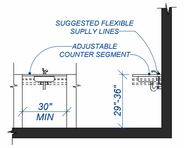
FRONT LOADING

CHAPTER 8: SEC. 804 KITCHENS AND KITCHENS

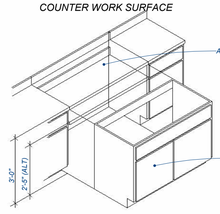
804.1 General. *Kitchens and KITCHENs shall comply with 804.*
804.2 Clearance. *Where a pass through kitchen is provided, clearances shall comply with 804.2.1. Where a U-shaped kitchen is provided, clearances shall comply with 804.2.2.*
804.2.2 U-Shaped. *In U-shaped kitchens enclosed on three contiguous sides, clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum*
804.3 Kitchen Work Surface. *In residential dwelling units required to comply with 809, at least one 30 inches (760 mm) wide minimum section of counter shall provide a kitchen work surface that complies with 804.3.*
804.3.2 Height. *The kitchen work surface shall be 34 inches (865 mm) maximum above the finish floor or ground.*
EXCEPTION: A counter that is adjustable to provide a kitchen work surface at variable heights, 29 inches (735 mm) minimum and 36 inches (915 mm) maximum, shall be permitted.
804.3.3 Exposed Surfaces. *There shall be no sharp or abrasive surfaces under the work surface counters.*
804.4 Sinks. *Sinks shall comply with 606.*
804.5 Storage. *At least 50 percent of shelf space in storage facilities shall comply with 811.*
804.6 Appliances. *Where provided, kitchen appliances shall comply with 804.6.*



COUNTER WORK SURFACE

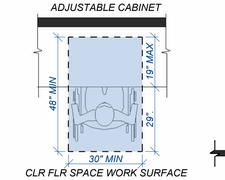


SINK WORK SURFACE

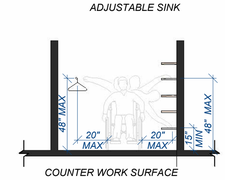


ADJUSTABLE CABINET

ADJUSTABLE SINK



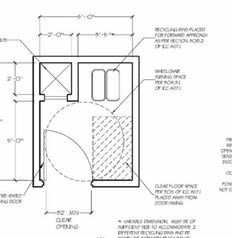
CLR FLR SPACE WORK SURFACE



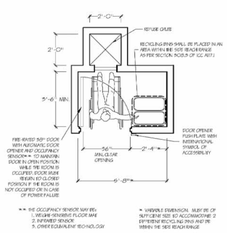
COUNTER WORK SURFACE

BUILDINGS BULLETIN 2019-001 - ADA REFUSE ROOM

A. Standard design. *In multiple dwellings, refuse disposal, refuse recyclable, and refuse storage rooms intended for the general public or common-use shall comply with this bulletin. Each room must comply with ICC A117.11, including but not limited to, Section 304 (Turning Space), Section 305 (Clear Floor Space), Section 309 (Operable Parts) and Section 404 (Doors and Doorways). The refuse and recyclable storage room door may swing into the room provided that a clear floor space not less than 30 inches by 48 inches is provided within the room beyond the arc of the door swing. See Figure 1 of this bulletin.*
B. Alternative design. *An alternative design (See Figure 2 of this bulletin) is permitted provided that all of the following conditions are met: (see bulletin.)*



(A) TYPICAL REFUSE AND RECYCLE STORAGE ROOM



(B) ALTERNATE REFUSE AND RECYCLE STORAGE ROOM

Leandro Nils Dickson, Architect
3-53 26th Street
Fair Lawn, NJ
07410 . 509 .
www.LNDarchitect.com

MECHANICAL ENGINEER:
STRUCTURAL ENGINEER:
ARCHITECT'S SEAL:

REV	DATE	DESCRIPTION
-		
B		

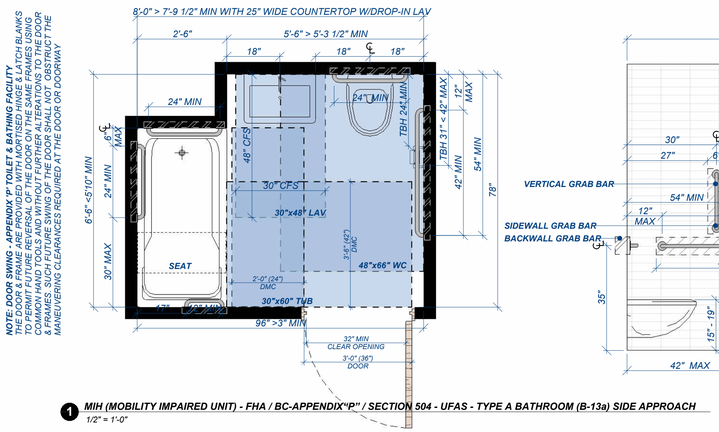
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1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:
ADA DETAILS

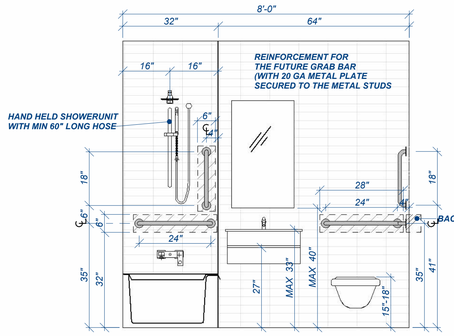
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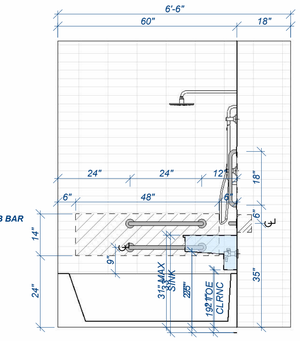
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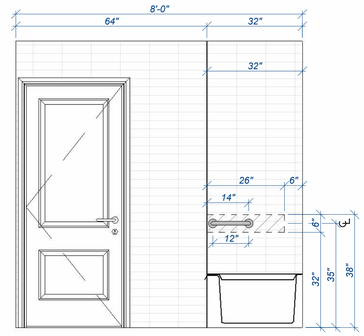
FHA / BC-APPENDIX "P" / SECTION 504 - UFAS COMPLIANT MOBILITY IMPAIRED UNITS DESIGN - BATHROOMS



NOTE: DOOR SWING - APPENDIX 'P' TOILET & BATHING FACILITY
THE DOOR & FRAME ARE PROVIDED WITH MORTISED HINGE & LATCH BLANKS TO PERMIT FUTURE REVERSAL OF THE DOOR ON THE SAME FRAMES USING COMMON HAND TOOLS AND WITHOUT FURTHER ALTERATIONS TO THE DOOR & FRAMES. SUCH FUTURE SWING OF THE DOOR SHALL NOT OBSTRUCT THE MANEUVERING CLEARANCES REQUIRED AT THE DOOR OR DOORWAY







1 **MIH (MOBILITY IMPAIRED UNIT) - FHA / BC-APPENDIX"P" / SECTION 504 - UFAS - TYPE A BATHROOM (B-13a) SIDE APPROACH**
1/2" = 1'-0"

NOTE: DOOR SWING - APPENDIX 'P' TOILET & BATHING FACILITY
THE DOOR & FRAME ARE PROVIDED WITH MORTISED HINGE & LATCH BLANKS TO PERMIT FUTURE REVERSAL OF THE DOOR ON THE SAME FRAMES USING COMMON HAND TOOLS AND WITHOUT FURTHER ALTERATIONS TO THE DOOR & FRAMES. SUCH FUTURE SWING OF THE DOOR SHALL NOT OBSTRUCT THE MANEUVERING CLEARANCES REQUIRED AT THE DOOR OR DOORWAY

2 **- FHA / BC-APPENDIX "P" - TYPE B (B-1a)BATHROOM FRONT APPROACH**
1/2" = 1'-0"

NOTE: DOOR SWING - APPENDIX 'P' TOILET & BATHING FACILITY
THE DOOR & FRAME ARE PROVIDED WITH MORTISED HINGE & LATCH BLANKS TO PERMIT FUTURE REVERSAL OF THE DOOR ON THE SAME FRAMES USING COMMON HAND TOOLS AND WITHOUT FURTHER ALTERATIONS TO THE DOOR & FRAMES. SUCH FUTURE SWING OF THE DOOR SHALL NOT OBSTRUCT THE MANEUVERING CLEARANCES REQUIRED AT THE DOOR OR DOORWAY

3 **- FHA / BC-APPENDIX "P" - TYPE B (B-4a)BATHROOM SIDE APPROACH**
1/2" = 1'-0"

LND
Leandro Nils Dickson,
Architecture . Architect . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 201 . 509 .
www.LNDarchitect.com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

REV	DATE	DESCRIPTION
B		

PROJECT NAME:

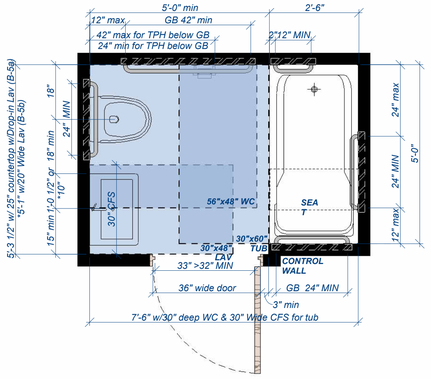
1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:
ADA/UFAS COMPLIANT BATHROOMS

JOB NO.:	X01150556-I1
SCALE:	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED:	LEANDRO NILS DICKSON
DATE:	6/16/2025 1:23:10 PM

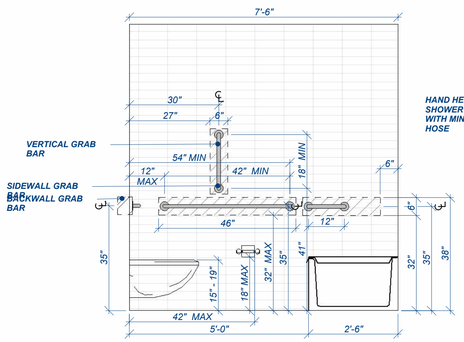
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A-504.00

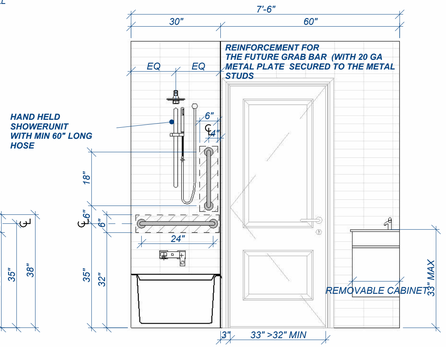
FHA / BC-APPENDIX "P" / SECTION 504 - UFAS COMPLIANT MOBILITY IMPAIRED UNITS DESIGN - BATHROOMS

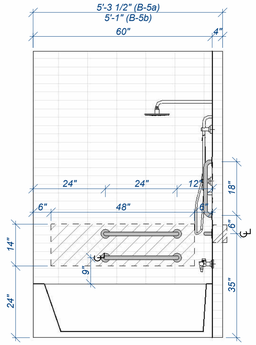


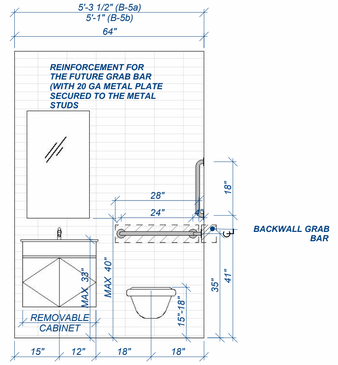
1 **FHA / BC-APPENDIX "P" - TYPE B (B-5a/B-5b)BATHROOM SIDE APPROACH**
1/2" = 1'-0"

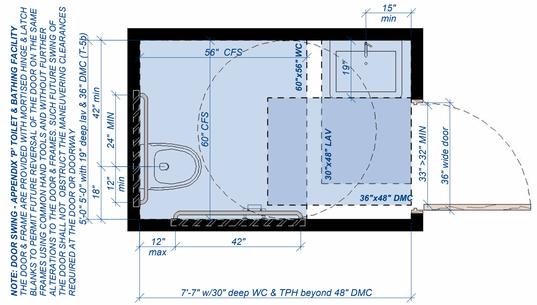
NOTE: DOOR SWING - APPENDIX 'P' TOILET & BATHING FACILITY
THE DOOR & FRAME ARE PROVIDED WITH MORTISED HINGE & LATCH BLANKS TO PERMIT FUTURE REVERSAL OF THE DOOR ON THE SAME FRAMES USING COMMON HAND TOOLS AND WITHOUT FURTHER ALTERATIONS TO THE DOOR & FRAMES. SUCH FUTURE SWING OF THE DOOR SHALL NOT OBSTRUCT THE MANEUVERING CLEARANCES REQUIRED AT THE DOOR OR DOORWAY



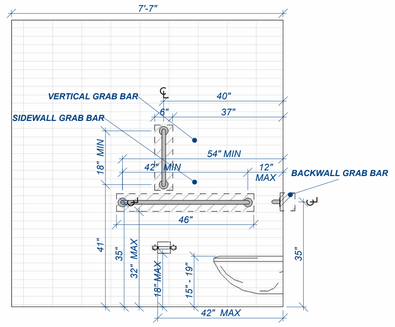


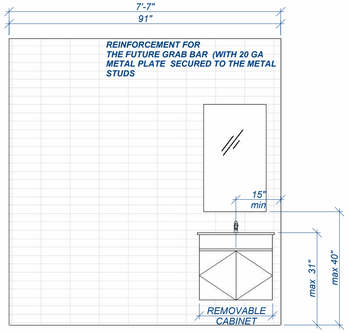


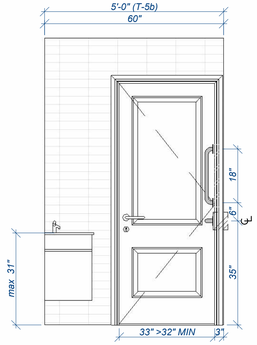


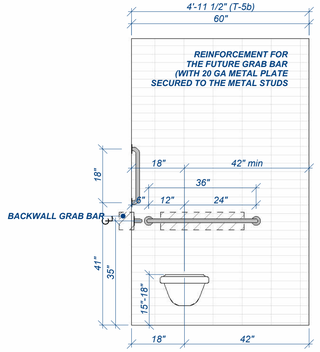


2 **COMMERCIAL BATHROOM ADA DETAIL**
1/2" = 1'-0"









LND
Leandro Nils Dickson, Architect
Architecture . Architecture . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 509 .
www.LNDarchitect.com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

REV.	DATE	DESCRIPTION	BY
.			

PROJECT NAME:

1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:
ADA/UFAS COMPLIANT BATHROOMS

JOB NO.:	X01150556-I1
SCALE :	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED :	LEANDRO NILS DICKSON
DATE :	6/16/2025 1:23:12 PM

DRAWING NO.
A-505.00

INTERIOR LIGHT FIXTURES SCHEDULE

RECESSED FIXTURE	L1
DRAWING SYMBOL	L1
MANUFACTURER	ALED
PART #	B09BYQMQ1
MODEL #	XMEU-AC-SC-12LND3-6
VOLTAGE	AC 90-130V
WATTAGE	15
CURRENT	140
BEAM ANGLE	120
CRI	>80
CCT	3,000 K
LIFESPAN	30,000 HR
TRI	5.83
HEIGHT	2.60
ZEN	3.86
IP RATING	IP5
DIMMABLE	50% OF POWER
BULB TYPE	LED
BALLEAST	EXTERN
	100% high efficiency light

CEILING MOUNTED FIXTURE	L3
DRAWING SYMBOL	L3
MANUFACTURER	HYPERIKO
PART #	412151510
MODEL #	412151510
VOLTAGE	AC 120, 277V
WATTAGE	15
CURRENT	170
BEAM ANGLE	120
CRI	84
CCT	3,000 K
LIFESPAN	45,000 HR
TRI	10.0
HEIGHT	3.0
ZEN	10.10
IP RATING	IP6
DIMMABLE	50% OF POWER
BULB TYPE	LED
BALLEAST	EXTERN
	100% high efficiency light

EXTERIOR LIGHT FIXTURES SCHEDULE

SCONCE EXTERIOR FIXTURE	L2
DRAWING SYMBOL	L2
MANUFACTURER	DAL
PART #	1012-LEDRA2
MODEL #	LEDRA2
VOLTAGE	AC 120, 277V
WATTAGE	15 W
CURRENT	700 MA
BEAM ANGLE	40°
CRI	>80
CCT	5,000 K
LIFESPAN	50,000 HR
TRI	5.00"
HEIGHT	9.10
ZEN	3.94
IP RATING	IP6
DIMMABLE	50% OF POWER
BULB TYPE	LED
BALLEAST	EXTERN
	100% high efficiency light

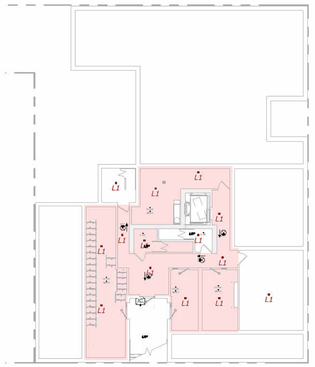
9.4.4 Dwelling Units

Not less than 90% of the permanently installed lighting fixtures shall use lamps with an efficacyof at least 65lm/W or have a total luminaire efficacy of at least 45 lm/W

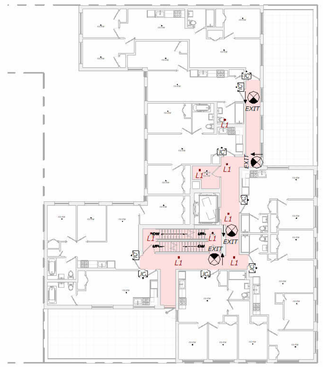
EN-l.1 Lighting Power Density
(d) High-efficacy lamps/luminaires for dwelling units:
Minimum 90% of fixtures with min. 65 lumens/watt lamps, or min. 45 lumens/watt luminaires
L1 recessed fixture 80 LM/W
L2 Exterior Sconces 70 LM/W
L3Ceiling mounted 80 LM/W

LEGEND - RCP PLAN

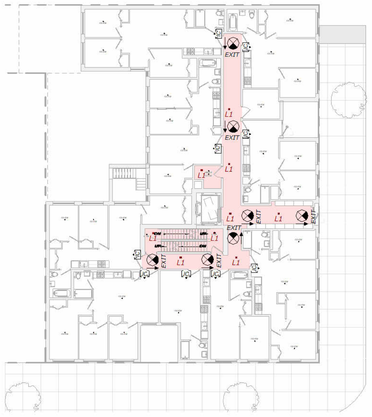
PLAN VIEW	DISCRIPTION
T	***PROGRAMMABLE THERMOSTAT:*** *MODEL TBD, DEPENDING BY MANUFACTURER*
75 CFM	***MECHANICAL VENT*** *TO ROOF*
S	***MANUAL CONTROL (SWITCH WALL)***
CO/CM	***HARDWIRED SMOKE / CARBON MONOXIDE - DIOXIDE NATURAL GAS DETECTORS :*** *SHALL BE INSTALLED IN ACCORDANCE WITH 2020 B.C.*
MBSS	***MOTION/OCCUPANCY SENSOR:*** *AUTOMATICALLY TURN-OFF LIGHTS AFTER 15 MINUTES OF BEEING UNOCCUPIED.*
EOS	***OCCUPANCY SENSOR EXITS:*** *OCCUPANCY SENSOR AT STAIRS & CORRIDORS SHALL HAVE A DIMMER & WILL NOT REDUCE THE LIGHTING LESS A FOOT CANDLE AS REQUIRED BY NYC BC*
P	***PHOTOSENSOR CONTROL:*** *EXTERIOR LIGHTING CONTROL, TURNS OFF THE LIGHTING WHEN SUFFICIENT DAYLIGHT IS AVAILABLE*
EXIT	***EXIT SIGN:*** *UNIVERSAL MOUNT EXIT SIGN - 1 FACE WITH BATTERY BACK UP. SHADING INDICATES ILLUMINATED FACE, ARROW INDICATES DIRECTION OF EGRESS. LITHONIA LHQM LEDWRS MAX. 5 WATTS PER SIDE*
S	***DOUBLE RECEPTCLE WALL MOUNTED :*** *TO BE INSTALLED AS PER NYCECC 2020 8.4.2. AND MIN 50% MUST BE AUTOMATIC FOR THE OFFICE AREA*
IC	***INTERCOMMUNICATION SYSTEM:*** *TO BE INSTALLED AS PER 2020 BC 1008.4.4.*
L1 L1	***RECESSED LIGHTING FIXTURE:*** *INTERIOR RECESSED FIXTURE - MAX 15W*
L3	***CEILING MOUNTED FIXTURE:*** *MAX 15 WATT*
L2	***EXTERIOR SCONCE FIXTURE:*** *WALL MOUNTED - MAX 15W*
	COMMERCIAL - RETAIL AREAS
	RESIDENTIAL - COMMON AREAS
	RESIDENTIAL - PARKING AREA



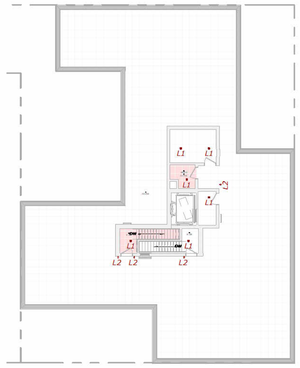
6 ***CELLAR RCP***
1" = 20'-0"



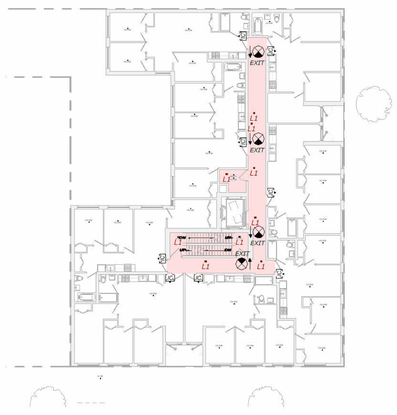
5 ***7TH FLOOR RCP***
1" = 20'-0"



1 ***1ST FLOOR RCP***
1" = 20'-0"



3 ***ROOF RCP***
1" = 20'-0"



2 ***2ND,3RD,4TH,5TH,6TH FLOOR RCP***
1" = 20'-0"

PROPOSED WATTAGE - EXTERIOR LIGHTING FIXTURE SCHEDULE

Level	Count	15 Watt * Light	Lumens	Proposed Wattage	Efficacy
EXTERIOR					
ROOF.	*4*	*15 W * 4 Lights*	*1050 lm*	*60 W*	*70 lm/W*
PROPOSED TOTAL				***60 W***	

C405.4.2 EXTERIOR LIGHTING POWER ALLOWANCE

TABLE C405.4.2(1)EXTERIOR LIGHTING ZONES - ZONE 2
Areas predominantly consisting of residential zoning,neighborhood business districts, light industrial withlimited nighttime use and residential mixed-useareas

BUILDING ENTRANCES & EXITS
Pedestrian and vehicularentrances and exits: 12.6W/linear foot of opening

Tag	Location	Level	Width	Individual Allowed Watt
F6	*BIKE PARKING*	*CELLAR*	*4'-3"*	*54 W*
F6	*MAIL ROOM*	*CELLAR*	*4'-3"*	*54 W*
FE2	*CORRIDOR*	*CELLAR*	*3'-0"*	*38 W*
TOTAL INDIVIDUAL ALLOWED				***145 W***

PROPOSED TOTAL 60 W < TOTAL WATT ALLOWED 252W
THEREFORE COMPLIES

EXTERIOR LIGHTS EFFICACY
PROPOSED 70 lm/w > Min Req. 65 lm/W
THEREFORE IT COMPLIES

TOTAL WATT ALLOWED

TABLE C405.4.2(2)LIGHTING POWER ALLOWANCES FOR BUILDING EXTERIORS Base Site Allowance - ZONE 2: 400 W

Base Site Allowance + Total Individual Allowed Watt = Total Watt Allowed

Total Individual Allowed Watt	Base Site Allowance	Total Watt Allowed
145 W	*400 W*	***545 W***

PROPOSED TOTAL 60 W < TOTAL WATT ALLOWED 652W
THEREFORE COMPLIES

EXTERIOR LIGHTS EFFICACY
PROPOSED 70 lm/w > Min Req. 65 lm/W
THEREFORE IT COMPLIES

LED LIGHTING POWER SCHEDULE

FIXTURE SYMBOL	TYPE	DESCRIPTION	WATTS	LUMENS	EFFIC.	MANUF'S/ MODEL	LIGHTING CONTROL
L1	L1	***COMMON SPACES FIXTURES:*** *6" Square Canless LED Recessed Light*	*15 W.*	*1200 L.*	*80 L/W*	*Alux Lighting* AMEU-SS40-110LND3-6	*1) Automatic-Off: occupant sensor controlled luminaires are automatically turned off within 15 minutes of all occupants leaving the space 2) - Manual Control to Turn Off: Occupant-sensor-controlled luminaires must also be equipped with manual controls that allow occupants to Turn lights off.*
L3	L3	***COMMON SPACES PARKING FIXTURES:*** *10" Round ceiling mounted Light*	*15 W.*	*1200 L.*	*80 L/W*	HYPERIKON 412151031	*Weekly Programmed Time-switch controls 1) Have a minimum 7-day clock, 2) Allow to program 7-different day types/week, 3) Have an automatic holiday 'shutoff' feature, 4) Have program backup capabilities in case of power interruption, 5)Luminaires servicing Exit access and providing Means of Egress illumination must have controls that automatically reduce the lighting power by 50 % when unoccupied for more than 15 minutes.*
L1	L1	***COMMON SPACES EGREES FIXTURE:*** *6" Square Canless LED Recessed Light with enmergency 90 min. backup battery*	*15 W.*	*1200 L.*	*80 L/W*	*Alux Lighting* AMEU-SS40-110LND3-6	
L2	L2	***EXTERIOR LIGHT FIXTURE:*** *9-1/4" Tall Integrated LED Outdoor Wall Sconce*	*15 W.*	*1050 L.*	*70 L/W*	*Dals* 1012-LEDRA2	*(a) Daylight shutoff: Lights automatically turned off when daylight satisfies the lighting needs (d) Exterior time-switch control function: Controls with 7-different-day-type-programmable clock and automatic holiday setback*
EXIT	EXIT	***EXIT SIGN:*** *13" LED Lighted Exit Sign (90 minute battery shall be installed*	*2 W.*	*150 L.*	*75.00 L/W*	*TCP 09114*	*90 min battery powered to turn automaticlaly on in case of emergency or in case of the power is off*
E-OS	E/OS	***EGRESS EMERGENCY LIGHT:*** *90MIN BATTERY POWERED EMERGENCY LIGHT*	*1.8 W.*	*161L.*	*89.4 L/W*	*- FULHAM FIREHORSE - FHEM16W*	*always on h/24 , must be provided with backup battery to function for at least 90min without power*

C405.1 / 9.4.4 HIGH-EFFICACY LAMPS OR LUMINAIRES
Not less than 90% of the permanently installed lighting fixtures shall use lamps with an efficacy of at least 65lm/W or have a total luminaire efficacy of at least 45 lm/W

PROPOSED WATTAGE - INTERIOR LIGHTING FIXTURE SCHEDULE

Level	Count	10 Watt * Light	Lumens	Proposed Wattage	Efficacy
1ST FLOOR	*9*	*15 W * 9 Lights*	*1200 lm*	*135 W*	*80 lm/W*
2ND FLOOR	*9*	*15 W * 9 Lights*	*1200 lm*	*135 W*	*80 lm/W*
3RD FLOOR	*8*	*15 W * 8 Lights*	*1200 lm*	*120 W*	*80 lm/W*
4TH FLOOR	*8*	*15 W * 8 Lights*	*1200 lm*	*120 W*	*80 lm/W*
5TH FLOOR	*8*	*15 W * 8 Lights*	*1200 lm*	*120 W*	*80 lm/W*
6TH FLOOR	*8*	*15 W * 8 Lights*	*1200 lm*	*120 W*	*80 lm/W*
7TH FLOOR	*8*	*15 W * 8 Lights*	*1200 lm*	*120 W*	*80 lm/W*
CELLAR	*14*	*15 W * 14 Lights*	*1200 lm*	*210 W*	*80 lm/W*
ROOF.	*6*	*15 W * 6 Lights*	*1200 lm*	*90 W*	*80 lm/W*
				1170 W	
PROPOSED TOTAL				***1170 W***	

ALLOWED WATTAGE - C406.3 REDUCED LIGHTING POWER DENSITY

C406.3 Reduced lighting power:The total connected interior lighting power calculated in accordance with Section C405.3.1 shall be less than 90 percent of the total lighting power allowance calculated in accordance with Section C405.3.2.
C. Dwelling units are excluded. Neither the area of the dwelling units nor the wattage of lighting in the dwelling units is counted.
TABLE C405.3.2(1)INTERIOR LIGHTING POWER ALLOWANCES:BUILDING AREA METHOD
(LPD) MULTIFAMILY REDUCED LIGHTING POWER: 0.49 W/ft² * 90% = 0.44 W/ft²
(LPD) RESIDENTIAL (PARKING AREA): 0.120 W/ft² * 90% = 0.11 W/ft²

Level	Area	LPD	Allowed Watt
RESIDENTIAL (COMMON AREAS)			
CELLAR	1393.25 SF	0.440 W/ft²	610 W
1ST FLOOR	737.15 SF	0.440 W/ft²	320 W
2ND FLOOR	602.23 SF	0.440 W/ft²	260 W
3RD FLOOR	614.44 SF	0.440 W/ft²	270 W
4TH FLOOR	614.44 SF	0.440 W/ft²	270 W
5TH FLOOR	614.44 SF	0.440 W/ft²	270 W
6TH FLOOR	614.44 SF	0.440 W/ft²	270 W
7TH FLOOR	575.62 SF	0.440 W/ft²	250 W
ROOF.	109.95 SF	0.440 W/ft²	50 W
	5875.95 SF		***2590 W***
TOTAL ALLOWED WATTAGE	***5875.95 SF***		***2590 W***

PROPOSED TOTAL RESIDENTIAL COMMON AREA WATT 1170 W < ALLOWED TOTAL 2900 W

COMMON SPACES LIGHT EFFICACY
PROPOSED 80 lm/w > Min Req. 65 lm/W
THEREFORE IT COMPLIES

THIS PROJECT REQUIRES COMMISSIONING AS PER C408 INCLUDING LIGHTING AS PER CA 6.7.2.4

C408.2.5 DOCUMENTATION REQUIREMENTS
C408.3 LIGHTING SYSTEM FUNCTIONAL TESTING

SECTION ECC C406 ADDITIONAL EFFICIENCY PACKAGE OPTION

406.1 REQUIREMENTS.BUILDINGS SHALL COMPLY WITH ONE OR MORE OF THE FOLLOWING:

1.MORE EFFICIENT HVAC EQUIPMENT PERFORMANCE IN ACCORDANCE WITH SECTION C406.2
2.REDUCED LIGHTING POWER IN ACCORDANCE WITH SECTION C406.3

BC713.4.1.1.1 INSTALLATION.
THROUGH PENETRATIONS SHALL BE INSTALLED AS TESTED IN THE APPROVED FIRE-RESISTANCE-RATED ASSEMBLY.

BC713.4.1.1.2 THROUGH-PENETRATION FIRESTOP SYSTEM.
THROUGH PENETRATIONS SHALL BE PROTECTED BY AN APPROVED THROUGH-PENETRATION FIRE STOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH ASTM E 814 OR UL 1479, WITH A MINIMUM POSITIVE PRESSURE DIFFERENTIAL OF 0.01 INCH (2.49 PA) OF WATER. THE SYSTEM SHALL HAVE AN F RATING AND A T RATING OF NOT LESS THAN 1 HOUR BUT NOT LESS THAN THE REQUIRED RATING OF THE FLOOR PENETRATED. EXCEPTION: FLOOR PENETRATIONS CONTAINED AND LOCATED WITHIN THE CAVITY OF A WALL DO NOT REQUIRE A T RATING.

BC713.4.1.2 MEMBRANE PENETRATIONS
PENETRATIONS OF MEMBRANES THAT ARE PART OF A FIRE-RESISTANCE-RATED HORIZONTAL ASSEMBLY SHALL COMPLY WITH SECTION 713.4.1.1.1 OR 713.4.1.1.2. WHERE FLOOR/CEILING ASSEMBLIES ARE REQUIRED TO HAVE A FIRE-RESISTANCE RATING, RECESSED FIXTURES SHALL BE INSTALLED SUCH THAT THE REQUIRED FIRE RESISTANCE WILL NOT BE REDUCED.

Leandro Nils Dickson, Architect
Architecture . Architecture . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 509 .
www.LNDarchitect.com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

REV	DATE	DESCRIPTION
.		

PROJECT NAME:
1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING. 56 DWELLING UNITS

DRAWING NAME:
RCP LIGHTING PLAN

JOB NO.: X01150556-I1
SCALE: AS NOTED
DRAWN BY: JOHN HURTADO
CHECKED: LEANDRO NILS DICKSON
DATE: 6/16/2025 1:23:18 PM

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NYCECC 2020 NOTES

NYCECC 2020

C405 ELECTRICAL POWER AND LIGHTING SYSTEMS

NARRATIVE FOR LIGHTING AS PER RCNY 5000-01(G,3,i,A): NARRATIVE DESCRIPTION FOR LIGHT FUNCTIONS AND CONTROL:

1- MANUAL CONTROLS FOR ILLUMINATION AND SHUTOFF CONTROL TO BE PROVIDED WITHIN OCCUPANT AREA SERVED BY SUCH CONTROL.

2- LIGHT DEDUCTION CONTROLS TO BE PROVIDED WHERE EFFICIENCY STANDARDS NOT MET VIA DUAL SWITCHING APPLICATION

3 - AUTOMATIC SENSORS FOR OCCUPANTS TO BE PROVIDED IN REFUSE/LAUNDRY/RECREATION AREAS N/A DWELLING/SLEEPING UNITS

4 - ALL LUMINARIES WITHIN DESIGNATED PATH OF EXIT OR SECURITY/EMERGENCY AREAS TO BE CONTINUOUSLY ILLUMINATED AT ALL TIMES ACCORDINGLY. EXTERIOR LIGHTINGMEANS OF EGRESS ILLUMINATION MUST HAVE CONTROLS THAT AUTOMATICALLY REDUCE THE LIGHTING POWER BY 50 % WHEN UNOCCUPIED FOR MORE THAN 15 MINUTES.

5 - AUTOMATIC SHUTOFF CONTROL WHEN ILLUMINATED VIA NATURAL LIGHT FROM DAWN TO DUSK.

6 - ASTRONOMICAL TIME SWITCH WITH MANUAL OVERRIDE TO BE PROVIDE WHERE SENSORS ARE NOT PROVIDED.

7 - MANUAL CONTROL OVERRIDE IN THE EVENT OF SENSOR/ASTRONOMICAL TIMER MALFUNCTION TO BE PROVIDED.

AS PER C405.5: PHOTOSENSORS WITH PROGRAMMABLE TIMER PROPOSED TO BE PROGRAMMED TO REDUCE THE LIGHT TO 30% AFTER MIDNIGHT.

INTERIOR SPACES:

- **PUBLIC CORRIDORS**
- **STAIRWAYS**
- **RESTROOMS**
- **LOBBIES**
- **AREAS WHERE MANUAL-ON OPERATION WOULD ENDANGER THE SAFETY OR SECURITY OF THE BUILDING OCCUPANTS.**

SYSTEM: THE GENERAL LIGHTING POWER IN THE SPACE SHALL BE AUTOMATICALLY REDUCED BY ATLEAST 50% WITHIN 15 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE.
THE MEANS OF EGRESS ILLUMINATION LEVEL SHALL NOT BE LESS THAN 1 FOOT-CANDLE (11 LUX) AT THE WALKING SURFACE,SENSORS AND CONTROLS SHALL COMPLY WITHBC 1006.2.1

- **RECREATION AREAS**
- **REFUSE SPACE**
- **LAUNDRY ROOM**
- **OTHER SIMILAR AREAS**

SYSTEM: LOCAL CONTROLS WITH DUAL TECHNOLOGY OCCUPANCY SENSOR CAPABLE OF SHUTTING OFF LIGHTING EITHER MANUALLY ORAFTER 15 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE SHALL BE INSTALLED IN ALL SPACES

- **ACCESSORY TO RESIDENCE SPACES**
- **MECHANICAL ROOMS**

SYSTEM:OCCUPANT SENSOR CONTROLLED LUMINAIRES WOULD BE AUTOMATICALLY TURNED OFF WITHIN 15 MINUTES OF - AUTOMATIC-OFF & MUST ALSO BE EQUIPPED WITH MANUAL CONTROLS THAT ALLOW OCCUPANTS TO TURN LIGHTS OFF.

- **RESIDENTIAL DWELLING UNITS AND BALCONY / TERRACE SPACES**

SYSTEM:TO BE PROVIDED THROUGHOUT DWELLING UNIT SPACES MANUAL ON AND OFF SWITCHES THAT ALLOW OCCUPANTS TO TURN LIGHT ON OR OFF - MANUAL CONTROL TO TURN OFF AND ON.

- **RETAIL STORE**

• TIME-SWITCH CONTROLS MUST BE DESIGNED TO:
• HAVE A MINIMUM 7-DAY CLOCK,
• ALLOW TO PROGRAM 7-DIFFERENT DAY TYPES/WEEK,
• HAVE AN AUTOMATIC HOLIDAY 'SHUTOFF' FEATURE,
• HAVE PROGRAM BACKUP CAPABILITIES IN CASE OF POWER INTERRUPTION, AND
• INCLUDE A MANUALLY-CONTROLLED OVERRIDE SWITCH THAT, WHEN INITIATED, PERMITS THE CONTROLLED LIGHTING TO BE GREATER THAN 2 HOURS, PROVIDED THAT THE SWITCH IS A CAPTIVE KEY DEVICE. AND THE AREA CONTROLLED BY THE OVERRIDE SWITCH SHALL NOT BE LIMITED TO 5,000 SQUARE FEET (465 M2) PROVIDED THAT SUCH AREA IS LESS THAN 20,000 SQUARE FEET (1860 M2)

EXTERIOR SPACES:

PRIMARY BUILDING ENTRANCE AREAS

• ALL EXTERIOR LIGHTING SHALL HAVE PHOTOSENSOR ,TIME OR ASTRONOMICAL CONTROLS.

TIME-SWITCH CONTROLS (PROGRAMMED)

• TIME-SWITCH CONTROLS MUST BE DESIGNED TO:
• HAVE A MINIMUM 7-DAY CLOCK,
• ALLOW TO PROGRAM 7-DIFFERENT DAY TYPES/WEEK,
• HAVE AN AUTOMATIC HOLIDAY 'SHUTOFF' FEATURE,
• HAVE PROGRAM BACKUP CAPABILITIES IN CASE OF POWER INTERRUPTION, AND
• INCLUDE A MANUALLY-CONTROLLED OVERRIDE SWITCH THAT, WHEN INITIATED, PERMITS THE CONTROLLED LIGHTING TO REMAIN ON FOR A MAXIMUM OF 2 HOURS, AND THAT INDIVIDUALLY CONTROLS A MAXIMUM AREA OF 5,000 SF. C405.2.2.1

C405.1 MANDATORY PROVISIONS

C405.2 LIGHTING CONTROLS (MANDATORY)

LIGHTING SYSTEMS SHALL BE PROVIDED WITH CONTROLS THAT COMPLY WITH ONE OF THE FOLLOWING.
1.LIGHTING CONTROLS AS SPECIFIED IN SECTIONS C405.2.1 THROUGH C405.2.6.
2.LUMINAIRE LEVEL LIGHTING CONTROLS (LLLC) AND LIGHTING CONTROLS AS SPECIFIED IN SECTIONS C405.2.1, C405.2.4 AND C405.2.5. THE LLLC LUMINAIRE SHALL BE INDEPENDENTLY CAPABLE OF:
2.1.MONITORING OCCUPANT ACTIVITY TO BRIGHTEN OR DIM LIGHTING WHEN OCCUPIED OR UNOCCUPIED, RESPECTIVELY.
2.2.MONITORING AMBIENT LIGHT, BOTH ELECTRIC LIGHT AND DAYLIGHT, AND BRIGHTEN OR DIM ARTIFICIAL LIGHT TO MAINTAIN DESIRED LIGHT LEVEL.
2.3.FOR EACH CONTROL STRATEGY, CONFIGURATION AND RECONFIGURATION OF PERFORMANCE PARAMETERS INCLUDING: BRIGHT AND DIM SETPOINTS, TIMEOUTS, DIMMING FADE RATES, SENSOR SENSITIVITY ADJUSTMENTS, AND WIRELESS ZONING CONFIGURATIONS.
EXCEPTIONS:
LIGHTING CONTROLS ARE NOT REQUIRED FOR THE FOLLOWING:
1.AREAS DESIGNATED AS SECURITY OR EMERGENCY AREAS THAT ARE REQUIRED TO BE CONTINUOUSLY LIGHTED.
2.INTERIOR EXIT STAIRWAYS, INTERIOR EXIT RAMPS AND EXIT PASSAGEWAYS, AS DEFINED BY THE NEW YORK CITY BUILDING CODE
3.EMERGENCY EGRESS LIGHTING THAT IS NORMALLY OFF.

C405.2.1 OCCUPANT SENSOR CONTROLSOCCUPANT SENSOR CONTROLS SHALL BE INSTALLED TO CONTROL LIGHTS IN THE FOLLOWING SPACE TYPES:
- MULTIPURPOSE ROOMS.
- STORAGE ROOMS.
- OTHER SPACES 300 SQUARE FEET (28 M2) OR LESS THAT ARE ENCLOSED BY FLOOR-TO-CEILING HEIGHT PARTITIONS.
- JANITORIAL CLOSETS.
- CORRIDORS/TRANSITION AREAS.

C405.2.1.4 OCCUPANT SENSOR CONTROL FUNCTION FOR EGRESS ILLUMINATIONIN NEW BUILDINGS, LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE NEW YORK CITY BUILDING CODE, INCLUDING LUMINAIRES THAT FUNCTION AS BOTH NORMAL AND EMERGENCY MEANS OF EGRESS ILLUMINATION SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS, OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM, THAT AUTOMATICALLY REDUCES THE LIGHTING POWER BY 50 PERCENT WHEN UNOCCUPIED FOR A PERIOD LONGER THAN 15 MINUTES.

C405.2.2 TIME-SWITCH CONTROLS.EACH AREA OF THE BUILDING THAT IS NOT PROVIDED WITH OCCUPANT SENSOR CONTROLSCOMPLYING WITH SECTION C405.2.1.1 SHALL BE PROVIDED WITH TIME-SWITCHCONTROLS COMPLYING WITH SECTION C405.2.2.1.

C405.2.2.1 TIME-SWITCH CONTROL FUNCTION.
EACH SPACE PROVIDED WITHTIME-SWITCH CONTROLSSHALL BE PROVIDED WITH A MANUAL CONTROLFOR LIGHT REDUCTION IN ACCORDANCE WITH SECTION C405.2.2.2.

C405.2.2.2 LIGHT-REDUCTION CONTROLS.
SPACES REQUIRED TO HAVE LIGHT-REDUCTION CONTROLS SHALL HAVE A MANUAL CONTROL THAT ALLOWS THE OCCUPANT TOREDUCE THE CONNECTED LIGHTING LOAD IN A REASONABLY UNIFORM ILLUMINATION PATTERN BY NOT LESS THAN 50 PERCENT.

C405.2.3 DAYLIGHT-RESPONSIVE CONTROLS.
DAYLIGHT-RESPONSIVE CONTROLS COMPLYING WITH SECTION C405.2.3.1 SHALL BE PROVIDED TO CONTROL THE ELECTRIC LIGHTS WITHIN DAYLIGHT ZONES IN THE SPACES AS PER CODE.

C405.2.5 MANUAL CONTROLS
WHERE REQUIRED BY THIS CODE, MANUAL CONTROLS FOR LIGHTS SHALL COMPLY WITH THE FOLLOWING:
1.THEY SHALL BE IN A LOCATION WITH READY ACCESSTO OCCUPANTS.
2.THEY SHALLBE LOCATED WHERE THE CONTROLLED LIGHTS ARE VISIBLE, OR SHALL IDENTIFY THE AREA SERVED BY THE LIGHTS AND INDICATE THEIR STATUS.

C405.2.6 EXTERIOR LIGHTING CONTROLS
EXTERIOR LIGHTING SYSTEMS SHALL BE PROVIDED WITH CONTROLS THAT COMPLY WITH SECTIONS C405.2.6.1 THROUGH C405.2.6.5. DECORATIVE LIGHTING SYSTEMS SHALL COMPLY WITH SECTIONS C405.2.6.1, C405.2.6.2 AND C405.2.6.4.

C405.2.3.1 DAYLIGHT-RESPONSIVE CONTROL FUNCTION
WHERE REQUIRED, DAYLIGHT-RESPONSIVE CONTROLSSHALL BE PROVIDED WITHIN EACH SPACE FOR CONTROL OF LIGHTS IN THAT SPACE AND SHALL COMPLY WITH CODE SECTIONS.

C405.2.5 MANUAL CONTROLS.WHERE REQUIRED BY THIS CODE, MANUAL CONTROLS FOR LIGHTS SHALL COMPLY WITH THE FOLLOWING:
1.THEY SHALL BE IN A LOCATION WITH READY ACCESSTO OCCUPANTS.
2.THEY SHALLBE LOCATED WHERE THE CONTROLLED LIGHTS ARE VISIBLE, OR SHALL IDENTIFY THE AREA SERVED BY THE LIGHTS AND INDICATE THEIR STATUS.
C405.2.6 EXTERIOR LIGHTING CONTROLS.EXTERIOR LIGHTING SYSTEMS SHALL BE PROVIDED WITH CONTROLS THAT COMPLY WITH SECTIONS C405.2.6.1 THROUGH C405.2.6.5. DECORATIVE LIGHTING SYSTEMS SHALL COMPLY WITH SECTIONS C405.2.6.1, C405.2.6.2 AND C405.2.6.4.

C405.2.6.1 DAYLIGHT SHUTOFF.
LIGHTS SHALL BE AUTOMATICALLY TURNED OFF WHEN DAYLIGHT IS PRESENT AND SATISFIES THE LIGHTING NEEDS.
C405.2.6.2 DECORATIVE LIGHTING SHUTOFF
BUILDING FACADE AND LANDSCAPE LIGHTING SHALL AUTOMATICALLY SHUT OFF FROM NOT LATER THAN 1 HOUR AFTER BUSINESS CLOSING TO NOT EARLIER THAN 1 HOUR BEFORE BUSINESS OPENING.
C405.2.6.3 LIGHTING SETBACK.
LIGHTING THAT IS NOT CONTROLLED IN ACCORDANCE WITH SECTION C405.2.6.2 SHALL BE CONTROLLED SO THAT THE TOTAL WATTAGE OF SUCH LIGHTING IS AUTOMATICALLY REDUCED BY NOT LESS THAN50 PERCENT BY SELECTIVELY SWITCHING OFF OR DIMMING LUMINAIRES AT ONE OF THE FOLLOWING TIMES:
1.FROM NOT LATER THAN MIDNIGHT TO NOT EARLIER THAN 6 A.M.
2.FROM NOT LATER THANONE HOUR AFTER BUSINESS CLOSING TO NOT EARLIER THAN ONE HOUR BEFORE BUSINESS OPENING.
3.DURING ANY TIME WHERE ACTIVITY HAS NOT BEEN DETECTED FOR 15 MINUTES OR MORE.

C405.2.6.4 EXTERIOR TIME-SWITCH CONTROL FUNCTION.
TIME-SWITCH CONTROLS FOR EXTERIOR LIGHTING SHALL COMPLY WITH THE FOLLOWING:
1.THEY SHALL HAVE A CLOCK CAPABLE OF BEING PROGRAMMED FOR NOT FEWER THAN 7 DAYS.
2.THEY SHALL BE CAPABLE OF BEING SET FOR SEVEN DIFFERENT DAY TYPES PER WEEK.
3.THEY SHALL INCORPORATE AN AUTOMATIC HOLIDAY SETBACK FEATURE.
4.THEY SHALL HAVE PROGRAM BACKUP CAPABILITIES THAT PREVENT THE LOSS OF PROGRAM AND TIME SETTINGS FOR A PERIOD OF NOT LESS THAN 10 HOURS IN THE EVENT THAT POWER IS INTERRUPTED.

C405.5 ELECTRICAL METER (MANDATORY).
ELECTRICAL SERVICE WITHIN BUILDINGS SHALL COMPLY WITH THE FOLLOWING:
C405.5.1DWELLING ELECTRICAL METER.EACH DWELLING UNIT LOCATED IN A GROUP R-2 BUILDING SHALL HAVE A SEPARATE ELECTRICAL METER.

C405.11 WHOLE BUILDING ENERGY MONITORINGMEASUREMENT DEVICES SHALL BE INSTALLED IN NEW BUILDINGS TO INDIVIDUALLY MONITOR ENERGY USE OF EACH OF THE FOLLOWING TYPES OF ENERGY SUPPLIED BY A UTILITY, ENERGY PROVIDER, OR PLANT THAT IS NOT WITHIN THE BUILDING: 1.NATURAL GAS2.FUEL OIL3.PROPANE4.STEAM5.CHILLED WATER6.HOT WATER
EXCEPTIONS:
1.BUILDINGS LESS THAN 25,000 SQUARE FEET (2325 M2).
2.GROUP RBUILDINGS WITH LESS THAN 10,000 SQUARE FEET (930 M2) OF COMMON AREA.
3.FUEL USE FOR ON-SITE EMERGENCY EQUIPMENT.

C405.12 WHOLEBUILDING ELECTRICAL MONITORINGEACH NEW BUILDING SHALL HAVE A MEASUREMENT DEVICE CAPABLE OF RECORDING ELECTRICAL ENERGY USE EVERY 60 MINUTES AND THE CAPABILITY TO REPORT THAT USE ON AN HOURLY, DAILY, MONTHLY AND ANNUAL BASIS. THE MEASUREMENT DEVICE SHALL BE CAPABLE OF RETAINING THE RECORDED DATA FOR 36 MONTHS.
EXCEPTIONS:
1.BUILDINGS LESS THAN 25,000 SQUARE FEET (2325 M2).
2.GROUP RBUILDINGS WITH LESS THAN 10,000 SQUARE FEET (930 M2) OF COMMON AREA.
3.FUEL USE FOR ON-SITE EMERGENCY EQUIPMENT.

C408.3 FUNCTIONAL TESTING OF LIGHTING CONTROLS.
AUTOMATIC LIGHTING CONTROLS REQUIRED BY THIS CODE SHALL COMPLY WITH THIS SECTION.

C408.3.1 FUNCTIONAL TESTING
PRIOR TO PASSING FINAL INSPECTION, THE APPROVED AGENCYSHALL PROVIDE EVIDENCE THAT THE LIGHTING CONTROL SYSTEMS HAVE BEEN TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTSAND MANUFACTURERS INSTRUCTIONS. FUNCTIONAL TESTING SHALL BE IN ACCORDANCE WITH SECTIONS C408.3.1.1 THROUGH C408.3.1.3 FOR THE APPLICABLE CONTROL TYPE.

C408.3.1.1 OCCUPANT SENSOR CONTROLS.WHERE OCCUPANT SENSOR CONTROLSARE PROVIDED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:
1.CERTIFY THAT THE OCCUPANTSENSORHAS BEEN LOCATED AND AIMED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
2.FOR PROJECTS WITH SEVEN OR FEWER OCCUPANT SENSORS, EACH SENSOR SHALL BE TESTED.
3.FOR PROJECTS WITH MORE THAN SEVEN OCCUPANT SENSORS,TESTING SHALL BE DONE FOR EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY. WHERE MULTIPLES OF EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY ARE PROVIDED, NOT LESS THAN 10 PERCENT AND IN NO CASE FEWER THAN ONE, OF EACH COMBINATION SHALL BE TESTED UNLESS THE BUILDINGOFFICIALOR DESIGN PROFESSIONAL REQUIRES A HIGHER PERCENTAGE TO BE TESTED. WHERE 30 PERCENT OR MORE OF THE TESTED CONTROLS FAIL, ALL REMAINING IDENTICAL COMBINATIONS SHALL BE TESTED.

FOR OCCUPANT SENSOR CONTROLSTO BE TESTED, VERIFY THE FOLLOWING:
3.1.WHERE OCCUPANT SENSOR CONTROLSINCLUDE STATUS INDICATORS, VERIFY CORRECT OPERATION.
3.2.THE CONTROLLED LIGHTS TURN OFF OR DOWN TO THE PERMITTED LEVEL WITHIN THE REQUIRED TIME.
3.3.FOR AUTO-ON OCCUPANT SENSOR CONTROLS, THE LIGHTS TURN ON TO THE PERMITTED LEVEL WHEN AN OCCUPANT ENTERS THE SPACE.
3.4.FOR MANUAL-ON OCCUPANT SENSOR CONTROLS, THE LIGHTS TURN ON ONLY WHEN MANUALLY ACTIVATED.
3.5.THE LIGHTS ARE NOT INCORRECTLY TURNED ON BY MOVEMENT IN ADJACENT AREAS OR BY HVAC OPERATION.

C408.3.1.2 TIME-SWITCH CONTROLSWHERE TIME-SWITCH CONTROLSARE PROVIDED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:
1.CONFIRM THAT THE TIME-SWITCH CONTROL IS PROGRAMMED WITH ACCURATE WEEKDAY, WEEKEND AND HOLIDAY SCHEDULES.
2.PROVIDE DOCUMENTATION TO THE OWNER OF TIME-SWITCH CONTROLSPROGRAMMING INCLUDING WEEKDAY, WEEKEND, HOLIDAY SCHEDULES, AND SET-UP AND PREFERENCE PROGRAM SETTINGS.
3.VERIFY THE CORRECT TIME AND DATE IN THE TIME SWITCH.
4.VERIFY THAT ANY BATTERY BACK-UP IS INSTALLED AND ENERGIZED.
5.VERIFY THAT THE OVERRIDE TIME LIMIT IS SET TO NOT MORE THAN 2 HOURS.
6.SIMULATE OCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
6.1.ALL LIGHTS CAN BE TURNED ON AND OFF BY THEIR RESPECTIVE AREA CONTROL SWITCH.
6.2.THE SWITCH ONLY OPERATES LIGHTING IN THE ENCLOSED SPACE IN WHICH THE SWITCH IS LOCATED.
7.SIMULATE UNOCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
7.1.NONEXEMPT LIGHTING TURNS OFF.
7.2.MANUAL OVERRIDE SWITCH ALLOWS ONLY THE LIGHTS IN THE ENCLOSED SPACE WHERE THE OVERRIDE SWITCH IS LOCATED TO TURN ON OR REMAIN ON UNTIL THE NEXT SCHEDULED SHUTOFF OCCURS.
8.ADDITIONAL TESTING AS SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL.

C408.3.1.3 DAYLIGHT RESPONSIVE CONTROLSWHERE DAYLIGHT RESPONSIVE CONTROLS ARE PROVIDED, THE FOLLOWING SHALL BE VERIFIED:
1.CONTROL DEVICES HAVE BEEN PROPERLY LOCATED, FIELD CALIBRATED AND SET FOR ACCURATE SETPOINTS AND THRESHOLD LIGHT LEVELS.
2.DAYLIGHT CONTROLLED LIGHTING LOADS ADJUST TO LIGHT LEVEL SETPOINTS IN RESPONSE TO AVAILABLE DAYLIGHT.
3.THE CALIBRATION ADJUSTMENT EQUIPMENT IS LOCATED FOR READY ACCESSONLY BY AUTHORIZED PERSONNEL.

C408.3.2 DOCUMENTATION REQUIREMENTS.
THE CONSTRUCTIONDOCUMENTSSHALL SPECIFY THAT THE DOCUMENTS DESCRIBED IN THIS SECTION BE PROVIDED TO THE BUILDING OWNER OR OWNERS AUTHORIZED AGENT WITHIN 90 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.
C408.3.2.1 DRAWINGS.CONSTRUCTION DOCUMENTS SHALL INCLUDE THE LOCATION AND CATALOGUE NUMBER OF EACH PIECE OF EQUIPMENT.
C408.3.2.2 MANUALS.AN OPERATING AND MAINTENANCE MANUAL SHALL BE PROVIDED AND INCLUDE THE FOLLOWING:
1.NAME AND ADDRESS OF NOT LESS THAN ONE SERVICE AGENCY FOR INSTALLED EQUIPMENT.
2.A NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING RECOMMENDED SETPOINTS.
3.SUBMITTAL DATA INDICATING ALL SELECTED OPTIONS FOR EACH PIECE OF LIGHTING EQUIPMENT AND LIGHTING CONTROLS.
4.OPERATION AND MAINTENANCE MANUALS FOR EACH PIECE OF LIGHTING EQUIPMENT. REQUIRED ROUTINE MAINTENANCE ACTIONS, CLEANING AND RECOMMENDED RELAMPING SHALL BE CLEARLY IDENTIFIED.
5.A SCHEDULE FOR INSPECTING AND RECALIBRATING ALL LIGHTING CONTROLS.
C408.3.2.3 REPORT.A REPORT OF TEST RESULTS SHALL BE PROVIDED AND INCLUDE THE FOLLOWING:1.RESULTS OF FUNCTIONAL PERFORMANCE TESTS.2.DISPOSITION OF DEFICIENCIES FOUND DURING TESTING, INCLUDING DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.

C408.4 AIR BARRIER COMMISSIONINGFOR NEW BUILDINGS OR ADDITIONS THAT ARE 10,000 GROSS SQUARE FEET (929 M2) AND GREATER, PRIOR TO PASSING FINAL INSPECTION, THE APPROVED AGENCY SHALL PROVIDE EVIDENCE OF AIR BARRIER COMMISSIONING AND SUBSTANTIAL COMPLETION IN ACCORDANCE WITH THE PROVISIONS OF SECTIONS C408.4.1 THROUGH C408.4.3.

NYC 2014 BUILIDNG CODE - CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION BC 713: PENETRATIONS

713.4.1.1.1 INSTALLATION.
THROUGH PENETRATIONS SHALL BE INSTALLED AS TESTED IN THE APPROVED FIRE-RESISTANCE-RATED ASSEMBLY.

713.4.1.1.2 THROUGH-PENETRATION FIRESTOP SYSTEM.
THROUGH PENETRATIONS SHALL BE PROTECTED BY AN APPROVED THROUGH-PENETRATION FIRE STOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH ASTM E 814 OR UL 1479, WITH A MINIMUM POSITIVE PRESSURE DIFFERENTIAL OF 0.01 INCH (2.49 PA) OF WATER. THE SYSTEM SHALL HAVE AN F RATING AND A T RATING OF NOT LESS THAN 1 HOUR BUT NOT LESS THAN THE REQUIRED RATING OF THE FLOOR PENETRATED.
EXCEPTION: FLOOR PENETRATIONS CONTAINED AND LOCATED WITHIN THE CAVITY OF A WALL DO NOT REQUIRE A T RATING.

713.4.1.2 MEMBRANE PENETRATIONS
PENETRATIONS OF MEMBRANES THAT ARE PART OF A FIRE-RESISTANCE-RATED HORIZONTAL ASSEMBLY SHALL COMPLY WITH SECTION 713.4.1.1.1 OR 713.4.1.1.2. WHERE FLOOR/CEILING ASSEMBLIES ARE REQUIRED TO HAVE A FIRE-RESISTANCE RATING, RECESSED FIXTURES SHALL BE INSTALLED SUCH THAT THE REQUIRED FIRE RESISTANCE WILL NOT BE REDUCED



CEILING PENTERATION, WILL BE PROVIDED WITH 2HR FIRE RATED RECESED LIGHT FIXTURE HOUSING

SECTION BC 1006: MEANS OF EGRESS ILLUMINATION

1006.1 ILLUMINATION REQUIRED
EXITS, EXIT DISCHARGES AND PUBLIC CORRIDORS SHALL BE ILLUMINATED AT ALL TIMES BY EITHER DAYLIGHT OR ELECTRIC LIGHTING FIXTURES. EXIT ACCESS COMPONENTS SHALL BE ILLUMINATED BY EITHER DAYLIGHT OR ELECTRIC LIGHTING FIXTURES AT ALL TIMES THAT THE SPACE SERVED BY THE EXIT ACCESS COMPONENT IS OCCUPIED.

1006.2 ILLUMINATION LEVEL
THE MEANS OF EGRESS ILLUMINATION LEVEL SHALL NOT BE LESS THAN 1 FOOT-CANDLE (11 LUX) AT THE WALKING SURFACE.

1006.2.1 SENSORS AND CONTROLS
AUTOMATIC, OCCUPANT SENSOR OR PHOTOSENSOR LIGHTING CONTROLS SHALL BE PERMITTED WITHIN MEANS OF EGRESS, PROVIDED THAT THE ILLUMINATION LEVEL IS NOT REDUCED TO A LEVEL BELOW THE MINIMUM REQUIREMENTS OF SECTION 1006.2, AND THE SWITCH CONTROLLERS ARE EQUIPPED FOR FAIL-SAFE OPERATION ENSURING THAT IF THE SENSOR OR CONTROL FAILS, THE LIGHTING LEVELS WILL BE AT THE LEVELS REQUIRED BY SECTION 1006.2.

1006.3.1 EMERGENCY POWER SOURCE
THE EMERGENCY POWER SYSTEM SHALL PROVIDE POWER FOR A DURATION OF NOT LESS THAN 90 MINUTES AND SHALL CONSIST OF STORAGE BATTERIES, UNIT EQUIPMENT OR AN ON-SITE GENERATOR. THE INSTALLATION OF THE EMERGENCY POWER SYSTEM SHALL BE IN ACCORDANCE WITH CHAPTER 27.

SECTION BC 1011: EXIT SIGNS

1011.1 WHERE REQUIRED
EXITS AND EXIT ACCESS DOORS SHALL BE MARKED BY AN APPROVED EXIT SIGN READILY VISIBLE FROM ANY DIRECTION OF EGRESS TRAVEL. THE PATH OF EGRESS TRAVEL TO EXITS AND WITHIN EXITS SHALL BE MARKED BY READILY VISIBLE EXIT SIGNS TO CLEARLY INDICATE THE DIRECTION OF EGRESS TRAVEL IN CASES WHERE THE EXIT OR THE PATH OF EGRESS TRAVEL IS NOT IMMEDIATELY VISIBLE TO THE OCCUPANTS. INTERVENING MEANS OF EGRESS DOORS WITHIN EXITS SHALL BE MARKED BY EXIT SIGNS. EXIT SIGN PLACEMENT SHALL BE SUCH THAT NO POINT IN AN EXIT ACCESS CORRIDOR OR EXIT PASSAGEWAY IS MORE THAN 100 FEET (30 480 MM) OR THE LISTED VIEWING DISTANCE FOR THE SIGN, WHICHEVER IS LESS, FROM THE NEAREST VISIBLE EXIT SIGN.

1011.5.2 EXIT SIGN ILLUMINATION
THE FACE OF AN EXIT SIGN ILLUMINATED FROM AN EXTERNAL SOURCE SHALL HAVE AN INTENSITY OF NOT LESS THAN 25 FOOT-CANDLES (269.1 LUX).

1011.5.3 POWER SOURCE
EXIT SIGNS SHALL BE ILLUMINATED AT ALL TIMES. TO ENSURE CONTINUED ILLUMINATION FOR A DURATION OF NOT LESS THAN 90 MINUTES IN CASE OF PRIMARY POWER LOSS, THE SIGN ILLUMINATION MEANS SHALL BE CONNECTED TO AN EMERGENCY POWER SYSTEM PROVIDED FROM STORAGE BATTERIES, UNIT EQUIPMENT OR AN ON-SITE GENERATOR. THE INSTALLATION OF THE EMERGENCY POWER SYSTEM SHALL BE IN ACCORDANCE WITH CHAPTER 27.

1006.2 ILLUMINATION LEVEL
THE MEANS OF EGRESS ILLUMINATION LEVEL SHALL NOT BE LESS THAN 1 FOOT-CANDLE (11 LUX) AT THE WALKING SURFACE.

1006.3.1 EMERGENCY POWER SOURCE
THE EMERGENCY POWER SYSTEM SHALL PROVIDE POWER FOR A DURATION OF NOT LESS THAN 90 MINUTES AND SHALL CONSIST OF STORAGE BATTERIES, UNIT EQUIPMENT OR AN ON-SITE GENERATOR. THE INSTALLATION OF THE EMERGENCY POWER SYSTEM SHALL BE IN ACCORDANCE WITH CHAPTER 27.

C405.8.1 Elevator equipment and cabs.
For the luminaires in each elevator cab, not including signals and displays, the sum of the lumens divided by the sum of the watts shall be not less than 35 lumens per watt. Ventilation fans in elevators that do not have their own air-conditioning system shall not consume more than 0.33 watts/cfm at the maximum rated speed of the fan. Controls shall be provided that will de-energize ventilation fans and lighting systems when the elevator is stopped, unoccupied and with its doors closed for over 15 minutes.

PROPOSED ELEVATOR TO MEET ALL EQUIPMENT AND CAB REQUIREMENTS.

LND
Leandro Nils Dickson, Architecture . Architect . Developing
3-53 26th Street
Fair Lawn, NJ
07410 . 509 . 9939
www.LNDarchitect.com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:

REV	DATE	DESCRIPTION
-	-	-

PROJECT NAME:
1003 EAST 173RD STREET
Bronx, NY 10460
PROPOSED 7 STORY & CELLAR RESIDENTIAL BUILDING, 56 DWELLING UNITS

DRAWING NAME:
RCP - NYCECC 2020 NOTES & NARRATIVE

JOB NO.:	X01150556-I1
SCALE	AS NOTED
DRAWN BY:	JOHN HURTADO
CHECKED	LEANDRO NILS DICKSON
DATE	6/16/2025 1:23:20 PM

DRAWING NO.
A-602.00

1563 BOONE AVENUE

BRONX, NY 10460, USA



DRAWING LIST

#	SHEET NUMBER	SHEET NAME
1	T-100.00	COVER SHEET
2	Z-101.00	PLOT PLAN, ZONING ANALYSIS, MAPS & NOTES
3	Z-102.00	FLOOR AREA CALCULATIONS
4	Z-103.00	FLOOR AREA DEDUCTIONS
5	Z-104.00	LOT AREA AND LOT COVERAGE CALCULATIONS
6	Z-105.00	ISOMETERIC AND HEIGHT DIAGRAM
7	Z-106.00	UAP ANALYSIS
8	G-101.00	GENERAL NOTES
9	G-102.00	CODE ANALYSIS
10	G-103.00	MDL ANALYSIS
11	G-104.00	SURVEY, FEMA FLOOD MAP
12	G-105.00	LIFE SAFETY PLANS
13	A-100.00	CELLAR PLAN
14	A-101.00	1ST FLOOR PLAN
15	A-102.00	2ND-4TH FLOOR PLAN
16	A-103.00	5TH & 6TH FLOOR PLAN
17	A-104.00	7TH FLOOR PLAN
18	A-105.00	ROOF PLAN
19	A-201.00	WEST/EAST_ELEVATION
20	A-202.00	NORTH/SOUTH_ELEVATION
21	A-301.00	LONG SECTION
22	A-302.00	SHORT SECTION
23	A-401.00	WINDOW, DOOR, WALL & FLOOR SCHEDULE
24	A-501.00	DETAILS
25	A-502.00	DETAILS
26	A-503.00	ADA DETAILS
27	A-504.00	ADA BATHROOM DETAILS
28	A-505.00	ADA COMMON SPACE - MAILBOX ROOM
29	A-506.00	ADA COMMON SPACE - LAUNDRY ROOM
30	A-507.00	ADA COMMON SPACE - BICYCLE ROOM
31	A-508.00	AIR BARRIER NOTES AND DETAILS
32	A-509.00	KITCHEN LAYOUT
33	A-510.00	ADA BATHROOM
34	A-601.00	RCP - LIGHTING PLAN
35	A-602.00	RCP - LIGHTING PLAN
36	A-603.00	NYCECC 2020 NOTES

SCOPE OF WORK: DEVELOPMENT OF A NEW 7 STORY RESIDENTIAL BUILDING WITH A TOTAL OF 57 DWELLING UNITS.

CONTROLLED INSPECTIONS

TR1: TECHNICAL REPORT STATEMENT OF RESPONSIBILITY

ALL MATERIALS DESIGNATED DOOR CONTROLLED INSPECTIONS SHALL BE INSPECTED AND / OR TESTED TO VERIFY COMPLIANCE WITH CODE REQUIREMENTS, UNLESS OTHERWISE SPECIFICALLY PROVIDED BY CODE PROVISIONS, ALL REQUIRED INSPECTIONS AND TESTS OF MATERIAL SHALL BE MADE AND / OR WITNESSED BY OR ON BEHALF OF THE OWNER OR LESSEE.

REQUIRED SPECIAL INSPECTIONS

□	STRUCTURAL STEEL - WELDING		BC 1704.3.1
□	STRUCTURAL STEEL - DETAILS		BC 1704.3.2
□	STRUCTURAL STEEL - HIGH STRENGTH BOLTING		BC 1704.3.3
□	STRUCTURAL COLD-FORMED STEEL		BC 1704.3.4
□	CONCRETE - CAST-IN-PLACE		BC 1704.4
□	CONCRETE - PRECAST		BC 1704.4
□	CONCRETE - PRESTRESSED		BC 1704.4
□	MASONRY		BC 1704.5
□	WOOD INSTALLATION OF HIGH-LOAD DIAPHRAGS		BC 1704.6.1
□	WOOD INSTALLATION OF METAL-PLATE-CONNECTED TRUSSES		BC 1704.6.2
□	WOOD - INSTALLATION OF PREFABRICATED JOINTS		BC 1704.6.3
□	SUBGRADE INSPECTION		BC 1704.7.1
□	SUBGRADE CONDITIONS - FILL PLACEMENT AND& IN-PLACE...		BC 1704.7.2&3
□	SUBSURFACE INVESTIGATIONS (BORING/TEST PITS)	TR4	BC 1704.7.4
□	DEEP FOUNDATION ELEMENTS	TR5	BC 1704.8
□	HELICAL PILES (BB # 2014-020)	TR5H	BC 1704.8.5
□	VERTICAL MASONRY FOUNDATION ELEMENTS		BC 1704.9
□	WALL PANELS, CURTAIN WALLS AND VENEERS		BC 1704.10
□	SPARYED FIRE-RESISTANT MATERIALS		BC 1704.11
□	MASTIC AND INTUMESCENT FIRE-RESISTANT COATING		BC 1704.12
■	EXTERIOR INSULATION FINISH SYSTEMS (EIFS)		BC 1704.13
□	ALTERNATIVE MATERIALS-OTCR B. BULLETIN #___		BC 1704.14
□	SMOKE CONTROL SYSTEMS		BC 1704.15
□	MECHANICAL SYSTEMS		BC 1704.16
□	FUEL-OIL STORAGE AND FUEL-OIL PIPING SYSTEMS		BC 1704.17
□	HIGH-PRESSURE STEEL PIPING (WELDING)		BC 1704.18
□	HIGH-TEMPERATURE HOT WATER PIPING (WELDING)		BC 1704.18
□	HIGH-PRESSURE FUEL-GAS PIPING (WELDING)		BC 1704.19
□	STRUCTURAL STABILITY - EXISTING BUILDINGS		BC 1704.20.1
□	EXCAVATIONS - SHEETING, SHORING AND BRACING		BC 1704.20.2
□	UNDERPINNING		BC 1704.20.3,1814
□	MECHANICAL DEMOLITION		BC 1704.20.4
□	RAISING AND MOVING OF A BUILDING		BC 1704.20.5
□	SOIL-PERCOLATION TEST-PRIVATE ON SITE STORM WATER		BC 1704.21.1.2
□	PRIVATE ON SITE STORM WATER DRAINAGE DISPOSAL		BC 1704.21.2
□	INDIVIDUAL ON SITE STORM PPRIVATE SEWAGE DISPOSAL...		BC 1704.22
□	SOIL-PERCOLATION TEST-INDIVIDUAL ON SITE PRIVATE...		BC 1704.22
□	SPRINKLER SYSTEMS		BC 1704.23
□	STANDPIPE SYSTEMS		BC 1704.24
□	HEATING SYSTEMS		BC 1704.25
□	CHIMNEYS		BC 1704.26
■	FIRE-RESISTANT PENETRATION AND JOINTS		BC 1704.27
□	ALUMINUM WELDING		BC 1704.28
□	FLOOD ZONE COMPLIANCE (ATTACH FEMA CERTIFICATE)		BC 1704.29, G105
□	LUMINOUS EGRESS PATH MARKINGS	TR7	BC 1704.30, 1024.8
□	EMERGENCY AND STANDBY POWER SYSTEMS (GENERATORS)		BC 1704.31
□	POST-INSTALLED ANCHORS (BB# 2014-018 & 019)		BC 1704.32
□	SEISMIC ISOLATION SYSTEMS		BC 1707.8
□	CONCRETE DESIGN MIX	TR3	BC 1905.3, 1913.5
□	CONCRETE SAMPLING AND TESTING	TR2	BC 1905.6, 1913.10

REQUIRED PROGRESS INSPECTIONS

□	PRELIMINARY		B28-116.2.1, BC110.2
□	FOOTING AND FOUNDATION		BC 110.3.1
□	LOWEST FLOOR ELEVATION		BC 110.3.2
□	STRUCTURAL WOOD FRAME		BC 110.3.3
■	ENERGY CODE COMPLIANCE INSPECTIONS	TR8	BC 110.3.4
■	FIRE-RESISTANCE RATED CONSTRUCTION		BC 110.3.5
□	PUBLIC ASSEMBLY EMERGENCY LIGHTNING		28-116.2.2
■	FINAL		28-116.2.4.2, BC110-5

ENERGY CODE PROGRESS INSPECTIONS

TR8: TECHNICAL REPORT STATEMENT OF RESPONSIBILITY FOR ENERGY CODE PROGRESS...

NOTE#1: IN ACCORDANCE WITH SECTION 110 OF 2014BC AND ECC 104.2.3, WHERE AN INSPECTION OR TEST FAILS, THE CONSTRUCTION SHALL BE CORRECTED AND MUST BE MADE AVAILABLE FOR REINSPECTION AND/OR RETESTING BY THE PROGRESS INSPECTOR UNTIL IT COMPLIES. NOTE #2: IN ACCORDANCE WITH ARTICLE 116 OF TITLE 28 AND SECTION 110 OF 2014 BC, CONSTRUCTION SHALL BE SCHEDULED TO ALLOW REQUIRED PROGRESS INSPECTIONS TO TAKE PLACE, AND THAT ROOFS, CEILINGS, EXTERIOR WALLS, INTERIOR WALLS, FLOORS, FOUNDATIONS, BASEMENTS AND ANY OTHER CONSTRUCTION SHALL NOT BE COVERED OR ENCLOSED UNTIL REQUIRED PROGRESS INSPECTION ARE COMPLETED OR THE PROGRESS INSPECTOR INDICATE...

Envelope Inspections

■	PROTECTION OF EXPOSED FOUNDATION INSULATION	IA1	IIA1
■	INSULATION PLACEMENT AND R-VALUES	IA2	IIA2
■	FENESTRATION AND DOOR U-FACTOR AND PRODUCT RATINGS	IA3	IIA3
■	FENESTRATION AIR LEAKAGE	IA4	IIA4
■	FENESTRATION AREAS	IA5	IIA5
■	AIR BARRIER – VISUAL INSPECTION	IA6	IIA6
□	AIR BARRIER – TESTING	IA7	IIA7
■	AIR BARRIER CONTINUITY PLAN TESTING		IIA8
□	VESTIBULES		IIA9

Electrical Power and Lighting Systems

■	METERING	IC1	IIC1
■	LIGHTING IN DWELLING UNITS		IIC2
■	INTERIOR LIGHTING POWER	IC3	IIC3
■	EXTERIOR LIGHTING POWER		IIC4
■	LIGHTING CONTROLS		IIC5
■	ELECTRIC MOTORS AND ELEVATORS		IIC6

Other

■	MAINTENANCE INFORMATION	ID1	IID1
□	PERMANENT CERTIFICATE	ID2	
□	ELECTRIC VEHICLE SERVICE EQUIPMENT REQUIREMENTS	ID3	

LND

Leandro Nils Dickson, Architect

Architecture . Interior Design . Developing

3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON 030459 STATE OF NEW YORK

ARCHITECT'S SEAL

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:

1563 BOONE AVENUE

10460

NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:

COVER SHEET

DOB JOB #X01288603-I1

SCALE: AS NOTED

DRAWN BY: JOHN HURTADO

CHECKED: LND

DATE: 5/2/2026 4:30:32 p. m.

DRAWING NO.

T-100.00

SCOPE OF WORK

SCOPE OF WORK:DEVELOPMENT OF A NEW 7 STORY RESIDENTIAL BUILDING WITH A TOTAL OF 57 DWELLING UNITS.

PROPERTY INFORMATION

BOROUGH:	BRONX	**USE GROUP:**	II
BLOCK:	3009	**OCCUPANCY GROUP**	R-2
LOT:	25	**CONSTRUCTION CLASS:**	I-B
ZONING DISTRICT:	R6A	**PROPOSED MDL CLASSIFICATION:**	HAEA
COMMERCIAL OVERLAY:	NONE	**BUILDING CODE:**	2022
ZONING MAP:	3D	**LOT AREA:**	9999.795SF
COMMUNITY BOARD:	203		

ZONING FLOOR AREA SCHEDULE

LEVEL	USE GROUP	OCC. GROUP	TOTAL GROSS F.A.	DEDUCTION AREA	ZONING FLOOR AREA	F.A.R
RESIDENTIAL						
CELLAR	*II*	*R-2*	*2106.86 SF*	*2106.86 SF*	*0.00 SF*	*0.000*
1st_FLOOR	*II*	*R-2*	*6173.27 SF*	*737.82 SF*	*5435.45 SF*	*0.544*
2ND_FLOOR	*II*	*R-2*	*6173.27 SF*	*482.02 SF*	*5691.25 SF*	*0.569*
3RD_FLOOR	*II*	*R-2*	*6173.27 SF*	*482.02 SF*	*5691.25 SF*	*0.569*
4TH_FLOOR	*II*	*R-2*	*6173.27 SF*	*482.02 SF*	*5691.25 SF*	*0.569*
5TH_FLOOR	*II*	*R-2*	*6173.27 SF*	*482.02 SF*	*5691.25 SF*	*0.569*
6TH_FLOOR	*II*	*R-2*	*6173.27 SF*	*482.02 SF*	*5691.25 SF*	*0.569*
7TH_FLOOR	*II*	*R-2*	*5245.98 SF*	*402.95 SF*	*4843.03 SF*	*0.484*
ROOF	*II*	*R-2*	*863.68 SF*	*700.00 SF*	*163.68 SF*	*0.016*
			45256.14 SF	***6357.73 SF***	***38898.41 SF***	***3.890***
TOTAL			***45256.14 SF***	***6357.73 SF***	***38898.41 SF***	***3.890***

ZONING ANALYSIS - R6

SECTION	ITEM	PERMITTED/REQUIRED	PROPOSED
ZR 22-12	USE PERMITTED	USE GROUPS: (RESIDENTIAL) II, III, IV, V, VI, VII, VIII	USE GROUP: II
ZR 27-15	UAP ZONING LOTS	THE RESIDENTIAL FLOOR AREA RATIO OF A [...] UAP ZONING LOT SHALL BE DETERMINED IN ACCORDANCE WITH THE PROVISIONS OF ZR 23-22 APPLICABLE TO QUALIFYING AFFORDABLE HOUSING: R6A: 3.9 MAX FAR	SEE BREAKDOWN AND DIAGRAMS IN Z-102 & Z-103 38,898.41 (PROPOSED ZFA) / 9,999.795 (LOT) = 3.895 PROPOSED F.A.R AS OF RIGHT: 9,999.795 X 3.00 = 29,999.385 SF 38,898.41 SF(PROPOSED ZFA) - 29,999.385 SF(AS OF RIGHT) = 8,899.02 SF UAP UNITS PROPOSED 8,941.37 SF > 8,899.02 SF DIAGRAMS IN Z-102, Z-103, Z-106 (FOR CALCULATIONS)
ZR 23-22	MAX FAR	R6A: 3.90 MAX FAR	3.90 MAX FAR X 9,999.795 (LOT) = 38,999.20 SF MAX FA 38,898.41 SF(PROPOSED FAR) < 38,999.20 SF COMPLIES! (SEE Z-102)
ZR 23-22	MAX FAR	MAX ALLOWED RESIDENTIAL R6A: 3.90	PROPOSED F.A.R (SEE Z-102): 3.890
ZR 23-362	LOT COVERAGE	**LOT COVERAGE .MAX 100%**	PROPOSED LOT COVERAGE % (SEE Z-104) **65%**

DENSITY AND MIN. LOT SIZE AND WIDTH

ZR 23-52	DENSITY	MAX. ALLOWED NUMBER OF DWELLING UNITS 38999.2SF MAX F.A. / 680 = 57.35 57 UNITS MAX	PROPOSED 57 DWELLING UNITS
ZR 23-12	MIN.LOT AREA	1700 SQ.FT.	LOT AREA: 9999.795 SF
ZR-23-12	MIN. LOT WIDTH	18'-0"	LOT FRONT: 123.5' (SURVEY)

YARDS

23-45	FRONT YARD	NO FRONT YARD IS REQUIRED	0'-0" FRONT YARD PROPOSED
23-33	SIDE YARD	NO SIDE YARD IS REQUIRED, HOWEVER, IF ONE IS PROVIDED IT SHALL HAVE A MINIMUM WIDTH OF 8'-0"	NO SIDE YARD PROPOSED
ZR 23-343	REAR YARD	FOR ZONING LOTS WITH A LOT WIDTH OF 40 FEET OR GREATER, FOR BUILDINGS OR PORTIONS THEREOF AT OR BELOW A HEIGHT OF 75 FEET, AS MEASURED FROM BASE PLANE, A REAR YARD WITH A DEPTH OF NOT LESS THAN 20 FEET SHALL BE PROVIDED AT EVERY REAR LOT LINE ON ANY ZONING LOT	20'-10" REAR YARD PROPOSED

HEIGHT AND SETBACK

ZR 23-413 (B)(1)	PERMITTED OBSTRUCTIONS (DORMER)	MAX DORMER WIDTH @ MAX. B.HEIGHT = 60% OF STREET WALL WIDTH DECREASE FOR EACH 1'-0" ABOVE MAX. BUILDING HEIGHT = 1% OF STREET WALL WIDTH	· PROPOSED HEIGHT ABOVE MAX B.HEIGHT: 4'-4" FT · MAX DORMER WIDTH: 60.0% -4.33% = 55.67% · STREET WALL WIDTH: 123.50' x 55.67% = 68'-9" · PROPOSED DORMER WIDTH AT MAX B. HEIGHT: 51'-8" PROPOSED WIDTH 51'-8"< MAX ALLOWED WIDTH: 68'-9" THEREFORE COMPLIES
23-431(b)	STREET WALL LOCATION	(2) ALONG A NARROW STREET AT LEAST 70 PERCENT OF THE AGGREGATE WIDTH OF STREET WALL SHALL BE LOCATED WITHIN 10 FT OF THE STREET LINE AND EXTEND TO AT LEAST THE MIN BASE HEIGHT IN ZR 23-432 OR THE HEIGHT OF THE BUILDING WHICH EVER IS LESS, UP TO 30% OF THE AGGREAGET WIDTH OF THE STREET WALLS MAY BE RECESSED BEYOND 10 FT OF THE STREET LINE PROVIDED ANY RECESSES DEEPER THAN 15 FT ARE LOCATED WITHIN AN OUTER COURT.	PROPOSED NEW STREET WALL WITHIN 10' OF STREET LINE, COMPLIES.
23-432	STANDARD SETBACK	AT A HEIGHT NOT LOWER THAN THE MINIMUM BASE HEIGHT OR HIGHER THAN THE MAXIMUM BASE HEIGHT SPECIFIED FOR THE APPLICABLE DISTRICT, A SETBACK WITH A DEPTH OF AT LEAST 15 FEET SHALL BE PROVIDED FROM ANY STREET WALL FRONT ON A NARROW STREET.	15'-5" SETBACK
	MIN BASE HEIGHT	40'-0"	BASE HEIGHT: 59'-4" PROPOSED
	MAX BASE HEIGHT	65'-0"	
	MAX ALLOWED BUILDING HGT.	95'-0"	BUILDING HEIGHT: 69'-4" PROPOSED

PARKING REQUIREMENTS

25-222	PARKING SPACES RESIDENTIAL	25 % OF DWELLING UNITS	57 PROPOSED UNITS*25%= 14.25 = 15 SPACES REQ.	15 PARKING SPACES REQUIRED AS PER (ZR 25-241) 15 PARKING SPACES WAIVED. THEREFORE NO PARKING SPACES PROPOSED.
25-222	PARKING WAIVER FOR DEVELOPMENTS	MAXIMUM WAIVER IN SPACES : 15		
25-811	BICYCLE PARKING	1 PER 2 DWELLING UNITS	57 UNITS/2 = 28.5 = 29 REQUIRED	29 REQUIRED, 29 SPACES PROVIDED AT CELLAR (SEE A-100)

JOB FILED SEPARTELY

JOB	JOB NUMBER
SOE	PENDING
FOUNDATION	X01306200-I1
STRUCTURAL	X01307909-S4
MECHANICAL	X01307909-S3
PLUMBING	X01307909-S1
SPRINKLER	X01307909-S2
FENCE	PENDING
BPP	PENDING
FIRE ALARM	TO BE FILED WITH FDNY

REQUIREMENTS

23-611	STREET TREE PLANTING	REQUIRED 1 TREE EVERY 25'-0" OF STREET FRONTAGE OF THE ZONING LOT.	@BOONE AVE 123.5': 5 TREE TO BE PAID INTO THE CITY TREE FUND
23-63	REQUIRED RECREATION SPACE	RECREATION SPACE IS REQ. FOR BUILDINGS WITH 9+ D.U. R6 MIN. REQ. RECREATION SPACE : 3% OF RES. F.A.	38,898.41 SF X.3% = 1,166.95 SF REQ. RECREATION SPACE ZONING F.A. 12, 1460 SF PROPOSED OUTDOOR RECREATIONAL SPACE AT ROOF
ZR-23-232	FLOOR AREA PROVISIONS FOR CORRIDORS	50% OF F.A. MAY BE EXEMPT IF (A)(3) IF THE CORRIDOR TERMINATES WITH A DWELLING UNIT THAT CONTAINS AT LEAST THREE BEDRROMS (B) LENGTH OF CORRIDOR -50% OF F.A. MAY BE EXEMPT WHERE THE LENGTH OF THE CORRIDOR, AS MEASURED FROM THE ELEVATOR CORE TO THE DOOR OF THE FURTHEST DWELLING UNIT ON THE STORY DOES NOT EXCEED 100 LINEAR FEET	EACH CORRIDOR TERMINATES WITH A THREE BEDROOM DWELING UNIT 50% OF CORRIDORS HAVE BEEN DEDUCTED LENGTH OF CORRIDORS ARE LESS THAN 100 LINEAR FEET 50% OF CORRIDORS HAVE BEEN DEDUCTED (SEE DEDUCTIONS ON SHEET Z-103)
ZR-23-233	REFUSE STORAGE AND DISPOSAL	FLOOR SPACE IN A BUILDING ALLOCATED TO REFUSE STORAGE AND DISPOSAL MY BE EXEMPTED FROM FLOOR AREA IN AN AMOUNT NOT TO EXCEED 3 SF PER DWELLING UNIT IN THE BUILDING 3 SF X 57 UNITS = 171 SF MAX EXEMPT FROM F.A.	PROPOSED REFUSE STORAGE : 20SF x 7 FLOORS =140 SF

REQUIREMENTS FOR UAP SITES

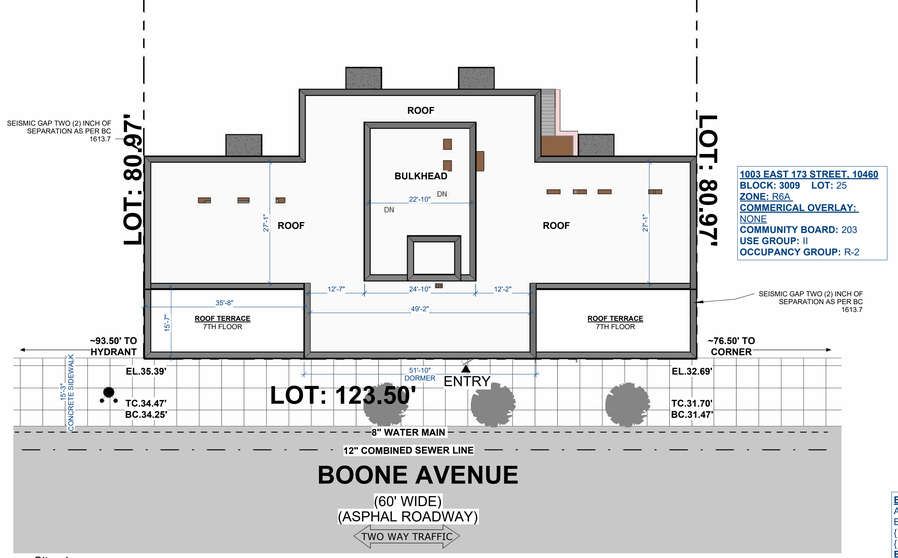
ZR 27-16(A)	*LOCATION*	*WHERE LOCATION OF UAP SITE IS NOT LOCATED IN UAP ZONING LOT [...]* *NOT APPLICABLE*	*PROPOSED UAP SITE IS LOCATED ON A UAP ZONING LOT*
ZR 27-16(B)	*DISTRIBUTION OF AFFORDABLE HOUSING UNITS*	*IN NEW CONSTRUCTION AFFORDABLE HOUSING, WHERE ONE OR MORE OF THE DWELLING UNITS IN A UAP SITE, OTHER THAN ANY SUPER'S UNIT, ARE NOT AFFORDABLE HOUSING UNITS:* *(1) THE AFFORDABLE HOUSING UNITS SHALL BE DISTRIBUTED ON NOT LESS THAN 65 PERCENT OF THE RESIDENTIAL STORIES OF SUCH UAP SITE, OR, IF THERE ARE INSUFFICIENT AFFORDABLE HOUSING UNITS TO COMPLY WITH THIS REQUIREMENT, THE DISTRIBUTION OF AFFORDABLE HOUSING UNITS SHALL BE AS SPECIFIED IN THE GUIDELINES; AND* *(2) NOT MORE THAN TWO-THIRDS OF THE DWELLING UNITS ON ANY STORY OF SUCH UAP SITE SHALL BE AFFORDABLE HOUSING UNITS, UNLESS NOT LESS THAN TWO-THIRDS OF THE DWELLING UNITS ON EACH RESIDENTIAL STORY OF SUCH UAP SITE ARE AFFORDABLE HOUSING UNITS. HPD MAY WAIVE SUCH REQUIREMENT FOR ANY NEW CONSTRUCTION AFFORDABLE HOUSING THAT IS LOCATED ON AN INTERIOR LOT OR THROUGH LOT WITH LESS THAN 50 FEET OF FRONTAGE ALONG ANY STREET.*	*MIN 65% DISTIBUTEDUTION: 7 STORIES x 0.65 = 4.55=MIN DISTR. ACROSS 5 FL* *(2)NO MORE THAN 2/3(66.67%) FOR EACH FLOOR PROPOSED UNITS SHOULD BE UAP* *1ST FLOOR = 9 UNITS TOTAL/ 0/ AFFORDABLE (0%=66.67% MAX)* *2ND FLOOR = 8 UNITS TOTAL/ 2 AFFORDABLE (25.00%=66.67% MAX)* *3RD FLOOR = 8 UNITS TOTAL/ 1 AFFORDABLE (12.50%=66.67% MAX)* *4TH FLOOR = 8 UNITS TOTAL/ 3 AFFORDABLE (37.50%=66.67% MAX)* *5TH FLOOR = 8 UNITS TOTAL/ 2 AFFORDABLE (25.00%=66.67% MAX)* *6TH FLOOR = 8 UNITS TOTAL/ 2 AFFORDABLE (25.00%=66.67% MAX)* *7TH FLOOR = 8 UNITS TOTAL/ 3 AFFORDABLE (37.50%=66.67% MAX)* *TOTAL 57 UNITS TOTAL / 13 AFFORDABLE...*
ZR 27-16(C)	*BEDROOM MIX OF AFFORDABLE HOUSING UNITS*	*(1) IN NEW CONSTRUCTION AFFORDABLE HOUSING, WHERE ONE OR MORE OF THE DWELLING UNITS IN A UAP SITE, OTHER THAN ANY SUPER'S UNIT, ARE NOT AFFORDABLE HOUSING UNITS, EITHER:* *(I) THE DWELLING UNITS# THAT ARE AFFORDABLE HOUSING UNITS SHALL CONTAIN A BEDROOM MIX AT LEAST PROPORTIONAL TO THE BEDROOM MIX OF THE DWELLING UNITS, OTHER THAN ANY SUPER'S UNIT, THAT ARE NOT AFFORDABLE HOUSING UNITS; OR (II) NOT LESS THAN 50 PERCENT OF THE DWELLING UNITS THAT ARE AFFORDABLE HOUSING UNITS SHALL CONTAIN TWO OR MORE BEDROOMS AND NOT LESS THAN 75 PERCENT OF THE DWELLING UNITS THAT ARE AFFORDABLE HOUSING UNITS SHALL CONTAIN ONE OR MORE BEDROOMS. HOWEVER, SUCH BEDROOM MIX REQUIREMENTS SHALL NOT APPLY TO AFFORDABLE INDEPENDENT RESIDENCES FOR SENIORS. HPD MAY ALSO WAIVE SUCH BEDROOM MIX REQUIREMENTS FOR ANY NEW CONSTRUCTION AFFORDABLE HOUSING THAT IS LOCATED ON AN INTERIOR LOT OR THROUGH LOT WITH LESS THAN 50 FEET OF FRONTAGE ALONG ANY STREET. IN ADDITION, HPD MAY WAIVE THESE REQUIREMENTS FOR #AFFORDABLE FLOOR AREA# CREATED IN A UAP SITE THROUGH ENLARGEMENT, AS SPECIFIED IN THE GUIDELINES.* *(2) WHERE ALL OF THE DWELLING UNITS IN AN UAP SITE, OTHER THAN ANY SUPER'S UNIT, IN NEW CONSTRUCTION AFFORDABLE HOUSING ARE AFFORDABLE HOUSING UNITS, THE BEDROOM MIX SHALL BE AS SET FORTH IN THE GUIDELINES.* *(3) SUPPORTIVE HOUSING UNITS SHALL CONTAIN SUCH CONFIGURATION AS HPD SHALL REQUIRE.* *(4) FOR PURPOSES OF THIS PARAGRAPH (C), FRACTIONS EQUAL TO OR GREATER THAN ONE-HALF RESULTING FROM ANY CALCULATION SHALL BE CONSIDERED TO BE ONE DWELLING UNIT*	*TOTAL A.H.U. APARTMENT BREAKDOWN* *13 A.H.U. TOTAL X 0.50 = 7 UNITS SHALL CONTAIN 3 OR MORE BEDROOMS* *13 A.H.U. TOTAL X 0.75 = 10 UNITS SHALL CONTAIN 1 OR MORE BEDROOMS* *PROPOSE 13 UNIT WITH 2+ BEDROOMS* *SEE BEDROOM MIX AT SHEET Z-106*
ZR 27-16(D)	*SIZE OF AFFORDABLE HOUSING UNITS*	*(1) IN #NEW CONSTRUCTION AFFORDABLE HOUSING#, THE AVERAGE SIZE OF #AFFORDABLE HOUSING UNITS# OF A PARTICULAR BEDROOM COUNT SHALL BE NOT LESS THAN THE AVERAGE SIZE OF #DWELLING UNITS# THAT ARE NOT #AFFORDABLE HOUSING UNITS# WITH THE SAME NUMBER OF BEDROOMS, OR THE MINIMUM SIZE SPECIFIED BELOW FOR A #DWELLING UNIT# OF A PARTICULAR BEDROOM COUNT, WHICHEVER IS LESS:* *(I) 400 SQUARE FEET OF #FLOOR AREA# WITHIN THE PERIMETER WALLS FOR A ZERO BEDROOM #DWELLING UNIT#; OR* *(II) 575 SQUARE FEET OF #FLOOR AREA# WITHIN THE PERIMETER WALLS FOR A ONE BEDROOM #DWELLING UNIT#; OR* *(III) 775 SQUARE FEET OF FLOOR AREA WITHIN THE PERIMETER WALLS FOR A TWO BEDROOM DWELLING UNIT; OR* *(IV) 950 SQUARE FEET OF FLOOR AREA WITHIN THE PERIMETER WALLS FOR A THREE BEDROOM DWELLING UNIT. HOWEVER, THESE UNIT SIZE REQUIREMENTS SHALL NOT APPLY TO AFFORDABLE INDEPENDENT RESIDENCES FOR SENIORS. HPD MAY SPECIFY THE METHOD OF MEASURING FLOOR AREA# WITHIN #AFFORDABLE HOUSING UNITS# IN THE GUIDELINES, COMPLIANT WITH DEPARTMENT OF BUILDINGS PRACTICE; AND* *(2) WHERE ALL OF THE DWELLING UNITS IN A UAP SITE, OTHER THAN ANY SUPER'S UNIT, IN NEW CONSTRUCTION AFFORDABLE HOUSING ARE AFFORDABLE HOUSING UNITS, SUCH AFFORDABLE HOUSING UNITS SHALL COMPLY WITH THE SIZE REQUIREMENTS AS SET FORTH IN THE GUIDELINES.* *(3) SUPPORTIVE HOUSING UNITS# SHALL COMPLY WITH THE SIZE REQUIREMENTS SPECIFIED BY HPD.*	*SEE SIZE BREAKDOWN AT SHEET Z-106*

RECREATION ANALYSIS

ZR23-63	RECREATION SPACES	THE AMOUNT OF RECREATION SPACE REQUIRED SHALL BE EQUIVALENT TO A MINIMUM OF THREE PERCENT OF THE RESIDENTIAL FLOOR AREA OF THE BUILDING. SUCH SPACE MAY BE PROVIDED INDOORS OR OUTDOORS, SINGLY OR IN COMBINATION, WHERE PROVIDED INDOORS, FLOOR SPACE MAY BE EXEMPTED FROM THE DEFINITION OF FLOOR AREA PURSUANT TO SECTION 12-10 (DEFINITIONS), PROVIDED THAT THE STANDARDS OF SECTION 23-231 (FLOOR AREA PROVISIONS FOR AMENITIES) ARE MET. ADDITIONALLY, SUCH RECREATION SPACE SHALL COMPLY WITH THE FOLLOWING STANDARDS: (A) ALL RECREATION SPACE SHALL BE ACCESSIBLE TO THE RESIDENTS OF THE BUILDING; (B) THE MINIMUM DIMENSION OF ANY RECREATION SPACE, IN ANY DIRECTION, WHETHER INDOOR OR OUTDOOR, SHALL BE 15 FEET; (C) ANY OUTDOOR RECREATION SPACE SHALL BE OPEN TO THE SKY, EXCEPT THAT: (1) BUILDING PROJECTIONS, NOT TO EXCEED SEVEN FEET IN DEPTH, MAY COVER UP TO 10 PERCENT OF THE OUTDOOR RECREATION SPACE, PROVIDED THAT THE LOWEST LEVEL OF THE PROJECTION IS AT LEAST 10 FEET ABOVE THE LEVEL OF THE OUTDOOR RECREATION SPACE; AND (2) THE COMBINATION OF BUILDING PROJECTIONS, WHERE PROVIDED, AND ANY SUN SHADING DEVICES PERMITTED PURSUANT TO 23-311, INCLUDING, BUT NOT LIMITED TO, ARBORS OR TRELLISES, AWNINGS AND OTHER SUN CONTROL DEVICES, OR CANOPIES, MAY COVER UP TO 50 PERCENT; AND (D) ANY INDOOR RECREATION ROOM SHALL HAVE AT LEAST ONE EXTERIOR WALL WITH WINDOWS, OR CEILING WITH SKYLIGHTS, THAT MEASURES NOT LESS THAN 9.5 PERCENT OF THE TOTAL FLOOR SPACE OF THE ROOM.	ALL PROPOSED RECREATION SPACES ARE ACCESSIBLE TO ALL RESIDENTS REQUIRED: 38,898.41 SF X 3% = 1,166.95 SF PROPOSED: 1,254 SF OUTDOOR RECREATIONAL SPACE AT ROOF



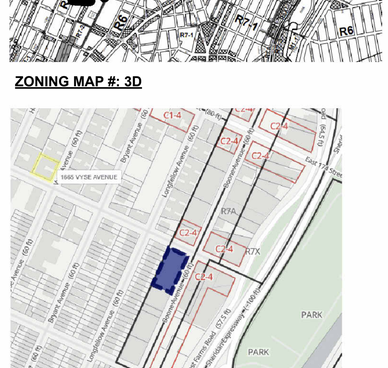
EXISTING SITE PHOTO



1 Site plan
1/16" = 1'-0"

1003 EAST 173 STREET, 10460
BLOCK: 3009 LOT: 25
ZONE: R6A
COMMERICAL OVERLAY: NONE
COMMUNITY BOARD: 203
USE GROUP: II
OCCUPANCY GROUP: R-2

BASE PLANE CALCULATION
A) EL. 35.39'
B) EL. 32.69'
{ [A] + [B]} / 2 =
{ [35.39'] + [32.69'] } / 2' = 34.04'
BASE PLANE: 34.04'



ZONING MAP #: 3D

ZOLA MAP

ENERGY CODE PROGRESS INSPECTIONS

TR8: TECHNICAL REPORT STATEMENT OF RESPONSIBILITY FOR ENERGY CODE PROGRESS...

NOTE#1: IN ACCORDANCE WITH SECTION 110 OF 2014BC AND ECC 104.2.3, WHERE AN INSPECTION OR TEST FAILS, THE CONSTRUCTION SHALL BE CORRECTED AND MUST BE MADE AVAILABLE FOR REINSPECTION AND/OR RETESTING BY THE PROGRESS INSPECTOR UNTIL IT COMPLIES. NOTE #2: IN ACCORDANCE WITH ARTICLE 116 OF TITLE 28 AND SECTION 110 OF 2014 BC, CONSTRUCTION SHALL BE SCHEDULED TO ALLOW REQUIRED PROGRESS INSPECTIONS TO TAKE PLACE, AND THAT ROOFS, CEILINGS, EXTERIOR WALLS, INTERIOR WALLS, FLOORS, FOUNDATIONS, BASEMENTS AND ANY OTHER CONSTRUCTION SHALL NOT BE COVERED OR ENCLOSED UNTIL REQUIRED PROGRESS INSPECTION ARE COMPLETED OR THE PROGRESS INSPECTOR INDICATE...

Envelope Inspections		
■ PROTECTION OF EXPOSED FOUNDATION INSULATION	IA1	IIA1
■ INSULATION PLACEMENT AND R-VALUES	IA2	IIA2
■ FENESTRATION AND DOOR U-FACTOR AND PRODUCT RATINGS	IA3	IIA3
■ FENESTRATION AIR LEAKAGE	IA4	IIA4
■ FENESTRATION AREAS	IA5	IIA5
■ AIR BARRIER – VISUAL INSPECTION	IA6	IIA6
□ AIR BARRIER – TESTING	IA7	IIA7
■ AIR BARRIER CONTINUITY PLAN TESTING		IIA8
□ VESTIBULES		IIA9
Electrical Power and Lighting Systems		
■ METERING	IC1	IIC1
■ LIGHTING IN DWELLING UNITS		IIC2
■ INTERIOR LIGHTING POWER	IC3	IIC3
■ EXTERIOR LIGHTING POWER		IIC4
■ LIGHTING CONTROLS		IIC5
■ ELECTRIC MOTORS AND ELEVATORS		IIC6
Other		
■ MAINTENANCE INFORMATION	ID1	IID1
□ PERMANENT CERTIFICATE	ID2	
□ ELECTRIC VEHICLE SERVICE EQUIPMENT REQUIREMENTS	ID3	

CONTROLLED INSPECTIONS

TR1: TECHNICAL REPORT STATEMENT OF RESPONSIBILITY

ALL MATERIALS DESIGNATED DOOR CONTROLLED INSPECTIONS SHALL BE INSPECTED AND / OR TESTED TO VERIFY COMPLIANCE WITH CODE REQUIREMENTS, UNLESS OTHERWISE SPECIFICALLY PROVIDED BY CODE PROVISIONS. ALL REQUIRED INSPECTIONS AND TESTS OF MATERIAL SHALL BE MADE AND / OR WITNESSED BY OR ON BEHALF OF THE OWNER OR LESSEE.

REQUIRED SPECIAL INSPECTIONS		
□ STRUCTURAL STEEL - WELDING		BC 1704.3.1
□ STRUCTURAL STEEL - DETAILS		BC 1704.3.2
□ STRUCTURAL STEEL - HIGH STRENGTH BOLTING		BC 1704.3.3
□ STRUCTURAL COLD-FORMED STEEL		BC 1704.3.4
□ CONCRETE - CAST-IN-PLACE		BC 1704.4
□ CONCRETE - PRECAST		BC 1704.4
□ CONCRETE - PRESTRESSED		BC 1704.4
□ MASONRY		BC 1704.5
□ WOOD INSTALLATION OF HIGH-LOAD DIAPHRAGS		BC 1704.6.1
□ WOOD INSTALLATION OF METAL-PLATE-CONNECTED TRUSSES		BC 1704.6.2
□ WOOD - INSTALLATION OF PREFABRICATED JOINTS		BC 1704.6.3
□ SUBGRADE INSPECTION		BC 1704.7.1
□ SUBGRADE CONDITIONS - FILL PLACEMENT AND& IN-PLACE...		BC 1704.7.2&3
□ SUBSURFACE INVESTIGATIONS (BORING/TEST PITS)	TR4	BC 1704.7.4
□ DEEP FOUNDATION ELEMENTS	TR5	BC 1704.8
□ HELICAL PILES (BB # 2014-020)	TR5H	BC 1704.8.5
□ VERTICAL MASONRY FOUNDATION ELEMENTS		BC 1704.9
□ WALL PANELS, CURTAIN WALLS AND VENEERS		BC 1704.10
□ SPARYED FIRE-RESISTANT MATERIALS		BC 1704.11
□ MASTIC AND INTUMESCENT FIRE-RESISTANT COATING		BC 1704.12
■ EXTERIOR INSULATION FINISH SYSTEMS (EIFS)		BC 1704.13
□ ALTERNATIVE MATERIALS-OTCR B. BULLETIN #___		BC 1704.14
□ SMOKE CONTROL SYSTEMS		BC 1704.15
□ MECHANICAL SYSTEMS		BC 1704.16
□ FUEL-OIL STORAGE AND FUEL-OIL PIPING SYSTEMS		BC 1704.17
□ HIGH-PRESSURE STEEL PIPING (WELDING)		BC 1704.18
□ HIGH-TEMPERATURE HOT WATER PIPING (WELDING)		BC 1704.18
□ HIGH-PRESSURE FUEL-GAS PIPING (WELDING)		BC 1704.19
□ STRUCTURAL STABILITY - EXISTING BUILDINGS		BC 1704.20.1
□ EXCAVATIONS - SHEETING, SHORING AND BRACING		BC 1704.20.2
□ UNDERPINNING		BC 1704.20.3,1814
□ MECHANICAL DEMOLITION		BC 1704.20.4
□ RAISING AND MOVING OF A BUILDING		BC 1704.20.5
□ SOIL-PERCOLATION TEST-PRIVATE ON SITE STORM WATER		BC 1704.21.1.2
□ PRIVATE ON SITE STORM WATER DRAINAGE DISPOSAL		BC 1704.21.2
□ INDIVIDUAL ON SITE STORM PPRIVATE SEWAGE DISPOSAL...		BC 1704.22
□ SOIL-PERCOLATION TEST-INDIVIDUAL ON SITE PRIVATE...		BC 1704.22
□ SPRINKLER SYSTEMS		BC 1704.23
□ STANDPIPE SYSTEMS		BC 1704.24
□ HEATING SYSTEMS		BC 1704.25
□ CHIMNEYS		BC 1704.26
■ FIRE-RESISTANT PENETRATION AND JOINTS		BC 1704.27
□ ALUMINUM WELDING		BC 1704.28
□ FLOOD ZONE COMPLIANCE (ATTACH FEMA CERTIFICATE)		BC 1704.29, G105
□ LUMINOUS EGRESS PATH MARKINGS	TR7	BC 1704.30, 1024.8
□ EMERGENCY AND STANDBY POWER SYSTEMS (GENERATORS)		BC 1704.31
□ POST-INSTALLED ANCHORS (BB# 2014-018 & 019)		BC 1704.32
□ SEISMIC ISOLATION SYSTEMS		BC 1707.8
□ CONCRETE DESIGN MIX	TR3	BC 1905.3, 1913.5
□ CONCRETE SAMPLING AND TESTING	TR2	BC 1905.6, 1913.10
REQUIRED PROGRESS INSPECTIONS		
□ PRELIMINARY		B28-116.2.1, BC110.2
□ FOOTING AND FOUNDATION		BC 110.3.1
□ LOWEST FLOOR ELEVATION		BC 110.3.2
□ STRUCTURAL WOOD FRAME		BC 110.3.3
■ ENERGY CODE COMPLIANCE INSPECTIONS	TR8	BC 110.3.4
■ FIRE-RESISTANCE RATED CONSTRUCTION		BC 110.3.5
□ PUBLIC ASSEMBLY EMERGENCY LIGHTNING		28-116.2.2
■ FINAL		28-116.2.4.2, BC110-5

LND
Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON 030455 STATE OF NEW YORK

ARCHITECT'S SEAL:

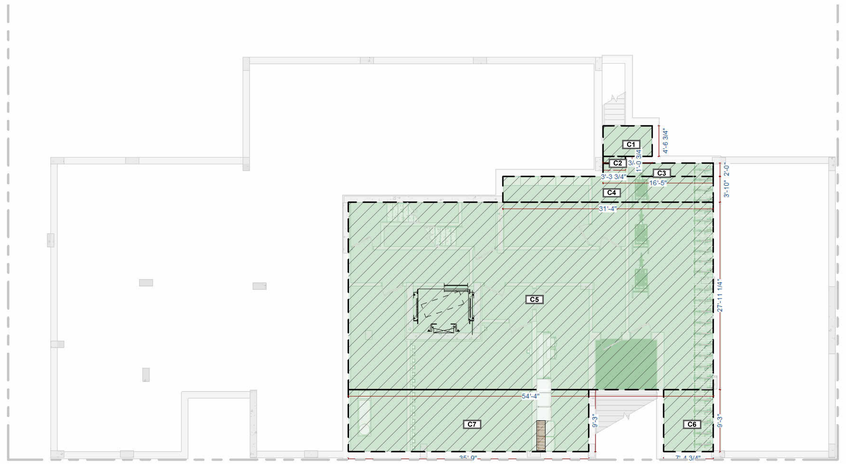
BY	DESCRIPTION	DATE	REV.

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
PLOT PLAN, ZONING ANALYSIS, MAPS & NOTES

DOB JOB #: **X01288603-I1**
SCALE: AS NOTED
DRAWN BY: JOHN HURTADO
CHECKED: LND
DATE: 5/2/2026 4:30:43 p. m.

DRAWING NO.
Z-101.00



4 CELLAR FLOOR AREA
3/32" = 1'-0"

1ST FLOOR AREA		
TAG	DIMENSIONS	AREA
PROPOSED RESIDENTIAL		
A1-1	(123'-0" * 36'-0")	4428.00 SF
A1-2	(53'-9" * 14'-11")	801.77 SF
A1-3	(26'-7" * 9'-0")	239.25 SF
A1-4	(26'-1" * 9'-0")	234.75 SF
A1-5	(25'-7" * 9'-0")	230.25 SF
A1-6	(26'-7" * 9'-0")	239.25 SF
TOTAL		6173.27 SF

3 7TH_FLOOR
3/32" = 1'-0"

CELLAR_FLOOR AREA		
TAG	DIMENSIONS	AREA
PROPOSED RESIDENTIAL		
C1	(7'-3 3/4" * 4'-6 3/4")	33.29 SF
C2	(3'-3 3/4" * 1'-0 3/4")	3.50 SF
C3	(16'-5" * 2'-0")	32.83 SF
C4	(31'-4" * 3'-10")	120.13 SF
C5	(54'-4" * 27'-11 1/4")	1518.47 SF
C6	(7'-4 3/4" * 9'-3")	68.41 SF
C7	(35'-9" * 9'-3")	330.78 SF
TOTAL		2107.41 SF

1 1ST FLOOR AREA PLAN
3/32" = 1'-0"

2ND-6TH FLOOR AREA		
TAG	DIMENSIONS	AREA
PROPOSED RESIDENTIAL		
A2-1	(123'-0" * 36'-0")	4428.00 SF
A2-2	(26'-7" * 9'-0")	239.25 SF
A2-3	(26'-1" * 9'-0")	234.75 SF
A2-4	(25'-7" * 9'-0")	230.25 SF
A2-5	(26'-7" * 9'-0")	239.25 SF
A2-6	(53'-9" * 14'-11")	801.77 SF
TOTAL		6173.27 SF

5 ROOF FLOOR AREA
3/32" = 1'-0"

ROOF_FLOOR AREA		
TAG	DIMENSIONS	AREA
PROPOSED RESIDENTIAL		
F2	(24'-5 1/2" * 35'-3 3/4")	863.60 SF
TOTAL		863.60 SF

2 2ND-6TH FLOOR AREA
3/32" = 1'-0"

7TH FLOOR AREA		
TAG	DIMENSIONS	AREA
PROPOSED RESIDENTIAL		
A3-1	(53'-10" * 14'-11")	803.01 SF
A3-2	(123'-0" * 29'-7 3/4")	3646.50 SF
A3-3	(51'-8" * 15'-5")	796.53 SF
TOTAL		5246.04 SF

LEGEND - FLOOR AREA		
PLAN VIEW	TAG	DESCRIPTION
	PR	PROPOSED RESIDENTIAL FLOOR AREA

ZONING FLOOR AREA SCHEDULE =					
LEVEL	EXISTING BUILDING	TOTAL GROSS F.A.	DEDUCTION AREA	ZONING FLOOR AREA	F.A.R
RESIDENTIAL					
CELLAR	*0.00 SF*	*2106.86 SF*	*2106.86 SF*	*0.00 SF*	*0.000*
1st_FLOOR	*0.00 SF*	*6173.27 SF*	*737.82 SF*	*5435.45 SF*	*0.544*
2ND_FLOOR	*0.00 SF*	*6173.27 SF*	*482.02 SF*	*5691.25 SF*	*0.569*
3RD_FLOOR	*0.00 SF*	*6173.27 SF*	*482.02 SF*	*5691.25 SF*	*0.569*
4TH_FLOOR	*0.00 SF*	*6173.27 SF*	*482.02 SF*	*5691.25 SF*	*0.569*
5TH_FLOOR	*0.00 SF*	*6173.27 SF*	*482.02 SF*	*5691.25 SF*	*0.569*
6TH_FLOOR	*0.00 SF*	*6173.27 SF*	*482.02 SF*	*5691.25 SF*	*0.569*
7TH_FLOOR	*0.00 SF*	*5245.98 SF*	*402.95 SF*	*4843.03 SF*	*0.484*
ROOF	*0.00 SF*	*863.68 SF*	*700.00 SF*	*163.68 SF*	*0.016*
	0.00 SF	*45256.14 SF*	*6357.73 SF*	*38898.41 SF*	*3.890*
TOTAL	*0.00 SF*	*45256.14 SF*	*6357.73 SF*	*38898.41 SF*	*3.890*

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REGISTERED ARCHITECT LEANDRO NILS DICKSON 030455 STATE OF NEW YORK

ARCHITECT'S SEAL:

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:

1563 BOONE AVENUE

10460

NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:

FLOOR AREA CALCULATIONS

DOB JOB #X01288603-I1

SCALE: AS NOTED

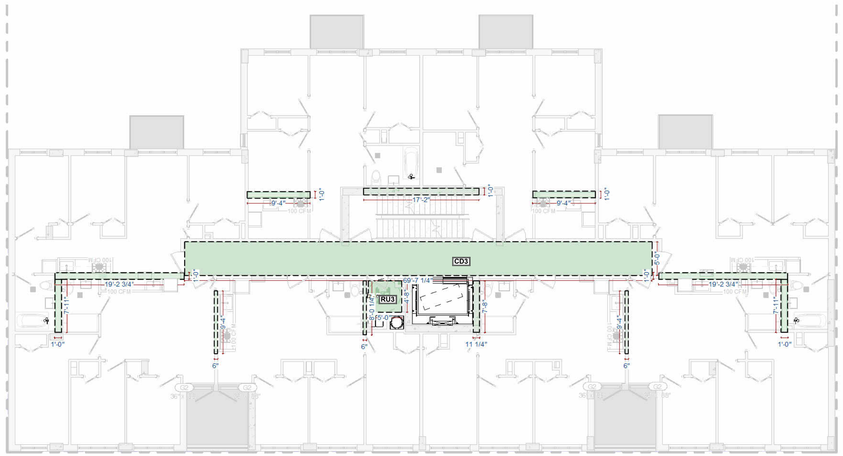
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CHECKED: LND

DATE: 5/2/2026 4:30:51 p. m.

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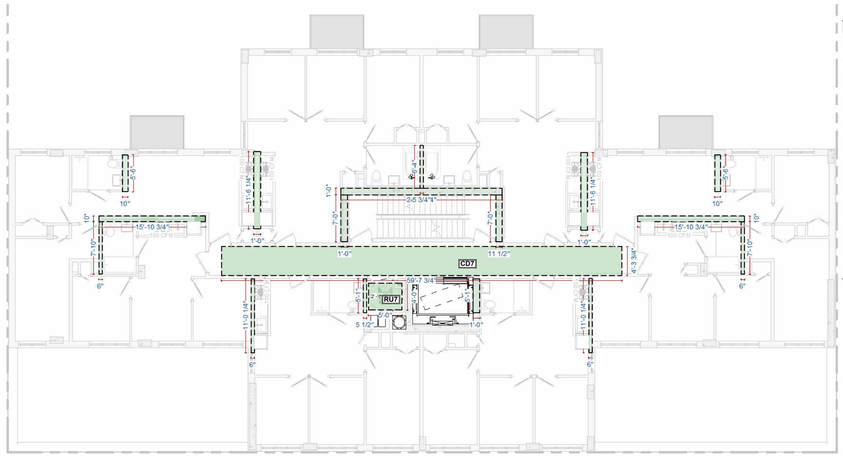
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2 2ND-6TH FLOOR AREA DEDUCTION
3/32" = 1'-0"

DEDUCTIONS - 2ND-6TH FLOOR

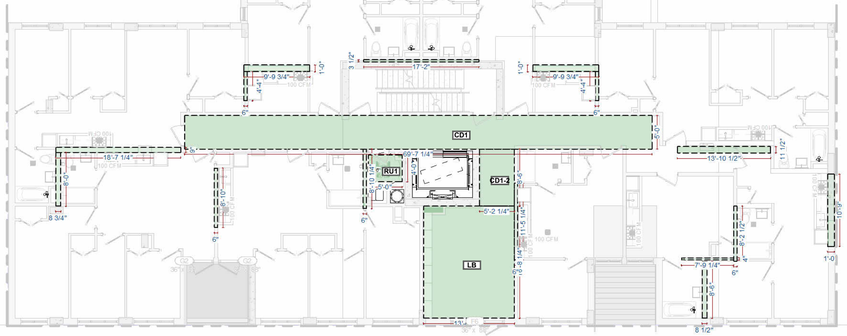
TAG	DEDUCTION TYPE	DIMENSIONS	AREA
DEDUCTIONS			
CD3	*DEDUCTION 100%*	(69'-7 1/4" * 5'-0")	348.02 SF
D261	*DEDUCTION 100%*	(19'-2 3/4" * 1'-0")	19.23 SF
D262	*DEDUCTION 100%*	(1'-0" * 7'-11")	7.92 SF
D263	*DEDUCTION 100%*	(6" * 9'-4")	4.67 SF
D264	*DEDUCTION 100%*	(6" * 8'-0 1/4")	4.01 SF
D265	*DEDUCTION 100%*	(11 1/4" * 7'-8")	7.19 SF
D266	*DEDUCTION 100%*	(9'-4" * 1'-0")	9.33 SF
D267	*DEDUCTION 100%*	(17'-2" * 1'-0")	17.17 SF
D268	*DEDUCTION 100%*	(9'-4" * 1'-0")	9.33 SF
D269	*DEDUCTION 100%*	(19'-2 3/4" * 1'-0")	19.23 SF
D270	*DEDUCTION 100%*	(1'-0" * 7'-11")	7.92 SF
D271	*DEDUCTION 100%*	(6" * 9'-4")	4.67 SF
RU3	*DEDUCTION 100%*	(5'-0" * 4'-8")	23.33 SF
TOTAL			**482.02 SF**



3 7TH FLOOR AREA REDUCTION
3/32" = 1'-0"

DEDUCTIONS - 7TH FLOOR

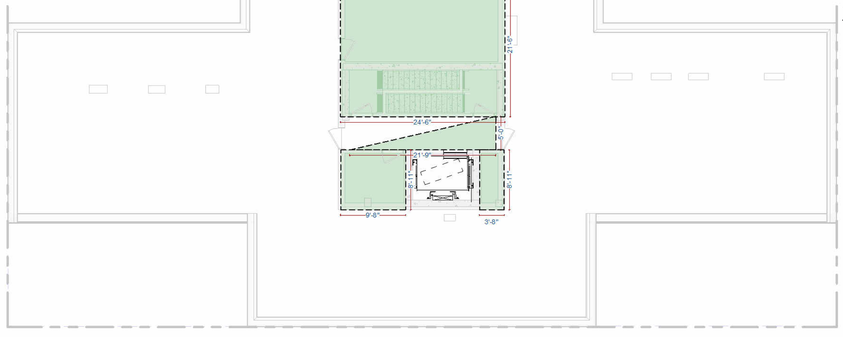
TAG	DEDUCTION TYPE	DIMENSIONS	AREA
DEDUCTIONS			
	DEDUCTION 100%	(10" * 5'-6")	4.58 SF
	DEDUCTION 100%	(10" * 5'-6")	4.58 SF
CD7	*WQEEQ*	(59'-7 3/4" * 4'-3 3/4")	257.22 SF
D71	*DEDUCTION 100%*	(15'-10 3/4" * 10")	13.25 SF
D72	*DEDUCTION 100%*	(6" * 7'-10")	3.92 SF
D73	*DEDUCTION 100%*	(1'-0" * 11'-6 1/4")	11.52 SF
D74	*DEDUCTION 100%*	(6" * 11'-0 1/4")	5.51 SF
D75	*DEDUCTION 100%*	(6" * 11'-0 1/4")	5.51 SF
D76	*DEDUCTION 100%*	(1'-0" * 5'-1")	5.08 SF
D77	*DEDUCTION 100%*	(5 1/2" * 5'-1")	2.33 SF
D78	*DEDUCTION 100%*	(1'-0" * 7'-0")	7.00 SF
D79	*DEDUCTION 100%*	(24'-0 1/4" * 1'-0")	24.02 SF
D710	*DEDUCTION 100%*	(11 1/2" * 7'-0")	6.71 SF
D711	*DEDUCTION 100%*	(5 3/4" * 6'-4")	3.03 SF
D712	*DEDUCTION 100%*	(1'-0" * 11'-6 1/4")	11.52 SF
D713	*DEDUCTION 100%*	(15'-10 3/4" * 10")	13.25 SF
D714	*DEDUCTION 100%*	(6" * 7'-10")	3.92 SF
RU7	*DEDUCTION 100%*	(5'-0" * 4'-0")	20.00 SF
TOTAL			**402.95 SF**



1 1st FLOOR DEDUCTION
3/32" = 1'-0"

DEDUCTIONS - 1ST FLOOR

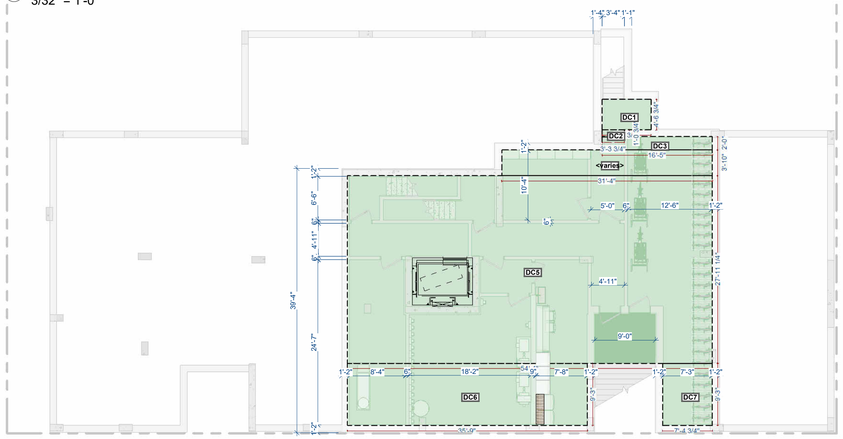
TAG	DEDUCTION TYPE	DIMENSIONS	AREA
DEDUCTIONS			
CD1	*DEDUCTION 100%*	(69'-7 1/4" * 5'-0")	348.02 SF
CD1-2	*DEDUCTION 100%*	(5'-2 1/4" * 8'-6")	44.09 SF
D11	*DEDUCTION 100%*	(18'-7 1/4" * 9")	13.95 SF
D12	*DEDUCTION 100%*	(8 3/4" * 8'-0")	5.83 SF
D13	*DEDUCTION 100%*	(6" * 8'-10")	4.42 SF
D14	*DEDUCTION 100%*	(6" * 8'-10 1/4")	4.43 SF
D15	*DEDUCTION 100%*	(9'-9 3/4" * 1'-0")	9.81 SF
D16	*DEDUCTION 100%*	(6" * 4'-4")	2.17 SF
D17	*DEDUCTION 100%*	(9'-9 3/4" * 1'-0")	9.81 SF
D18	*DEDUCTION 100%*	(6" * 4'-4")	2.17 SF
D19	*DEDUCTION 100%*	(6" * 11'-5 1/4")	5.72 SF
D110	*DEDUCTION 100%*	(6" * 8'-2 1/2")	4.10 SF
D111	*DEDUCTION 100%*	(7'-9 1/4" * 4")	2.59 SF
D112	*DEDUCTION 100%*	(1'-0" * 10'-9")	10.75 SF
D113	*DEDUCTION 100%*	(13'-10 1/2" * 11 1/2")	13.30 SF
D114	*DEDUCTION 100%*	(8 1/2" * 8'-6")	6.02 SF
D115	*DEDUCTION 100%*	(17'-2" * 3 1/2")	5.01 SF
LB	*DEDUCTION 100%*	(13'-6 1/4" * 16'-8 1/4")	225.63 SF
RU1	*DEDUCTION 100%*	(5'-0" * 4'-0")	20.00 SF
TOTAL			**737.82 SF**



5 ROOF FLOOR AREA DEDUCTION
3/32" = 1'-0"

DEDUCTIONS - ROOF

TAG	DEDUCTION TYPE	DIMENSIONS	AREA
DEDUCTIONS			
	DEDUCTION 100%	(9'-8" * 8'-11")	86.19 SF
	DEDUCTION 100%	(3'-8" * 8'-11")	32.69 SF
	50% DENSITY CORRIDOR	(21'-9" * 5'-0") /2	54.37 SF
DO2	*DEDUCTION 100%*	(24'-6" * 21'-6")	526.75 SF
TOTAL			**700.00 SF**



4 CELLAR AREA DEDUCTION
3/32" = 1'-0"

DEDUCTIONS - CELLAR.

TAG	DEDUCTION TYPE	DIMENSIONS	AREA
DEDUCTIONS			
DC1	*DEDUCTION 100%*	(7'-3 3/4" * 4'-6 3/4")	33.36 SF
DC2	*DEDUCTION 100%*	(3'-3 3/4" * 1'-0 3/4")	3.52 SF
DC3	*DEDUCTION 100%*	(16'-5" * 2'-0")	32.83 SF
DC4	*DEDUCTION 100%*	(31'-4" * 3'-10")	120.11 SF
DC5	*DEDUCTION 100%*	(54'-4" * 27'-11 1/4")	1517.94 SF
DC6	*DEDUCTION 100%*	(35'-9" * 9'-3")	330.69 SF
DC7	*DEDUCTION 100%*	(7'-4 3/4" * 9'-3")	68.41 SF
TOTAL			**2106.86 SF**

23-232 FLOOR AREA PROVISIONS FOR CORRIDORS

FLOOR SPACE IN A #BUILDING# ALLOCATED TO CORRIDORS MAY BE EXEMPTED FROM #FLOOR AREA# PURSUANT TO THE PROVISIONS OF PARAGRAPHS (A) OR (B) OF THIS SECTION. SUCH PROVISIONS MAY BE APPLIED INDIVIDUALLY OR IN COMBINATION.

(A) FIFTY PERCENT OF THE FLOOR SPACE OF A CORRIDOR MAY BE EXEMPTED FROM THE DEFINITION OF #FLOOR AREA# WHERE ONE OF THE FOLLOWING CRITERIA ARE MET:

1.) THE CORRIDOR PROVIDES DIRECT ACCESS TO OUTDOOR SPACE ON A BALCONY OR TERRACE ON THE SAME #STORY# THAT IS ACCESSIBLE TO RESIDENTS OF THE #STORY#;

(B) FIFTY PERCENT OF THE FLOOR SPACE OF A CORRIDOR MAY BE EXEMPTED FROM THE DEFINITION OF #FLOOR AREA#, WHERE THE LENGTH OF THE CORRIDOR, AS MEASURED FROM THE ELEVATOR CORE TO THE DOOR OF THE FURTHEST #DWELLING UNIT# ON THE #STORY#, DOES NOT EXCEED 100 LINEAR FEET.

23-233 FLOOR AREA PROVISIONS FOR REFUSE STORAGE AND DISPOSAL

FLOOR SPACE IN A BUILDING ALLOCATED TO REFUSE STORAGE AND DISPOSAL MAY BE EXEMPTED FROM THE DEFINITION OF FLOOR AREA IN AN AMOUNT NOT TO EXCEED A MAXIMUM OF THREE SQUARE FEET PER DWELLING UNIT IN THE BUILDING.

PROPOSED DWELLING = 57 * 3 SF = 171 SF ALLOWED DEDUCTION
PROPOSED DEDUCTION = 140 SF < 171 SF
THEREFORE COMPLIES

ZONING FLOOR AREA SCHEDULE =

LEVEL	EXISTING BUILDING	TOTAL GROSS F.A.	DEDUCTION AREA	ZONING FLOOR AREA	F.A.R
RESIDENTIAL					
CELLAR	*0.00 SF*	*2106.86 SF*	*2106.86 SF*	*0.00 SF*	*0.000*
1st_FLOOR	*0.00 SF*	*6173.27 SF*	*737.82 SF*	*5435.45 SF*	*0.544*
2ND_FLOOR	*0.00 SF*	*6173.27 SF*	*482.02 SF*	*5691.25 SF*	*0.569*
3RD_FLOOR	*0.00 SF*	*6173.27 SF*	*482.02 SF*	*5691.25 SF*	*0.569*
4TH_FLOOR	*0.00 SF*	*6173.27 SF*	*482.02 SF*	*5691.25 SF*	*0.569*
5TH_FLOOR	*0.00 SF*	*6173.27 SF*	*482.02 SF*	*5691.25 SF*	*0.569*
6TH_FLOOR	*0.00 SF*	*6173.27 SF*	*482.02 SF*	*5691.25 SF*	*0.569*
7TH_FLOOR	*0.00 SF*	*5245.98 SF*	*402.95 SF*	*4843.03 SF*	*0.484*
ROOF	*0.00 SF*	*863.68 SF*	*700.00 SF*	*163.68 SF*	*0.016*
	0.00 SF	***45256.14 SF***	***6357.73 SF***	***38898.41 SF***	***3.890***
TOTAL	***0.00 SF***	***45256.14 SF***	***6357.73 SF***	***38898.41 SF***	***3.890***

TOTAL DEDUCTIONS SCHEDULE

LEVEL	AREA
CELLAR	2106.86 SF
1st_FLOOR	737.82 SF
2ND_FLOOR	482.02 SF
3RD_FLOOR	482.02 SF
4TH_FLOOR	482.02 SF
5TH_FLOOR	482.02 SF
6TH_FLOOR	482.02 SF
7TH_FLOOR	402.95 SF
ROOF	700.00 SF
TOTAL DEDUCTIONS	**6357.73 SF**

LEGEND

D - PLUMBING WALL
DC - CELLAR
LB - LOBBY
RU - REFUSE
CD - CORRIDOR

LEGEND - FLOOR AREA DEDUCTIONS

PLAN VIEW	TAG	DESCRIPTION
	D-XX	DEDUCTIONS

Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
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Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON 030459 STATE OF NEW YORK

ARCHITECT'S SEAL:

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:

1563 BOONE AVENUE

10460

NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:

FLOOR AREA DEDUCTIONS

DOB JOB #**X01288603-I1**

SCALE: AS NOTED

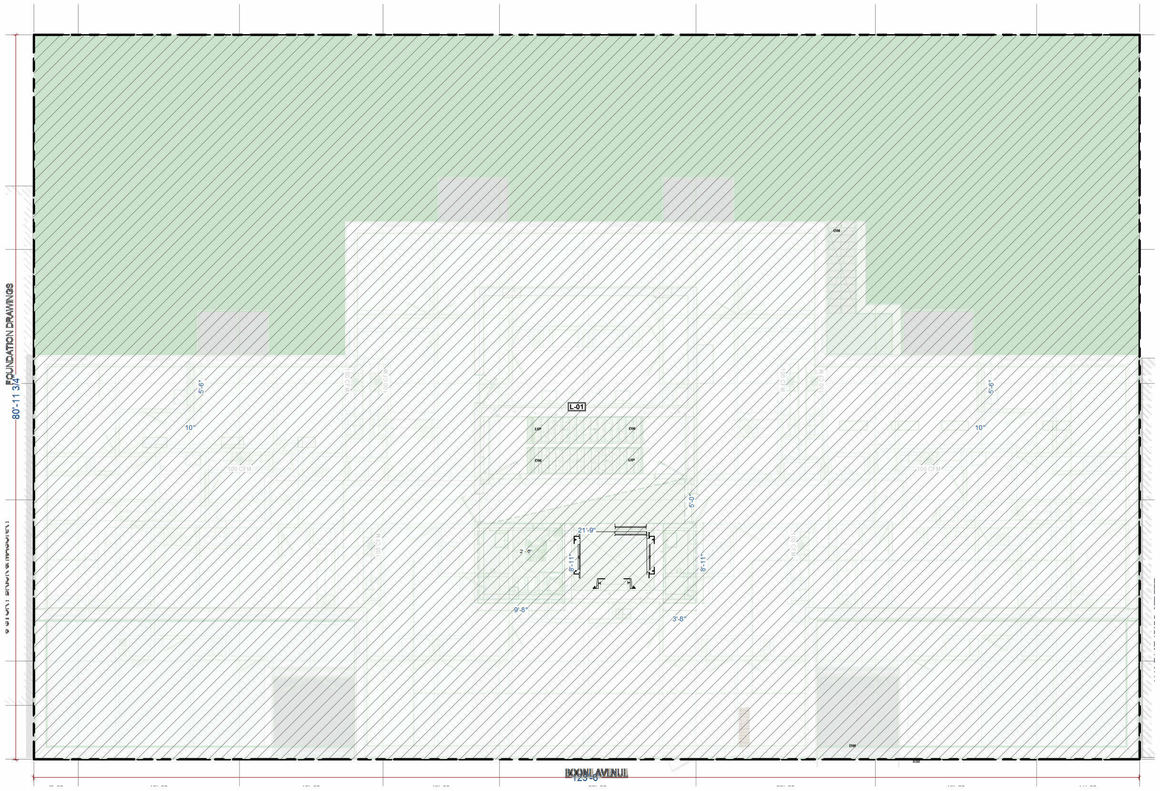
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CHECKED: LND

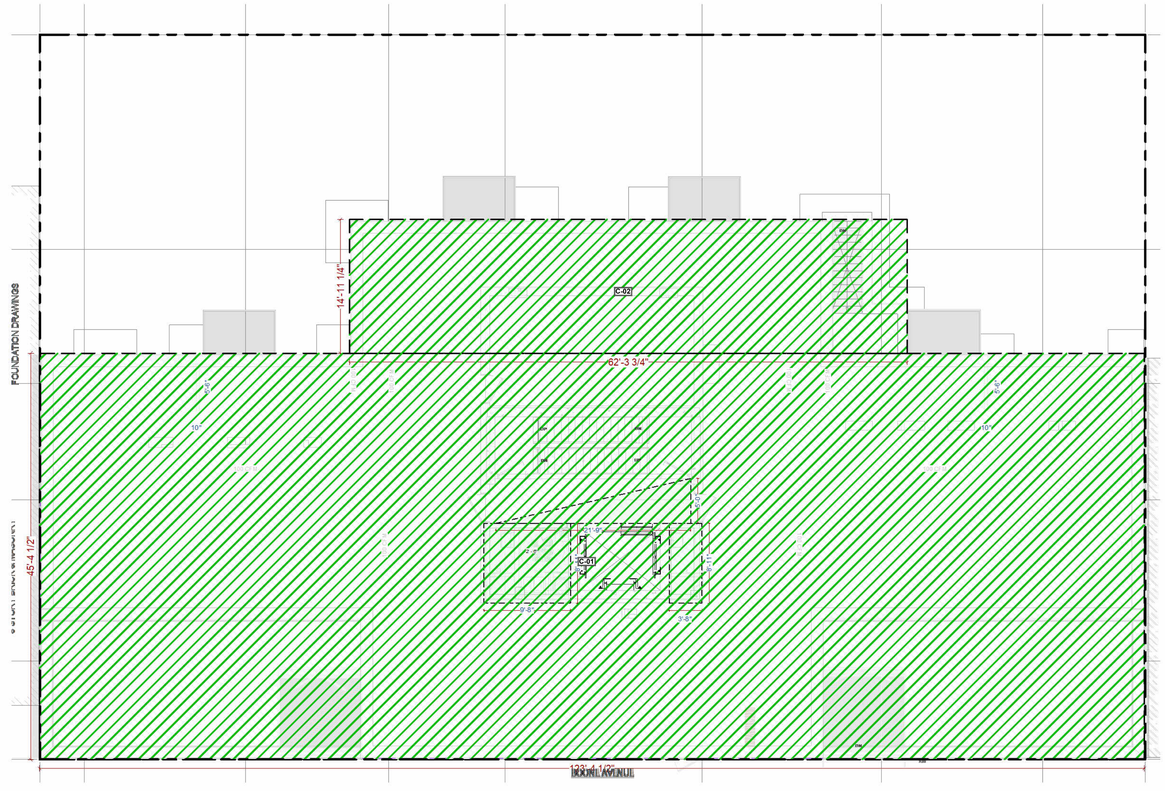
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DRAWING NO.

Z-103.00



2 LOT AREA
1/8" = 1'-0"



1 BUILDING COVERAGE
1/8" = 1'-0"

TOTAL LOT COVERAGE

TAG	AREA TYPE	DIMENSIONS	AREA
C-01	BUILDING AREA	(123'-4 1/2" x45'-4 1/2")	5599.02 SF
C-02	BUILDING AREA	(62'-3 3/4" x14'-11 1/4")	931.03 SF
LOT COVERAGE			*6530.05 SF*

LEGEND - LOT AREA / COVERAGE

PLAN VIEW	TAG	DESCRIPTION
		LOT AREA
	CXX	LOT COVERAGE

LOT AREA

TAG	AREA TYPE	DIMENSIONS	AREA
L-01	LOT AREA	(123'-6" x80'-11 3/4")	9999.80 SF
LOT AREA			*9999.80 SF*

LND
Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT
LEANDRO NILS DICKSON
030459
STATE OF NEW YORK
ARCHITECT'S SEAL:

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:

1563 BOONE AVENUE

10460

NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:

LOT AREA AND LOT COVERAGE CALCULATIONS

DOB JOB #**X01288603-I1**

SCALE: AS NOTED

DRAWN BY: JOHN HURTADO

CHECKED: LND

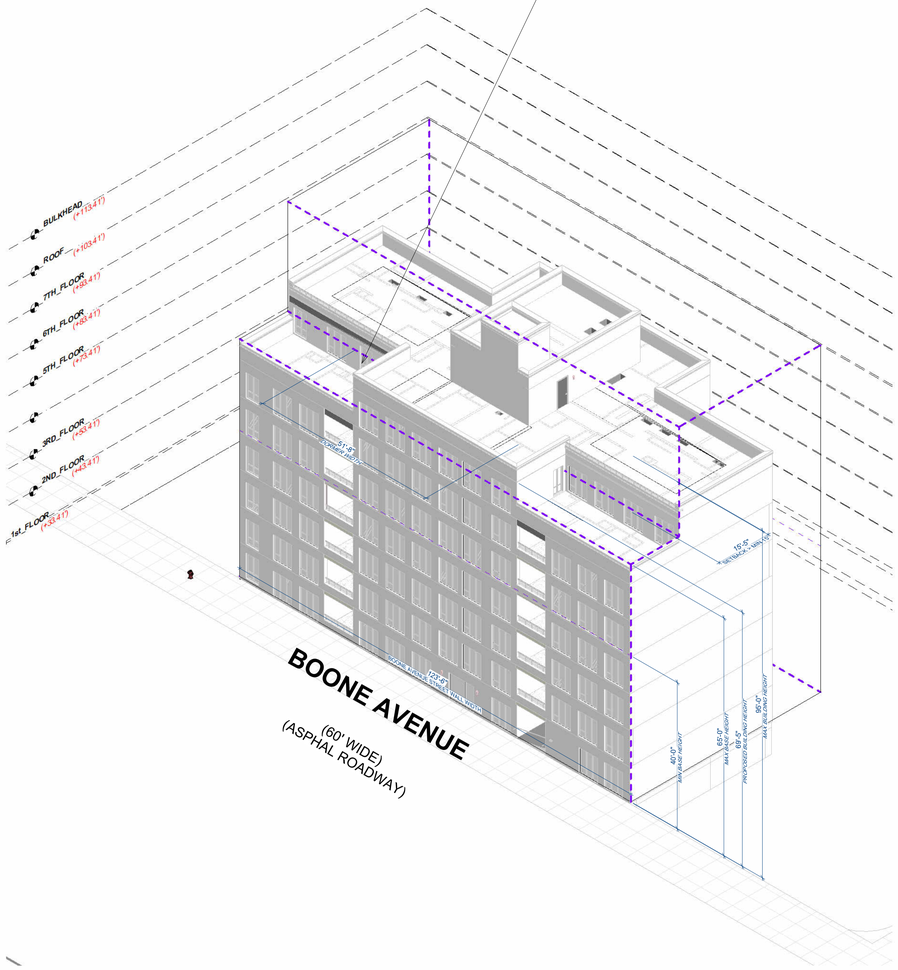
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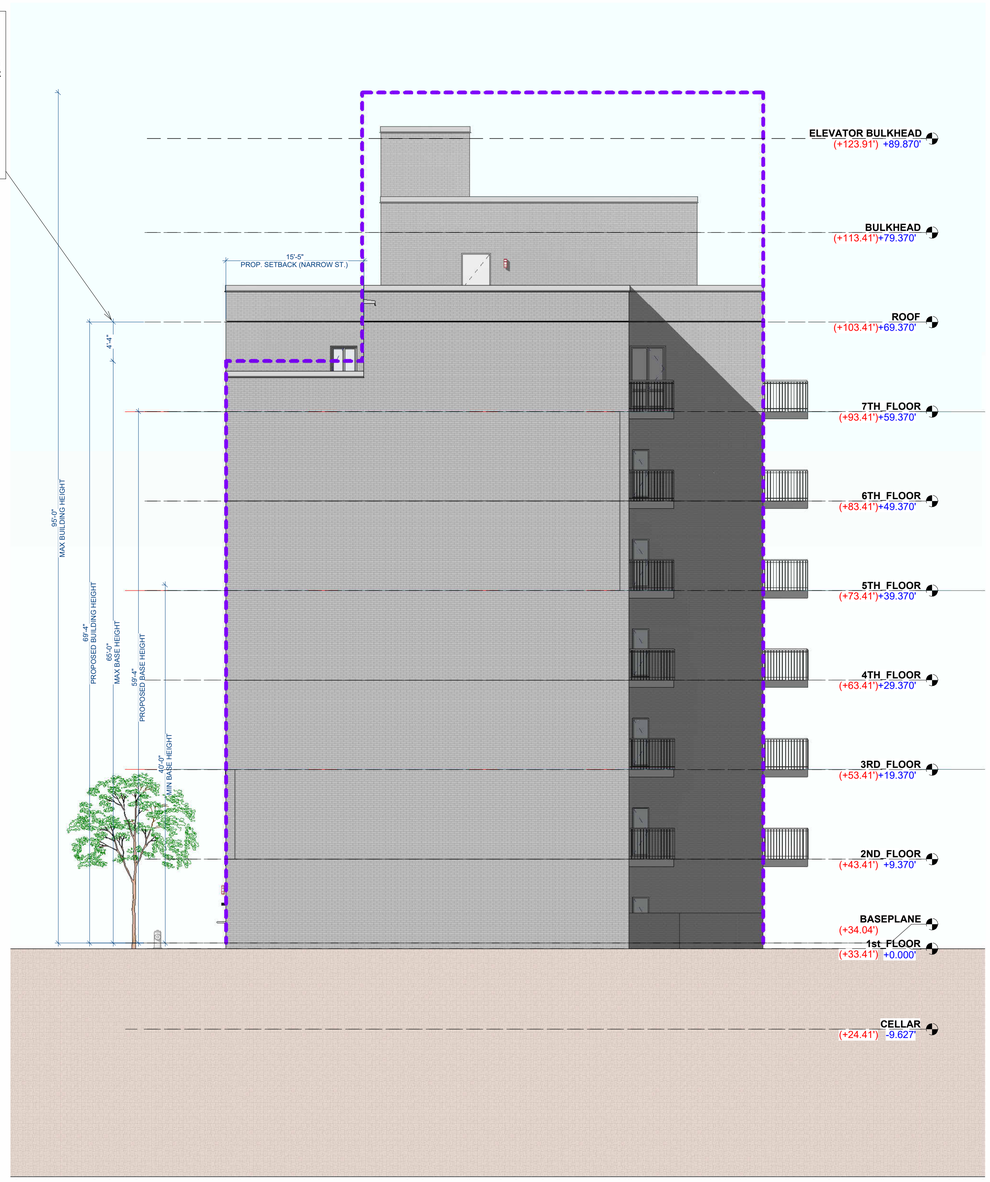
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Z-104.00

AS PER ZONING RESOLUTION ZR23-413 (b)(i)
Permitted obstructions in certain districts
The aggregate width of all dormers at the maximum base height does not exceed 60% of the width of the street wall of the highest story entirely below the maximum base height. For each foot above the maximum base height, the aggregate width of all dormers shall be decreased by one percent of the street wall width of the highest story entirely below the maximum base height.

Height of Dormer above the max base height: 4'-4" = 4.33'
60% - 4.33% = 55.67% Max Dormer width
· BOONE AVENUE - *STREET WALL WIDTH: 123'-6" = 123.50' x 55.67% =* ***68'-9"***
· *PROPOSED DORMER WIDTH:* ***51'-8"***
51'-8" ≤ 68'-9" MAX
THEREFORE COMPLIES
••• COMPLIES SEE Z-105•••





BASE PLANE CALCULATION
A) EL. 35.39'
B) EL. 32.69'
{ [A] + [B]} / 2 =
{ [35.39'] + [32.69']} / 2' = 34.04'
BASE PLANE: 34.04'

LEGEND	
	PROPOSED EXTENSION
	EXISTING BUILDING

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Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL

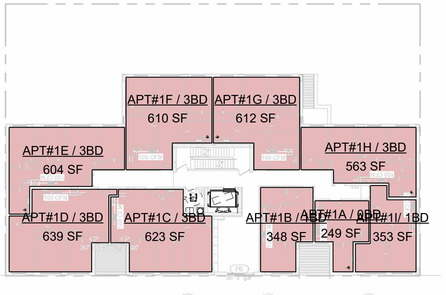
REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

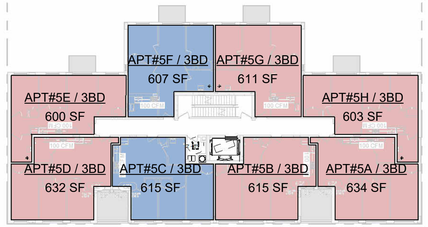
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DOB JOB #**X01288603-I1**
SCALE: AS NOTED
DRAWN BY: JOHN HURTADO
CHECKED: LND
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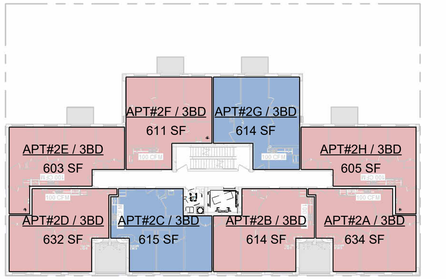
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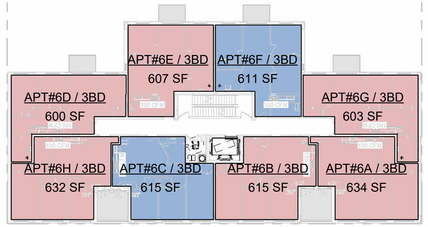
1 1ST FLOOR
3/64" = 1'-0"



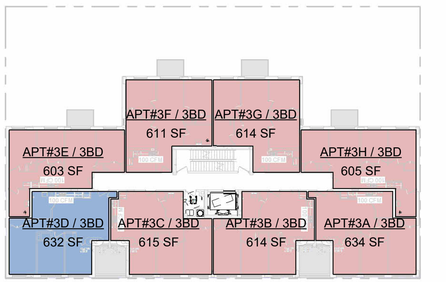
5 5TH_FLOOR
3/64" = 1'-0"



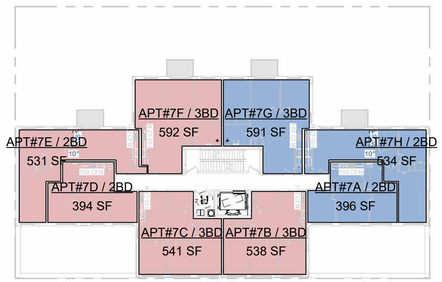
2 2ND_FLOOR
3/64" = 1'-0"



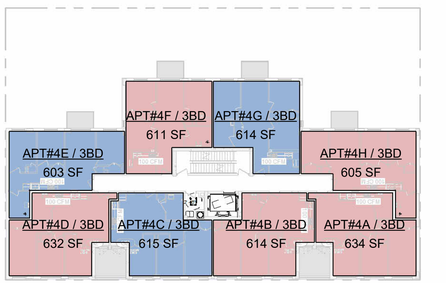
6 6TH_FLOOR
3/64" = 1'-0"



3 3RD_FLOOR
3/64" = 1'-0"



7 7TH FLOOR
3/64" = 1'-0"



4 4TH_FLOOR
3/64" = 1'-0"

LEGEND - DWELLING UNITS TYPE	
PLAN VIEW	DESCRIPTION
	MIH DWELLING UNITS
	NON MIH DWELLING UNITS

DWELLING UNITS TYPE SCHEDULE

APARTMENT #	BALCONY	MIH UNIT	APARTMENT TYPE SIZE	TOTAL AREA	NON MIH UNITS SF	MIH UNITS SF
1st_FLOOR						
APT#1A / 0BD	NO	No	STUDIO	249 SF	249 SF	0 SF
APT#1B / 1BD	NO	No	1 BEDROOMS APARTMENT	348 SF	348 SF	0 SF
APT#1C / 3BD	NO	No	3 BEDROOMS APARTMENT	623 SF	623 SF	0 SF
APT#1D / 3BD	NO	No	3 BEDROOMS APARTMENT	639 SF	639 SF	0 SF
APT#1E / 3BD	NO	No	3 BEDROOMS APARTMENT	604 SF	604 SF	0 SF
APT#1F / 3BD	NO	No	3 BEDROOMS APARTMENT	610 SF	610 SF	0 SF
APT#1G / 3BD	NO	No	3 BEDROOMS APARTMENT	612 SF	612 SF	0 SF
APT#1H / 3BD	NO	No	3 BEDROOMS APARTMENT	563 SF	563 SF	0 SF
APT#1I/ 1BD	NO	No	1 BEDROOMS APARTMENT	353 SF	353 SF	0 SF
9				**4601 SF**	**4601 SF**	**0 SF**
2ND_FLOOR						
APT#2A / 3BD	YES	No	3 BEDROOMS APARTMENT	634 SF	634 SF	0 SF
APT#2B / 3BD	YES	No	3 BEDROOMS APARTMENT	614 SF	614 SF	0 SF
APT#2C / 3BD	YES	Yes	3 BEDROOMS APARTMENT	615 SF	0 SF	615 SF
APT#2D / 3BD	YES	No	3 BEDROOMS APARTMENT	632 SF	632 SF	0 SF
APT#2E / 3BD	YES	No	3 BEDROOMS APARTMENT	603 SF	603 SF	0 SF
APT#2F / 3BD	YES	No	3 BEDROOMS APARTMENT	611 SF	611 SF	0 SF
APT#2G / 3BD	YES	Yes	3 BEDROOMS APARTMENT	614 SF	0 SF	614 SF
APT#2H / 3BD	YES	No	3 BEDROOMS APARTMENT	605 SF	605 SF	0 SF
8				**4928 SF**	**3699 SF**	**1229 SF**
3RD_FLOOR						
APT#3A / 3BD	YES	No	3 BEDROOMS APARTMENT	634 SF	634 SF	0 SF
APT#3B / 3BD	YES	No	3 BEDROOMS APARTMENT	614 SF	614 SF	0 SF
APT#3C / 3BD	YES	No	3 BEDROOMS APARTMENT	615 SF	615 SF	0 SF
APT#3D / 3BD	YES	Yes	3 BEDROOMS APARTMENT	632 SF	0 SF	632 SF
APT#3E / 3BD	YES	No	3 BEDROOMS APARTMENT	603 SF	603 SF	0 SF
APT#3F / 3BD	YES	No	3 BEDROOMS APARTMENT	611 SF	611 SF	0 SF
APT#3G / 3BD	YES	No	3 BEDROOMS APARTMENT	614 SF	614 SF	0 SF
APT#3H / 3BD	YES	No	3 BEDROOMS APARTMENT	605 SF	605 SF	0 SF
8				**4928 SF**	**4296 SF**	**632 SF**
4TH_FLOOR						
APT#4A / 3BD	YES	No	3 BEDROOMS APARTMENT	634 SF	634 SF	0 SF
APT#4B / 3BD	YES	No	3 BEDROOMS APARTMENT	614 SF	614 SF	0 SF
APT#4C / 3BD	YES	Yes	3 BEDROOMS APARTMENT	615 SF	0 SF	615 SF
APT#4D / 3BD	YES	No	3 BEDROOMS APARTMENT	632 SF	632 SF	0 SF
APT#4E / 3BD	YES	Yes	3 BEDROOMS APARTMENT	603 SF	0 SF	603 SF
APT#4F / 3BD	YES	No	3 BEDROOMS APARTMENT	611 SF	611 SF	0 SF
APT#4G / 3BD	YES	Yes	3 BEDROOMS APARTMENT	614 SF	0 SF	614 SF
APT#4H / 3BD	YES	No	3 BEDROOMS APARTMENT	605 SF	605 SF	0 SF
8				**4928 SF**	**3096 SF**	**1832 SF**
5TH_FLOOR						
APT#5A / 3BD	YES	No	3 BEDROOMS APARTMENT	634 SF	634 SF	0 SF
APT#5B / 3BD	YES	No	3 BEDROOMS APARTMENT	615 SF	615 SF	0 SF
APT#5C / 3BD	YES	Yes	3 BEDROOMS APARTMENT	615 SF	0 SF	615 SF
APT#5D / 3BD	YES	No	3 BEDROOMS APARTMENT	632 SF	632 SF	0 SF
APT#5E / 3BD	YES	No	3 BEDROOMS APARTMENT	600 SF	600 SF	0 SF
APT#5F / 3BD	YES	Yes	3 BEDROOMS APARTMENT	607 SF	0 SF	607 SF
APT#5G / 3BD	YES	No	3 BEDROOMS APARTMENT	611 SF	611 SF	0 SF
APT#5H / 3BD	YES	No	3 BEDROOMS APARTMENT	603 SF	603 SF	0 SF
8				**4917 SF**	**3695 SF**	**1222 SF**
6TH_FLOOR						
APT#6A / 3BD	YES	No	3 BEDROOMS APARTMENT	634 SF	634 SF	0 SF
APT#6B / 3BD	YES	No	3 BEDROOMS APARTMENT	615 SF	615 SF	0 SF
APT#6C / 3BD	YES	Yes	3 BEDROOMS APARTMENT	615 SF	0 SF	615 SF
APT#6D / 3BD	YES	No	3 BEDROOMS APARTMENT	600 SF	600 SF	0 SF
APT#6E / 3BD	YES	No	3 BEDROOMS APARTMENT	607 SF	607 SF	0 SF
APT#6F / 3BD	YES	Yes	3 BEDROOMS APARTMENT	611 SF	0 SF	611 SF
APT#6G / 3BD	YES	No	3 BEDROOMS APARTMENT	603 SF	603 SF	0 SF
APT#6H / 3BD	YES	No	3 BEDROOMS APARTMENT	632 SF	632 SF	0 SF
8				**4917 SF**	**3691 SF**	**1226 SF**
7TH_FLOOR						
APT#7A / 2BD		Yes	2 BEDROOMS APARTMENT	396 SF	0 SF	396 SF
APT#7B / 3BD		No	3 BEDROOMS APARTMENT	538 SF	538 SF	0 SF
APT#7C / 3BD		No	3 BEDROOMS APARTMENT	541 SF	541 SF	0 SF
APT#7D / 2BD		No	2 BEDROOMS APARTMENT	394 SF	394 SF	0 SF
APT#7E / 2BD		No	2 BEDROOMS APARTMENT	531 SF	531 SF	0 SF
APT#7F / 3BD		No	3 BEDROOMS APARTMENT	592 SF	592 SF	0 SF
APT#7G / 3BD		Yes	3 BEDROOMS APARTMENT	591 SF	0 SF	591 SF
APT#7H / 2BD		Yes	2 BEDROOMS APARTMENT	534 SF	0 SF	534 SF
8				**4117 SF**	**2596 SF**	**1521 SF**
TOTAL DWELLING UNITS: 57				**33336 SF**	**25674 SF**	**7662 SF**

100% (13 OUT OF 13) UAP UNITS HAVE BALCONIES
84.09% (37 OUT OF 44) NON UAP UNITS HAVE BALCONIES

AFFORDABLE AREA (UAP UNITS + COMMON AREAS)

UAP ZFA	TOTAL UNITS	NON-UAP UNITS AREA	UAP UNITS AREA	UAP %OF TOTAL	COMMON AREA	PRO RATA COMMON AREA	TOTAL (UAP+COMMON)
38898.41 SF	33336 SF	25674 SF	7662 SF	22.98%	5562 SF	1278 SF	**8940.47 SF**

UNITS MIX SCHEDULE

APARTMENT TYPE SIZE	TOTAL UNITS			UAP UNITS				NON UAP UNITS			
	#	%	AREA	#	%	AREA	AVER.SF	#	%	AREA	AVER. SF
1 BEDROOMS APARTMENT	**2**	**3.51%**	701 SF	**0**	**0.00%**	0 SF	**0.00 SF**	**2**	**100.00%**	701 SF	**350.50 SF**
2 BEDROOMS APARTMENT	**4**	**7.02%**	1855 SF	**2**	**50.00%**	930 SF	**465.00 SF**	**2**	**50.00%**	925 SF	**462.50 SF**
3 BEDROOMS APARTMENT	**50**	**87.72%**	30531 SF	**11**	**22.00%**	6732 SF	**612.00 SF**	**39**	**78.00%**	23799 SF	**610.23 SF**
STUDIO	**1**	**1.75%**	249 SF	**0**	**0.00%**	0 SF	**0.00 SF**	**1**	**100.00%**	249 SF	**249.00 SF**
	57	**100.00%**	**33336 SF**	**13**	**72.00%**	**7662 SF**	**1077.00 SF**	**44**	**328.00%**	**25674 SF**	**1672.23 SF**

DISTRIBUTION OF AFFORDABLE HOUSING UNITS

LEVEL	TOTAL	TOTAL AREA	UAP UNITS	UAP UNITS AREA	NON-UAP UNITS	NON-UAP UNITS AREA	UAP UNITS % FLOOR
1st_FLOOR	**9**	4601 SF	**0**	0 SF	**9**	4601 SF	**0.00%**
2ND_FLOOR	**8**	4928 SF	**2**	1229 SF	**6**	3699 SF	**24.94%**
3RD_FLOOR	**8**	4928 SF	**1**	632 SF	**7**	4296 SF	**12.82%**
4TH_FLOOR	**8**	4928 SF	**3**	1832 SF	**5**	3096 SF	**37.18%**
5TH_FLOOR	**8**	4917 SF	**2**	1222 SF	**6**	3695 SF	**24.85%**
6TH_FLOOR	**8**	4917 SF	**2**	1226 SF	**6**	3691 SF	**24.93%**
7TH_FLOOR	**8**	4117 SF	**3**	1521 SF	**5**	2596 SF	**36.94%**
	57	**33336 SF**	**13**	**7662 SF**	**44**	**25674 SF**	

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MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT
LEANDRO NILS DICKSON
030459
STATE OF NEW YORK

ARCHITECT'S SEAL

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:

1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
UAP ANALYSIS

DOB JOB #**X01288603-I1**

SCALE: AS NOTED

DRAWN BY: JOHN HURTADO

CHECKED: LND

DATE: 5/2/2026 4:31:45 p. m.

DRAWING NO.
Z-106.00

NYC BUILDING CODE GENERAL NOTES

TENANT PROTECTION NOTES

1. FIRE RETARD ALL CEILINGS WITH 5/8" SHEETROCK FIRE-CODE "X" ONE HOUR RATED, UNLESS OTHERWISE NOTED.
2. ALL FOOTINGS TO BE CARRIED DOWN A MINIMUM OF 4'-0" BELOW ADJACENT GRADE AND BEAR ON UNDISTURBED SOIL HAVING A MINIMUM BEARING CAPACITY OF TWO (2) TONS PER SQUARE FOOT.
3. PROVIDE DOUBLE JOISTS UNDER PARTITIONS RUNNING PARALLEL TO FLOOR BEAMS.
4. PROVIDE TRIPLE-HEADERS AND TRIMMERS AROUND STAIRWELL OPENING, UNLESS OTHERWISE NOTED ON PLAN.
5. INSTALLATION OF INSULATION AND CONSTRUCTION OF WINDOWS AND EXTERIOR DOORS TO COMPLY WITH NEW YORK STATE ENERGY CODE.
   ROOF INSULATION: MINIMUM R21 RATED KRAFT FACED FIBERGLASS BATTS
   EXTERIOR WALLS: MINIMUM R13 RATED KRAFT FACED FIBERGLASS BATTS.
6. CHIMNEY TO BE ENCLOSED IN A MIN. ONE (1) HOUR RATED ENCLOSURE OR AS NOTES ON CONSTRUCTION DRAWINGS.
7. NEW STAIRS SHALL COMPLY WITH SECTION 28.2-1009.3:
   A. CONTRACTORS SHALL CHECK AND VERIFY STORY HEIGHTS PRIOR TO FABRICATION AND INSTALLATION OF STAIRS.
   B. MAXIMUM RISER 7" AND MINIMUM TREAD 11"; IN GROUP R-2 OCCUPANCIES THE MAXIMUM RISER SHALL BE 7 3/4" AND MINIMUM TREAD DEPTH SHALL SHALL BE 9 1/2".
   C. EVERY BALUSTRADE OR RAILING SHALL BE AT LEAST 2'-6"
   D. AND MAXIMUM OF 2'-8" ABOVE THE FRONT EDGE OF THE STAIR TREADS AND 2'-8" MINIMUM, 3'-0" MAXIMUM ABOVE LEVEL OF LANDING.
   E. SOFFIT OF STAIR TO BE COVERED WITH 5/8" SHEETROCK TYPE "X".

8. EXTERIOR METAL RAILINGS:
   A. EXTERIOR METAL RAILINGS SHALL BE SPACED
   A. STRUCTURAL DESIGN OF RAILING TO COMPLY WITH SECTION 28.2-1012.1.
9. ALL CONCRETE FOOTING TO BE CARRIED DOWN BELOW THE LEVEL OF THE HOUSE SEWER WHERE HOUSE SEWER PASSES THROUGH FOUNDATION WALL.
10. ALL CONCRETE TO BE REINFORCED UNLESS OTHERWISE NOTED.

GENERAL NOTES

1. THE PROPOSED WORK ON THIS PLAN SHALL COMPLY WITH NEW YORK CITY BUILDING CODE REQUIREMENTS.
2. THE GENERAL CONTRACTOR SHALL OBTAIN CONSTRUCTION PERMIT AND PAY ALL REQUIRED FEES TO THE D.O.B. BASED ON THE PROPOSED WORK OF THIS DRAWING FROM NEW YORK CITY BUILDING DEPARTMENT PRIOR TO START
3. ALL ELECTRICAL WORK BEING PERFORMED SHALL BE BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH NEW YORK CITY ELECTRICAL CODE., AND SHALL BE REQUIRED TO OBTAIN ALL REQUIRED SIGN-OFFS AND CERTIFICATE OF COMPLETIONS FROM THE B.E.C.
4. ALL PLUMBING WORK SHALL BE PERFORMED BY A LICENSED PLUMBER IN ACCORDANCE WITH THE NEW YORK CITY BUILDING CODE AND INSPECTION REQUIREMENTS. HE SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED PLUMBING SIGN-OFFS AND INSPECTIONS FROM THE DEPARTMENT OF BUILDING'S PLUMBING
5. THE GENERAL CONTRACTOR SHALL CHECK AND VERIFY ALL CONDITIONS AND DIMENSIONS ON THE SITE PRIOR TO START OF WORK. HE SHALL NOTIFY THE ARCHITECT/ENGINEER OF RECORD ANY DISCREPANCIES AND/OR CHANGE OF LAYOUT BETWEEN THE FIELD CONDITIONS AND THIS DRAWINGS IMMEDIATELY. FAILURE TO DO SO WILL INDICATE THE GENERAL CONTRACTOR'S ACCEPTANCE OF THIS DRAWING(S) AND WILL TAKE FULL RESPONSIBILITY FOR SAID WORK BEING PERFORMED.
6. THE ARCHITECT/ENGINEER OF RECORD HAS NOT BEEN RETAINED TO SUPERVISE THE CONSTRUCTION.
7. THE GENERAL CONTRACTOR SHALL RETAIN THE SERVICES OF A LICENSED ARCHITECT/ENGINEER FOR ALL REQUIRED CONTROLLED INSPECTIONS.
8. THE GENERAL CONTRACTOR SHALL OBTAIN SIGN-OFF FROM THE DEPARTMENT OF BUILDING AFTER COMPLETION OF WORK.
9. THE CONTRACTOR SHALL VISIT THE SITE AND SHALL BE KNOWLEDGEABLE OF CONDITIONS THEREON. HE SHALL INVESTIGATE, VERIFY AND BE RESPONSIBLE FOR ALL CONDITIONS OF THE PROJECT AND SHALL NOTIFY THE OWNER OF ANY CONDITIONS REQUIRING MODIFICATIONS BEFORE PROCEEDING WITH THE WORK.
10. NOTES APPEAR ON VARIOUS SHEETS FOR DIFFERENT SYSTEMS AND MATERIALS. SHEETS ARE TO BE REVIEWED AND NOTES ON ANY ONE SHEET ARE TO BE APPLIED ON RELATED DRAWINGS AND DETAILS.
11. DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO THOSE DETAILED. WHERE SPECIFIED DIMENSIONS, DETAILS OR DESIGN INTENT CANNOT BE DETERMINED, CONSULT THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
12. ALL ELEVATOR AND STAIR OPENINGS SHALL BE CERTIFIED BY THE ELEVATOR SUBCONTRACTOR PRIOR TO FORMING. REQUIRED MODIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR APPROVAL PRIOR TO FORMING.
13. CONTRACTOR TO COORDINATE ALL EQUIPMENT BASE AND HOUSEKEEPING PADS WITH MECHANICAL, PLUMBING AND ELECTRICAL CONTRACTORS. EQUIPMENT BASES AND HOUSEKEEPING PADS TO BE A MINIMUM OF 4" HIGH UNLESS OTHERWISE NOTED. PROVIDE ONE LAYER OF WWF 6X6XW4 WELDED WIRE FABRIC MINIMUM, TO BE INSTALLED BENEATH THE FULL PROJECTED AREA OF EQUIPMENT.
14. CONCRETE PADS AND MOUNTINGS IN MECHANICAL SPACES SHALL BE COORDINATED WITH ELECTRICAL AND PLUMBING CONTRACTORS.
15. CONTRACTOR TO COORDINATE ALL MECHANICAL AND ELECTRICAL FLOOR AND WALL SLEEVES AND ALL MECHANICAL SHAFTS WITH MECHANICAL, PLUMBING, FIRE-PROTECTION, ELECTRICAL, STRUCTURAL AND ARCHITECTURAL DRAWINGS.
16. PROVIDE ACCESS PANELS AS APPLICABLE AND AS REQUIRED FOR MECHANICAL EQUIPMENT. ALL ACCESS PANELS SHALL BE CONCEALED, AND LOCATIONS SHALL BE REVIEWED WITH THE ARCHITECT PRIOR TO PROCEEDING.
17. ALL STRUCTURAL ELEMENTS WHICH DO NOT REQUIRE FIREPROOFING SHALL BE FIELD PAINTED.
18. ALL EXTERIOR DOORS SHALL PREVENT AIR LEAKAGE/INFILTRATION AROUND THEIR
19. ALL EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, BETWEEN WALLS AND PERIMETER WHEN IN A CLOSED POSITION. FOUNDATIONS, BETWEEN WALLS AND ROOFS, AND BETWEEN WALLS AND PANELS AT PENETRATION OF UTILITIES THROUGH THE ENVELOPE SHALL BE SEALED, CAULKED OR WEATHER STRIPPED TO PREVENT AIR LEAKAGE/INFILTRATION.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL CONDITIONS AND MATERIALS WITHIN THE PROPOSED CONSTRUCTION AREA. THE CONTRACTOR SHALL DESIGN AND INSTALL ADEQUATE SHORING AND BRACING FOR ALL STRUCTURAL AND REMOVAL TASKS. THE CONTRACTOR SHALL HAVE SOLE RESPONSIBILITY FOR ANY DAMAGE OR INJURIES CAUSED BY OR DURING THE EXECUTION OF WORK.

MULTIPLE DWELLING & HOUSE MAINTENANCE NOTES

1. PAINTING OF PUBLIC PARTS WITHIN DWELLING TO COMPLY WITH SEC. D26-12.01 H.M.C.
2. PAINTING OF WINDOW FRAMES AND FIRE ESCAPES TO COMPLY WITH SEC. D26-12.03 H.M.C.
3. WALLS OF COURTS AND SHAFTS TO BE OF A LIGHT COLORED SURFACE AS PER SEC. D26-12.05 H.M.C. AND SEC. 29 M.D.L.
4. PREMISES TO BE MAINTAINED AND KEPT FREE OF RODENT AND INSECT INFESTATION AS PER SEC. D26-13.03 AND D26-13.05 M.D.L.
5. RECEPTACLES FOR THE COLLECTION OF WASTE MATTER TO BE PROVIDED AS PER SECTION D26-14.03 AND D26-14.05 H.M.C. AND SEC. 81 M.D.L. DRAINAGE OF ROOFS, COURTS AND YARDS TO COMPLY WITH SEC. D26-16.03 H.M.C. AND SEC. 77.
6. YEARLY INSPECTION OF CENTRAL HEATING PLANT BY QUALIFIED PERSON TO BE MADE AS PER SEC. D26-17.05 H.M.C. CENTRAL HEAT AND HOT WATER TO BE PROVIDED AS PER SEC. 29 SUBD.
7. PROPER ELECTRIC LIGHTING EQUIPMENT WITHIN DWELLING TO BE PROVIDED AND MAINTAINED AS PER SEC. D26-19.01, D26-19.03 AND D26-19.05 H.M.C.
8. PROPER ELECTRIC LIGHTS TO BE PROVIDED NEAR ENTRANCE WAYS, YARDS AND COURTS AS PER SEC. D26-19.07 H.M.C. ON SEPARATE CIRCUITS OR CONNECTED TO HOUSE LINE SERVICING PUBLIC HALLS, AND IN ACCORDANCE WITH REQUIREMENTS AND APPROVAL OF THE DEPARTMENT OF WATER SUPPLY, GAS AND ELECTRICITY AS PER SEC. 35 AND SEC. 26 SUBD 7A M.D.L. AND DEPARTMENT OF RULES AND REGULATIONS.
9. B.S.A. APPROVED PEEP HOLES APPROX. 5'-0" ABOVE FINISHED FLOOR TO BE PROVIDED IN ENTRANCE DOORS OF DWELLING UNITS AS PER SEC. D26-20.03 H.M.C. AND DEPARTMENT RULES AND REGULATIONS.
10. PROPERLY MOUNTED AND SECURED POLISHED METAL VIEWING MIRRORS TO BE PROVIDED WITHIN SELF SERVICE ELEVATORS (IF ANY) AS PER SEC. D26-20.03 H.M.C. AND DEPARTMENT RULES AND REGULATIONS.
11. KEY LOCKS IN THE ENTRANCE DOOR TO EACH DWELLING UNIT WITH AT LEAST ONE KEY TO BE PROVIDED BY OWNER AS PER SEC. D26-20.05 H.M.C. HEAVY DUTY LATCH SET DEAD BOLT THUMB TURN INSIDE.
12. APPROVED TYPE MAIL RECEPTACLES AND DIRECTORY OF PERSONS LIVING IN THE DWELLING TO BE PROVIDED AS PER SEC. D26-21.01 H.M.C. AND REGULATIONS OF POST OFFICE DEPARTMENT SEC. 57 M.D.L.
13. PROPER SIGNS TO BE PROVIDED IN THE PUBLIC HALLS NEAR STAIR AND ELEVATOR AND WITHIN STAIR ENCLOSURE AS PER SEC. D26-21.03 AND DEPARTMENT RULES AND REGULATIONS.
14. PROPER STREET NUMBERS TO BE PROVIDED IN FRONT OF DWELLING AS PER SEC. D26-21.05 H.M.C. AND RULES AND REGULATIONS OF BOROUGH PRESIDENT.
15. PROPER JANITORIAL SERVICES TO BE PROVIDED AS PER SEC. 26-22.03 AND D26-22.05 H.M.C.
16. EVERY KITCHEN AND KITCHENETTE TO BE PROVIDED WITH SINK HAVING MIN. 2" WASTE AND TRAP AS PER SEC. D26-32.01 H.M.C.
17. ALL COMBUSTIBLE MATERIAL WITHIN 1'(FT) OF COOKING APPARATUS TO BE PROPERLY FIRE RETARDED AND MIN. 2'(FT) CLEARANCE MAINTAINED ABOVE COOKING SURFACE. COMBUSTIBLE MATERIAL BETWEEN 2'(FT) AND 3'(FT) ABOVE EXPOSED SURFACE TO BE FIRE RETARDED. SEC. 26-32.05 H.M.C. AND DEPARTMENT RULES AND REGULATIONS SEC. 33 SUBD 3 M.D.L.
18. NO KITCHEN SHALL BE OCCUPIED FOR SLEEPING PURPOSES SEC. D26-33.05 H.M.C.
19. REGISTRATION STATEMENT TO BE FILED AS PER SEC. D26-41.01 AND D26-41.03 H.M.C.
20. REGISTRATION IDENTIFICATION SIGN CONTAINING SERIAL NUMBERS TO BE POSTED AS PER SEC. D26-41.15 H.M.C. 22. IDENTIFICATION OF MANAGING AGENT OR OWNER TO BE INDICATED ON TENANTS RENT RECEIPT AS PER SEC. D26-41.17 H.M.C.
21. ALL BATHROOMS, TOILETS AND BATHING COMPARTMENTS TO HAVE CERAMIC TILE FLOOR AND 6" MIN. CERAMIC TILE BASE. WALLS AND CEILING PLASTER AS PER SEC. 76 M.D.L. AND SEC. D26-31.03 H.M.C.
22. ALL DOORS LEADING TO PUBLIC HALLS SHALL BE SELF CLOSING. NO TRANSOM OR PLAIN GLASS PANELS.
23. BUILDING TO COMPLY WITH SEC. 64 M.D.L. GAS METER, GAS APPLIANCES AND ARTIFICIAL LIGHTING.
24. BUILDING TO COMPLY WITH LOCAL LAWS APPLICABLE TO ART. 6 WITH H.M.C. AND WITH DEPARTMENT RULES AND REGULATIONS.
25. ENTIRE BUILDING TO COMPLY WITH SEC. D26-33.03 H.M.C. MAXIMUM OCCUPANCY, MINIMUM ROOM AREA ART. 33 D26-33.01.
26. ALL NEWLY CREATED PARTITIONS IN HALLS TO BE FIRE RETARDED ON BOTH SIDES AND FIRE STOPPED AT TOP AND BOTTOM AS PER DEPARTMENT RULES AND REGULATIONS, RULE 1,2,10 AND RULE 1.7.
27. EVERY VESTIBULE ENTRANCE, PUBLIC AND STAIR HALL TO BE PROVIDED WITH MIN. OF 60 WATT LIGHT AS PER SEC. 37 SBOL M.D.L.

GENERAL REQUIREMENTS

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF NEW YORK ZONING CODE, AND THE DIRECTIONS OF THE CITY OF NEW YORK BUILDING DEPARTMENT. SOULD ANYTHING CONTAINED IN THE CONTRACT DOCUMENT BE A VARIANCE WITH SAID CODES. CONTRACTORS SHALL IMMEDIATELY INFORM THE ARCHITECT.
2. WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS ON THESE DOCUMENTS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS OF THE WORK AND THE ARCHITECT SHALL BE NOTIFIED OF ANY VARIATION FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THE DRAWINGS.
3. CONTRACTORS SHALL PROVIDE ALL ITEM AND LABOR NECESSARY FOR THE COMPLETION OF THE WORK SHOWN ON THE CONTRACT DOCUMENT WHETHER THOSE ITEMS ARE EXPRESSLY SPECIFIED OR NOT, INCLUDING, BUT NOT LIMITED TO TAX , PURCHASE DELIVERY ARRANGEMENT AND STORAGE.
4. PRIOR TO THE SUBMISSION OF BIDS, CONTRACTORS SHALL FAMILIARIZA THEMSELVES WITH CONSTRUCTION DOCUMENTS INSPECT THE EXISTING CONDITIONS AND ADVISE THE ARCHITECT OF ANY CONDITIONS WHICH MIGHT INTERFACE WITH THE WORK OR CAUSE ANY MODIFICATIONS TO THE PROPOSED NEW CONSTRUCTION.
5. CONTRACTORS SHALL PROVIDE SUPERVISION ADEQUATE FOR THE COMPLETION OF THE WORK.
6. CONTRACTORS SHALL COORDINATE ALL LABOR AND MATERIALS INVOLDED IN THE PROJECT AND BE RESPONSIBLE FOR SCHEDULING OF TRADES INVOLVED.
7. CONTRACTORS SHALL BE LICENSED AND INSURED FOR LIABILITY AND PROPERTY DAMAGE AS REQUIRED BY LAW AND THE BUILDING OWNER SHALL SUBMIT SUCH PROOF TO THE OWNER AND ARCHITECT TO VOID THAT ANY CLAIMS AND/OR LIENS ON THE WORK BE ASSOCIATED WITH THE OWNER AND ARCHITECT.
8. CONTRACTORS SHALL CARRY INSURANCE FOR A MINIMUM OF 100 PERCENT OF THE VALUE OF WORK IN PLACE AND SHALL COMPLY WITH ANY AND ALL ADITIONAL SUCH REQUIREMENTS.
9. CERTIFICATES OF INSURANCE TO BE FILED WITH THE BUILDING OWNER AND ARCHITECT LISTING EACH AS CO-INSURED.
10. CONTRACTORS SHALL BE RESPONSIBLE FOR AND SHALL OBTAIN AND PAY FEES FOR ANY ALL PERMITS NECCESSARY TO COMPLETE THE WORK , INCLUDING BUT NOT LIMITED TO, PLUMBING, MECHANICAL, AND ELECTRICAL INSPECTIONS AND WORK .
11. NO EXTRA SHALL BE PERFOMED OR ADDITIONAL CHARGES BE MADE UNLESS AUTHORIZATION IS OBTAINED IN WRITING FROM THE OWNER AND ARCHITECT PRIOR TO SUCH WORK .
12. CONTRACTORS SHALL EXAMINE CONTRACT DOCUMENT FOR ALL ITEMS AND VERIFY THEIR AVAILABILITY TO ASSURE THAT THE WORK WILL PROCEED WITHOUT DELAY. NO THEIR AVAILABILITY TO ASSURE THAT THE WORK PROCCED WITHOUT DELAY . NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT WRITTEN APPROVAL OF THE ARCHITECT.
13. CONTRACTORS SHALL MAINTAIN CONTINUOUS AND ADEQUATE PROTECTION OF ALL EXISTING CONDITIONS AND NEW CONSTRUCTION , AND SHALL REPAIR OR REPLACE ANY WORK, NEW OR EXISTING, WHICH IS DAMAGED.
14. CONTRACTORS SHALL KEEP JOB SITE FREE OF DEBRIS AND HAZARDOUS CONDITIONS AND BE RESPONSIBLE FOR THE REMOVAL OF ALL EQUIPMENT AND DEBRIS PRIOR TO RECEIPT OF PAYMENT. ALL WORK PROCEDURES AND METHODS SHALL COMPLY WITH OSHA AND OTHER APPLICABLE REGULATIONS.
15. CONTRACTORS SHALL THOROUGHLY EXAMINE ALL CONTRACT DOCUMENT AND IMMEDIATELY ADVISE THE ARCHITECT OF ANY ERROR, CONFLICTS OR DISCREPANCIES IN THE DOCUMENTS IN THE WRITING. ARCHITECT WILL NOT BE LIABLE FOR ASSUMPTIONS MADE BY THE CONTRACTOR.
16. ALL WORK AND EQUIPMENT SHALL BE FULLY GUARANTEED FOR ONE YEAR FORM THE DATE OF FINAL PAYMENT.
17. THE CONTRACTOR SHALL COOPERATE WITH OTHER REQUIRING STORAGE AT THE SITE.
18. ALL WORK SHALL BE DONE IN A WORKMANLIKE MANNER AND IN ACCORDANCE WITH GOOD BUILDING PRACTICE.
19. THE CONTRACTOR TO ENSURE ADECUATE CLEARANCE FOR MOVING ALL MATERIALS, ASSEMBLIES AND EQUIPMENT ONTO AND OFF THE SITE AS REQUIRED.
20. THE CONTRACTOR SHALL PAY ALL FEES GIVE ALL NOTICES, FILES NECESSARY DRAWINGS, ARRANGE FOR ALL INSPECTIONS, OBTAIN ALL PERMITS AND CERTIFICATE OF APPROVAL REQUIRED IN CONNECTION WITH ALL WORK UNDER THIS CONTRACT . THE SHALL COMPLY WITH ALL LOCAL LAWS, ORDINANCE, RULES AND REGULATIONS AND WITH THE CITY OF NEW YORK BUILDING CODE AND THE DIRECTION OF THE DESIGNATED BUILDING INSPECTOR.
21. CONTRACTOR SHALL APPROPRIATELY COORDINATE WORK COMPLETED AND SCHEDULE ARCHITECTS SITE OBSERVATIONS.
22. CONTRACTOR SHALL COORDINATED AND COMPLY WITH BUILDING OWNER SHEDULING REQUIREMENTS AND COMMUNICATE WITH BUILDING OWNER.
23. ALL NOTES APPLY TO BOTH THE GENERAL CONTRACTOR AND THE SUBCONTRACTORS AS WELL AS ANY WORKRS AND TRADES EMPLOYED BY THE OWNER UNDER OTHER AGREEMENTS.
24. CONTRACTORS SHALL SUCH LIST OF WORK REMAINING AFTER SUBSTANTIAL COMPLETION TO THE ARCHITECT AND PROCEED TO COMPLETE THIS WORK WITHIN A TWO WEEK PERIOD.
25. ALL MATERIALS AND EQUIPMENT SPECIFIED FOR THIS PROJECT ARE TO BE NEW AND UNUSED, BEST OF THEIR RESPECTIVE KINDS AND FREE OF DEFECTS.

CHIMNEYS

2113.1.6.1 RESPONSIBILITY OF OWNER OF TALLER BUILDING. WHENEVER A BUILDING IS ERECTED, ENLARGED, OR INCREASED IN HEIGHT SO THAT ANY PORTION OF SUCH BUILDING, EXCEPT CHIMNEYS OR VENTS, EXTENDS HIGHER THAN THE TOP OF ANY PREVIOUSLY CONSTRUCTED CHIMNEYS OR VENTS WITHIN 100 FEET (30 480 MM), THE OWNER OF SUCH NEW OR ALTERED BUILDING SHALL HAVE THE RESPONSIBILITY OF ALTERING SUCH CHIMNEYS OR VENTS TO MAKE THEM CONFORM WITH THE REQUIREMENTS OF THIS CHAPTER. A CHIMNEY OR VENT THAT IS NO LONGER CONNECTED WITH A FIREPLACE OR COMBUSTION OR OTHER EQUIPMENT FOR WHICH A CHIMNEY OR VENT WAS REQUIRED, SHALL BE EXEMPT FROM THIS REQUIREMENT. SUCH ALTERATIONS SHALL BE ACCOMPLISHED IN ONE OF THE FOLLOWING MEANS OR A COMBINATION THEREOF:

1. CARRY UP THE PREVIOUSLY CONSTRUCTED CHIMNEYS OR VENTS TO THE HEIGHT REQUIRED IN THIS CHAPTER.
2. OFFSET SUCH CHIMNEYS OR VENTS TO A DISTANCE BEYOND THAT REQUIRED IN THIS CHAPTER FROM THE NEW OR ALTERED BUILDING PROVIDED THAT THE NEW LOCATION OF THE OUTLET OF THE OFFSET CHIMNEY OR VENT SHALL OTHERWISE COMPLY WITH THE REQUIREMENTS OF THIS CHAPTER.
3. SUCH REQUIREMENTS SHALL NOT DISPENSE WITH OR MODIFY ANY ADDITIONAL REQUIREMENTS THAT MAY BE APPLICABLE PURSUANT TO RULES OF THE NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION.

2113.1.6.2 PROTECTION OF DRAFT. AFTER THE ALTERATION OF A CHIMNEY OR VENT AS REQUIRED BY THIS SECTION, IT SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE NEW OR ALTERED BUILDING TO PROVIDE ANY MECHANICAL EQUIPMENT OR DEVICES NECESSARY TO MAINTAIN THE PROPER DRAFT IN THE EQUIPMENT.

2113.1.6.3 WRITTEN NOTIFICATION. THE OWNER OF THE NEW OR ALTERED BUILDING SHALL NOTIFY THE OWNER OF THE BUILDING AFFECTED IN WRITING AT LEAST 45 DAYS BEFORE STARTING THE WORK REQUIRED AND REQUEST WRITTEN CONSENT TO DO SUCH WORK. SUCH NOTICE SHALL BE ACCOMPANIED BY PLANS INDICATING THE MANNER IN WHICH THE PROPOSED ALTERATIONS ARE TO BE MADE.

2113.1.6.4 APPROVAL. THE PLANS AND METHOD OF ALTERATION SHALL BE SUBJECT TO THE APPROVAL OF THE COMMISSIONER.

2113.1.6.5 REFUSAL OF CONSENT. IF CONSENT IS NOT GRANTED BY THE OWNER OF THE PREVIOUSLY CONSTRUCTED BUILDING TO DO THE ALTERATION WORK REQUIRED BY THIS SECTION, SUCH OWNER SHALL SIGNIFY HIS OR HER REFUSAL IN WRITING TO THE OWNER OF THE NEW OR ALTERED BUILDING AND TO THE COMMISSIONER; AND THE OWNER OF THE NEW OR ALTERED BUILDING HAVING SUBMITTED PLANS THAT CONFORM TO THE REQUIREMENTS OF THIS SECTION, SHALL THEREUPON BE RELEASED FROM ANY RESPONSIBILITY FOR THE PROPER OPERATION OF THE EQUIPMENT DUE TO LOSS OF DRAFT AND FOR ANY HEALTH HAZARD OR NUISANCE THAT MAY OCCUR AS A RESULT OF THE NEW OR ALTERED BUILDING. SUCH RESPONSIBILITIES SHALL THEN BE ASSUMED BY THE OWNER OF THE PREVIOUSLY CONSTRUCTED BUILDING. SIMILARLY, SHOULD SUCH OWNER FAIL TO GRANT CONSENT WITHIN 45 DAYS FROM THE DATE OF WRITTEN REQUEST OR FAIL TO SIGNIFY HIS OR HER REFUSAL, HE OR SHE SHALL THEN ASSUME ALL RESPONSIBILITIES AS PRESCRIBED ABOVE.

2113.1.6.6 PROCEDURE. IT SHALL BE THE OBLIGATION OF THE OWNER OF THE NEW OR ALTERED BUILDING TO:

1. SCHEDULE THIS WORK SO AS TO CREATE A MINIMUM OF DISTURBANCE TO THE OCCUPANTS OF THE AFFECTED BUILDING; AND
2. PROVIDE SUCH ESSENTIAL SERVICES AS ARE NORMALLY SUPPLIED BY THE EQUIPMENT WHILE IT IS OUT OF SERVICE; AND
3. WHERE NECESSARY, SUPPORT SUCH EXTENDED CHIMNEYS, VENTS AND EQUIPMENT FROM THIS BUILDING OR TO CARRY UP SUCH CHIMNEYS OR VENTS WITHIN HIS OR HER BUILDING

HVAC NOTES

ALL WORK SHALL CONFORM TO NATIONAL PLUMBING CODE AND NYC BUILDING CODE AND SHALL BE PERFORMED BY LICENSED PLUMBER AND LICENSED HVAC INSTALLER.

4. CONTRACTOR SHALL EXAMINE THE EXISTING CONDITIONS AND INVESTIGATE THE EXACT LOCATIONS OF ALL PIPING AND DUCTWORK. CONTRACTOR SHALL INDICATE LOCATIONS OF THE NEW WORK CONNECTING TO EXISTING.
5. ALL CONFLICTS WITH THE FIELD CONDITIONS SHOULD BE BROUGHT TO THE ARCHITECT'S ATTENTION.
6. VERIFY WITH THE OWNER'S EQUIPMENT FOR THE REQUIRED ELECTRICAL SERVICE.
7. ALL CONDUITS SHALL BE CONCEALED IN WALLS, FLOORS OR CEILING.
8. AIR BALANCE SHALL BE PERFORMED AFTER THE COMPLETION OF DUCTWORK.
9. ARRANGE THE TESTING AND APPROVAL OF PIPING WORK WITH LOCAL AUTHORITIES.
10. PATCH THE FLOORS, WALLS AND CEILING TO THE STANDARDS OF BUILDING.
11. ALL PENETRATIONS THROUGH FLOORS, WALLS AND CEILING SHALL BE AIRTIGHT.
12. DUCT WORK THROUGH FIRE RATED PARTITIONS SHOWULD HAVE FIRE DAMPERS.

FINISHES & DETAILS

INTERIOR FINISHES SHALL BE CLASSIFIED IN ACCORDANCE WITH SURFACE FLAME SPREAD RATINGS (PER RS 5-5) AND SHALL BE USED IN ACCORDANCE WITH TABLE 504, AND 27-348. % OF THE AGGREGATE

13. NO INTERIOR FINISH MATERIAL COVERING MORE THAN 20% OF THE AGGREGATE WALL AND CEILING AREA, SHALL BE USED IF IT DEVELOPS SMOKE IN GREATER DENSITY THAN THE RATING SHOWN IN TABLE 27-348(d).
14. ATTACHMENTS AND ADHESIVES FOR INTERIOR FINISH TO HAVE THE SAME FLAME-SPREAD, AND SMOKE DEVELOPED RATING OF THE INTERIOR FINISHES, AS PER 27-348(F).
15. NO MATERIAL SHALL BE USED IN ANY INTERIOR LOCATION WHICH WILL PRODUCE PRODUCTS MORE TOXIC THAN THOSE GIVEN OFF BY WOOD OR PAPER WHEN DECOMPOSING OR BURNING AS PER 27-348(E).
16. COATINGS APPLIED BY BRUSH OR SPRAY SHALL NOT BE USED AS FLAME-SPREAD RETARDANTS EXCEPT AS PROVIDED IN 27-349.
17. FOR CONSTRUCTION GROUP 1, COMBUSTIBLE FLOORING MAY BE USED WHEN IN COMPLIANCE WITH 27-351(B).
18. FLOORS IN REQUIRED EXITS SHALL NOT HAVE ANY CARPET. ONLY WOOL CARPETING MAY BE INSTALLED IN LOBBY AREAS, EXIT PASSAGEWAYS, AND CONVENIENCE STAIRS, AS PER 27-351(D)(1).
19. CARPET, WHEN USED AS A FLOOR COVERING, SHALL HAVE FLAMMABILITY REQUIREMENTS IN ACCORDANCE WITH RS 5-20. IF USED AS AN INTERIOR FINISH, IT SHALL COMPLY WITH PROVISIONS REGARDING INTERIOR FINISH, IT SHALL COMPLY WITH PROVISIONS REGARDING INTERIOR FINISHES AS PER
20. ALL GLASS PANELS, USED IN WINDOWS, IN DOORS, AS INTERIOR PARTITIONS, ETC., SHALL BE IN COMPLIANCE WITH SUBCHAPTER 10, ARTICLE 12, AND RS 10-68. THICKNESS, MAXIMUM GLASS PANEL AREA, STRENGTH, ETC., OF GLASS PANEL SHALL BE IN ACCORDANCE WITH TABLES 10-6, 10-7, 10-8 OF SUBCHAPTER 10 ARTICLE 12.
21. EXCEPT FOR MISCELLANEOUS TRIMS, MOLDINGS, ETC., ALL WOOD USED SHALL BE FIRE-RETARDANT, I.E. COUNTER TOPS, CABINETS, DOORS, ETC.

CONSTRUCTION FENCE

AS PER SECTION 27-1021 OF THE NYC BUILDING CODE. FENCES SHALL BE AT LEAST EIGHT FEET HIGH, AND CONSTRUCTED OF WOOD OR OTHER SUITABLE MATERIAL. THEY SHALL BE BUILT SOLID FOR THEIR ENTIRE LENGTH, EXCEPT FOR OPENINGS WITH SOLID SLIDING OR IN SWINGING SIC] GATES AS ARE REQUIRED FOR THE PROPER PROSECUTION OF THE WORK, AND FOR VIEWING PANELS, WHICH SHALL BE BLOCKED WITH PLEXIGLASS OR EQUIVALENT NON-FRANGIBLE MATERIAL.

VENTILATION NOTES

1. KITCHENETTE DUCTS SHALL BE A MINIMUM 18 GAUGE GALVANIZED METAL.
2. INTERIOR BATHROOM DUCT SHALL BE A MINIMUM 24 GAUGE GALV. SHEET METAL.
3. ALL DUCTS TO BE FITTED WITH B.S.A APPROVED REGISTER & FUSABLE LINK FIRE DAMPERS.
4. ALL MECHANICAL VENTILATION DUCTS SHALL BE ENCLOSED WITH 2 LAYERS OF 1" GYPSUM COREBOARDS TO ACHIEVE A TWO HOURS FIRE RATING.
5. MECHANICAL VENTILATION DUCTS PASS THROUGH WALLS OR FLOORS, THE OPENINGS SHALL BE FIRE STOPPED WIHT VERMICLITE PLASTER & MIRE MESH OR F. 60 GYPSUM BOARD.
6. ALL VENTILATION DUCTS SHALL TERMINATE AT ROOF IN AN APPROVED TYPE EXHAUST FAN. SUCH FANS SHALL HAVE CAPACITIES AS INDICATED ON THE DRAWINGS AND SHALL OPERATE CONTINUOUSLY.
7. ON COMPLETION OF MECHANICAL SYSTEM, SUCH SYSTEM SHALL BE TESTED BY OR UNDER THE SUPERVISION OF.

A. A LICENSED PROFESSIONAL ENGINEER, QUALIFIED TO CONDUCT SUCH A TEST; OR
B. A PERSON HAVING 5 YEARS EXPERIENCE SUPERVISING INSTALLATION OF SUCH SYSTEM & QUALIFIED TO CONDUCT SUCH A TEST. THE TEST SHALL SHOW COMPLIANCE WITH THE CODE REQUIREMENTS FOR VENTILATION AND FUNCTIONING FOR ALL OPERATING DEVICES. THE QUALIFIED TESTER SHALL FILE CERTIFICATE INDICATING THAT THE TEST SHOWS THAT THE RATE OF AIR SUPPLY MEETS REQUIREMENTS OF THE CODE.

8. OWNER SHALL FILE A CERTIFICATE INDICATING THAT THE VENTILATION SYSTEM WILL BE OPERATED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CODE.
9. PROVIDE A MINIMUM 144 SQ. IN LOUVRE IN DOORS TO ROOMS WIHT LESS THAN 18 SQ. FT. OF WINDOW AREA.
10. PROVIDE GRAVITU TYPE METAL VENTILATORS FOR COCKLOFT ROOF AREAS BEHIND EXTERIOR FACE BRICK WALLS, FREE AREA OF VENTILATORS SHALL BE A MINIMUM OF 1/300 OF ROOF AREA.

CONSTRUCTION NOTES

1. ALL WORK SHILL COMPLY WITH THE REQUIREMENTS OF THE NEW YORK CITY CODE.
2. ALL CONTRACTORS SHALL REVIEW AND STUDY THE CONTRACT DOCUMENTS THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES.
3. ALL CONTRACTORS SHALL ACQUAINT THEMSELVES WITH THE JOB AND VERIFY ALL CONDITIONINGS BEFORE COMMENCING ANY PHASE OF WORK.
4. GENERAL CONTRACTOR SHALL NOTIFY GJC OF ANY DISCREPANCY BETWEEN THE DRAWINGS. THESE NOTES, AND FIELD CONDITIONS PRIOR TO COMMENCING ANY PHASE OF WORK. IF THERE IS A DISCREPANCY, G.C. TO USE MOST STRINGENT DEFINITION.
5. ALL WOODWORK BLOCKING, AND GROUNDS ARE TO CONFORM TO ANY AND ALL BUILDING CODE REQUIREMENTS CONCERNING FIREPROOFING.
6. GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS AS REQUIRED TO PATCH AND

BC CHAPTER 3: USE & OCCUPANCY CLASSIFICATION

OCCUPANCY	OCCUPANCY GROUP
RESIDENTIAL	R-2
TRASH COMPACTOR ROOM	INCIDENTAL USE
MECHANICAL AND/OR ELECTRICAL EQUIP. ROOM	INCIDENTAL USE
LAUNDRY ROOM OVER 100 SF	INCIDENTAL USE

BC CHAPTER 5: GENERAL BUILDING HEIGHTS AND AREAS; SEPARATION OFOCCUPANCIES

TABLE 503: ALLOWABLE HEIGHT AND BUILDING AREAS

PROPOSED CONSTRUCTION: TYPE I-B
MAX. AREA: UNLIMITED
MAX. STORIES: UNLIMITED
SPRINKLERED BUILDING YES

TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV[c]	TYPE V	
		A	B	A	B	A	B	HT	A	B
A-1	NS[b, e]	UL	UL	6	3	6	3	6	3	2
	S	UL	UL	7	4	7	4	7	4	3
A-2	NS[b, e]	UL	UL	6	3	6	3	6	3	2
	S	UL	UL	7	4	7	4	7	4	3
A-3	NS[b, e]	UL	UL	6	3	6	3	6	3	2
	S	UL	UL	7	4	7	4	7	4	3
A-4	NS[b, e]	UL	UL	6	3	6	3	6	3	2
	S	UL	UL	7	4	7	4	7	4	3
A-5	NS[b, e]	UL	UL	UL	UL	UL	UL	6	UL	UL
	S	UL	UL	UL	UL	UL	UL	7	UL	UL
B	NS[b, e]	UL	UL	6	3	6	3	6	3	2
	S	UL	UL	7	4	7	4	7	4	3
E	NS[b, e]	UL	UL	4	3	4	3	6	3	2
	S	UL	UL	5	4	5	4	7	4	3
F-1	NS[b, e]	UL	6	5	3	5	2	5	3	2
	S	UL	7	6	4	6	3	6	4	3
F-2	NS[b, e]	UL	UL	6	3	6	3	6	3	2
	S	UL	UL	7	4	7	4	7	4	3
H-1	S	1	1	1	1	1	1	1	1	NP
H-2[f]	S	UL	3	2	1	2	1	2	1	1
H-3[f]	S	UL	6	4	2	4	2	4	2	1
H-4	S	UL	8	6	4	6	4	6	4	3
H-5	S	3	3	3	3	3	3	3	3	2
I-1	S13D	6	6	6	NP	4	3	4	NP	NP
	S13R	UL	UL	6	NP	5	4	5	NP	NP
	S	UL	UL	7	NP	5	4	5	NP	NP
I-2	S	UL	7	5	4	5	3	5	3	NP
I-3	S	UL	5	5	4	5	3	5	4	NP
I-4	NS[b, e]	UL	UL	3	3	3	3	3	2	2
	S	UL	UL	4	4	4	4	4	3	3
M	NS[b, e]	UL	UL	6	3	6	3	6	3	2
	S	UL	UL	7	4	7	4	7	4	3
R-1	S13R	6	6	6	NP	6	NP	6	NP	NP
	S	UL	UL	7	NP	7	NP	7	NP	NP
R-2	S13R	6	6	6	NP	6	4	6	NP	NP
	S	UL	UL	7	NP	7	4	7	NP	NP
R-3	NS[b, e]	X	X	X	X	X	X	X	3[g, h]	3[g]
	S13D	6	6	6	3	6	3	6	3[g, h]	3[g]
	S13R	6	6	6	4	6	4	6	4[g, h]	4[g]
	S	UL	UL	7	4	7	4	7	4[g, h]	4[g]
S-1	NS[b, e]	UL	6	5	3	4	3	4	3	2
	S	UL	7	6	4	5	4	5	4	3
S-2[d, e]	NS[b, e]	UL	UL	6	3	6	4	6	3	2
	S	UL	UL	7	4	7	5	7	4	3
U[a]	NS[b, e]	UL	5	4	2	3	2	4	2	1
	S	UL	6	5	3	4	3	5	3	2

= Not permitted in Fire District

= Not permitted in Fire District without sprinklers

= Number of stories in nonsprinkerlered 1- & 2-family buildings shall be limited by Section 903.2.8

504.3 Height in feet and number of stories.
The maximum height, in feet, of a building shall not exceed the limits specified in Table 504.3. The maximum number of stories of a building shall not exceed the limits specified in Table 504.4.

Exceptions:
1.Rooftop structures including but not limited to roof tanks and their supports, ventilating, air conditioning, combined heat and power systems and similar building service equipment, bulkheads, penthouses, greenhouses, chimneys, and parapet walls 4 feet (1219 mm) or less in height shall not be included in the building height of the building or considered an additional story unless the aggregate area of all such structures, exclusive of any solar thermal and solar (photovoltaic) collectors and/or panels and their supporting equipment, exceeds 331/3percent of the area of the roof of the building upon which they are erected. Rooftop structures shall be constructed in accordance with Section 1510.

2.Solar thermal and solar electric (photovoltaic) collectors and/or panels and their supporting equipment that exceed 331/3percent of the area of the roof of the building upon which they are erected shall not be included in the height of a building or considered an additional story.

BC 508: MIXED USE AND OCCUPANCY:

TABLE 508.4 REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

TABLE 508.4
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

OCCUPANCY	A, E		I-1[a], I-3, I-4		I-2		R[a]		F-2, S-2[a], U		B[a]		F-1		M		S-1		H-1		H-2		H-3, H-4		H-5	
	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS
A, E	N	N	1	2	NP	NP	1	2	NP	NP	1[b]	2	1	2	1	2	1	2	1	2	NP	NP	3	4	2	3	2	NP
I-1[a], I-3, I-4	—	—	N	N	2	NP	1	NP	1	2	1	2	1	2	1	2	1	2	1	2	NP	NP	3	NP	2	NP	2	NP
I-2	—	—	—	—	N	N	2	NP	2	NP	2	NP	2	NP	2	NP	2	NP	2	NP	NP	NP	3	NP	2	NP	2	NP
R[a]	—	—	—	—	—	—	N	N	1	2	1	2	1	2	1	2	1	2	1	2	NP	NP	3	NP	2	NP	2	NP
F-2, S-2[a], U	—	—	—	—	—	—	—	—	N	N	1	2	1	2	1	2	1	2	1	2	NP	NP	3	4	2	3	2	NP
B[a]	—	—	—	—	—	—	—	—	—	—	N	N	2	3	1	2	2	3	NP	NP	2	3	1	2	1	NP		
F-1	—	—	—	—	—	—	—	—	—	—	—	—	N	N	2	3	2	3	NP	NP	2	3	1	2	1	NP		
M	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	N	2	3	NP	NP	2	3	1	2	1	NP		
S-1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	N	NP	NP	2	3	1	2	1	NP		
H-1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP	NP	NP	NP	NP	NP	NP		
H-2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP	1	NP	1	NP		
H-3, H-4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP	1	NP		
H-5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP		

S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
N = No separation requirement.
NP = Not permitted.
a. See Section 420.

TABLE 509[f]
INCIDENTAL USES

ROOM OR AREA	SEPARATION AND/OR PROTECTION
Furnace room where any piece of equipment is over 350,000 Btu per hour input	2 hour; or 1 hour and provide automatic sprinkler system[a]
Furnace room where any piece of equipment is 350,000 Btu per hour input or less, except in R-3 occupancy	1 hour or provide automatic sprinkler system[a]
Rooms with a high pressure steam or water boiler that exceeds 350,000 Btu per hour input	2 hour; or 1 hour and provide automatic fire-extinguishing system[a]
Rooms with a high pressure steam or water boiler that is 350,000 Btu per hour input or less	1 hour or provide automatic sprinkler system[a]
Rooms that contain a low pressure steam or water boiler regardless of Btu per hour input	1 hour or provide automatic sprinkler system[a, k]
Refrigerant machinery room	1 hour or provide automatic sprinkler system
Hydrogen fuel gas rooms, not classified as Group H	2 hours in all occupancies
Incinerator rooms	2 hours and provide automatic sprinkler system
Paint shops, not classified as Group H, located in occupancies other than Group F	2 hours; or 1 hour and provide automatic sprinkler system
In Group E occupancies, laboratories and vocational shops not classified as Group H	1 hour or provide automatic sprinkler system
In Group I-2 occupancies, laboratories not classified as Group H	1 hour and provide automatic sprinkler system
In ambulatory care facilities, laboratories not classified as Group H	1 hour or provide automatic sprinkler system
Laundry rooms over 100 square feet	1 hour or provide automatic sprinkler system
In Group I-2, laundry rooms over 100 square feet	1 hour
Group I-3 cells and Group I-2 patient rooms equipped with padded surfaces	1 hour
In Group I-2, physical plant maintenance shops	1 hour
In ambulatory care facilities or Group I-2 occupancies, waste and linen collection rooms with containers that have an aggregate volume of 10 cubic feet or greater	1 hour
In other than ambulatory care facilities and Group I-2 occupancies, waste and linen collection rooms over 100 square feet	1 hour or provide automatic sprinkler system
In ambulatory care facilities or Group I-2 occupancies, storage rooms greater than 100 square feet	1 hour
Stationary storage battery systems having an energy capacity greater than the threshold quantity specified in Table 608.9.1.1 of the *New York City Fire Code*	1 hour in group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies
Rooms containing fire pumps in non-high-rise buildings	2 hours; or 1 hour and provide automatic sprinkler system throughout the building
Rooms containing fire pumps in high-rise buildings	2 hours

For SI: 1 square foot = 0.0929 m², 1 pound per square inch (psi) = 6.9 kPa, 1 British thermal unit (Btu) per hour = 0.293 watts, 1 horsepower = 746 watts,
1 gallon = 3.785 L, 1 cubic foot = 0.0283 m³.
a. Boilers servicing more than one dwelling unit in multiple dwellings shall also comply with Section 65 of the *New York State Multiple Dwelling Law*.
b. Sealed combustion direct vent boilers shall comply with Section 303 of the *New York City Mechanical Code* and Section 303 of the *New York City Fuel Gas Code*, as applicable.
c. For mechanical and electrical equipment rooms not identified in this table, see Section 508.1.

BC CHAPTER 6: TYPES OF CONSTRUCTION

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V[j]	
	A	B	A	B	A	B	HT	A	B
Primary structural frame[f] (see Section 202)	3[a]	2[a]	1[i]	0	1	0	HT	1	0
Bearing walls Exterior[e, f, g] Interior	3 3[a]	2 2[a]	1 1	0 0	2 1	2 0	2 1/HT	1 1	0 0
Nonbearing walls and partitions Exterior	See Table 602								
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	See Section 602.4.6	0	0
Floor construction[h] and associated secondary members (see Section 202)	2	2	1	0	1	0	HT	1	0
Roof construction and associated secondary members (see Section 202)	1½[b, c]	1[b, c]	1[b, c]	0[c]	1[b, c]	0	HT	1[b, c]	0

TABLE 602
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, e, g, h, j]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[f]	OCCUPANCY GROUP F-1, M, S-1[e, i]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[b]
X < 5[c]	All	3	2	1
5 ≤ X < 10	IA Others	3 2	2 1	1 1
10 ≤ X < 30	IA, IB IIB, VB Others	2 1 1	1 0 1	1[d] 0 1[d]
X ≥ 30	All	0	0	0

TYPE I NON-COMBUSTIBLE (FROM TABLE 601 & TABLE 602) CLASS 1-B

TABLE 601: FIRE RESISTANCE RATING FOR BUILDING ELEMENTS	RATING IN HOURS
PRIMARY STRUCTURAL FRAME	2HR
BEARING WALLS - EXTERIOR	2HR
BEARING WALLS - INTERIOR	2HR
NONBEARING WALLS AND PARTITIONS EXTERIOR *	2HR
NONBEARING WALLS AND PARTITIONS INTERIOR	0HR
FLOOR CONSTRUCTION	3HR
ROOF CONSTRUCTION	2HR

* BASED ON TABLE 602, FOR FIRE SEPARATION DISTANCE < 5FT FIRE RESISTANCE RATING FOR EXTERIOR NON BEARING WALLS FOR OCCUPANCY R = 1 HR

BC CHAPTER 7: FIRE RESISTANCE RATED CONSTRUCTION

TABLE 705.8: MAXIMUM AREA OF EXTERIOR WALL OPENINGS

FIRE SEPARATION DISTANCE	CLASSIFICATION OF OPENING	MAX ALLOWED RATIO
0' TO LESS THAN 3'	PROTECTED	10%

NOTE: THESE OPENINGS DO NOT CREDIT TOWARDS MEETING ANY MANADATORY NATURAL LIGHT OR VENTILATION REQUIREMENTS.

705.8.2 Protected openings.
Where openings are required to be protected, fire doors and fire shutters shall complywith Section 716.5and fire window assemblies shall comply with Section 716.6.
Exception:
Opening protectives are not required where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and the exterior openings are protected by a water curtain using automatic sprinklers approved for that use.The sprinklers and the water curtain shall be installed in accordance with NFPA 13, as modified by Appendix Q of this code

TABLE 705.8
MAXIMUM AREA OF EXTERIOR WALL OPENINGS BASED ON FIRE SEPARATION DISTANCE AND DEGREE OF OPENING PROTECTION[a]

FIRE SEPARATION DISTANCE (feet)	DEGREE OF OPENING PROTECTION	ALLOWABLE AREA[a]
0 to less than 3[b, c]	Unprotected, Nonsprinklered (UP, NS)	Not Permitted
	Unprotected, Sprinklered (UP, S)[j]	Not Permitted
	Protected (P)	Not Permitted[d, e]
3 to less than 5[b, c]	Unprotected, Nonsprinklered (UP, NS)	Not Permitted
	Unprotected, Sprinklered (UP, S)[j]	15%[i]
	Protected (P)	15%[i]
5 to less than 10[b, c, f, o]	Unprotected, Nonsprinklered (UP, NS)	10%[h]
	Unprotected, Sprinklered (UP, S)[j]	25%[i]
	Protected (P)	25%[i]
10 to less than 15[b, c, f, g, n]	Unprotected, Nonsprinklered (UP, NS)	15%[h]
	Unprotected, Sprinklered (UP, S)[j]	45%[i]
	Protected (P)	45%[i]
15 to less than 20[f, g, n]	Unprotected, Nonsprinklered (UP, NS)	25%
	Unprotected, Sprinklered (UP, S)[j]	75%[i]
	Protected (P)	75%[i]
20 to less than 25[f, g, n]	Unprotected, Nonsprinklered (UP, NS)	45%
	Unprotected, Sprinklered (UP, S)[j]	No Limit
	Protected (P)	No Limit[i]
25 to less than 30[f, g, n]	Unprotected, Nonsprinklered (UP, NS)	70%
	Unprotected, Sprinklered (UP, S)[j]	No Limit
	Protected (P)	No Limit[i]
30 or greater	Unprotected, Nonsprinklered (UP, NS)	No Limit
	Unprotected, Sprinklered (UP, S)[j]	No Limit
	Protected (P)	No Limit

For SI: 1 foot = 304.8 mm.
UP, NS = Unprotected openings in buildings not equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
UP, S = Unprotected openings in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
P = Openings protected with an opening protective assembly in accordance with Section 705.8.2.
a. Values indicated are the percentage of the area of the exterior wall, per story.
b. For the requirements for fire walls of buildings with differing heights, see Section 706.6.
c. For openings in a fire wall for buildings on the same tax lot, see Section 706.8.
d. The maximum percentage of unprotected and protected openings shall be 25 percent for Group R-3 occupancies.
e. Unprotected openings shall not be permitted for openings with a fire separation distance of less than 15 feet for Group H-2 and H-3 occupancies.
f. The area of unprotected and protected openings for Group R-3 occupancies shall have no limit, if provided with a fire separation distance of 5 feet or greater.
g. The area of openings in an open parking structure, with a fire separation distance of 10 feet or greater, shall have no limit.
h. Includes buildings accessory to Group R-3.
i. Not applicable in Group H-1, H-2 and H-3 occupancies.
j. Protected openings from the walls or walls between buildings shall comply with Section 705.8.
k. Protected openings within a fire separation distance of 3 feet or less are permitted for Occupancy Groups R-2 and R-3 provided such openings do not exceed 10 percent of the area of the façade of the story in which they are located. These openings shall not be credited towards meeting any mandatory natural light or ventilation requirements unless they also comply with applicable provisions of Chapter 12 and the Zoning Resolution.
l. In Group R-2 and R-3 occupancies, in areas classified as Special Flood Hazard Areas, openings shall be permitted to be protected in accordance with percentages indicated as "Protected Classification of Opening" in Table 705.8. However, such openings shall not be required to be protected.
m. Upon special application, the commissioner may permit exterior wall openings to be constructed in excess of the permitted area established by Table 705.8 provided that such openings are protected and provided that at the time of their construction they are located at least 60 feet in a direct line, measured at any angle, including vertically and horizontally, from any neighboring building, unless otherwise permitted by Section 705.3 for buildings on the same tax lot. The construction type of the neighboring building shall not be factored into the measurement of the distance between the openings and adjoining building. If any neighboring building is later altered or constructed to come within the above distance limitation, the affected exterior openings shall immediately be closed with construction meeting the fire-resistance rating requirements for exterior wall construction of the building in which they are located. Such additional openings shall not be credited toward meeting any of the mandatory natural light or ventilation requirements unless they also comply with applicable provisions of the *New York City Zoning Resolution* and Chapter 12 of this code.
n. The area of openings in a building containing only a Group U occupancy private garage or carport, with a fire separation distance of 5 feet (1524 mm) or greater, shall have no limit.

BC CHAPTER 8: INTERIOR FINISH FLAME SPREAD INDEX

TABLE 803.11
INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY[a]

GROUP	SPRINKLERED[i]			NON SPRINKLERED		
	Interior exit stairways, interior exit ramps and exit passageways[g, b]	Corridors and enclosure for exit access stairways and exit access ramps	Rooms and enclosed spaces[c]	Interior exit stairways, interior exit ramps and exit passageways[g, e]	Corridors and enclosure for exit access stairways and exit access ramps	Rooms and enclosed spaces[c]
A-1 & A-2	B	B	C	A	A[d]	B[e]
A-3[f] & A-4[f]	B	B	C	A	A[d]	C
A-5[f]	B	B	B	A	A	B
F	B	C	C	A	B	B
H	B	B	C[d]	A	A	B
I-1	B	C	C	A	B	B
I-2	B	B	B[h, i]	A	A	B
I-3	A	A[j]	C	A	A	B
I-4	B	B	B[h, i]	A	A	B
R-2	B	B	C	A	A	C
R-3	C	C	C	A	A	C
S	B	C	C	A	B	C
U	No restrictions			No restrictions		

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m².
a. Class C interior finish materials shall be permitted for wainscoting or paneling of not more than 1,000 square feet (92 m²) of applied surface area in the grade lobby where applied directly to a noncombustible base or over furring strips applied to a noncombustible base and fireblocked as required by Section 803.13.1.
b. In other than Group I-3 occupancies in buildings less than three stories above grade plane, Class B interior finish for nonsprinklered buildings and Class C interior finish for sprinklered buildings shall be permitted in interior exit stairways and ramps.
c. Requirements for rooms and enclosed spaces shall be based upon spaces enclosed by partitions. Where a fire-resistance rating is required for structural elements, the enclosing partitions shall extend from the floor to the ceiling. Partitions that do not comply with this shall be considered enclosing spaces and the rooms or spaces on both sides shall be considered one. In determining the applicable requirements for rooms and enclosed spaces, the specific occupancy thereof shall be the governing factor regardless of the group classification of the building or structure.
d. Lobby areas in Group A-1, A-2 and A-3 occupancies shall not be less than Class B materials.
e. Class C interior finish materials shall be permitted in places of assembly with an occupant load of 200 persons or less.
f. For places of religious worship, wood used for ornamental purposes, trusses, paneling or chancel furnishing shall be permitted.
g. Class B material is required where the building exceeds two stories.
h. Class C interior finish materials shall be permitted in administrative spaces.
i. Class C interior finish materials shall be permitted in rooms with a capacity of four persons or less.
j. Class B materials shall be permitted as wainscoting extending not more than 48 inches above the finished floor in corridors and exit access stairways and ramps.
k. Finish materials as provided for in other sections of this code.
l. Applies when protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

BC 2022 - CHAPTER 9 - FIRE PROTECTION SYSTEMS

908.7 Carbon dioxide (CO2) systems.
The emergency alarm system for a carbon dioxide system, including detection, pre-discharge and discharge alarms, shall be provided in accordance with the New York City Fire Code.
908.8 Gas detection systems.
Gas detection systems shall be provided in accordance with Section 918.
908.10 Flammable gas.
Rooms and spaces containing flammable gas distribution piping operating at levels above 15 pounds per square inch gauge (psig) (103.4 kPa) shall be provided with an approved flammable gas detection-alarm system and shall comply with the New York City Fire Code.
908.11 Construction documents.
Construction documents for emergency alarm systems shall be submitted for review and approval to the Fire Department prior to system installation.
908.12 Acceptance testing and maintenance.
Acceptance testing and maintenance of emergency alarm systems shall be performed in accordance with the New York City Fire Code

BC CHAPTER 11: ACCESSIBILITY

1107.2.3 Type B+NYC unit kitchen and kitchenette.
Where kitchens and kitchenettes are provided in a Type B+NYC dwelling unit or sleeping unit, the primary kitchen or kitchenette shall be constructed in accordance with the kitchen requirements of Section 1003.12 (Kitchen) and 1003.3.2 (Turning Space) of ICC A117.1,including any modifications made by Sections 1107.2.3.1 through 1107.2.3.5 of this code. Secondary kitchens and kitchenettes within the same dwelling unit or sleeping unit shall be required to comply only with Section 1004.12 (Kitchens) of ICC A117.1

1107.2.4 Type B+NYC unit operable windows.
All operable windows required to provide natural ventilation and/or an emergency escape and rescue opening in rooms or spaces in a Type B+NYC dwelling unit or sleeping unit shall comply with Section 1003.13 (Windows) of ICC A117.1.

1107.2.8 Type B+NYC unit laundry equipment.
Where washing machines or clothes dryers are provided within a Type B+NYC dwelling unit or sleeping unit, such equipment shall comply with
Section 611 (Washing Machines and Clothes Dryers) of ICC A117.1 and shall be front loading. Laundry equipment in accessible common-use areas as required in Section 1107.3 shall comply with Section E105.2 of Appendix E of this code

1107.3 Accessible spaces.
Rooms and spaces available to the general public or available for commonuse by residents and servingAccessible units, Type B+NYCunits or Type B units shall be accessible. Accessible spaces shall include, but not be limited to, spaces for residents' use, such as laundry rooms, refuse disposal and storage locations, mailbox areas, recreational facilities,assembly and tenants' meeting rooms, storage rooms, management offices, parking areas, toilet and bathingrooms, kitchen, living and dining areasandany exterior spaces, including patios, terraces and balconies

1107.4 Accessible route.
At least one accessible route shall connect accessible building or facility entrances with the required accessibleentrance(s)of each Accessible unit, Type B+NYCunit,and Type B unit within the building or facility and with those exterior and interior spaces and facilities that serve the units.

1107.6.1.3 Doors and doorways
.In all units, including those not required to be Accessible units, Type B+NYC units, or Type B units, entrances, doors, and doorways providing user passage into and within units shall comply with Section 404.2.2 (Clear Width) of ICC A117.1

BC CHAPTER 12: INTERIOR ENVIRONMENT

1203.5 Natural ventilation.
Natural ventilation of occupiable and habitablespace shall be through openings to the outdoors. The openings shall be of a type permitted under Sections 1203.5.1.1, 1203.5.1.2, 1203.5.1.3 and 1203.5.1.4.The operatingmechanism for such openings shall be provided with ready access so that the openingsare readily controllable by the building occupants

1203.5.1.1 Occupiable spaces.
Where occupiable spaces are not required to be provided with mechanical ventilation in accordance with the New York City Mechanical Code, natural ventilation shall be provided in accordance with Section 1203.5.1.1. Openings providing required natural ventilation to occupiable spaces shall be windows, doors, louvers, skylights or other similar ventilating openings.
Exceptions:
1.Bathrooms and toilet rooms in GroupR or I-1 occupancies shall comply with Section 1203.5.1.3.
2.Kitchenettes in GroupR or I-1 occupancies shall comply with Section 1203.5.1.4.1203.5.1.1.1 Minimum opening.The minimumopenable area to the outdoors shall be 4 percent of the floor area of the occupiable spacebeing ventilated

1203.5.1.2 Habitable spaces.
All habitable spaces shall be provided with natural ventilation in accordance with this section. Openings providing required natural ventilation to habitable spaces shall be windows and/or glazed doors to the outdoors.

1203.5.1.2.1 Minimum opening.
The minimum openable area to the outdoors shall be 5percent of the floor area of the habitable space being ventilated. Every opening providing required natural ventilation shall be at least 12 square feet (1.1 m2) of glazed area, providing a minimum of 6 square feet (0.56 m2) of openable area.

1203.5.1.2.4 Maximum depth of room.
No part of any room shall be more than 30 feet (9144 mm) from a window opening onto a street or yard unless such room also opens onto a court complying with Section 1206

1207.2 Air-borne sound.
Walls, partitions and floor/ceiling assemblies separating dwelling units from each other, from adjacent occupancies, from public or service areas, from stairs or from mechanical equipment spaces, including boiler rooms, or elevator or other shafts shall have a sound transmission class(STC) for air-borne noiseof not less than**50** based upon laboratory measurements made in accordance with ASTM E 90, or not less than 45 if field tested in accordance with ASTM E 336. Dwelling unit entrance doors shall be installed of assemblies having an STC of not less than 30 based upon laboratory measurements madein accordance with ASTM E 90. Penetrations or openings in constructionassemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings.

BC CHAPTER 16: STRUCTURAL DESIGN

1613.1 Scope.
Every structure, and portion thereof, including nonstructural components that are permanently attached to structures and their supports and attachments, shall be designed and constructed to resist the effects of earthquake motions in accordance with ASCE 7, excluding Chapter 14 and Appendix 11A. The seismic design category for a structure shall be determined in accordance with either Section 1613 or ASCE 7.
Exceptions:
1.One-and two-family dwellingsthree stories or less in height.
2.The seismic force-resisting system of wood-frame buildings that conform to the provisions of Section 2308 are not required to be analyzed as specified in this section.
3.Agricultural storage structures intended only for incidental human occupancy.
4.Structures that require special consideration of their response characteristics and environment that are not addressed by this code or ASCE 7 and for which other regulations provide seismic criteria, such as vehicular bridges, electrical transmission towers, hydraulic structures, buried utility lines and their appurtenances and nuclear reactors.

BC CHAPTER 21: MASONRY

2113.1.5 Existing chimneys and vents.
Existingchimneys and vents shall comply with the requirements of Section 28-104.13 of the Administrative Codeand Sections 107.18 and 2113.1.5.1 through 2113.1.5.8 of this code

2113.1.5.1 Responsibility of owner of taller building.
Whenever a building is erected, enlarged, or increased in height so that any portion of such building, except chimneys or vents, extends higher than the top of any existing chimneys or vents within 100 feet (30 480 mm), the owner of such new or altered building shall have the responsibility of altering such chimneys or vents to make them conform with the requirements of this chapter. A chimney or vent that is no longer connected with a fireplace or combustion or other equipment for which a chimney or vent was required, shall be exempt from this requirement
BC 2113.1.6.5

2113.1.5.5 Refusal of consent.
If consent is not granted by the owner of theaffected building to do the alteration work required by this section, such owner shall signify his or her refusal in writing to the owner of the new or altered building and to the commissioner; and the owner of the new or altered building having provided the notices required by Section 2113.1.5.3 shall thereupon be released from any responsibility for the proper operation of the equipment due to loss of draft and for any health hazard or nuisance that may occur as a result of the new or altered building. Such responsibilities shall then be assumed by the owner of the previously constructed building. Similarly, should such owner fail to grant consent within 45 days from the date of the second notice or fail to signify his or her refusal, he or she shall then assume all responsibilities as prescribed above

LND
Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT
LEANDRO NILS DICKSON
STATE OF NEW YORK
023459
ARCHITECT'S SEAL

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
CODE ANALYSIS

DOB JOB #**X01288603-I1**
SCALE: AS NOTED
DRAWN BY: JOHN HURTADO
CHECKED: LND
DATE: 5/2/2026 4:31:49 p. m.

DRAWING NO.
G-102.00

CODE INFO

EXISTING MDL CLASSIFICATION: N/A
MDL CLASSIFICATION: HAEA
BUILDING CODE: 2022 NYC CODE

GENERAL BUILDING CODE APPLICABILITY PROVISIONS

BC 28-102.4.3:
APPLICABILITY PROVISIONS OF MULTIPLE DWELLING LAW 3.11 AND 1968 BC ARTICLE 4 SUBCHAPTER 1 MAY APPLY AT THE OPTION OF THE OWNER FOR ALTERATIONS OR CONVERSIONS TO MULTIPLE DWELLINGS IN ACCORDANCE WITH THE PROVISIONS OF THE MULTIPLE DWELLING LAWS AND BUILDING REGULATIONS IN EFFECT PRIOR TO 12.06.1968.
THEREFORE IN ACCORDANCE WITH BC 2008, A CONVERSION TO A MULTIPLE DWELLING IN ACCORDANCE WITH THE RULES IN EFFECT FOR MULTIPLE DWELLINGS ERECTED AFTER 04.08.1929 MAY BE APPLIED AND NO OTHER BC 2008 REGULATIONS SHALL APPLY.

MULTIPLE DWELLING LAW APPLICABILITY AND COMPLIANCE ANALYSIS

ARTICLE 1:
SECTIONS 1-4: GENERAL APPLICABILITY PROVISIONS:
3.11: MDL REGULATIONS APPLY IN ACCORDANCE WITH REGULATIONS IN EFFECT PRIOR TO 12.06.1968

DEFINITIONS OF MDL SECTION 4 NOT APPLICABLE AS PER MDL 3.11:

25: FIRE PROOF MULTIPLE DWELLING
27: NON-FIRE PROOF MULTIPLE DWELLING
28: FRAME DWELLING
35-C: PENTHOUSE
36: STORY
39: SECTION OF A MULTIPLE DWELLING

ARTICLE 2:
MISCELLANEOUS APPLICABILITY PROVISIONS: SECTIONS 8-14:

APPLICABILITY: 9.5.A: MDL REGULATIONS EFFECTIVE 4.18.1929.
APPLICABILITY EXCEPTIONS: AS LISTED MDL 3.11
CLASSIFICATION: HAEA

ARTICLE 3:

TITLE 1:

26: BULK LIMITATIONS:

26.1 APPLICABILITY
26.1 A: DWELLING BEING ERECTED AFTER 12.15.1961
26.1 B,C,D: N/A - DWELLING BEING ERECTED AFTER 12.15.1961
26.2 DEFINITIONS

26.3: FLOOR AREA RATIO:
MAX. ALLOWED: **3.00**
PROPOSED: **3.00**

26.5: REAR YARDS:
REQUIRED: **30'-0"**
PROPOSED: **PROPOSED 20'-0"**

26.6: SIDE YARDS:
REQUIRED: **0'-0" OR MIN. 8'-0"**
PROPOSED: **NOT PROPOSED**

26.7: COURTS: **NO COURTS PROPOSED**
26.7 A: LIGHTING IN YARDS: PROVIDED
26.8: YARD LEVELS: NO LIVING ROOMS ON BELOW GRADE LEVELS
26.9: OBSTRUCTIONS IN YARDS: NO OBSTRUCTIONS IN REQUIRED YARDS
26.10: N/A
26.11: N/A

28: TWO OR MORE BUILDINGS ON THE SAME LOT
N/A - ONLY ONE BUILDING ON LOT

29: PAINTING OF COURTS & SHAFTS
NO COURT OR SHAFT PROPOSED

30. LIGHTING AND VENTILATION OF ROOMS
30.2: ROOMS
WINDOW PROVIDED AT EVERY ROOM COMPLIES

30.2: KITCHENS:
EXEMPT AS PER MDL 33.3.C
MECHANICAL VENTILATION PROVIDED AS PER MDL 33.3.C

30.2 BATHROOMS:
EXEMPT AS PER MDL 76.1.J
MECHANICAL VENTILATION PROVIDED AS PER MDL 33.3.J

3.3: ROOM DEPTH
MAXIMUM DEPTH 30'-0"
MAXIMUM DISTANCE PROVIDED AT 30'-0"

30.7 LIGHT AND VENTILATION
NO REQUIRED WINDOW SHALL OPEN UPON ANY OFFSET OR RECESS LESS THAN SIX FEET IN WIDTH
LEAST DIMENSION FOR WINDOW OFFSETS PROVIDED 6' (OK)

30.8 LIGHT AND VENTILATION
MIN. 5% VENTILATION & 10 % LIGHT
5% VENT / 10% LIGHT CALCULATIONS PROVIDED ON FLOOR PLANS

31.2.A, 31.2.B SIZE OF ROOMS
MIN. 80 SF. / 132 SF FOR LIVING ROOM
CEILING HEIGHTS MIN. 8FT. HIGH, PROVIDED

32: ALCOVES
N/A - NO ALCOVES PROPOSED

33: KITCHENS:
33.1: KITCHENETTES PROVIDED
33.3 A: CEILINGS AND WALLS ARE FIRE RETARDED
33.3 B: NO COMBUSTIBLE MATERIALS PROPOSED
33.3 C: MECHANICAL VENTILATION PROVIDED
33.3 D: N/A – NO DOORS PROPOSED
33.3 E: GAS, ELECTRICITY, ARTIFICIAL LIGHTING PROPOSED

34:ROOMS IN BASEMENT & CELLARS:
REQUIRED: EVERY ROOM IN A CELLAR OR BASEMENT SHALL HAVE A PERMIT
PROPOSED: NO ROOM PROVIDED AT CELLAR. BASEMENT SHALL HAVE A PERMIT

35:ENTRANCE DOORS & LIGHTS
REQUIRED: 5 SF OF GLAZED SURFACE REQUIRED
PROPOSED: MAIN ENTRY DOOR WITH MORE THAN 20 SF GLAZING PROVIDED

36: WINDOWS AND SKYLIGHTS FOR PUBLIC HALLS AND STAIRS
N/A – AS PER MDL 3.11

37: ARTIFICIAL HALL LIGHTING
N/A – AS PER MDL 3.11

TITLE 2:

50-A: ENTRANCES: DOORS, LOCKS AND INTERCOMMUNICATION SYSTEMS
50-A 1: SELF CLOSING ENTRANCE DOORS PROVIDED
50-A 2: COMMUNICATION SYSTEM PROVIDED
50-A 3: SELF CLOSING DOORS PROVIDED AT ALL APARTMENTS
50-A 4: N/A
50-A 5: N/A
50-C: N/A

51. SHAFTS, ELEVATORS AND DUMBWAITERS.
N/A – AS PER MDL 3.11

52: STAIRS:
N/A – AS PER MDL 3.11

53:FIRE ESCAPES
N/A – AS PER MDL 3.11

54: CELLAR ENTRANCE
REQUIRED: ENTRY FROM OUTSIDE REQUIRED
PROVIDED: SEE CELLAR PLAN

55: WAINSCOTING
N/A – AS PER MDL 3.11

56:FRAME BUILDINGS AND EXTENSIONS.
N/A – AS PER MDL 3.11

57: BELLS/MAIL RECEPTACLES
REQUIRED: FOR ALL OCCUPANTS BELLS/MAIL RECEPTACLES
PROVIDED: AT ENTRY LOBBY

58: INCOMBUSTIBLE MATERIALS
REQUIRED: FIRE RATED MATERIALS REQUIRED MEA / UL LISTING SPECS
PROPOSED: PROVIDED

59: BAKERIES AND FAT BOILING.
N/A

60: MOTOR VEHICLE STORAGE
N/A – AS PER MDL 3.11

61: BUSINESS USES
N/A – AS PER MDL 3.11

62: PARAPETS, GUARD RAILINGS AND WIRES.
REQUIRED: 42" PARAPET REQUIRED OR 42" RAILING
PROPOSED: 53" PARAPET EXISTING TO REMAIN

62.2: N/A

63: SUB-CURB USES
NOT APPLICABLE

64: LIGHTING; GAS METERS; GAS AND OIL APPLIANCES.

64.1: LIGHTING
REQUIRED: LIGHTING FIXTURES REQUIRED IN OUTLETS
PROPOSED: LIGHTING FIXTURES PROVIDED THROUGHOUT

64.2: GAS METERS
REQUIRED: METER ROOM NOT TO BE IN BOILER RM.
PROPOSED: NO GAS THROUGHOUT THE BUILDING

64.3: WINDOWS:
PROVIDED

64.4: UL NUMBERS FOR EQUIPMENT PROVIDED
PROVIDED

64.5: GAS APPLIANCES
REQUIRED: GAS APPLIANCES OUTSIDE OF METER RM.
PROPOSED: NO GAS THROUGHOUT THE BUILDING

65: BOILER ROOMS
PROPOSED: MECHANICAL ROOM AT CELLAR

66: LODGING HOUSES
NOT APPLICABLE

67: HOTELS
N/A – AS PER MDL 3.11

68: SMOKE DETECTING DEVICES.
REQUIRED: SMOKE DETECTORS
PROPOSED: DETECTORS PROVIDED WITHIN 15' OF LIVING ROOMS

TITLE 3:

75: WATER SUPPLY
75.1: N/A – AS PER MDL 3.11
75.2: N/A – AS PER MDL 3.11
75.3: HOT AND COLD WATER PROVIDED
75.4: N/A – AS PER MDL 3.11
75.5: N/A – AS PER MDL 3.11

76: BATHROOMS
76.1 A: N/A
76.1 B: SUPPLEMENTARY WATER CLOSETS IN CELLAR PROVIDED
76.1 C: WATER CLOSETS NOT OPENING DIRECTLY INTO KITCHEN
76.1 D: MIN. WIDTH AND ENCLOSURES PROVIDED
76.1 E: WATERPROOF MATERIAL PROPOSED
76.1 F: NO DRIP TRAYS PROPOSED
76.1 G: NO WOODWORK PROPOSED
76.1 H: N/A AS PER MDL 76.1 J
76.1 I: N/A
76.1 J: MECHANICAL VENTILATION PROVIDED
76.1 K: ELECTRICITY PROVIDED
76.1 L: N/A – AS PER MDL 3.11
76.1 M: N/A
76.1 N: N/A – AS PER MDL 3.11
76.2 A: WATER CLOSET PROVIDED WITHIN EVERY DWELLING UNIT
76.2 B: BATH PROVIDED WITHIN EVERY DWELLING UNIT
76.3: N/A - CLASS A DWELLING PROPOSED
76.4: N/A - CLASS A DWELLING PROPOSED
76.5: N/A - CLASS A DWELLING PROPOSED
76.6: N/A - CLASS A DWELLING PROPOSED
76.7: N/A

77: PLUMBING AND DRAINAGE
77.1: COMBINED SEWER/STORM DRAIN PROPOSED
77.2: N/A
77.3: ROOF DRAINS PROVIDED WHERE APPLICABLE
77.4: N/A
77.5: N/A

78: REPAIRS
REQUIRED: REPAIRS AS PER CODE
PROPOSED: BUILDING TO BE UPGRADED DURING CONSTRUCTION

79: HEATING
REQUIRED: HEAT TO BE PROVIDED THROUGHOUT
PROPOSED: BASEBOARD RADIATING HEAT PROVIDED THROUGHOUT

80: CLEANLINESS
REQUIRED: CLEANLINESS TO BE MAINTAINED
PROPOSED: VACANT

81: RECEPTACLES FOR WASTE MATTER
PROPOSED: WASTE REMOVAL REQUIRED
PROPOSED: PROVIDED BY NYC SANITATION DEPT.

82: PRIVACY
PROPOSED: ACCESS THROUGH LIVING RM. PROHIBITED
PROPOSED: NO ACCESS THROUGH OTHER ROOMS REQUIRED

83: JANITOR OR HOUSEKEEPER
PROPOSED: JANITOR FOR MORE THAN 13 D.U.
PROPOSED: N/A

84: CONSTRUCTION STANDARDS FOR THE CONTROL OF NOISE
PROPOSED: STC RATED MATERIALS REQUIRED
PROPOSED: STC 50 RATING PROVIDED

ARTICLE 4
N/A – AS PER MDL 3.11

ARTICLE 5
N/A – AS PER MDL 3.11

ARTICLE 5-A
N/A – AS PER MDL 3.11

ARTICLE 6
N/A – AS PER MDL 3.11

ARTICLE 7
N/A – BUILILDNG CLASSIFIED AS HAEA

ARTICLE 7-A
N/A – PROVISION EXPIRED

ARTICLE 7-B
N/A – AS PER MDL 3.11

ARTICLE 7-C
N/A – BUILILDNG CLASSIFIED AS HAEA

ARTICLE 8
SECTION 300: APPLICATION FOR PERMITS FILED
SECTION 301: CERTIFICATE OF OCCUPANCY TO BE OBTAINED
SECTION 302: N/A
SECTION 302-A: N/A
SECTION 302-B: N/A
SECTION 302-C: N/A
SECTION 303: N/A
SECTION 304: N/A
SECTION 305: N/A
SECTION 306: N/A
SECTION 307: N/A
SECTION 308: N/A
SECTION 309: N/A
SECTION 309-A: N/A
SECTION 310: N/A

ARTICLE 9
N/A

ARTICLE 10
N/A ARTICLE 10: N/A

ARTICLE 11
N/A

NEW YORK STATE MULTIPLE DWELLING LAW

ARTICLE 1
INTRODUCTORY PROVISIONS; DEFINITIONS

§3. APPLICATION TO CITIES, TOWNS AND VILLAGES.

11. NOTWITHSTANDING ANY OTHER PROVISION OF THIS SECTION, THE FOLLOWING ENUMERATED ARTICLES, SECTIONS AND SUBDIVISIONS OF SECTIONS OF THIS CHAPTER SHALL NOT APPLY TO THE CONSTRUCTION OR ALTERATION OF MULTIPLE DWELLINGS FOR WHICH AN APPLICATION FOR A PERMIT IS MADE TO THE DEPARTMENT AFTER DECEMBER SIXTH, NINETEEN HUNDRED SIXTY-NINE IN A CITY HAVING A POPULATION OF ONE MILLION OR MORE WHICH ADOPTS OR HAS ADOPTED LOCAL LAWS, ORDINANCES, RESOLUTIONS OR REGULATIONS PROVIDING PROTECTION FROM FIRE HAZARDS AND MAKING PROVISION FOR ESCAPE FROM FIRE IN THE CONSTRUCTION AND ALTERATION OF MULTIPLE DWELLINGS AND IN OTHER RESPECTS AS PROTECTIVE AS LOCAL LAW SEVENTY-SIX OF THE LAWS OF THE CITY OF NEW YORK FOR NINETEEN HUNDRED SIXTY-EIGHT AND COVERING THE SAME SUBJECT MATTER**AS THE FOLLOWING: SUBDIVISIONS TWENTY FIVE, TWENTYSEVEN, TWENTY-EIGHT, THIRTY-FIVE-C, THIRTY-SIX AND THIRTY-NINE OF SECTION FOUR, SUBDIVISION THREE OF SECTION TWENTY-EIGHT, SECTIONS THIRTY-SIX, THIRTY-SEVEN, FIFTY, FIFTY-ONE, FIFTY-TWO, FIFTY-THREE, FIFTY-FIVE, SIXTY, SIXTY-ONE, SIXTY-SEVEN, SUBDIVISIONS ONE, TWO, FOUR AND FIVE OF SECTION SEVENTY-FIVE, ARTICLE FOUR, ARTICLE FIVE, ARTICLE FIVE-A, ARTICLE SIX AND ARTICLE SEVEN-B;**EXCEPT THAT AFTER DECEMBER SIXTH, NINETEEN HUNDRED SIXTY-NINE WHERE A MULTIPLE DWELLING ERECTED PRIOR TO DECEMBER SIXTH, NINETEEN HUNDRED SIXTY-NINE IS ALTERED, OR A BUILDING ERECTED PRIOR TO DECEMBER SIXTH, NINETEEN HUNDRED SIXTY-NINE IS CONVERTED TO A MULTIPLE DWELLING PURSUANT TO A PERMIT APPLIED FOR TO THE DEPARTMENT HAVING JURISDICTION, THE FOREGOING ARTICLES, SECTIONS AND SUBDIVISIONS OF SECTIONS SHALL REMAIN APPLICABLE WHERE A LOCAL LAW OF SUCH CITY AUTHORIZES SUCH ALTERATION OR CONVERSION TO BE MADE, AT THE OPTION OF THE OWNER, EITHER IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING LAW AND REGULATIONS IN EFFECT IN SUCH CITY PRIOR TO DECEMBER SIXTH, NINETEEN HUNDRED SIXTY-EIGHT OR THE REQUIREMENTS OF THE BUILDING LAW AND REGULATIONS IN EFFECT AFTER SUCH DATE, AND THE OWNER ELECTS TO COMPLY WITH THE REQUIREMENTS OF THE BUILDING LAW AND REGULATIONS IN EFFECT PRIOR TO DECEMBER SIXTH, NINETEEN HUNDRED SIXTYEIGHT.

HOUSING MAINTENANCE CODE & MULTIPLE DWELLING NOTES

A. PAINTING - (SEC. 29 M.D.L. AND ART. 12 H.M.C)
1. PAINTING OF PUBLIC PARTS AND WITHIN DWELLINGS SHALL COMPLY WITH SEC. D26-12.01 H.M.C.
2. PAINTING OF WINDOW FRAMES SHALL COMPLY WITH SEC. D26-12.03 H.M.C.
3. WALLS OF COURTS AND SHAFTS SHALL BE OF A LIGHT COLORED SURFACE.

B. EXTERMINATION AND RAT PROOFING - (SEC 80 M.D.L. AND ART. 13 H.M.C.)
1. DWELLINGS SHALL BE SO CONSTRUCTED AS TO BE RAT-PROOF.
2. PREMISES SHALL BE MAINTAINED AND KEPT FREE OF RODENT AND INSECT INFESTATION.

C. RECEPTACLES FOR AND COLLECTION OF WASTE MATTER - (SEC. 81 M.D.L. AND ART 14 H.M.C.)
1. PROPER AND SUITABLE CONVENIENCES OR RECEPTACLES SHALL BE PROVIDED FOR COLLECTION OF WASTE MATTER.

D. PLUMBING AND DRAINAGE - (SEC. 77 M.D.L. AND ART 16 H.M.C.)
1. ENTIRE PLUMBING AND DRAINAGE SYSTEM INCLUDING ALL PLUMBING FIXTURES SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD REPAIR AT ALL TIMES.
2. ALL ROOFS, TERRACES, SHAFTS, COURTS, AREAS AND YARDS SHALL BY PROPERLY GRADED AND DRAINED (SEE SITE PLAN)

E. HEAT AND HOT WATER - (SEC. 79 M.D.L. AND ART. 17 H.M.C.)
1. YEARLY INSPECTIONS OF CENTRAL HEATING PLANTS SHALL BE MADE BY A QUALIFIED PERSON.
2. MINIMUM TEMPERATURES FOR HEATING AND HOT WATER SHALL BE MAINTAINED.

F. GAS METERS AND GAS APPLIANCES - (SEC. 64 M.D.L. AND ART. 18 H.M.C.)
1. GAS METERS SHALL COMPLY WITH SEC. 64 M.D.L.
2. GAS APPLIANCES SHALL, IN ADDITION TO THESE SECTIONS, COMPLY WITH THE BOARD OF STANDARDS AND APPEALS.
3. YEARLY INSPECTION OF GAS APPLIANCES BY QUALIFIED PERSON SHALL BE MADE IN "OLD LAW TENEMENTS" OR "ROOMING UNITS".

G. ARTIFICIAL LIGHTING AND ENTRANCE DOORS - (SEC. 26 & 35 M.D.L. AND ART.19 H.M.C.)
1. PROPER ELECTRIC LIGHTING AND EQUIPMENT SHALL BE PROVIDED AND MAINTAINED WITHIN ALL DWELLINGS.
2. PROPER ELECTRIC LIGHTS SHALL BE INSTALLED AND MAINTAINED AT OR NEAR THE OUTSIDE OF FRONT ENTRANCE WAY AND MIN. OR
50 WATTS INCANDESCENT ILLUMINATION OR EQUIVALENT AND MIN. OR 40 WATTS IN YARDS AND COURTS AND SHALL BE KEPT BURNING FROM SUNSET EACH DAY TO SUNRISE ON THE DAY FOLLOWING.
3. MAIN ENTRANCE AND VESTIBULE DOORS SHALL HAVE NOT LESS THAN FIVE (5) SQ.FT. OF GLAZED SURFACE.

H. ENTRANCE DOORS - (SEC. 50-A.M.D.L. AND ART. 20 H.M.C.)
1. BLDG. ENTRANCES AND ALL OTHER EXTERIOR ENTRANCES SHALL BE EQUIPPED WITH APPROVED TYPE AUTOMATIC SELF-CLOSING AND SELF-LOCKING DOORS.
2. ENTRANCE DOORS TO EACH DWELLING UNIT SHALL HAVE KEY LOCK WITH AT LEAST ONE KEY TO BE PROVIDED BY OWNER, HEAVY DUTY LATCH SET WITH DEAD BOLT, THUMB TURN INSIDE AND DOOR CHAIN GUARD, STC 35.

J. PEEP HOLES - (SEC. 51-A.M.D.L. AND ART. 20 H.M.C.)
1. PEEPHOLES SHALL BE PROVIDED IN ENTRANCE DOORS OR EACH DWELLING UNIT, LOCATED AS PRESCRIBED BY THE DEPARTMENT.

K. BELLS AND MAIL SERVICE - (SEC. 57 M.D.L. AND ART. 21 H.M.C.)
1. BELL OR BUZZER SYSTEM SHALL BE APPROVED TYPE AND SHALL BE KEPT IN ORDER.
2. PROVIDE AND MAINTAIN APPROVED TYPE MAIL RECEPTACLES AND DIRECTORIES OF PERSONS LIVING IN THE DWELLING AS PROVIDED BY FEDERAL LAW AND AS PER REGULATIONS OF THE POST OFFICE DEPARTMENT.

L. LIGHTING AND VENTILATION - (SEC. 30 M.D.L. AND ART. 30 H.M.C.)
1. WINDOWS IN ALL ROOMS, EXCEPT BATHROOM AND KITCHENETTES, SHALL BE AT LEAST ONE-TENTH THE AREA OF THE ROOM AND BE AT LEAST 12 SQ.FT. IN AREA

M. WATER CLOSET AND BATH ACCOMMODATIONS - (SEC. 76 M.D.L. AND ART.31 H.M.C.)
1. FLOORS SHALL BE CERAMIC TILE WITH 6" BASE.
2. WALLS AND FLOORS IN WATER CLOSET COMPARTMENT, BATHROOMS AND LAVATORIES SHALL COMPLY WITH REQUIREMENTS OF THESE SECTIONS.
3. EVERY WATER CLOSET COMPARTMENT, BATHROOM AND LAVATORY SHALL HAVE A WINDOW OF AT LEAST 3 SQ.FT. IN AREA AND ONE HALF THE AREA SHALL OPEN.
4. IN LIEU OF A WINDOW, MECHANICAL VENTILATION MAY BE INSTALLED WHICH WILL PROVIDE AT LEAST FOUR CHANGES OF AIR PER HR. OR A MIN. OF 50 CFM OF EXHAUST FOR EACH SUCH WATER CLOSET COMPARTMENT, BATHROOM OR LAVATORY AND SHALL BE PROVIDED WITH APPROVED TYPE REGISTER WITH FUSIBLE LINK DAMPER B.S.& A. CAL. # 678.41SM.

O. KITCHENS AND KITCHENETTES - (SEC. 33 M.D.L. AND ART. 32 H.M.C.)
1. EVERY KITCHEN AND KITCHENETTE SHALL BE PROVIDED WITH FACILITIES FOR COOKING AND SHALL BE EQUIPPED FOR ARTIFICIAL LIGHTING.
2. EVERY KITCHEN AND KITCHENETTE SHALL BE PROVIDED WITH A SINK HAVING A MIN. 2" WASTE AND TRAP.
3. LIGHTING AND VENTILATION OF KITCHENS SHALL BE AS PROVIDED UNDER SEC.30 M.D.L. AND ART. 30 H.M.C.
4. CEILING AND WALLS, EXCLUSIVE OF DOORS, OF ALL KITCHENETTES SHALL BE FIRE RETARDED WITH \ MATERIALS HAVING A ONE HR. FIRE RATING OR IN LIEU THEREOF SHALL BE EQUIPPED WITH A SPRINKLER.
5. KITCHENETTES SHALL BE PROVIDED WITH A WINDOW AT LEAST ONE FT. WIDE 3 SQ. FT., IN AREA AND BE AT LEAST 10% OF THE FL. AREA IN LIEU OF WINDOW MECHANICAL VENTILATION MAY BE INSTALLED WHICH WILL PROVIDE. AT LEAST 6 CHANGES OF AIR PER HOUR.
6. ALL COMBUSTIBLE MATERIALS IMMEDIATELY UNDERNEATH AND WITHIN ONE FOOT OF COOKING APPARATUS SHALL BE PROPERLY FIRE RETARDED. A MINIMUM OF TWO FEET CLEARANCE SHALL BE MAINTAINED ABOVE EXPOSED COOKING SURFACES. COMBUSTIBLE MATERIALS BETWEEN 2 AND 3 FEET ABOVE EXPOSED COOKING SURFACE SHALL BE FIRE RETARDED.

P. BOILER ROOMS - (SEC. 65 M.D.L.)
1. BOILER ROOMS SHALL COMPLY WITH REQUIREMENTS OF THIS SECTION.

R. SECURITY REQUIREMENTS (604.4)
1. BLDG. ENTRANCE DOORS AND OTHER EXTERIOR DOORS SHALL BE PROVIDED WITH HEAVY DUTY LOCK SETS WITH AUXILIARY LATCH BOLTS TO PREVENT THE LATCH FROM BEING MANIPULATED BY OTHER THAN A KEY.
2. DOORS TO DWELLING UNITS SHALL BE EQUIPPED WITH A HEAVY DUTY LOCKSET; A DEAD BOLT WITH INTERIOR THUMB TURN AND A CHAIN DOOR GUARD.
3. ALL OPENABLE WINDOWS SHALL BE EQUIPPED WITH SASH LOCKS DESIGNED TO BE OPENABLE FROM THE INSIDE ONLY.
4. BLDGS. CLASSIFIED IN OCCUPANCY GROUP J-2 CONTAINING 8 OR MORE DWELLING UNITS SHALL BE PROVIDED WITH AN INTERCOMMUNICATION SYSTEM LOCATED AT THE DOOR GIVING ACCESS TO THE MAIN ENTRANCE HALL OR LOBBY.

S. MISCELLANEOUS NOTES:
1. RADIATORS SHALL NOT OBSTRUCT STAIRS OR PUBLIC HALLS.
2. ALL F.P.S.C. DOORS AND TRIM SHALL HAVE FIRE RATING AS SPECIFIED ON PLAN OR DOOR SCHEDULE.
3. CARPENTER SHALL PROVIDE RECESS FOR MEDICINE CABINETS IN BATHROOMS AND LAVATORIES.
4. ALL BATHTUBS, RECESSED OR OTHERWISE, SHALL BE PROVIDED WITH SUFFICIENT SHOWER CURTAIN RODS.
5. PROVIDE AND SET WOOD SHELVES AND A 1-1/2" DIAMETER HORIZONTAL WOOD OR METAL POLE IN EACH CLOSET. LINEN CLOSETS SHALL HAVE FIVE SHELVES.

LND
Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON 030459 STATE OF NEW YORK
ARCHITECT'S SEAL

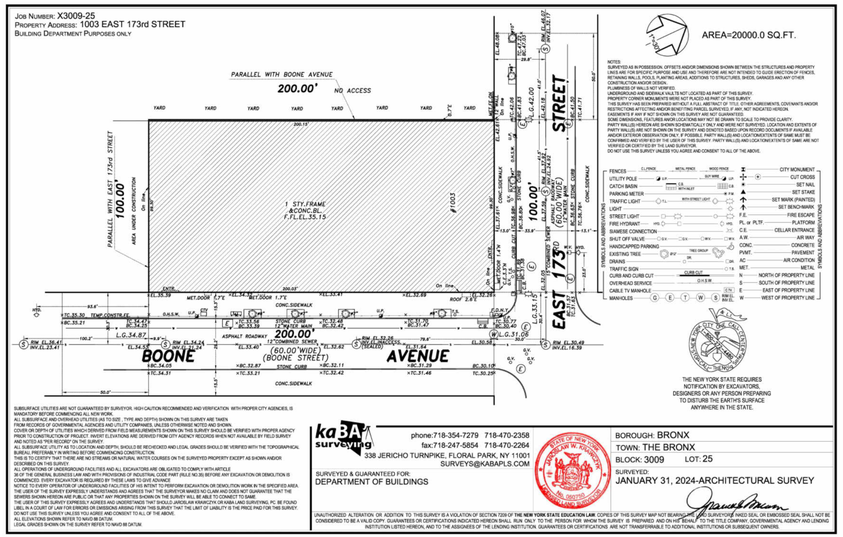
REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
MDL ANALYSIS

DOB JOB #: **X01288603-I1**
SCALE: AS NOTED
DRAWN BY: JOHN HURTADO
CHECKED: LND
DATE: 5/2/2026 4:31:51 p. m.

DRAWING NO.
G-103.00



National Flood Hazard Layer FIRMette

FEMA

73°53'25"W 40°50'18"N



Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance
- Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/3/2025 at 2:37 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL

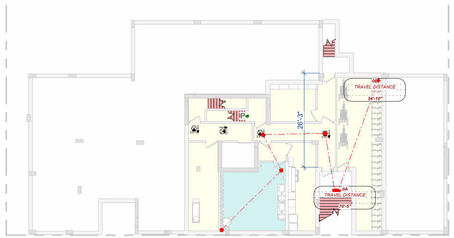
BY	DESCRIPTION	DATE	REV.

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

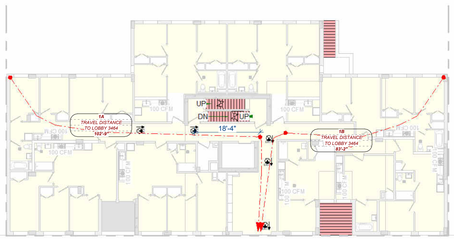
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SURVEY, FEMA FLOOD MAP

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DRAWN BY: JOHN HURTADO
CHECKED: LND
DATE: 5/2/2026 4:31:52 p. m.

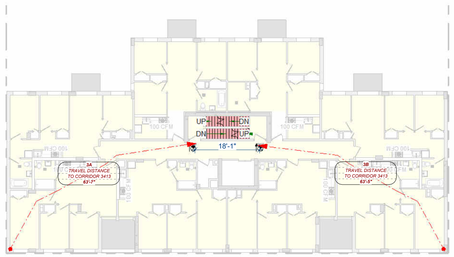
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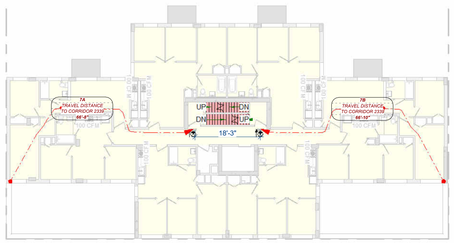
1 CELLAR LIFE SAFETY
1" = 20'-0"



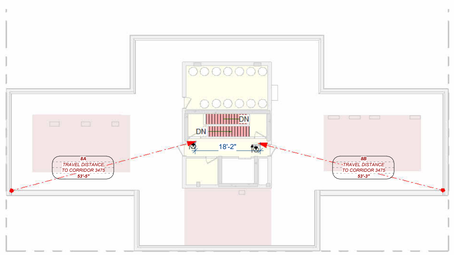
2 1st FLOOR LIFE SAFETY
1" = 20'-0"



3 2ND-6TH FLOOR LIFE SAFETY
1" = 20'-0"



4 7TH FLOOR LIFE SAFETY
1" = 20'-0"



5 ROOF LIFE SAFETY
1" = 20'-0"

TABLE 1004.1.2 - OCCUPANCY LOAD.

OCCUPANCY R-2: RESIDENTIAL (200SF x OCCUPANT)
OCCUPANCY R-2: OUTDOOR RECREATION (200SF x OCCUPANT)
OCCUPANCY R-2: CORRIDOR (RESIDENTIAL) (200SF x OCCUPANT)
OCCUPANCY R-2: STAIRS (RESIDENTIAL) (200SF x OCCUPANT)

OCCUPANCY S-2: LOW-HAZARD STORAGE, mechanical equipment room(300SF x OCCUPANT)
OCCUPANCY S-2:PARKING AREA (300SF x OCCUPANT)

AREA NAME	OCCUPANCY CLASS	OCCUPANCY LOAD (SFxPerson)	AREA	PROPOSED OCCUPANT (Area/Occ.Load)
CELLAR				
BIKE ROOM	R-2	200	443 SF	2
COMPACTOR ROOM	R-2	200	203 SF	1
CORRIDOR	R-2	200	399 SF	2
LAUNDRY ROOM	R-2	200	190 SF	1
MAIL ROOM	R-2	200	131 SF	1
MECHNICAL ROOM	S-2	300	318 SF	1
STAIRS	R-2	200	64 SF	0
			1747 SF	8
1st_FLOOR				
RESIDENTIAL	R-2	200	4860 SF	24
			4860 SF	24
2ND_FLOOR				
RESIDENTIAL	R-2	200	4872 SF	24
			4872 SF	24
3RD_FLOOR				
RESIDENTIAL	R-2	200	4882 SF	25
			4882 SF	25
4TH_FLOOR				
RESIDENTIAL	R-2	200	4874 SF	24
			4874 SF	24
5TH_FLOOR				
RESIDENTIAL	R-2	200	4905 SF	25
			4905 SF	25
6TH_FLOOR				
RESIDENTIAL	R-2	200	4905 SF	25
			4905 SF	25
7TH_FLOOR				
RESIDENTIAL	R-2	200	4217 SF	21
			4217 SF	21
ROOF				
MECHNICAL ROOM	R-2	200	280 SF	1
RECREATION	R-2	200	1257 SF	6
REFUSE ROOM	R-2	200	65 SF	0
RESIDENTIAL	R-2	200	114 SF	1
STAIRS	R-2	200	137 SF	1
			1853 SF	9
TOTAL PROPOSED OCCUPANTS			37116 SF	186

2022 BC - CHAPTER 10 MEANS OF EGRESS

1007.1.1TWO EXITS OR EXIT ACCESS DOORWAYS.
WHERE TWO EXITS, EXIT ACCESS DOORWAYS, EXIT ACCESS STAIRWAYSOR RAMPS, OR ANY COMBINATION THEREOF, ARE REQUIRED FROM ANY PORTION OF THE EXIT ACCESS, THEY SHALL BE PLACED A DISTANCE APART EQUAL TO NOT LESS THAN ONE-HALF OF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE BUILDING OR AREA TO BE SERVED MEASURED IN A STRAIGHT LINE BETWEEN THEM.
STAIRS SHARING ANY COMMON WALL, FLOOR, CEILING,SCISSOR STAIR ASSEMBLY, OR OTHER ENCLOSURESHALL BE COUNTED AS ONE EXIT STAIRWAY.

EXCEPTIONS:
3. GROUP R-2 OCCUPANCIES.IN GROUP R-2 OCCUPANCIES, WHERE STAIRS ARE ENCLOSED IN WALLS HAVING AT LEAST A 2-HOUR FIRE RESISTANCE RATING AND CONSTRUCTED OF MASONRY OR MASONRY EQUIVALENT IN ACCORDANCE WITH DEPARTMENT RULES:
*3.1.THE EXIT DOORS TO SUCH STAIRS SHALL BE PLACED A DISTANCE APART EQUAL TO NO LESS THAN **15 FEET** (4572 MM); AND*
*3.2.SUCH STAIRS SHALL BE PERMITTED TO SHARE COMMON WALLS, FLOORS, CEILINGS OR SCISSOR STAIRS ASSEMBLIES OR OTHER ENCLOSURES PROVIDED THAT THE CONSTRUCTION SEPARATINGTHE STAIRS IS ALSO OF AT LEAST A **2-HOUR FIRE**-RESISTANCE RATING AND CONSTRUCTED OF MASONRY OR MASONRY EQUIVALENT IN ACCORDANCE WITH DEPARTMENT RULES*

2022 BC - CHAPTER 10 MEANS OF EGRESS

1011.2 WIDTH AND CAPACITY.
THE REQUIRED CAPACITYOF STAIRWAYS SHALL BE DETERMINEDAS SPECIFIED IN SECTION 1005, BUT THE MINIMUMWIDTH SHALL BE NOT LESS THAN 44 INCHES 1117.6MM). SEE SECTION 1009.3 FOR ACCESSIBLE MEANS OF EGRESS STAIRWAYS.

EXCEPTIONS:
1.AWIDTH OF NOT LESS THAN 36 INCHES (914.4 MM) SHALL BE PERMITTED IN:
1.1.A STAIRWAY THAT SERVES AN OCCUPANT LOAD OF 50 OR LESS CUMULATIVE FOR ALL STORIES; OR
1.2.A STAIRWAY THAT PROVIDES EGRESS TO THE EXIT DISCHARGE SOLELY FOR THE USE OF GROUP R-2 OCCUPANCIES, PROVIDEDTHE BUILDING IT SERVES IS 125 FEET (38 100 MM) OR LESS IN HEIGHT, AND PROVIDED SUCH A STAIRWAY SERVES NOT MORE THAN 30 OCCUPANTS PER FLOOR.
PROPOSED TWO 36" STAIRWAYS FROM 1ST FL TO ROOF SERVE LESS THAN 50 OCCUPANTS PER FLOOR

NYC BC 1005.1 MINIMUM REQUIRED EGRESS WIDTH

NYC BC 1005.1
THE MEANS OF EGRESS WIDTH SHALL NOT BE LESS THAN THAT REQUIRED BY THIS SECTION. THE TOTAL WIDTH OF MEANS OF EGRESS IN INCHES (MM) SHALL NOT BE LESS THAN THE TOTAL OCCUPANT LOAD SERVED BY THE MEANS OF EGRESS MULTIPLIED BY 0.3 INCHES (7.62 MM) PER OCCUPANT FOR STAIRWAYS AND BY 0.2 INCHES (5.08 MM) PER OCCUPANT FOR OTHER EGRESS COMPONENTS.

NYC BC 10101.1.1 DOORS.
THE REQUIRED CAPACITY OF EACH DOOR OPENING SHALL BE SUFFICIENT FOR THE OCCUPANT LOAD THEREOF AND SHALL PROVIDE A MINIMUMCLEAR WIDTH OF32 INCHES

NYC BC 1020.2 CORRIDOR WIDTH
THE MINIMUM CORRIDOR WIDTH SHALL BE AS DETERMINED IN SECTION 1005.1, BUT NOT LESS THAN 44 INCHES (1118 MM).
EXEMPTION :
2. THIRTY-SIX INCHES (914 MM)—WITH A REQUIRED OCCUPANT CAPACITY OF 50 OR LESS, EXCEPT AS OTHERWISE REQUIRED BY CHAPTER 11.

1024.2 EXIT PASSAGEWAY WIDTH
THE REQUIRED CAPACITYOF EXIT PASSAGEWAYS SHALL BE DETERMINEDAS SPECIFIED IN SECTION 1005BUT THE MINIMUMWIDTH SHALL BE NOT LESS THAN 44 INCHES (1117.6MM), EXCEPT THAT EXIT PASSAGEWAYS SERVING AN OCCUPANT LOAD OF LESS THAN 50 SHALL BE NOT LESS THAN 36 INCHES (914.4MM) IN WIDTH.THE MINIMUM WIDTH OR REQUIRED CAPACITY OF EXIT PASSAGEWAYS SHALL BE UNOBSTRUCTED

LEVEL	OCCUPANCY LOAD	MANUAL OCCUPANT NUMBER	STAIRWAY MULTIPLIER	MIN.REQ CORRIDOR WIDTH	PROPOSED CORRIDOR WIDTH	OTHER EGRESS MULTIPLIER	MIN.OTHER EGRESS WIDTH	PROPOSED DOOR WIDTH
CELLAR	200	8	0.3"	2.40"	44" ≥ 44" MIN REQ.	0.20"	1.6"	36" ≥ 36" MIN REQ.
CELLAR	300	8	0.3"	2.40"	44" ≥ 44" MIN REQ.	0.20"	1.6"	36" ≥ 36" MIN REQ.
1st_FLOOR	200	24	0.3"	7.20"	44" ≥ 44" MIN REQ.	0.20"	4.8"	36" ≥ 36" MIN REQ.
2ND_FLOOR	200	24	0.3"	7.20"	44" ≥ 44" MIN REQ.	0.20"	4.8"	36" ≥ 36" MIN REQ.
3RD_FLOOR	200	24	0.3"	7.20"	44" ≥ 44" MIN REQ.	0.20"	4.8"	36" ≥ 36" MIN REQ.
4TH_FLOOR	200	24	0.3"	7.20"	44" ≥ 44" MIN REQ.	0.20"	4.8"	36" ≥ 36" MIN REQ.
5TH_FLOOR	200	25	0.3"	7.50"	44" ≥ 44" MIN REQ.	0.20"	5.0"	36" ≥ 36" MIN REQ.
6TH_FLOOR	200	25	0.3"	7.50"	44" ≥ 44" MIN REQ.	0.20"	5.0"	36" ≥ 36" MIN REQ.
7TH_FLOOR	200	21	0.3"	6.30"	44" ≥ 44" MIN REQ.	0.20"	4.2"	36" ≥ 36" MIN REQ.
ROOF	200	9	0.3"	2.70"	44" ≥ 44" MIN REQ.	0.20"	1.8"	36" ≥ 36" MIN REQ.

2022 BC - CHAPTER 10 MEANS OF EGRESS
SECTION 1008 MEANS OF EGRESS ILLUMINATION

1008.1 MEANS OF EGRESS ILLUMINATION.
ILLUMINATION SHALL BE PROVIDED IN THE MEANS OF EGRESSIN ACCORDANCE WITH SECTION 1008.2. UNDER EMERGENCY POWER, MEANS OF EGRESS ILLUMINATION SHALL COMPLY WITH SECTION 1008.3.

1008.2ILLUMINATION REQUIRED.
EXITS, EXIT DISCHARGES AND PUBLIC CORRIDORSSHALL BE ILLUMINATED AT ALL TIMES BY EITHER DAYLIGHT OR ELECTRIC LIGHTING FIXTURES. EXIT ACCESS COMPONENTS SHALL BE ILLUMINATED BY EITHER DAYLIGHT OR ELECTRIC LIGHTING FIXTURES AT ALL TIMES THAT THE SPACE SERVED BY THE EXIT ACCESS COMPONENTIS OCCUPIED.

EXCEPTIONS:
1.OCCUPANCIES IN GROUP U.2.AISLE ACCESSWAYS IN GROUP A.3.DWELLING UNITS AND SLEEPING UNITS IN GROUPS I-1, R-1, R-2 AND R-3.4.SLEEPING UNITS OF GROUP I OCCUPANCIES.5.AREAS BEYOND SAFE DISPERSAL AREA WHERE SUCH AREAS ARE PROVIDED, AND DESIGNED IN ACCORDANCE WITH SECTION 1028.5, EXCEPTIONS 1 THROUGH 5

1008.2.1 ILLUMINATION LEVEL UNDER NORMAL POWER.
THE MEANS OF EGRESS ILLUMINATION LEVEL SHALL BE NOT LESS THAN 1 FOOTCANDLE(11 LUX) AT THE WALKING SURFACE

1008.2.3 SENSORS AND CONTROLS.
AUTOMATIC, OCCUPANT SENSOR OR PHOTOSENSOR LIGHTING CONTROLS SHALL BE PERMITTED WITHIN MEANS OF EGRESS, PROVIDED THAT THE ILLUMINATION LEVEL IS NOT REDUCED TO A LEVEL BELOW THE MINIMUM REQUIREMENTS OF SECTION 1008.2.1, AND THE SWITCH CONTROLLERS ARE EQUIPPED FOR FAIL-SAFE OPERATION ENSURING THAT IF THE SENSOR OR CONTROL FAILS, THE LIGHTING LEVELS WILL BE AT THE LEVELS REQUIRED BY SECTION 1008.2.1

TRAVEL DISTANCE & COMMON PATH OF TRAVEL.

AS PER BC - "1006.2.1 Common Path of Egress Travel" & "1017.1 Travel Distance Limitations"

- "R" OCCUPANCY (SPRINKLERED):
  MAX TRAVEL DISTANCE: 200'-0"
  MAX COMMON PATH OF TRAVEL (EXCEPTION 4): 125'-0"
- "S" OCCUPANCY (SPRINKLERED):
  MAX TRAVEL DISTANCE: 300'-0"
  MAX COMMON PATH OF TRAVEL (EXCEPTION 2): 100'-0"

LEVEL	TAG	OCCUPANCY	LENGTH	MAX DISTANCE PERMITTED
TRAVEL DISTANCE				
CELLAR	0A	R-2	70'-4 1/2"	125'-0"
CELLAR	0B	R-2	34'-10"	125'-0"
1st_FLOOR	1A	R-2	102'-8 1/2"	125'-0"
1st_FLOOR	1B	R-2	83'-1 1/2"	125'-0"
3RD_FLOOR	3A	R-2	63'-6 3/4"	125'-0"
3RD_FLOOR	3B	R-2	63'-4 3/4"	125'-0"
4TH_FLOOR	4A	R-2	63'-6 3/4"	125'-0"
4TH_FLOOR	4B	R-2	63'-4 3/4"	125'-0"
7TH_FLOOR	7A	R-2	66'-8 1/2"	125'-0"
7TH_FLOOR	7B	R-2	66'-10"	125'-0"
ROOF	8A	R-2	53'-4 1/2"	125'-0"
ROOF	8B	R-2	53'-3 1/2"	125'-0"

TABLE 1006.3.2 STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT
F. LIMITED TO THE CELLAR CLOSEST TO GRADE PLANE.

SECTION BC 1017 EXIT ACCESS TRAVEL DISTANCE
1017.1 GENERAL.

TRAVEL DISTANCE WITHIN THE EXIT ACCESS PORTION OF THE MEANS OF EGRESS SYSTEM SHALL BE IN ACCORDANCE WITH THIS SECTION.

1017.2LIMITATIONS.
EXIT ACCESS TRAVEL DISTANCE SHALL NOT EXCEED THE VALUES GIVEN IN TABLE 1017.2.

2022 BC - CHAPTER 10 MEANS OF EGRESS
SECTION BC 1006 NUMBER OF EXITS AND EXIT ACCESS DOORWAYS

1006.1 GENERAL.
THE NUMBER OF EXITS OR EXIT ACCESS DOORWAYS REQUIRED WITHIN THE MEANS OF EGRESS SYSTEM SHALL COMPLY WITH THE PROVISIONS OF SECTION 1006.2 FOR SPACES, INCLUDING MEZZANINES, AND SECTION 1006.3 FOR STORIES.

1006.2 EGRESS FROM SPACES.
ROOMS, AREAS OR SPACES, INCLUDING MEZZANINES, WITHIN A STORY OR BASEMENTSHALL BE PROVIDED WITH THE NUMBER OF EXITS OR ACCESS TO EXITS IN ACCORDANCE WITH THIS SECTION.

1006.2.1 EGRESS BASED ON OCCUPANT LOAD AND COMMON PATH OF EGRESS TRAVEL DISTANCE.
TWO EXITSOR EXIT ACCESS DOORWAYS FROM ANY SPACE SHALL BE PROVIDED WHERE THE DESIGN OCCUPANT LOADOR THE COMMON PATH OF EGRESS TRAVEL DISTANCE EXCEEDS THE VALUES LISTED IN TABLE 1006.2.1.

TABLE 1006.2.1
SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)		
		Without Sprinkler System (feet)		With Sprinkler System (feet)
		Occupant Load		
		OL ≤30	OL > 30	
A[a], E[a], M	74	75	75	75[a]
B	74	100	75	100[a]
F	49	75	75	100[a]
H-1, H-2, H-3	3	NP	NP	25[a]
H-4[b], H-5[b], I-1, I-3, I-4	10	NP	NP	75[a]
I-2[d]	See Section 407	NP	NP	75[a]
R-1	20	NP	NP	75[a]
R-2	20[g]	NP	NP	125[a]
S	29	100	75[c]	100[a]
U	74	100	75	75[a]

TABLE 1017.2
EXIT ACCESS TRAVEL DISTANCE[A]

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A	See Section 1029.7	
E, F-1, M, R, S-1	150	200[b]
B	200	300[b]
F-2, S-2, U	200	250[c]
H-1	Not Permitted	75[f]
H-2	Not Permitted	100[f]
H-3	Not Permitted	150[f]
H-4	Not Permitted	175[f]
H-5	Not Permitted	200[c]
I-1, I-2, I-3, I-4	Not Permitted	200[c]

For SI: 1 foot = 304.8 mm.

Effective November 1, 2022

LEGEND

AREAS

VIEW	DESCRIPTION
	OCCUPANCY R-2: RESIDENTIAL (200SF x OCCUPANT)
	OCCUPANCY S-2: LOW-HAZARD STORAGE, MECHANICAL EQUIPMENT ROOM(300SF x OCCUPANT)
	OCCUPANCY R-2: INDOOR RECREATION SPACE (50SF x OCCUPANT)
	OCCUPANCY R-2: OUTDOOR OCCUPIED ROOF (200SF x OCCUPANT)
	EGRESS: STAIRCASE

SYMBOLS

VIEW	DESCRIPTION
	TRAVEL DISTANCE
	COMMON PATH OF TRAVEL
EXIT	EXIT SIGN

Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON 030459 STATE OF NEW YORK

ARCHITECT'S SEAL

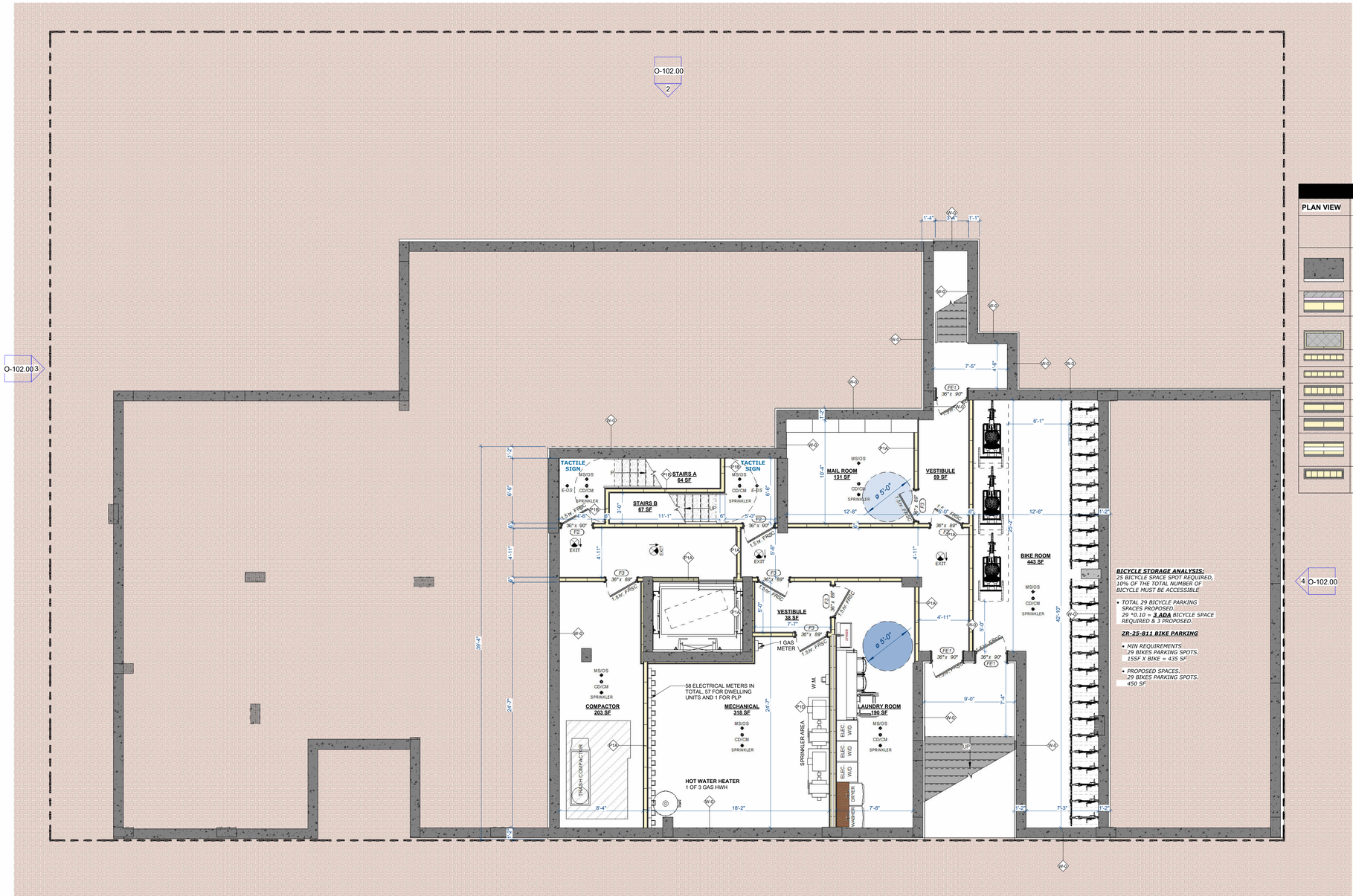
REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
LIFE SAFETY PLANS

DOB JOB #X01288603-I1
SCALE: AS NOTED
DRAWN BY: JOHN HURTADO
CHECKED: LND
DATE: 5/2/2026 4:31:58 p. m.

DRAWING NO.
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1 CELLAR
3/16" = 1'-0"

LEGEND

PLAN VIEW	TAG	DESCRIPTION	PLAN VIEW	DESCRIPTION
				AIR EXHAUST TO ROOF
	W0	PROPOSED 12" CONCRETE WALL	11	WINDOW TAG SEE SCHEDULE
	W1	PROPOSED 2 HOUR RATED MASONRY WALL	D1	DOOR TAG SEE SCHEDULE
	W2	PROPOSED 3HR RATED CMU SHEARING WALL - INTERIOR		FLOOR DRAIN
	P2	PROPOSED 4" UNRATED	W1	WALL TAG SEE SCHEDULE
	P3	PROPOSED 4" UNRATED - MOLD RESISTANT	AD	(AD) AREA - (FD) FLOOR - (RD) ROOF DRAIN
	P1A	PROPOSED 6" 2HRS FIRE RATED	CD/CM	SMOKE & CARBON MONOXIDE DECTOR
	P1B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ.	FLOOR TO CEILING 6'-0"	FLOOR TO CEILING HEIGHT
	P1C	PROPOSED 6" 3HRS FIRE RATED - MOLD RESIST.	SH	SPRINKLER HEAD
	P1D	6" CHASE WALL - MOLD RESISTANT	EXIT	LED EXIT SIGN, EMERGENCY LIGHT COMBO W/BATTARY BACKUP 90MIN.
	P2B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ. & MOLD RES.		CENTER LINE

Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL:
REGISTERED ARCHITECT
LEANDRO NILS DICKSON
030459
STATE OF NEW YORK

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
CELLAR PLAN

DOB JOB #: **X01288603-I1**

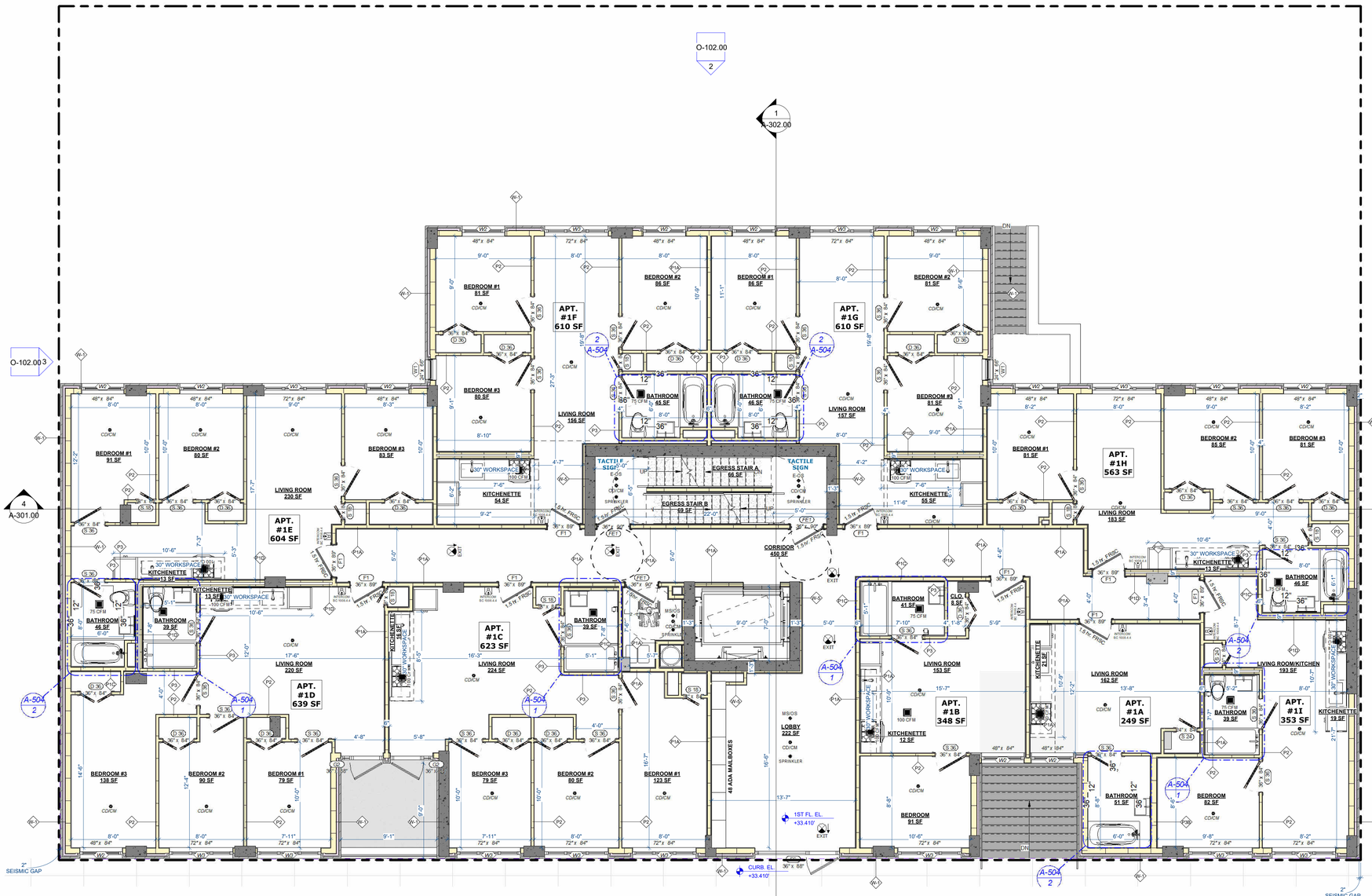
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1 1st_FLOOR
3/16" = 1'-0"

LIGHT & AIR CALCULATIONS - 1ST_FL

LOCATION		LIGHT		AIR	
Room	Area	Required 10%	Provided >10%	Required 5%	Provided >5%
APT.#1B					
BEDROOM	91 SF	9.08 SF	42.00 SF	4.54 SF	21.00 SF
LIVING ROOM	153 SF	15.31 SF	28.00 SF	7.65 SF	14.00 SF
APT.#1C					
BEDROOM #1	123 SF	12.31 SF	42.00 SF	6.15 SF	21.00 SF
BEDROOM #2	80 SF	8.00 SF	42.00 SF	4.00 SF	21.00 SF
BEDROOM #3	79 SF	7.90 SF	42.00 SF	3.95 SF	21.00 SF
BEDROOM #3	138 SF	13.82 SF	28.00 SF	6.91 SF	14.00 SF
LIVING ROOM	224 SF	22.40 SF	22.00 SF	11.20 SF	11.00 SF
APT.#1D					
BEDROOM #1	79 SF	7.94 SF	42.00 SF	3.97 SF	21.00 SF
BEDROOM #2	90 SF	8.96 SF	42.00 SF	4.48 SF	21.00 SF
LIVING ROOM	220 SF	22.05 SF	22.00 SF	11.02 SF	11.00 SF
APT.#1E					
BEDROOM #1	91 SF	9.08 SF	28.00 SF	4.54 SF	14.00 SF
BEDROOM #2	80 SF	8.00 SF	28.00 SF	4.00 SF	14.00 SF
BEDROOM #3	83 SF	8.29 SF	28.00 SF	4.14 SF	14.00 SF
LIVING ROOM	230 SF	22.99 SF	42.00 SF	11.49 SF	21.00 SF
APT.#1F					
BEDROOM #1	81 SF	8.10 SF	28.00 SF	4.05 SF	14.00 SF
BEDROOM #2	86 SF	8.62 SF	28.00 SF	4.31 SF	14.00 SF
BEDROOM #3	80 SF	8.05 SF	11.00 SF	4.02 SF	5.50 SF
LIVING ROOM	156 SF	15.57 SF	42.00 SF	7.79 SF	21.00 SF
APT.#1G					
BEDROOM #1	86 SF	8.62 SF	28.00 SF	4.31 SF	14.00 SF
BEDROOM #2	81 SF	8.10 SF	28.00 SF	4.05 SF	14.00 SF
BEDROOM #3	81 SF	8.14 SF	11.00 SF	4.07 SF	5.50 SF
LIVING ROOM	157 SF	15.70 SF	42.00 SF	7.85 SF	21.00 SF
APT.#1H					
BEDROOM #1	81 SF	8.14 SF	28.00 SF	4.07 SF	14.00 SF
BEDROOM #2	85 SF	8.53 SF	28.00 SF	4.27 SF	14.00 SF
BEDROOM #3	81 SF	8.14 SF	28.00 SF	4.07 SF	14.00 SF
LIVING ROOM	183 SF	18.29 SF	42.00 SF	9.15 SF	21.00 SF
APT.#1I					
BEDROOM	82 SF	8.19 SF	42.00 SF	4.09 SF	21.00 SF
LIVING ROOM/KITCHEN	193 SF	19.30 SF	42.00 SF	9.65 SF	21.00 SF

907.2.9 FIRE ALARM SYSTEM
GROUP R-2

A FIRE ALARM SYSTEM WITHOUT ALARM NOTIFICATION APPLIANCES AND SMOKE ALARMS SHALL BE INSTALLED IN ACCORDANCE WITH THIS SECTION IN GROUP R-2 OCCUPANCIES, OTHER THAN STUDENT APARTMENTS, WHERE SUCH OCCUPANCY SATISFIES ANY ONE OF THE FOLLOWING

CONDITIONS:
1. ANY DWELLING UNIT IS LOCATED THREE OR MORE STORIES ABOVE THE LOWEST LEVEL OF EXIT DISCHARGE, INCLUDING DWELLING UNITS IN PENTHOUSES OF ANY AREA.

THE PROPERTY HAS DWELLING UNIT LOCATED MORE THAN 3 STORIES ABOVE THE LOWEST LEVEL OF EXIT DISCHARGE. THEREFORE FIRE ALARM SYSTEM IS REQUIRED.

903.2 WHERE REQUIRED

APPROVED AUTOMATIC SPRINKLER SYSTEMS IN NEW BUILDINGS AND STRUCTURES SHALL BE PROVIDED IN THE LOCATIONS DESCRIBED IN THIS SECTION.NO HIGH PILE COMBUSTIBLE STORAGE

BUILDING IS FULLY SPRINKLERED

LEGEND

PLAN VIEW	TAG	DESCRIPTION	PLAN VIEW	DESCRIPTION
				AIR EXHAUST TO ROOF
	W0	PROPOSED 12" CONCRETE WALL	11	WINDOW TAG SEE SCHEDULE
	W1	PROPOSED 2 HOUR RATED MASONRY WALL	D1	DOOR TAG SEE SCHEDULE
	W2	PROPOSED 3HR RATED CMU SHEARING WALL - INTERIOR		FLOOR DRAIN
	P2	PROPOSED 4" UNRATED	W1	WALL TAG SEE SCHEDULE
	P3	PROPOSED 4" UNRATED - MOLD RESISTANT	AD	(AD) AREA - (FD) FLOOR - (RD) ROOF DRAIN
	P1A	PROPOSED 6" 2HRS FIRE RATED	CD/CM	SMOKE & CARBON MONOXIDE DECTOR
	P1B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ.	FLOOR TO CEILING 9'-0"	FLOOR TO CEILING HEIGHT
	P1C	PROPOSED 6" 3HRS FIRE RATED - MOLD RESIST.	SPR	SPRINKLER HEAD
	P1D	6" CHASE WALL - MOLD RESISTANT	EXIT	LED EXIT SIGN, EMERGENCY LIGHT COMBO W/BATTARY BACKUP 90MIN.
	P2B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ. & MOLD RES.		CENTER LINE

Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON STATE OF NEW YORK 030459

ARCHITECT'S SEAL

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
1ST FLOOR PLAN

DOB JOB #X01288603-I1

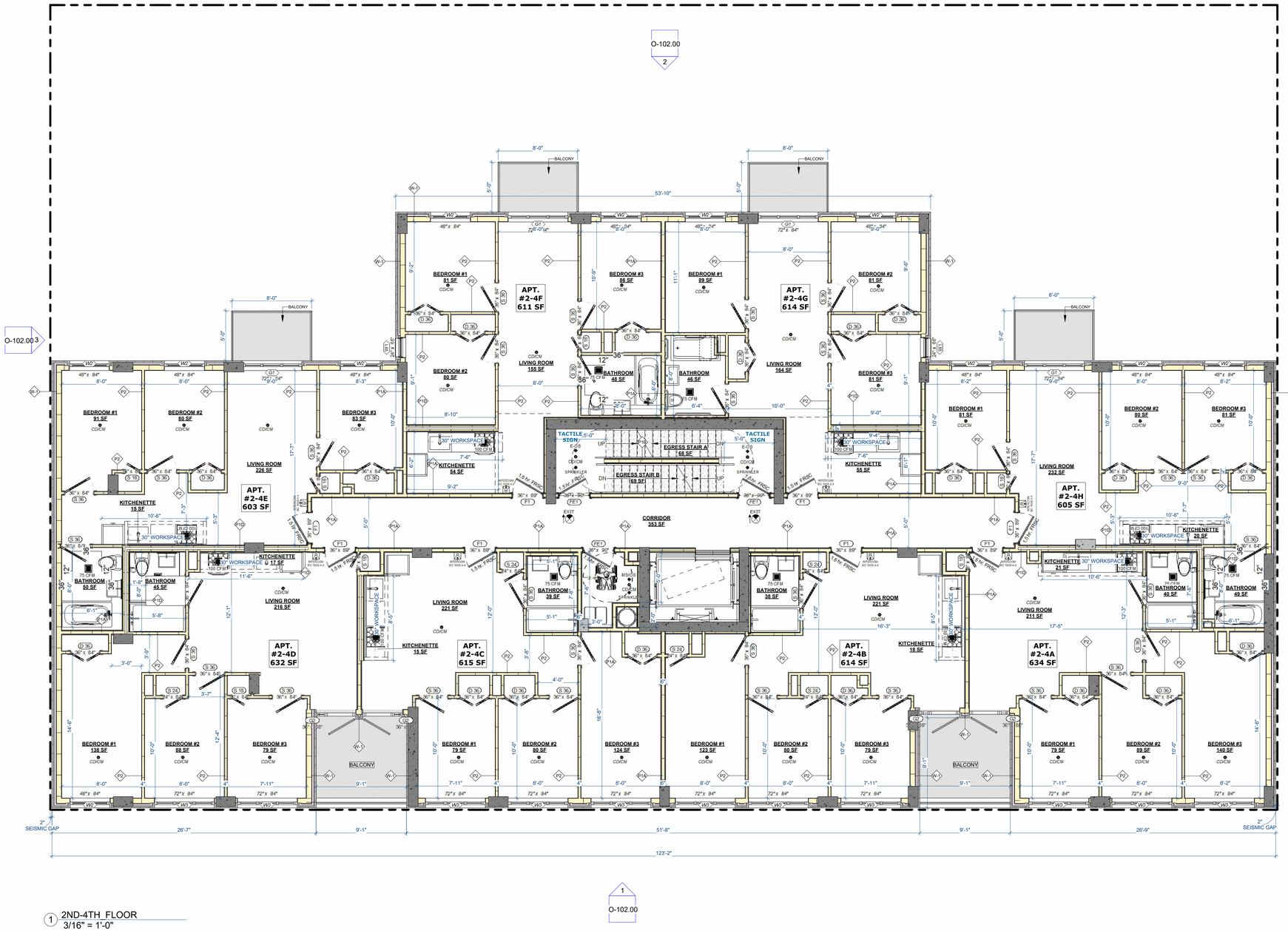
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1 2ND-4TH_FLOOR
3/16" = 1'-0"

1
O-102.00

LIGHT & AIR CALCULATIONS - 2ND-6TH FL

LOCATION		LIGHT		AIR	
Room	Area	Required 10%	Provided >10%	Required 5%	Provided >5%
APT.#2-6A					
BEDROOM #1	79 SF	7.93 SF	42.00 SF	3.96 SF	21.00 SF
BEDROOM #2	89 SF	8.95 SF	42.00 SF	4.47 SF	21.00 SF
BEDROOM #3	140 SF	14.03 SF	42.00 SF	7.02 SF	21.00 SF
APT.#2-6B					
BEDROOM #1	123 SF	12.27 SF	42.00 SF	6.13 SF	21.00 SF
BEDROOM #2	80 SF	8.00 SF	42.00 SF	4.00 SF	21.00 SF
BEDROOM #3	79 SF	7.93 SF	42.00 SF	3.96 SF	21.00 SF
LIVING ROOM	221 SF	22.07 SF	22.00 SF	11.03 SF	11.00 SF
APT.#2-6C					
BEDROOM #1	79 SF	7.93 SF	42.00 SF	3.96 SF	21.00 SF
BEDROOM #2	80 SF	8.00 SF	42.00 SF	4.00 SF	21.00 SF
BEDROOM #3	124 SF	12.36 SF	42.00 SF	6.18 SF	21.00 SF
LIVING ROOM	221 SF	22.10 SF	22.00 SF	11.05 SF	11.00 SF
APT.#2-6D					
BEDROOM #1	138 SF	13.82 SF	28.00 SF	6.91 SF	14.00 SF
BEDROOM #2	88 SF	8.83 SF	42.00 SF	4.42 SF	21.00 SF
BEDROOM #3	79 SF	7.93 SF	42.00 SF	3.96 SF	21.00 SF
LIVING ROOM	216 SF	21.58 SF	22.00 SF	10.79 SF	11.00 SF
APT.#2-6E					
BEDROOM #1	91 SF	9.08 SF	28.00 SF	4.54 SF	14.00 SF
BEDROOM #2	80 SF	8.00 SF	28.00 SF	4.00 SF	14.00 SF
BEDROOM #3	83 SF	8.27 SF	28.00 SF	4.14 SF	14.00 SF
LIVING ROOM	226 SF	22.64 SF	42.00 SF	11.32 SF	21.00 SF
APT.#2-6F					
BEDROOM #1	81 SF	8.10 SF	28.00 SF	4.05 SF	14.00 SF
BEDROOM #2	80 SF	8.05 SF	11.00 SF	4.02 SF	5.50 SF
BEDROOM #3	86 SF	8.62 SF	28.00 SF	4.31 SF	14.00 SF
LIVING ROOM	155 SF	15.52 SF	42.00 SF	7.76 SF	21.00 SF
APT.#2-6G					
BEDROOM #1	89 SF	8.89 SF	28.00 SF	4.44 SF	14.00 SF
BEDROOM #2	81 SF	8.10 SF	28.00 SF	4.05 SF	14.00 SF
BEDROOM #3	81 SF	8.14 SF	11.00 SF	4.07 SF	5.50 SF
LIVING ROOM	164 SF	16.41 SF	42.00 SF	8.20 SF	21.00 SF
APT.#2-6H					
BEDROOM #1	81 SF	8.14 SF	28.00 SF	4.07 SF	14.00 SF
BEDROOM #2	80 SF	8.00 SF	28.00 SF	4.00 SF	14.00 SF
BEDROOM #3	81 SF	8.14 SF	28.00 SF	4.07 SF	14.00 SF
LIVING ROOM	232 SF	23.22 SF	42.00 SF	11.61 SF	21.00 SF

907.2.9 FIRE ALARM SYSTEM
GROUP R-2

A FIRE ALARM SYSTEM WITHOUT ALARM NOTIFICATION APPLIANCES AND SMOKE ALARMS SHALL BE INSTALLED IN ACCORDANCE WITH THIS SECTION IN GROUP R-2 OCCUPANCIES, OTHER THAN STUDENT APARTMENTS, WHERE SUCH OCCUPANCY SATISFIES ANY ONE OF THE FOLLOWING

CONDITIONS:
1. ANY DWELLING UNIT IS LOCATED THREE OR MORE STORIES ABOVE THE LOWEST LEVEL OF EXIT DISCHARGE, INCLUDING DWELLING UNITS IN PENTHOUSES OF ANY AREA.

THE PROPERTY HAS DWELLING UNIT LOCATED MORE THAN 3 STORIES ABOVE THE LOWEST LEVEL OF EXIT DISCHARGE. THEREFORE FIRE ALARM SYSTEM IS REQUIRED.

903.2 WHERE REQUIRED

APPROVED AUTOMATIC SPRINKLER SYSTEMS IN NEW BUILDINGS AND STRUCTURES SHALL BE PROVIDED IN THE LOCATIONS DESCRIBED IN THIS SECTION.NO HIGH PILE COMBUSTIBLE STORAGE

BUILDING IS FULLY SPRINKLERED

LEGEND

PLAN VIEW	TAG	DESCRIPTION	PLAN VIEW	DESCRIPTION
				AIR EXHAUST TO ROOF
	W0	PROPOSED 12" CONCRETE WALL	1t	WINDOW TAG SEE SCHEDULE
	W1	PROPOSED 2 HOUR RATED MASONRY WALL	D1	DOOR TAG SEE SCHEDULE
	W2	PROPOSED 3HR RATED CMU SHEARING WALL - INTERIOR		FLOOR DRAIN
	P2	PROPOSED 4" UNRATED	W1	WALL TAG SEE SCHEDULE
	P3	PROPOSED 4" UNRATED - MOLD RESISTANT	AD	(AD) AREA - (FD) FLOOR - (RD) ROOF DRAIN
	P1A	PROPOSED 6" 2HRS FIRE RATED	CD/CM	SMOKE & CARBON MONOXIDE DECTOR
	P1B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ.	FLOOR TO CEILING 9'-0"	FLOOR TO CEILING HEIGHT
	P1C	PROPOSED 6" 3HRS FIRE RATED - MOLD RESIST.	SH	SPRINKLER HEAD
	P1D	6" CHASE WALL - MOLD RESISTANT	EXIT	LED EXIT SIGN, EMERGENCY LIGHT COMBO W/BATTARY BACKUP 90MIN.
	P2B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ. & MOLD RES.		CENTER LINE

Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON 030459 STATE OF NEW YORK

ARCHITECT'S SEAL

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:

1563 BOONE AVENUE

10460

NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
2ND-4TH FLOOR PLAN

DOB JOB #X01288603-I1

SCALE: AS NOTED

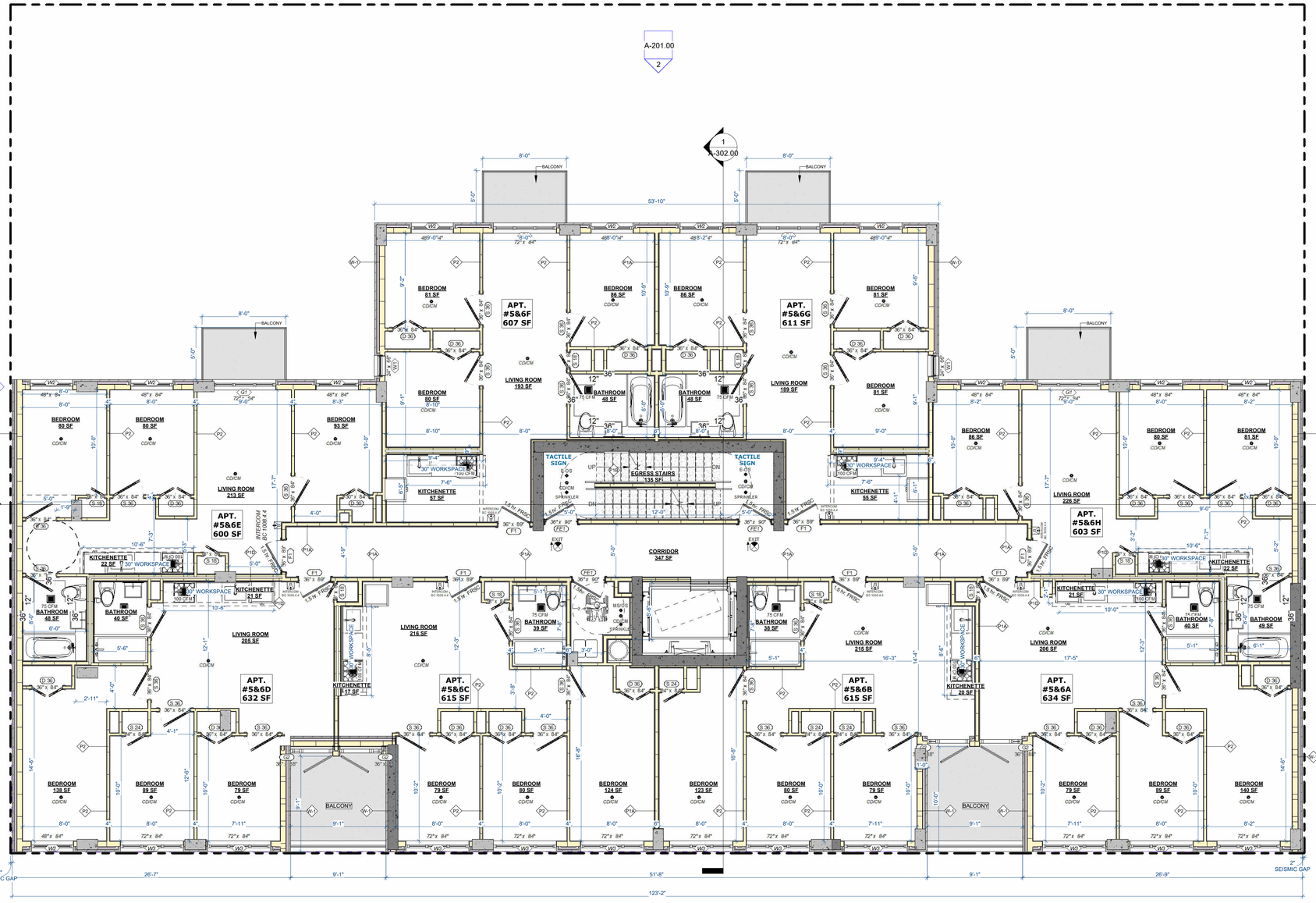
DRAWN BY: JOHN HURTADO

CHECKED: LND

DATE: 5/2/2026 4:32:06 p. m.

DRAWING NO.

A-102.00



1 PROPOSED 5TH & 6TH FLOOR
3/16" = 1'-0"

LIGHT & AIR CALCULATIONS - 2ND-6TH FL

LOCATION		LIGHT		AIR	
Room	Area	Required 10%	Provided >10%	Required 5%	Provided >5%
APT.#2-6A					
BEDROOM #1	79 SF	7.93 SF	42.00 SF	3.96 SF	21.00 SF
BEDROOM #2	89 SF	8.95 SF	42.00 SF	4.47 SF	21.00 SF
BEDROOM #3	140 SF	14.03 SF	42.00 SF	7.02 SF	21.00 SF
APT.#2-6B					
BEDROOM #1	123 SF	12.27 SF	42.00 SF	6.13 SF	21.00 SF
BEDROOM #2	80 SF	8.00 SF	42.00 SF	4.00 SF	21.00 SF
BEDROOM #3	79 SF	7.93 SF	42.00 SF	3.96 SF	21.00 SF
LIVING ROOM	221 SF	22.07 SF	22.00 SF	11.03 SF	11.00 SF
APT.#2-6C					
BEDROOM #1	79 SF	7.93 SF	42.00 SF	3.96 SF	21.00 SF
BEDROOM #2	80 SF	8.00 SF	42.00 SF	4.00 SF	21.00 SF
BEDROOM #3	124 SF	12.36 SF	42.00 SF	6.18 SF	21.00 SF
LIVING ROOM	221 SF	22.10 SF	22.00 SF	11.05 SF	11.00 SF
APT.#2-6D					
BEDROOM #1	138 SF	13.82 SF	28.00 SF	6.91 SF	14.00 SF
BEDROOM #2	88 SF	8.83 SF	42.00 SF	4.42 SF	21.00 SF
BEDROOM #3	79 SF	7.93 SF	42.00 SF	3.96 SF	21.00 SF
LIVING ROOM	216 SF	21.58 SF	22.00 SF	10.79 SF	11.00 SF
APT.#2-6E					
BEDROOM #1	91 SF	9.08 SF	28.00 SF	4.54 SF	14.00 SF
BEDROOM #2	80 SF	8.00 SF	28.00 SF	4.00 SF	14.00 SF
BEDROOM #3	83 SF	8.27 SF	28.00 SF	4.14 SF	14.00 SF
LIVING ROOM	226 SF	22.64 SF	42.00 SF	11.32 SF	21.00 SF
APT.#2-6F					
BEDROOM #1	81 SF	8.10 SF	28.00 SF	4.05 SF	14.00 SF
BEDROOM #2	80 SF	8.05 SF	11.00 SF	4.02 SF	5.50 SF
BEDROOM #3	86 SF	8.62 SF	28.00 SF	4.31 SF	14.00 SF
LIVING ROOM	155 SF	15.52 SF	42.00 SF	7.76 SF	21.00 SF
APT.#2-6G					
BEDROOM #1	89 SF	8.89 SF	28.00 SF	4.44 SF	14.00 SF
BEDROOM #2	81 SF	8.10 SF	28.00 SF	4.05 SF	14.00 SF
BEDROOM #3	81 SF	8.14 SF	11.00 SF	4.07 SF	5.50 SF
LIVING ROOM	164 SF	16.41 SF	42.00 SF	8.20 SF	21.00 SF
APT.#2-6H					
BEDROOM #1	81 SF	8.14 SF	28.00 SF	4.07 SF	14.00 SF
BEDROOM #2	80 SF	8.00 SF	28.00 SF	4.00 SF	14.00 SF
BEDROOM #3	81 SF	8.14 SF	28.00 SF	4.07 SF	14.00 SF
LIVING ROOM	232 SF	23.22 SF	42.00 SF	11.61 SF	21.00 SF

907.2.9 FIRE ALARM SYSTEM
GROUP R-2

A FIRE ALARM SYSTEM WITHOUT ALARM NOTIFICATION APPLIANCES AND SMOKE ALARMS SHALL BE INSTALLED IN ACCORDANCE WITH THIS SECTION IN GROUP R-2 OCCUPANCIES, OTHER THAN STUDENT APARTMENTS, WHERE SUCH OCCUPANCY SATISFIES ANY ONE OF THE FOLLOWING

CONDITIONS:
1. ANY DWELLING UNIT IS LOCATED THREE OR MORE STORIES ABOVE THE LOWEST LEVEL OF EXIT DISCHARGE, INCLUDING DWELLING UNITS IN PENTHOUSES OF ANY AREA.

THE PROPERTY HAS DWELLING UNIT LOCATED MORE THAN 3 STORIES ABOVE THE LOWEST LEVEL OF EXIT DISCHARGE. THEREFORE FIRE ALARM SYSTEM IS REQUIRED.

903.2 WHERE REQUIRED

APPROVED AUTOMATIC SPRINKLER SYSTEMS IN NEW BUILDINGS AND STRUCTURES SHALL BE PROVIDED IN THE LOCATIONS DESCRIBED IN THIS SECTION.NO HIGH PILE COMBUSTIBLE STORAGE

BUILDING IS FULLY SPRINKLERED

LEGEND

PLAN VIEW	TAG	DESCRIPTION	PLAN VIEW	DESCRIPTION
				AIR EXHAUST TO ROOF
	W0	PROPOSED 12" CONCRETE WALL	11	WINDOW TAG SEE SCHEDULE
	W1	PROPOSED 2 HOUR RATED MASONRY WALL	D1	DOOR TAG SEE SCHEDULE
	W2	PROPOSED 3HR RATED CMU SHEARING WALL - INTERIOR		FLOOR DRAIN
	P2	PROPOSED 4" UNRATED	W1	WALL TAG SEE SCHEDULE
	P3	PROPOSED 4" UNRATED - MOLD RESISTANT	AD	(AD) AREA - (FD) FLOOR - (RD) ROOF DRAIN
	P1A	PROPOSED 6" 2HRS FIRE RATED	CD/CM	SMOKE & CARBON MONOXIDE DECTOR
	P1B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ.	FLOOR TO CEILING 9'-0"	FLOOR TO CEILING HEIGHT
	P1C	PROPOSED 6" 3HRS FIRE RATED - MOLD RESIST.	SH	SPRINKLER HEAD
	P1D	6" CHASE WALL - MOLD RESISTANT	EXIT	LED EXIT SIGN, EMERGERCY LIGHT COMBO W/BATTARY BACKUP 90MIN.
	P2B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ. & MOLD RES.		CENTER LINE

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Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON 030455 STATE OF NEW YORK

ARCHITECT'S SEAL

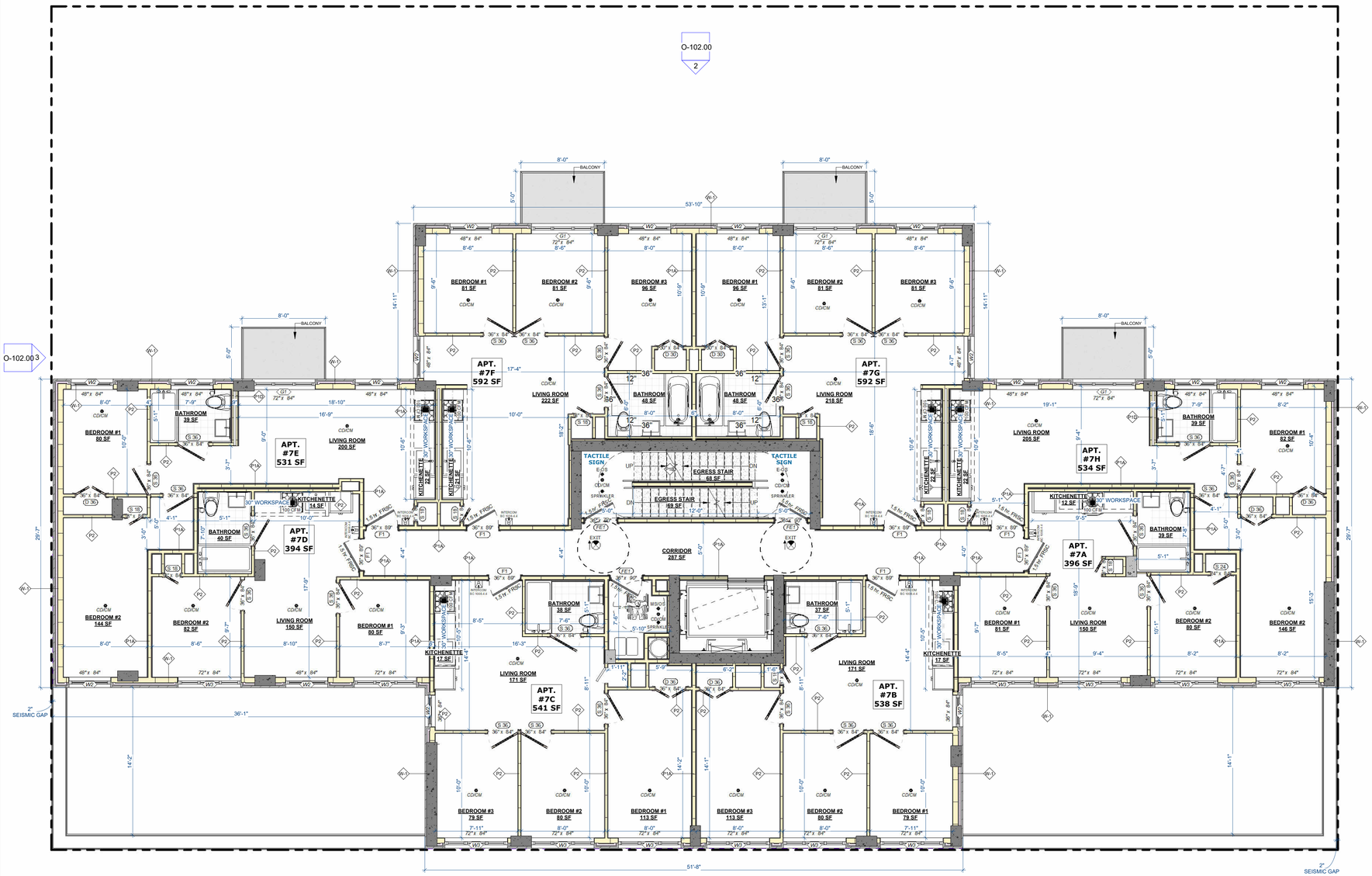
REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
5TH & 6TH FLOOR PLAN

DOB JOB #:**X01288603-I1**
SCALE: AS NOTED
DRAWN BY: JOHN HURTADO
CHECKED: LND
DATE: 5/2/2026 4:32:10 p. m.

DRAWING NO.
A-103.00



1 7TH_FLOOR
3/16" = 1'-0"

1
O-102.00

LIGHT & AIR CALCULATIONS - 7TH_FL

LOCATION		LIGHT		AIR	
Room	Area	Required 10%	Provided >10%	Required 5%	Provided >5%
APT.#7A					
BEDROOM #1	81 SF	8.09 SF	42.00 SF	4.05 SF	21.00 SF
BEDROOM #2	80 SF	7.99 SF	42.00 SF	3.99 SF	21.00 SF
LIVING ROOM	150 SF	15.03 SF	42.00 SF	7.51 SF	21.00 SF
APT.#7B					
BEDROOM #1	79 SF	7.92 SF	42.00 SF	3.96 SF	21.00 SF
BEDROOM #2	80 SF	8.00 SF	42.00 SF	4.00 SF	21.00 SF
BEDROOM #3	113 SF	11.29 SF	42.00 SF	5.64 SF	21.00 SF
LIVING ROOM	171 SF	17.06 SF	21.00 SF	8.53 SF	10.50 SF
APT.#7C					
BEDROOM #1	113 SF	11.32 SF	42.00 SF	5.66 SF	21.00 SF
BEDROOM #2	80 SF	8.00 SF	42.00 SF	4.00 SF	21.00 SF
BEDROOM #3	79 SF	7.88 SF	42.00 SF	3.94 SF	21.00 SF
LIVING ROOM	171 SF	17.10 SF	21.00 SF	8.55 SF	10.50 SF
APT.#7D					
BEDROOM #1	80 SF	7.97 SF	42.00 SF	3.99 SF	21.00 SF
BEDROOM #2	82 SF	8.17 SF	42.00 SF	4.09 SF	21.00 SF
LIVING ROOM	150 SF	14.95 SF	28.00 SF	7.48 SF	14.00 SF
APT.#7E					
BEDROOM #1	80 SF	8.01 SF	28.00 SF	4.01 SF	14.00 SF
BEDROOM #2	144 SF	14.39 SF	28.00 SF	7.19 SF	14.00 SF
LIVING ROOM	200 SF	20.05 SF	42.00 SF	10.02 SF	21.00 SF
LIVING ROOM	200 SF	20.05 SF	28.00 SF	10.02 SF	14.00 SF
APT.#7F					
BEDROOM #1	81 SF	8.08 SF	28.00 SF	4.04 SF	14.00 SF
BEDROOM #2	81 SF	8.08 SF	42.00 SF	4.04 SF	21.00 SF
BEDROOM #3	96 SF	9.59 SF	28.00 SF	4.80 SF	14.00 SF
LIVING ROOM	222 SF	22.22 SF	28.00 SF	11.11 SF	14.00 SF
APT.#7G					
BEDROOM #1	96 SF	9.59 SF	28.00 SF	4.80 SF	14.00 SF
BEDROOM #2	81 SF	8.08 SF	42.00 SF	4.04 SF	21.00 SF
BEDROOM #3	81 SF	8.08 SF	28.00 SF	4.04 SF	14.00 SF
LIVING ROOM	218 SF	21.80 SF	28.00 SF	10.90 SF	14.00 SF
APT.#7H					
BEDROOM #1	82 SF	8.15 SF	28.00 SF	4.08 SF	14.00 SF
BEDROOM #2	146 SF	14.60 SF	42.00 SF	7.30 SF	21.00 SF
LIVING ROOM	205 SF	20.52 SF	42.00 SF	10.26 SF	21.00 SF
LIVING ROOM	205 SF	20.52 SF	28.00 SF	10.26 SF	14.00 SF

907.2.9 FIRE ALARM SYSTEM
GROUP R-2

A FIRE ALARM SYSTEM WITHOUT ALARM NOTIFICATION APPLIANCES AND SMOKE ALARMS SHALL BE INSTALLED IN ACCORDANCE WITH THIS SECTION IN GROUP R-2 OCCUPANCIES, OTHER THAN STUDENT APARTMENTS, WHERE SUCH OCCUPANCY SATISFIES ANY ONE OF THE FOLLOWING

CONDITIONS:
1. ANY DWELLING UNIT IS LOCATED THREE OR MORE STORIES ABOVE THE LOWEST LEVEL OF EXIT DISCHARGE, INCLUDING DWELLING UNITS IN PENTHOUSES OF ANY AREA.

THE PROPERTY HAS DWELLING UNIT LOCATED MORE THAN 3 STORIES ABOVE THE LOWEST LEVEL OF EXIT DISCHARGE. THEREFORE FIRE ALARM SYSTEM IS REQUIRED.

903.2 WHERE REQUIRED

APPROVED AUTOMATIC SPRINKLER SYSTEMS IN NEW BUILDINGS AND STRUCTURES SHALL BE PROVIDED IN THE LOCATIONS DESCRIBED IN THIS SECTION.NO HIGH PILE COMBUSTIBLE STORAGE

BUILDING IS FULLY SPRINKLERED

LEGEND

PLAN VIEW	TAG	DESCRIPTION	PLAN VIEW	DESCRIPTION
				AIR EXHAUST TO ROOF
	W0	PROPOSED 12" CONCRETE WALL	11	WINDOW TAG SEE SCHEDULE
	W1	PROPOSED 2 HOUR RATED MASONRY WALL	D1	DOOR TAG SEE SCHEDULE
	W2	PROPOSED 3HR RATED CMU SHEARING WALL - INTERIOR		FLOOR DRAIN
	P2	PROPOSED 4" UNRATED	W1	WALL TAG SEE SCHEDULE
	P3	PROPOSED 4" UNRATED - MOLD RESISTANT	AD	(AD) AREA - (FD) FLOOR - (RD) ROOF DRAIN
	P1A	PROPOSED 6" 2HRS FIRE RATED	CD/CM	SMOKE & CARBON MONOXIDE DECTOR
	P1B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ.	FLOOR TO CEILING 9'-0"	FLOOR TO CEILING HEIGHT
	P1C	PROPOSED 6" 3HRS FIRE RATED - MOLD RESIST.	SH	SPRINKLER HEAD
	P1D	6" CHASE WALL - MOLD RESISTANT	EXIT	LED EXIT SIGN, EMERGENCY LIGHT COMBO W/BATTARY BACKUP 90MIN.
	P2B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ. & MOLD RES.		CENTER LINE

Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON 030455 STATE OF NEW YORK

ARCHITECT'S SEAL

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
7TH FLOOR PLAN

DOB JOB #**X01288603-I1**

SCALE: AS NOTED

DRAWN BY: JOHN HURTADO

CHECKED: LND

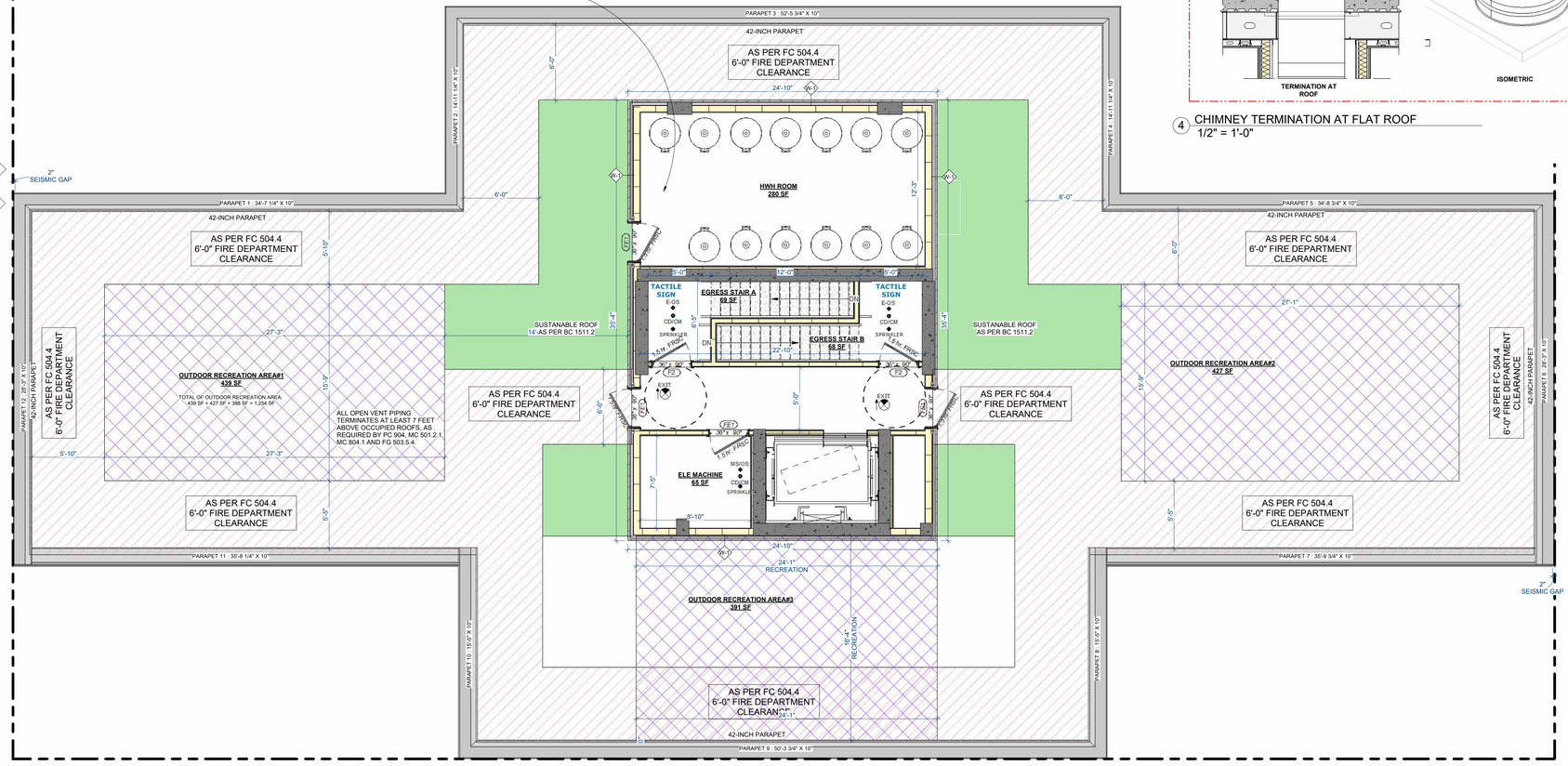
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A-104.00

PARAPET SCHEDULE			
Comments	**Length**	**Width**	**Area**
PARAPET 1	**34'-7 1/4"**	**10"**	**28 SF**
PARAPET 2	**14'-11 1/4"**	**10"**	**12 SF**
PARAPET 3	**52'-5 3/4"**	**10"**	**42 SF**
PARAPET 4	**14'-11 1/4"**	**10"**	**12 SF**
PARAPET 5	**34'-8 3/4"**	**10"**	**28 SF**
PARAPET 6	**28'-3"**	**10"**	**23 SF**
PARAPET 7	**35'-9 3/4"**	**10"**	**29 SF**
PARAPET 8	**15'-5"**	**10"**	**12 SF**
PARAPET 9	**50'-3 3/4"**	**10"**	**40 SF**
PARAPET 10	**15'-5"**	**10"**	**12 SF**
PARAPET 11	**35'-8 1/4"**	**10"**	**29 SF**
PARAPET 12	**28'-3"**	**10"**	**23 SF**
TOTAL PARAPET SF:			**289 SF**

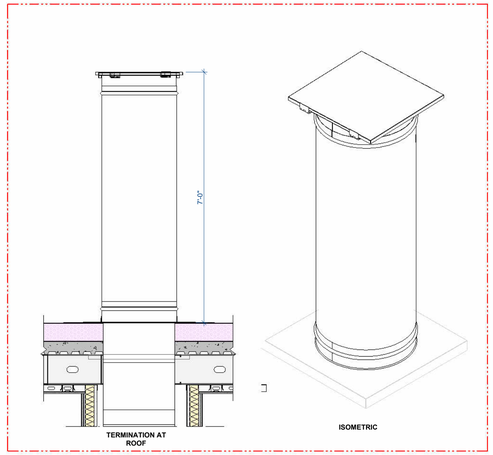
BC 504.3 ROOFTOP STRUCTURES INCLUDING BUT NOT LIMITED TO ROOF TANKS AND THEIR SUPPORTS, VENTILATING, AIR CONDITIONING, COMBINED HEAT AND POWER SYSTEMS AND SIMILAR BUILDING SERVICE EQUIPMENT, BULKHEADS, PENTHOUSES, GREENHOUSES, CHIMNEYS, AND PARAPET WALLS 4 FEET (1219 MM) OR LESS IN HEIGHT SHALL NOT BE INCLUDED IN THE BUILDING HEIGHT OF THE BUILDING OR CONSIDERED AN ADDITIONAL STORY UNLESS THE AGGREGATE AREA OF ALL SUCH STRUCTURES, EXCLUSIVE OF ANY SOLAR THERMAL AND SOLAR (PHOTOVOLTAIC) COLLECTORS AND/OR PANELS AND THEIR SUPPORTING EQUIPMENT, EXCEEDS 331/3 PERCENT OF THE AREA OF THE ROOF OF THE BUILDING UPON WHICH THEY ARE ERECTED.

7TH FLOOR ROOF 5245.98SF
5245.98SF * 33.33% = 1,748.48 SF
PROPOSED ROOFTOP STRUCTURES: 875.36 (BULKHEAD) + 289 (PARAPET) = 1,164.36 SF < 1,748.48 SF, THEREFORE ROOF IS NOT AN ADDITIONAL STORY.

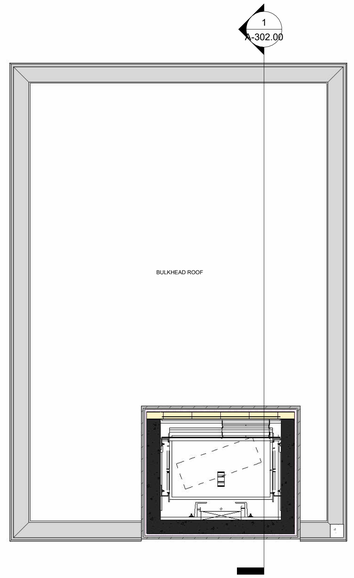


1 ROOF
3/16" = 1'-0"

1
O-102.00

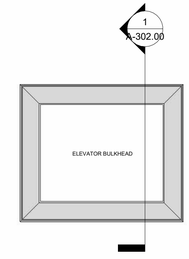


4 CHIMNEY TERMINATION AT FLAT ROOF
1/2" = 1'-0"



3 BULKHEAD
3/16" = 1'-0"

4 O-102.00



2 ELEVATOR BULKHEAD ROOF
3/16" = 1'-0"

LEGEND				
PLAN VIEW	**TAG**	**DESCRIPTION**	**PLAN VIEW**	**DESCRIPTION**
				AIR EXHAUST TO ROOF
	W0	PROPOSED 12" CONCRETE WALL	1t	WINDOW TAG SEE SCHEDULE
	W1	PROPOSED 2 HOUR RATED MASONRY WALL	D1	DOOR TAG SEE SCHEDULE
	W2	PROPOSED 3HR RATED CMU SHEARING WALL - INTERIOR		FLOOR DRAIN
	P2	PROPOSED 4" UNRATED	W1	WALL TAG SEE SCHEDULE
	P3	PROPOSED 4" UNRATED - MOLD RESISTANT	AD	(AD) AREA - (FD) FLOOR - (RD) ROOF DRAIN
	P1A	PROPOSED 6" 2HRS FIRE RATED	CD/CM	SMOKE & CARBON MONOXIDE DECTOR
	P1B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ.	FLOOR TO CEILING 0'-0"	FLOOR TO CEILING HEIGHT
	P1C	PROPOSED 6" 3HRS FIRE RATED - MOLD RESIST.	SPR	SPRINKLER HEAD
	P1D	6" CHASE WALL - MOLD RESISTANT	EXIT	LED EXIT SIGN, EMERGENCY LIGHT COMBO W/BATTARY BACKUP 90MIN.
	P2B	PROPOSED 6" 2HRS FIRE RATED - MASONRY EQ. & MOLD RES.		CENTER LINE

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MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL

REGISTERED ARCHITECT
LEANDRO NILS DICKSON
030459
STATE OF NEW YORK

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:

1563 BOONE AVENUE

10460

NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:

ROOF PLAN

DOB JOB #**X01288603-I1**

SCALE: AS NOTED

DRAWN BY: JOHN HURTADO

CHECKED: LND

DATE: 5/2/2026 4:32:15 p. m.

DRAWING NO.

A-105.00



1 EAST_ELEVATION.
3/32" = 1'-0"



2 WEST_ELEVATION.
3/32" = 1'-0"

BASE PLANE CALCULATION
A) EL. 35.39'
B) EL. 32.69'
{ [A) + [B)} / 2 =
{ [35.39'] + [32.69'])} / 2' = 34.04'
BASE PLANE: 34.04'

Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT
LEANDRO NILS DICKSON
030455
STATE OF NEW YORK
ARCHITECT'S SEAL:

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
WEST/EAST_ELEVATION

DOB JOB #**X01288603-I1**

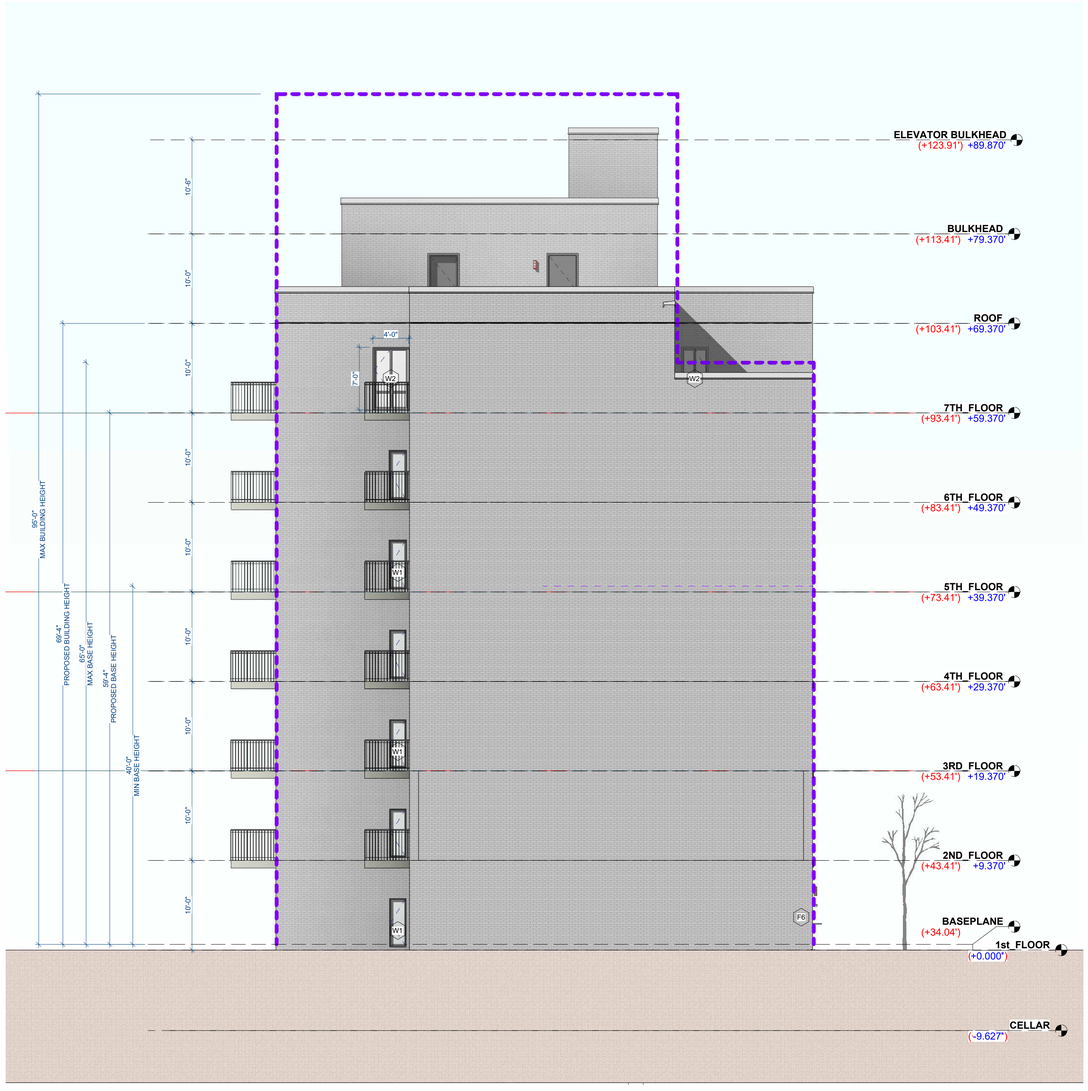
SCALE: AS NOTED

DRAWN BY: JOHN HURTADO

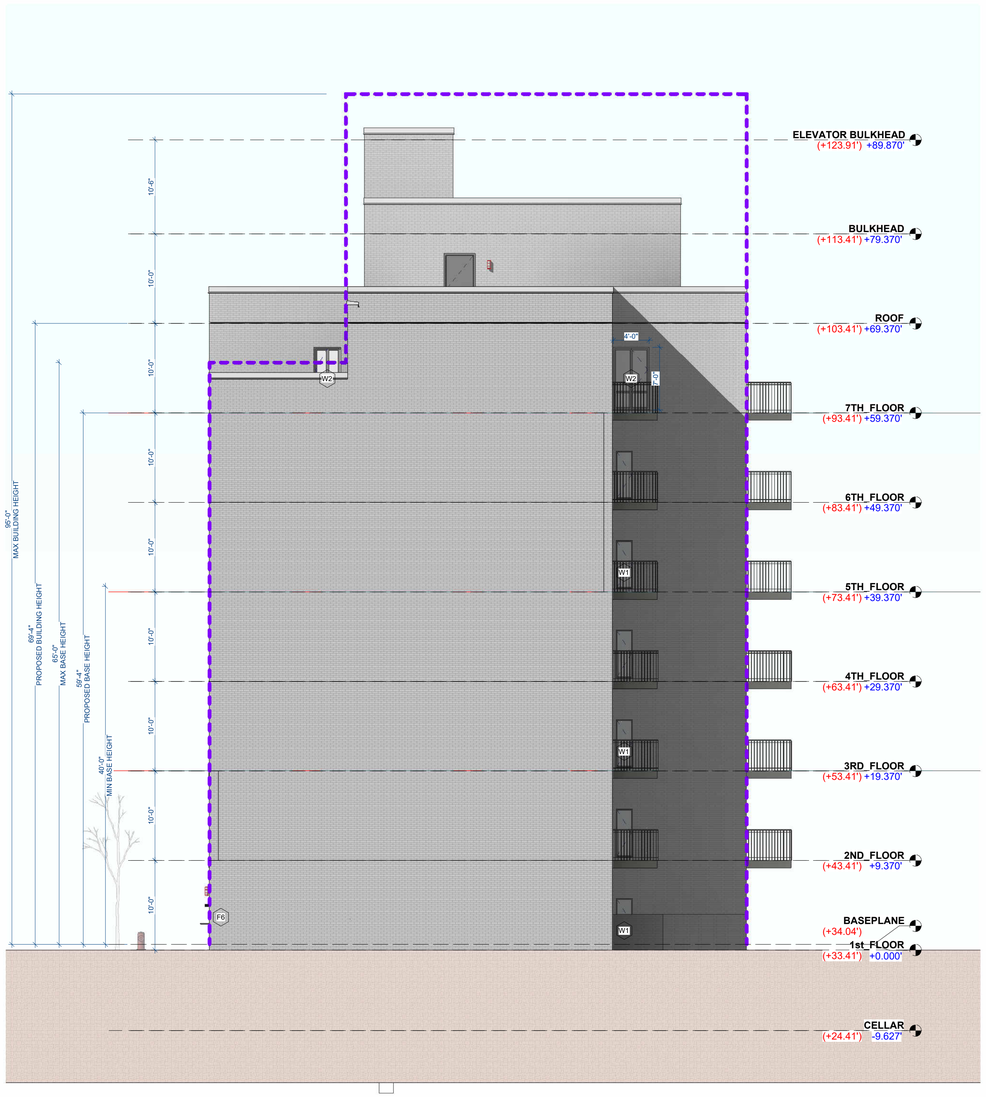
CHECKED: LND

DATE: 5/2/2026 4:32:33 p. m.

DRAWING NO.
A-201.00



2 SOUTH ELEVATION.
1/8" = 1'-0"



1 NORTH ELEVATION.
1/8" = 1'-0"

BASE PLANE CALCULATION
A) EL. 35.39'
B) EL. 32.69'
{ [A] + [B]} / 2 =
{ [35.39'] + [32.69']} / 2' = 34.04'
BASE PLANE: 34.04'

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Fair Lawn, NJ 07410
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www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT
LEANDRO NILS DICKSON
030435
STATE OF NEW YORK
ARCHITECT'S SEAL

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
NORTH/SOUTH_ELEVATION

DOB JOB #**X01288603-I1**

SCALE: AS NOTED

DRAWN BY: JOHN HURTADO

CHECKED: LND

DATE: 5/2/2026 4:33:09 p. m.

DRAWING NO.
A-202.00

ELEVATOR BULKHEAD
+89.870' (+123.91')

BULKHEAD
+79.370' (+113.41')

ROOF
+69.370' (+103.41')

7TH_FLOOR
+59.370' (+93.41')

6TH_FLOOR
+49.370' (+83.41')

5TH_FLOOR
+39.370' (+73.41')

4TH_FLOOR
+29.370' (+63.41')

3RD_FLOOR
+19.370' (+53.41')

2ND_FLOOR
+9.370' (+43.41')

BASEPLANE
(+34.04')

1st_FLOOR
+0.000' (+33.41')

10'-0"
10'-0"
10'-0"
10'-0"
10'-0"
9'-4"

BASE PLANE CALCULATION
A) EL. 35.39'
B) EL. 32.69'
{ [A] + [B]} / 2 =
{ [35.39'] + [32.69']} / 2' = 34.04'
BASE PLANE: 34.04'

CELLAR
-9.627' (+24.41')

4 LONG SECTION
3/16" = 1'-0"

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Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT
LEANDRO NILS DICKSON
030459
STATE OF NEW YORK
ARCHITECT'S SEAL

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
LONG SECTION

DOB JOB #X01288603-I1

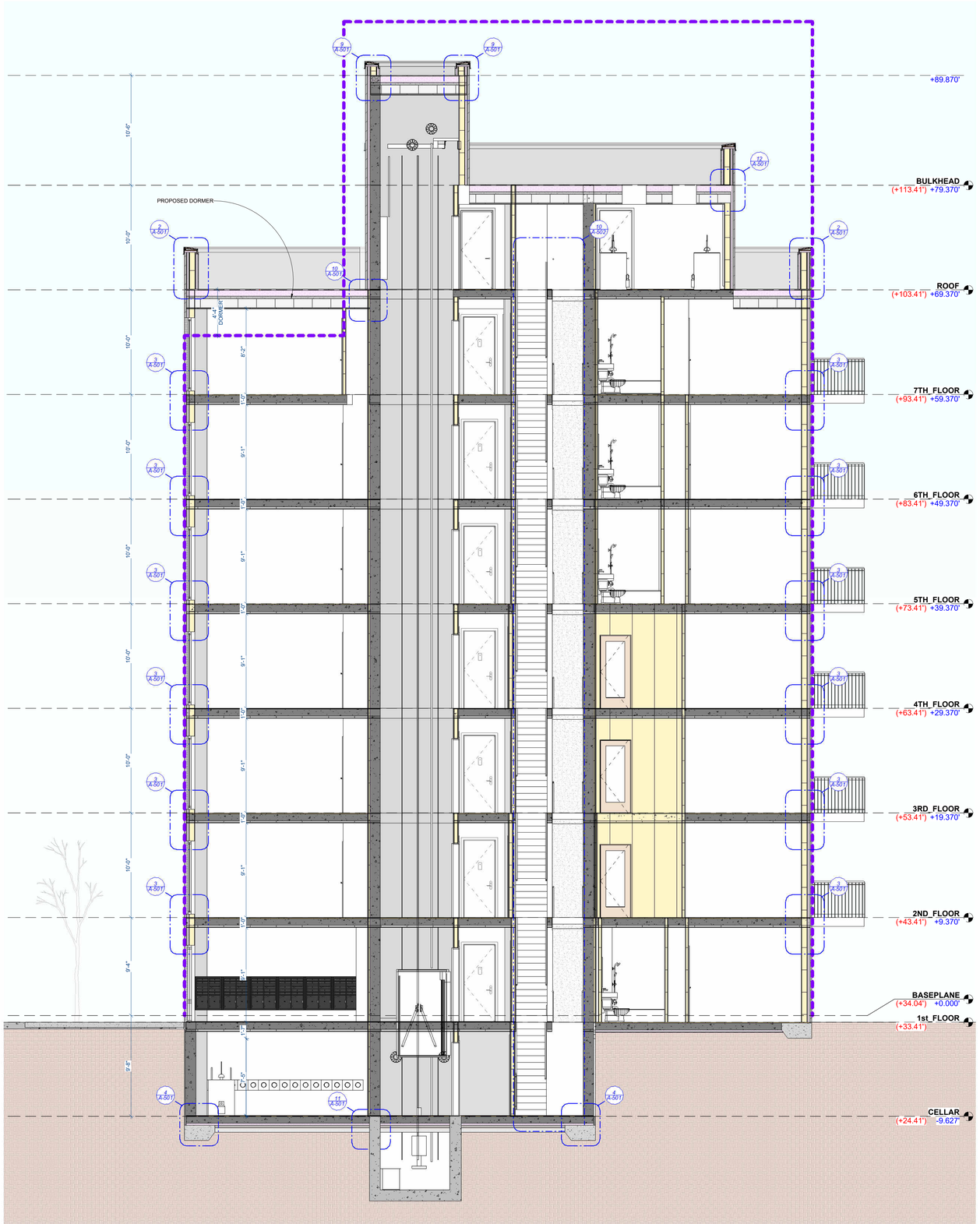
SCALE: AS NOTED

DRAWN BY: JOHN HURTADO

CHECKED: LND

DATE: 5/2/2026 4:33:12 p. m.

DRAWING NO.
A-301.00



1 Short Section
3/16" = 1'-0"

BASE PLANE CALCULATION
A) EL. 35.39'
B) EL. 32.69'
{ [A] + [B]} / 2 =
{ [35.39'] + [32.69']} / 2' = 34.04'
BASE PLANE: 34.04'

Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT
LEANDRO NILS DICKSON
030455
STATE OF NEW YORK
ARCHITECT'S SEAL:

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

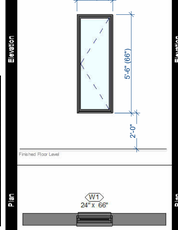
DRAWING NAME:
SHORT SECTION

DOB JOB #: X01288603-I1
SCALE: AS NOTED
DRAWN BY: JOHN HURTADO
CHECKED: LND
DATE: 5/2/2026 4:33:15 p. m.

DRAWING NO.
A-302.00

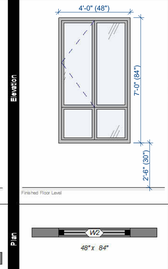
WINDOWS SCHEDULE

CASEMENT WINDOW — W1



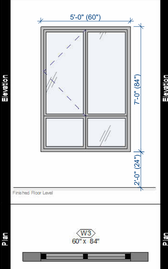
NOTES		
	MATERIAL:	uPVC Frame / Glass
	TYPE:	Single Casement
	MANUFACTURER:	TBD
	WIDTH:	2'-4"
	HEIGHT:	6'-0"
	SILL HEIGHT	2'-0"
	U-VALUE:	0.26
	AIR LEAK:	0.2 cfm/sf
	SHGC:	0.23
	VT:	0.51
	GLASS TYPE:	Clear Glass

SWING FIXED WINDOW — W2



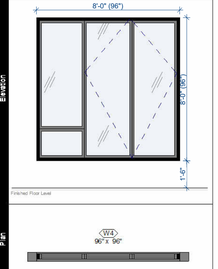
NOTES		
	MATERIAL:	uPVC Frame / Glass
	TYPE:	Fixed Swing
	MANUFACTURER:	TBD
	WIDTH:	6'-0"
	HEIGHT:	7'-0"
	SILL HEIGHT	2'-0"
	U-VALUE:	0.26
	AIR LEAK:	0.2 cfm/sf
	SHGC:	0.23
	VT:	0.51
	GLASS TYPE:	Clear Glass

SWING FIXED WINDOW — W3



NOTES		
	MATERIAL:	uPVC Frame / Glass
	TYPE:	Fixed Swing
	MANUFACTURER:	TBD
	WIDTH:	6'-0"
	HEIGHT:	7'-0"
	SILL HEIGHT	2'-0"
	U-VALUE:	0.26
	AIR LEAK:	0.2 cfm/sf
	SHGC:	0.23
	VT:	0.51
	GLASS TYPE:	Clear Glass

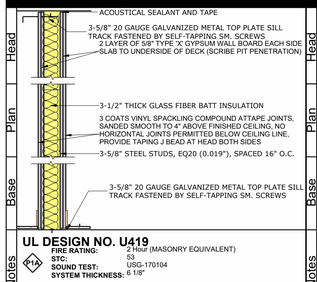
SWING FIXED WINDOW — W4



NOTES		
	MATERIAL:	uPVC Frame / Glass
	TYPE:	Fixed Swing
	MANUFACTURER:	TBD
	WIDTH:	8'-0"
	HEIGHT:	8'-0"
	SILL HEIGHT	1'-6"
	U-VALUE:	0.26
	AIR LEAK:	0.2 cfm/sf
	SHGC:	0.23
	VT:	0.51
	GLASS TYPE:	Clear Glass

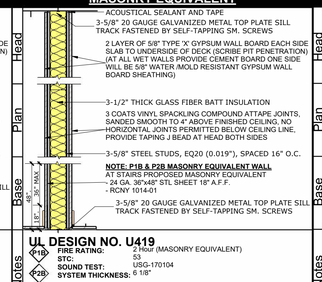
INTERIOR WALL SCHEDULE

2HR FIRE RATED DRYWALL ASSEMBLY



NOTES		
	UL DESIGN NO. U419	
	FIRE RATING:	2 Hour (MASONRY EQUIVALENT)
	STC:	53
	SOUND TEST:	USG-170104
	SYSTEM THICKNESS:	6 1/8"
	P1A	

2HR FIRE RATED DRYWALL ASSEMBLY - MASONRY EQUIVALENT

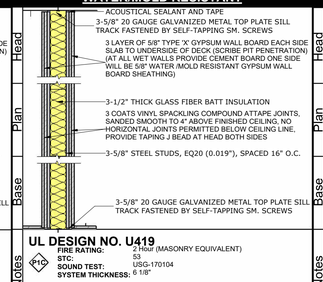


NOTES		
	UL DESIGN NO. U419	
	FIRE RATING:	2 Hour (MASONRY EQUIVALENT)
	STC:	53
	SOUND TEST:	USG-170104
	SYSTEM THICKNESS:	6 1/8"
	P1B, P2B	

P'2B' WALL SIMILAR TO 'P1B' EXCEPT SUBSTITUTE 5/8" GYPSUM BOARD WITH WATER/MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273. PROVIDED AT ALL WET SURFACES

INTERIOR STAIRS ENCLOSURE

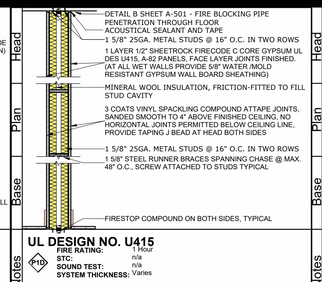
3HR FIRE RATED DRYWALL ASSEMBLY - WATER/MOLD RESISTANT



NOTES		
	UL DESIGN NO. U419	
	FIRE RATING:	2 Hour (MASONRY EQUIVALENT)
	STC:	53
	SOUND TEST:	USG-170104
	SYSTEM THICKNESS:	6 1/8"
	P1C	

P'1C' WALL SIMILAR TO 'P1A' EXCEPT ON ONE SIDE SUBSTITUTE 5/8" GYPSUM BOARD WITH MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273.

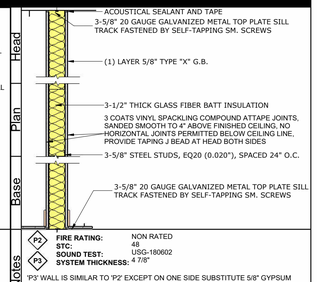
1HR FIRE RATED DRYWALL ASSEMBLY



NOTES		
	UL DESIGN NO. U415	
	FIRE RATING:	1 Hour
	STC:	n/a
	SOUND TEST:	n/a
	SYSTEM THICKNESS:	Varies
	P1D	

AT ALL WET WALLS PROVIDE SUBSTITUTE 5/8" GYPSUM BOARD WITH MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273.

UNRATED DRYWALL ASSEMBLY

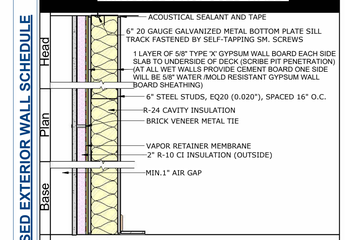


NOTES		
	P2	
	FIRE RATING:	NON RATED
	STC:	48
	SOUND TEST:	USG-180602
	SYSTEM THICKNESS:	4 7/8"
	P3	

'P3' WALL IS SIMILAR TO 'P2' EXCEPT ON ONE SIDE SUBSTITUTE 5/8" GYPSUM BOARD WITH MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273.

PROPOSED EXTERIOR WALL SCHEDULE

2HR RATED PROPOSED WALL

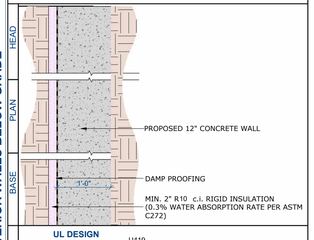


NOTES		
	UL DESIGN NO. UL U419	
	FIRE RATING:	2 hour
	STC:	53*
	SOUND TEST:	USG-170104
	SYSTEM THICKNESS:	14"
	W-1	

WHERE IN CONTACT WITH WET SURFACES , INTERIOR GWB LAYER IS SUBSTITUTE WITH 5/8" GYPSUM BOARD WITH WATER/MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273.

EXTERIOR WALLS BELOW GRADE

FOUNDATION WALL WITH FURRING



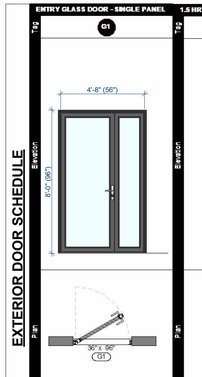
NOTES		
	UL DESIGN	
	FIRE RATING:	U419
	STC:	4 Hour
	SOUND TEST:	-
	W-2	-

9

WHERE IN CONTACT WITH WET SURFACES , INTERIOR GWB LAYER IS SUBSTITUTE WITH 5/8" GYPSUM BOARD WITH WATER/MOLD RESISTANCE RATING OF 10 IN ACCORDANCE WITH ASTM D3273.

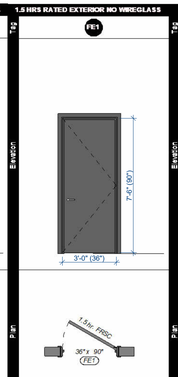
EXTERIOR DOOR SCHEDULE

ENTRY GLASS DOOR - SINGLE PANEL — G1



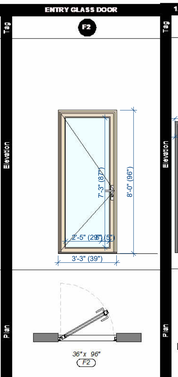
NOTES		
	VT: 0.51	
	MATERIAL:	Metal
	FIRE RATING:	1.5 hrs Rated
	MANUFACTURER:	TBD
	SELF-CLOSING:	None
	U-VALUE:	0.27
	AIR LEAK:	0.2 Cfm/sf
	SHGC:	0.23
	GLASS TYPE:	Glear Glass

1.5 HRS RATED EXTERIOR NO WIREGLASS — FE1



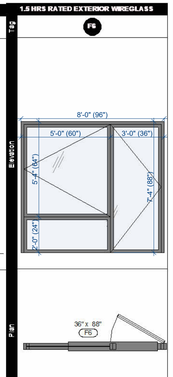
NOTES		
	MATERIAL:	Metal
	FIRE RATING:	1.5 hrs Rated
	MANUFACTURER:	TBD
	SELF-CLOSING:	None
	U-VALUE:	0.27
	AIR LEAK:	0.2 Cfm/sf
	SHGC:	0.36
	GLASS TYPE:	--

ENTRY GLASS DOOR — F2



NOTES		
	VT: 0.51	
	MATERIAL:	Metal/Glass
	FIRE RATING:	None
	MANUFACTURER:	TBD
	SELF-CLOSING:	None
	U-VALUE:	0.27
	AIR LEAK:	0.2 Cfm/sf
	SHGC:	0.23
	GLASS TYPE:	Clear Glass

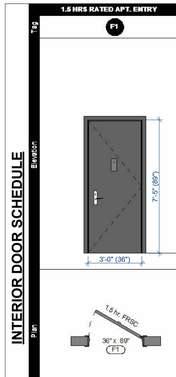
1.5 HRS RATED EXTERIOR WIREGLASS — F6



NOTES		
	VT: 0.51	
	MATERIAL:	Metal
	FIRE RATING:	1.5 hrs Rated
	MANUFACTURER:	TBD
	SELF-CLOSING:	None
	U-VALUE:	0.27
	AIR LEAK:	0.2 Cfm/sf
	SHGC:	0.23
	GLASS TYPE:	Clear Glass

INTERIOR DOOR SCHEDULE

1.5 HRS RATED APT. ENTRY — F1

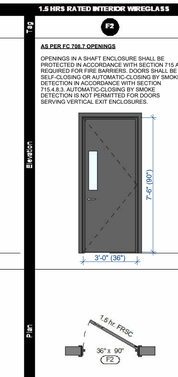


NOTES		
	MATERIAL:	Metal
	FIRE RATING:	1.5 hrs Rated
	MANUFACTURER:	TBD
	SELF-CLOSING:	Yes
	U-VALUE:	--
	AIR LEAK:	--
	SHGC:	--
	GLASS TYPE:	--

1.5 HRS RATED INTERIOR WIREGLASS — F2

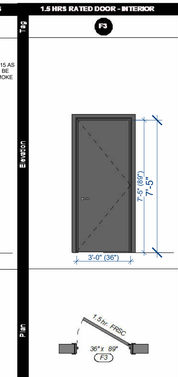
AS PER FC 708.7 OPENINGS

OPENINGS IN A SHAFT ENCLOSURE SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 715 AS REQUIRED FOR FIRE BARRIERS. DOORS SHALL BE SELF-CLOSING OR AUTOMATIC-CLOSING BY SMOKE DETECTION IN ACCORDANCE WITH SECTION 715.4.8.3. AUTOMATIC-CLOSING BY SMOKE DETECTION IS NOT PERMITTED FOR DOORS SERVING VERTICAL EXIT ENCLOSURES.



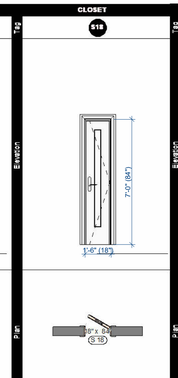
NOTES		
	MATERIAL:	Metal
	FIRE RATING:	1.5 hrs Rated
	MANUFACTURER:	TBD
	SELF-CLOSING:	Yes
	U-VALUE:	--
	AIR LEAK:	--
	SHGC:	--
	GLASS TYPE:	Wire Glass

1.5 HRS RATED DOOR - INTERIOR — F3



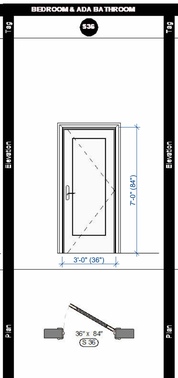
NOTES		
	MATERIAL:	Metal
	FIRE RATING:	1.5 hrs Rated
	MANUFACTURER:	TBD
	SELF-CLOSING:	Yes
	U-VALUE:	--
	AIR LEAK:	--
	SHGC:	--
	GLASS TYPE:	--

CLOSET — S1B



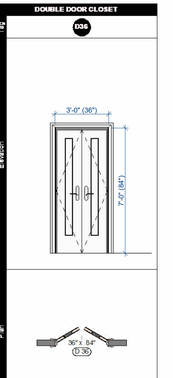
NOTES		
	MATERIAL:	Wood
	FIRE RATING:	None
	MANUFACTURER:	TBD
	SELF-CLOSING:	None
	U-VALUE:	--
	AIR LEAK:	--
	SHGC:	--
	GLASS TYPE:	--

BEDROOM & ADA BATHROOM — E3B

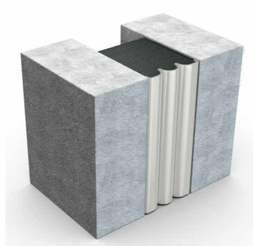


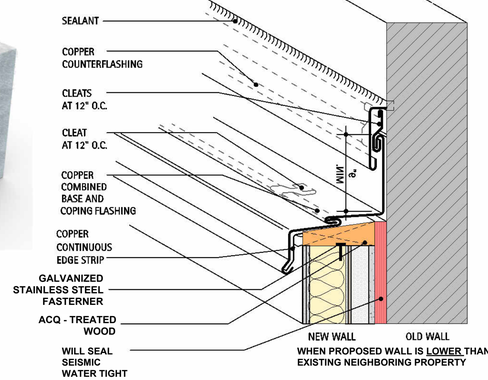
NOTES		
	MATERIAL:	Wood
	FIRE RATING:	None
	MANUFACTURER:	TBD
	SELF-CLOSING:	None
	U-VALUE:	--
	AIR LEAK:	--
	SHGC:	--
	GLASS TYPE:	--

DOUBLE DOOR CLOSET — D3B



NOTES		
	MATERIAL:	Wood
	FIRE RATING:	None
	MANUFACTURER:	TBD
	SELF-CLOSING:	None
	U-VALUE:	--
	AIR LEAK:	--
	SHGC:	--
	GLASS TYPE:	--



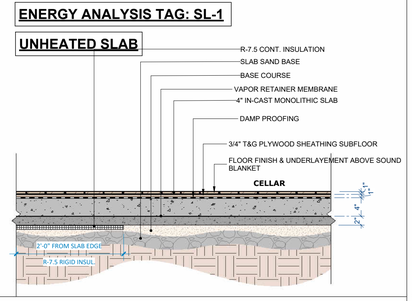


12 FLASHING DETAILS
1" = 1'-0"

SLAB-ON-GRADE ASSEMBLY — SL1

ENERGY ANALYSIS TAG: SL-1

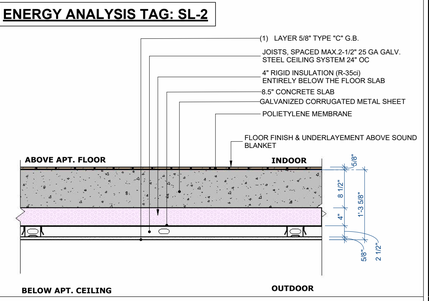
UNHEATED SLAB



NOTES		
	FLOOR TYPE:	PROPOSED SLAB-ON-GRADE
	DESCRIPTION:	8" IN-CAST MONOLITHIC SLAB BELOW GRADE
	UL DESIGN:	UL DESIGN #D502
	FIRE RATING:	4 HR RATED
	STC VALUE:	STC RATING > 53, AS PER ASTM E 90
	R-VALUE:	R-7.5CI

4 HR RATED FLOOR ASSEMBLY - ABOVE OPEN AREA INTERIOR — SL2

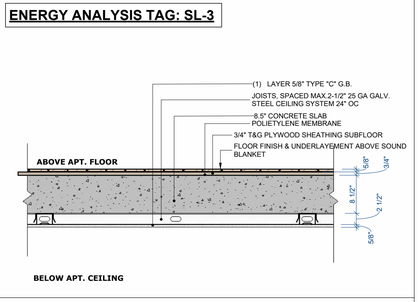
ENERGY ANALYSIS TAG: SL-2



NOTES		
	FLOOR TYPE:	FLOOR ABOVE OPEN AREA/BUILDING THERMAL BOUNDARY
	DESCRIPTION:	8.5" IN-CAST MONOLITHIC SLAB
	UL DESIGN:	UL DESIGN #D502
	FIRE RATING:	4 HR RATED
	STC VALUE:	STC RATING > 53, AS PER ASTM E 90
	R-VALUE:	R-35ci

4 HR RATED FLOOR ASSEMBLY — SL3

ENERGY ANALYSIS TAG: SL-3

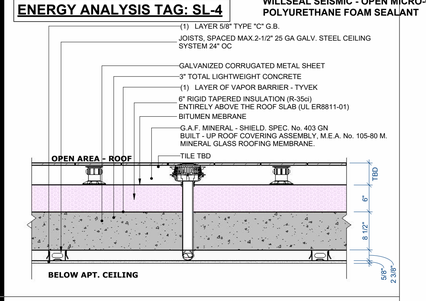


NOTES		
	FLOOR TYPE:	REGULAR FLOOR INSIDE THE THERMAL BUILDING ENVELOPE
	DESCRIPTION:	8.5" IN-CAST MONOLITHIC SLAB
	UL DESIGN:	UL DESIGN #D502
	FIRE RATING:	4 HR RATED
	STC VALUE:	STC RATING > 53, AS PER ASTM E 90
	R-VALUE:	--

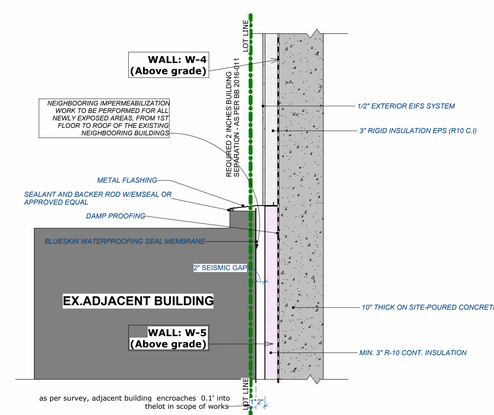
4 HR RATED ROOF TOP ASSEMBLY — SL4

ENERGY ANALYSIS TAG: SL-4

WILLSEAL SEISMIC - OPEN MICRO-CELL POLYURETHANE FOAM SEALANT



NOTES		
	FLOOR TYPE:	ROOF WITH TERRACE TILES
	DESCRIPTION:	8.5" IN-CAST MONOLITHIC SLAB
	UL DESIGN:	UL DESIGN #D502
	FIRE RATING:	4 HR RATED
	STC VALUE:	STC RATING > 53, AS PER ASTM E 90
	R-VALUE:	R-35ci



8 SECTION AT ADJIACENT WALL
3/4" = 1'-0"

Leandro Nils Dickson, Architect
Architecture · Interior Design · Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON 030455 STATE OF NEW YORK

ARCHITECT'S SEAL

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:

1563 BOONE AVENUE

10460

NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:

WINDOW, DOOR, WALL & FLOOR SCHEDULE

DOB JOB #X01288603-I1

SCALE: AS NOTED

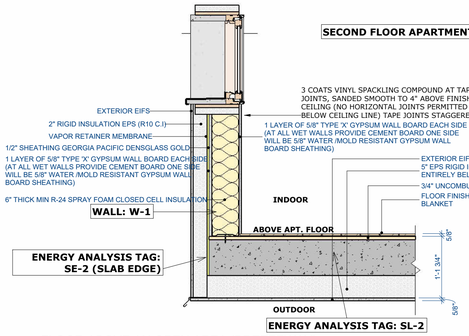
DRAWN BY: JOHN HURTADO

CHECKED: LND

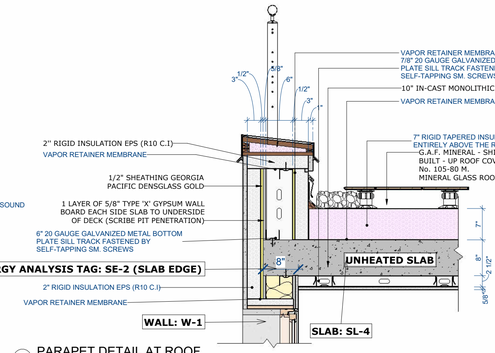
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DRAWING NO.

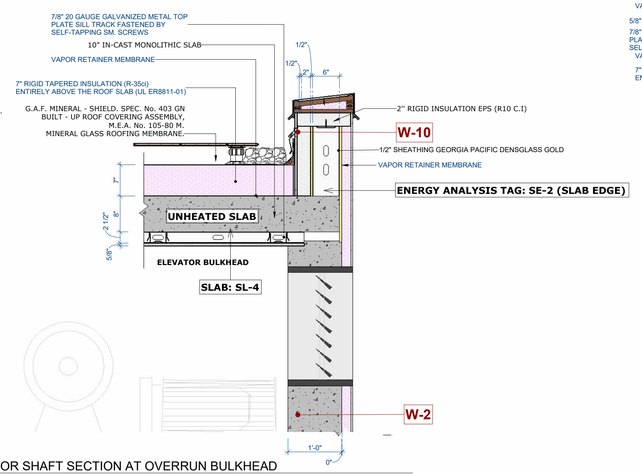
A-401.00



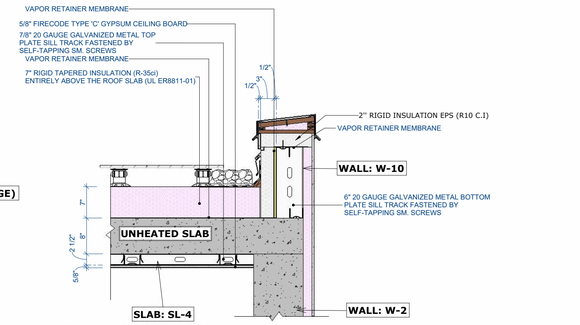
1 FLOOR ABOVE AN OPEN AREA (BREEZEWAY)
3/4" = 1'-0"



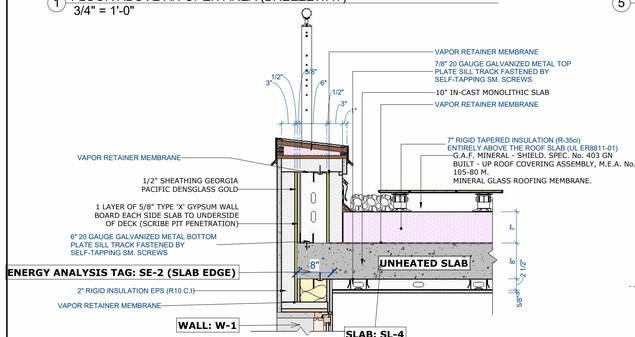
5 PARAPET DETAIL AT ROOF
3/4" = 1'-0"



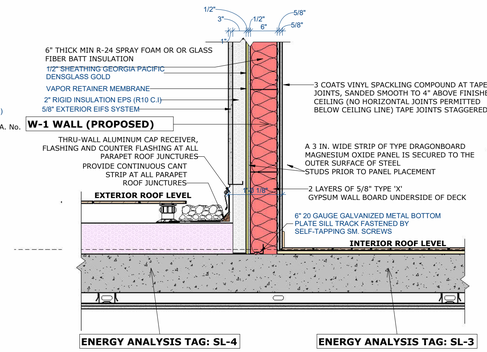
9 ELEVATOR SHAFT SECTION AT OVERRUN BULKHEAD
3/4" = 1'-0"



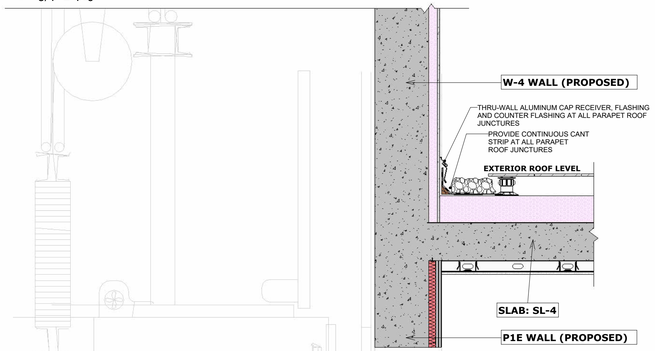
12 BULKHEAD ROOF PARAPET
3/4" = 1'-0"



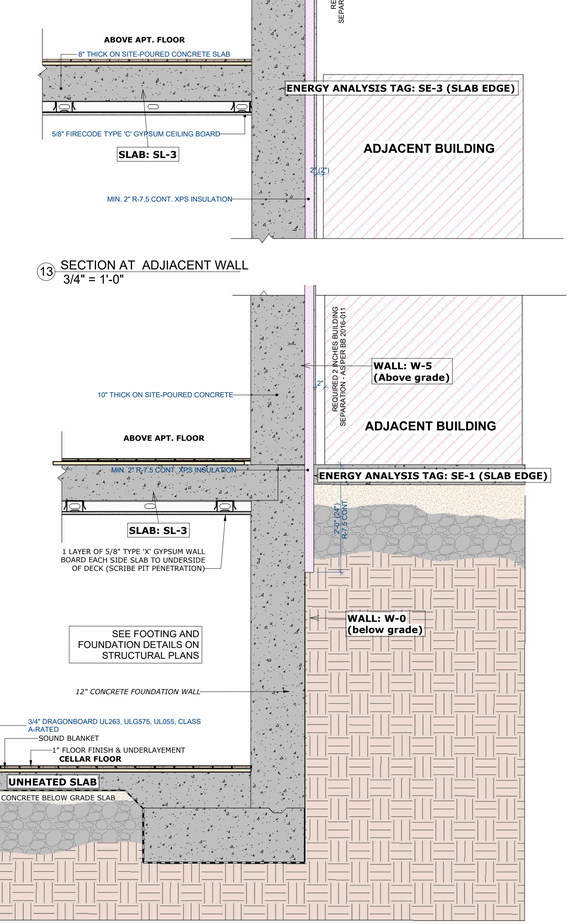
2 PARAPET DETAIL AT ROOF
3/4" = 1'-0"



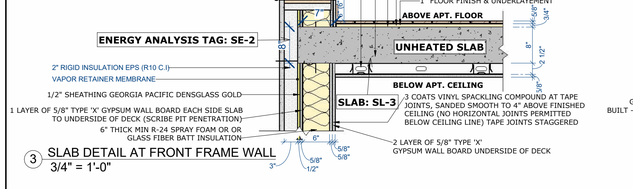
6 7TH FLOOR SLAB AT ROOF LEVEL
3/4" = 1'-0"



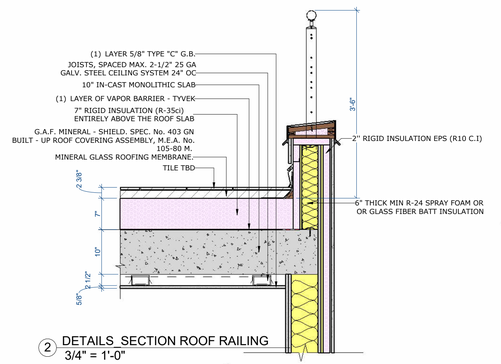
10 ELEVATOR SHAFT SECTION AT ROOF FLOOR
3/4" = 1'-0"



13 SECTION AT ADJIACENT WALL
3/4" = 1'-0"

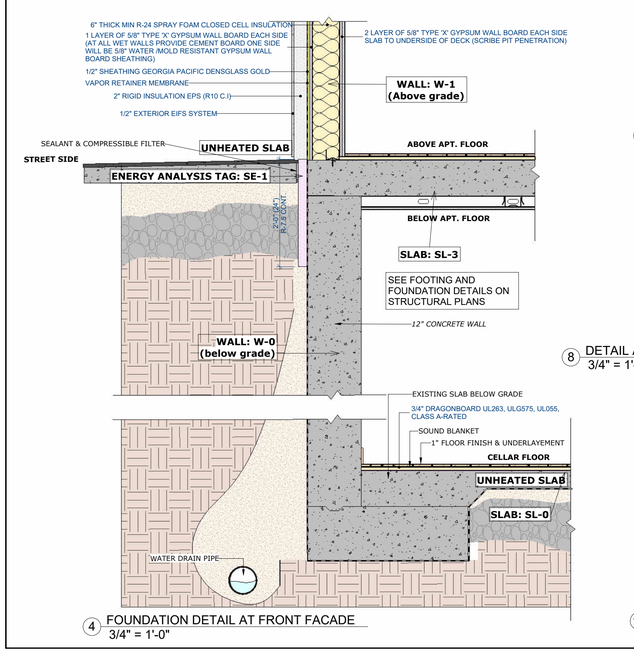


3 SLAB DETAIL AT FRONT FRAME WALL
3/4" = 1'-0"



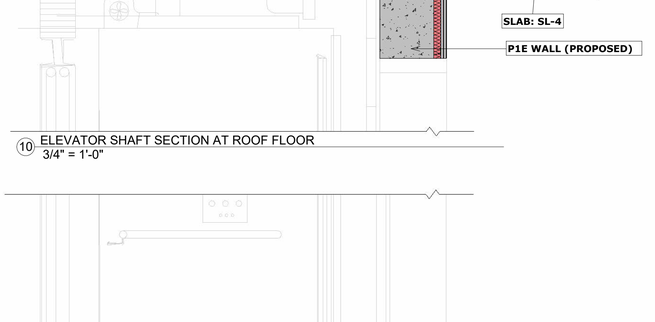
2 DETAILS_SECTION ROOF RAILING
3/4" = 1'-0"

14 SECTION AT CMU WALL
3/4" = 1'-0"



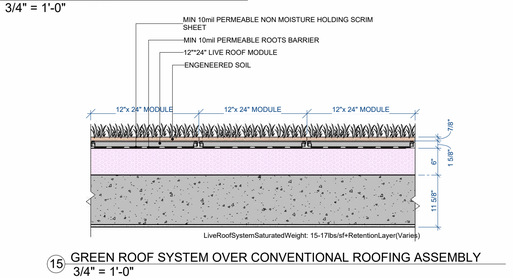
4 FOUNDATION DETAIL AT FRONT FACADE
3/4" = 1'-0"

8 DETAIL AT BALCONY SLAB
3/4" = 1'-0"



11 ELEVATOR SHAFT SECTION AT INTER-FLOOR
3/4" = 1'-0"

14 SECTION AT CMU WALL
3/4" = 1'-0"



15 GREEN ROOF SYSTEM OVER CONVENTIONAL ROOFING ASSEMBLY
3/4" = 1'-0"

Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
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MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON 030459 STATE OF NEW YORK

ARCHITECT'S SEAL

DESCRIPTION	DATE	BY

PROJECT NAME:

1563 BOONE AVENUE

10460

NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:

DETAILS

DOB JOB #: **X01288603-I1**

SCALE: AS NOTED

DRAWN BY: JOHN HURTADO

CHECKED: LND

DATE: 5/2/2026 4:33:23 p. m.

DRAWING NO.

A-501.00

NYC BC 2022 SECTION BC 1011 STAIRWAYS

1011.3 Headroom.
Stairways shall have a headroomclearance of not less than 84inches (2133.6mm) measured vertically from a line connecting the edge of the nosings. Such headroom shall be continuous above the stairway to the point where the line intersects the landing below, one tread depth beyond the bottom riser. The minimum clearance shall be maintained the full width of the stairway and landing.Projections into the required width shall not be limited above the minimum headroom height.

Exceptions:
1.In Group R-2 and R-3 occupancies stairways shall have a headroom clearance of not less than 80 inches (2032 mm).

1014.2 Height.
Handrail height, measured above stair tread nosings, or finish surface of ramp slope, shall be uniform, not less than 34 inches (863.4mm) and not more than 38 inches (965.2mm). Handrail height of alternating tread devices and shipsladders, measured above tread nosings, shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (863.4mm).

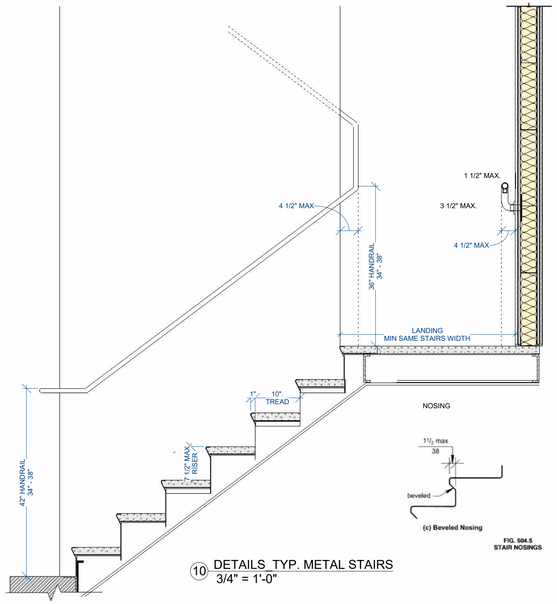
PROPOSED HANDRAIL HEIGHT : 36", THEREFORE OK

1014.8 Projections. On ramps and on ramped aisles
that are part of an accessible route , the clear width Between handrails shall be 36 inches (914.4 mm)minimum. Projections into the required width of aisles, stairways and ramps at each side shall not exceed 4½ inches (114.3mm) at or below the handrail height.
Projections into the required width shall not be limited above the minimum headroom height required in Section 1011.3. Projections due to intermediate handrails shall not constitute a reduction in the egress width.

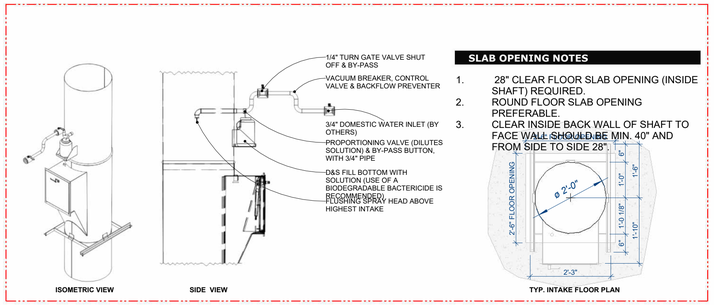
1011.8 Vertical rise.
A flight of stairs shall not have a vertical rise greater than 12 feet (3657.6 mm) between floor levels or landings

1011.5.2 Riser height and tread depth.
1011.5.2 Riser height and tread depth.Stair riser heights shall be 7 inches (177.8mm) maximum and 4 inches (101.6mm) minimum. The riser height shall be measured vertically between the nosingsof adjacent treads. Rectangular tread depths shall be 11 inches (279.4mm) minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the treads nosing. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than½ inch (9.5 mm).Winder treads shall have a minimum tread depth of 11 inches (279.4 mm) between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline and a minimum tread depth of 10 inches (254 mm) within the clear width of the stair.
Excemptions
3.In Group R-2occupancies:
3.2.Dimensions of treads and risers. The maximum riser height shall be 7¾ inches (196.85 mm) and the minimum tread depth shall be 9½ inches (241.3 mm) plus nosing. Treads may be undercut a distance equal to the nosing.A nosing not less than ¾ inch (19 mm) but not more than 1¼ inches (31.8mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279.4mm)

RESIDENTIAL R-2	NON RESIDENTIAL USE
RISER HEIGHT - 7 3/4"	RISER HEIGHT - 7"
TREAD DEPTH - 9 1/2"	TREAD DEPTH - 11"



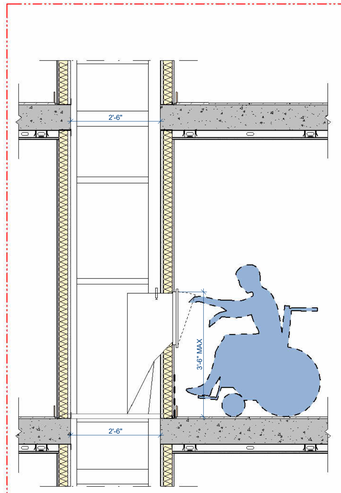
10 DETAILS TYP. METAL STAIRS
3/4" = 1'-0"



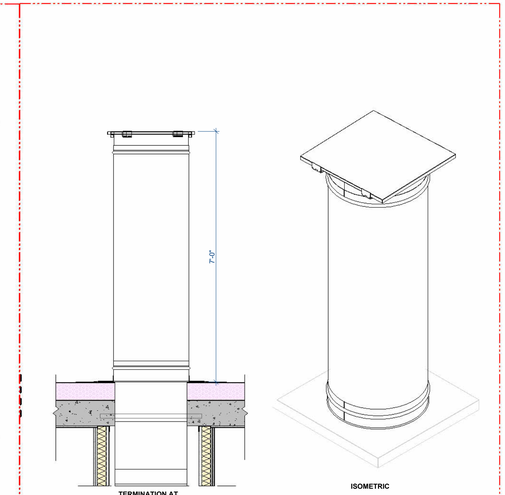
SLAB OPENING NOTES

1. 28" CLEAR FLOOR SLAB OPENING (INSIDE SHAFT) REQUIRED.
2. ROUND FLOOR SLAB OPENING PREFERABLE.
3. CLEAR INSIDE BACK WALL OF SHAFT TO FACE WALL SHOULD BE MIN. 40" AND FROM SIDE TO SIDE 28".

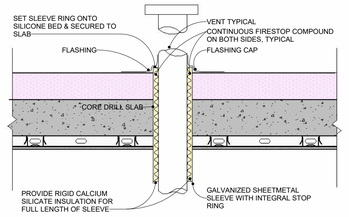
2 TYP.INTERNAL TRASH CHUTE
1/2" = 1'-0"



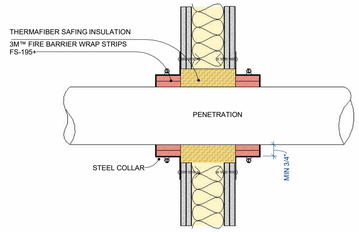
3 DETAILS TRASH INTERNAL TRASH CHUTE DOOR
1/2" = 1'-0"



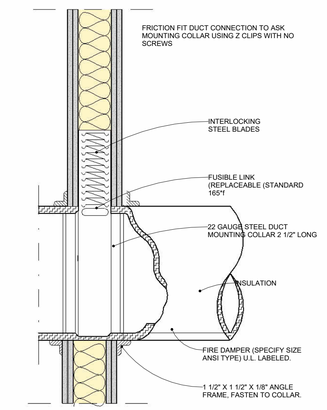
4 TRASH CHUTE TERMINATION AT FLAT ROOF
1/2" = 1'-0"



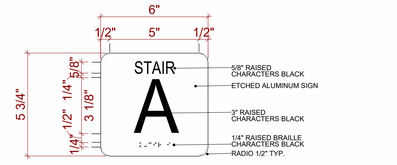
6 PITCH POCKET DUNNAGE SUPPORT
3/4" = 1'-0"



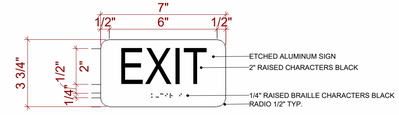
7 DETAILS FIREBLOCKING PIPE PENETRATION THROUGH WALL
1 1/2" = 1'-0"



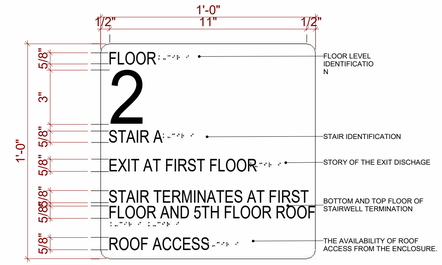
8 DETAILS FIRE DAMPERS AT DUCT THRU WALL
1 1/2" = 1'-0"



9 STAIRWELL DOOR SIGN BOTH SIDE OF STAIR DOOR
3" = 1'-0"

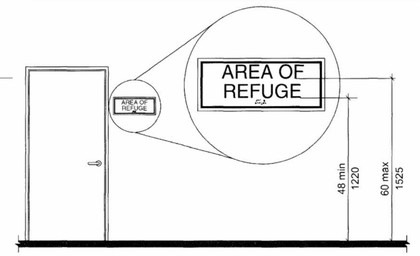


10 TACTILE EXIT SIGN ON EXIT DISCHARGE LEVEL
3" = 1'-0"

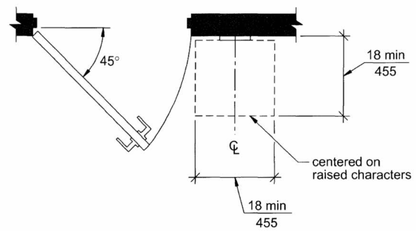


11 FLOOR IDENTIFICATION SIGN ON STAIRWELL SIDE
3" = 1'-0"

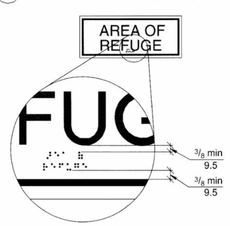
SIGNAGE LOCATION DETAILS



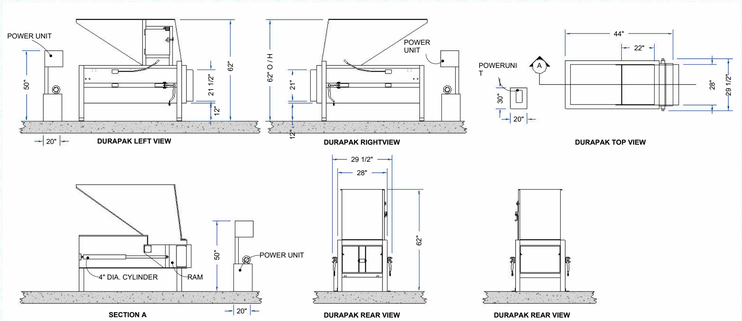
12 HEIGHT OF RAISED CHARACTERS A.F.F
SCALE: N.T.S



13 HEIGHT OF RAISED CHARACTERS A.F.F
SCALE: N.T.S



14 POSITION OF BRAILE



ALL CITY METAL MC3000-MINI COMPACTOR NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS
3. FORPLANNINGPURPOSESONLY. THISDRAWINGMAYNOTBEUSEDFORCONSTRUCTION.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCENUMBER 5191-060

DURAPAKTM 130-HD COMPACTOR
1/4" = 1'-0"

ALL-CITY METAL INC

APARTMENT COMPACTOR
MC3000-MINI

GENERAL DESCRIPTION:

Chute-fed, fully automatic, hydraulically operated piston extrusion type horizontal refuse compactor is operated by a single cylinder. Compacted refuse can be extruded into a individual plastic bags or reusable 2 cubic yard containers.

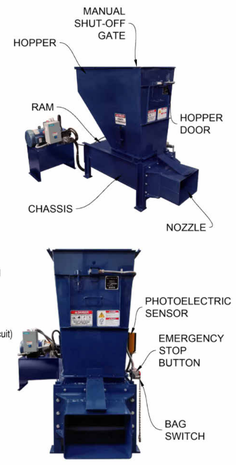
MECHANICAL FEATURES:

- Factory assembled
- Wired and tested prior to shipment
- Chassis (Body) - ⅜" thick
- Chassis Impact Plate - ½" thick
- Ram Housing - ⅜" thick
- Ram face plate -1" thick
- Hopper - 11 Gauge with 3/16" thick impact plate

SAFETY FEATURES:

- ANSI Z245.21 compliance (Optional)
- LED Photoelectric sensor indicating full container
- Compaction ram starts in fully retracted position
- Emergency stop button
- Automatic shutoff when refuse bag is full
- Hopper door switch shuts compactor down when opened
- Manual shut-off gate
- Ram retract button
- 5 Amp fused circuit
- Adjustable overload relay
- Optional sprinkler solenoid assembly (Requires 110v circuit)
- Optional full bag light with audible alarm

	MC3000-MINI
WEIGHT	1,200 LBS
OVERALL DIMENSIONS (W x L x H)	298½" X 610" X 628½"
CYCLE TIME	13s-14s
RAM FORCE	30,000 LBS @ 2400 PSI
HYDRAULIC CYLINDER	3.5"Ø BORE, 3.14" ROD/ 2.75"Ø BORE, 2.36" ROD & 28" STROKE
CAPACITY	1200 LBS/HOUR
ELECTRIC MOTOR	5 HP, 1,750 RPM, 208/220/440 VOLTS*, 14.7 AMPS, 3 PHASE, 60 CYCLES
BUILDING UNITS	UP TO 50 UNITS



956 BRUSH HOLLOW RD.
WESTBURY, NY 11590
(718) 472-5700
EMAIL: info@allcitymetal.com
WEBSITE: www.allcitymetal.com

LND
Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON 030419 STATE OF NEW YORK

ARCHITECT'S SEAL

BY	DESCRIPTION	DATE	REV.

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
DETAILS

DOB JOB #:**X01288603-I1**
SCALE: AS NOTED
DRAWN BY: JOHN HURTADO
CHECKED: Checker
DATE: 5/2/2026 4:33:26 p. m.

DRAWING NO.
A-502.00

2010 ADA STANDARDS FOR ACCESSIBLE DESIGN

Compliance Date for Title II
If the start date for construction is on or after March 15, 2012, all newly constructed or altered State and local government facilities must comply with the 2010 Standards. Before that date, the 1991 Standards (without the elevator exemption), the UFAS, or the 2010 Standards may be used for such projects when the start of construction commences on or after September 15, 2010.
28 CFR 35.151 New construction and alterations

(a) Design and construction.
(1) Each facility or part of a facility constructed by, on behalf of, or for the use of a public entity shall be designed and constructed in such manner that the facility or part of the facility is readily accessible to and usable by individuals with disabilities, if the construction was commenced after January 26, 1992.

(b) Alterations.
(1) Each facility or part of a facility altered by, on behalf of, or for the use of a public entity in a manner that affects or could affect the usability of the facility or part of
the facility shall, to the maximum extent feasible, be altered in such manner that the altered portion of the facility is readily accessible to and usable by individuals with disabilities, if the alteration was commenced after January 26, 1992.

(2) The path of travel requirements of § 35.151(b)(4) shall apply only to alterations undertaken solely for purposes other than to meet the program accessibility requirements of § 35.150.

(3)
(i) Alterations to historic properties shall comply, to the maximum extent feasible, with the provisions applicable to historic properties in the design standards specified in § 35.151(c).
(ii) If it is not feasible to provide physical access to an historic property in a manner that will not threaten or destroy the historic significance of the building or facility, alternative methods of access shall be provided pursuant to the requirements of § 35.150.

(4) Path of travel. An alteration that affects or could affect the usability of or access to an area of a facility that contains a primary function shall be made so as to ensure that, to the maximum extent feasible, the path of travel to the altered area and the restrooms, telephones, and drinking fountains serving the altered area are
readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, unless the cost and scope of such alterations is disproportionate to the cost of the overall alteration.

(c) Accessibility standards and compliance date.
(1) If physical construction or alterations commence after July 26, 1992, but prior to the September 15, 2010, then new construction and alterations subject to this section must comply with either the UFAS or the 1991 Standards except that the elevator exemption contained at section 4.1.3(5) and section 4.1.6(1)(k) of the 1991 Standards shall not apply. Departures from particular requirements of either standard by the use of other methods shall be permitted when it is clearly evident that equivalent access to the facility or part of the facility is thereby provided.

(2) If physical construction or alterations commence on or after September 15, 2010, and before March 15, 2012, then new construction and alterations subject to this section may comply with one of the following: the 2010 Standards, UFAS, or the 1991 Standards except that the elevator exemption contained at section 4.1.3(5) and section 4.1.6(1)(k) of the 1991 Standards shall not apply. Departures from particular requirements of either standard by the use of other methods shall be permitted when it is clearly evident that equivalent access to the facility or part of the facility is thereby provided.

(3) If physical construction or alterations commence on or after March 15, 2012, then new construction and alterations subject to this section shall comply with the
2010 Standards.

(4) For the purposes of this section, ceremonial groundbreaking or razing of structures prior to site preparation do not commence physical construction or alterations.

(d) Scope of coverage.
The 1991 Standards and the 2010 Standards apply to fixed or built- in elements of buildings, structures, site improvements, and pedestrian routes or vehicular ways located on a site. Unless specifically stated otherwise, the advisory notes, appendix notes, and figures contained in the 1991 Standards and the 2010 Standards explain or illustrate the requirements of the rule; they do not establish enforceable requirements.

CHAPTER 2: SEC. 228 MAILBOXES

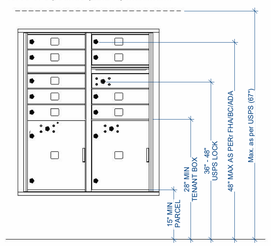
228.2 Mail Boxes
Where mail boxes are provided in an interior location, at least 5 percent, but no fewer than one, of each type shall comply with309. In residential facilities, where mail boxes are provided for each residential dwelling unit, mail boxes complying with309 shall be provided for each residential dwelling unit required to provide mobility features complying with809.2 through 809.4.

309 Operable Parts
309.1 General
Operable parts shall comply with309.

309.2 Clear Floor Space
A clear floor or ground space complying with305 shall be provided

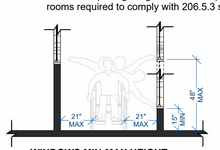
309.3 Height
Operable parts shall be placed within one or more of the reach ranges specified in308.

309.4 Operation
Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum.
EXCEPTION: Gas pump nozzles shall not be required to provide operable parts that have an activating force of 5 pounds (22.2 N) maximum.

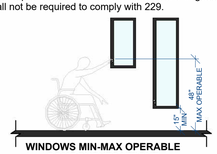


CHAPTER 2: SEC. 229 WINDOWS

229.1 General. Where glazed openings are provided in accessible rooms or spaces for operation by occupants, at least one opening shall comply with 309. Each glazed opening required by an administrative authority to be operable shall comply with 309.
EXCEPTION: 1. Glazed openings in residential dwelling units required to comply with 809 shall not be required to comply with 229.
2. Glazed openings in guest rooms required to provide communication features and in guest rooms required to comply with 206.5.3 shall not be required to comply with 229.



WINDOWS MIN-MAX HEIGHT



WINDOWS MIN-MAX OPERABLE COMPONENTS HEIGHT

CHAPTER 3: SEC. 308 REACH RANGES

308.1 General
Reach ranges shall comply with308.

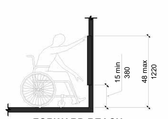
308.2 Forward Reach
308.2.1 Unobstructed
Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

308.2.2 Obstructed High Reach
Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

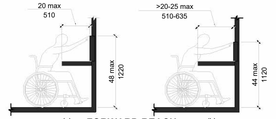
308.3 Side Reach

308.3.1 Unobstructed
Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the finish floor or ground.
EXCEPTIONS: 1. An obstruction shall be permitted between the clear floor or ground space and the element where the depth of the obstruction is 10 inches (255 mm) maximum.
2. Operable parts of fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

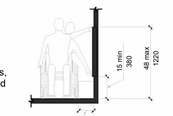
308.3.2 Obstructed High Reach
Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum for a reach depth of 24 inches (610 mm) maximum.
EXCEPTIONS: 1. The top of washing machines and clothes dryers shall be permitted to be 36 inches (915 mm) maximum above the finish floor.
2. Operable parts of fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.



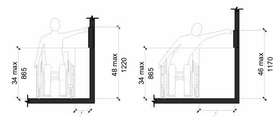
FORWARD REACH
UNOBSTRUCTED



FORWARD REACH
OBSTRUCTED HIGH REACH



SIDE REACH
UNOBSTRUCTED



SIDE REACH
OBSTRUCTED HIGH REACH

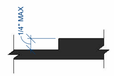
CHAPTER 3: SEC. 303 CHANGE IN LEVELS

303.1 General. Where changes in level are permitted in floor or ground surfaces, they shall comply with 303.
EXCEPTIONS: 1. Animal containment areas shall not be required to comply with 303. 2. Areas of sport activity shall not be required to comply with 303.

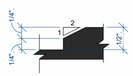
303.2 Vertical. Changes in level of ¼ inch (6.4 mm) high maximum shall be permitted to be vertical.

303.3 Beveled. Changes in level between ¼ inch (6.4 mm) high minimum and ½ inch (13 mm) high maximum shall be beveled with a slope not steeper than 1:2.

Advisory 303.3 Beveled. A change in level of ½ inch (13 mm) is permitted to be ¼ inch (6.4 mm) vertical plus ¼ inch (6.4 mm) beveled. However, in no case may the combined change in level exceed ½ inch (13 mm). Changes in level exceeding ½ inch (13 mm) must comply with 405 (Ramps) or 406 (Curb Ramps).



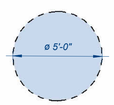
VERTICAL CHANGE IN LEVEL



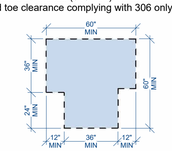
BEVELED CHANGE IN LEVEL

CHAPTER 3: SEC. 304 TURNING SPACE

304.1 General. Turning space shall comply with 304.
304.3 Size. Turning space shall comply with 304.3.1 or 304.3.2.
304.3.1 Circular Space. The turning space shall be a space of 60 inches (1525 mm) diameter minimum. The space shall be permitted to include knee and toe clearance complying with 306.
304.3.2 T-Shaped Space. The turning space shall be a T-shaped space within a 60 inch (1525 mm) square minimum with arms and base 36 inches (915 mm) wide minimum. Each arm of the T shall be clear of obstructions 12 inches (305 mm) minimum in each direction and the base shall be clear of obstructions 24 inches (610 mm) minimum. The space shall be permitted to include knee and toe clearance complying with 306 only at the end of either the base or one arm.



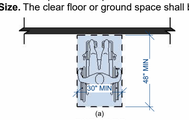
CIRCULAR SPACE



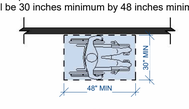
T-SHAPED TURNING SPACE

CHAPTER 3: SEC. 305 CLEAR FLOOR OR GROUND SPACE

305.1 General. Clear floor or ground space shall comply with 305.
305.2 Floor or Ground Surfaces. Floor or ground surfaces of a clear floor or ground space shall comply with 302. Changes in level are not permitted.
EXCEPTION: Slopes not steeper than 1:48 shall be permitted.
305.3 Size. The clear floor or ground space shall be 30 inches minimum by 48 inches minimum.



FORWARD



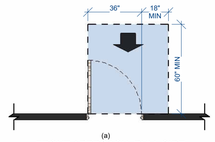
PARALLEL

CHAPTER 4: SEC.404 DOORS, DORWAYS, GATES

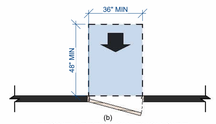
404.2 Manual Doors, Doorways, and Manual Gates. Manual doors and doorways and manual gates intended for user passage shall comply with 404.2

404.2.4 Maneuvering Clearances. Minimum maneuvering clearances at doors and gates shall comply with 404.2.4. Maneuvering clearances shall extend the full width of the doorway and the required latch side or hinge side clearance.
EXCEPTION: Entry doors to hospital patient rooms shall not be required to provide the clearance beyond the latch side of the door..
404.2.4.1 Swinging Doors and Gates. Swinging doors and gates shall have maneuvering clearances complying with Table 404.2.4.1.
404.2.4.2 Doorways without Doors or Gates, Sliding Doors, and Folding Doors. Doorways less than 36 inches (915 mm) wide without doors or gates, sliding doors, or folding doors shall have maneuvering clearances complying with Table 404.2.4.2.
Advisory 404.2.4.3 Recessed Doors and Gates. A door can be recessed due to wall thickness or because of the placement of casework and other fixed elements adjacent to the doorway. This provision must be applied wherever doors are recessed.

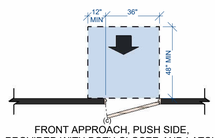
404.2.5 Thresholds. Thresholds, if provided at doorways, shall be ½ inch (13 mm) high maximum. Raised thresholds and changes in level at doorways shall comply with 302 and 303.
EXCEPTION: Existing or altered thresholds ¾ inch (19 mm) high maximum that have a beveled edge on each side with a slope not steeper than 1:2 shall not be required to comply with 404.2.5.



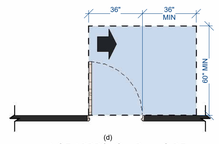
FRONT APPROACH, PULL SIDE



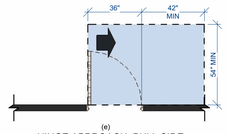
FRONT APPROACH, PUSH SIDE



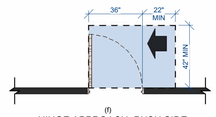
FRONT APPROACH, PUSH SIDE, PROVIDED WITH BOTH CLOSER AND LATCH



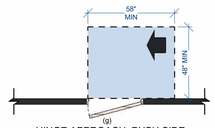
HINGE APPROACH, PULL SIDE



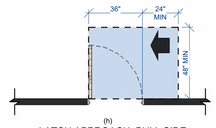
HINGE APPROACH, PULL SIDE



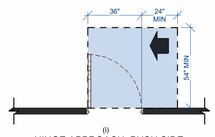
HINGE APPROACH, PUSH SIDE



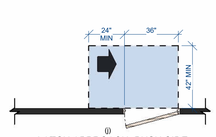
HINGE APPROACH, PUSH SIDE, DOOR PROVIDED WITH BOTH CLOSER AND LATCH



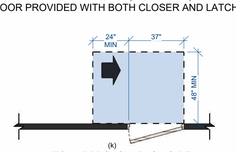
LATCH APPROACH, PULL SIDE



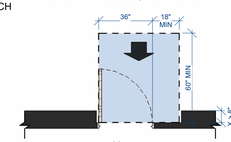
HINGE APPROACH, PUSH SIDE, DOOR PROVIDED WITH BOTH CLOSER AND LATCH



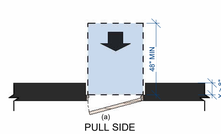
LATCH APPROACH, PUSH SIDE



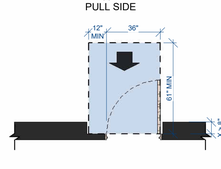
LATCH APPROACH, PUSH SIDE, DOOR PROVIDED WITH CLOSER

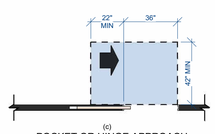


PULL SIDE

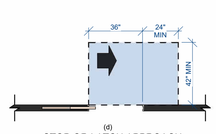


PULL SIDE





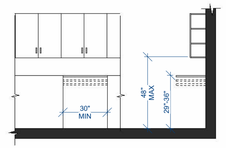
POCKET OR HINGE APPROACH



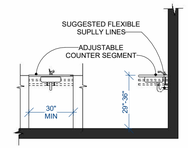
STOP OR LATCH APPROACH

CHAPTER 8: SEC. 804 KITCHENS AND KITCHENETTES

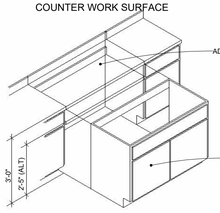
804.1 General. Kitchens and kitchenettes shall comply with 804.
804.2 Clearance. Where a pass through kitchen is provided, clearances shall comply with 804.2.1. Where a U-shaped kitchen is provided, clearances shall comply with 804.2.2.
804.2.2 U-Shaped. In U-shaped kitchens enclosed on three contiguous sides, clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum
804.3 Kitchen Work Surface. In residential dwelling units required to comply with 809, at least one 30 inches (760 mm) wide minimum section of counter shall provide a kitchen work surface that complies with 804.3.
804.3.2 Height. The kitchen work surface shall be 34 inches (865 mm) maximum above the finish floor or ground.
EXCEPTION: A counter that is adjustable to provide a kitchen work surface at variable heights, 29 inches (735 mm) minimum and 36 inches (915 mm) maximum, shall be permitted.
804.3.3 Exposed Surfaces. There shall be no sharp or abrasive surfaces under the work surface counters.
804.4 Sinks. Sinks shall comply with 606.
804.5 Storage. At least 50 percent of shelf space in storage facilities shall comply with 811.
804.6 Appliances. Where provided, kitchen appliances shall comply with 804.6.



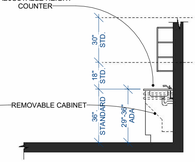
COUNTER WORK SURFACE



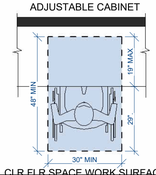
SINK WORK SURFACE



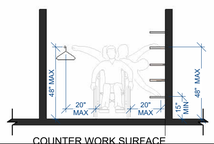
ADJUSTABLE CABINET



ADJUSTABLE SINK



CLR FLR SPACE W/WORK SURFACE



COUNTER WORK SURFACE

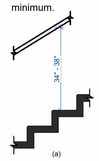
CHAPTER 5: SEC. 505 HANDRAILS

505.2 Location.
Handrails shall be provided on both sides of stairs and ramps.

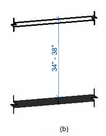
505.3 Continuity.
Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs or ramps shall be continuous between flights or runs. Other handrails shall comply with Sections 505.10 and 307.

505.4 Height.
Top of gripping surfaces of handrails shall be 34 inches (865 mm) minimum and 38 inches (965 mm maximum vertically above stair nosings, ramp surfaces and walking surfaces. Handrails shall be at a consistent height above stair nosings, ramp surfaces and walking surfaces.
"See FIG. 505.4 HANDRAIL HEIGHT"

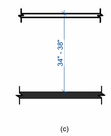
505.5 Clearance
Clearance between handrail gripping surfaces and adjacent surfaces shall be 1½ inches (38 mm) minimum.



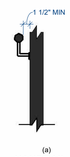
(a)
STAIRS



(b)
RAMPS



(c)
WALKING SURFACE



(a)
HANDRAIL

Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON 030459 STATE OF NEW YORK
ARCHITECT'S SEAL

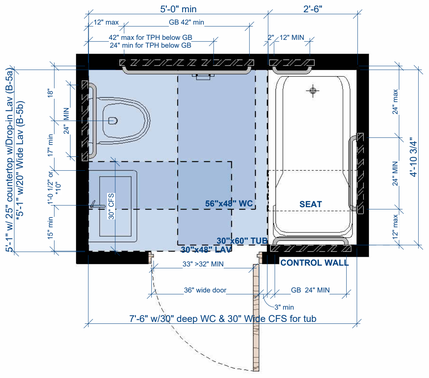
REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
ADA DETAILS

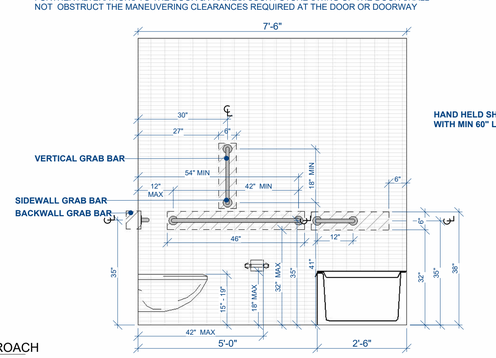
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DRAWN BY: JOHN HURTADO
CHECKED: LND
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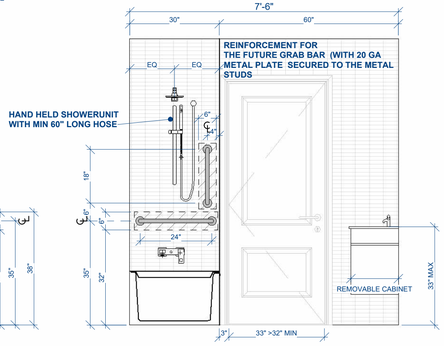
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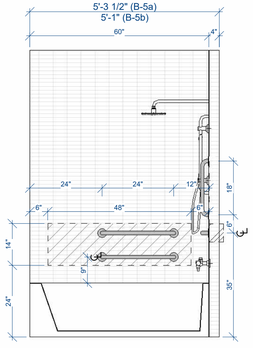


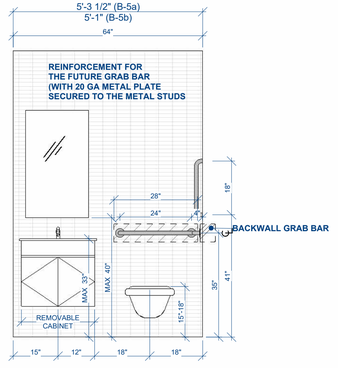
1 FHA / BC-APPENDIX "P" - TYPE B (B-5a/B-5b)BATHROOM SIDE APPROACH
1/2" = 1'-0"

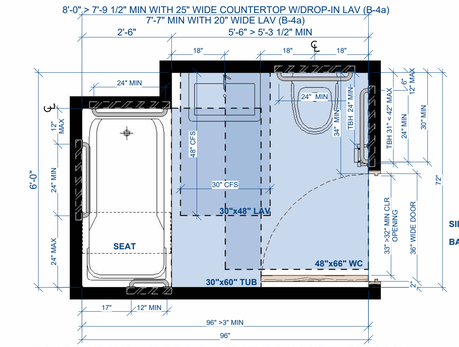
NOTE: DOOR SWING - APPENDIX 'P' TOILET & BATHING FACILITY
THE DOOR & FRAME ARE PROVIDED WITH MORTISED HINGE & LATCH BLANKS TO PERMIT FUTURE REVERSAL OF THE DOOR ON THE SAME FRAMES USING COMMON HAND TOOLS AND WITHOUT FURTHER ALTERATIONS TO THE DOOR & FRAMES. SUCH FUTURE SWING OF THE DOOR SHALL NOT OBSTRUCT THE MANEUVERING CLEARANCES REQUIRED AT THE DOOR OR DOORWAY



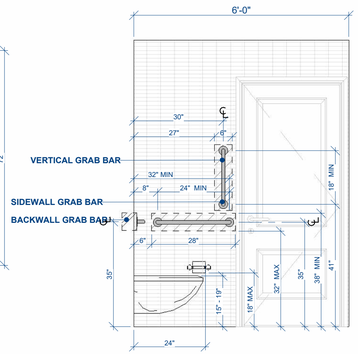


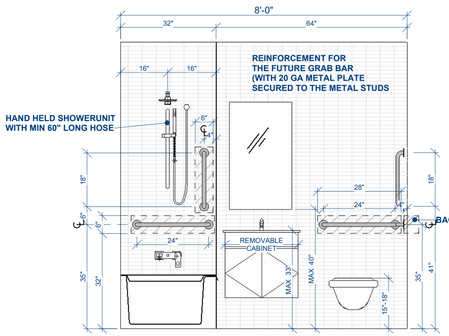


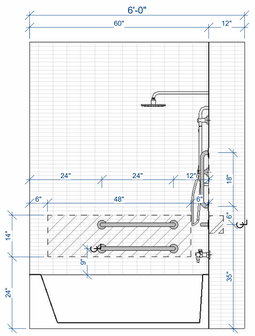


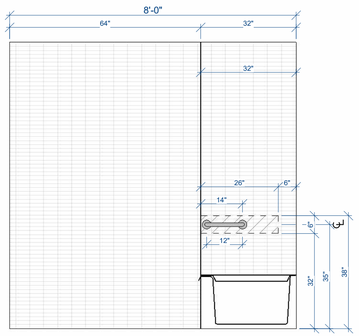


2 BC-APPENDIX "P" - TYPE B (B-4a)BATHROOM SIDE APPROACH
1/2" = 1'-0"









NOTE: DOOR SWING - APPENDIX 'P' TOILET & BATHING FACILITY
THE DOOR & FRAME ARE PROVIDED WITH MORTISED HINGE & LATCH BLANKS TO PERMIT FUTURE REVERSAL OF THE DOOR ON THE SAME FRAMES USING COMMON HAND TOOLS AND WITHOUT FURTHER ALTERATIONS TO THE DOOR & FRAMES. SUCH FUTURE SWING OF THE DOOR SHALL NOT OBSTRUCT THE MANEUVERING CLEARANCES REQUIRED AT THE DOOR OR DOORWAY

Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT
LEANDRO NILS DICKSON
030439
STATE OF NEW YORK
ARCHITECT'S SEAL:

BY	DESCRIPTION	DATE	REV

PROJECT NAME:

1563 BOONE AVENUE

10460

NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
ADA BATHROOM DETAILS

DOB JOB #X01288603-I1

SCALE: AS NOTED

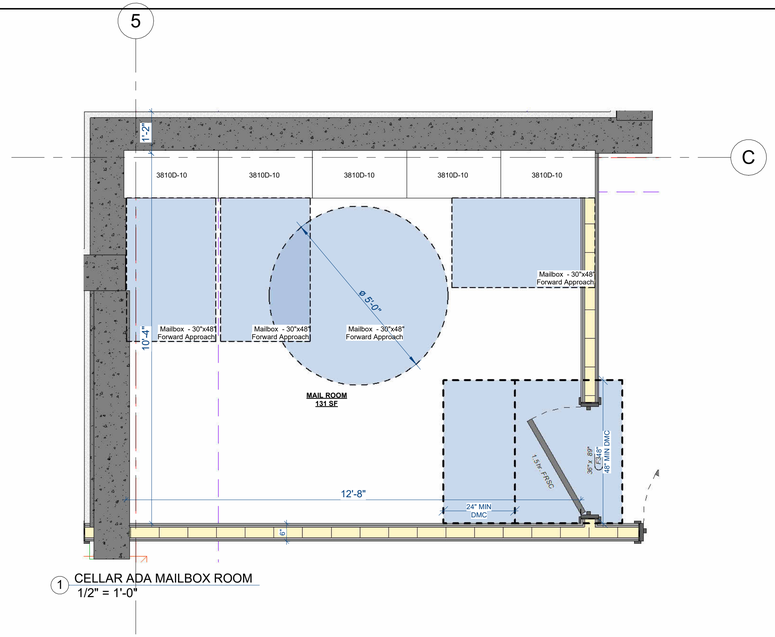
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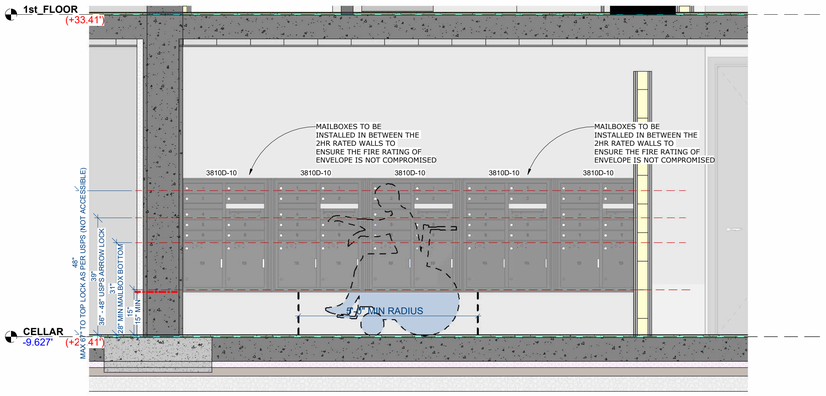
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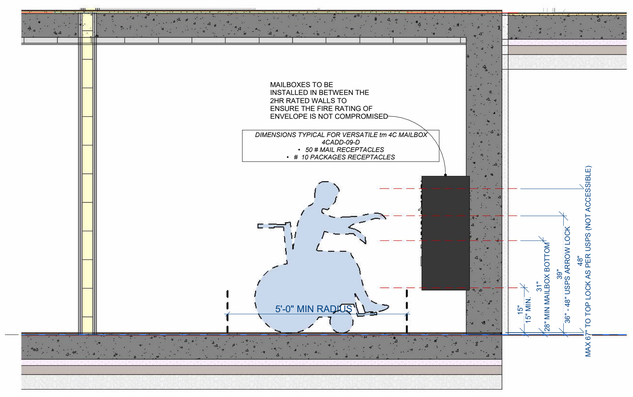
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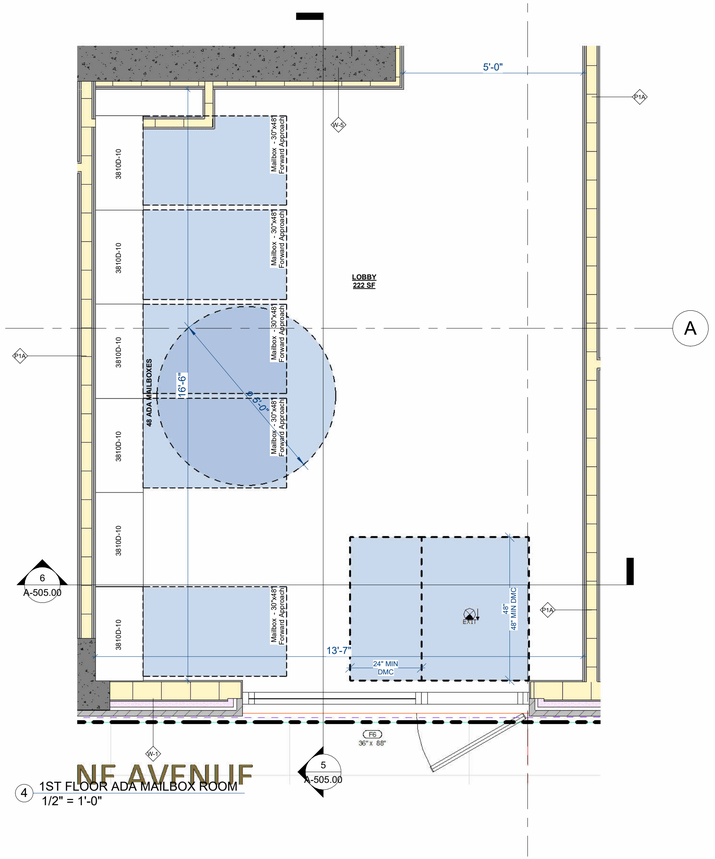
1 CELLAR ADA MAILBOX ROOM
1/2" = 1'-0"



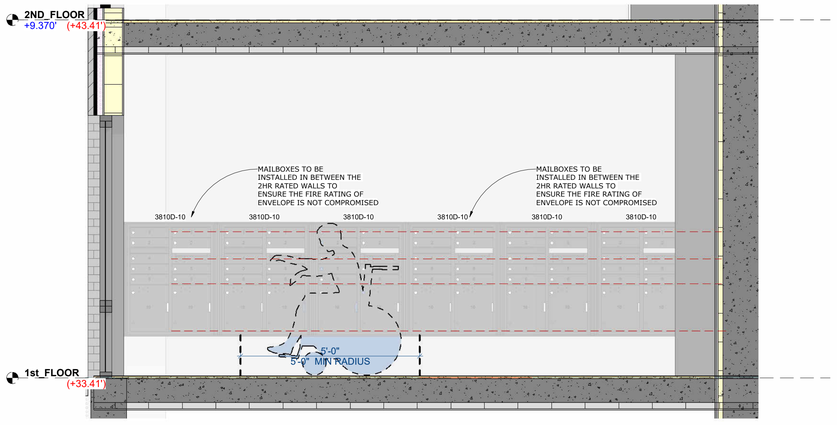
2 CELLAR MAILBOX ROOM ELEVATION 1
1/2" = 1'-0"



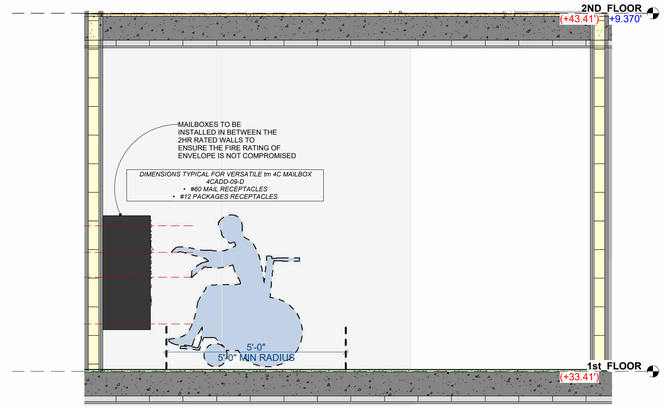
3 CELLAR MAILBOX ROOM ELEVATION 2
1/2" = 1'-0"



4 1ST FLOOR ADA MAILBOX ROOM
1/2" = 1'-0"



5 1ST FLOOR MAILBOX ROOM ELEVATION 1
1/2" = 1'-0"



6 1ST FLOOR MAILBOX ROOM ELEVATION 2
1/2" = 1'-0"

10 DOOR HIGH UNITS* - 38-1/2" H



3810D-10



3810S-04

*All units meet ADA reach requirements when installed with the tenant locks in the top row of mailboxes no more than 4" above the finished floor and the bottom shelf of the lowest row of mailboxes no less than 28' above the finished floor.

NYC 2020 BC 1107.3.1 MAILBOXESEWER/NEW_YORK_CITY/NYC-BUILDING-CODE-2022/CHAPTER/11/ACCESSIBILITY#1107.3.1" EXCEPT AS OTHERWISE PROVIDED BY RULES OF THE DEPARTMENT FOR THE PURPOSES OF COMPLYING WITH RULES AND REGULATIONS ESTABLISHED BY THE UNITED STATES POSTAL SERVICE AND/OR THE UNITED STATES DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, WHERE MAILBOXES ARE PROVIDED FOR EACH DWELLING UNIT OR SLEEPING UNIT IN AN INTERIOR LOCATION, 100 PERCENT OF SUCH MAILBOXES SHALL COMPLY WITH ICC A117.1, AND THE OPERABLE PARTS OF SUCH MAILBOXES SHALL BE NO HIGHER THAN 48 INCHES (1220 MM) ABOVE THE FINISHED FLOOR.

NOTES:
INSTALLATION REQUIREMENTS PER USPS STD-4C
1. AT LEAST ONE CUSTOMER MAILBOX COMPARTMENT SHALL BE POSITIONED LESS THAN 48" ABOVE FINISHED FLOOR (AFF).
2. NO PARCEL LOCKER COMPARTMENT (INTERIOR BOTTOM SHELF) SHALL BE POSITIONED LESS THAN 15" AFF.
3. NO CUSTOMER MAILBOX LOCK SHALL BE LOCATED MORE THAN 67" AFF.
4. NO CUSTOMER MAILBOX COMPARTMENT (INTERIOR BOTTOM SHELF) SHALL BE POSITIONED LESS THAN 28" AFF.
5. THE USPS ARROW LOCK IN THE CARRIER ACCESS DOOR SHALL BE LOCATED BETWEEN 36" AND 48" AFF.

USPS NOTES FOR TRIBORO DISTRICT

MAILBOX STANDARDS FOR NEW CONSTRUCTION OR MAJOR RENOVATIONS

ALL NEW CONSTRUCTION WITH BUILDING PERMITS ISSUED ON OR AFTER OCTOBER 6, 2006 MUST USE STANDARD 4C MAIL RECEPTACLES.

LOCATION & SAFETY
ALL NEW MAILBOX INSTALLATIONS MUST BE CENTRALIZED AT A SINGLE LOCATION, REGARDLESS IF THE ORIGINAL MAILBOXES WERE IN SPLIT LOCATIONS. MAIL RECEPTACLES SHOULD BE LOCATED AT PARTS REASONABLY NEAR THE ENTRANCES IN VESTIBULES, HALLS OR LOBBIES. THEY MUST NOT BE LOCATED UNDER STAIR CASES, OVER STEPS OR NEAR SWINGING DOORS. PROVIDE AT LEAST 44" OF SPACE BETWEEN THE BOXES AND OPPOSITE WALL. THERE MUST BE ADEQUATE LIGHTING AND VENTILATION AT THE MAILBOX LOCATION.

SIZE & HEIGHT
- MAILBOX COMPARTMENTS MUST HAVE A MINIMUM DIMENSION OF 3"H X 12"W X 15"D.
- MAXIMUM HEIGHT FROM THE FLOOR TO THE TOP TENANT LOCK IS 67".
- MINIMUM HEIGHT FROM THE FLOOR TO THE BOTTOM EDGE OF ANY "CUSTOMER" MAILBOXES IS 28 ".
- MINIMUM HEIGHT FROM THE FLOOR TO THE BOTTOM EDGE OF ANY "PARCEL LOCKER" IS 15". (IN CONFIGURATIONS WHERE PARCEL LOCKERS AND CUSTOMER MAILBOXES ARE ADJACENT TO ONE ANOTHER, THE MINIMUM HEIGHT FROM THE FLOOR TO THE BOTTOM EDGE IS 28".)
- AT LEAST ONE CUSTOMER COMPARTMENT SHALL BE POSITIONED LESS THAN 38" FROM THE FINISHED FLOOR.
- **NO PARCEL LOCKER COMPARTMENT (INTERIOR BOTTOM SHELF) SHALL BE POSITIONED LESS THAN 15" FROM THE FINISHED FLOOR.**
- THE USPS ARROW LOCK SHALL BE LOCATED BETWEEN 36" AND 48" ABOVE THE FINISHED FLOOR.
- PARCEL LOCKERS (OR AN ALTERNATIVE METHOD OF DELIVERY) MUST BE INCLUDED AT A MINIMUM OF 1 PARCEL LOCKER FOR EVERY 5 CUSTOMER MAIL RECEPTACLES.

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Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON 030459 STATE OF NEW YORK

ARCHITECT'S SEAL

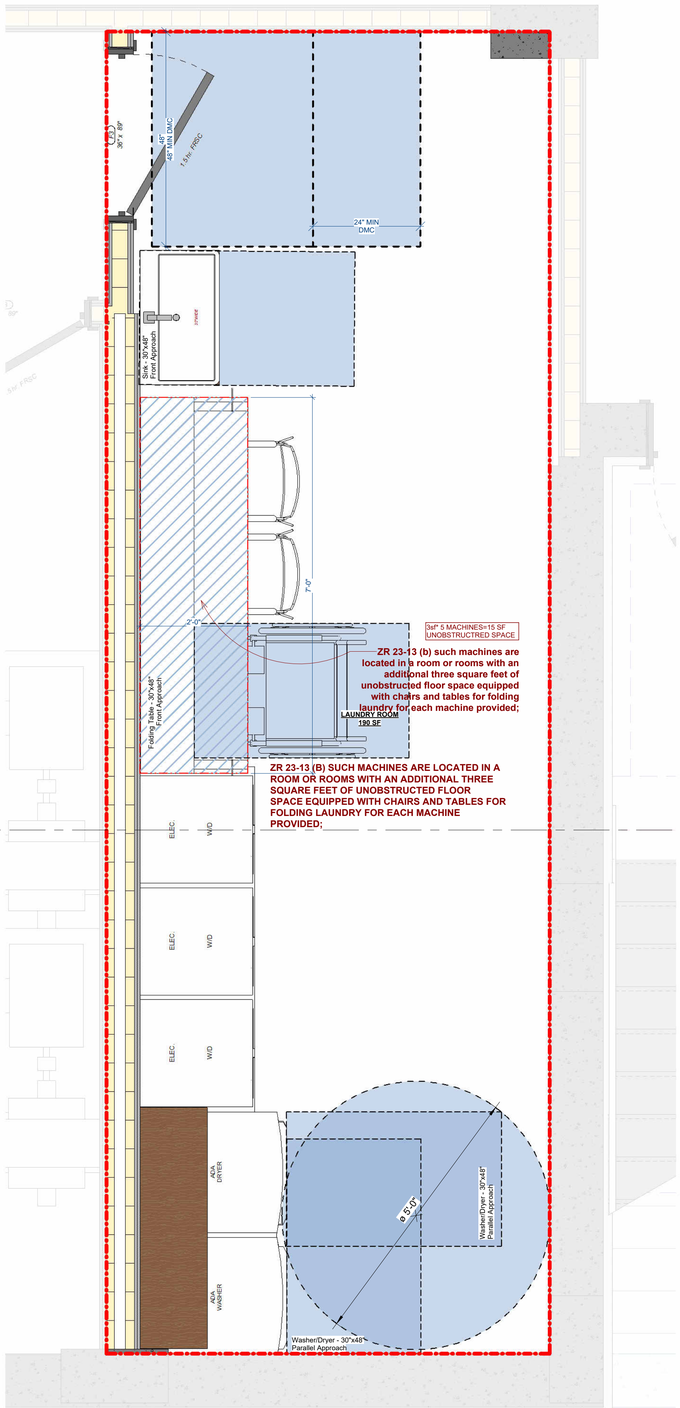
REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
ADA COMMON SPACE - MAILBOX ROOM

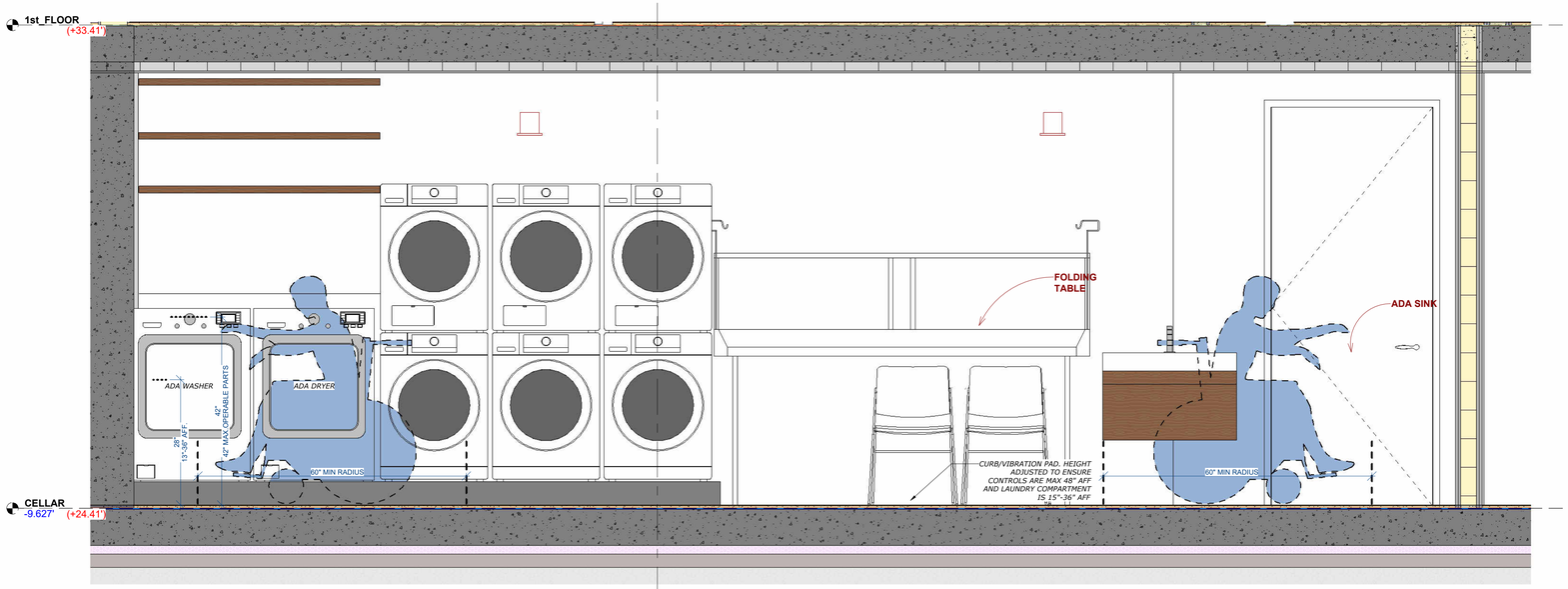
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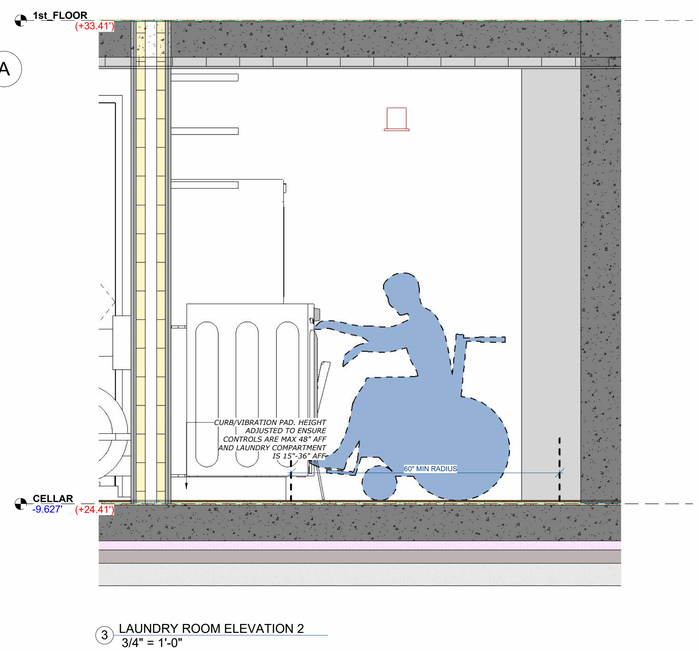


1 LAUNDRY ROOM
3/4" = 1'-0"

A



2 LAUNDRY ROOM ELEVATION 1
3/4" = 1'-0"



3 LAUNDRY ROOM ELEVATION 2
3/4" = 1'-0"

ADA GUIDLEINES - CHAPTER 6: WASHING MACHINES AND CLOTHES DRYERS

REQUIRED COMPLIANCE [§214]
SCOPING FOR WASHING MACHINES AND CLOTHES DRYERS IS APPLIED INDEPENDENTLY. WHERE UP TO THREE WASHING MACHINES ARE PROVIDED, AT LEAST ONE MUST COMPLY. IF MORE THAN THREE WASHING MACHINES ARE PROVIDED, AT LEAST TWO MUST COMPLY. THE SAME LEVEL OF ACCESSIBILITY IS REQUIRED FOR CLOTHES DRYERS.
THESE REQUIREMENTS APPLY TO VARIOUS TYPES OF LAUNDRY FACILITIES, INCLUDING, BUT NOT LIMITED TO, THOSE SERVING RESIDENTIAL DWELLING UNITS, DORMITORIES AND OTHER TYPES OF TRANSIENT LODGING, LAUNDROMATS, AND RECREATION FACILITIES.
WASHING MACHINES AND CLOTHES DRYERS ONLY USED BY EMPLOYEES TO PERFORM WORK ARE NOT REQUIRED TO COMPLY, ALTHOUGH COMPLIANCE IS ADVISABLE (§203.9).

PROVIDED:
- 1 ACCESSIBLE DRYERS
- 1 ACCESSIBLE WASHERS
- 3 NOT ACCESSIBLE DRYERS
- 3 NOT ACCESSIBLE WASHERS

CLEAR FLOOR SPACE [§611.2]
CLEAR FLOOR SPACE MUST BE CENTERED ON THE APPLIANCE AND POSITIONED FOR A PARALLEL APPROACH. ENCLOSURES, INCLUDING DOORS WHEN OPEN, CANNOT OVERLAP OR OBSTRUCT THE CLEAR FLOOR SPACE. WHERE CLEAR FLOOR SPACE IS RECESSED IN ALCOVES AND CONFINED ON THREE SIDES, ADDITIONAL MANEUVERING CLEARANCE IS REQUIRED. (SEE THE CLEAR FLOOR OR GROUND SPACE AND TURNING SPACE GUIDE)

PROVIDED
- 30"X40" PARALLEL APPROACH TO ADA WASHER AND DRYER AT CL.

ADA GUIDLEINES - CHAPTER 6: WASHING MACHINES AND CLOTHES DRYERS

HEIGHT [§611.4]
HEIGHT OF TOP-LOADING MACHINES MUST BE 36" MAXIMUM ABOVE THE FINISH FLOOR. FOR FRONT-LOADING MACHINES, THE HEIGHT OF THE BOTTOM OF THE OPENING OF THE DOOR MUST BE BETWEEN 15" AND 36" ABOVE THE FINISH FLOOR.

PROVIDED:
- 2 FRONT LOAD MACHINES WITH OPENINGS HEIGHT BETWEEN 15" -36" AFF

OPERABLE PARTS [§611.3, §309]
OPERABLE PARTS OF MACHINES, INCLUDING CONTROLS, DOORS, DETERGENT AND BLEACH COMPARTMENTS, AND LINT SCREENS MUST COMPLY. THEY ALSO MUST BE WITHIN ACCESSIBLE REACH RANGE AND USABLE WITH ONE HAND AND WITHOUT TIGHT GRASPING, PINCHING, TWISTING OF THE WRIST, OR MORE THAN 5 POUNDS OF FORCE.
COIN SLIDES OR PAYMENT UNITS NEED TO COMPLY WITH OPERABLE PARTS REQUIREMENTS. CHANGE MACHINES AND VENDING MACHINES ALSO MUST COMPLY (§228.1).

PROVIDED:
- 2 FRONT LOAD MACHINES WITH OPERABLE PARTS HEIGHT < 48" AFF

Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON 030459 STATE OF NEW YORK

ARCHITECT'S SEAL:

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:

1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
ADA COMMON SPACE - LAUNDRY ROOM

DOB JOB #**X01288603-I1**

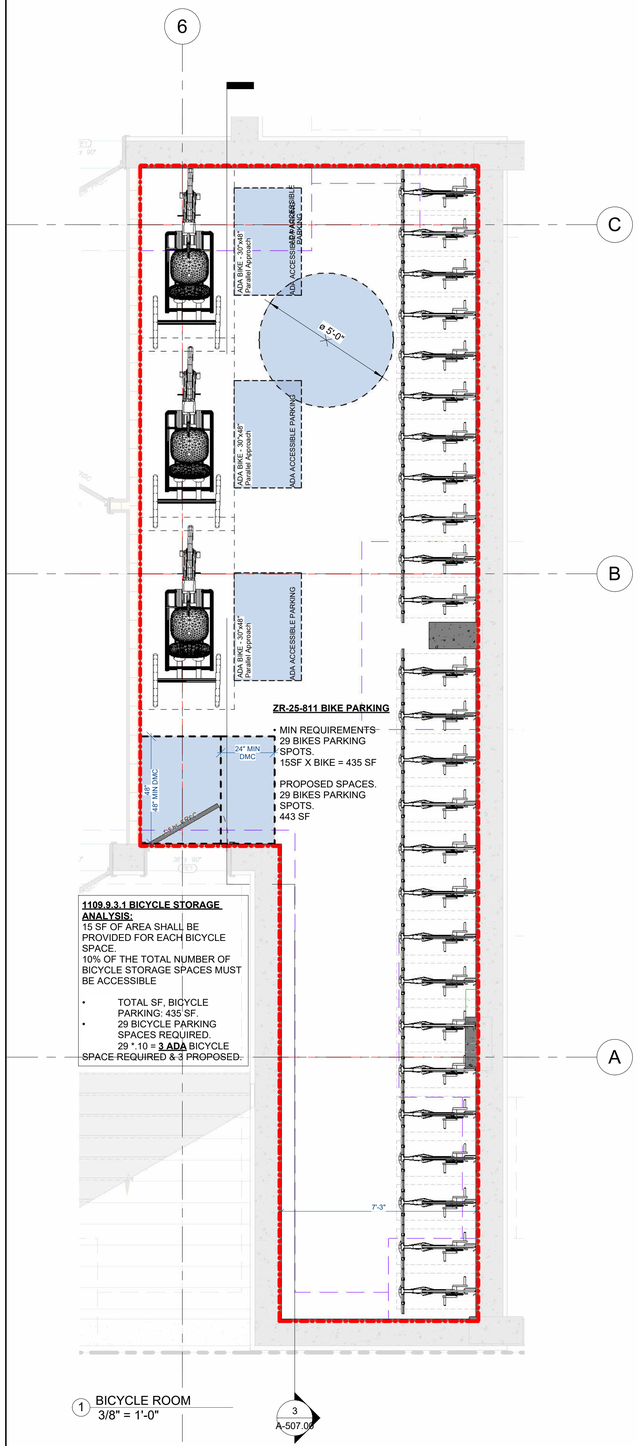
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DRAWN BY: JOHN HURTADO

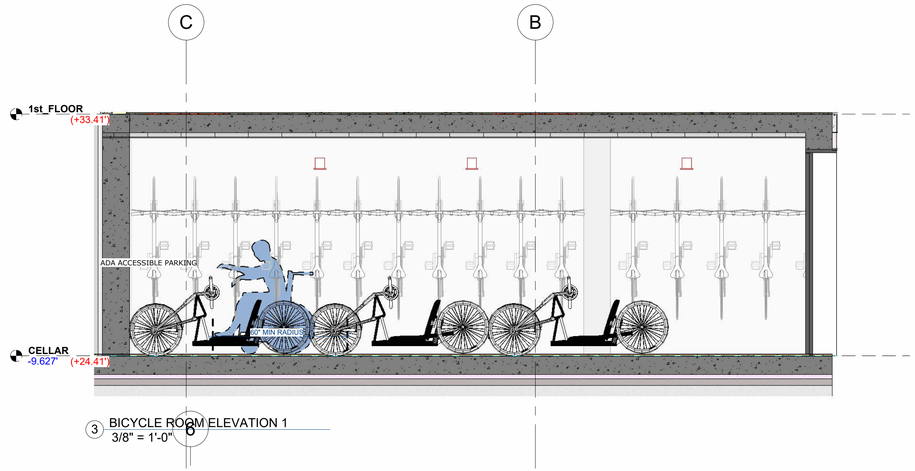
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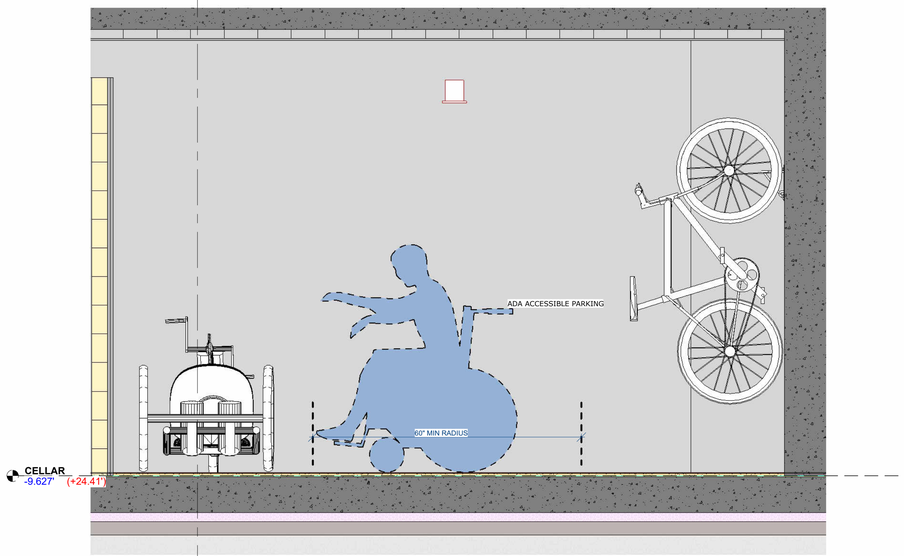
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A-506.00



1 BICYCLE ROOM
3/8" = 1'-0"



3 BICYCLE ROOM ELEVATION 1
3/8" = 1'-0"



2 BICYCLE ROOM ELEVATION 2
3/4" = 1'-0"

NYC BC 2022 SECTION BC 1109 OTHER FEATURES AND FACILITIES

1109.8 Storage.
Where fixed or built-in storage elements such as cabinets, shelves, medicine cabinets, closets, and drawers are provided in required accessible spaces, at least one of each type shall contain storage space complying with ICC A117.1.
1109.8.1 Lockers.
Where lockers are provided in accessible spaces, at least five percent, but not less than one, of each type shall be accessible

BICYCLE STORAGE ANALYSIS:
52 BICYCLE SPACE SPOT REQUIRED, 5% OF THE TOTAL NUMBER OF BICYCLE MUST BE ACCESSIBLE

- TOTAL 29 BICYCLE PARKING SPACES PROPOSED.
  50 * 0.05 = **3 ADA** BICYCLE SPACE REQUIRED

3 ADA BICYCLE SPACE PROPOSED: 3 ADA BIKE AT CELLAR

Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

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LEANDRO NILS DICKSON
030459
STATE OF NEW YORK
ARCHITECT'S SEAL:

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
ADA COMMON SPACE - BICYCLE ROOM

DOB JOB #**X01288603-I1**

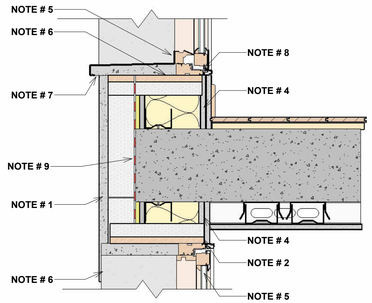
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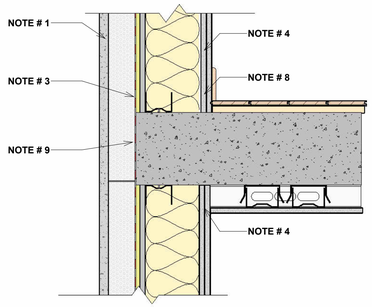
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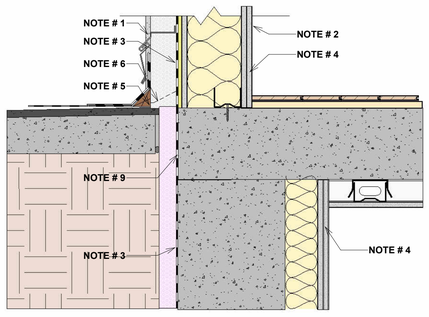
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A-507.00



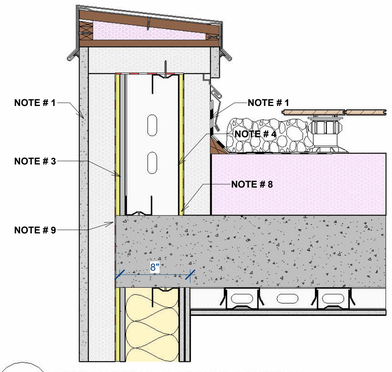
1 **SECTION DETAIL @ WINDOW**
AIR BARRIER CONTINUITY



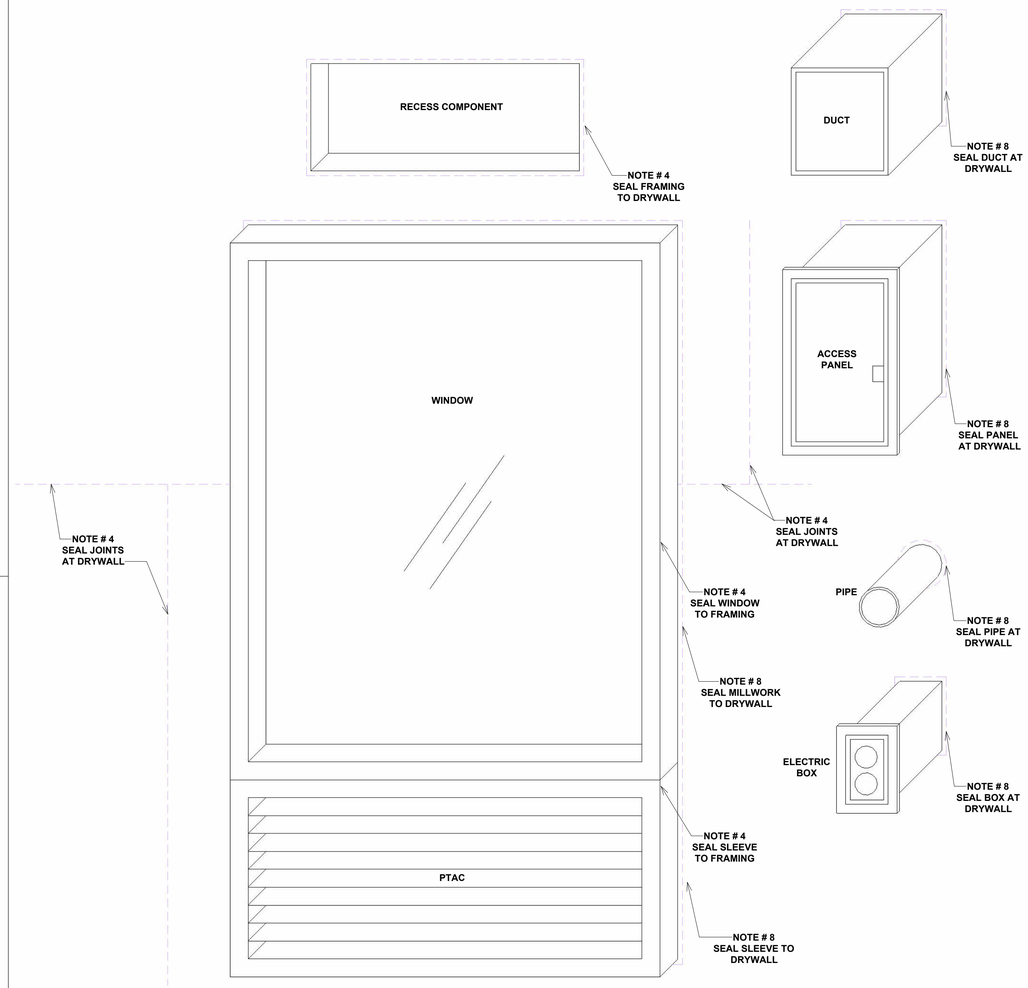
2 **SECTION DETAIL @ WALL**
AIR BARRIER CONTINUITY



3 **SECTION DETAIL @ GROUND CONDITION**
AIR BARRIER CONTINUITY



3 **SECTION DETAIL @ GROUND CONDITION**
AIR BARRIER CONTINUITY



2 **ELEVATION DETAILS @ OPAQUE WALL**
AIR BARRIER CONTINUITY

AIR BARRIER KEY NOTES

• 1. EXT. WALL CLADDING SYSTEM - w/EXT. RIGID INSULATION AS SPECIFIED ON DETAILS AND ENERGY ANALYSIS. SEE WALL W1, W2, W3

• 2. INT. WALL COMPONENT SYSTEM -(SHOWN IS CMU WALL w/DUR-OWAL).

• 3. CONTINUOUS EXTERIOR AIR & MOISTURE BARRIER (SEE AIR BARRIER INSPECTION / TESTING REQUIREMENTS) SEAL ALL JOINTS AND PENETRATIONS.

• 4. INTERIOR AIR BARRIER SYSTEM - FINISHED DRYWALL w/INT. INSULATION AS SPECIFIED ON DETAILS AND ENERGY ANALYSIS AND VAPOR BARRIER (IF SPECIFIED). - 5/8" G.W.B. SEALED AT ANY GAPS JOINTS AND PENETRATIONS.

• 5. BUILDING EXTERIOR ENVELOPE SEALER FOR CONSTRUCTION JOINTS, GAPS AND PENETRATIONS. SEE AIR BARRIER INSPECTION / TESTING REQUIREMENTS.

• 6. TRANSITION MEMBRANE MIN. 3" OVERLAPPING THE CONTINUOUS METAL FLASHING. SEE AIR BARRIER INSPECTION / TESTING REQUIREMENTS.

• 7. CONTINUOUS FLEXIBLE METAL FLASHING AROUND WINDOWS/ DOORS. VERIFY INSTALLATION REQUIREMENTS w/WINDOW/DOOR MANUFATURER.

• 8. SEAL ELECTRICAL/PLUMBING/MECHANICAL GAPS AND/OR PENETRATIONS WITH SEALER.

• 9. USE TRANSITION SHEET AT THE INTERFACE OF STRUCTURAL SUPPORTS AND JUNCTIONS OF DISSIMILAR MATERIALS, FLOOR SLAB TO WALL CONNECTIONS AND ACROSS SHEAR WALLS. SEE AIR BARRIER INSPECTION / TESTING REQUIREMENTS.

AIR BARRIER NOTES (2020 NYCECC CODE)

• 1. AIR BARRIER ASSEMBLIES ARE TO CONSIST OF AIR BARRIER COMPONENTS AND MATERIELAS SUCH AS WALLS, WINDOWS AND EXTERIOR DOORS AND AIR BARRIER ACCESSORIES SUCH AS TRANSITION STRIPS, SEALANTS, TAPES, BACKER RODS ETC. USED TO BRIDGE BETWEEN DIFFERENT MATERIALS AND SURFACES.

• 2. AIR BARRIER SYSTEM TO INCLUDE THE FOLLOWING:

• A. RIGID INSULATION BOARDS WITH A MINIMUM AIR PERMEABILITY OF 0.004 SHALL ACT AS A CONTINUOUS AIR BARRIER THROUGHOUT THE BUILDING ENVELOPE. ALL JOINTS SHALL BE SEALED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

• B. FLUID APPLIED OR ADHESIVE WATERPROOFING/AIR BARRIER MEMRANE.

• C. LOW-EXPANDABLE SPRAY-APPLIED POLYURETHANE FOAM SEALANT TO BE INSTALLED CONTINUOS AT FENESTRATION ROUGH OPENINGS. ALL JOINTS AND SEALS TO BE SEALED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. SEALANTS TO BE SELECTED TEMPERATURE-APPROPRIATE (E.G. HIGHTEMP CAULK AT FLUES AND HEATING PIPES).

• D. ALL FENESTRATION TO HAVE THE FOLLOWING AIR LEAKAGE RATES AS PER MANUFACTURER'S SPECIFICATIONS:

- WINDOWS / SLIDING DOORS / SWINGING DOORS / SKYLIGHTS (ALL OTHER) £ 0.20 CFM/SF

- SKYLIGHTS (WITH CONDENSATION WEEPAGE OPENINGS) £ 0.30 CFM/SF

- CURTAIN WALLS / STOREFRONT GLAZING £ 0.06 CFM/SF

- COMMERCIAL GLAZED SWINGING ENTRANCE DOORS / POWER-OPERATED SLIDING & FOLDING DOORS / REVOLVING DOORS / ROLLING DOORS £ 1.00 CFM/SF

- GARAGE DOORS £ 0.40 CFM/SF

- HIGH-SPEED DOORS £ 1.30 CFM/SF

• E. INTERIOR DRYWALL - 1/2" OR 5/8" GYPSUM BOARDEFFECTIVELY SEALED AT ALL GAPS AND PENETRATIONS.

• 3. ALL NEW OPENINGS FROM CONDITIONED SPACE TO SHAFTS, CHUTES, STAIRWAYS AND ELEVATOR LOBBIES TO BE GASKETED, WEATHERSTRIPPED, OR SEALED.

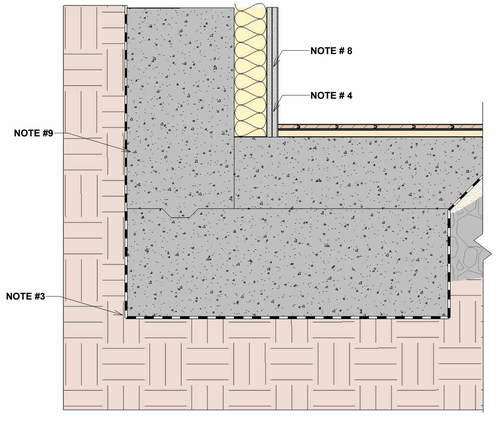
• 4. CARGO AND LOADING DOCK DOORS TO BE EQUIPPED WITH WEATHERSEALS.

• 5. DOORS OPENING INTO AND OUT OF VESTIBULES AT BUILDING ENTRANCES TO BE EQUIPPED WITH SELFCLOSING DEVICES.

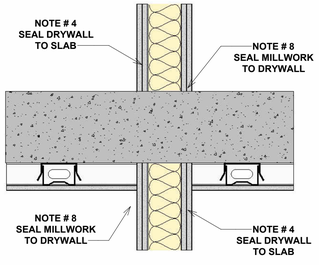
• 6. SEE THE FOLLOWING SECTIONS OF THE SPECIFICATIONS BOOK FOR SPECS:

- SECTION 07190 FOR AIR BARRIER SPECS

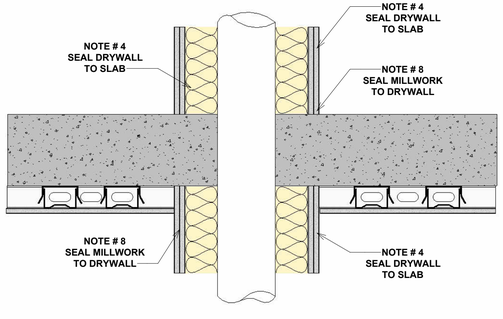
- SECTION 079200 FOR SEALENT SPECS



3 **SECTION DETAIL @ GROUND CONDITION**
AIR BARRIER CONTINUITY



2 **SECTION DETAIL @ WALL**
AIR BARRIER CONTINUITY



2 **SECTION DETAIL @ PIPE CHASE**
AIR BARRIER CONTINUITY

• AIR BARRIER – TESTING:
VISUAL VERIFICATION OF COMPLIANCE WITH MANUFACTURERS RECOMMENDED APPLICATION METHODS OR INDUSTRY STANDARDS REQUIRED AT A MINIMUM OF 10% OF EACH UNIQUE ASSEMBLY TYPE. INSPECTOR TO ENSURE AGAINST ROLL ON BARRIER SLOUGHING, CRATERS,
DELAMINATION AND PROPER APPLICATION COVERAGE ETC. FOR MEMBRANE APPLIED BARRIER ENSURE AGAINST FISHMOUTH, BRIDGING, AIR
BUBBLES/BALLOONING, CONTAMINATED ADHESIVE ETC.
ALTERNATIVELY, WHOLE BUILDING OR PER UNIT TESTING PER ASTM E779 MAY BE SUBSTITUTED IN LIEU OF VISUAL VERIFICATION. ASSEMBLY TESTING OF MATERIALS AND COMPONENTS SHALL NOT EXCEED AN AVERAGE AIR LEAKAGE OF 0.04 CFM/FT2 (0.2 L/S •M2) UNDER A PRESSURE DIFFERENTIAL OF 0.3 INCH OF WATER GAUGE (W.G.)(75 PA) WHEN TESTED IN ACCORDANCE WITH ASTM E2357, ASTM E1677, OR ASTM E283."

LND
Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

ARCHITECT'S SEAL

REGISTERED ARCHITECT
LEANDRO NILS DICKSON
STATE OF NEW YORK
030459

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:

1563 BOONE AVENUE

10460

NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:

AIR BARRIER NOTES AND DETAILS

DOB JOB #**X01288603-I1**

SCALE: AS NOTED

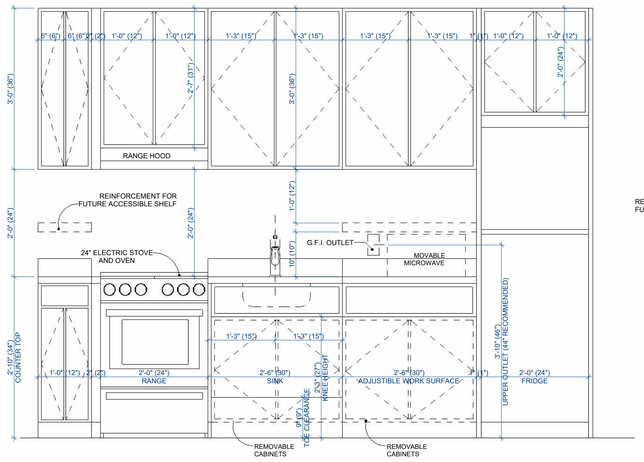
DRAWN BY: JOHN HURTADO

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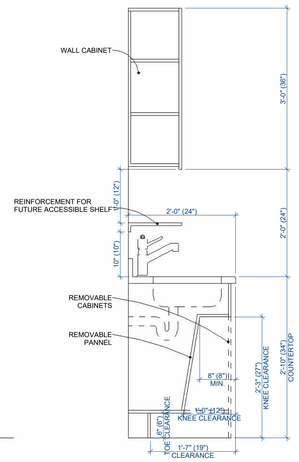
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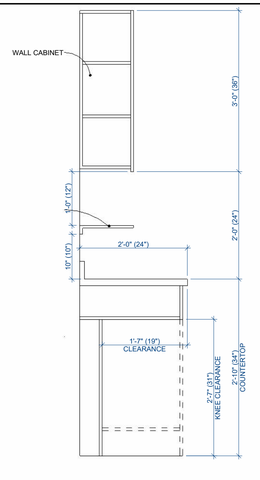
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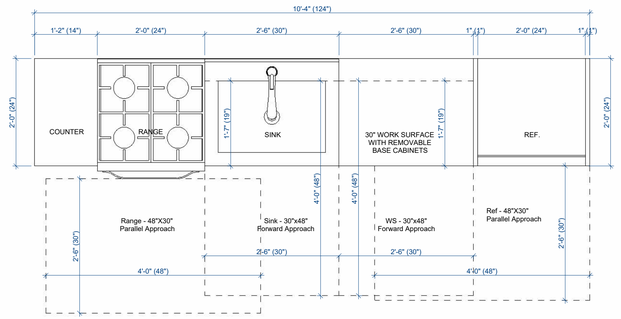
ELEVATION VIEW



SECTION AT SINK



SECTION AT WORK SURFACE



PLAN VIEW

1 M.I.H. UNIT KITCHEN DETAIL - APT 3A, 6A, 7A, 8A
SCALE: 3/4" = 1'-0"

SECTION / ELEVATION AT WORK SURFACE

SECTION / ELEVATION AT SINK

PLAN VIEW

2 M.I.H. UNIT KITCHEN DETAIL - APT 4C, 5C
SCALE: 3/4" = 1'-0"

SECTION / ELEVATION AT WORK SURFACE

SECTION / ELEVATION AT SINK

PLAN VIEW

3 M.I.H. UNIT KITCHEN DETAIL - APT 9B,10B,11B
SCALE: 3/4" = 1'-0"

SINKS
DEPTH OF THE SINK BOWL SHALL BE NO GREATER THAN 6 1/2" FOR DROP IN SINK AND 5 1/4" MAX FOR UNDER MOUNT SINKS

WATER SUPPLY AND DRAIN PIPES SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER THE SINK. OR PROVIDE A REMOVABLE PROTECTION PANEL MOUNTED DIRECTLY UNDER THE SINK WITH SUPPORT BRACKETS.

IT IS HELPFUL TO USE A SINK WITH A DRAIN AT THE BACK AS SHOWN, PARTICULARLY IF A GARBAGE DISPOSAL IS USED

TOE & KNEE CLEARANCES AS PER:
- A. FHA DESIGN MANUAL - REQUIREMENT 7, PART A FIGURE ON PAGE 7.11 & 7.15
- B. BC-SEC 1107.2.3, ICC-SEC 1003.12.4.1 & 306 FIGURE 306.2 & 306.3
- C. UFAS-SEC 4.34.6.5(7)

CABINETS
BASE CABINTES, IF PROVIDED SHALL BE REMEMOVED UNDER THE FULL 30 INCH MINIMUM FRONTAGE OF THE SINK AND WORK SURFACE COUNTER TOP. ALL OF THE FOLLOWING CONDITIONS SHALL BE MET.
THE BASE CABINET CAN BE REMOVED WITHOUT THE REMOVAL OR REPLACEMENT OF THE SINK
THE FLOOR FINISH SHALL EXTEND UNDER THE CABINETRY
THW WALL BEHIND AND SURROUNDING THE CABINETRY ARE FINISHED AS PER BC-SEC 1107.2.3, ICC-SEC 1003.12.4.1 EXCEPTION 2

A SINK AND SURROUNDING COUNTER THAT ARE ADJUSTIBLE TO VARIABLE HEIGHTS, 29" MINIMUM TO 36" MAXIMUM AFF. SHALL BE PERMITTED WHERE ROUGH-IN PLUMBING PERMITS CONNECTIONS OF SUPPLY AND DRAIN PIPES FOR SINK MOUNTED AT HEIGHTS OF 29".

WHEN SINK AND SURROUNDING COUNTER IS LOWERED THE HEIGHT SHALL BE 34" MAX AFF TO THE TOP OF RIM FOR DROP IN SINKS OR 34" MAX AFF TO TOP OF THE COUNTER FOR UNDER MOUNTED SINKS

FAUCETS
FAUCETS SHALL BE ACCESSIBLE, LEAVER OPERATED OR PUSH TYPE AS PER BC-SEC 1107.2.3, ICC-SEC 1003.12.4.3 & 309, UFAS-SEC 4.34.6.5(4) & 4.27.4

CONTROLS / OPERABLE PARTS
OBSTRUCTED HIGH FORWARD REACH AND HIGH REACH (FOR ELECTRIC RECEPTACLE & SWITCH ABOVE KITCHEN COUNTER) SHALL BE 44" & 46: MAX RESPECTIVELY

IN SECTION 504 M.I.H. UNITS, HEIGHTS OF THE KITCHEN COUNTER SHALL BE 34" MAX & THE DEPTH SHALL BE 24" MAX TO COMPLY WITH THE REACH RANGES FOR THE LIGHTING CONTROLS, ELECTRICAL SWITCHES & RECEPTACLES AS PER UFAS-SEC4.27.3, 4.2.5 &4.2.6

IN REST OF THE UNIT, LIGHT CONTROLS, ELECTRICAL SWITCHES, & RECEPTACLES OUTLETS ARE PERMITTED TO BE LOCATED OVER CABINETS WITH COUNTER TOP 36" MAX IN HEIGHT & 25 1/2" MAX IN DEPTH AS PER FHA DESIGN MANUAL - REQUIREMENT 5 PAGE 5.8 AND ICC-SEC 1004.9 EXCEPTION 10

LND
Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON 030455 STATE OF NEW YORK

ARCHITECT'S SEAL

REV.	DATE	DESCRIPTION	BY

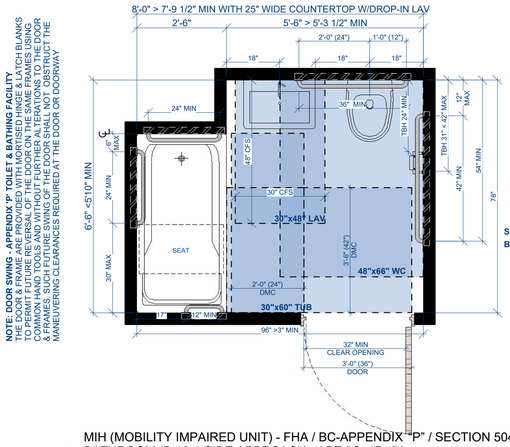
PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

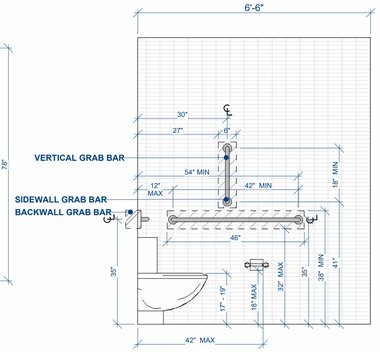
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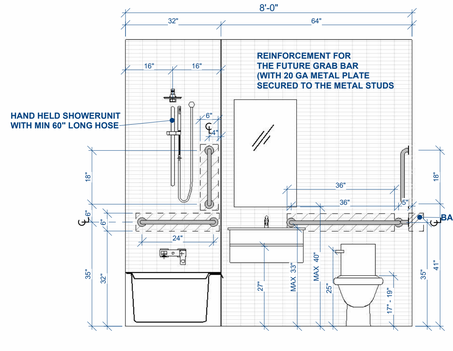
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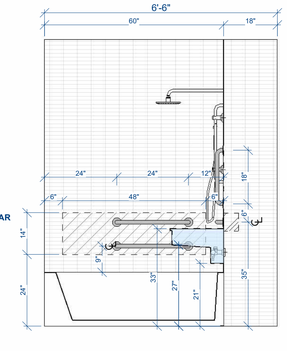
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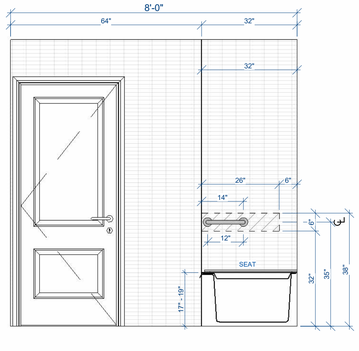
NOTE: DOOR SWING - APPENDIX 'P' TOILET & BATHING FACILITY
THE DOOR & FRAME ARE PROVIDED WITH MORTISED HINGE & LATCH BLANKS
THE DOOR & FRAME ARE PROVIDED WITH MORTISED HINGE & LATCH CASE FOR FUTURE LEVER HANDLES
COMMON HAND TOOLS AND WITHOUT FURTHER ALTERATIONS TO THE DOOR
& FRAMES. SUCH FUTURE SWING OF THE DOOR SHALL NOT OBSTRUCT THE
MANEUVERING CLEARANCES REQUIRED AT THE DOOR OR DOORWAY











1 MIH (MOBILITY IMPAIRED UNIT) - FHA / BC-APPENDIX "P" / SECTION 504 - UFAS - TYPE A
BATHROOM (B-13a) SIDE APPROACH - APT 3C, 4D, 5A
1/2" = 1'-0"

Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT
LEANDRO NILS DICKSON
STATE OF NEW YORK
030439

ARCHITECT'S SEAL:

REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
ADA BATHROOM

DOB JOB #: **X01288603-I1**

SCALE: AS NOTED

DRAWN BY: JOHN HURTADO

CHECKED: LND

DATE: 5/2/2026 4:33:52 p. m.

DRAWING NO.
A-510.00

INTERIOR LIGHT FIXTURES SCHEDULE

RECESSED FIXTURE		*CEILING MOUNTED FIXTURE*	
DRAWING SYMBOL	L4	DRAWING SYMBOL	L3
MANUFACTURE	Light Blue USA	MANUFACTURE	HYPERIKON
PART #	FBA_4DL4015DIM168030K	PART #	412151031
MODEL #	D15-3000K63D-E26-	MODEL #	412151031
VOLTAGE	AC 120V	VOLTAGE	AC 120, 277V
WATTAGE	20 W	WATTAGE	20 W
CURRENT	140 MA	CURRENT	170 MA
BEAM ANGLE	120°	BEAM ANGLE	120°
LUMNES	1200 LM	LUMNES	1120 LM
CRI	>80	CRI	84
CCT	6,000 K	CCT	3,000 K
LIFESPAN	30,000 HR	LIFESPAN	45,000 HR
TRIM	5.83"	TRIM	10.0"
HEIGHT	2.60"	HEIGHT	3.0"
LENS	3.86"	LENS	10.10"
IP RATING	IP54	IP RATING	IP65
DIMMABLE	50% OF POWER MIN.	DIMMABLE	50% OF POWER MIN.
BULB TYPE	LED	BULB TYPE	LED
BALLAST	EXTERNAL	BALLAST	EXTERNAL
100% high efficiency light		*100% high efficiency light*	

RECESSED DOWNLIGHT WITH EMERGENCY BACKUP 90 MINUTE BATTERY		EXTERIOR LIGHT *SCONCE EXTERIOR FIXTURE*	
DRAWING SYMBOL	L1	DRAWING SYMBOL	L2
MANUFACTURE	LIGHT BLUE USA	MANUFACTURE	DALS
PART #	FBA_4DL4015DIM168030K	PART #	1012-LEDRA2
MODEL #	D15-3000K63D-E26-	MODEL #	LEDRA2
VOLTAGE	AC 120V	VOLTAGE	AC 120, 277V
WATTAGE	20 W	WATTAGE	20 W
CURRENT	140 MA	CURRENT	700 MA
BEAM ANGLE	60°	BEAM ANGLE	40°
LUMNES	1200 LM	LUMNES	1050 LM
CRI	>80	CRI	>80
CCT	6,000 K	CCT	5,000 K
LIFESPAN	40,000 HR	LIFESPAN	50,000 HR
TRIM	10.50"	TRIM	5.00"
HEIGHT	7.50"	HEIGHT	9.10"
LENS	6.00"	LENS	3.94"
UL DESIGN	UL 924 LISTED	IP RATING	IP65
BATTERY	90MIN BATT. BACK UP	DIMMABLE	50% OF POWER MIN.
BULB TYPE	LED PAR36	BULB TYPE	LED
BALLAST	EXTERNAL	BALLAST	EXTERNAL
100% high efficiency light		*100% high efficiency light*	

NOTES

CD/CM	HARDWIRED SMOKE / CARBON MONOXIDE - DIOXIDE / NATURAL GAS ETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH 2014 B.C.
T	PROGRAMMABLE THERMOSTAT
75 CFM	EXHAUST VENT
EXIT	LED EXIT SIGN, EMERGENCY LIGHT COMBO W/ BATTERY BACKUP 90MIN.
	INTERCOM AS PER BC 1008.4.4
L1	RECESSED DOWNLIGHT WITH EMERGENCY BACKUP 90 MIN. BATTERY- 20W
L2	SCONCE EXTERIOR FIXTURE 20 W
L3	CEILING MOUNTED FIXTURE - 20W
L4	INTERIOR RECESSED FIXTURE - 20W
OS	OCCUPANCY SENSOR AT STAIRS & CORRIDOR SHALL HAVE A DIMMER & WILL NOT REDUCE THE LIGHTING LESS THAN A 1' CANDLE, AS PER CODE.
M	MOTION SENSOR ADJUSTS FIXTURE ENERGY OUTPUT WHEN NOT IN USE
P	PHOTO SENSOR CONTROL FOR EXTERIOR LIGHTING
SH	SPRINKLER HEAD

AS PER 2020 ECC

C405.2.1.4 *Occupant sensor control function for egress illumination.In new buildings, luminaires serving the exit access and providing means of egress illumination required by the New York City Building Code, including luminaires that function as both normal and emergency means of egress illumination shall be controlled by a combination of listed emergency relay and occupancy sensors, or signal from another building control system, that automatically reduces the lighting power by 50 percent when unoccupied for a period longer than 15 minutes*

C405.2.2 Time-switch controls. *Each area of the building that is not provided with occupant sensor controlscomplying with Section C405.2.1.1 shall be provided with time-switchcontrols complying with Section C405.2.2.1.*

C405.2.2.1 Time-switch control function. *Each space provided withtime-switch controlsshall be provided with a manual control for light reduction in accordance with Section C405.2.2.2.*

C405.2.2.2 Light-reduction controls. *Spaces required to have light-reduction controls shall have a manual controlthat allows the occupant toreduce the connected lighting load in a reasonably uniform illumination pattern by not less than 50 percent.*

C405.2.3 Daylight-responsive controls. *Daylight-responsive controlscomplying with Section C405.2.3.1 shall be provided to control the electric lights within daylight zones in the following spaces*

C405.2.5 Manual controls. *Where required by this code, manual controls for lights shall comply with the following:1.They shall be in a location with ready accessto occupants.2.They shallbe located where the controlled lights are visible, or shall identify the area served by the lights and indicate their status.*

C405.2.6 Exterior lighting controls. *Exterior lighting systems shall be provided with controls that comply with Sections C405.2.6.1 through C405.2.6.5. Decorative lighting systems shall comply with Sections C405.2.6.1, C405.2.6.2 and C405.2.6.4*

NARRATIVE FOR LIGHTING AS PER RCNY 5000-01(G,3,i,A):
NARRATIVE DESCRIPTION FOR LIGHT FUNCTIONS AND CONTROL:

1- MANUAL CONTROLS FOR ILLUMINATION AND SHUTOFF CONTROL TO BE PROVIDED WITHIN OCCUPANT AREA SERVED BY SUCH CONTROL.

2- LIGHT DEDUCTION CONTROLS TO BE PROVIDED WHERE EFFICIENCY STANDARDS NOT MET VIA DUAL SWITCHING APPLICATION

3 - AUTOMATIC SENSORS FOR OCCUPANTS TO BE PROVIDED IN REFUSE/LAUNDRY/RECREATION AREAS N/A DWELLING/SLEEPING UNITS

4 - ALL LUMINARIES WITHIN DESIGNATED PATH OF EXIT OR SECURITY/EMERGENCY AREAS TO BE CONTINUOUSLY ILLUMINATED AT ALL TIMES ACCORDINGLY. EXTERIOR LIGHTING
MEANS OF EGRESS ILLUMINATION MUST HAVE CONTROLS THAT AUTOMATICALLY REDUCE THE LIGHTING POWER BY 50 % WHEN UNOCCUPIED FOR MORE THAN 15 MINUTES.

5 - AUTOMATIC SHUTOFF CONTROL WHEN ILLUMINATED VIA NATURAL LIGHT FROM DAWN TO DUSK.

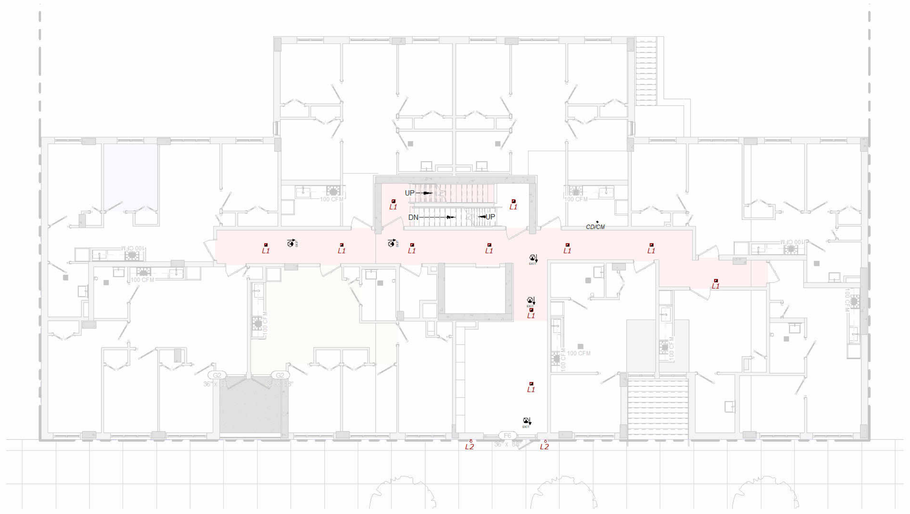
6 - ASTRONOMICAL TIME SWITCH WITH MANUAL OVERRIDE TO BE PROVIDE WHERE SENSORS ARE NOT PROVIDED

7 - MANUAL CONTROL OVERRIDE IN THE EVENT OF SENSOR/ASTRONOMICAL TIMER MALFUNCTION TO BE PROVIDED

AS PER C405.5: PHOTOSENSORS WITH PROGRAMMABLE TIMER PROPOSED TO BE PROGRAMMED TO REDUCE THE LIGHT TO 30% AFTER MIDNIGHT.



1 CELLAR RCP
3/32" = 1'-0"



2 1st FLOOR RCP
3/32" = 1'-0"

LED LIGHTING POWER SCHEDULE

FIXTURE SYMBOL	TYPE	DESCRIPTION	WATTS	LUMENS	EFFIC.	COUNT	MANUF'S/ MODEL
L4	L4	**DWELLING UNIT LIGHT FIXTURE:** 6" Square Canless LED Recessed Light	15 W.	1000 L.	66.66 L/W	N/A FOR ENERGY ANALYSIS	Four Bros Lighting NC6/LED/RC15D6-B/2PK
L1	L1	**COMMON SPACES LIGHT FIXTURE:** 6" Square Canless LED Recessed Light with enmergency 90 min. backup battery	15 W.	1000 L.	66.66 L/W	81	Four Bros Lighting NC6/LED/RC15D6-B/2PK
L2	L2	**EXTERIOR LIGHT FIXTURE:** 9-1/4" Tall Integrated LED Outdoor Wall Sconce	15 W.	1100 L.	73.33 L/W	4	Sunpark Electronics W104
EXIT	EXIT	**EXIT SIGN:** 13" LED Lighted Exit Sign (90 minute battery shall be installed	2 W.	150 L.	75.00 L/W	21	TCP 09114

100% OF PROPOSED TOTAL LUMINAIRE EFFICACY > 65 Lm/W

THEREFORE COMPLIES

HIGH-EFFICACY LAMPS OR LUMINAIRES
NOT LESS THAN 90% OF THE PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL USE LAMPS WITH AN EFFICACY OF AT LEAST 65LM/W OR HAVE A TOTAL LUMINAIRE EFFICACY OF AT LEAST 45 LM/W

PROPOSED WATTAGE - INTERIOR LIGHTING FIXTURE SCHEDULE

Level	*Count*	*10 Watt * Light*	*Lumens*	*Proposed Wattage*	*Efficacy*
1st_FLOOR	11	15 W * 11 Lights	1200 lm	165 W	80 lm/W
2ND_FLOOR	7	15 W * 7 Lights	1200 lm	105 W	80 lm/W
3RD_FLOOR	9	15 W * 9 Lights	1200 lm	135 W	80 lm/W
4TH_FLOOR	7	15 W * 7 Lights	1200 lm	105 W	80 lm/W
5TH_FLOOR	7	15 W * 7 Lights	1200 lm	105 W	80 lm/W
6TH_FLOOR	7	15 W * 7 Lights	1200 lm	105 W	80 lm/W
7TH_FLOOR	9	15 W * 9 Lights	1200 lm	135 W	80 lm/W
CELLAR	22	15 W * 22 Lights	1200 lm	330 W	80 lm/W
ROOF	4	15 W * 4 Lights	1200 lm	60 W	80 lm/W
	83			**1245 W**	
PROPOSED TOTAL	**83**			**1245 W**	

THIS PROJECT REQUIRES COMMISSIONING AS PER C408 INCLUDING LIGHTING AS PER CA 6.7.2.4

C408.2.5 DOCUMENTATION REQUIREMENTS
C408.3 LIGHTING SYSTEM FUNCTIONAL TESTING

SECTION ECC C406 ADDITIONAL EFFICIENCY PACKAGE OPTION

406.1 REQUIREMENTS.BUILDINGS SHALL COMPLY WITH ONE OR MORE OF THE FOLLOWING:

2.REDUCED LIGHTING POWER IN ACCORDANCE WITH SECTION C406.3

BC713.4.1.1.1 INSTALLATION.
THROUGH PENETRATIONS SHALL BE INSTALLED AS TESTED IN THE APPROVED FIRE-RESISTANCE-RATED ASSEMBLY.

BC713.4.1.1.2 THROUGH-PENETRATION FIRESTOP SYSTEM.
THROUGH PENETRATIONS SHALL BE PROTECTED BY AN APPROVED THROUGH-PENETRATION FIRE STOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH ASTM E 814 OR UL 1479, WITH A MINIMUM POSITIVE PRESSURE DIFFERENTIAL OF 0.01 INCH (2.49 PA) OF WATER. THE SYSTEM SHALL HAVE AN F RATING AND A T RATING OF NOT LESS THAN 1 HOUR BUT NOT LESS THAN THE REQUIRED RATING OF THE FLOOR PENETRATED.
EXCEPTION: FLOOR PENETRATIONS CONTAINED AND LOCATED WITHIN THE CAVITY OF A WALL DO NOT REQUIRE A T RATING.

BC713.4.1.2 MEMBRANE PENETRATIONS
PENETRATIONS OF MEMBRANES THAT ARE PART OF A FIRE-RESISTANCE-RATED HORIZONTAL ASSEMBLY SHALL COMPLY WITH SECTION 713.4.1.1.1 OR 713.4.1.1.2. WHERE FLOOR/CEILING ASSEMBLIES ARE REQUIRED TO HAVE A FIRE-RESISTANCE RATING, RECESSED FIXTURES SHALL BE INSTALLED SUCH THAT THE REQUIRED FIRE RESISTANCE WILL NOT BE REDUCED.

C405.8 VERTICAL AND HORIZONTAL TRANSPORTATION SYSTEMS AND EQUIPMENT.
VERTICAL AND HORIZONTAL TRANSPORTATION SYSTEMS AND EQUIPMENT SHALL COMPLY WITH THIS SECTION.

C405.8.1 ELEVATOR EQUIPMENT AND CABS.
FOR THE LUMINAIRES IN EACH ELEVATOR CAB, NOT INCLUDING SIGNALS AND DISPLAYS, THE SUM OF THE LUMENS DIVIDED BY THE SUM OF THE WATTS SHALL BE NOT LESS THAN 35 LUMENS PER WATT. VENTILATION FANS IN ELEVATORS THAT DO NOT HAVE THEIR OWN AIRCONDITIONING SYSTEM SHALL NOT CONSUME MORE THAN 0.33 WATTS/CFM AT THE MAXIMUM RATED SPEED OF THE FAN. CONTROLS SHALL BE PROVIDED THAT WILL DE-ENERGIZE VENTILATION FANS AND LIGHTING SYSTEMS WHEN THE ELEVATOR IS STOPPED, UNOCCUPIED AND WITH ITS DOORS CLOSED FOR OVER 15 MINUTES.

C405.8.1.1 POWER CONVERSION SYSTEM.
NEW TRACTION ELEVATORS WITH A RISE OF 75 FEET (23 M) OR MORE IN NEW BUILDINGS SHALL HAVE A POWER CONVERSION SYSTEM THAT COMPLIES WITH SECTIONS C405.8.1.1.1 THROUGH C405.8.1.1.3.C405.8.1.1.1 MOTOR.INDUCTION MOTORS WITH A CLASS IE2 EFFICIENCY RATING, AS DEFINED BY IEC EN 60034-30, OR ALTERNATIVE TECHNOLOGIES, SUCH AS PERMANENT MAGNET SYNCHRONOUS MOTORS THAT HAVE EQUAL OR BETTER EFFICIENCY, SHALL BE USED.
C405.8.1.1.2TRANSMISSION.
TRANSMISSIONS SHALL NOT REDUCE THE EFFICIENCY OF THE COMBINED MOTOR/TRANSMISSION BELOW THAT SHOWN FOR THE CLASS IE2 MOTOR FOR ELEVATORS WITH CAPACITIES BELOW 4,000 POUNDS (1814 KG). GEARLESS MACHINES SHALL BE ASSUMED TO HAVE A 100 PERCENT TRANSMISSION EFFICIENCY.
C405.8.1.1.3 DRIVE.
POTENTIAL ENERGY RELEASED DURING MOTION SHALL BE RECOVERED WITH A REGENERATIVE DRIVE THAT SUPPLIES ELECTRICAL ENERGY TO THE BUILDING ELECTRICAL SYSTEM.

EGREESS REQUIREMENTS

BC1011.1 WHERE REQUIRED

EXITS AND EXIT ACCESS DOORS SHALL BE MARKED BY AN APPROVED EXIT SIGN READILY VISIBLE FROM ANY DIRECTION OF EGRESS TRAVEL. THE PATH OF EGRESS TRAVEL TO EXITS AND WITHIN EXITS SHALL BE MARKED BY READILY VISIBLE EXIT SIGNS TO CLEARLY INDICATE THE DIRECTION OF EGRESS TRAVEL IN CASES WHERE THE EXIT OR THE PATH OF EGRESS TRAVEL IS NOT IMMEDIATELY VISIBLE TO THE OCCUPANTS. INTERVENING MEANS OF EGRESS DOORS WITHIN EXITS SHALL BE MARKED BY EXIT SIGNS. EXIT SIGN PLACEMENT SHALL BE SUCH THAT NO POINT IN AN EXIT ACCESS CORRIDOR OR EXIT PASSAGEWAY IS MORE THAN 100 FEET (30 480 MM) OR THE LISTED VIEWING DISTANCE FOR THE SIGN, WHICHEVER IS LESS, FROM THE NEAREST VISIBLE EXIT SIGN.

BC1011.5.2 EXIT SIGN ILLUMINATION

THE FACE OF AN EXIT SIGN ILLUMINATED FROM AN EXTERNAL SOURCE SHALL HAVE AN INTENSITY OF NOT LESS THAN 25 FOOT-CANDLES (269.1 LUX).

BC1011.5.3 POWER SOURCE

EXIT SIGNS SHALL BE ILLUMINATED AT ALL TIMES. TO ENSURE CONTINUED ILLUMINATION FOR A DURATION OF NOT LESS THAN 90 MINUTES IN CASE OF PRIMARY POWER LOSS, THE SIGN ILLUMINATION MEANS SHALL BE CONNECTED TO AN EMERGENCY POWER SYSTEM PROVIDED FROM STORAGE BATTERIES, UNIT EQUIPMENT OR AN ON-SITE GENERATOR. THE INSTALLATION OF THE EMERGENCY POWER SYSTEM SHALL BE IN ACCORDANCE WITH CHAPTER 27.

BC1006.2 ILLUMINATION LEVEL

THE MEANS OF EGRESS ILLUMINATION LEVEL SHALL NOT BE LESS THAN 1 FOOT-CANDLE (11 LUX) AT THE WALKING SURFACE.

BC1006.3.1 EMERGENCY POWER SOURCE

THE EMERGENCY POWER SYSTEM SHALL PROVIDE POWER FOR A DURATION OF NOT LESS THAN 90 MINUTES AND SHALL CONSIST OF STORAGE BATTERIES, UNIT EQUIPMENT OR AN ON-SITE GENERATOR. THE INSTALLATION OF THE EMERGENCY POWER SYSTEM SHALL BE IN ACCORDANCE WITH CHAPTER 27.

BC713.4.1.1.1 INSTALLATION.
THROUGH PENETRATIONS SHALL BE INSTALLED AS TESTED IN THE APPROVED FIRE-RESISTANCE-RATED ASSEMBLY.

BC713.4.1.1.2 THROUGH-PENETRATION FIRESTOP SYSTEM.
THROUGH PENETRATIONS SHALL BE PROTECTED BY AN APPROVED THROUGH-PENETRATION FIRE STOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH ASTM E 814 OR UL 1479, WITH A MINIMUM POSITIVE PRESSURE DIFFERENTIAL OF 0.01 INCH (2.49 PA) OF WATER. THE SYSTEM SHALL HAVE AN F RATING AND A T RATING OF NOT LESS THAN 1 HOUR BUT NOT LESS THAN THE REQUIRED RATING OF THE FLOOR PENETRATED.
EXCEPTION: FLOOR PENETRATIONS CONTAINED AND LOCATED WITHIN THE CAVITY OF A WALL DO NOT REQUIRE A T RATING.

BC713.4.1.2 MEMBRANE PENETRATIONS
PENETRATIONS OF MEMBRANES THAT ARE PART OF A FIRE-RESISTANCE-RATED HORIZONTAL ASSEMBLY SHALL COMPLY WITH SECTION 713.4.1.1.1 OR 713.4.1.1.2. WHERE FLOOR/CEILING ASSEMBLIES ARE REQUIRED TO HAVE A FIRE-RESISTANCE RATING, RECESSED FIXTURES SHALL BE INSTALLED SUCH THAT THE REQUIRED FIRE RESISTANCE WILL NOT BE REDUCED.

9.4.4 Dwelling Units
Not less than 90% of the permanently installed lighting fixtures shall use lamps with an efficacyof at least 65lm/W or have a total luminaire efficacy of at least 45 lm/W

EN-l.1 Lighting Power Density
(d) High-efficacy lamps/luminaires for dwelling units:
Minimum 90% of fixtures with min. 65 lumens/watt lamps, or min. 45 lumens/watt luminaires
L4 recessed fixture 80 LM/W
L2 Exterior Sconces 70 LM/W

LND
Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON 030459 STATE OF NEW YORK

ARCHITECT'S SEAL

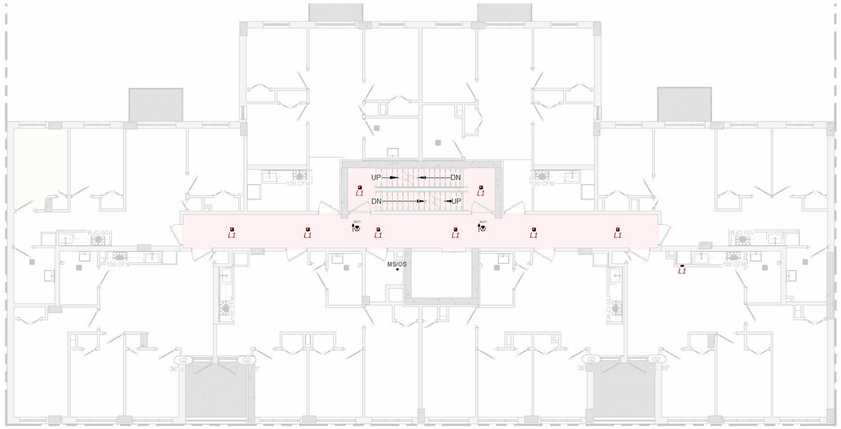
REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

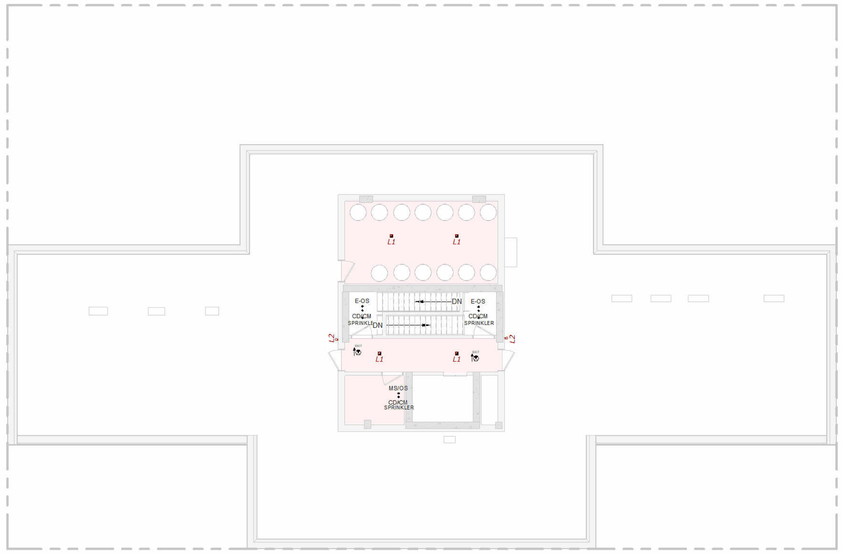
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RCP - LIGHTING PLAN

DOB JOB #: **X01288603-I1**
SCALE: AS NOTED
DRAWN BY: JOHN HURTADO
CHECKED: LND
DATE: 5/2/2026 4:33:54 p. m.

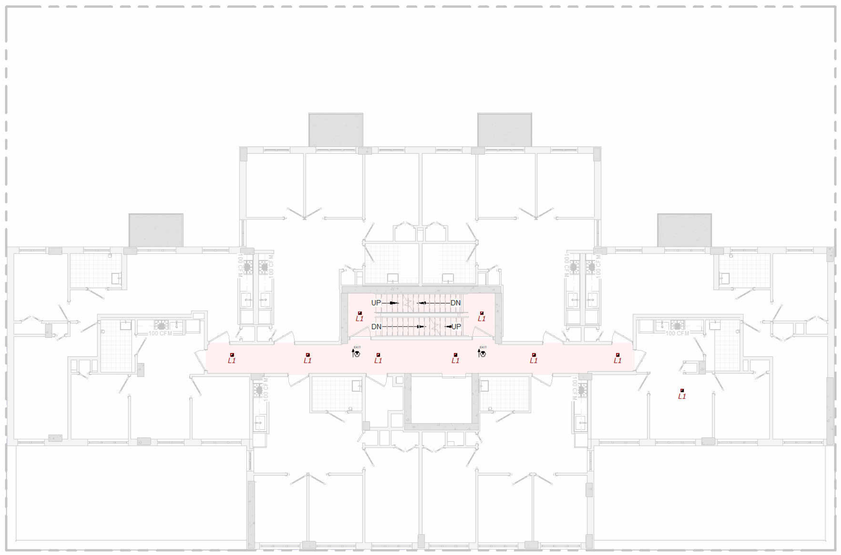
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A-601.00



2 2ND-6TH FLOOR RCP
3/32" = 1'-0"



3 ROOF RCP
3/32" = 1'-0"



1 7TH FLOOR RCP
3/32" = 1'-0"

C406.3 REDUCED LIGHTIN1G POWER DENSITY RESIDENTIAL

C406.3 Reduced lighting power.The total connected interior lighting power calculated in accordance with Section C405.3.1 shall be less than 90 percent of the total lighting power allowance calculated in accordance with Section C405.3.2.

C. Dwelling units are excluded. Neither the area of the dwelling units nor the wattage of lighting in the dwelling units is counted.

TABLE C405.3.2(1)INTERIOR LIGHTING POWER ALLOWANCES:BUILDING AREA METHOD (LPD) MULTIFAMILY REDUCED LIGHTING POWER: 0.49 W/ft² * 90% = 0.441 W/ft²

TABLE C405.3.2(1)INTERIOR LIGHTING POWER ALLOWANCES:BUILDING AREA METHOD (LPD) RETAIL: 0.91W/ft² * 90% = 0.819 W/ft²

Level	Area	LPD	Allowed Watt
RESIDENTIAL (COMMON AREAS)			
CELLAR	920 SF	0.441 W/ft²	410 W
1st_FLOOR	515 SF	0.441 W/ft²	230 W
2ND_FLOOR	476 SF	0.441 W/ft²	210 W
3RD_FLOOR	490 SF	0.441 W/ft²	220 W
4TH_FLOOR	476 SF	0.441 W/ft²	210 W
5TH_FLOOR	347 SF	0.441 W/ft²	150 W
6TH_FLOOR	347 SF	0.441 W/ft²	150 W
7TH_FLOOR	423 SF	0.441 W/ft²	190 W
ROOF	459 SF	0.441 W/ft²	200 W
RESIDENTIAL (COMMON AREAS)	**4455 SF**		**1960 W**

PROPOSED WATTAGE - INTERIOR LIGHTING FIXTURE SCHEDULE

Level	*Count*	*10 Watt * Light*	*Lumens*	*Proposed Wattage*	*Efficacy*
1st_FLOOR	11	15 W * 11 Lights	1200 lm	165 W	80 lm/W
2ND_FLOOR	7	15 W * 7 Lights	1200 lm	105 W	80 lm/W
3RD_FLOOR	9	15 W * 9 Lights	1200 lm	135 W	80 lm/W
4TH_FLOOR	7	15 W * 7 Lights	1200 lm	105 W	80 lm/W
5TH_FLOOR	7	15 W * 7 Lights	1200 lm	105 W	80 lm/W
6TH_FLOOR	7	15 W * 7 Lights	1200 lm	105 W	80 lm/W
7TH_FLOOR	9	15 W * 9 Lights	1200 lm	135 W	80 lm/W
CELLAR	22	15 W * 22 Lights	1200 lm	330 W	80 lm/W
ROOF	4	15 W * 4 Lights	1200 lm	60 W	80 lm/W
	83			**1245 W**	
PROPOSED TOTAL	**83**			**1245 W**	

TOTAL WATT ALLOWSED

TABLE C405.4.2(2)LIGHTING POWER ALLOWANCES FOR BUILDING EXTERIORS Base Site Allowance - ZONE 2: 400 W

Base Site Allowance + Total Individual Allowed Watt = Total Watt Allowed

Total Individual Allowed Watt	Base Site Allowance	Total Watt Allowed
18037 W	400 W	**18437 W**

EXTERIOR LIGHTING FIXSTURE SCHEDULE

Level	Count	15 Watt * Light	Wattage
1st_FLOOR	2	15 W * 2 Lights	30 W
ROOF	2	15 W * 2 Lights	30 W
PROPOSED TOTAL	**4**		**60 W**

Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

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LEANDRO NILS DICKSON
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REV.	DATE	DESCRIPTION	BY

PROJECT NAME:
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NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
RCP - LIGHTING PLAN

DOB JOB #: **X01288603-I1**

SCALE: AS NOTED

DRAWN BY: JOHN HURTADO

CHECKED: LND

DATE: 5/2/2026 4:33:59 p. m.

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A-602.00

LIGHTING CONTROL NARRATIVE

BIKE ROOM / MECHANICAL ROOMS / HWH ROOM / REFUSE ROOM /METER ROOM / COMPACTOR ROOM /LAUNDRY ROOM
LOCAL CONTROLS WITH DUAL TECHNOLOGY OCCUPANCY SENSOR CAPABLE OF SHUTTING OFF LIGHTING EITHER MANUALLY OR AFTER 15 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE SHALL BE INSTALLED IN ALL SPACES

CORRIDOR / EXIT STAIRWAY
• ONCE OCCUPIED , CORRIDOR MUST BE POWER LIGHTED ON AUTOMATICALLY TROUGH MOTION SENSORS•
• THE GENERAL LIGHTING POWER IN THE SPACE SHALL BE AUTOMATICALLY REDUCED BY ATLEAST 50% WITHIN 150MIN OF ALL OCCUPANTS LEAVING THE SPACE.
• THE MEANS OF EGRESS ILLUMINATION LEVEL SHALL NOT BE LESS THAN 1 FOOT-CANDLE (11 LUX) AT THE WALKING SURFACE, SENSORS AND CONTROLS SHALL COMPLY WITHBC 1006.2.1

BUILDING ENTRANCES AND EXITS
• LIGHTING SHALL BE CONTROLLED BY A DEVICE THAT AUTOMATICALLY TURNS OFF THE LIGHTING WHEN SUFFICIENT DAYLIGHT IS AVAILABLE

EXTERIOR BUILDING SPACES
• LIGHTING SHALL BE CONTROLLED BY A DEVICE THAT AUTOMATICALLY TURNS OFF THE LIGHTING WHEN SUFFICIENT DAYLIGHT IS AVAILABLE.
• ALL BUILDING FACADE AND LANDSCAPE LIGHTING SHALL BE AUTOMATICALLY SHUT OFF BETWEEN MIDNIGHT OR BUSINESS CLOSING, WHICHEVER IS LATER, AND 6 A.M. OR BUSINESS OPENING, WHICHEVER COMES FIRST, OR BETWEEN TIMES ESTABLISHED BY THE AUTHORITY HAVING JURISDICTION.
• LIGHTING NOT SPECIFIED IN SECTION 9.4.1.4 (B) AND LIGHTING FOR SIGNAGE SHALL BE CONTROLLED BY A DEVICE THAT AUTOMATICALLY REDUCES THE CONNECTED LIGHTING POWER BY AT LEAST 30% FOR AT LEAST ONE OF THE FOLLOWING CONDITIONS:
• FROM 12 MIDNIGHT OR WITHIN ONE (1) HOUR OF THE END OF BUSINESS OPERATIONS, WHICHEVER IS LATER, UNTIL 6 A.M. OR BUSINESS OPENING, WHICHEVER IS EARLIER
• DURING ANY PERIOD WHEN NO ACTIVITY HAS BEEN DETECTED FOR A TIME OF NO LONGER THAN 15 MINUTES.
• ALL TIME SWITCHES SHALL BE CAPABLE OF RETAINING PROGRAMMING AND THE TIME SETTING DURING LOSS OF POWER FOR A PERIOD OF AT LEAST TEN HOURS.

LIGHTING CONTROL NOTES

SECTION ECC C405 "ELECTRICAL POWER AND LIGHTING SYSTEMS"

C405.1 GENERAL (MANDATORY).

THIS SECTION COVERS LIGHTING SYSTEM CONTROLS, THE MAXIMUM LIGHTING POWER FOR INTERIOR AND EXTERIOR APPLICATIONS AND ELECTRICAL ENERGY CONSUMPTION.

C405.1.1 EXIT SIGNS.
INTERNALLY ILLUMINATED EXIT SIGNS SHALL NOT EXCEED 5 W PER FACE.

C405.2 LIGHTING CONTROLS (MANDATORY).
LIGHTING SYSTEMS SHALL BE PROVIDED WITH CONTROLS THAT COMPLY WITH ONE OF THE FOLLOWING.
1.LIGHTING CONTROLS AS SPECIFIED IN SECTIONS C405.2.1 THROUGH C405.2.6.
2.LUMINAIRE LEVEL LIGHTING CONTROLS (LLLC) AND LIGHTING CONTROLS AS SPECIFIED IN SECTIONS C405.2.1, C405.2.4 AND C405.2.5. THE LLLC LUMINAIRE SHALL BE INDEPENDENTLY CAPABLE OF:
2.1.MONITORING OCCUPANT ACTIVITY TO BRIGHTEN OR DIM LIGHTING WHEN OCCUPIED OR UNOCCUPIED, RESPECTIVELY.
2.2.MONITORING AMBIENT LIGHT, BOTH ELECTRIC LIGHT AND DAYLIGHT, AND BRIGHTEN OR DIM ARTIFICIAL LIGHT TO MAINTAIN DESIRED LIGHT LEVEL.
2.3.FOR EACH CONTROL STRATEGY, CONFIGURATION AND RECONFIGURATION OF PERFORMANCE PARAMETERS INCLUDING; BRIGHT AND DIM SETPOINTS, TIMEOUTS, DIMMING FADE RATES, SENSOR SENSITIVITY ADJUSTMENTS, AND WIRELESS ZONING CONFIGURATIONS

EXCEPTIONS:
LIGHTING CONTROLS ARE NOT REQUIRED FOR THE FOLLOWING:
1.AREAS DESIGNATED AS SECURITY OR EMERGENCY AREAS THAT ARE REQUIRED TO BE CONTINUOUSLY LIGHTED.
2.INTERIOR EXIT STAIRWAYS, INTERIOR EXIT RAMPS AND EXIT PASSAGEWAYS, AS DEFINED BY THE NEW YORK CITY BUILDING CODE
3.EMERGENCY EGRESS LIGHTING THAT IS NORMALLY OFF

C405.2.1 OCCUPANT SENSOR CONTROLS.

C405.2.1.3 OCCUPANT SENSOR CONTROL FUNCTION IN OPEN PLAN OFFICE AREAS, CAFETERIADINING AREAS, AND FAST FOOD DINING AREAS.
OCCUPANT SENSOR CONTROLS IN OPEN PLAN OFFICE SPACES, CAFETERIA DINING AREAS, AND FAST FOOD DINING AREASLESS THAN 300 SQUARE FEET (28 M2) IN AREA SHALL COMPLY WITH SECTION C405.2.1.1.
OCCUPANT SENSOR CONTROLS IN ALL OTHER OPEN PLAN OFFICE SPACES, CAFETERIA DINING SPACES, AND FAST FOOD DINING SPACES SHALL COMPLY WITH ALL OF THE FOLLOWING:
1.THE CONTROLS SHALL BE CONFIGURED SO THAT GENERAL LIGHTING CAN BE CONTROLLED SEPARATELY IN CONTROL ZONES WITH FLOOR AREAS NOT GREATER THAN 600 SQUARE FEET (55 M2) WITHIN THE OPEN PLAN OFFICE SPACEOR DINING SPACE.
2.THE CONTROLS SHALL AUTOMATICALLY TURN OFF GENERAL LIGHTING IN ALL CONTROL ZONES WITHIN 15 MINUTES AFTER ALL OCCUPANTS HAVE LEFT THE OPEN PLAN OFFICE SPACEOR DINING SPACE.
3.THE CONTROLS SHALL BE CONFIGURED SO THAT GENERAL LIGHTING POWER IN EACH CONTROL ZONE IS REDUCED BY NOT LESS THAN 80 PERCENT OF THE FULL ZONE GENERAL LIGHTING POWER IN A REASONABLY UNIFORM ILLUMINATION PATTERN WITHIN 15 MINUTES OF ALL OCCUPANTS LEAVING THAT CONTROL ZONE. CONTROL FUNCTIONS THAT SWITCH CONTROL ZONE LIGHTS COMPLETELY OFF WHEN THE ZONE IS VACANT MEET THIS REQUIREMENT.
4.THE CONTROLS SHALL BE CONFIGURED SUCH THAT ANY DAYLIGHT RESPONSIVE CONTROL WILL ACTIVATE OPEN PLAN OFFICE SPACE GENERAL LIGHTING OR CONTROL ZONE GENERAL LIGHTING ONLY WHEN OCCUPANCY FOR THE SAME AREA IS DETECTED.

C405.2.1.4 OCCUPANT SENSOR CONTROL FUNCTION FOR EGRESS ILLUMINATION.
IN NEW BUILDINGS, LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE NEW YORK CITY BUILDING CODE, INCLUDING LUMINAIRES THAT FUNCTION AS BOTH NORMAL AND EMERGENCY MEANS OF EGRESS ILLUMINATION SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS, OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM, THAT AUTOMATICALLY REDUCES THE LIGHTING POWER BY 50 PERCENT WHEN UNOCCUPIED FOR A PERIOD LONGER THAN 15 MINUTES.
EXCEPTIONS:
1.MEANS OF EGRESS ILLUMINATION SERVING THE EXIT ACCESS THAT DOES NOT EXCEED 0.02 WATTS PER SQUARE FOOT OF BUILDING AREA IS EXEMPT FROM THIS REQUIREMENT.
2.EMERGENCY LIGHTING DESIGNATED TO MEET THE REQUIREMENTS OF THE NEW YORK CITY BUILDING CODE.

C405.2.2.1 TIME-SWITCH CONTROL FUNCTION.
EACH SPACE PROVIDED WITHTIME-SWITCH CONTROLSSHALL BE PROVIDED WITH A MANUAL CONTROLFOR LIGHT REDUCTION IN ACCORDANCE WITH SECTION C405.2.2.2. TIME-SWITCH CONTROLSSHALL INCLUDE AN OVERRIDE SWITCHING DEVICE THAT COMPLIES WITH THE FOLLOWING:
1.HAVE A MINIMUM 7-DAY CLOCK.
2.BE CAPABLE OF BEING SET FOR SEVEN DIFFERENT DAY TYPES PER WEEK.
3.INCORPORATE AN AUTOMATIC HOLIDAY"SHUTOFF" FEATURE, WHICH TURNS OFF ALL CONTROLLED LIGHTING LOADS FOR NOT FEWER THAN 24 HOURS AND THEN RESUMES NORMALLY SCHEDULED OPERATIONS.
4.HAVE PROGRAM BACKUP CAPABILITIES, WHICH PREVENT THE LOSS OF PROGRAM AND TIMESETTINGS FOR NOT FEWER THAN 10 HOURS, IF POWER IS INTERRUPTED.
5.INCLUDE AN OVERRIDE SWITCH THAT COMPLIES WITH THE FOLLOWING:
5.1.THE OVERRIDE SWITCH SHALL BE A MANUAL CONTROL.
5.2.THE OVERRIDE SWITCH, WHEN INITIATED, SHALL PERMIT THE CONTROLLED LIGHTING TO REMAIN ON FOR NOT MORE THAN 2 HOURS.
5.3.ANY INDIVIDUAL OVERRIDE SWITCH SHALL CONTROL THE LIGHTING FOR AN AREA NOT LARGER THAN 5,000 SQUARE FEET (465 M2)

C405.2.2.2 LIGHT-REDUCTION CONTROLS.
SPACES REQUIRED TO HAVE LIGHT-REDUCTION CONTROLS SHALL HAVE A MANUAL CONTROLTHAT ALLOWS THE OCCUPANT TOREDUCE THE CONNECTED LIGHTING LOAD IN A REASONABLY UNIFORM ILLUMINATION PATTERN BY NOT LESS THAN 50 PERCENT. LIGHTING REDUCTION SHALL BE ACHIEVED BY ONE OF THE FOLLOWING OR ANOTHER APPROVEDMETHOD:
1.CONTROLLING ALL LAMPS OR LUMINAIRES.
2.DUAL SWITCHINGOF ALTERNATE ROWS OF LUMINAIRES, ALTERNATE LUMINAIRES OR ALTERNATE LAMPS.
3.SWITCHING THE MIDDLE LAMP LUMINAIRES INDEPENDENTLY OF THE OUTER LAMPS.
4.SWITCHING EACH LUMINAIRE OR EACH LAMP.
EXCEPTION:
LIGHT REDUCTION CONTROLS ARE NOT REQUIRED IN DAYLIGHT ZONES WITH DAYLIGHT RESPONSIVE CONTROLSCOMPLYING WITH SECTION C405.2.3.
C405.2.6 EXTERIOR LIGHTING CONTROLS.EXTERIOR LIGHTING SYSTEMS SHALL BE PROVIDED WITH CONTROLS THAT COMPLY WITH SECTIONS C405.2.6.1 THROUGH C405.2.6.5. DECORATIVE LIGHTING SYSTEMS SHALL COMPLY WITH SECTIONS C405.2.6.1, C405.2.6.2 AND C405.2.6.4.EXCEPTIONS:1.LIGHTING FOR COVERED VEHICLE ENTRANCES AND EXITS FROM BUILDINGS AND PARKING STRUCTURES WHERE REQUIRED FOR EYE ADAPTATION.2.LIGHTING CONTROLLED FROM WITHIN DWELLING UNITS.

ENVELOPE REQUIREMENTS - RCP RELATED

SECTION C402 BUILDING ENVELOPE REQUIREMENTS

C402.5.1.1 AIR BARRIER CONSTRUCTION

THE CONTINUOUS AIR BARRIER SHALL BE CONSTRUCTED TO COMPLY WITH THE FOLLOWING:
1. PENETRATIONS OF THE AIR BARRIER SHALL BE CAULKED, GASKETED OR OTHERWISE SEALED IN A MANNER COMPATIBLE WITH THE CONSTRUCTION MATERIALS AND LOCATION. SEALING SHALL ALLOW FOR EXPANSION, CONTRACTION AND MECHANICAL VIBRATION. JOINTS AND SEAMS ASSOCIATED WITH PENETRATIONS SHALL BE SEALED IN THE SAME MANNER OR TAPED. SEALING MATERIALS SHALL BE SECURELY INSTALLED AROUND THE PENETRATION SO AS NOT TO DISLODGE, LOOSEN OR OTHERWISE IMPAIR THE PENETRATIONS' ABILITY TO RESIST POSITIVE AND NEGATIVE PRESSURE FROM WIND, STACK EFFECT AND MECHANICAL VENTILATION. SEALING OF CONCEALED FIRE SPRINKLERS, WHERE REQUIRED, SHALL BE IN A MANNER THAT IS RECOMMENDED BY THE MANUFACTURER. CAULKING OR OTHER ADHESIVE SEALANTS SHALL NOT BE USED TO FILL VOIDS BETWEEN FIRE SPRINKLER COVER PLATES AND WALLS OR CEILINGS.
2. RECESSED LIGHTING FIXTURES SHALL COMPLY WITH SECTION C402.5.8. WHERE SIMILAR OBJECTS ARE INSTALLED THAT PENETRATE THE AIR BARRIER, PROVISIONS SHALL BE MADE TO MAINTAIN THE INTEGRITY OF THE AIR BARRIER.

C402.5.8 RECESSED LIGHTING

RECESSED LUMINAIRES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE ALL OF THE FOLLOWING:
IC-RATED.
LABELED AS HAVING AN AIR LEAKAGE RATE OF NOT MORE 2.0 CFM (0.944 L/S) WHEN TESTED IN ACCORDANCE WITH ASTM E283 AT A 1.57 PSF (75 PA) PRESSURE DIFFERENTIAL.
SEALED WITH A GASKET OR CAULK BETWEEN THE HOUSING AND INTERIOR WALL OR CEILING COVERING.

NYC 2022 BUILIDNG CODE - CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

713.4.1.1.1 INSTALLATION.
THROUGH PENETRATIONS SHALL BE INSTALLED AS TESTED IN THE APPROVED FIRE-RESISTANCE-RATED ASSEMBLY.

713.4.1.1.2 THROUGH-PENETRATION FIRESTOP SYSTEM.
THROUGH PENETRATIONS SHALL BE PROTECTED BY AN APPROVED THROUGH-PENETRATION FIRE STOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH ASTM E 814 OR UL 1479, WITH A MINIMUM POSITIVE PRESSURE DIFFERENTIAL OF 0.01 INCH (2.49 PA) OF WATER. THE SYSTEM SHALL HAVE AN F RATING AND A T RATING OF NOT LESS THAN 1 HOUR BUT NOT LESS THAN THE REQUIRED RATING OF THE FLOOR PENETRATED. EXCEPTION: FLOOR PENETRATIONS CONTAINED AND LOCATED WITHIN THE CAVITY OF A WALL DO NOT REQUIRE A T RATING.

713.4.1.2 MEMBRANE PENETRATIONS
PENETRATIONS OF MEMBRANES THAT ARE PART OF A FIRE-RESISTANCE-RATED HORIZONTAL ASSEMBLY SHALL COMPLY WITH SECTION
13.4.1.1.1 OR 713.4.1.1.2. WHERE FLOOR/CEILING ASSEMBLIES ARE REQUIRED TO HAVE A FIRE-RESISTANCE RATING, RECESSED FIXTURES SHALL BE INSTALLED SUCH THAT THE REQUIRED FIRE RESISTANCE WILL NOT BE REDUCED

CEILING PENTERATION, WILL BE PROVIDED WITH 2HR FIRE RATED RECESED LIGHT FIXTURE HOUSING



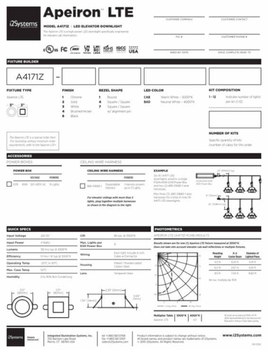
C405.8 VERTICAL AND HORIZONTAL TRANSPORTATION SYSTEMS AND EQUIPMENT.
VERTICAL AND HORIZONTAL TRANSPORTATION SYSTEMS AND EQUIPMENT SHALL COMPLY WITH THIS SECTION.

C405.8.1 ELEVATOR EQUIPMENT AND CABS.
FOR THE LUMINAIRES IN EACH ELEVATOR CAB, NOT INCLUDING SIGNALS AND DISPLAYS, THE SUM OF THE LUMENS DIVIDED BY THE SUM OF THE WATTS SHALL BE NOT LESS THAN 35 LUMENS PER WATT. VENTILATION FANS IN ELEVATORS THAT DO NOT HAVE THEIR OWN AIR-CONDITIONING SYSTEM SHALL NOT CONSUME MORE THAN 0.33 WATTS/CFM AT THE MAXIMUM RATED SPEED OF THE FAN. CONTROLS SHALL BE PROVIDED THAT WILL DE-ENERGIZE VENTILATION FANS AND LIGHTING SYSTEMS WHEN THE ELEVATOR IS STOPPED, UNOCCUPIED AND WITH ITS DOORS CLOSED FOR OVER 15 MINUTES

C406.3 REDUCED LIGHTING POWER

THE TOTAL CONNECTED INTERIOR LIGHTING POWER CALCULATED IN ACCORDANCE WITH SECTION C405.3.1 SHALL BE LESS THAN 90 PERCENT OF THE TOTAL LIGHTING POWER ALLOWANCE CALCULATED IN ACCORDANCE WITH SECTIONS C405.2.1 THROUGH C405.2.3.





EXTERIOR LIGHTS

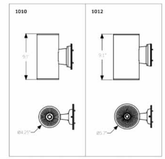


MODEL
1010 4" LED cylinder
LEDRA1 10W LED module; 900 Lumens, 4000°K
1012 6" LED cylinder
LEDRA2 15W LED module; 1050 Lumens, 4000°K

SPECIFICATIONS
• The cylindrical housing is fabricated of extruded aluminum.
• The LED module is mounted on an aluminum heat sink to maximize heat dissipation.
• A bright aluminum reflector provides a 40° beam spread.
• The luminaire is sealed with a clear tempered glass lens.
• All components undergo a rigorous pre-paint treatment and are coated with baked powder coat paint, giving them a highly durable finish.

VOLTAGE
12 120V
20 208V
27 277V
34 347V (Requires a step-down transformer)

FINISH
BK Black
SG Silver grey
BR Bronze



ORDERING EXAMPLE
LEDRA1BK-34-1010
Model: 1010
Light source: 10W LED module; 900 lumens, 4000°K
Voltage: 347V
Finish: Painted Black

1010, 1012
LED CYLINDERS

Cylinders have always been a signature item for DALS. Here is a model which is designed to optimize LED technology. This LED cylinder is available in 2 sizes and can be used as either an uplighter or a downlight. Its powerful LED module is optimized with a polished aluminum reflector and a substantial heat sink.

KEY FEATURES
• Up or down LED lighting
• Efficient LED module
• Available in 2 sizes

DWELLING UNITS LIGHTS - Alusso - AMEU-SS40-110LND3-6

90MIN BATTERY POWERED EMERGENCY LIGHT - FULHAM FIREHORSE - FHEM16W



Fulham Firehorse Emergency Lighting #FHEM16W Specifications

Zoro #: G9353093 Mfr #: FHEM16W UPC #: 847098025702

Item - Emergency Lighting and Exit Signs: Emergency Light
Item: Emergency Light
Voltage - Emergency Lighting and Exit Signs: 120/277
Lamp Watts - Emergency Lighting and Exit Signs: 0.9 W
Input Voltage: 120/277
Output Voltage: 3.6V DC
Lighting Technology: LED
Housing Material - Emergency Lighting and Exit Signs: Plastic
Mounting: Ceiling/Wall
Housing Material: Plastic
Housing Color - Emergency Lighting and Exit Signs: White
Battery Chemistry: Nickel Cadmium
Length: 12 1/3 in
Number of Lamp Heads: 2
Width: 4 1/2 in
Height: 4 1/2 in
Emergency Illumination Time - Emergency Lighting and Exit Signs: 90 min
Watts @ 90 Minutes: 0.89 W
Head Lamps Adjustable: Yes
Optional Guard: FHEMWG
Standards: NFPA-101, UL 924 Listed
Includes: Assembly
Battery Type: Nickel Cadmium
Warranty: 5 yr
Operating Temp. Range: 10 Degrees to 40 Degrees C
Emergency Illumination Time: 90 min.
Lamp Watts: 0.89
Lamp Type: Led
Housing Color: White
Features: 161.8 Lumens
Bulb Technology: LED
Length (Straight Wireway): 12 1/3 in
Maximum Operating Temperature: 104 Degrees F
Overall Length: 12 1/4 in
Environmental Rating: Damp Location Rated
Emergency Wattage: 1.6 W
Adjustable Lamp Heads: Yes
Lamp Output: 161.3 lm
Battery Voltage: 3.6 V DC
Manufacturers Warranty Length: 5 yr
CA Title 20 Compliant: Yes
Housing Finish: UV Stabilized
Minimum Operating Temperature: 50 Degrees F
Lamp Wattage: 0.8 W
Overall Height: 4 1/2 in
Lamp Head Shape: Square
Emergency Battery Backup: Yes
IP Rating: Not Rated
Current: 0.11 A
Overall Width: 4 1/2 in
Series: FHEM16
Bulb Included: Yes
Self Diagnostics: No
Compliance Type: None
Country of Origin (subject to change): China

SECTION ECC C406 ADDITIONAL EFFICIENCY PACKAGE OPTION

C 406.1 REQUIREMENTS.*BUILDINGS SHALL COMPLY WITH ONE OR MORE OF THE FOLLOWING:*

- *REDUCED LIGHTING POWER IN ACCORDANCE WITH SECTION C406.3*

SECTION ECC C408 MAINTENANCE INFORMATIONAND SYSTEM COMMISSIONING.

C408.3 FUNCTIONAL TESTING OF LIGHTING CONTROLS.

LND
Leandro Nils Dickson, Architect
Architecture . Interior Design . Developing
3-53 26th Street
Fair Lawn, NJ 07410
T: 201 . 509 . 8698
www . LNDarchitect . com

MECHANICAL ENGINEER:

STRUCTURAL ENGINEER:

REGISTERED ARCHITECT LEANDRO NILS DICKSON STATE OF NEW YORK 030459
ARCHITECT'S SEAL

BY	DESCRIPTION	DATE	REV.

PROJECT NAME:
1563 BOONE AVENUE
10460
NEW RESIDENTIAL BUILDING 7 STORY

DRAWING NAME:
NYCECC 2020 NOTES

DOB JOB #:**X01288603-I1**
SCALE: AS NOTED
DRAWN BY: JOHN HURTADO
CHECKED: LND
DATE: 5/2/2026 4:34:01 p. m.

DRAWING NO.
A-603.00

APPENDIX D
Construction Health and Safety Plan

PROJECT-SPECIFIC PLAN

1.0 GENERAL INFORMATION

Project name: 1003 East 173rd Street Bronx Development	Client: Vaja Group LLC
Site name and location: 1003 East 173rd Street, Bronx, New York	Project #: 0211679
Field work start date: 7/1/2026	Anticipated field work end date: 11/1/2026
Reviewed and approved by Project Manager: Mari Conlon	Date: 5/1/2026
Reviewed and approved by QEP: Mari Conlon	Date: 5/2/2026

2.0 PROJECT TEAM

	Office Phone #	Cell Phone #
Client/Site Contact: Moses Frenud	718-599-2125	845-248-8889
H&A Project Manager: Mari Conlon	646-277-5686	347-271-1521
Alternate Project Contact: Zhan Shu	Click here to enter text.	Click here to enter text.
H&A Regional Safety Manager: Luke McCartney	551-655-7720	646-568-9357
H&A Site Safety Officer: Owen Hennigan	646-413-6605	315-679-2368
Subcontractor Information: No H&A Subcontractors*	Click here to enter text.	Click here to enter text.
Other: Click here to enter text.	Click here to enter text.	Click here to enter text.

3.0 EMERGENCY ACTION PLAN

Emergency Contact List

In the event of an emergency, contact 911 immediately. If it is not an emergency, contact Acuity at 888-397-8099 for support.

Contact	Name	Location	Phone
Hospital	Health and Hospitals/Woodhull	1276 Fulton Ave, Bronx, NY	718-590-1800
Police	NYC Police Department – 48th Precinct	450 Cross Bronx Expy, Bronx, NY	718-299-3900
Fire	FDNY Engine 82/Ladder 31	1213 Intervale Avenue, Bronx, NY	n/a
Enter client specific information.	Enter client specific information.	Enter client specific information.	Enter client specific information.

Liberty Mutual Claim Policy – WC6-Z11-254100-036

3.0 EMERGENCY ACTION PLAN

Required Site Maps

Complete and add site map(s) as an individual file to safety folder in Teams, indicating the site perimeter and work zones (e.g., exclusion zone, decontamination zone), evacuation routes, and primary and secondary muster points.

4.0 SCOPE OF WORK

Use this space to provide a description of the work being performed. If work is in a high crime area, remote location, or will include night work or extended shifts, you will need to attach applicable JHAs.

☐ **Is a HAZWOPER project? If yes, you must edit and attach personal monitoring plans and decontamination JHA task pages.**

Click or tap here to describe the scope of work. Include tasks to be performed.

SITE OVERVIEW - *Use this space to provide a description of the site, historical data, current uses, surrounding neighborhood, etc.*

The site, identified as Block 3009, Lot 25 on the New York City tax map in a R6A zoning area, is approximately 20,000 square feet (sf) and currently a vacant lot after demolition of a one-story structure. The Site is bounded by East 173rd Street, followed by a commercial building to the north, an active construction area for multi-story residential building to the south, Boone Avenue, followed by an urgent care facility and a school to the east, and a multi-story residential building to the west.

5.0 SITE HAZARDS

Use this table to identify risks in our work. Use the Energy Wheel to deeply consider all risks that may be present and attach applicable site hazard sheets to the JHA package.

TASKS AND HAZARDS THAT MAY BE INCLUDED IN THIS SCOPE OF WORK OR SIMULTANEOUS OPERATIONS:

REQUIRES ADDITIONAL TRAINING, PLANNING, PERMITS, AND/OR MEDICAL SURVEILLANCE

☒ Air monitoring plan	☒ Decontamination	☐ X-ray fluorescence analyzer	☐ Confined space entry permit	☐ Hot work permit
☐ Heat injury and illness prevention plan	☒ Traffic control plan	☐ Subpart Z chemicals (e.g., lead, silica, inorganic arsenic, asbestos, hexavalent chromium, benzene, etc.)	☐ Critical lift plan	☐ Fall protection plan
☒ Underground utility clearance checklist	☐ Respiratory protection			☐ Work over water
	☐ Nuclear density gauge			

5.0 SITE HAZARDS

Use this table to identify risks in our work. Use the Energy Wheel to deeply consider all risks that may be present and attach applicable site hazard sheets to the JHA package.

SITE HAZARDS – note that this is not a comprehensive list of hazards that may be on your site. For a full list of hazards, see the appendices of the Company HASP. All boxes checked must be present in either task or site JHA attachments.

GRAVITY	MOTION	MECHANICAL	ELECTRICAL	PRESSURE
☐ Work overhead (e.g., lifting, dropped objects, loading, unloading, suspended loads) ☒ Uneven work surfaces, slips, trips, falls ☐ Other	☒ Traffic (vehicle, pedestrian, heavy equipment, plant operations) ☒ Driving (e.g., vehicle, UTV) ☐ Projectiles ☐ Congested area ☐ Other	☒ Rotating equipment ☒ Line of fire ☐ Sharp objects ☐ Other	☒ Extension cords ☐ Overhead utilities ☒ Energized equipment ☐ Inadequate lighting ☐ Batteries ☐ Other	☐ Compressed gases ☐ Line of fire (hydraulics, etc.) ☐ Other
SOUND	**RADIATION**	**BIOLOGICAL**	**CHEMICAL**	**TEMPERATURE**
☒ Loud equipment (e.g., impact noise, noise from tools) ☐ Other	☒ Sun ☐ Welding ☐ Lasers ☐ Naturally occurring radioactive material ☐ Other	☐ Mammals (large and small) ☒ Insects (biting and stinging) ☐ Poisonous plants ☐ Poisonous snakes ☐ Droppings (human and animal) ☐ Needles ☐ Bacteria ☐ Contaminated water ☐ Disease (e.g., BBP, hepatitis, legionnaires) ☐ Other	☐ Chemicals ☐ Hazardous materials ☒ Wastes ☒ Dusts ☐ Flammable and combustible vapors ☐ Toxic compounds ☐ Other	☐ Cold stress ☐ Extreme weather (tornado, tsunami, lightning, high winds, blizzard, hurricane) ☐ Wildfire and air quality ☐ Fire ☐ Hot surfaces ☐ Other

ACKNOWLEDGEMENT PAGE		
NOTE – by signing this document, I acknowledge that I have reviewed all JHA materials, including the cover page, site hazard sheets, task pages, and any other applicable forms.		
Staff Member Name	**Staff Member Signature**	**Date**
Click or tap here to enter text.		Click dropdown arrow to add date
Click or tap here to enter text.		Click dropdown arrow to add date
Click or tap here to enter text.		Click dropdown arrow to add date

Company HASP

Revision Number	Revision Date	Summary of Changes	Approved By
0	8/1/2025	Initial	Brian Fitzpatrick
1	11/3/2025	Revise WorkCare to Acuity	Maggie Cahoon

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APPENDIX D – BIOLOGICAL HAZARDS

APPENDIX E – EMERGENCY RECOGNITION AND PREVENTION

1. PURPOSE

The purpose of this Company Health and Safety Plan (HASP) is to address site-specific hazards for work activities that Haley & Aldrich undertakes on Hazardous Waste Operations and Emergency Response (HAZWOPER) sites. This document identifies appropriate mitigations and control measures to help eliminate or reduce identified risks or directs staff to complete project Job Hazard Analysis (JHA) to further document the risks and mitigations specific to that site. Project JHAs and task-specific JHAs are used to augment this document to provide more detailed information on risk and mitigations. Project JHAs provide directions on site-specific risks such as, but not limited to, simultaneous operations, security, and emergency response. JHAs task pages are used to identify the tasks associated with the project work, and the risks and mitigations specific to that task.

Included in this document are references to Haley & Aldrich Operating Procedures (OPs) and policies related to the work performed at project sites.

2. EXPECTATIONS

2.1 FOUNDATIONAL SAFETY BEHAVIORS

The Foundational Safety Behaviors are designed to advance and streamline safety across the organization. These behaviors were developed through extensive feedback, collaboration, and engagement across the company.



These behaviors are not just guidelines, but must be integrated into daily operations of all staff members to ensure consistency across the organization. By taking ownership of these behaviors, every staff member contributes to a safer work environment, ultimately advancing the overall safety culture at Haley & Aldrich.

2.2 STOP WORK AUTHORITY

In accordance with Haley & Aldrich OP1035 - Stop Work Authority, any individual has the right to refuse to perform work that they believe to be unsafe without fear of retaliation. They also have the authority, obligation, and responsibility to stop others from working in an unsafe manner. Stop Work does not always mean to stop all

work on a project, but it can also mean that you are stopping a task or activity to ensure that everyone is working safely.

- **Stop** working immediately when perceiving a dangerous situation.
- **Notify** coworkers, supervisors, and any other relevant individuals of the stop-work action.
- **Investigate** the situation and come to an agreement on whether work should resume or be suspended until the risk is mitigated.
- **Necessary corrections** shall be made and inspected by qualified experts to verify that the issue has been resolved and that work can proceed safely.
- **Resume work** once the relevant authority has approved of the situation and issued a notice that corrective actions have been implemented.
- **Follow up** from management in the form of investigations, improvements, or relevant reports.

STOP Work Authority is the stop work policy for all personnel and subcontractors on the site. When work has been stopped due to an unsafe condition, Haley & Aldrich site management (e.g., Project Manager [PM], Site Safety Officer [SSO], Regional Safety Manager [RSM], etc.) will be notified immediately.

Reasons for issuing a Stop Work order include, but are not limited to:

- The belief/perception that injury to personnel or accident-causing significant damage to property or equipment is imminent.
- A Haley & Aldrich subcontractor is in breach of site safety requirements and/or their own site HASP.
- Identifying a substandard condition (e.g., severe weather) or activity that creates an unacceptable safety risk as determined by a qualified person.

Work will not resume until the unsafe act has been stopped OR sufficient safety precautions have been taken to remove or mitigate the risk to a degree of which work can resume safely. Any instances of stopping work will be documented through Health & Safety's digital reporting tool. Once work has been stopped, only the Haley & Aldrich PM or SSO can give the order to resume work. Haley & Aldrich senior management is committed to support anyone who exercises their "Stop Work" authority.

2.3 HEALTH AND SAFETY REPORTING

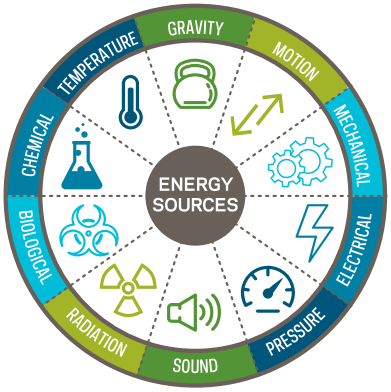
All staff members are required to use Health & Safety's digital reporting tool to document any safety events occurring at work, or related to work. Forms are available for various purposes, including events, injuries, and sensitive information. Staff must report safety events promptly, and the Health & Safety team is responsible for collaborating with both onsite and supporting staff to address safety concerns and feedback in a timely manner.

3. ISSUANCE AND COMPLIANCE

The Company HASP was developed in accordance with Occupational Safety and Health Administration (OSHA) regulations 29 CFR 1910.120 and 1926.65. This document outlines general requirements and information related to our project work. Project-specific documents, such as the JHAs, are developed by those most familiar with the

work and are reviewed and approved prior to starting work by the Haley & Aldrich RSM and PM. These documents must be reviewed and modified regularly as site conditions change.

- All Haley & Aldrich JHAs must be signed by Haley & Aldrich personnel involved in the implementation of the Scope of Work (SOW).
- Haley & Aldrich's subcontractors must have their own project health and safety documents which address hazards specific to their trade. All subcontractor JHAs must be signed by subcontractor personnel involved in the implementation of their respective SOW.
- The Company HASP, electronic or printed, must be accessible at all times when Haley & Aldrich staff are present.
- If changes are necessary based on the presence of high energy hazards, the RSM and PM must approve updates to the JHA. Any revision to the JHA requires staff members and subcontractors to be informed of the changes so that they understand the requirements of the change. Staff members and subcontractors must sign the applicable JHAs associated with their work following any revisions.



- Deviations from the JHA are permitted with approval from the Haley & Aldrich RSM and PM. Unauthorized deviations may constitute a violation of Haley & Aldrich company procedures/policies and may result in disciplinary action.
- Project JHAs will be relied upon by Haley & Aldrich staff, subcontractors, and visitors to the site. This document will also be available for review but is not intended to be the sole source of project safety. This HASP and all project-specific JHAs will be made available for review to Haley & Aldrich's subcontractors and other interested parties (e.g. facility personnel and regulatory agencies) prior to commencing work, to ensure that Haley & Aldrich has properly informed our subcontractors and others of the potential hazards associated with the implementation of the SOW to the extent that Haley & Aldrich is aware.

This Company HASP provides required information in alignment with OSHA regulations. General safety and health compliance programs in support of this HASP and project documents (e.g., injury reporting, medical surveillance, personal protective equipment [PPE] selection, etc.) are described in the Haley & Aldrich Corporate Health and Safety Program Manual and within Haley & Aldrich's Operating Procedures (OPs). Copies of project documents must be readily available on site and reviewed daily. Both the manual and SOPs can be located on the Haley & Aldrich's Company Intranet. Users of this HASP and other project documents should always refer to these resources and incorporate to the extent possible. The manual and SOPs are available to clients and regulators upon request.

4. ROLES AND RESPONSIBILITIES

4.1 PROJECT STAFF ROLES AND RESPONSIBILITIES

Project teams consist of multiple staff members working together to provide support to those executing work in the field. Below are general responsibilities of team members that contribute to project support.

4.1.1 Haley & Aldrich Project Manager (PM)

The Haley & Aldrich PM has the overall responsibility for the health and safety of Haley & Aldrich project personnel. The PM is responsible for ensuring the following to properly implement this HASP:

- Sufficient resources and materials are available.
- Day-to-day field investigation activities are planned and executed in a manner consistent with project-specific JHAs.
- Only staff who are properly trained and experienced are placed on a project site.
- Sufficient resources and materials are allocated to implement this HASP and are properly used.
- Site staff understand how to access a copy of the project-specific JHA through printed resources and project files, and this HASP electronically.
- All relevant company policies, procedures, and expectations are followed.

4.1.2 Haley & Aldrich Site Safety Officer (SSO)

The Haley & Aldrich SSO, or their designee, will be present during the execution of work. The SSO may perform additional roles on-site but will be responsible for Haley & Aldrich's health and safety and that of contracted subcontractors. The SSO will be responsible for administration of the site safety program and will ensure the elements of this HASP are properly implemented and understood by site personnel. The senior person for Haley & Aldrich on-site is the SSO, unless otherwise designated. The SSO will be named in the project-specific JHA.

4.1.3 Haley & Aldrich Regional Safety Manager (RSM)

The RSM, or their designee, is the safety lead for all Company projects within their designated region. The RSM is a full-time Haley & Aldrich staff member, trained as a safety and health professional. They will review and approve the site-specific safety documents and any required amendments, and lead the project teams in their safety efforts. The RSM is active in identifying and mitigating any potential safety and health issues. RSMs are available for site visits and play an active role as a resource for field staff members with any questions or concerns regarding site safety.

4.1.4 Haley & Aldrich Health & Safety Team

When the "Health & Safety Team" is referenced in this document it means, the Chief H&S Officer, Corporate H&S staff, RSMs, and/or their designees.

4.1.5 Haley & Aldrich Subcontractors

When Haley & Aldrich is the controlling employer, we expect each subcontractor will provide a qualified representative who will act as their Safety Lead, unless otherwise denoted in the contract. This person will be responsible for the planning, coordination, and safe execution of subcontractor tasks. This includes the preparation of a site-specific HASP, JHAs, performing daily safety planning, and coordinating directly with the Haley & Aldrich SSO for other site safety activities. This person will play a lead role in safety planning for subcontractor tasks, and in ensuring all their staff members and lower-tier subcontractors are in adherence with

applicable local, state, and/or federal regulations, and/or industry- and project-specific safety standards or best management practices.

The subcontractors' safety documentation will be at least as stringent as the health and safety requirements of the Haley & Aldrich HASP and JHAs. This will be verified by Haley & Aldrich prior to the start of work.

If any field staff working for the subcontractors do not speak English, their supervisor/foreman must be bilingual and be present in all safety meetings for translations. Appropriate multi-language signs must also be utilized in accordance with each worker's native language.

5. SCOPE OF WORK (SOW)

5.1 GENERAL AND PROJECT TASKS

The SOW for each project can be found on the project's JHA cover page. Attached task-specific JHA pages will detail tasks that are to be performed by all Haley & Aldrich staff members and will allow supporting Health & Safety team members to guide the project team through the process of planning for and mitigating possible hazards. These files are in safety folders under each project's Teams page.

When Haley & Aldrich is the controlling employer, we expect that project-specific tasks performed by subcontractors will be identified and evaluated by Haley & Aldrich through the review of their JHAs, unless otherwise denoted in the contract. General hazards associated with work performed on site can be identified through Section 7 Hazard Assessment.

6. SITE OVERVIEW

6.1 SITE CHARACTERIZATION AND ANALYSIS

An evaluation of work activities is performed for each project including a hazard assessment for each task or activity to identify associated hazardous conditions, appropriate staff member protection methods, and PPE. The evaluation of potential site conditions and hazards is ongoing and continues throughout the duration of the project. Site characterization information can be found in the project-specific JHA with additional information regarding the SOW. All hazard assessment and mitigations are selected and documented through project-specific JHAs.

6.1.1 Preliminary Evaluation

A preliminary evaluation of a site's characteristics shall be approved by a qualified person familiar with site conditions to aid in the selection of appropriate protection methods prior to site entry. The qualified person is an individual who possesses extensive knowledge, training, and experience in relation to the possible characteristics and hazards of the site, and has demonstrated their ability to resolve problems related to the subject matter, work, or project.

A more detailed evaluation of the site's specific characteristics shall be performed by the RSM and PM to further identify existing site hazards and to further aid in the selection of the appropriate engineering controls and PPE for the tasks to be performed.

6.2 SITE DESCRIPTION AND WORK AREAS

A site description and identified work areas will be outlined in the scope of associated JHAs. Project teams are to provide this information on project documents to assist the RSM reviewing the documents with identifying hazards and appropriate mitigations.

6.3 REQUIRED INFORMATION

The information listed below, to the extent of which is available, shall be obtained by Haley & Aldrich project teams prior to completing the JHA and allowing any staff members to enter the site:

- Location and approximate size of the site.
- Description of the activities or job tasks being performed.
- Duration of planned staff member activity.
- Site topography and accessibility by air and roads.
- Safey and health hazards expected at the site.
- Pathways for hazardous substance dispersion.
- Present status and capabilities of emergency response teams that would aid hazardous waste clean-up site at the time of an emergency.
- Hazardous substances and health hazards involved or expected at the site, and their chemical and physical properties.

7. HAZARD ASSESSMENT

7.1 HAZARD ASSESSMENT

Hazard assessments are performed as part of project preparation for all projects that Haley & Aldrich performs. A hazard assessment is intended to identify and describe safety and health hazards associated with site work. All project teams are expected to identify hazards associated with the site, the tasks, and simultaneous operations. Assessments are performed through a JHA. All JHAs are to be included in project safety folders, provided to all on-site personnel for their applicable tasks, and reviewed by field staff prior to mobilization. Modifications to JHAs are to be communicated with the entire project team as soon as they occur, and JHAs are to be reviewed daily during the execution of the work associated with the JHA. With this information, risks are then eliminated or effectively controlled.

All project-specific and task-specific JHAs are to be modified when:

- The SOW is changed by adding, eliminating, or modifying tasks.
- New methods of performing site tasks are selected.

- Observation of the performance of site tasks results in a revised characterization of the hazards.
- New hazards are identified.
- Exposure data indicate changes in the concentration and/or likelihood of exposure.
- Change in personnel or subcontractors.
- When a near miss or incident occurs.

7.2 CHEMICAL HAZARDS

Haley & Aldrich staff members have the potential to interact with a variety of chemical hazards while working in the field. Chemical hazards must be identified and addressed on a project-by-project basis. Project-specific personal air monitoring plans shall be developed and described in the project-specific JHA. Additionally, other routes of exposure to chemical hazards (e.g., absorption, injection, ingestion) and associated controls will be addressed in either project-specific or task-specific JHAs. Personal air monitoring plans and JHAs must be reviewed and approved by a RSM. All project-specific or task-specific JHAs are to be modified when new chemical hazards are identified.

For more information on chemical hazards and exposure limits, see Appendix A – Chemical Hazards or appropriate Safety Data Sheets.

7.3 PHYSICAL HAZARDS

Haley & Aldrich staff members have the potential to interact with a variety of physical hazards while working in the field. Physical hazards will be identified and addressed in either project-specific or task-specific JHAs. JHAs must be reviewed and approved by a RSM and PM. All project-specific or task-specific JHAs are to be modified when new physical hazards are identified.

For more information on physical hazards, see Appendix B – Physical Hazards.

7.4 WEATHER HAZARDS

Haley & Aldrich staff members have the potential to interact with a variety of weather-related hazards while working in the field. Weather-related hazards will be identified and addressed in either project-specific or task-specific JHAs. JHAs must be reviewed and approved by a RSM and PM. All project-specific or task-specific JHAs are to be modified when new weather-related hazards are identified.

For more information on weather-related hazards, see Appendix C – Weather-Related Hazards.

7.5 BIOLOGICAL HAZARDS

Haley & Aldrich staff members have the potential to interact with a variety of biological hazards while working in the field. Biological hazards will be identified and addressed in either project-specific or task-specific JHAs. JHAs must be reviewed and approved by a RSM and PM. All project-specific or task-specific JHAs are to be modified when new biological hazards are identified.

For more information on biological hazards, see Appendix D – Biological Hazards.

8. PROTECTIVE MEASURES

8.1 IMPLEMENTING CONTROLS

The hierarchy of controls should always be used to evaluate how hazards can be mitigated. When possible, staff members should look to eliminate and substitute hazards or design engineering controls before implementing administrative controls and PPE. To effectively assess hazards and best select mitigations, field staff must be engaged in discussion, as they have the best understanding of the hazardous conditions and insights into how they can be controlled.

Staff members are to review these controls and use the JHAs to document hazards and their associated controls.

8.2 FIT FOR DUTY

It is important for those planning the work to support staff members to be fit for duty and complete their work in a safe manner. See OP1063 – Fit for Duty for more information. Below are guidelines to maintain a safe environment and encourage staff to be fit for duty:

- Scheduling enough staff on sites so they are able to rotate work.
- Allowing staff who have worked multiple shifts in a row to take time off.
- Giving staff members the weekend, when possible, to rest and prepare for the following work week.
- Ensuring staff members are physically capable of completing work tasks assigned to them.
- Being mindful of total worker health, ensuring that stress, emotional state, and conditions outside of work are considered.

Staff members are responsible to show up to work:

- Not under the influence of drugs or alcohol, including prescription medicines that may interfere with their ability to perform work safely.
- Symptom free for 24 hours from any contagious illnesses.
- Adhering to work restrictions prescribed by a medical professional.
- Fit for duty to perform job tasks assigned.

When there is a risk of fatigue, it is the responsibility of the PM and RSM to develop controls for staff to be fit for duty, and to build those mitigations into the project-specific JHA.

8.3 PERSONAL PROTECTIVE EQUIPMENT (PPE)

PPE is used to provide adequate personnel protection only after feasible engineering and administrative control options have been exhausted. See OP1024 – Personal Protective Equipment for more information. All PPE is provided by Haley & Aldrich to users and is selected to ensure that it is constructed and designed to protect staff members against known or anticipated hazards. Selected PPE should properly and appropriately fit the staff member. These provisions follow the requirements of all applicable regulations (29 CFR 1910.120(c)(5), 29 CFR 1910.132 to 1910.140, and 29 CFR 1926.28). It is the responsibility of the user to ensure that PPE is used and maintained in a sanitary and reliable condition.

All staff members at Haley & Aldrich are required to wear standard PPE listed below, unless a hazard assessment has determined the hazard related to some of the items listed below is not present. This includes but is not limited to:

- Hard hat;
- High visibility vest;
- Safety glasses;
- Cut-resistant gloves (A2);
- Hearing protection;
- Safety-toed boots; and
- Work clothing consisting of, at a minimum, long pants and a short-sleeve shirt.

The selection of additional PPE and other controls is based on an evaluation of the hazards present and job activities being performed. This selection is outlined in the PPE Hazard Assessment as part of the project-specific JHAs. PPE may vary from task to task, and all personnel engaged in the project work activities must use the appropriate level of protection as required by the activity to be performed. If an office does not have the necessary PPE for the work being conducted, contact the Local Health & Safety Coordinator.

If during the planned activities unique conditions are observed, an updated hazard assessment will be performed and reviewed by the PM and RSM. No changes in PPE will be conducted without a hazard assessment, review and approval by RSM and PM, and documentation of the proper training, if applicable.

8.4 LEVELS OF PERSONAL PROTECTIVE EQUIPMENT

8.4.1 Level D Protection

Level D protection should be used when:

- The atmosphere contains no known hazard; and
- Work functions preclude splashes, immersion, or the potential for unexpected inhalation of, or contact with, hazardous levels of any chemicals.

The following constitute Level D equipment which may be used when appropriate and selected by a RSM or PM:

- Coveralls.
- Gloves.
- Boots/shoes that meet ASTM International (ASTM) F2413.
- Boots, outer, chemical-resistant (disposable).
- Safety glasses or chemical splash goggles.
- Hard hat.
- Face shield.

8.4.2 Level C Protection

Level C protection should be used when:

- The atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect or be absorbed through any exposed skin;
- The types of air contaminants have been identified, concentrations measured, and an air-purifying respirator (APR) is available that can remove the contaminants; and
- All criteria for the use of an APR are met.

APRs can be used only when the contaminant(s) is known, cartridges/canisters exist, and concentrations are within the substance-specific standard guidelines or within the maximum use concentration (MUC) for the APR used. An appropriate cartridge/canister selection process and change schedule are outlined in our Respiratory Protection Program, according to the respiratory protection regulation (29 CFR 1910.134(d)(3)(iii)(B)(2)). See Respiratory Protection below for more information.

If warning properties (chemical odors, tastes, or physical irritation) are detected, staff members must immediately leave the work area and notify their PM and RSM.

The following constitute Level C equipment and may be used when appropriate and selected by a RSM:

- Full-face or half-mask, air purifying respirators (National Institute for Occupational Safety and Health [NIOSH] approved).
- Hooded chemical-resistant clothing (overalls; two-piece chemical-splash suit; disposable chemical-resistant overalls).
- Coveralls.
- Gloves, outer, chemical-resistant.
- Gloves, inner, chemical-resistant.
- Boots/shoes that meet ASTM F2413.
- Boot-covers, outer, chemical-resistant (disposable).
- Hard hat.
- Escape mask.
- Face shield.

8.4.3 Level B Protection

This level of protection is appropriate when the highest level of respiratory protection is necessary, but a lesser level of skin protection is needed. Level B protection should be used when:

- The type and atmospheric concentration of substances have been identified and require a high level of respiratory protection, but less skin protection;
- The atmosphere contains less than 19.5 percent oxygen; or

- The presence of incompletely identified vapors or gases is indicated by a direct-reading organic vapor detection instrument, but vapors and gases are not suspected of containing high levels of chemicals harmful to skin or capable of being absorbed through the skin.

The following constitute Level B equipment and may be used when appropriate and selected by a RSM:

- Positive pressure, full-facepiece, self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved).
- Hooded chemical-resistant clothing (overalls and long-sleeved jacket; coveralls; one- or two-piece chemical splash suit; disposable chemical-resistant overalls).
- Coveralls.
- Gloves, outer, chemical-resistant.
- Gloves, inner, chemical-resistant.
- Boots/shoes that meet ASTM F2413.
- Boot-covers, outer, chemical-resistant (disposable).
- Hard hat.
- Face shield.

8.4.4 Level A Protection

This level of protection should be selected when the greatest level of skin, respiratory, and eye protection is required. Level A protection should be used when:

- The hazardous substance has been identified and requires the highest level of protection for skin, eyes, and the respiratory system based on either the measured (or potential for) high concentration of atmospheric vapors, gases, or particulates; or the site operations and work functions involve a high potential for splash, immersion, or exposure to unexpected vapors, gases, or particulates of materials that are harmful to skin or capable of being absorbed through the skin;
- Substances with a high degree of hazard to the skin are known or suspected to be present, and skin contact is possible; or
- Operations are being conducted in confined, poorly ventilated areas, and the absence of conditions requiring Level A have not yet been determined.

The following constitute Level A equipment and may be used when appropriate and selected by an RSM:

- Positive pressure, full face-piece SCBA, or positive pressure supplied air respirator with escape SCBA, approved by NIOSH.
- Totally encapsulating chemical-protective suit.
- Coveralls.
- Long underwear.
- Gloves, outer, chemical-resistant.
- Gloves, inner, chemical-resistant.

- Boots/shoes that meet ASTM F2413.
- Hard hat (under suit).
- Disposable protective suit, gloves, and boots (depending on suit construction, may be worn over totally encapsulating suit).

8.5 INSPECTION, CLEANING, MAINTENANCE, AND STORAGE

PPE must be inspected prior to use and must be cleaned and maintained at regular intervals, as regulatory required, and as required by the manufacturer so that the PPE provides the requisite protection. PPE should be cleaned as needed, after each use, and before storage. PPE must be stored in a manner to avoid conditions that could result in damage, such as exposure to heat, light, moisture, or contamination (e.g., dirt, dust, or impacted media). PPE that is either defective or damaged must not be used and must be discarded or removed from service until repaired by a qualified person or the manufacturer. It is also important to ensure that contaminated PPE that cannot be decontaminated is not reused and is disposed of in a manner that protects staff members from exposure to hazards. For more information on decontamination, see Section 14 Decontamination.

PPE that is not grossly contaminated can be bagged and disposed in regular trash receptacles.

8.6 TRAINING AND PROPER FITTING

Staff members are trained on when PPE is necessary, what PPE is necessary for certain work, how to properly don, doff, adjust, and wear PPE, the limitations of the PPE, what to do if the PPE fails, the proper care, maintenance, useful life, and disposal of the PPE, and at the end of any training, should be able to demonstrate how to use PPE properly. Training is included as part of the Annual 8-Hour HAZWOPER Refresher for those that maintain a certificate. Refresher training must be performed annually for all staff members who use PPE, and more frequently, as necessary, in the event of any of the following:

- Changes in the workplace or types of PPE used which would make the previous training obsolete;
- Inadequacies in the staff's knowledge or use of PPE indicate that the staff has not retained the requisite understanding or skill; and
- Any other situation that arises in which retraining appears necessary to ensure safe use of PPE.

Staff members have the responsibility to communicate any issues with the fit or use of PPE to a member of the Health & Safety Team to ensure proper PPE is provided for hazards that are present.

8.7 DONNING AND DOFFING

Proper donning and doffing procedures are dependent on the type of PPE being worn by the staff member. Donning and doffing procedures are shown in Annual 8-Hour HAZWOPER Refresher courses and are to be demonstrated by local health and safety leads when PPE is given to a staff member for the first time.

8.8 EVALUATION OF EFFECTIVENESS

Staff members and RSMs are responsible for communicating the effectiveness of PPE with the Health & Safety Team. RSMs or their designees routinely visit projects sites to evaluate hazards present, and compare them to project documents developed, to ensure that the best mitigations are in place to protect staff members.

8.9 LIMITATIONS

Some PPE may create limitations when working in extreme environments, including extreme heat. Staff members are to review OP1015 – Heat Stress* as part of the hazard assessment with their project team ahead of work starting to identify appropriate PPE when there is concern for working conditions.

- *Note - OP1015 Heat Stress is currently in review to align with Federal OSHA's proposed heat stress ruling, while still meetings requirements of State OSHA heat safety plans. Staff must use the Heat Injury and Illness Prevention Plan (linked as OP1015 - Heat Stress) above to reduce risk when working in the heat.

8.10 RESPIRATORY PROTECTION

Before beginning any work that generates airborne contaminants, chemical, or dust, respiratory protection must be assessed. For more information on medical evaluation and clearance, fit testing, respirator maintenance and repair, storage, cartridge selection, and training, see OP1023 – Respiratory Protection.

Staff members that wish to wear respirators for voluntary use must complete a Voluntary Use Respirator Form. Contact the Health & Safety Team for more information.

8.11 HEARING CONSERVATION

Staff members exposed to, or with the potential to be exposed to, an 8-hour time-weighted average (TWA) sound level equal to or greater than 85 dBA must participate in a hearing conservation program. See OP1031 – Hearing Conservation for more information. All exposed personnel receive awareness training about the hazards of noise, the procedures to properly use and maintain hearing protection, and the importance of annual testing.

Hearing protection is made available when noise exposures equal or exceed an 8-hour TWA sound level of 85 dBA. Hearing protection is required when the 8-hour TWA sound level is greater than 90 dBA. Where noise exposure meets or exceeds this level, noise is listed as a physical hazard in the JHA for the tasks or operation, and hearing protection is included as one of the control measures.

Hearing protection is also required for any staff members who have not yet had a baseline audiogram or who have experienced a standard threshold shift and are exposed to an 8-hour TWA sound level greater than 85 dBA.

9. TRAINING REQUIREMENTS

9.1 HEALTH AND SAFETY TRAINING REQUIREMENTS

All Haley & Aldrich Staff members must be trained to a level required by their job function and responsibility prior to working on non-HAZWOPER and HAZWOPER sites. Haley & Aldrich staff members, contractors, subcontractors, and consultants who have the potential to be exposed to contaminated materials or physical hazards must complete the training described in the following sections.

Corporate Health & Safety maintains documentation of training records. PMs must review staff member training records to ensure they are trained and compliant with OSHA requirements for the tasks being performed. PMs may also access training records at the request of clients and/or OSHA through Corporate Health & Safety.

9.2 40-HOUR HAZWOPER

The 40-Hour HAZWOPER course provides instruction on the nature of hazardous waste work, protective measures, proper use of PPE, recognition of signs and symptoms which might indicate exposure to hazardous substances, and decontamination procedures. All staff members who are required to participate in work on hazardous waste sites- including equipment operators, general laborers, and supervisors- will be required to complete an initial 40 hours of training as specified by 29 CFR 1910.120 (e)(3).

9.3 8-HOUR ANNUAL REFRESHER

Personnel who complete the 40-hour health and safety training and are required to maintain its validity beyond one calendar year are required to attend an annual 8-hour refresher training course as per 29 CFR 1910.120 (e)(8). Haley & Aldrich maintains records of all staff members 40-hour HAZWOPER training status, and when required can provide proof of this status with a certificate of completion.

9.4 8-HOUR SUPERVISOR

The Haley & Aldrich SSO directly responsible for hazardous waste operations, or who supervise staff members engaged in these operations, must have eight additional hours of Supervisor training in accordance with 29 CFR 1910.120 (e)(4) Supervisor Training. This includes, but is not limited to, accident reporting/investigation, regulatory compliance, work practice observations, emergency response procedures, and maintenance of an internal Safety & Health program.

9.5 ADDITIONAL TRAINING FOR SPECIFIC PROJECTS

Haley & Aldrich PMs must ensure field staff are trained in any additional OSHA requirements for tasks they are required to perform, including information on specific instruments, equipment, and construction hazards, and can demonstrate competence. Specialized training will be provided at the awareness level, and competent person level where necessary, to staff members before engaging in the specific work activities. Examples of trainings offered include but are not limited to, Hearing Conservation, Respiratory Protection, Trenching & Excavations, Confined Space Entry (entrant, supervisor, attendant), Heavy Equipment (aerial lifts, forklifts, etc.), First Aid/CPR, Fall Protection, Nuclear Density Gauges, and Hazardous Substances specified in 1926 Subpart Z.

10. MEDICAL SURVEILLANCE

10.1 MEDICAL SURVEILLANCE

A medical surveillance program is present when staff members have the potential to be exposed to contaminants or hazards that cause adverse health effects. This program ensures that staff are protected from exposure to hazardous materials or health hazards that have been identified and when a potential exposure has occurred. This section follows the requirements as presented by OSHA in 29 CFR 1910.120(f), with additional guidelines for

substance-specific requirements in 29 CFR 1910 1001-1052 if they are identified as present on-site. Additional information can be referenced in OP1009 – Workplace Medical, as listed below:

- Staff members covered
- Exam Frequency
- Exam Content
- Subpart Z Hazards and Additional Testing
- Physical Exam, Review, Written Opinion
- Recordkeeping Requirements
- Hearing Conservation
- Bloodborne Pathogens

11. AIR MONITORING PLANS AND EQUIPMENT

To determine the types and quantities of airborne contaminants that staff members may be exposed to on site, a project-specific evaluation of chemical hazards should be performed. Chemical hazards will be evaluated to develop a personal air monitoring plan with controls in accordance with applicable OSHA regulations. Personal air monitoring plans must be developed per project to incorporate project-specific details such as scope, chemical hazards, expected concentrations, site conditions, and available monitoring equipment, and must be documented in project-specific JHAs. All personal air monitoring plans must be reviewed and approved by the RSM and PM prior to starting work. Additional information about air monitoring equipment can be found in operating procedures:

- OP1004 – Operation and Calibration of PID
- OP1005 – Operation and Calibration of FID
- OP1006 – Operation of Draeger Gas Detector Pump
- OP1007 – Operation and Calibration of Combustible Gas Indicators

For information on chemical hazards and exposure limits from commonly encountered chemicals on site, see Appendix A – Chemical Hazards or appropriate Safety Data Sheets.

11.1 INITIAL ENTRY AND BACKGROUND MONITORING

Initial exposure monitoring and/or background monitoring should be conducted to measure staff member exposure to hazardous chemicals or atmospheres where the potential for the following conditions may exist:

- Possible Immediately Dangerous to Life or Health (IDLH) conditions;
- Potential for exposure near or over permissible exposure limits and/or action levels;
- Potential for exposure to any radioactive source;
- Oxygen rich or deficient environments;

- Flammable atmospheres;
- Or any other dangerous conditions on site.

Initial exposure monitoring should be conducted in accordance with applicable OSHA regulations for monitoring frequency, methodology, and notification procedures. Generally, an initial determination may include a representative sample of the staff member's exposure who is exposed to the greatest concentrations of the chemical hazard of concern. Contact your regional H&S representative to perform this process.

When conducting initial or background monitoring, staff must be protected from potential exposure by using appropriate engineering controls or PPE.

11.2 PERIODIC MONITORING

Periodic monitoring shall be established in accordance with applicable OSHA standards for each chemical hazard. The frequency of monitoring shall be further established by the results of initial exposure determinations, changes to work processes, controls, personnel changes which may result in new or additional exposure, or when there is any other reason to suspect a change in exposure.

The following examples are changes to site conditions that may impact and increase potential exposure to air contaminants or health Hazards:

- Work in a new area of a site.
- Work with new materials that may present a health hazard.
- The start of new tasks or work operations (i.e., soil vapor intrusion sampling vs. confined space entry).
- When staff are handling leaking drums or containers in working areas with liquid contamination.

11.3 AIR MONITORING EQUIPMENT

The air monitoring equipment below may be used in personal air monitoring plans for the associated contaminant or health hazard. See JHA for site-specific equipment and usage.

Equipment	Detectable Contaminants / Hazard
PID 10.2eV or 11.7eV	Volatile Organic Compounds (VOCs)
OV Monitor	Volatile Organic Compounds (VOCs)
Gas Chromatograph	Volatile Organic Compounds (VOCs)
Colorimetric Tubes	Volatile Organic Compounds (VOCs)
Combustible Gas Indicator	LEL
Multiple Gas Detector	LEL / O_2 / H_2S / CO
RAM (Real-time Air Monitor)	Particulates
Air Sampling Pump	Chemical specific

11.3.1 Calibration, Functionality Tests, and Use of Air Monitoring Equipment

The calibration of all monitoring equipment is required in accordance with manufacturers requirements and Haley & Aldrich Operating Procedures listed above in Section 10 and site-specific requirements (e.g., at the

beginning and end of each workday). Calibration must be done by a qualified laboratory- at least annually- unless manufacturer recommendations differ, or you encounter problems. Rental companies will perform calibration services.

Daily functionality tests, also known as bump tests, of equipment shall be documented in the field notes or Daily Field Report. Documentation should include:

- Date/time,
- Equipment ID number,
- Zero reading, if applicable, and
- Reading obtained with calibration gas or gases.

The required equipment listed above must be in good working condition and be available on-site at all times during applicable work activities, as outlined in the JHA. Work shall not commence unless the equipment is present, calibrated, and operable.

12. SITE CONTROL

The goal of a site control plan is to establish procedures that minimize potential worker exposure to hazardous substances, protect the public from the site's hazards, and provide site security. Understanding the site control program is crucial in the event of an emergency. The degree of site control necessary depends on site characteristics, site size, and the surrounding community. Haley & Aldrich incorporates the elements required for a site control plan in the JHA. This includes information to access a site map that identifies work zones, site communications, applicable Haley & Aldrich SOPs, and the location of the nearest medical facility. Please reference the project-specific JHA for site control information.

All operating procedures, such as OP1025 - Signs, Signals, and Barricades, OP1043 - Site Traffic Control, and OP1046 - Site Control, are available to staff members at any time through our internal site. Operating procedures can be provided to any external party at any time upon request.

12.1 GENERAL SITE CONTROL INFORMATION

One of the main goals of a site control plan is to establish procedures that minimize potential exposure to hazardous substances that workers may encounter before the initiation of a project as described by 29 CFR 1910.120 (d)(1). Understanding the site control program is crucial in the event of an emergency. The degree of site control required depends on site characteristics, site size, and the surrounding community. The information provided below identifies all elements used to control the activities and movements of people and equipment at the project site.

12.2 SITE MAP WITH DESIGNATED WORK ZONES

See project-specific JHAs for site map with identified work zones and exit locations. Language to support JHA development related to site control can be found in Appendix B – Physical Hazards.

12.3 SITE COMMUNICATIONS

Haley & Aldrich encourages all staff members to communicate face to face with one another. If face-to-face communication is not feasible, conversation over cellular phones is acceptable. Haley & Aldrich does provide other forms of communication to staff members, such as satellite phones, radios, or walkie-talkies, when this is necessary. If staff are entering areas where hearing is of concern due to noise, PPE, or other reasons, staff will develop agreed upon hand signals to communicate.

12.4 LOCATION OF MEDICAL ASSISTANCE

See project-specific JHA for information about, and route to, the nearest medical facility. Additional emergency contact information can also be accessed on the same JHA.

13. EMERGENCY RESPONSE PLAN

13.1 EMERGENCY RESPONSE PLANS

Emergency Response Plans are developed prior to the beginning of work for all uncontrolled hazardous waste sites. Emergency response plans help facilitate anticipated emergencies on hazardous waste sites by providing clear direction for a course of action when each anticipated emergency occurs. Additionally, emergency response plans inform staff members of safe practices surrounding other hazards on the project, such as safe distances from machinery, and site security.

The major categories of emergencies that could occur during project work are:

- Fire(s)/Combustion
- Hazardous Materials Event
- Medical Emergency
- Natural Disaster

A detailed list of emergency types and response actions are summarized in Appendix E – Emergency Recognition And Prevention. Emergency response plans are included in the project-specific JHA.

13.2 HALEY & ALDRICH AS THE CONTROLLING EMPLOYER

Haley & Aldrich has developed the following Emergency Response plan to adhere to the requirements specified in 20 CFR 1910.120(l). This plan is applicable to all project sites where Haley & Aldrich is designated as the controlling employer of a project.

13.2.1 Pre-Emergency Planning

Before the start of field activities, the PM must prepare for emergencies to include the following:

- Meet with the controlling employer, subcontractor, or client to discuss emergency procedures in the event a person is injured.

- Develop, review, and communicate actions for specific scenarios, which will be incorporated into the project-specific JHA.
- The SSO will establish evacuation routes and assembly areas for the sites.
- All personnel entering the site, including subcontractors and visitors, will be informed of evacuation routes and assembly areas. Emergency response documents will be available for all to access on site. Additional copies can be provided upon request.
- Haley & Aldrich staff members should perform an emergency drill during the initial stages of the project. This can either be a physical drill performed by the field staff members while on the project site, or a step-by-step walkthrough of where to go and what to do with the entire project team on a call prior to beginning the work.

13.2.2 Personnel, Roles, Lines of Authority, and Communication

Site personnel must be trained on the use of the site emergency communication plan during site orientation. Emergency telephone numbers are accessible in the project-specific JHA. The SSO is responsible for establishing the communication network and discussing it with all staff prior to the start of work. This includes signals agreed upon to identify emergency situations which will be documented in the project-specific JHA. It is the responsibility of the SSO to regularly remind staff of the lines of communication, and ensure subcontractors are aware and understand the meaning of each form of communication.

In the event of an emergency, work must be stopped, and site personnel must be notified of the situation immediately. The scene should be surveyed to determine next steps. The Haley & Aldrich SSO will follow the procedure listed below:

- Evaluate the incident and assess the need for assistance and/or evacuation.
- Take appropriate measures to stabilize the incident scene.
- Assign roles and responsibilities for emergency response, as needed.
- Contact applicable Emergency Services if necessary.
- Notify other members of the project team (PM, RSM, Field Service Manager).

13.2.3 Safe Distances and Places of Refuge

Safe distances and places of refuge will be identified in the project-specific JHA.

13.2.4 Site Security and Control

Site security and control will be identified in the project-specific JHA.

13.2.5 Evacuation Routes and Procedures

Evacuation routes will be highlighted on the site map included in the project-specific JHA and discussed regularly during work kickoff meetings. Emergency procedures will be developed as part of the project documents.

13.2.6 Emergency Medical Treatment and First Aid

Haley & Aldrich field staff are trained in First Aid/CPR/AED use. Emergency services will be contacted immediately if an injury greater than first aid is required. Minor injuries to Haley & Aldrich staff that only require first aid should be addressed on site, reported to the SSO and other members of the project team, and then managed by Acuity. Minor injuries to contractors should be reported to the SSO, addressed on site, and then be managed by the contractor themselves.

13.2.7 Emergency Alerting and Response Procedures

In the event of an emergency, Haley & Aldrich will communicate with everyone on site. Emergency Response procedures will regularly be reviewed during morning tailgate meetings, and other scheduled & unscheduled project communication. In instances where emergency services are required, they will be contacted immediately and supported from the time they arrive on site until the emergency has been addressed.

13.2.8 PPE and Emergency Equipment

Haley & Aldrich provides all staff members with OSHA-approved first aid kits. Additional emergency response PPE and equipment is identified in project-specific or task-specific JHAs.

13.2.9 Critiques of Response and Follow-Up

Haley & Aldrich will exercise the use of reporting, incident investigation, and root cause analysis to identify learning opportunities related to emergency response. Any findings from the incident investigation or root cause analysis process will be used to improve emergency response plans for the project where the incident occurred, if still active, and for future emergency response plans on all other projects.

13.3 MULTI-EMPLOYER PROJECT SITES

Haley & Aldrich is often not the controlling employer on project sites. When a project requires a staff member to enter or work on a site where there are multiple employers, the project team must review the controlling employer's emergency response plan and incorporate the required information into our own emergency response plan.

The following information should be identified in the controlling employer's emergency response plan, and be incorporated into our own plan and procedures:

- Evacuation Alarm;
- Evacuation Routes;
- Evacuation Response Drills;
- Contractors written emergency and contingency plans;
- Discuss exit routes and fire extinguisher locations; and
- Confirm presence and access to emergency response supplies.

13.3.1 Procedures for Reporting a Fire or Other Emergency

- Haley & Aldrich requires staff members to discuss reporting procedures on the JHA Cover Page.
- In the event of a fire or other emergency, staff must immediately evacuate or remove themselves from the dangerous situation.
- Once in a safe location, staff should contact 911 if a life-threatening situation is present. If not:
- The staff member should immediately contact the safety coordinator of the controlling employer and follow their direction.

13.3.2 Procedures for Emergency Evacuation

Haley & Aldrich requires staff members to incorporate a site map into the project-specific JHA documents that designates work zones, and highlights emergency exit routes.

13.3.3 Procedures to Account for All Staff After an Evacuation

Staff members are responsible for knowing what other Haley & Aldrich staff are on the same project site at a time. The staff should first contact the other staff on site, and then contact the PM to confirm all staff are accounted for.

13.3.4 Procedures for Staff Performing Rescue or Medical Duties

If extensive rescue or medical duties are needed, staff are to call Acuity for non-emergency situations (1-888-397-8099), or 911 for emergency situations. Haley & Aldrich staff members are not to perform extensive rescue or medical duties.

13.3.5 Name or Title of Who is Responsible for the Plan

The PM is the responsible party for all aspects of the project. If a staff member does not think the project documents are sufficient, they can reach out to the PM or Health & Safety.

14. DECONTAMINATION AND DISPOSAL METHODS

14.1 GENERAL DECONTAMINATION AND DISPOSAL INFORMATION

All possible and necessary steps shall be taken to reduce or minimize contact with chemicals and contaminated/ impacted materials while performing field activities. 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 outside designated work zones. Any procedures developed will be communicated to staff members and implemented before any staff members or equipment may enter areas on site where potential for exposure to hazardous substances exists.

All staff members leaving a contaminated area shall be appropriately decontaminated, and all contaminated clothing and equipment leaving a contaminated area shall be appropriately disposed of or decontaminated.

Decontamination areas and procedures will change from site to site, and it is the responsibility of the field staff, the PM, and Health & Safety to communicate with the Controlling Employer to understand appropriate procedures for each site. If procedures are changed as a result of inspection and monitoring, all affected staff are to be notified of these changes.

14.1.1 Required Information for Projects

Decontamination will be specific to each project. PMs and their teams are expected to incorporate the following information into the project-specific JHA.

- Location of decontamination areas
  - Geographical areas designated for decontamination that will minimize exposure of uncontaminated staff members and equipment.
- Equipment and solvents to be used for decontamination, such as, but not limited to:
  - Acetone
  - Alconox soap
  - Brushes
  - Disposal bags
  - 5-gallon buckets
  - Distilled water
  - Drums
  - Hexane
  - Methanol
  - Paper towels
  - Polyethylene sheeting
  - Pressure/steam cleaner
  - Tap water
  - Wash tubs
- Showers and change rooms
  - If temperature conditions prevent the effective use of water, then other effective means for cleansing shall be provided and used.
  - Establishing showers and changing rooms are the responsibility of the Controlling Employer.
- Disposal methods
  - Procedures for disposal of contaminated materials, decontamination waste, and single use PPE shall meet applicable client, local, state, and federal requirements.
  - PPE that is not grossly contaminated can be bagged and disposed in regular trash receptacles.
  - PPE that is grossly contaminated must be bagged and sealed, and field personnel should communicate with the PM to determine proper disposal.

14.1.1.1 Personal Hygiene Safeguards

PMs must also make staff members aware of the following minimum personal hygiene safeguards that shall be adhered to:

- No smoking or tobacco products in any project work areas.
- No eating or drinking in the exclusion zone.
- It is required that personnel present on site wash hands before eating, smoking, taking medication, chewing gum/tobacco, using the restroom, applying cosmetics, and before leaving the site for the day.

It is recommended that personnel present on site shower or bathe at home at the end of each day of working on the site.

14.1.1.2 Unauthorized Staff Members

PMs must make staff members aware of who is performing work that requires the staff member to follow decontamination processes. All other staff members are considered unauthorized staff and shall not perform HAZWOPER work. Unauthorized staff are not to remove protective clothing or equipment from change rooms or enter any decontamination areas.

14.1.2 Personal Protective Equipment and Clothing

Protective clothing and equipment shall be decontaminated, cleaned, laundered, maintained, or replaced as needed to maintain their effectiveness. Staff members whose non-impermeable clothing becomes wetted with hazardous substances shall immediately remove that clothing and proceed to shower. The clothing shall be disposed of or decontaminated before it is removed from the work zone. See Section 14.1.1 Equipment and solvents to be used for decontamination, and Standard Personal Decontamination Procedures below for more information on general decontamination processes. All information must be communicated to staff members before the start of the project, and as any changes are made to the decontamination process.

Commercial laundries or cleaning establishments that decontaminate protective clothing or equipment shall be informed of the potentially harmful effects of exposures to hazardous substances.

14.2 STANDARD PERSONAL DECONTAMINATION PROCEDURES

Outer gloves and boots should be decontaminated periodically as necessary and at the end of the day. Brush off solids with a hard brush and clean with soap and water or another appropriate cleaner whenever possible. Remove inner gloves carefully by turning them inside out during removal. Wash hands and forearms frequently. It is good practice to wear work-designated clothing while on-site which can be removed as soon as possible. Non-disposable overalls and outer work clothing should be bagged onsite prior to laundering. If gross contamination is encountered on-site, contact the PM and RSM to discuss proper decontamination procedures.

The steps required for decontamination will depend upon the degree and type of contamination but will generally follow the sequence below.

1. Rinse boots and gloves of gross contamination.
2. Scrub boots and gloves clean.
3. Rinse boots and gloves.

4. Remove outer boots (if applicable).
5. Remove outer gloves (if applicable).
6. Remove and wipe clean hard hat.
7. Remove Tyvek coverall (if applicable).
8. Remove respirator, wipe clean and store (if applicable).
9. Remove inner gloves (if outer gloves were used).

PPE that is not grossly contaminated can be bagged and disposed in regular trash receptacles.

14.3 SMALL EQUIPMENT DECONTAMINATION

Pretreatment of heavily contaminated equipment may be conducted as necessary:

1. Remove gross contamination using a brush or wiping with a paper towel.
2. Soak in a solution of Alconox and water (if possible).
3. Wipe off excess contamination with a paper towel.

Standard decontamination procedure:

1. Wash using a solution of Alconox and water.
2. Rinse with potable water.
3. Rinse with methanol (or equivalent).
4. Rinse with distilled/deionized water.

Inspect the equipment for any remaining contamination and repeat as necessary.

14.4 MONITORING THE EFFECTIVENESS OF DECONTAMINATION PROCEDURES

Project teams and Health & Safety are responsible for routinely auditing the effectiveness of decontamination procedures through regular site visits and project audits. Visual examination is used to ensure that procedures are implemented as described, and that they appear to control the spread of contaminants under changing conditions.

Air samples can be taken in the clean zone to ensure that airborne contaminants have not spread to clean areas of the facility. Surface samples can be taken from the inside surfaces of PPE, from decontaminated equipment, and from surfaces within clean areas of the facility to ensure that decontamination and control procedures are performing as anticipated.

Results of the inspections of decontamination procedures and documentation of any action taken to correct deficiencies are recorded and stored in Health & Safety's reporting tool.

15. PERMIT-REQUIRED CONFINED SPACE ENTRY

15.1 GENERAL CONFINED SPACE INFORMATION

OSHA defines a confined space as a space that is large enough for an staff member to enter, limited means of entry and exit, and not designed for continuous staff member occupancy. Examples of these spaces include manholes, stacks, pipes, storage tanks, pits, sumps, hoppers, and bins. Before any staff are allowed to enter or

even break the plane of a confined space, OSHA requires that a competent person is responsible for determining whether the confined space is a Permit-Required Confined Space (PRCS), using the OSHA decision flow chart found in 29 CFR 1910.46 Appendix A. An RSM must be contacted if you will be breaking the plane (putting any body part inside the entrance of a confined space) or entering a confined space.

15.2 PERMIT-REQUIRED CONFINED SPACE INFORMATION

PRCS are confined spaces where potential hazards like hazardous atmospheres, engulfment, or oxygen deficiency are present, requiring a formal permit to be issued before anyone can enter, ensuring proper safety procedures are followed and monitored by designated personnel. Haley & Aldrich maintains a PRCS program to identify and inform the involved staff members of the specific hazards of the PRCS. Before Haley & Aldrich staff are allowed to break the plane of a PRCS, the RSM must be engaged to oversee the permitting process. For more information on confined space entry, see OP1060 – Confined Space Entry.

15.2.1 Hazardous Atmosphere Permit-Required Confined Spaces

Haley & Aldrich develops and implements a monitoring and inspection plan for every confined space where Hazardous Atmosphere is a concern. If the confined space has an actual or potential hazardous atmosphere, including oxygen deficiency, it is a PRCS and staff must implement a monitoring and inspection plan, along with other requirements specified in OP1060 – Confined Space Entry. This includes the following steps.

- All conditions that make it unsafe to remove the entrance cover to the confined space will be eliminated before the cover is removed.
- After removal of the cover, the entrance to the confined space will be marked and guarded to prevent accidental fall through of individuals or other foreign objects.
- Before a staff member enters the space, the atmosphere will be tested for oxygen content, flammable gases and vapors, and potential toxic air contaminants, in that order.
- Any entrants will observe this testing process.
- Staff will not enter spaces that contain a hazardous atmosphere, nor remain in the space if a hazardous atmosphere is subsequently detected.
- Continuous forced air ventilation will be utilized according to the requirements specified in 29 CFR 1910.146 (c)(5)(ii)(E).
- The confined space will be tested for hazardous atmosphere continuously to ensure the forced air ventilation is functioning properly.
- Staff members will leave the confined space immediately if hazardous atmosphere is detected.
- An attendant must always be present when staff are in a confined space.

In the event of a change to the PRCS, whether it be reason for entry or presence of hazards, Haley & Aldrich staff members will immediately contact the RSM, who may reclassify the confined space, or stop work until it is safe to continue.

15.2.2 Permit-Required Confined Space Hazards Additional to Atmosphere

All PRCS entries with hazards other than or additional to hazardous atmosphere will also require the development of a PRCS entry permit. Other hazards include, but are not limited to engulfment, entrapment, drowning, and electrical hazards. Each PRCS entry is project-specific and is governed by a permit that must be complete prior to entry. All PRCS programs will adhere to the OSHA requirements provided in 29 CFR 1910.146 (d).

15.3 WHEN HALEY & ALDRICH IS NOT THE CONTROLLING EMPLOYER ON SITE

When Haley & Aldrich is not the controlling employer, and staff members are required to enter a confined space, the following protocol will be followed as detailed in 29 CFR 1910.146 (c)(8).

- Haley & Aldrich staff will be sure to complete the necessary permits required by the controlling employer and adhere to the requirements specified on the permit.
- Ensure that all of the hazards present in the confined space are clearly communicated with the Haley & Aldrich Staff Member.
- Communicate an entry, work, and exit plan with the contractor for the planned work inside the confined space.
- Debrief with the controlling employer following exit from the confined space.

15.4 CONFINED SPACE TRAINING

All Haley & Aldrich staff members will receive the proper training prior to being assigned the work that is specified in 29 CFR 1910.146 (g). All staff member training certificates can be provided upon request.

16. SPILL CONTAINMENT PROGRAM

16.1 POTENTIAL SOURCES

This section describes the potential for hazardous substance spills at this site, and procedures for controlling and containing such spills. Haley & Aldrich will ensure that spill containment planning is conducted, and appropriate control measures are established, consistent with regulatory requirements.

16.1.1 Handling Drums

Only employees who have completed U.S. Department of Transportation (DOT) certification training can handle drums. If you do not maintain the appropriate training, or you training has expired, please complete a training request ticket to H&S to be enrolled in a new DOT training course.

Hazardous substances and contaminated soils, liquids, and other residues shall be handled, transported, labeled, and disposed of in accordance with the following procedures:

- Drums and containers used during the clean-up shall meet the appropriate DOT, OSHA, and EPA regulations for the wastes that they contain.

- When practical, drums and containers shall be inspected, and their integrity shall be assured prior to being moved. Drums or containers that cannot be inspected before being moved because of storage conditions (i.e., buried beneath the earth, stacked behind other drums, stacked several tiers high in a pile, etc.) shall be moved to an accessible location and inspected prior to further handling.
- Unlabeled drums and containers shall be considered to contain hazardous substances and handled accordingly until the contents are positively identified and labeled.
- Site operations shall be organized to minimize the number of drums or containers moved.
- Prior to movement of drums or containers, all staff members exposed to the transfer operation shall be warned of the potential hazards associated with the contents of the drums or containers.
- U.S. Department of Transportation specified salvage drums or containers, and suitable quantities of proper absorbent shall be kept available and used in areas where spills, leaks, or ruptures may occur.
- Where major spills may occur, a spill containment program shall be implemented to contain and isolate the entire volume of the hazardous substance being transferred.
- Drums and containers that cannot be moved without rupture, leakage, or spillage shall be emptied into a sound container using a device classified for the material being transferred.
- A ground-penetrating system or other type of detection system or device shall be used to estimate the location and depth of buried drums or containers.
- Soil or covering material shall be removed with caution to prevent drum or container rupture.
- Fire extinguishing equipment shall be on hand and ready for use to control incipient fires.

16.1.2 Opening Drums and Containers

The following procedures shall be followed in areas where drums or containers are being opened:

- Where an airline respirator system is used, connections to the source of air supply shall be protected from contamination and the entire system shall be protected from physical damage.
- Staff members not actually involved in opening drums or containers shall be kept a safe distance from the drums or containers being opened.
- If staff members must work near or adjacent to drums or containers being opened, a suitable shield that does not interfere with the work operation shall be placed between the staff member and the drums or containers being opened to protect the staff member in case of accidental explosion.
- Controls for drum or container opening equipment, monitoring equipment, and fire suppression equipment shall be located behind the explosion-resistant barrier.
- When there is a reasonable possibility of flammable atmospheres being present, material handling equipment and hand tools shall be of the type to prevent sources of ignition.
- Drums and containers shall be opened in such a manner that excess interior pressure will be safely relieved. If pressure cannot be relieved from a remote location, appropriate shielding shall be placed between the staff member and the drums or containers to reduce the risk of staff member injury.
- Staff members shall not stand upon or work from drums or containers.

16.1.2.1 Material Handling Equipment

Material handling equipment used to transfer drums and containers shall be selected, positioned, and operated to minimize sources of ignition related to the equipment from igniting vapors released from ruptured drums or containers. Any material handling equipment necessary must be selected and identified in project documents, communicated with staff members performing the work, and readily available for work.

16.1.3 Radioactive Wastes

- Drums and containers containing radioactive wastes shall not be handled until their hazard to staff members is properly assessed.
- If handling radioactive wastes is necessary, staff members must coordinate with Health & Safety to ensure that proper controls are in place to mitigate as much exposure as possible.

16.1.4 Shock-Sensitive Wastes

- Drums and containers containing shock sensitive wastes shall not be handled until their hazard to staff members is properly assessed.
- If handling shock sensitive wastes is necessary, staff members must coordinate with Health & Safety to ensure that proper controls are in place to mitigate as much exposure as possible.

16.1.5 Laboratory Waste Packs

The following precautions shall be taken, as a minimum, when handling laboratory waste packs (lab packs):

- Lab packs shall be opened only when necessary and then only by an individual knowledgeable in the inspection, classification, and segregation of the containers within the pack according to the hazards of the wastes.
- If crystalline material is noted on any container, the contents shall be handled as a shock-sensitive waste until the contents are identified.

16.1.6 Sampling of Drum and Container Contents

Sampling of containers and drums shall be done in accordance with a sampling procedure which is part of the project-specific JHA.

16.1.7 Shipping and Contents

Drums and containers shall be identified and classified prior to packaging for shipment. Identifying, classifying, and signing manifests for drums and containers requires training and an agency agreement to be in place. Before assigning staff members to perform this work, PMs must ensure staff have the proper training. Drum or container staging areas shall be kept to the minimum number necessary to identify and classify materials safely and prepare them for transport. Staging areas shall be provided with adequate access and egress routes. Bulking of hazardous wastes shall be permitted only after a thorough characterization of the materials has been completed.

16.1.8 Tank and Vault Procedures

Appropriate tank or vault entry procedures shall be identified and followed as outlined in project-specific JHAs, and must be developed in compliance with confined space entry requirements outlined in Section 15 Confined Space Entry.

16.2 SITE EVALUATION

All spills on the site are considered hazardous before they are evaluated. If an evaluation of the site and hazards present has been conducted, and the project team has determined that there is little if any potential for a hazardous substance spill of a sufficient quantity to require containment planning, equipment, and procedures, then no spill containment procedures will be required at the site. Spill containment kits should still be made available on site in the event an unforeseen incident occurs or there is a release from a piece of operation equipment. Staff members must always be trained on how to respond if there has been a potential spill, including any Controlling Employer requirements.

If following an evaluation it is determined there is the potential for a hazardous spill on site, then the spill containment procedures must be followed. The general outline below is to be followed and used to develop site-specific spill containment through JHAs. JHAs for spill containment should include but will not be limited to:

- Potential hazardous substances, their locations, and available controls
- Available spill containment equipment
- Initial notification and response
- Spill evaluation and response
- Post spill evaluation.

16.3 POTENTIAL SPILLS AND AVAILABLE CONTROLS

If there is potential for a hazardous spill on site, all site personnel are trained in the contents of their project-specific spill containment program and their roles and responsibilities during spill response operations. This information is to be outlined in the project-specific JHA and communicated with all staff at initial assignment and whenever there are changes in the process, hazards, or responsibilities. Project teams must identify the location and type of potential hazardous substance spills at this site. The project-specific JHA must also describe the activities or situations in which an accidental spill could occur and whether an emergency response is likely to be needed.

Where spills, leaks, or ruptures can occur, this site must have suitable quantities of proper absorbent and DOT-specified salvage drums and containers. In addition, all areas subject to potential spills are diked or a means to adequately dike these areas in the event of a spill is available so that the entire volume of the spilled hazardous substance can be contained and isolated. The type and location of spill containment equipment must also be outlined in the project-specific JHA.

16.4 INITIAL SPILL NOTIFICATION AND RESPONSE

Any staff member who discovers a hazardous substance spill must immediately notify the designated site contact, their PM, and RSM. The staff member, to their ability, shall report the following information:

- Hazardous substance involved.
- Location of the spill.
- Estimated quantity of substance spilled, the direction/flow of the spill material, related fire/explosion incidents, and any associated injuries.

16.5 SPILL EVALUATION AND RESPONSE

A member of the Health & Safety Team is responsible for working with project teams to evaluate hazardous substance spills and determine the appropriate response. When the hazardous substance spill evaluation is being made, the spill area is isolated to the greatest extent possible.

When an incidental release occurs, cleanup personnel receive instructions in a pre-cleanup meeting as to spill conditions, PPE, response activities, decontamination, and waste handling. The procedures of the Emergency Response section of this HASP are immediately implemented when the spill is determined to require emergency precautions and action. If necessary to protect those outside the cleanup area, notification of the appropriate authorities is made.

The following are general measures that must be considered for response/cleanup personnel to take when responding to a spill:

- To minimize the potential for a hazardous spill, hazardous substances, control/absorbent media, drums and containers, and other contaminated materials must be properly stored and labeled.
- When a spill occurs, only those persons involved in overseeing or performing spill containment operations will be allowed within the designated hazard areas. If necessary, the area will be roped or otherwise blocked off. Unauthorized personnel are kept clear of the spill area.
- Appropriate PPE is donned before entering the spill area.
- Appropriate spill control measures are applied during spill response.
- Whenever possible without endangerment to personnel, the spill is stopped at the source or as close to the source as possible.
- Ignition points are removed if fire or explosion hazards exist.
- Surrounding reactive materials are removed.
- Drains or drainage in the spill area is blocked or surrounded by berms to exclude the spilled waste and any materials applied to it.
- Provisions are made to contain and recover a neutralizing solution, if used.
- Small spills or leaks from a drum, tank, or pipe will result in the establishment of an evacuation zone to allow cleanup and to prevent staff member exposure. For small spills, sorbent materials are placed directly on the spill to prevent further spreading and aid in recovery.

- The spill area is sprayed with appropriate foam where the possibility of volatile emissions exists.
- If the spill results in the formation of a toxic vapor cloud from vaporization, reaction with surrounding materials, or the outbreak of fire, further evacuation may be required.
- To dispose of spill waste, all contaminated sorbents, liquid waste, or other spill cleanup will be placed in small quantities in approved drums for proper storage or disposal as hazardous waste.
- For more information on specific spill containment plans, please refer to project documents.

16.6 POST SPILL EVALUATION

At the conclusion of cleanup operations, documentation of spill response report must be prepared through our appropriate forms on our Forms, Audits, and Checklists page on the Health & Safety Intranet. The report includes, at a minimum, the following information:

- Date of spill incident.
- The hazardous substance(s) released.
- The quantity released.
- The location of the release.
- The effect of the release.
- Cause of incident.
- Spill response actions.
- Who responded.
- Spill equipment used.
- How the spill material was discarded or contained.
- Any outside agencies involved, including their incident reports.
- Lessons learned or suggested improvements.

The spill area is inspected for residual contaminants to determine whether safety and environmental requirements are met. The use of surface and air sampling is utilized in this determination as necessary. The root cause of the spill is examined, and corrective steps must be taken to ensure the engineering and control measures in place have performed as required. If alternative precautions or measures are needed, they are made available and implemented.

All durable equipment placed into use during cleanup activities must be decontaminated, as specified in this section, for future utilization. All spill response equipment and supplies are restocked as required.

APPENDIX A – CHEMICAL HAZARDS

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
Metals			
Antimony	50 mg/m^3	0.5 mg/m^3 0.5 mg/m^3 0.5 mg/m^3	***Skin:*** Irritation ***Eye:*** Irritation ***Respiratory Tract:*** Nose and throat irritation, cough, loss of smell ***Gastrointestinal:*** Nausea, vomiting, diarrhea, stomach cramps
Arsenic	5 mg/m^3	0.01 mg/m^3 0.01 mg/m^3 0.002 mg/m^3 Known human carcinogen.	***Skin:*** Irritation, burning, itching and rash. Contact dermatitis is possible. ***Eye:*** Red, watery eyes and irritation. Conjunctivitis may occur in some people. ***Lung:*** Nose and throat irritation, and possible nasal perforation. ***CNS:*** Can cause nausea, poor appetite, vomiting, and muscle cramps, cognitive impairments and peripheral neuropathy.
Barium (and soluble compounds, as Ba, except barium sulfate)	50 mg/m^3 (as Ba)	0.5 mg/m^3 (as Ba) 0.5 mg/m^3 (as Ba) 0.5 mg/m^3 (as Ba).	***Skin:*** Irritation. Skin burns may be possible. ***Eye:*** Irritation, itching, and burning on contact ***Lung:*** Upper respiratory irritation. **Other:** Gastroenteritis; muscle spasms; slow pulse; extrasystoles; hypokalemia.
Beryllium	4.0 mg/m^3 (as Be)	0.002 mg/m^3 (as Be) 0.002 mg/m^3 (as Be) 0.0002mg/m^3 proposed TLV 0.0005 mg/m^3 (as Be, ceiling) Probable human carcinogen.	***Skin:*** Severe irritation. Skin ulcers may be possible. ***Eye:*** Severe irritation, itching, and burning on contact. Sometimes an allergic eye problem develops, breaking out again with future exposures. ***Lung:*** Over-exposure can severely irritate the airways and lungs, causing nasal discharge, tightness in the chest, cough, shortness of breath, and/or fever. Future exposures can cause further attacks. Death can occur in severe cases. High level acute exposures can lead to pneumonitis.

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
Cadmium	9.0 mg/m^3	0.005 mg/m^3 (Cd dust) 0.01 mg/m^3 (Cd dust) Reduce to lowest possible level. Known human carcinogen.	***Skin:*** Possible irritation may occur. ***Eye:*** Irritation and possible damage on contact. ***Lung:*** High exposures can cause rapid and severe lung damage, with shortness of breath, chest pain, cough, and a possible buildup of fluids in the lungs (pulmonary edema), which is a medical emergency. In serious cases, death or permanent lung damage can occur. Illness can be delayed for 48 hours, allowing over-exposures to occur without warning signs. ***Other:*** High exposure to cadmium may cause nausea, cramps, salivation, vomiting and diarrhea.
Chromium	250 mg/m^3 (as Cr)	1.0 mg/m^3 (as Cr) 0.5 mg/m^3 (as CrIII) 0.5 mg/m^3 (as CrIII) Hexavalent chromium is a known human carcinogen via inhalation.	***Skin:*** Irritation, rash and possible dermatitis. ***Eye:*** Chromium particles can irritate the eyes. ***Lung:*** Inhalation of chromium may cause a condition known as “metal fume fever” (flu-like symptoms).
Cobalt	20 mg/m^3 (as Co)	0.10 mg/m^3 0.02 mg/m^3 0.05 mg/m^3	***Skin***: Dermatitis. ***Lung***: Cough, shortness of breath, wheezing, respiratory hypersensitivity, asthma
Copper (dusts and mists, as Cu, except copper fumes)	100 mg/m^3 (as Cu)	1.0 mg/m^3 (as Cu) 1.0 mg/m^3 (as Cu) 1.0 mg/m^3 (as Cu)	***Skin:*** Irritation, rash and possible dermatitis. ***Eye:*** Red, watery eyes and irritation ***Lung:*** Irritation of nose, pharynx; possible perforation of the nasal septum
Lead	100 mg/m^3 (as Pb)	0.05 mg/m^3 (as Pb) 0.05 mg/m^3 (as Pb) 0.05 mg/m^3 (as Pb)	***Skin:*** Irritation/scratching on contact with particles. ***Eye:*** Irritation/scratching on contact with particles. ***Lung:*** Possible irritation of the nose, throat, and lungs following exposure to fibers and dusts.
Manganese	500 mg/m^3	5 mg/m^3 0.2 mg/m^3 1 mg/m^3	***Lung:*** Cough, dry throat, breathing difficulty, chest tightness, flu-like fever. ***Gastrointestinal (ingestion route):*** Abdominal pain, nausea, vomiting.

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
Mercury	10 mg/m^3 (as Hg)	0.1 mg/m^3 (skin) 0.025 mg/m^3 (skin) 0.1 mg/m^3 (skin)	***Skin:*** Irritation, rash, dermatitis, and possible redness and the appearance of small blisters. Dermal absorption will cause toxic systemic effects. ***Eye:*** Irritation, inflammation, watering, swelling, conjunctivitis. ***Lung:*** Inhalation of mercury vapors may cause irritation of the mucous membranes in the respiratory tract causing cough, phlegm, and lung tissue irritation leading to bronchitis, pneumonitis, and even delayed pulmonary edema.
Nickel	10 mg/ m^3	1.0 mg/m^3 1.5 mg/m^3 0.015 mg/m^3	***Skin:*** Irritation/scratching on contact with dusts. May cause "nickel itch" or nickel dermatitis. ***Eye:*** Irritation and scratching with possible progression to conjunctivitis. ***Lung:*** Irritation of the nose, throat and lungs on exposure to powders and dusts.
Selenium	1 mg/m^3	0.2 mg/m^3 0.2 mg/m^3 0.2 mg/m^3	***Skin:*** Irritation, burns, dermatitis ***Eye:*** Irritation and burns ***Respiratory Tract:*** Nose and throat irritation, shortness of breath, bronchitis ***Other:*** Metallic taste, garlic breath, GI disturbance
Silica	25-50 mg/m^3 (suspected human carcinogen)	10 mg/m^3 % SiO_2 +2 (respirable dust) 0.05 mg/m^3 (respirable dust) 0.05 mg/m^3	***Eye:*** Irritation. ***Lung:*** Cough, dyspnea (breathing difficulty), wheezing.
Silicon	ND	15 mg/m^3 (total dust) 10 mg/m^3 (total dust) 10 mg/m^3 (total dust)	***Skin:*** Irritation and possible rash upon contact with skin (contact dermatitis). ***Eye:*** Severe irritation and possible inflammation. ***Lung:*** Irritation of the nose, throat, and lungs following exposure. Can cause coughing, dyspnea, nausea and headache.
Silver	10 mg/m^3 (as Ag)	0.01 mg/m^3 0.01 mg/m^3 0.01 mg/m^3	***Skin:*** Irritation and ulceration. ***Eye:*** Whites of eyes turn blue/gray eyes. ***Respiratory:*** Nose and throat irritation.

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
Thallium (soluble compounds as Tl)	15 mg/m^3 (as Tl)	0.01 mg/m^3 (as Tl) 0.01 mg/m^3 (as Tl) 0.01 mg/m^3 (as Tl)	***Eye:*** Irritation ***GI Tract***: Nausea, diarrhea, vomiting, metallic taste in mouth ***Respiratory***: Pulmonary edema ***CNS****:* Perineuritis, tremor, convulsions, psychosis. ***Other***: Ptosis, strabismus, chest tightness, chest pain, chorea, potential liver and kidney damage; alopecia
Zinc (as zinc oxide dust)	500 mg/m^3 (as ZnO dust)	15 mg/m^3 (total dust) 5 mg/m^3 (respirable dust) 5 mg/m^3 (TWA) 15 mg/m^3 (Ceiling) 2 mg/m^3 (TWA) 10 mg/m^3 (STEL)	***Respiratory***: Dry throat, cough, chest tightness, decreased pulmonary function. ***GI Tract*****:** Nausea, metallic taste in mouth, vomiting ***CNS****:* Blurred vision, malaise. ***Other***: Fever, chills, muscle aches, headaches, lower back pain, difficulty breathing,
BTEX			
Benzene	500 ppm	1.0 ppm 0.5 ppm ppm Known human carcinogen.	***Skin:*** Irritation with potential for redness, blistering and burning. ***Eye:*** Severe irritation; pain and permanent damage possible. ***Lung:*** Nose, throat and respiratory tract irritation causing difficulty in breathing, possible pulmonary edema (fluid in lungs) on high exposure that can be fatal. ***CNS:*** Confusion, dizziness, tightening of the leg muscles, cranial pressure (headaches), possible coma.
Chlorobenzene	1,000 ppm	75 ppm 10 ppm none	***Skin:*** Irritation with potential for redness and burning. ***Eye:*** Irritation and redness. ***Lung:*** Nose, throat and respiratory tract irritation ***CNS:*** CNS depressant, drowsiness

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
Ethylbenzene	800 ppm	100 ppm 100 ppm 100 ppm	***Skin:*** Irritation with potential for redness, blistering, and serious burning. Chemical will pass through intact skin to cause toxic systemic effects, including narcosis. ***Eye:*** Severe irritation, burning, pain, and permanent damage possible. ***Lung:*** Nose, throat and respiratory tract irritation causing difficulty in breathing, possible pulmonary edema (fluid in lungs) on high exposure. ***CNS:*** Narcosis, headaches, light-headedness, dizziness, vertigo, coma, and death due to respiratory paralysis.
Toluene	500 ppm	200 ppm 50 ppm (skin) 100 ppm	***Skin:*** Severe irritation and possible burns. Will pass through unbroken skin to cause toxic systemic effects (weakness, nausea, collapse, and death). ***Eye:*** Severe irritation with damage and possible loss of vision likely. ***Lung:*** Severe irritation to the respiratory tract and associated mucosa. Can cause weakness, nausea, confusion, collapse, coma, and death (respiratory failure). ***CNS:*** A CNS depressant. Weakness, confusion, mood changes and other personality changes, nausea, collapse. ***Other:*** Ingestion will cause irritation to the gastrointestinal system with nausea, vomiting, convulsions, dyspnea, jaundice, tremor, confusion, and nervousness. Toluene is toxic to the liver and kidneys.

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
Xylene (mixed monomers)	900 ppm	100 ppm 100 ppm 100 ppm	***Skin:*** Irritation with potential for redness, blistering and serious burning. Chemical will pass through intact skin to cause systemic effects, including narcosis. ***Eye:*** Severe irritation, burning, pain, and permanent damage possible. ***Lung:*** Nose, throat, and respiratory tract irritation causing difficulty in breathing, possible pulmonary edema (fluid in lungs) on high exposure. ***CNS:*** Narcosis, headaches, light-headedness, dizziness, vertigo, drowsiness, loss of consciousness, coma, and death due to respiratory paralysis.
Diesel Fuel	ND	-- 100 mg/m^3 --	***Skin:*** Irritation, dermatitis ***Eye:*** Irritation ***Lung:*** Cough, difficulty breathing, nausea, chest tightness ***CNS:*** Lightheadedness, loss of consciousness. ***Other:*** Danger of cutaneous absorption, absorption through the skin may be significant contribution to overall exposure.
Gasoline	--	-- 300 ppm Reduce to lowest level	***Skin:*** Irritation with potential for redness, blistering, burning, and absorption. ***Eye:*** Severe irritation, conjunctivitis, redness, possible pain, and visual disturbance. ***Lung:*** Nose, throat, and respiratory tract irritation causing difficulty in breathing, possible pulmonary edema on high exposure (a medical emergency) that can be fatal. ***CNS:*** Inebriation, dizziness, stupor, hallucinations, slurred speech, mental confusion, loss of consciousness and possible convulsions. ***Other:*** Acute exposure can also lead to acute hemorrhage of the pancreas, fatty degeneration of the liver and kidneys, and congestion of the spleen.

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
Kerosene	ND	Not determined 200 mg/m^3 100 mg/m^3	***Skin:*** Irritation, dermatitis ***Eye:*** Irritation ***Lung:*** Burning sensation in chest, irritation of nose and throat ***CNS:*** Headache, nausea, lassitude, restlessness, incoherence, confusion, drowsiness.
Volatiles			
1,1-Dichloroethane	3,000 ppm	100 ppm 100 ppm 100 ppm	***Skin:*** Irritation. ***CNS:*** Depression. **Other**: Liver, kidney and lung damage.
1,2-Dichloroethane (Ethylene dichloride)	50 ppm (Ca)	50 ppm 10 ppm 1 ppm	***Skin:*** Irritation with potential for redness, pain, burns, and tissue damage. ***Eye:*** Irritation and smarting of the conjunctiva. Can cause clouding of the cornea (corneal opacity). ***Lung:*** Irritation of the mucous membranes of the nose, throat, and respiratory tract causing possible ulceration, coughing, chest pains, difficulty breathing, and pulmonary edema. ***CNS:*** Depression with headaches, light-headedness, dizziness, nausea, vomiting, diarrhea, narcotic and anesthetic effects.
1,1-Dichloroethene (vinylidene chloride)	ND	-- 5 ppm Not determined	***Skin:*** Irritation ***Eye:*** Irritation ***Respiratory system:*** Irritated throat ***CNS:*** Depressant, with dizziness, headache, nausea.
1,2-Dichloroethene	1,000 ppm	200 ppm 200 ppm 200 ppm	***Eye:*** Irritation ***Lung:*** Irritation ***CNS:*** Depressant
1,4 Dioxane	500 ppm (Ca)	100 ppm 20 ppm 1 ppm	***Skin:*** Irritation ***Eyes:*** Irritation ***Lung:*** Nose and throat irritation ***GI:*** Nausea, vomiting, liver failure ***CNS:*** Drowsiness, headache
2-butanone (MEK)	3,000 ppm	200 ppm 200 ppm 200 ppm	***Skin:*** Irritation, dermatitis ***Eye:*** Irritation ***Resp. System:*** Irritation of upper respiratory tract ***CNS:*** Headache, dizziness, vomiting

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
Acetone	2,500 ppm	1,000 ppm 500 ppm 250 ppm	***Skin:*** Dermatitis ***Eye:*** Irritation ***Respiratory tract:*** Upper respiratory tract irritation ***CNS:*** Headache, dizziness CNS depression
Carbon Disulfide	500 ppm	20 ppm 1 ppm (skin) 1 ppm (skin)	***Skin*****:** Skin burns, dermatitis ***Eye*****:** Ocular changes, burns ***CNS*****:** Dizziness, headache, lassitude, anxiety, Parkinson-like syndrome ***Other*****:** Gastritis ***Target Organs:*** central nervous system, peripheral nervous system, cardiovascular system, kidneys, liver
Carbon Tetrachloride	200 ppm	10 ppm 5 ppm 2 ppm (60 minute STEL)	***Skin:*** Irritation with potential for redness, drying and cracking. ***Eye:*** Irritation with tearing and burning. ***Lung:*** Irritation of the mucous membranes of the nose, throat, and respiratory tract. ***CNS:*** Depression of the CNS with headache, dizziness, confusion. ***GI***: Gastric distress, nausea, vomiting, loss of appetite.
Chloroethane (ethyl chloride)	3,800 ppm	1,000 ppm 100 ppm Handle with caution	***CNS:*** Loss of coordination, inebriation, **GI:** Abdominal cramps **Other:** Cardiac arrhythmia, cardiac arrest, liver and kidney damage
Chloroform	500 ppm	50 ppm 10 ppm Reduce to lowest level	**Skin:** Irritation ***Eyes:*** Irritation ***Central Nervous System:*** Dizziness, nausea, confusion, headache, weakness, exhaustion and anesthetic effects.
Chloromethane (methyl chloride)	2,000 ppm	100 ppm (C: 200 ppm) 50 ppm As low as possible –Ca	***Skin:*** Frostbite ***CNS:*** Dizziness, stagger, slurred speech, convulsions, coma **GI:** Nausea, vomiting
Cyclohexane	2,000 ppm	300 ppm 100 ppm 300 ppm	***Skin:*** Redness, dryness, irritation, dermatitis ***Eye:*** Redness, irritation ***Lung:*** Nose and throat irritation, cough, ***CNS:*** Headache, dizziness, weakness, drowsiness, narcosis, coma ***Gastrointestinal:*** Abdominal pain, nausea, vomiting

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
Methyl Isobutyl Ketone (MIBK or Hexone)	500 ppm	100 ppm 50 ppm 50 ppm	***Skin:*** Irritation and dermatitis with possible localized rash and redness. Absorption is likely. ***Eye:*** Irritation with pain and inflammation that can lead to corneal damage and possible visual disturbances. ***Lung:*** Irritation causing coughing and/or shortness of breath. Higher exposures can cause dizziness, headache and, possibly, coma and death. ***CNS:*** A mild to moderate narcotic compound producing neurotoxicity as it is partially metabolized to methanol.
Methyl Tertiary Butyl Ether (MTBE)	ND	TLV- 50 ppm	***Lung:*** Nose and throat irritation. ***CNS:*** Headache, nausea, dizziness, mental confusion.
Methylcyclohexane	1,200 ppm	500 ppm 400 ppm 400 ppm	***Skin:*** Irritation, drying and cracking of exposed areas upon prolonged contact ***Eye:*** Irritation ***Lung:*** Upper respiratory tract irritation ***CNS:*** Dizziness, lightheadedness, drowsiness
Methylene chloride (Dichloromethane)	2,300 ppm	25 ppm 50 ppm Reduce to lowest level	***Skin:*** Irritation with potential for redness, pain, burns and tissue damage. ***Eye:*** Irritation and smarting of the conjunctiva. Can cause tearing, redness and pain. ***Lung:*** Irritation of the mucous membranes of the nose, throat, and respiratory tract causing possible ulceration, coughing, chest pains, difficulty breathing and pulmonary edema. ***CNS:*** Depression with headaches, light-headedness, dizziness, nausea, vomiting, diarrhea, narcotic and anesthetic effects.
Pentachlorophenol	2.5 mg/m^3	0.5 mg/m^3(skin) 0.5 mg/m^3 0.5 mg/m^3	***Skin:*** Dermatitis ***Eye:*** Irritation ***Respiratory Tract:*** Irritation of nose and throat, coughing, sneezing ***CNS:*** Headache, dizziness, lassitude ***GI:*** Nausea, vomiting ***Cardiac:*** chest pain

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
Stoddard Solvent (Mineral Spirits)	20,000 mg/m^3	500 mg/m^3 100 ppm 350 mg/m^3	***Skin:*** Irritation, dermatitis ***Eye*:** Irritation ***Lung:*** Nose and throat irritation. May cause chemical pneumonia if liquid is aspirated. ***CNS:*** Depressive effects. Dizziness. ***Other:*** Kidney damage
Tert-Butyl Alcohol (TBA, 2-Methyl-2-propanol)	1,600 ppm	100 ppm --- 100 ppm	***Skin:*** Irritation ***Eye:*** Irritation ***Respiratory:*** Nose and throat irritation ***CNS:*** Drowsiness, narcosis
Tetrachloroethylene (Perchloroethylene)	150 ppm	100 ppm 25 ppm Lowest possible level	***Skin:*** Moderate irritation with redness and possibly painful inflammation. It will pass through unbroken skin easily to cause toxic systemic effects. ***Eye:*** Severe irritation and burning but rarely causes permanent damage. ***Lung:*** Nose and throat irritation. Produces intoxicating effects and may cause lung effects as well. ***CNS:*** Unconfirmed effects by all routes of exposure. There may be numbness around the lips and mouth, dizziness, loss of coordination, headache, somnolence, slurred speech, flushed face, irregular heartbeat, and other unspecified effects on nervous system functions.
1,1,2,2-Tetrachloroethane	100 ppm	5 ppm 1 ppm 1 ppm	***Skin:*** Moderate irritation with redness and possibly painful inflammation. It will pass through unbroken skin easily to cause toxic systemic effects. Dermatitis is also possible. ***Eye:*** Severe irritation and burning, but rarely causes permanent damage. ***Lung:*** Nose and throat irritation. Produces intoxicating effects and may cause lung effects as well. ***CNS:*** Adverse effects (depression) by all routes of exposure. There may be numbness around the lips and mouth, dizziness, loss of coordination, headache, somnolence, slurred speech, flushed face, irregular heartbeat, and other unspecified effects on nervous system functions.

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
1,1,1-Trichloroethane (Methyl chloroform)	700 ppm	350 ppm 350 ppm 350 ppm	***Skin:*** Irritation with potential for redness, pain, dryness, scaling, cracking, and infection. Dermatitis may occur in some individuals. ***Eye:*** Severe irritation, burning, pain and smarting of the conjunctiva. Permanent damage to visual acuity is possible. ***Lung:*** Nose, throat, and respiratory tract irritation. High concentrations can cause severe irritation. ***CNS:*** Headaches, light-headedness, dizziness, hallucinations, loss of coordination, aggressive behavior, motor changes. Death can occur due to cardiac arrhythmia and possible cardiac arrest.
1,1,2-Trichloroethane	100 ppm	10 ppm 10 ppm 10 ppm	***Skin:*** Irritation ***Eye:*** Irritation ***Respiratory:*** Nose irritation ***CNS:*** Depressant
Trichloroethylene	1,000 ppm	100 ppm 10 ppm 25 ppm	***Skin:*** Moderate irritation with redness and possibly painful inflammation with blisters and burns. It will pass through unbroken skin easily to cause toxic systemic effects. ***Eye:*** Severe irritation and burning with a possibility for injury to the corneal epithelium. ***Lung:*** Nose and throat irritation. Produces intoxicating effects and may cause lung effects such as pulmonary edema (may be fatal). ***CNS:*** Depressive effects by all routes of exposure. There may be numbness around the lips and mouth, dizziness, loss of coordination, headache, somnolence, slurred speech, blurred vision, flushed face, irregular heartbeat, and other effects on nervous system functions. Death can result from cardiac arrest.

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
Vinyl Chloride	--	1 ppm 1 ppm Reduce to lowest level Known human carcinogen.	***Skin:*** Irritation with potential for redness, pain, inflammation and tissue damage (frostbite). ***Eye:*** Severe irritation, burning, pain, and permanent damage possible. ***Lung:*** Nose, throat, and respiratory tract irritation. Symptoms can include dyspnea, asthma, and pneumoconiosis. ***CNS:*** Narcosis, headaches, light-headedness, dizziness, drowsiness, nausea, vomiting, confusion, decreased mental status, possible loss of consciousness, and death (respiratory arrest).
Pesticides			
2,4 Dichlorophenoxy-cetic acid	100 mg/m^3	10 mg/m^3 10 mg/m^3 10 mg/m^3	***Skin***: Dermatitis ***Inhalation***: Irritation of nose and throat; irritation of lungs causing coughing and/or shortness of breath; fluid buildup in lungs; headache; fatigue; muscle weakness and twitching; poor coordination in arms and legs. ***Ingestion***: Nausea, vomiting, sweating, fever, diarrhea, stomach pain, and loss of appetite and weight.
Carbaryl (Sevin)	100 mg/m^3	5 mg/m^3 5 mg/m^3 5 mg/m^3	***Skin***: May cause severe irritation, rash or a burning feeling. Will pass through unbroken skin and enter the bloodstream. ***Eyes***: May cause severe irritation. ***Inhalation***: Can cause blurred vision, sweating, nausea, vomiting and abdominal pain. Higher exposures can cause pulmonary edema and death. ***Ingestion***: Symptoms include nausea, vomiting, diarrhea, abdominal cramps, miosis, lachrymation, and excessive salivation.

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
Chlordane	100 mg/m^3	0.5 mg/m^3 (skin) 0.5 mg/m^3 (skin) 0.5 mg/m^3 (skin)	***Skin:*** Liquid can pass through unbroken skin. Contact may cause irritation and rash. Symptoms of exposure include headache, nausea, abdominal pain, and vomiting. ***Eye:*** Severe irritation and possible damage on contact. ***Lung:*** Irritation of the nose and throat. Breathing vapors can cause cough, convulsions, unconsciousness, and death. ***CNS:*** A central nervous system stimulant. Symptoms include ataxia, excitement, tremors, convulsions, blurred vision, confusion, delirium, and irritability.
Copper sulfate	100 mg/m^3 as Cu	Dust/mist – 1 mg (Cu)/m^3 1 mg (Cu)/m^3 1 mg (Cu)/m^3	**Skin**: Contact may cause smarting and first degree burns, second degree burns on prolonged contact. Can pass through skin and cause toxic systemic effects. **Inhalation**: Irritation of the upper respiratory system, nose and throat. May cause nosebleeds and “metal fume fever” (flu-like illness with chills, aches and cough.) **Ingestion**: Will cause intense pain and local corrosion with hemorrhages, prostration, anuria, hematuria, anemia, coma, and death.
DDT (Dichlorodiphenyl-trichloroethane)	500 mg/m^3	1.0 mg/m^3 (skin) 1.0 mg/m^3 0.5 mg/m^3 (skin)	***Skin:*** Dermatitis associated with DDT is unusual. Most effects from skin contact are internal due to adsorption of liquid solutions containing DDT. Symptoms include vomiting, nausea, malaise, and muscular twitching at high doses (above the PEL). ***Eye:*** Possible irritation. ***Lung:*** Irritation causing coughing and/or shortness of breath. Higher exposures can lead to respiratory problems. ***CNS:*** Dizziness, headaches, nausea, vomiting, muscle jerks, severe seizures, and death.

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
Dieldrin	50 mg/m^3	0.25 mg/m^3 (skin) 0.25 mg/m^3 (skin) 0.25 mg/m^3 (skin)	***Skin:*** Liquid can pass through unbroken skin. Contact may cause irritation and rash. Symptoms of exposure include headache, nausea, abdominal pain, vomiting and CNS stimulation. ***Eye:*** Mild to severe irritation. Absorption through direct eye contact is possible. ***Lung:*** Irritation of the nose and throat. Breathing vapors can cause cough, convulsions, and adverse effects on the liver. ***CNS:*** A central nervous system stimulant. Symptoms include: irritability, blurred vision, tremors, convulsions, and metal confusion.
Endrin	2 mg/m^3	0.1 mg/m^3 (skin) 0.1 mg/m^3 (skin) 0.1 mg/m^3 (skin)	***Skin:*** Liquid can pass through unbroken skin. Contact may cause irritation and rash. Symptoms of exposure include headache, nausea, abdominal pain, vomiting, and CNS stimulation. ***Eye:*** Severe irritation. ***Lung:*** Irritation of the nose and throat. Breathing vapors can cause cough, convulsions, and adverse effects on the liver. ***CNS:*** A powerful central nervous system stimulant. Symptoms of exposure may include agitation, aggressiveness, excitement, tremors, convulsions, blurred vision, mental confusion, delirium, and irritability.
Heptachlor	35 mg/m^3	0.5 mg/m^3 (skin) 0.05 mg/m^3 (skin) 0.5 mg/m^3 (skin)	***Skin:*** Liquid can pass through unbroken skin. Contact may cause irritation and rash. Symptoms of exposure of exposure include headache, nausea, abdominal pain, and vomiting. ***Eye:*** Severe irritation and possible damage on contact. ***Lung:*** Irritation of the nose and throat. Breathing vapors can cause cough, convulsions, unconsciousness, and death. ***CNS:*** A central nervous system stimulant. Symptoms include ataxia, excitement, tremors, convulsions, confusion, delirium and irritability.

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
Lindane	50 mg/m^3	0.5 mg/m^3 (skin) 0.5 mg/m^3 (skin) 0.5 mg/m^3 (skin)	***Skin:*** Liquid can pass through unbroken skin. Contact may cause irritation and rash. Symptoms of exposure include headache, nausea, abdominal pain, vomiting and CNS stimulation. ***Eye:*** Mild to severe irritation. Absorption through direct eye contact is possible. ***Lung:*** Irritation of the nose and throat. Breathing dusts or solution vapors can cause cough, convulsions, and adverse effects on the liver. ***CNS:*** A central nervous system stimulant. Symptoms include irritability, blurred vision, tremors, convulsions, and mental confusion.
Semivolatiles			
1,2-Dichlorobenzene	200 ppm	50 (Ceiling) 25 ppm 50 (Ceiling)	***Eye:*** Irritation ***Respiratory:*** URT irritation ***Target organs:*** Liver, kidneys
1,4-Dichlorobenzene	150 ppm Carcinogen	75 ppm 10 ppm Carcinogen	***Eye***: Irritation, periorbital swelling ***Inhalation/Ingestion:*** Rhinitis, headache, anorexia, nausea ***Target organs***: Kidneys, liver, respiratory system
3,3'-Dichlorobenzidine	Ca (ND) *OSHA Regulated Carcinogen	NE* ALAP** NE ** As low as possible	**Skin:** Skin sensitization, dermatitis, burns ***Eye:*** Irritation Inhalation/Ingestion: Headache, dizziness, frequent urination, blood in urine, GI upset, upper respiratory infection **Target organs:** Bladder, liver, lung, skin, GI Tract
1,2,4-Trichlorobenzene	ND	none 5 ppm (ceiling) 5 ppm (ceiling)	***Skin:*** Irritation with burning, itching, redness. ***Eye:*** Irritation with burning, itching and watering. ***Respiratory:*** Irritation of mucosa of respiratory tract. ***Other:*** Potential Teratogen

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
Aniline	100 ppm (Ca)	5 ppm (skin) 2 ppm (skin) Lowest possible level	***Aniline is rapidly absorbed through all routes and induces methemoglobinemia. Symptoms include:*** *Cyanosis, headache, dizziness, weakness, lethargy, loss of coordination, shortness of breath.* ***Skin:*** Aniline causes skin irritation and mild skin sensitization. The skin is a major route of exposure. **Eye**: Severe irritation ***CNS****:* Severe headache, tremor, confusion. CNS depression may be a result of methemoglobinemia. ***Systemic****:* Chronic exposure may cause injury to kidney, bladder, liver and spleen.
Bis(2-ethylhexyl) phthalate	5000 mg/m^3	PEL: 5 mg/m^3 TLV: 5 mg/m^3	***Skin***: Irritation ***Eye****:* Irritation ***Other****:* Nausea, diarrhea ***Suspected human carcinogen***
Hexachlorobenzene	NE	NE 0.002 mg/m^3 NE	***Skin:*** UV sensitivity and skin damage, hyperpigmentation ***Inhalation/ingestion:*** CNS impairment, skin effects noted above
Naphthalene	250 ppm	10 ppm 10 ppm (skin) 10 ppm	***Skin:*** Irritation with burning, itching, and edema (buildup of fluid) redness and swelling. ***Eye:*** Severe irritation of the conjunctiva with burning, itching, and watering. Direct contact with heated fumes can irritate the eyes. ***Lung:*** Irritation of the bronchial tubes and other members of the respiratory tract. May cause headache, loss of appetite, nausea, vomiting, slowed reactions, and a loss of strength. ***CNS:*** Depression of the nervous system causing excitement, convulsions, and possibly coma.

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
No. 6 Fuel Oil	100 ppm (H_2S)	20 pm (H_2S) 1 ppm (H_2S) 10 ppm (H_2S-ceiling)	***Skin:*** Skin irritation with prolonged contact ***Eye:*** Mild to moderate irritation ***Lung:*** Minimal inhalation hazard at ambient temperature, upon heating, vapors may result in respiratory tract irritation and CNS effects-see below ***CNS:*** Headache, dizziness, loss of balance and coordination, unconsciousness ***Other:*** Irritating and toxic hydrogen sulfide gas may be found in confined spaces. H_2S causes olfactory fatigue, so the characteristic rotten egg odor may not be detected, especially at higher concentrations. Thus, the odor is not a reliable warning indicator for exposure.
Phenol	250 ppm	5 ppm (skin) 5 ppm (skin) 5 ppm (skin)	***Skin:*** Severe irritation and possible burns. Will pass through unbroken skin to cause toxic systemic effects, including weakness, nausea, collapse, and death. ***Eye:*** Severe irritation with damage and possible loss of vision likely. ***Lung:*** Severe irritation to the respiratory tract and associated mucosa. Can cause weakness, nausea, confusion, collapse, coma and death (respiratory failure). ***CNS:*** A central nervous system depressant. Weakness, confusion, mood changes and other personality changes, nausea, collapse and death.
Polyaromatic hydrocarbons (PAHs) (coal tar pitch volatiles)	80 mg/m^3	0.2 mg/m^3 0.2 mg/m^3 0.1 mg/m^3	***Skin:*** Irritation with burning, itching, edema, redness and swelling. ***Eye:*** Severe irritation of the conjunctiva with burning, itching and watering. ***Lung:*** Irritation of respiratory tract, especially bronchial tubes. ***CNS:*** Slowed reactions, headache and loss of strength. ***Other:*** Loss of appetite, nausea, vomiting.

Contaminant	IDLH Level	PEL/TLV/REL	Acute Toxicological Symptoms
Polychlorinated Biphenyls (PCBs)	5 mg/m^3-	PEL:1 mg/m^3-1242 PEL:0.5 mg/m^3-1254 TLV:1 mg/m^3-1242 TLV:0.5 mg/m^3-1254 REL: 0.001 mg/m^3 – 1242 and 1254	***PCBs have low acute toxicity, but because they accumulate in the environment and in animal and human tissues, the potential for chronic toxicity is significant.*** ***Skin:*** Burning sensation and edema of the face and hands, skin thickening, hyper pigmentation, chloracne. ***Eye:*** Eye discharge, swelling of the eyelids. ***Ingestion:*** Severe abdominal pain, nausea, vomiting, diarrhea have been reported following acute and chronic exposures. ***Central and peripheral Nervous System:*** Headache, dizziness, depression and nervousness, weakness and numbness of the extremities.
Trimethyl benzene (mixed isomers)	ND	No PEL 25 ppm 25 ppm	***Skin***: Irritation ***Eye***: Irritation ***Lung***: Irritation of the throat, respiratory system, bronchitis ***CNS***: Headache, lassitude, drowsiness, dizziness, ***Gastrointestinal***: Nausea, vomiting
Other			
Methane	NA	NA	***-Simple asphyxiant-displaces oxygen in air and may cause rapid suffocation.*** ***-Odorless and does not provide adequate warning.*** ***-Highly flammable gas that may form explosive mixtures with air.***

Notes*:*
IDLH – Immediately Dangerous to Life or Health
mg/m3 – milligrams per cubic meter
NA – not applicable (no specific IDLH value has been determined)
ND – not determined (no IDLH value has been formally derived)
NE – not established
ppm – parts per million
STEL – Short-Term Exposure Limit

APPENDIX B – PHYSICAL HAZARDS

Asbestos Removal

- For asbestos removal, a Regulated Area will be constructed in accordance with Occupational Safety and Health Administration (OSHA)1926.1101.
- A digital vacuum pressure gauge must be maintained on-site during the removal activities, and the containment area must maintain a -0.020 inches of water column pressure.
- Warning signs and danger signs will be posted outside the containment area and all personnel performing the asbestos removal must wear safety toed shoes, hard hat, Tyvek (with booties and hoodie), nitrile gloves with polyvinyl chloride (PVC) over gloves, and full-face air purifying respirator.
- During the removal of asbestos containing materials, all asbestos materials must be sprayed with amended water and must be kept adequately wet during the removal process. Perform required personal air monitoring and provide results to staff members. Avoid over watering to control potential runoff. Capture any runoff on poly film and use towels or rags to soak up excessive water.
- Ensure best management practices are in place prior to work, and drains are protected.
- Ground-fault circuit interrupters must be utilized on all powered equipment.
- No cutting tools to be used for non-friable asbestos removal.
- Do not overload, throw, drop, or puncture bags.
- Good housekeeping must be maintained, and work area should be kept free of debris.
- If caulking needs to be cut, ensure to use cut resistant gloves and a self-retracting safety knife.
- A personal decontamination area must be on-site.
- All waste will be double bagged and must be properly marked with required U.S. Department of Transportation (DOT) hazard label, and all waste must be maintained on-site until the required manifest(s) are available and signed for transport and disposal.
- Personal air sampling is required for workers performing asbestos removal work.

Batteries

- Battery inspection: Determine the functionality and potential damage of each battery cell.
- Voltage checks: Implement procedures to check battery voltage before and after charging.
- Discharge prevention: Shut down the battery's ability to discharge below 20 volts.
- Alarm fixes: Improve the specificity of "battery abnormality" alarms and raise the threshold for maximum charge alarms.
- Standard work: Develop a Standard Operating Procedure (SOP), Job Hazard Analysis (JHA), or other standard work guidance for infrequent activities.
- Workplace exams: Conduct regular workplace examinations and eliminate hazardous conditions.
- Proper training: Train staff in the correct use and care of lithium battery-powered equipment, including appropriate personal protective equipment (PPE) usage.

- Follow instructions: Adhere to the manufacturer's guidelines for the storage, use, charging, and maintenance of lithium batteries.
- Fire safety: Keep fire extinguishing equipment readily available and ensure a smoke or heat alarm is installed in areas where devices are charged or stored.

Caught-In Or Between

Below are best practices to mitigate caught in between hazards:

- Ensure operating paths are clear of personnel or objects subject to hazard.
- Operate equipment safely and according to manufacturer's instructions.
- While heavy equipment is operating, all personnel on ground will wear reflective, high-visibility vests and hard hats.
- No one will approach equipment in operation unless the operator gives them positive indication that it is acceptable to do so.
- Put up barriers to avoid unnecessary contact with hazards.
- Ensure egress paths are clear and unobstructed.

Combustible Dusts

For a combustible dust explosion to occur, the following must be present:

- Combustible dust (fuel);
- Ignition source (heat);
- Oxygen in air (oxidizer);
- Dispersion of dust particles in sufficient quantity and concentration; and
- Confinement of the dust cloud.

Dust control:

- Minimize the escape of dust from process equipment or ventilation systems;
- Use dust collection systems and filters;
- Utilize surfaces that minimize dust accumulation and facilitate cleaning;
- Provide access to all hidden areas to permit inspection;
- Inspect for dust residues in open and hidden areas, at regular intervals;
- Clean dust residues at regular intervals;
- Use cleaning methods that do not generate dust clouds, if ignition sources are present;
- Only use vacuum cleaners approved for dust collection;
- Locate relief valves away from dust hazard areas; and
- Develop and implement a hazardous dust inspection, testing, housekeeping, and control program (preferably in writing with established frequency and methods).

Ignition control:

- Use appropriate electrical equipment and wiring methods;
- Control static electricity, including bonding of equipment to ground;
- Control smoking, open flames, and sparks;
- Control mechanical sparks and friction;
- Use separator devices to remove foreign materials capable of igniting combustibles from process materials;
- Separate heated surfaces from dusts;
- Separate heating systems from dusts;
- Proper use and type of industrial trucks;
- Proper use of cartridge activated tools; and
- Adequately maintain all the above equipment.

Damage control:

- Separation of the hazard (isolate with distance);
- Segregation of the hazard (isolate with a barrier);
- Deflagration venting of a building, room, or area;
- Pressure relief venting for equipment;
- Provision of spark/ember detection and extinguishing systems;
- Explosion protection systems;
- Sprinkler systems; and
- The use of other specialized suppression systems.

Compressed Air

Hazards of compressed air use include:

- Flying objects cutting or bruising the body.
- Foreign bodies getting lodged under skin.
- Air or foreign particles causing eye injury that can cause loss of sight.
- Injection of an air bubble into the blood stream that can lead to a fatal embolism.
- Air blown into the mouth that can rupture the esophagus or the lungs (can happen even at a low pressure of 5 psi).
- Noise from an air hose that can lead to hearing loss (sounds can reach 120-130 dB).

Safely working with and around compressed air involves the following:

- Stand clear of areas where compressed air is being used, whenever possible.
- Do not use compressed air to clean clothing or hair.
- Do not point a compressed air hose at yourself or another person.
- Check condition of hoses and lines before use.
- Wear PPE-safety glasses with side shields, full face shields, and hearing protection.
- Do not use compressed air for cleaning workspaces.
- Safety chains or other locking devices should be used at couplings of high-pressure hose lines where a connection failure would create a hazard.

Compressed Gases

- Compressed gases pose both physical and chemical hazards, depending on the type of gas. These gases can range from inert and non-reactive to highly toxic, flammable, or explosive. Due to the high pressure inside cylinders, any physical damage or exposure to high temperatures can result in serious incidents.
- All compressed gas cylinders must be:
  - Clearly labeled with the name of their contents in accordance with OSHA and other applicable regulations.
  - Accompanied by a Safety Data Sheet (SDS), which must be obtained and maintained for each type of gas.
- Always store, transport, and use cylinders upright with the valve facing up. Secure them using appropriate supports such as racks, straps, chains, or stands to prevent tipping or falling.
- Protect cylinder valves with standard caps when not in use—this applies to both full and empty cylinders.
- Never force a cap or regulator; caps should be hand-tightened only.
- Avoid exposing cylinders to excessive moisture, corrosive chemicals, or fumes.
- Do not store cylinders near combustible materials or in areas subject to extreme temperatures.
- Never transfer gases from one cylinder to another (except for dry ice or cryogenic materials). Do not attempt to refill compressed gas cylinders.
- Before use, slowly “crack” the valve to clear dust or debris—ensure the opening is pointed away from people. Take extra precautions with toxic or flammable gases.
- Do not stand in front of the regulator gauge when opening the valve.
- Always use the correct pressure regulator for specific gas. Never operate a cylinder without a regulator.
- Before opening the cylinder, ensure the regulator’s adjusting screw is released. Never allow gas to enter the regulator suddenly.
- If a leak occurs between the cylinder and regulator, close the valve before attempting to tighten the union nut.
- Never strike an electric arc on a cylinder.

Confined Space

A confined space is an area that has limited or restricted means for entry or exit, and it is not designed for continuous staff member occupancy. Confined spaces include, but are not limited to, underground vaults, tanks, storage bins, manholes, pits, silos, process vessels, and pipelines. OSHA uses the term "permit-required confined space" (permit space) to describe a confined space that has one or more of the following characteristics:

- contains or has the potential to contain a hazardous atmosphere;
- contains a material that has the potential to engulf an entrant;
- has walls that converge inward or floors that slope downward and taper into a smaller area which could trap or asphyxiate an entrant; or
- contains any other recognized safety or health hazard, such as unguarded machinery, exposed live wires, or heat stress.

Haley & Aldrich staff members should avoid entering confined spaces whenever possible. Confined spaces can only be investigated by opening the entryway, allowing adequate venting time, and viewing the interior using a flashlight without entering the space or breaking the plane of the opening of the space.

Work in confined spaces requires additional planning, training, permits, control of energy through lockout/tagout, and safety documentation. Confined space work cannot be performed without approval from Regional Safety Managers (RSMs). Contact an RSM for more information on safely completing confined space work.

Congested Areas

- Project sites may present congested working areas with other subcontractors and moving equipment.
- Be mindful of the work happening around you, pay attention to the hazards beyond those of just the task you are performing.
- Stay clear of vehicle pathways.
- Remain visible to operators and receive confirmation before moving across the pathway of any heavy equipment.

Construction Materials

- To prevent fires and hazards, separate incompatible materials during storage. Keep solvent waste, flammable liquids, and oily rags in fire-resistant containers until they are removed from the site.
- All materials stored in tiers must be securely stacked, racked, blocked, or interlocked. Cylindrical materials like steel, poles, and pipes need proper stacking and blocking to prevent shifting and potential injuries.
- Be aware of the maximum safe load limits for floors used as storage areas and never exceed these limits.
- Keep walkways and passageways clear and well-maintained to allow the safe movement of staff members and vehicles.
- When working on different levels, provide ramps or graded surfaces to prevent vehicle accidents and material spillage.

Control of Hazardous Energy

- A system for effective de-energization will be implemented, communicated to personnel, and verified prior to conducting operations in an area affected by energized equipment.
- Personnel will remain alert for energized equipment and will notify their supervisor immediately should they suspect anything around them is still energized or unsafe to approach.
- The steps of lockout/tagout are a primary method of isolating energy and include the following,
  - Lockout/tagout events to be discussed in tailgate safety meetings prior to implementation.
  - Notify all staff members within the immediate affected area that a lockout or tagout is going to be utilized and the reason why.
  - If the equipment is operating, shut it down in an orderly fashion using the normal stopping procedure.
  - Operate the switch, valve, or other energy isolating device(s) so that the equipment is isolated from its energy source(s).
  - Lockout and/or tagout the energy isolating devices with assigned individual lock(s) or tag(s).
  - Lockout devices and tagout devices are to indicate the identity of the employee applying the device(s).
  - Use the TAG Template available on the Haley & Aldrich Intranet Forms/Health & Safety/ Hazardous Energy Control page to generate staff member and equipment-specific tags.
  - Following the application of lockout or tagout devices, all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained, or otherwise rendered safe. For example:
    - Prior to work on hydraulic or pneumatic systems, the energy source shall be turned off and existing pressure drained.
    - Release the tension on springs or block the movement of spring-driven parts.
    - Block parts that could move form loss of hydraulic and pneumatic pressure.
    - Drain process piping systems and close valves to prevent the flow of hazardous materials.
    - Verify a zero-energy state with applicable test equipment, gauges, etc.
    - Verify that timing devices and delayed starts have been isolated.
    - Attempt to energize the equipment.
    - Return the controls to its energy isolation position (i.e. “OFF”).
  - At this point the equipment is considered to be locked or tagged out.
  - If lockout is the energy control method utilized, the authorized staff member is to keep the key in their possession for the duration of the lockout period.

Dehydration

There may be instances where staff members become dehydrated while performing work. To reduce potential for dehydration, staff members should:

- Drink plenty of fluids, including drinks with electrolytes, at regular intervals. OSHA recommends at least one quart of water per hour on days that exceed 80 degrees F;
- Eat foods that are high in water, such as fruits and vegetables;

- Drink additional water in hot or humid weather to help lower your body temperature and to replace what you lose through sweating;
- Drink extra water in cold weather to combat moisture loss from dry air, particularly at higher altitudes; and,
- Ensure that project teams prepare for staff members to have access to adequate hydration.

If at any point staff members are experiencing extreme symptoms of dehydration, contact emergency medical services.

Drilling Hazards

There are several hazards associated with drilling. The primary hazards are the exposed moving parts where the soil borings are advanced. The size of the drill rig may present blind spots for the operator as well as workers moving around the drill rig. Noise is also a significant hazard, particularly when using air rotary equipment.

Use of a drill rig will require all personnel in the vicinity of the operating rig to wear steel-toed boots, hard hats, reflective safety vests, hearing protection, and safety eyewear. Personnel should not remain in the vicinity of operating equipment unless it is required for their work responsibilities.

Oversight personnel should follow these safety procedures:

- Do not stand near cables under tension, such as those lifting drill pipe
- Do not stand directly underneath a load suspended by a cable
- Stand clear as drill pipe is lowered into pipe rack by cable
- Keep away from drill rig unless required by task
- Do not approach equipment without first establishing eye contact with the operator
- Ensure that all machinery have operating back-up alarms
- Keep hands away from moving parts

Additionally, the following safety requirements must be followed:

- All drill rigs and other machinery with exposed moving parts must be equipped with an operational emergency stop device. Drillers and geologists must be aware of this device. This device must be tested before the job starts and periodically thereafter. The driller and helper shall not simultaneously handle augers unless there is a standby person to activate the emergency stop when necessary.
- The driller must never leave the controls of the rig while the tools are rotating unless all workers are kept clear of rotating equipment.
- A long-handled shovel must be used to clear drill cuttings away from the hole and from rotating tools. Hands and/or feet are not to be used for this purpose.
- A remote sampling device must be used to sample drill cuttings if the tools are rotating or if the tools are readily capable of rotating. Samplers must not reach into or near the rotating equipment. If personnel must work near any tools that could rotate, the driller must shut down the rig prior to initiating work.
- Drillers, helpers, and geologists must secure all loose clothing when in the vicinity of drilling operations.

- Only equipment that has been approved by the manufacturer may be used in conjunction with drilling equipment and specifically to attach sections of drilling tools together. Pins that protrude excessively from augers shall not be permitted.
- No person may climb the drill mast while tools are rotating.
- No person may climb the drill mast without the use of American National Standards Institute (ANSI)-approved fall protection or portable ladder that meets the requirements of OSHA standards.
- The drill rig must not be moved with the mast in a raised position.
- Elevated parts of the drill rig shall remain at least 20 feet from overhead power lines or follow the procedures outlined in Overhead Utilities below.

Drum Handling

- Use proper lifting and moving techniques to prevent back injuries.
- Make sure the vehicle selected has sufficient rated load capacity to handle the anticipated loads, and make sure the vehicle can operate smoothly on the available road surface.
- Have overpacks ready before any attempt is made to move drums.
- Before moving anything, determine the most appropriate sequence in which the various drums and other containers should be moved.
- Exercise extreme caution in handling drums that are not intact and tightly sealed.
- Ensure that operators have a clear view of the roadway when carrying drums.
- Pressurized drums are extremely hazardous. Wherever possible, do not move drums that may be under internal pressure, as evidenced by bulging or swelling.
- Make sure that all waste drums are managed according to state, federal, and PG&E regulations and requirements.

Economically Depressed Areas

- Economically depressed areas may have high crime rates.
- Staff could be subjected to crime that includes but may not be limited to thievery, vandalism, and violence.
- Prior to the start of work, staff need to understand the work locations and the potential for exposure to low level crime.
- Staff members should never work alone in these areas.
- A buddy system is required.
- Conduct work during daylight hours.
- Secure equipment and vehicles.
- If warranted, contact the local police department for a security detail.
- Leave the work area immediately and contact the local authorities if staff members feel threatened, or are threatened.

Electrical Hazards

- Electrical work of 120 volts or less can be completed by a qualified person, who has received training and has demonstrated skills and knowledge in the construction and operation of electric equipment and installations and the hazards involved.
- Electrical work of over 120 volts but under 600 volts can be completed by a qualified electrical worker as defined as a person with who by reason of a minimum of 2 years of training and experience with high-voltage circuits and equipment and who has demonstrated by performance familiarity with the work to be performed and the hazards involved.

Energized Equipment and Electrical Shock

- Document process to de-energize or isolate energy sources.
- Ensure staff are appropriately trained to conduct work requiring lockout/tagout.
- Affix lock and/or tag to equipment to ensure improper start-up or release of energy.
- Execute an Energy Isolation Permit.
- Electrical equipment and power tools must be operated and maintained in accordance with manufacturers' requirements.
- Electrical equipment, tools, switches, and outlets must be protected from environmental elements.
- Check manufacturers' requirements.

Equipment and Moving Vehicle Safety

The following procedures can be used to minimize the risk of traffic-related hazards and working near heavy equipment:

- Always wear seat belts when operating vehicles or heavy equipment, unless the equipment is designed for stand-up operation or lacks a rollover protective structure.
- Check vehicles and equipment before each shift to ensure all parts and accessories are in safe working condition.
- Obey all traffic laws and any additional on-site vehicle rules.
- Do not use cell phones or other distractions while driving.
- Allow adequate travel time to avoid speeding.
- Only drive on roadways or grades that are safely constructed and maintained.
- Do not exceed a vehicle's rated load or lift capacity.
- Do not carry passengers unless the vehicle is equipped with a designated and safe seating area.
- Operators must meet all requirements (e.g., licenses, certifications, training) for the specific equipment they are using.
- Do not drive in reverse with an obstructed rear view unless the vehicle has an audible reverse alarm, or a spotter signals it is safe.
- Use a dedicated spotter when operating or maneuvering heavy equipment.

- Set parking brakes when vehicles are parked, and chock wheels if on an incline.
- Lower or block buckets and place all controls in neutral when equipment is not in use.
- Ensure all vehicles have adequate braking systems and safety devices.
- Use traffic signs, barricades, or flaggers when working near public roadways.
- Clearly define work zones using reflective tape, traffic cones, or similar markers.
- Use orange flashing lights to alert drivers to hazards or changes in traffic patterns.
- Workers must wear high-visibility clothing.

Excavation and Trenching Safety

- Contact the proper utilities to obtain clearance. Prior to work, review the utilities in the area and be sure they have been staked properly. Before work begins, staff obtain multiple lines of evidence, using guidance found in OP1020 Working Near Utilities.
- Be aware that trenches and excavations deeper than 4 feet are considered confined spaces and require additional safety precautions, such as shoring. If an excavation exceeds 4 feet in depth, contact the Client or Site Safety Officer (SSO) to review the original Safe Work Permit and ensure that it is adequate. A 4-gas meter monitoring will be required in addition to the existing air monitoring plan.
- The walls and faces of all excavations and trenches more than 5 feet deep, in which a staff member is exposed to danger from moving ground, will be guarded by a shoring system, sloping of the ground, or some other equivalent means. The design of shoring systems in excavation greater than 20 feet must be done by a registered Professional Engineer as per 29 Code of Federal Regulations 1926 Part P.
- Excavated or other material will be effectively stored and retained at least 2 feet or more from the edge of any excavation or trench.
- Make daily inspections of excavations. If evidence of possible cave-ins or slides is apparent, all work in the excavation will cease until the necessary precautions have been taken to safeguard staff members.
- Trenches more than 4 feet deep will have ladders or steps available so no more than 25 feet of lateral travel is required.
- Determine soil composition (through soil sampling and/or soil maps) and other relevant site conditions, with special emphasis on conditions conducive to cave-ins.
- Monitor the atmosphere in and around excavation on a regular basis to check for explosive, toxic, or otherwise dangerous gases and vapors. Be sure sources of nuisance and harmful gas are not near the trenches; for example, do not park vehicles or equipment next to the excavation where the fumes can enter it.
- Water will not be allowed to accumulate in any excavation. Utilize ditches, dikes, pumps, or other means to keep surface water out of trenches.
- All open excavations must be well marked and barricaded.

- Staff members involved in the excavation activity have appropriate training in safe excavation practices, with emphasis on factors such as:
  - Utility line identification.
  - Cave-in prevention measures.
  - Recognition of conditions which may cause cave-ins.
  - Means of egress from trench.
- Excavations greater than 5 feet in depth are not to be entered unless properly sloped, shored, or benched.
- No project staff member is to enter the excavation unless they have determined that there is no potential for injury such as cave-ins and/or atmospheric hazards.
- It is the CM and project staff's responsibility to safeguard all affected workers from falling into any excavation by the use of barriers and warning signs.
- No excavation is to be left open or unattended when there is a possibility for anyone to fall into the excavation. Barricades will be placed around excavation where there is a fall hazard by workers and/or equipment; and if needed will be lighted at night. This is the responsibility of the subcontractor.
- Keep all equipment at a minimum of 10 feet away from energized electrical lines

Extended Shift

- Extended work hours may disrupt the body's regular schedule, leading to increased fatigue, stress, and lack of concentration.
- The degree to which an individual is exposed to fatigue risk factors depends upon the work schedule. As both the duration of the workday and the number of days worked increase, so do the fatigue risk factors.
- Staff Managers need to be aware of the fatigue risk factors and ensure projects are structured to mitigate these factors.
- Staff Members also have a responsibility to manage the personal fatigue risk factors that they can control outside of work (e.g., duration and quality of sleep, diet, drugs, and alcohol).
- Fatigue symptoms, both mental and physical, vary and depend on the person and degree of overexertion. Examples include:
  - Weariness
  - Sleepiness
  - Irritability
  - Reduced alertness
  - Lack of memory
  - Concentration and motivation
  - Increased susceptibility to illness
  - Depression
  - Headaches

  - Loss of appetite
  - Digestive problems

- When possible, managers should limit use of extended shifts and increase the number of days worked.
- Additional breaks and meals should be provided when working extended shift periods.
- Tasks requiring heavy physical labor or intense concentration should be performed at the beginning of the shift, if possible.
- Make efforts, when feasible, to ensure that unavoidable extended work shifts and shift changes allow affected staff members time for adequate rest and recovery.
- PMs need to plan to have an adequate number of personnel available to enable workers to take breaks, eat meals, relax, and sleep.
- Plan for regular and frequent breaks throughout the work shift.
- If at remote sites, ensure if possible, that there is a quiet, secluded area designated for rest and recuperation.
- Encourage use of micro breaks to change positions, move about, and shift concentration.
- Personnel should look to obtain an adequate quantity and quality of sleep.

Fuel Operations

Below are best practices to prevent spills or releases during fueling activities:

- Conduct fueling operations from a leak-proof nozzle or safety fuel can with a fitted gooseneck nozzle or funnel.
- Use screens to prevent debris and particles (from debris or ice in cold weather) from entering fuel tanks.
- Secondary containment shall be placed under the equipment during fueling to prevent any loss of containment to the ground surface.
- Store sorbent pads near fueling areas during all fueling operations to prevent fuel leaks or spills from travelling.
- Use flashlights in low light areas or in other than daylight hours to prevent over filling fuel tanks.
- Fuels will be stored in approved containers that are placed in a secondary containment capable of storing 100 percent of the spilled material.
- Equipment must be shut down before fueling, and drips will be wiped clean, and the fuel cap must be securely fastened before restarting the equipment.
- Store the fuel away from combustible materials and oxidizers.
- Fuel storage areas will be located away from common walkways and work areas.

Geoprobe® or Other Direct Push Rig Use

Use of a Geoprobe® or other direct push rig will require all personnel in the vicinity of the operating rig to wear steel-toed boots, hard hats, hearing protection and safety eyewear. Personnel should not remain in the vicinity of operating equipment unless it is required for their work responsibilities.

The following general guidelines apply to the operation and transport of any direct push rig.

Hazards

- Pinch points - Geoprobe® rod ends, auger joints, stacked rods, or augers
- Rotating augers - loose clothing
- Low head clearance when working directly over hole beneath mast
- Overhead and underground utilities
- Back strain - auger or Geoprobe® rod handling
- Use of cutting tools to open acetate core sleeves
- Accidentally engaging operating controls
- Noise

General Operating Procedures

- All drill rigs and other machinery with exposed moving parts must be equipped with an operational emergency stop device. Drillers and geologists must be aware of this device. This device must be tested before the job starts and periodically thereafter. The driller and helper shall not simultaneously handle augers unless there is a standby person to activate the emergency stop when necessary.
- Only equipment that has been approved by the manufacturer may be used in conjunction with drilling equipment and specifically to attach sections of drilling tools together. Pins that protrude excessively from augers shall not be permitted.
- Elevated parts of the drill rig shall remain at least 20 feet from overhead power lines or follow the procedures outlined in “Overhead Utilities” below.
- One person will be assigned the responsibility of lead operator. The lead operator will be responsible for operating the rig and performing the daily checklist. One additional personnel will assist with handling Geoprobe® rods. When augering, an additional person is recommended for assisting with auger flights. In either case, a separate person will be required for collection of soil samples or logging cores.
- A safe zone will be established using banner guard or physical barriers to prevent unnecessary personnel from entering the work area.
- Operations and crew will be familiar with the operator’s manual and will review the practical training on rig use.
- The driller must never leave the controls of the rig while it is running.
- Keep hands away from moving parts.
- Drillers, helpers, and geologists must secure all loose clothing when in the vicinity of drilling operations.
- Wear heavy gloves when handling Geoprobe® rods or augers.
- Hearing protection must be worn.
- Lifting tasks should be accomplished by using the legs to lift instead of the back (bending at the knees instead of at the waist). A second person should help lift the item if it is too large or heavy for one person.

- For protection of staff members from cut injuries during sampling activities or other activities where knives may be used, first evaluate whether hand knives are the correct tool for the task. Where possible, use a safer cutting tool such as scissors or snips. Cut resistant gloves such as Kevlar must be worn. If using a knife/ box cutter, it should have a self-retracting blade. When using a knife, cut away from oneself and end the knife stroke away from the body. Hold the item firmly and do not cut downwards and towards the body. Personal knives (e.g., pocket knives) are not to be considered as a tool for any type of work-related cutting.
- The rig and inspection logs will be maintained.
- During auger flight connection, pinch potential will be controlled by keeping hands away from the joint (heavy gloves must be worn). Constant communication between lead operator and helper must be maintained.

Oversight Personnel Should Follow these Safety Procedures:

- Do not stand near cables under tension such as those lifting drill pipe
- Do not stand directly underneath a load suspended by a cable
- Stand clear as drill pipe is lowered into pipe rack by cable
- Keep away from drill rig unless required by task
- Do not approach equipment without first establishing eye contact with the operator
- Ensure that all machinery have operating back-up alarms
- Keep hands away from moving parts

Daily Maintenance Checklist (for subcontractors):

- Check all fluids.
- Test kill switch.
- Ensure that back-up alarm is operating.
- Confirm mandatory underground utility clearances, double check for indications of utilities not reported by appropriate state clearing centers.
- Before raising mast, look up for overhead obstructions.
- Review location of kill switch and fire extinguisher with entire crew.
- Maintain safe distance from all electrical power lines.
- Decontaminate entire rig prior to leaving site.
- Check that fire extinguisher is charged.

Maintenance of Rig (for subcontractors):

- Regular inspection and maintenance will be performed by qualified personnel. A full check-out will be performed on a monthly basis and immediately following extensive use.
- The daily inspection will be completed by the rig operator.

Hand Tools

- Use tools that are in good condition.
- Ensure handles are not split, mushroomed, or otherwise damaged.
- Defective tools shall be removed from service.
- Use the proper tool for the job.
- Wear eye protection and hand protection depending on the potential hazard
- Maintain secure footing when using any hand tool
- Do not use fixed blade open knives, unless approval is obtained by Health & Safety. Examples include pocketknives, multi-tools, hunting knives, machetes, standard utility knives, and box cutters.
  - There are safer alternatives, such as self-retracting utility knives and guarded utility knives, that can effectively accomplish tasks while providing additional protection to staff members.
- For any tasks that involve cutting, staff must:
  - Wear cut score A2 cut resistant gloves.
  - Cut away from oneself and end the knife stroke away from the body. Hold the item firmly and do not cut downwards and towards the body. Cut into the air or onto something hard.

Heavy Equipment and Traffic – Working Around

- Before approaching a piece of heavy equipment or heavy equipment work zone, establish eye contact with the equipment operator. The equipment operator must put the equipment in a neutral energy state (e.g., coring equipment stopped from pushing or rotating) and then remove their hands from the controls.
- Once this is done, it is acceptable to approach the piece of equipment or heavy equipment work zone.
- The equipment operator must keep their hands off the equipment controls for the duration of time someone is in the work zone.
- Maintain visual contact with operators at all times and keep out of the strike zone whenever possible.
- Always approach heavy equipment with an awareness of the swing radius and traffic routes of each piece of equipment and never go beneath a hoisted load.
- Never position yourself between fixed objects and running equipment and/or between two running pieces of equipment.
- When possible, use a spotter or backer while equipment is being moved.
- Workers must be highly visible in all levels of light. Warning clothing, such as red or orange vests, are required while working near vehicles or any heavy mobile equipment. If worn for night work, clothing must be of reflective material.
- Be aware of traffic patterns and make sure to stay well away from these areas as a pedestrian.
- Be aware that debris may be kicked up or fly out of passing vehicles.
- Be especially careful and alert when working near heavy equipment since equipment failure or breakage can lead to accidents and worker injury.
- Avoid breathing fumes created by heavy equipment exhaust.

Heavy Equipment and Traffic – Operating

- Create a traffic control plan.
- Check vehicles before each shift to assure that all parts and accessories are in safe operating condition.
- Obey all traffic rules as well as an additional vehicle rules on-site.
- Do not speed. Make sure to leave adequate time to arrive at your destination on time.
- Do not drive a vehicle in reverse gear with an obstructed rear view, unless it has an audible reverse alarm, or another worker signals that it is safe.
- Drive vehicles or equipment only on roadways or grades that are safely constructed and maintained.
- Make sure that you and all other personnel are in the clear before using dumping or lifting devices.
- Lower or block buckets and leave all controls in neutral position when not in use (e.g., end-loader buckets, dump bodies).
- Set parking brakes when vehicles and equipment are parked and chock the wheels if they are on an incline.
- All vehicles must have adequate braking systems and other safety devices.
- Do not exceed a vehicle's rated load or lift capacity.
- Do not carry personnel unless there is a designed and safe place to ride.
- Use a dedicated spotter while heavy equipment is in operation.
- Use traffic signs, barricades, or flaggers when construction takes place near public roadways.
- Ensure work zones are defined (e.g., reflective tape, traffic cones).
- Use orange flashing lights to make drivers better aware of potential hazards and traffic pattern changes.
- If operating heavy equipment, personnel must meet all the requirements to operate that specific heavy equipment (e.g., licenses, certifications, training).

Hot Surfaces

- Cover hot surfaces with materials that can withstand high temperatures and prevent direct contact.
- Implement measures like ventilation, reflective shields, and air conditioning to reduce heat exposure.
- Provide appropriate gloves, heat-resistant clothing, and other gear to protect workers from burns.
- Identify potential hazards associated with hot surfaces and assess the risk of burns.
- Educate workers on the risks of hot surfaces, how to identify hazards, and how to use PPE effectively.
- Conduct routine inspections to ensure controls are effective and PPE is in good condition.
- Use clear warning signs, labels, and physical barriers to alert workers to hot surfaces.

Hot Work

Hot work activities include burning, welding, grinding, braising, soldering, and using fire or spark-producing tools. The main hazards associated with hot work are getting burned directly by the hot work activity or by fires or explosions that result from an accumulation of combustible materials.

Performing hot work in classified and non-classified areas may be considered a hazardous activity, and a Permit to Work may be required. In general, the Hot Work Permit has five purposes:

- To serve as written permission to do the work.
- To provide a minimum checklist prior to the commencement of hot work.
- To outline the steps necessary for making the work site safe for conducting hot work.
- To alert operating personnel to the hot work in progress.
- To provide a record of safe work practices performed during the permitted activity.

All work shall be conducted in accordance with OP1034 - Hot Work.

Combustible and flammable materials must be kept at least 35 feet from ignition sources. A trained person must act as a fire watch during hot work and 30 minutes after hot work is completed. A properly inspected and tagged fire extinguisher must be readily available to the fire watch.

Housekeeping

Haley & Aldrich strives to provide a clean, hazard-free and safe environment for staff members. Each staff member is expected to take an active role in maintaining a safe environment. Workplaces must be kept neat, clean and organized. Staff members are expected to observe good housekeeping practices at offices and project sites. Such practices must:

- Keep work areas clean and free of debris that might cause safety hazards.
- Maintain order on project sites to avoid tripping hazards. Equipment, tools, extension cords, coolers and supplies must be kept away from areas with foot traffic. These items must be put away and stored in a safe manner at the end of the workday.
- Prevent slip and fall hazards by keeping project sites clean and free from oil, grease, mud, and other slippery materials. Clear away snow and ice.
- Unsafe conditions at offices (e.g., ice on the sidewalk) shall be reported to the office manager to resolve with the property owner.
- Ensure that aisles, walkways, entrances, exits, and access to first aid and spill materials are kept free of obstructions.
- Collect and properly dispose of waste.
- All spills should be reported or cleaned up promptly.
- Avoid placing materials where they may become contaminated.
- Do not place tools or materials on elevated surfaces where they may fall and strike another worker.

- Remove sharp objects and debris including scrap metal, broken glass, nails, etc. from the work area.
- Ensure subcontractors keep the work area and the rest of the site in a neat and orderly fashion.

Periodic inspections of office areas and project sites are conducted by the Corporate Health & Safety Team. To protect against slips, trips, and falls, Haley & Aldrich requires its staff members to wear appropriate footwear (skid resistant soles) and watch for hazards such as uneven terrain, holes, ditches, wires, ropes, hoses, or any other materials or equipment in the path of travel. Tripping caused by wearing disposable footwear can be reduced by selecting properly sized disposable boots. Workers will also change work speed in muddy, snowy, or icy conditions.

Hunting Season

The PM will be responsible for identifying and informing the field crew of the potential for hunting activities in the general area of field activities.

- The field crew will be required to wear appropriate safety clothing such as, but not limited to, orange vests and/or hats when conducting field work during the hunting season in areas where it is likely to occur.

Inadequate Lighting

Some work may need to occur in areas that are not well lit. To reduce hazards of working in low light:

- temporary lighting can be used to brighten the site, such as flashlights or headlamps, if possible.
- Clear safety glasses should be worn under these conditions.
- If conditions are dark and visibility is poor, staff members should pause work and work with project teams to implement mitigations or postpone work until lighting is better.

Ladders

- Always maintain three points of contact when using a ladder.
- Only use ladders on a smooth and level surface.
- Do not exceed the maximum load rating of the ladder.
- Ladders shall always be maintained and kept in good condition.
- Lubricate metal bearings frequently (e.g., locks, wheels, pulleys).
- Safety feet and other auxiliary equipment shall be kept in good condition to ensure proper performance.
- Ladders shall be inspected prior to use, and those which have developed defects shall be withdrawn from service for repair or destruction and tagged or marked as "Dangerous, Do Not Use."
- Ladder rungs should be kept free of grease and oil.
- Fixed ladders that equal or exceed 24 feet must be equipped with ladder safety devices. If using multiple ladder sections, each ladder section is not to exceed 50 feet in length and must use a cage or well. Alternatively, self-retracting lifelines and rest platforms at intervals of 150 feet or less can be used.

- Side rails of through or side-step fixed ladders must extend 42 inches above the top level or landing platform served by the ladder.
- All on-site personnel shall review and be familiar with the requirements of OP1027 - Ladder Safety.

Lasers

- Restrict access and designate laser-controlled areas to restrict access to only authorized personnel who have completed laser safety training.
- Post appropriate warning signs at the entrance(s) of laser-controlled areas to warn about potential hazards.
- Ensure the area is set up and restricted to prevent laser beam transmission outside the controlled area.
- Never enter a laser-controlled area unless authorized and equipped with proper PPE.

Line of Fire - Lifting Equipment and Overhead Hazards

- Install barriers, shields, or screens around unsafe areas.
- Identify and maintain safe walking areas.
- Address overhead work concerns and avoid unsafe zones.
- Keep a safe distance between you and any suspended loads, heavy equipment, or other line of fire hazards.
- Never stand under a suspended load.
- Avoid areas where there is potential for dropped objects.
- Remain aware of stored energy, and where equipment or objects may fall when energy is released.

Line of fire - Lines Under Pressure

Injection hoses operating under pressure may release stored energy if connections fail or hoses otherwise become dislodged. Oversight personnel may be sprayed with injection chemicals and/or be injured by violent hose movements. Staff members shall maintain a safe distance from connection points during injection activities and wear safety glasses. Should the need arise to stand closer to connection points, a face shield should be worn over safety glasses. Contractors should be using whip checks to secure hoses that may become loose or dislodged.

Manual Lifting

Wherever possible, material handling will be done mechanically. Where manual handling is absolutely necessary, personnel will be instructed in safe handling techniques and will be instructed to use the appropriate protective gear to prevent abrasions, cuts, and struck-by accidents. Personnel will also be encouraged to request assistance from other site personnel when lifting large, heavy, or awkward objects (greater than 50 pounds).

The following steps describe the proper method for lifting:

- Get a good footing.
- Place your feet about shoulder-width apart.
- Bend your knees to pick up the load. Never bend from the waist.
- Keep your back straight.

- Get a firm hold. Grasp opposite corners of the load, if possible.
- Keep your back as upright as possible.
- Lift gradually by straightening your legs. Do not jerk the load.
- Keep the weight as close to your body as possible.
- When changing directions, turn your entire body, including your feet.
- Do not twist your body or make awkward moves forcing you to be off balance.

Mechanical Equipment

- Use physical guarding and barriers whenever possible to reduce potential for injury around mechanical equipment.
- Personnel should exercise caution when working with mechanical equipment to prevent entanglement with clothing, placing body parts near pinch points on equipment or using equipment on slopes or unstable surfaces.
- Site personnel and visitors who are not performing necessary work shall remain a distance of at least 15 feet away from moving parts on such equipment.

Material and Equipment Handling

The movement and handling of equipment and materials on site pose a risk to workers in the form of muscle strains and minor injuries. These injuries can be avoided by using safe handling practices; proper lifting techniques and use of safety equipment including steel-toed boots, hard hats and work gloves; and testing the weight of an object before attempting to lift or carry it. Where necessary, mechanical devices will be used to assist in moving equipment and materials.

Proper Lifting Procedure:

- Get a good footing.
- Place feet shoulder width apart.
- Bend knees to pick up load. Do not bend from waist.
- Keep back straight.
- Get a firm hold on load. Grasp opposite corners of the load if possible.
- Keep the back as upright as possible.
- Lift gradually by straightening the load-do not jerk the load.
- Keep the weight as close to the body as possible.
- When changing direction, turn the entire body, including the feet.
- Do not twist the body.

General Requirements for Powered Industrial Trucks are:

- They must be inspected daily before being placed into service, to detect safety problems.
- High-lift rider trucks must be fitted with an overhead guard to protect the operator from falling objects.

- If the load being carried obstructs forward view, the load must travel with the load trailing.
- When a unit is left unattended, the load must be fully lowered, the control Level positioned in neutral, the power shut off, and the brakes set.
- Trucks, trailers or railroad cars being unloaded or loaded with lift trucks must be secured by setting their brakes and placing wheel chocks under the rear wheels.
- Any driver-operated equipment (truck, tractor) used on a site with uneven terrain must have some form of rollover protection.

Naturally Occurring Radioactive Materials (NORM)

- Practice As Low As Reasonably Achievable (ALARA) principles by minimizing the time spent near, increasing your distance from, and using appropriate shielding materials, such as lead or concrete, to block radiation.
- Be aware that NORM can be present in various materials, like rocks, soil, and building materials, as well as in specific industrial equipment.
- Do not eat, drink, or smoke in areas where NORM may be present.
- Contamination Control:
  - Avoid activities that generate dust, such as cutting or grinding, which can contain NORM/ Technologically Enhanced Naturally Occurring Radioactive Material (TENORM).
  - Protect any wounds or cuts to prevent potential contamination.
  - Practice good hygiene, including hand washing after working with or around NORM/TENORM.
- Monitoring and Decontamination:
  - Use appropriate radiation monitoring equipment, like alarming dosimeters, to track exposure.
  - Ensure workers are checked for contamination before leaving a NORM/TENORM work area.
  - Decontaminate equipment and work areas appropriately.
- PPE: Utilize PPE like respirators, coveralls, boots, and gloves, as needed.

Needles

- If you find a discarded needle, stop and do not approach or attempt to pick up the needle.
- Notify the client, controlling employer, or other designated safety personnel immediately.
- Clearly describe the location of the needle to ensure it can be safely addressed.
- Treat all needles, blood, and other potentially infectious materials as if they are infectious.
- When discarded, needles must be placed in SHARPS containers and not in traditional trash.

Night Work

- Minimize or redesign routine administrative tasks to ensure staff members can focus on core duties during their night work.
- Limit consecutive night shifts worked.
- A project requiring staff to work beyond four nights requires a fatigue management plan.

- Ensure that rosters allow for at least two full night's sleep after the last night shift before returning to day shift.
- Regular and frequent breaks are needed.
- Comprehensive training on fatigue risk factors for the staff members assigned to the project.
- Identify optimal sleeping conditions during the day (e.g., dark/quiet rooms, minimize distractions, light meal prior to sleep).

Noise Exposure (e.g., loud equipment, impact noise, noise from tools)

- Wear appropriate hearing protection such as earplugs or earmuffs in high-noise areas.
- Check the Noise Reduction Rating (NRR) of your hearing protection to ensure it provides adequate protection for the noise levels you're exposed to.
- Maintain distance from loud equipment whenever possible to reduce noise exposure.
- Take regular breaks in quiet areas to give your ears time to recover from prolonged noise exposure.
- Use tools like the NIOSH Sound Level Meter app to monitor and understand noise levels on-site and assess the need for hearing protection.
- Be aware of the potential for sudden loud noises. While it's best to wear hearing protection at all times in noisy environments, always follow posted signage indicating when hearing protection is required.

Operations On, Over, or Near Water

Staff are not permitted to perform work on, over, or near water without first informing their RSM and developing additional safety plans. Coast Guard approved flotation devices will be worn to protect staff members from the risk of drowning.

General hazards of walking around water bodies:

- Enhanced potential for slips, trips, and falls.
- Engulfment/entrapment.
- Rising water conditions.
- Enhanced physical exertion from wearing waders, hauling equipment to areas inaccessible to vehicles; this will increase the likelihood of fatigue leading to muscle strains, heat stress, or cold stress.
- Increased chance of encounters with biological hazards.

Protective measures for working around water:

- Ensure team has proper PPE, such as Coast Guard approved floatation devices, lifeline, life buoy, or audible alarms.
- Use the buddy system.
- Conduct daily inspections of work areas, equipment, and safety devices.
- Install guardrails or other barriers to reduce potential for falling into water.
- Ensure team is aware of emergency procedures and prepared to respond in the event of an emergency.

- Be vigilant about weather changes.
- Dress appropriately for weather and other conditions of the site.
- Remain hydrated and maintain electrolyte balance.
- Make sure all walking areas and work surfaces are clean, dry, clear of debris, etc.
- Keep all gear secure when not in use.
- Keep stairs, ladders, doorways, ramps, walkways, and gangways clear.
- Safely secure ramps or gangways when loading and offloading.
- Check for items such as loose boards or nails that stick out on docks and repair as necessary.
- Wear footwear with slip-resistant soles.
- Use a non-skid deck compound where possible.
- Do not allow any part of your body to be between the dock and the boat.

Overhead Utilities

Before beginning equipment operations, the contractor will identify the work zone and determine if any part of the equipment, load line, or load could get closer than 20 vertical or horizontal feet to a power line. If so, the contractor will:

- Determine the line's voltage and maintain clearance distances both vertical and horizontal in accordance with the table below, or
- Arrange with the utility to de-energize and ground the power line, or
- Modify the work to maintain a 20 foot clearance distance by implementing the measures specified in 29 CFR 1926.1408(b) including conducting a planning meeting, erecting, and maintaining an elevated warning line, barricade, or line of signs in view of the operator equipped with high visibility markings at the minimum clearance distance, using a proximity alarm, dedicated spotter, or range limiting device.

Table B. Equipment Travel Clearance Distances for Uninsulated Power Lines	
Voltage (nominal, kV, alternating current)	**Minimum clearance distance (feet)**
up to 50	10
over 50 to 200	15
over 200 to 350	20
over 350 to 500	25
over 500 to 750	35
over 750 to 1,000	45
over 1000	As established by the utility owner operator or registered PE who is a qualified person with respect to electrical power transmission and distribution

Pinch Points

A pinch point is a place where a body part can get caught between moving parts of a machine, between moving and stationary machine parts and between moving parts and other materials. Other situations where pinch point injuries can occur include:

- Catching fingers, hands, toes, or feet under or between heavy crates or equipment or drums while moving them
- Slamming fingers or hands in a door
- Nipping fingers or hands with hand tools
- Nipping fingers or hands with equipment that has sliding parts or hinges
- Nipping fingers or hands while closing a container
- Getting clothing, hair, or jewelry tangled in a pinch point

Pinch point injuries can be prevented by:

- Using machine guards
- Never reaching around, under, or through a guard
- Reporting guards that are missing, damaged, or not working properly
- Lockout/tagout of equipment before repairing or servicing
- Looking for pinch points before starting any task
- Lifting the edge of a heavy item slightly before picking it up to assess its weight and if you are able to lift the weight unassisted-an awkward or heavy load can slip and pinch or crush hands or feet. Get help or use material handling aids to move heavy or awkward items.
- When placing a heavy item on a shelf, pallet, floor etc. or closing a heavy door, make sure there is enough room so the item will not land on your feet
- Sliding the item into place while moving feet and hands out of the way
- Concentrating on the task at all times

Power Tools

Potential Hazards:

- Electrical
- Eye injuries
- Hand injuries
- Musculoskeletal Injuries
- Dust inhalation

Safe Work Practices and Control Measures:

- Personnel will be trained in the use operation and proper handling of portable power tools before they use them.
- Ensure the right tool is used to perform the job.
- Before use, the tool must be inspected for loose power cord connections and frays, and damage to the casing, cord, and plug. The grounding prong must be in good condition, if present.
- Electric tools must be grounded (i.e., have three pronged plugs) and be plugged into a properly grounded outlet or be double insulated. Always hold the tool by the insulated gripping surface instead of the cord.
- Extension cords with three-pronged grounding plugs must be plugged into a three-pronged outlet when using grounded tools.
- When using power tools, grounded surfaces such as pipes or radiators shall not be touched, as there is a greater risk of electric shock if your body is grounded.
- When working with electric tools in damp or wet locations, ground fault circuit interrupter (GFCI) protection must be used.
- Do not abuse the cord, carry the tool by its cord, or pull the cord to unplug it. Keep cord from heat, oil, sharp edges, or moving parts. Replace damaged cords immediately.
- Unplug the tool immediately after use, before removing or changing bits, and before performing any service or maintenance on the tool.
- During inspection, ensure that the trigger turns the tool when “on” and stops the tool in the “off” position. Make sure the chuck is tightly secured to the spindle.
- Loose clothes, gloves, jewelry, or hair can be caught in moving parts, so they must not be worn or be controlled (tie back hair).
- Always wear safety glasses or goggles and, if needed, a face shield.
- Wear hearing protection and a particulate respirator, if dust is generated.
- Hold or brace the tool securely. Brace against stationary things for maximum control.
- Avoid bending the wrists and other awkward body postures, such as twisting the torso.
- Take frequent breaks from tool use to avoid musculoskeletal injuries from repetitive motion.
- Use proper lifting techniques for handling tools. Do not lift more than 55 pounds alone, and use proper body mechanics - lift with your legs, not your back. Do not twist the body when picking up a load.

Projectiles

- Be aware that many tasks, such as cutting, grinding, or prying, can create flying debris or projectiles.
- Implement controls to prevent tools and materials from falling, such as securing tools, using toe boards, guardrails, debris nets, or canopies.
- Secure materials that could become airborne or projectiles.
- Use tool tethers to prevent tools from falling from heights and becoming projectiles.

- Barricade areas where work creating projectiles is taking place and prevent unauthorized personnel.
- Wear proper PPE, including hard hats, eye protection, and safety-toed boots.

Public Right Of Way

- Haley & Aldrich staff and their subcontractors conducting work on public roads and/or rights of way can be exposed to vehicular traffic and expose the public to the hazards of the job site.
- Where a hazard exists to site workers because of traffic or haulage conditions at work sites that encroach public streets or highways, a system of traffic controls in conformance with the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), or state program, is required.
- A Temporary Traffic Control Plan (TCP) describes traffic controls to be used for facilitating vehicle and pedestrian traffic through a temporary traffic control zone. TCPs are required to provide for worker protection and safe passage of traffic through and around job sites with as little inconvenience and delay as possible.
- The plan may range in scope from being very detailed, to merely referencing typical drawings contained in the MUTCD.
- The degree of detail in the TCP depends entirely on the complexity of the situation, and TCP's should be prepared by persons knowledgeable about the fundamental principles of temporary traffic control and the work activities to be performed.
- Haley & Aldrich PMs or their subcontractors need to establish appropriate control measures and obtain any permits when project work is on or encroaches public roadways.
- You may need flaggers or police details.
- Cease work and notify the field supervisor immediately if any conditions are such that safety is jeopardized.
- Utilize protective vehicles whenever appropriate, or position equipment so it is in between the work and oncoming traffic.

Railroad Right Of Way

- Typically, the presence of anyone, equipment, and/or material is "in the railroad area" (closer than 15 feet of the nearest railroad rail, centenary, electrical wire, signal wire, or other signal facility) must have permission of the railroad company prior to initiating work. All work must avoid causing damage to trains, tracks, or other facilities of the railroad company, and not to interfere with movement of trains or railroad track ballast.
- Railroad companies may require a flagger when construction operations encroach "the railroad area."
  - The flagger is assigned to a construction project to ensure safe passage of trains or on-track equipment by communicating with trains regarding the movement of construction equipment on/near active tracks.
  - Notify the flagger whenever necessary to be "in the railroad area" and proceed only after the flagger has indicated it is safe to do so.
  - The tracks must be cleared promptly anytime the flagger indicates to do so.
- Trains may need 1.5 miles to come to a complete stop.

- New trains are quiet and can cover a mile in less than 30 seconds producing enormous amounts of wind turbulence.
- The slipstream is powerful enough to drag you under the wheels of the train if standing next to the track.
- Communication protocols need to be established prior to being "in the railroad area."
- Tracks are clearly defined and known by all parties involved.
- If a flagger is required, they must inform all workers how they will be warned of approaching trains.
- Complete safety and security awareness training through e-railsafe or designated vendor.

Remote Work Area

- Establish frequent check-ins and meetings to maintain clear communication among team members.
  - Project team members must regularly touch base with staff members performing remote work to ensure they are safe.
  - When working in remote areas, cell phone reception may be limited.
  - Ensure you have designed communication systems that are adequate for the working environment.
- Encourage the use of instant messaging and email for quick updates.
- Establish adequate emergency response processes, including who to call, how to call, and directions to your location.

Repetitive Motion

- Trade-off job duties to minimize repetitive stress of joints or muscles.
- Encourage job rotation for repetitive or monotonous work in the field.
- Take breaks at the intervals defined during the task risk assessment to prevent fatigue and repetitive motion injuries.
- Use proper lifting and hand positioning to avoid sprains and repetitive motion injury.
- Prior to work, stretch legs, arms, and back.

Rotating Equipment

- Personnel should exercise caution when working near rotating equipment to prevent entanglement with clothing, placing body parts near pinch points on equipment, or using equipment on slopes or unstable surfaces.
- Site personnel and visitors who are not performing necessary work shall remain a distance of at least 15 feet away from moving parts on such equipment.

Rough Terrain

- Wear proper footwear with tread patterns designed for rough terrain.
- Before stepping, lightly tap the ground with your foot to assess its stability.
- Reduce your walking speed to allow for better balance and reaction time.
- Keep your feet slightly apart to increase your base of support.

- Actively scan the path ahead for obstacles, loose rocks, or uneven surfaces.
- Carry lightly: Avoid carrying heavy loads that could affect your balance.
- Take extra caution in wet, icy, or snowy conditions.

Sharp Objects

- Staff members are required to wear ANSI cut score A2 gloves whenever there is potential for cutting hazards on site.

Silica Dust

- Use of wet methods must be utilized to minimize dust production.
- Ensure that enough water is supplied.
- A water-integrated delivery system that supplies water to cutting surface will be a requirement for stationary mason saws, hand-held power saws, walk behind saws, drivable saws, rig mounted core saw/drills, jackhammers, and hand-held grinders.
- All water must be collected for sampling and disposal off-site.
- All drain inlets will need to be identified and secured with plastic sheeting and absorbent snakes or sandbags, and will need to be identified by the use of a cone or delineator.
- Personnel must ensure drain valves are safely secured, and washed soils will be shoveled from the unit and will be transported into appropriate labeled drums.
- Evaluation must be completed to determine whether a dusk mask/respirator is required to prevent inhalation of particles (based on equipment used – see below).
- The slurry from utilizing the wet methods must be removed before it dries to prevent the dried material from generating dust that can spread to other areas of the site.

Simultaneous Operations (SIMOPS)

- SIMOPS are described as the potential class of activities which could bring about an undesired event or set of circumstances (e.g., safety, environment, damage to assets, schedule, commercial, financial, etc.).
- SIMOPS are defined as performing two or more operations concurrently.
- SIMOPS should be identified at an early stage before operations commence to understand issues such as schedule and physical clashes, maintenance activities, failure impacts, interferences between vessels, contracts and third part interfaces and environmental impacts.
- Coordinate project with site activities.
- Identify and understand the hazards associated with the host and client's activities.
- Integrate site emergency response protocols, where appropriate, and communicate to all project staff.
- Integrate site communication protocols and communicate to all project staff.

Site Control

- Work Zones
  - To prevent both exposure of unprotected personnel and migration of contaminated materials due to tracking by personnel or equipment, work areas along with PPE requirements will be clearly identified.
  - Haley & Aldrich designates work areas or zones in accordance with the "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities" (NIOSH/OSHA/USCG/EPA).
  - They recommend the areas surrounding each of the work areas to be divided into three zones:
    - Exclusion zone
    - Contamination Reduction Zone (CRZ)
    - Support Zone
- Exclusion Zone
  - The areas of site activities discussed in the mobilization section of this HASP which contain or are suspected to contain hazardous material will be considered the exclusion zone.
  - The exclusion zone for soil excavation will be a radius of 20 feet around each area to be excavated whenever possible and where applicable.
  - The exclusion zone for drilling activities will be at least a radius equal to the height of the drill rig mast.
  - This radius may be increased if air monitoring reveals that Level C respiratory protection is required during these activities.
  - Personnel in the exclusion zone must have the required OSHA training, medical authorization, and have the appropriate PPE.
  - The locations of the exclusion zones will be determined in the field by the SSO and will be marked using caution tape, snow fence, and/or signs, where appropriate.
- Contamination Reduction Zone (CRZ)
  - The CRZ will be established upwind of the exclusion zone and will provide for personnel and equipment decontamination where necessary. The decontamination area will be determined in the field by the SSO.
- Support Zone
  - The support zone is located in an area that is not contaminated.
  - This area is established to provide areas for breaks, administration of first aid, personnel monitoring, administrative functions, and equipment storage.

Slips, Trips, and Falls

- Keep site and walking pathways clear of obstacles and debris.
- Keep work surfaces dry where possible.
- Wear appropriate footwear for the conditions. Add traction devices (ice cleats, 'Yaktrax', etc.) to footwear as needed.

- Take your time, stay alert, and be aware of the conditions.
- In mixed vegetation, rubble or debris, or walking over snow/ice use a walking stick/staff to 'investigate the ground' of your path.

Steep Slopes

- All machines have limits for the slopes on which they can safely operate.
- Machines must not be operated on slopes outside of the manufacturer's recommendations.
- If excavations are on a steep slope, evaluate operations to ensure compliance with excavation/ trenching regulations.
- Work should be evaluated for fall protection, and any heavy equipment should be evaluated to see if appropriate for the work.
- When planning how the work should be done on a specific site, consider:
  - Soil/ground conditions,
  - Ground roughness,
  - Underlying material,
  - Machine design/limits,
  - Terrain-slope measurements,
  - Visibility,
  - Weather conditions,
  - Water on site/sinking/floods.
- When working on a steep slope, additional care should be taken to prevent slips, trips, or falls.

Struck-By

- Ensure operating paths are clear of personnel or objects subject to hazard.
- Operate equipment safely and according to manufacturer's instructions.
- No one will approach equipment in operation unless the operator gives them positive indication that it is acceptable to do so.
- Put up barriers to avoid unnecessary contact with hazards.
- Ensure egress paths are clear and unobstructed.
- Vessel operator will clearly notify anyone boarding the vessel of any pinch point hazards associated with the operation of the vessel and sample equipment.

Underground Utilities

Pre-planning is required for understanding the limitations of the site and identifying whether subsurface intrusive work can be completed safely. The following items, which are provided in OP1020 - Underground Utilities may

need to be completed or reviewed prior to intrusive work based on the type of work as well as local, state, federal, and client requirements:

- Dig-In Prevention Policy;
- A health and safety plan and related health and safety documents/considerations;
- OP1020 Attachment C - Subsurface Clearance Field Checklist;
- Utilities marked with ANSI Z 535.1 Color Matrix;
- Confirm utilities with a private utility locator;
- Establish Tolerance Zones;
- A site walkthrough with staff members, subcontractors, and others who know utility locations, as applicable;
- State One Call – 811, three days prior to starting ground disturbance activities; and/or
- State One Call Ticket/Permit kept at site or readily accessible.

Welding

- Stay at least 35 feet away from the welding area, when possible, especially if not involved in the welding operation.
- If you must be in the vicinity, ensure you are shielded from the direct line of the welding arc, do not look at the welding arc, or wear appropriate eye protection.
- Flammable materials should be removed from the area or protected with fire-resistant shields or blankets.
- Unauthorized people should not enter the welding area.
- If staff will be performing welding activities, they must complete a task-specific JHA, hot work permit, and contact H&S.

Working at Heights

- Any project teams performing work that requires fall protection must work with their RSM for proper planning and training.
- Fall protection such as guardrail systems, safety net systems, or personal fall arrest systems can be used to protect staff while working at height.
- Staff required to wear fall arrest systems shall have received appropriate training and will inspect their gear prior to use to ensure it is in good working order.

Working in Phragmites Marshes

Special precautions should be taken when working in and around Phragmites marshes. These precautions include:

- Phragmites marshes pose significant slip, trip, and fall hazards. These marshes have soft and wet soil which can cause slip hazards. Terrain may be uneven, and changes in terrain may be hidden by ground cover. Additionally, features including muskrat burrows and ditches may create hazardous walking conditions. Use caution when walking through these areas.

- Dense Phragmites growth limits visibility, making slip, trip, and fall hazards such as ditches or waterway banks difficult to negotiate.
- The limited visibility can affect orientation. Site personnel entering areas of dense Phragmites growth should travel in pairs and maintain constant awareness of the way to exit the area.
- Phragmites leaves are sharp edged and cut skin. Additionally, Phragmites pose significant threat to eyes. Site personnel should wear work gloves and eye protection (spoggles) if the activity involves walking through Phragmites.
- When working in marshes and other limited visibility areas, field staff should ensure that they make another team member aware of their location. Radios or cell phones should be used to maintain communication. Have readily available telephone numbers for emergency services such as fire and police departments.
- Dry Phragmites stalks and leaves can catch fire. See section on Brush Fires in Appendix C for more information.

Workplace Harassment

- Staff members that encounter any sort of harassment during work should first try to deescalate the situation, if possible, and remove themselves from any threat as soon as possible;
- Do not attempt to engage or antagonize a person threatening violence;
- Report any threats, physical or verbal, and/or any disruptive behavior of any individual to HP and H&S as soon as possible either through phone call, email, or the use of the Sensitive Information Reporting Form; and
- Following an incident, staff may be asked to participate in any subsequent investigation of the workplace harassment incident.

APPENDIX C – WEATHER-RELATED HAZARDS

Brush Fires

Fires are a concern due to the large amount of vegetative material. Dry weather and strong winds contribute to the threat of fires. The following precautions should be taken during these periods:

- Prior to field activity, personnel should review all available weather information for warnings of increased fire potential.
- For extended work activities in the wetlands, a minimum of two evacuation routes should be established and cleared. The evacuation routes must be identified to field personnel working in the wetlands.
- A fire extinguisher will be carried into the wetlands.
- One field team member must return to the entry point to check the surroundings for signs of brushfire (smoke, etc.) and changing wind conditions on intervals not exceeding twenty minutes.
- Navigation tools, such as a map and compass, and two separate means of communication (cell phones, two-way radios, etc.) will be required safety equipment and must be immediately accessible to all members of each field team during all activities.
- Work involving the use of a potential ignition source (e.g. generators, halogen lighting) will not be performed.
- No smoking is allowed in wetland areas.
- In the event that warning signs of a brush fire are noticed by any field team member (fire sighting, smoke smell or sight, warning from elsewhere on site), all work will be suspended, and field teams will evacuate the site immediately. After evacuation, the priority will be achieving confirmation of evacuation from all field personnel. Emergency services will be contacted as per the HASP.
- All activities will be suspended until positive confirmation can be obtained that the fire has been completely controlled and extinguished.

Cold Stress

- Make sure workers are aware of cold stress symptoms, consequences, and prevention methods.
- Dress appropriately for wet/cold weather.
- Dress in layers and wear waterproof clothing as needed and proper cold weather PPE.
- Stay inside, as practicable, and use a buddy system to monitor cold stress effects.
- Have a warm area or vehicle available for breaks from the cold.
- Schedule work at warmer times of day or during milder weather times, if possible.
- If staff members feel the effect of weather stress, seek a warm location and drink warm non-caffeinated beverages.

Earthquakes

- Remember to Drop, Cover, and Hold on.
  - Drop: Wherever you are, drop down to your hands and knees and hold onto something sturdy. If you're using a wheelchair or walker with a seat, make sure your wheels are locked and remain seated until the shaking stops.
  - Cover: Cover your head and neck with your arms. If a sturdy table or desk is nearby, crawl underneath it for shelter. If no shelter is nearby, crawl next to an interior wall (away from windows). Crawl only if you can reach better cover without going through an area with more debris. Stay on your knees or bent over to protect vital organs.
  - Hold on: If you are under a table or desk, hold on with one hand and be ready to move with it if it moves. If seated and unable to drop to the floor, bend forward, cover your head with your arms, and hold on to your neck with both hands.
- If an earthquake happens, protect yourself right away:
  - If you are in a car, pull over and stop. Set your parking brake.
  - If you are in bed, turn face down and cover your head and neck with a pillow.
  - If you are outdoors, stay outdoors away from buildings.
  - If you are inside, stay and do not run outside and avoid doorways.
- There can be serious hazards after an earthquake, such as damage to the building, leaking gas and water lines, or downed power lines.
  - Expect aftershocks to follow the main shock of an earthquake. Be ready to Drop, Cover, and Hold On if you feel an aftershock.
  - If you are in a damaged building, go outside and quickly move away from the building. Do not enter damaged buildings.
  - **If you are trapped, send a text or bang on a pipe or wall.** Cover your mouth with your shirt for protection and instead of shouting, use a whistle.
  - If you are in an area that may experience tsunamis, go inland or to higher ground immediately after the shaking stops. Avoid contact with floodwaters as they can contain chemicals, sewage, and debris.

Fires

- Small
  - Use fire extinguisher if safe and qualified to do so.
  - Notify PM, Site Safety Officer, contact 911.
- Large
  - Evacuate immediately.
  - Notify PM, Site Safety Officer, contact 911.

Flooding

- Move to higher ground.
- Avoid floodwater, don't walk, drive, or swim in flooded areas.

- Don't touch any electrical equipment.
- If heavy rains are expected and there is potential for flooding, consider rescheduling work to avoid unsafe areas.
- Evacuate when instructed to do so.

Heat Stress

- Make sure workers are aware of heat stress symptoms, consequences, and prevention methods.
- Drink plenty of hydrating fluids (i.e., water), provide enough water for each staff member to drink one quart per hour for days when heat exceeds 80 degrees F using the Heat Index.
- Use cooling devices, as needed.
- Acclimatize workers before performing work in extreme heat.
- Have a shaded area or vehicle available for breaks from the heat.
- Use a buddy system to monitor heat stress effects.
- Schedule work at cooler times of day or during milder weather times, if possible.
- Monitor the Heat Index using the OSHA NIOSH Heat Safety Tool mobile app, complete the Heat Injury and Illness Prevention Plan when heat exceeds 80 degrees F using the Heat Index, and consult Health and Safety.

High Winds

- The table below summarizes the stop work action levels for general site work and various high-risk project activities with respect to wind speed.

Work Activity	Wind Speed Stop Work Action Levels	
	Sustained[1]	Instantaneous
General Site Work	25 mph	40 mph or greater
High Risk Activities		
Working at Heights	15 mph	25 mph or greater
Critical Lifting Operations	15 mph	25 mph or greater
Lifting Operations	25 mph	35 mph or greater
Over Water Work	25 mph	35 mph or greater
Heavy Equipment with Elevated Masts	25 mph	35 mph or greater

- It should be noted that when using specific heavy equipment, that the manufacturer's recommended wind speed for cease of operations (if defined) supersedes the wind speed action levels stated above, if the manufacturer's guidelines are more restrictive.
- Task specific JHAs must reflect manufacturer's specific guidelines, or if exact make and model of equipment is not known during initial JHA development, they will be updated in the field to reflect requirements.

Hurricanes

- Pay attention to emergency information and alerts.
- If you live in a mandatory evacuation zone and local officials tell you to evacuate, do so immediately.

- Determine how best to protect yourself from high winds and flooding.
- Take refuge in a designated storm shelter or an interior room for high winds.
- Go to the highest level of the building if you are trapped by flooding. Do not climb into a closed attic. You may become trapped by rising flood water.
- Do not walk, swim, or drive through flood waters. Turn Around. Don't Drown! Just 6 inches of fast-moving water can knock you down, and 1 foot of moving water can sweep your vehicle away.

Lightning Storms

- If lightning is observed to be within 6 miles of the project, suspend operations, depending on the speed of storm approach.
- You can use "Spark" by WeatherBug, or another recognized lightning warning app to track lightning.
- National Severe Storms Laboratory (NSSL) recommends the "Flash to Bang" method. Simply count the seconds from the time the lightning is sighted to when the clap of thunder is heard.
- Divide the number by five to obtain how far away in miles the lightning is occurring.
  - For example, if the lightning flash is seen and then 15 seconds later the bang of thunder is heard, the lightning is 3 miles away. It is important site personnel monitor not only how far away the lightning is, but also how fast it is approaching.
- The NSSL recommends by the time the Flash to Bang count reaches 30 seconds, all individuals should have left the site and reached a safe structure, such as a building or job trailer.
- If caught in the open by an electrical storm, immediately seek shelter in a vehicle on land.
- If a vehicle is inaccessible: move to a topographically low area away from tall objects and conductors (e.g., trees, transformers, fences, pipelines, power lines, metal sheds) and wait for the storm to leave the area.
- If you feel your hair stand on end (an indicator lightning is about to strike), drop to your knees and bend forward, putting your hands on your knees. Do not lie flat on the ground (be wary of seeking shelter in washes, ravines, or gullies during heavy downpours because of the risk of flash floods).
- In the event of extreme weather conditions which may pose a health and/or safety risk to workers, field activities will cease until the SSO determines conditions are safe to resume operations.
- Wait at least 30 minutes after the last lightning strike within 6 miles before resuming work.

Snowstorms

- Assess the weather before traveling and ensure emergency supplies are packed in the vehicle.
- Provide sufficient time for travel delays due to snow/ice covered roads or accidents.
- Inform someone of your travel plans and expected time of arrival.
- Wear layered clothing, including jackets, hats, and mittens, or keep these items in the vehicle.
- If you get stuck inside your vehicle:
  - Stay inside the vehicle.
  - Run the heater periodically but be cautious of carbon monoxide poisoning.

Sun Exposure

- Exposure to ultraviolet light from working outdoors can cause sunburn and can lead to skin cancer. Staff members are encouraged to liberally apply sunscreen, with a minimum sun protection factor of SPF 30 when working outdoors. Sunscreen selected should protect against both UVA and UVB rays. Staff members should work in the shade whenever practical.
- Prevention of over-exposure and sunburn will be completed by wearing appropriate clothing and using sunscreen. Long-sleeve breathable shirts are recommended to avoid sun exposure to the arms. All staff members are required to wear long pants and boots as part of their PPE and will eliminate sun exposure to legs and feet.
- Additionally, staff wear safety glasses offering protection from ultraviolet A/ultraviolet B rays.

Tornadoes

- Watch areas where tornadoes could become present.
- Review and discuss your emergency plans, communication/sirens in case of emergency and review shelter locations.
- If site is prone to tornadoes, monitor weather reports during work shifts.
- Act quickly if a warning is issued or you suspect a tornado is approaching.
- If a tornado has been sighted or indicated by weather radar, imminent danger to life and property exists.
- Go to shelter locations listed in Safety Plan. Go immediately under ground to a basement, storm cellar or an interior room (closet, hallway, or bathroom).
- If caught outdoors when a tornado is threatening, seek shelter in a basement or a sturdy building. If one is not within walking distance, try to drive to the nearest shelter.
- If flying debris is encountered while in a vehicle, there are two options:
  - Stay in the vehicle with the seat belt on, keep your head below the windows, and cover it with your hands or a blanket, or
  - If there is an area that is noticeably lower than the roadway, lie in that area and cover your head with your hands.

Tsunami

- If you are under a tsunami warning:
  - Know evacuation routes (often are marked by a wave with an arrow in the direction of higher ground) and follow them to higher ground.
  - Contact your project manager when it is safe to do so to inform them that you have evacuated.
  - Leave immediately if you are told to do so. Evacuation routes often are marked by a wave with an arrow in the direction of higher ground.
  - If you are in the water, grab onto something that floats, such as a raft or tree trunk.
  - If you are in a boat, face the direction of the waves and head out to sea. If you are in a harbor, go inland.

Wildfires and Air Quality Concerns

- Monitor and assess the air quality index (AQI) for particulate matter at 2.5 microns (PM 2.5) utilizing AirNow.
- Utilize engineering or administrative controls to limit staff member exposure to an AQI level of 150 or lower if possible.
- Review our Wildfire Smoke and Air Quality program materials.
- Ensure all staff members have completed Air Quality Training.

AQI for PM 2.5	Response Action
0 to 50	Normal working conditions. Monitor PM 2.5 conditions and forecasts.
51 to 100	Normal working conditions. Sensitive groups should begin to monitor physical condition. Notify staff of air quality conditions. Ensure only trained staff members are working in the field.
101 to 150	NIOSH approved N95 respirators will be available in all offices for staff members that have completed the voluntary use form. Engineering controls and administrative controls will be implemented. Sensitive groups should continue to monitor conditions.
151 to 200	NIOSH approved N95 respirators will remain available in all offices for staff members that have completed the voluntary use form. Monitor physical conditions throughout the day and remain aware of immediate health impacts of smoke inhalation. PMs should begin discussions about rescheduling work. Recommended that outdoor staff take frequent breaks in areas where filtered AQI is less than 101.
201 to 250	Respirators will remain available for all staff if voluntary use form is completed. All outdoor staff are required to take frequent breaks in areas where filtered AQI is less than 101. Sensitive persons are not to work outdoors in these conditions.
251+	All outdoor projects will be stopped in the impacted areas until the AQI has dropped below 251. Outdoor project work will be rescheduled.

APPENDIX D – BIOLOGICAL HAZARDS

Bacteria

- Wear appropriate personal protective equipment (PPE), such as gloves, eye protection (goggles or face shields), and disposable clothing, when working with potentially contaminated materials or in areas where bacterial exposure is possible.
- Wash your hands and any exposed skin with soap and water immediately, or as soon as feasible, after contact with potentially infectious materials or contaminated surfaces.
- Disinfect potentially contaminated surfaces to reduce potential for bacteria to spread.

Bees, Wasps, and Hornets

- Bees generally fly in straight lines between flower and hive, hence collision with unsuspecting individuals occurs.
- If a single bee approaches, STAY STILL, do not try to swat the insect as this may cause it to react.
- If it lands, gently try to blow it off the skin.
- If a swarm of bees approach, run for shelter. Bees release a chemical when they sting, which may attract other bees to sting.
- If stung, try to look for the stinger and carefully remove it by flicking it or scratching it out of the skin from the stinger sack.
- Stings to the head and neck are more dangerous.
- Life threatening reactions are more likely to occur in people who are already known to be very allergic to bee venom, older people with pre-existing heart and chest complaints, or with multiple stings.
- When stung immediately apply ice or cold compresses to the sting site.
- Wasps and bees are drawn to flower fragrances and clothing with bright colors (white is safest), perfumes, fruit juices and eating fruit outdoors, hair tonics, suntan lotions, and floral odors.
- Hornets are drawn to food and sources of moisture.
- Carefully shake out any clothing left on the ground.
- Cover open containers and any food outdoors.
- Individuals who are prone to severe reactions to bee stings should notify the SSO and carry their prescribed medication(s) with them for self-administration.
- Emergency medical treatment should be sought immediately for individuals who are allergic to bee stings or other individuals who exhibit severe reactions described above.

Bird and/or Bat Droppings

- Avoid situations where bird or bat droppings may exist.
- Use dust suppression methods to reduce airborne particulate levels.
- Wear respiratory protection and PPE to curtail particulate adhesion to clothing.

Bloodborne Pathogens (BBPs)

- While Haley & Aldrich staff members should not anticipate occupational exposure to bloodborne pathogens in their normal daily activities, there is always potential for an incident that could lead to exposure.
- Bloodborne pathogens are bacteria, viruses, and other pathogenic microorganisms that can only be detected by medical tests.
- Any time you come in contact with another individual's blood or other potentially infectious material (OPIM), you are at risk of becoming infected.
- Therefore, staff members must treat all blood and OPIM as if they could get infected.
- Offices are equipped with BBP response kits, and field staff members have the option to collect the same BBP kits to have on hand as a resource.
- Proper PPE, disposal, and handwashing are critical to limit exposure to BBP.
- For more information, see OP1058 - Bloodborne Pathogens.

Contaminated water

- Don PPE to reduce exposure, such as gloves, safety glasses, and protective clothing.
- Implement work practices to limit contact with contaminated water, such as avoiding walking through contaminated areas and using remote handling techniques, where feasible.
- Use signage that clearly indicates the presence of contaminated water and warns against contact or use.
- Identify handwashing facilities or areas where staff members can thoroughly wash hands following any potential exposure.

Disease

- The primary routes of infectious disease transmission are contact, droplet, and airborne.
- General practices, such as the following, can help reduce the risk of disease:
  - Regular handwashing
  - Covering coughs and sneezes
  - Proper cleaning and disinfection of surfaces
  - Staying home when sick
  - Wearing face coverings
  - Wearing gloves

Mammals - Large

- Avoid contact with animals whenever possible.
- If an animal displays aggressive behavior and charges, do not run or turn your back.
- When confronted by a large mammal, it is important not to run or exhibit any behavior that may be construed as a challenge (e.g., looking the animal in the eyes, showing your teeth, etc.).

- Stand still and place your work bag between you and the animal and then begin to move slowly away from the animal, while not turning your back.

Mammals - Small

- Avoid contact with rodents, if possible.
- Avoid contact with rodent excrement.
- Do not eat food or water that may have encountered rodent excrement.
- If exposed, wash hands and avoid touching your face with your hands.

Mosquitoes

- Take appropriate precautions to minimize the potential transmission of viruses carried by mosquitoes.
- Use of PPE techniques is essential to prevent mosquito bites, especially when working at sites where mosquitoes may be active and biting.
- Use repellents containing DEET, picaridin, IR3535, and some oil of lemon eucalyptus and para-menthane-diol products provide longer-lasting protection. To optimize safety and effectiveness, repellents should be used according to the label instructions.
- Cover as much of your skin as possible by wearing shirts with long sleeves, long pants, and socks whenever possible.
- Avoid use of perfumes and colognes when working outdoors during peak times when mosquitoes may be active; mosquitoes may be more attracted to individuals wearing perfumes and colognes.
- Treat bites by cleaning the affected area with warm soapy water.
- Place an ice pack on the affected area to reduce swelling.
- Take or apply an antihistamine to reduce itchiness.
- Avoid scratching the bite to reduce risk of infection.

Marine Animals

- Maintain a minimum 50-yard distance from marine mammals.
- Marine mammals can be aggressive if bothered, and many have environmental protections.
- Do not approach marine mammals and should maintain their distance.
- If marine mammals are in the work area and impede work, the team should contact the harbormaster and project management.

Poisonous Plants

Poisonous plants that can cause skin irritation include poison ivy, poison oak, and poison sumac. Poisonous plants are found throughout the United States (except Alaska and Hawaii).

<u>Poison Ivy</u>

Eastern poison ivy is typically a hairy, ropelike vine with three shiny green leaves budding from one small stem. The leaves may be red in the fall.

Western poison ivy is typically a low shrub with three leaves that does not form a climbing vine. It may have yellow or green flowers and white to green-yellow or amber berries.



Poison Oak

Poison oak is typically a shrub with three leaves, like poison ivy. Pacific poison oak may be vine-like. It may have yellow or green flowers and clusters of green-yellow or white berries.



Poison Sumac

Poison sumac is a woody shrub that has stems with 7 to 13 leaves arranged in pairs. It may have glossy, pale yellow, or cream-colored berries



Types of Exposure

Poison ivy, poison oak, and poison sumac release an oil (urushiol) when part of the plant is damaged or burned. When the oil gets on the skin, most exposed people have an allergic reaction (contact dermatitis). Workers can become exposed to urushiol through:

- Direct contact with the plant.
- Indirect contact, such as touching tools, livestock, or clothing that have urushiol on them.
- Inhaling particles containing urushiol from burning plants.

Prevention

- Wear long sleeves, long pants, boots, and gloves. Wash exposed clothing separately in hot water with detergent.
- Use barrier skin creams, such as Ivy X pre contact towelettes.
- Clean tools with rubbing alcohol (isopropanol or isopropyl alcohol) or soap and lots of water. Urushiol can remain active on the surface of objects for up to five years. Wear disposable gloves while cleaning.

Symptoms of contact with poisonous plants include:

- Red rash within a few days of skin contact
- Bumps, red patches or streaking, or weeping blisters
- Note: fluids in blisters will not cause blisters to spread on you or others
- Swelling
- Itching

First Aid

- Rinse skin immediately.
- Use rubbing alcohol, poison plant washes (Ivy X Contact wipes), or dishwashing soap, and lots of water.
- Rinse often to prevent wash solutions from drying on the skin and further spreading the urushiol.
- Apply cold compresses, follow directions on treatment wipes, do not apply to broken skin
- Emergency medical treatment should be sought immediately for individuals who are allergic to poisonous plants or other individuals who exhibit severe reactions described above.

Snakes

The degree of toxicity resulting from snakebites depends on the potency of the venom, the amount of venom injected, and the size of the person bitten. Poisoning may occur from injection or absorption of venom through cuts or scratches.

The most effective way to prevent snakebites is to avoid snakes in the first place. Personnel should avoid walking at night or in high grass and underbrush. Visual inspection of work areas should be performed prior to activities taking place.

The use of leather boots and long pants will be required, since more than half of all bites are on the lower part of the leg. No attempts at killing snakes should be made; many people are bitten in such an attempt.

If someone is bitten by a potentially poisonous snake, the following treatment should be initiated:

- Keep patient calm.
- Notify emergency medical services.
- Wash the wound and keep the affected body part still.
- Apply direct pressure to site of bite if bleeding is extreme.
- Keep the affected area lower than the heart.
- Carry a victim who must be transported or have them walk slowly.
- Transport to the closest medical facility.

Ticks

- Wear light-colored clothing so ticks stand out, and long-sleeved shirts and long pants to reduce skin exposure.
- Tuck your shirt into your pants and tuck your pants into your socks to close gaps.
- Use repellent containing 20-30% DEET (N, N-diethyl-m-toluamide) on exposed skin and clothing.
- Avoid hands, eyes, and mouth and wash off repellent when back indoors.
- Treat clothing with or purchase clothing with products containing 0.5% permethrin.
- Conduct frequent tick checks on clothing and skin. Have others check your back, scalp, and behind your ears and check gear for "hitchhikers."
- As soon as you return indoors, take a bath or shower. and do a full-body inspection using a mirror.
- Wash field clothes and tumble dry on high to kill any ticks that may be hidden.
- If working in an area of significant tick habitat, PPE may need to be upgraded to a Tyvek suit.
- Implementation of controls is crucial to minimize or eliminate the possibility of a tick bite.
- If a staff member has been bitten contact Corporate H&S and Work Care at 888-449-7787 to initiate the Tick Management Protocol. Once bitten, it takes approximately 48 hours to transmit Lyme Disease,
- For removal, a fine-tipped tweezer is recommended as a tick removal tool and should be in the first-aid kit. Follow these steps:
  - Pull upward with steady, even pressure.
  - Do not twist or jerk the tick; this can cause mouth parts to break off and remain in the skin.
  - If this happens, remove the parts with tweezers.
  - If unable to remove easily with tweezers, leave them alone and let the skin heal.
  - After removing the tick, thoroughly clean the bite area and hands with rubbing alcohol, iodine scrub, or soap & water.
  - Dispose of live ticks by submersal in alcohol, placing it in a sealed bag/container, wrap it tightly in tape, or flush it down the toilet.

- Never crush ticks with your fingers.
- Do not attempt to use nail polish remover, petroleum jelly, lotion, or heat to try to get the tick to exit skin.
- Swift removal is key.

Venomous Spiders

- Inspect or shake out any clothing, shoes, towels, or equipment before use.
- Wear protective clothing, such as a long-sleeved shirt and long pants, hat, gloves, and boots when handling stacked or undisturbed piles of materials.
- Minimize the empty spaces between stacked materials.
- Remove and reduce debris and rubble from around the outdoor work areas.
- Trim or eliminate tall grasses from outdoor work areas.
- Store apparel and outdoor equipment in tightly closed bags.
- Keep tetanus boosters up to date (every 10 years).
- Spider bites can become infected with tetanus spores.
- Additional information in the case of bites can be obtained from the Poison Center (1-800-222-1222).

Wildlife Droppings

- Do not touch droppings with unprotected hands.
- Avoid disturbing the droppings and generating dust.
- Staff member work practices and dust control measures that eliminate or reduce dust generation during removal of manure from a building will also reduce risks of infection and development of disease.
- Use an industrial vacuum cleaner with a high-efficiency (HEPA) filter to bag contaminated material.

APPENDIX E – EMERGENCY RECOGNITION AND PREVENTION

Emergency Type	Notification	Response Action
Chemical Exposure	Report event to PM immediately	Refer to Safety Data Sheet for required actions
Fire- Small	Contact 911 and notify PM when safe to do so	Use fire extinguisher if safe and qualified to do so
Fire - Large/Explosion	Contact 911 and notify PM when safe to do so	Evacuate Immediately
Medical - Bloodborne Pathogen	Report using H&A's reporting tool	If qualified and trained dispose in container or call client/responsible party for further instruction
Medical - First Aid	Call Acuity (1-888-397-8099) and notify PM when safe to do so	If qualified, perform first aid duties. Contact Acuity for future management.
Medical - Trauma	Call 911 immediately, and notify PM when safe to do so	Wait at site entrance for ambulance.
Security Threat	Notify PM, who will call 911 as warranted	Hide all valuables and delineate all work zones. Double check and secure access points to site.
Weather - Earthquake/ Tsunami's	Stop Work, evacuate the site if necessary, and notify PM	Turn off all equipment and evacuate as soon as it is safe to do so.
Weather - Lightning Storm	Stop Work and seek shelter, and notify PM	Work may resume 30 minutes after the last observed lightning.
Weather - Tornadoes/ Hurricanes	Monitor weather conditions, Stop Work, seek appropriate shelter, and notify PM when safe to do so	Evacuate to shelter location or shelter in place immediately.
Weather - Fog	Monitor Weather conditions	Pause work until fog dissipates and site lines can be re-established.
Weather - Wind	Notify PM and all equipment operators	Monitor conditions and be prepared to Stop Work.
Weather - Floods	Notify PM and monitor weather conditions	Immediately Stop Work and evacuate.
Hazardous Materials Spill - Small	Contain and clean the spill if it is safe to do so, and notify the PM	Properly trained staff can clean up the spill.
Hazardous Material Spill - Large	Stop Work, secure the area, and notify the PM when safe to do so	Spill will be reported to the correct agency, and cleanup will be at their discretion

APPENDIX E
NYSDEC Request to Import Reuse 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

Site Name:

Site Number:

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:

Name and address of fill source:

Location where fill was obtained:

Identification of any state or local approvals as a fill source:

If no approvals are available, provide a brief history of the use of the property that is the fill source:

Provide a list of supporting documentation included with this request:

The information provided on this form is accurate and complete.

_____ _____

Signature Date

_____

Print Name

_____

Firm

Revised February 2025

APPENDIX F
Citizen Participation Plan

NEW YORK STATE | Department of Environmental Conservation

Brownfield Cleanup Program

Citizen Participation Plan
for
1003 East 173rd Street Development

July 2025

BCP Site # C203181
1003 East 173rd Street
Bronx, NY 10460

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* * * * *

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: **The Vaja Group LLC ("Applicant")**
Site Name: **1003 East 173rd Street Development ("Site")**
Site Address: **1003 East 173rd Street, Bronx, New York 10460**
Site County: **Bronx County**
Site Number: **C203181**

1. What is New York's Brownfield Cleanup Program?

New York's Brownfield Cleanup Program (BCP) works with private developers to encourage the voluntary cleanup of contaminated properties known as "brownfields" so that they can be reused and developed. These uses include recreation, housing, and business.

A *brownfield* is any real property that is difficult to reuse or redevelop because of the presence or potential presence of contamination. A brownfield typically is a former industrial or commercial property where operations may have resulted in environmental contamination. A brownfield can pose environmental, legal, and financial burdens on a community. If a brownfield is not addressed, it can reduce property values in the area and affect economic development of nearby properties.

The BCP is administered by the New York State Department of Environmental Conservation (NYSDEC) which oversees Applicants who conduct brownfield site investigation and cleanup activities. An Applicant is a person who has requested to participate in the BCP and has been accepted by NYSDEC. The BCP contains investigation and cleanup requirements, ensuring that cleanups protect public health and the environment. When NYSDEC certifies that these requirements have been met, the property can be reused or redeveloped for the intended use.

For more information about the BCP, go online at:
http://www.dec.ny.gov/chemical/8450.html .

2. Citizen Participation Activities

Why NYSDEC Involves the Public and Why It Is Important

NYSDEC involves the public to improve the process of investigating and cleaning up contaminated sites, and to enable citizens to participate more fully in decisions that affect their health, environment, and social well-being. NYSDEC provides opportunities for citizen involvement and encourages early two-way communication with citizens before decision-makers form or adopt final positions.

Involving citizens affected and interested in site investigation and cleanup programs is important for many reasons. These include:

- Promoting the development of timely, effective site investigation and cleanup programs that protect public health and the environment

- Improving public access to, and understanding of, issues and information related to a particular site and that site's investigation and cleanup process

- Providing citizens with early and continuing opportunities to participate in NYSDEC's site investigation and cleanup process

- Ensuring that NYSDEC makes site investigation and cleanup decisions that benefit from input that reflects the interests and perspectives found within the affected community

- Encouraging dialogue to promote the exchange of information among the affected/interested public, State agencies, and other interested parties that strengthens trust among the parties, increases understanding of site and community issues and concerns, and improves decision making.

This Citizen Participation (CP) Plan provides information about how NYSDEC will inform and involve the public during the investigation and cleanup of the site identified above. The public information and involvement program will be carried out with assistance, as appropriate, from the Applicant.

Project Contacts

Appendix A identifies NYSDEC project contact(s) to whom the public should address questions or request information about the site's investigation and cleanup program. The public's suggestions about this CP Plan and the CP program for the site are always welcome. Interested people are encouraged to share their ideas and suggestions with the project contacts at any time.

Locations of Reports and Information

The locations of the reports and information related to the site's investigation and cleanup program also are identified in Appendix A. These locations provide convenient access to important project documents for public review and comment. Some documents may be placed on the NYSDEC web-site. If this occurs, NYSDEC will inform the public in fact sheets distributed about the site and by other means, as appropriate.

Site Contact List

Appendix B contains the site contact list. This list has been developed to keep the community informed about, and involved in, the site's investigation and cleanup process. The site contact list will be used periodically to distribute fact sheets that provide updates about the status of the project. These will include notifications of upcoming activities at the site (such as fieldwork), as well as availability of project documents and announcements about public comment periods.
The site contact list includes, at a minimum:

- Chief executive officer and planning board chairperson of each county, city, town and village in which the site is located;
- Residents, owners, and occupants of the site and properties adjacent to the site;
- The public water supplier which services the area in which the site is located;
- Any person who has requested to be placed on the site contact list;
- The administrator of any school or day care facility located on or near the site for purposes of posting and/or dissemination of information at the facility;
- Location(s) of reports and information.

The site contact list will be reviewed periodically and updated as appropriate. Individuals and organizations will be added to the site contact list upon request. Such requests should be submitted to the NYSDEC project contact(s) identified in Appendix A. Other additions to the site contact list may be made at the discretion of the NYSDEC project manager, in consultation with other NYSDEC staff as appropriate.

Note: The first site fact sheet (usually related to the draft Remedial Investigation Work Plan) is distributed both by paper mailing through the postal service and through DEC Delivers, its email listserv service. The fact sheet includes instructions for signing up with the appropriate county listserv to receive future notifications about the site. See http://www.dec.ny.gov/chemical/61092.html .

Subsequent fact sheets about the site will be distributed exclusively through the listserv, except for households without internet access that have indicated the need to continue to receive site information in paper form. Please advise the NYSDEC site project manager identified in Appendix A if that is the case. Paper mailings may continue during the investigation and cleanup process for some sites, based on public interest and need.

CP Activities

The table at the end of this section identifies the CP activities, at a minimum, that have been and will be conducted during the site's investigation and cleanup program. The

flowchart in Appendix D shows how these CP activities integrate with the site investigation and cleanup process. The public is informed about these CP activities through fact sheets and notices distributed at significant points during the program. Elements of the investigation and cleanup process that match up with the CP activities are explained briefly in Section 5.

- **Notices and fact sheets** help the interested and affected public to understand contamination issues related to a site, and the nature and progress of efforts to investigate and clean up a site.

- **Public forums, comment periods and contact with project managers** provide opportunities for the public to contribute information, opinions and perspectives that have potential to influence decisions about a site's investigation and cleanup.

The public is encouraged to contact project staff at any time during the site's investigation and cleanup process with questions, comments, or requests for information.

This CP Plan may be revised due to changes in major issues of public concern identified in Section 3 or in the nature and scope of investigation and cleanup activities. Modifications may include additions to the site contact list and changes in planned citizen participation activities.

Technical Assistance Grant

NYSDEC must determine if the site poses a significant threat to public health or the environment. This determination generally is made using information developed during the investigation of the site, as described in Section 5.

If the site is determined to be a significant threat, a qualifying community group may apply for a Technical Assistance Grant (TAG). The purpose of a TAG is to provide funds to the qualifying group to obtain independent technical assistance. This assistance helps the TAG recipient to interpret and understand existing environmental information about the nature and extent of contamination related to the site and the development/implementation of a remedy.

An eligible community group must certify that its membership represents the interests of the community affected by the site, and that its members' health, economic well-being or enjoyment of the environment may be affected by a release or threatened release of contamination at the site.

As of the date the declaration (page 2) was signed by the NYSDEC project manager, the significant threat determination for the site had not yet been made.

To verify the significant threat status of the site, the interested public may contact the NYSDEC project manager identified in Appendix A.

For more information about TAGs, go online at: https://dec.ny.gov/regulatory/regulations/technical-assistance-grant-tag-guidance-handbook-der-14

Note: The table identifying the citizen participation activities related to the site's investigation and cleanup program follows on the next page:

Citizen Participation Activities	Timing of CP 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 public concern may include noise, odor, dust, and/or truck traffic associated with the removal of contaminated soil. However, these impacts will be mitigated through implementation of a Health and Safety Plan (HASP) and Soil Management Plan (SMP) 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 in the Crotona neighborhood of Bronx, NY within a disadvantaged community based on the Criteria defined by the Climate Justice Working Group and is also 100% within an En-Zone. An En-Zone is defined as a census tract with a poverty rate of 20 percent and an unemployment rate at least 1.25 times the state unemployment rate, or a poverty rate at least double the rate of the county.

Based on the findings of the September 2024 Limited Phase II ESI, the primary contaminants of concern at the Site include heavy metals (manganese) in shallow soils between 2- and 5-feet below grade surface (bgs); and chlorinated volatile organic compounds (CVOCs) including, tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene and methylene chloride in soil vapor. Further investigation is needed to determine if an on-Site source of chlorinated VOCs exists and to evaluate the quality of groundwater at the Site.

Although the future development plans for the Site are in preliminary design phases, the proposed future development will consist of constructing a new seven-story residential building with a partial cellar and parking on the ground level. The new development is anticipated to encompass the entire Site footprint and require Site-wide excavation to approximately 14 ft bgs to accommodate construction.

The Site is located in an Environmental Justice Area. Environmental justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Environmental justice efforts focus on improving the environment in communities, specifically minority and low-income communities, and addressing disproportionate adverse environmental impacts that may exist in those communities.

The Site is located in an area with a sizable African-American and Hispanic-American population nearby, therefore, all future fact sheets will be translated into Spanish.

For additional information, visit: https://statisticalatlas.com/tract/New-York/Bronx-County/015700/Race-and-Ethnicity

In addition, there may be concerns with truck-related traffic, odor-related issues and/or noise-related issues.

4. Site Information

Appendix C contains a map identifying the location of the site.

Site Description

- **Location – 1003 East 173rd Street**
- **Setting - Urban**
- **Site size – approximately 20,000 square feet**
- **Adjacent properties – Commercial buildings, multi-family residential buildings, and mixed-use buildings including a school and health care center and residential buildings**

History of Site Use, Investigation, and Cleanup

Historic uses of the Site include a garage and repair facility in the early 1950s; a warehouse facility and moving company from the late 1970s through the mid-1990s; and an auto repair facility and warehouse from the late 1990s through at least 2007. Historical maps show two 550-gallon gasoline underground storage tanks (USTs) in the northwestern portion of the Site building from the early 1950s to at least 2007. The structure has remained relatively unchanged since the early 1920s when it was initially constructed. The Site no longer operates as a warehouse or automotive repair facility and was vacant at the time of inspection.

One 275-gallon waste oil aboveground storage tank (AST) is present within the Site building (installed in February 2004). Moderate staining was observed on the concrete floor slab inside the building and near the 275-gallon waste oil AST . Potential pathways to the subsurface (i.e., cracked floor slab, floor drains) were noted on the concrete building slab near the AST and the observed staining.

The Site investigation to date has identified metals-impacted soil throughout the Site from the surface down to at least 5 ft bgs. Chlorinated volatile organic compounds (CVOCs) were detected in soil vapor and were also detected in Site soils, indicative of a potential on-site source. Further investigation is required to determine if an on-Site source of chlorinated VOCs exists and to evaluate the quality of groundwater at the Site.

Historical investigations on this Site include:

- Phase I Environmental Site Assessment (ESA) dated September 13, 2024, prepared by Haley & Aldrich of New York; and
- Limited Phase II Environmental Site Investigation (ESI) dated September 13, 2024, prepared by Haley & Aldrich of New York.

5. Investigation and Cleanup Process

Application

The Applicant has applied for 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 process 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 has completed a partial site investigation before it entered the BCP. For the partial investigation, NYSDEC will determine if the data are useable.

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 (SMP).

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):

Elliott Jackson
Assistant Geologist, Division of Environmental Remediation
Remedial Bureau B, Section A
625 Broadway, 12th Floor
Albany, NY 12233
(518) 402-9789
Elliott.Jackson@dec.ny.gov

Thomas V. Panzone
Public Participation Specialist
Division of Communication, Education, and Engagement
NYSDEC – Region 2
47-40 21st Street
Long Island City, NY 11101
(718) 482-4953
Thomas.Panzone@dec.ny.gov

New York State Department of Health (NYSDOH):

Ryan Minzloff
Public Health Specialist
Bureau of Environmental Exposure Investigation
Empire State Plaza, Corning Tower,17th Floor
Albany, NY 12237
(518) 408-5146
beei@health.ny.gov

NYSDEC InfoTracker
https://appfactory.dec.ny.gov/DERExternalSearch/ERDDetails?SiteCode=C203181

Locations of Reports and Information The facilities identified below are being used to provide the public with convenient access to important project documents:

The New York Public Library – Morrisania Branch on behalf of Bronx Community Board 3

610 E 169th Street
Bronx, NY 10456
Attn: Colbert Nembhard
Phone: 718-589-9268
Email: colbertnembhard@nypl.org
morrisanialibrary@nypl.org

Hours:
Monday–Thursday: 10:00am - 7:00pm
Friday – Saturday: 10:00am - 5:00pm
Sunday: Closed

New York Public Library – Clasons Point Branch

1215 Morrison Ave
Bronx, NY 10472
Attn: Jasmin Hernandez
Phone: (718)842-1235
clasonspoint@nypl.org

Hours:
Monday–Thursday: 10:00am - 7:00pm
Friday – Saturday: 10:00am - 5:00pm
Sunday: Closed

Appendix B - Site Contact List

Hon. Eric Adams
NYC Mayor
City Hall
New York, NY 10007

Hon. Brad Lander
NYC Comptroller
1 Centre Street Room 517
New York, NY 10007

Hon. Jumaane D. Williams
Public Advocate
1 Centre Street 15th Floor North
New York, NY 10007

David Gold, Esq.
Commissioner, NYC Dept. of City Planning
120 Broadway, 31st Floor
New York, NY 10271

Public Water Supplier
Rohit Aggarwala
Commissioner, NYC Dept. of Environmental Protection
59-17 Junction Boulevard
Flushing, NY 11373

Shaminder Chawla, Acting Director
NYC Office of Environmental Remediation
100 Gold Street - 2nd Floor
New York, NY 10038

Bronx Borough President
Hon. Vanessa Gibson
851 Grand Concourse, 3rd Floor
Bronx, New York 10451

Hon Charles Schumer
U.S. Senator
780 Third Avenue, Suite 2301
New York, NY 10017

Hon. Kirsten Gillibrand
U.S. Senator
780 Third Avenue, Suite 2601
New York, NY 10017

U.S. House of Representatives
Hon. Alexandra Ocasio-Cortez
Hunts Point Office

1231 Lafayette Ave Suite L-610
Bronx, NY 10474

NYC Councilmember
Hon. Rafael Salamanca Jr.
1070 Southern Boulevard
Bronx, NY 10459

NYS Senator
Hon. Luis R. Sepulveda
975 Kelly Street, Suite 203
Bronx, NY 10459

NYS Assemblymember
Hon. Emerita Torres
1163 Manor Avenue Store Front 1
Bronx, NY 10472

Bronx Community Board 3
1426 Boston Road
Bronx, New York 10456
718-378-8054
eritter@cb.nyc.gov
District Manager: Etta F. Ritter
Joetta Brown, Chairperson
Ms. Kolaco Acqui – Chairperson Housing Land Use &Economic Development

New York City Municipal Water Finance Authority
Philip Wasserman - Executive Director
255 Greenwich Street, 6th Floor
New York, NY 10007

New York City Water Board
NYC Department of Environmental Protection
Alfonso L. Carney, Jr., Chairperson
59-17 Junction Boulevard, 8th Floor
Flushing, NY 11373

Bronx County Clerk
Hon. Ischia Bravo
851 Grand Concourse, Room 118
Bronx, NY 10451

Owners, Residents, Occupants

Owner	Contact Name	Phone	Mailing Address	Email
BOONE AVENUE REALTY CORP.	KUEY, CHARLOTTE	917-807-0248	7091 Queens Ferry Circle, Boca Raton, Florida, 33496	booneaverealty@gmail.com

Adjacent Properties

Owner/Entity Name	Address	Contact Name	Owner Mailing Address	Site Use
1661 Boone Avenue Realty Corp.	1661 Boone Avenue	Not Available	1661 Boone Avenue, Bronx, New York 10460	Industrial and Manufacturing
SAMARITAN-COMPASS III & IV HOUSING DEV FUND CORP	1560 Boone Avenue	Not Available	138-02 Queens Boulevard, Briarwood, NY 11435	Mixed Residential and Commercial Building
NYC School Construction Authority	1570 Boone Avenue	Not Available	3030 Thomson Avenue, Queens, NY 11101	Public School
1559 BOONE AVENUE HOUSING DEVELOPMENT FU ND COMPANY	1559 Boone Avenue	Not Available	290 Lenox Avenue 3rd Floor New York, NY 10027	Mixed Residential and Commercial Building
Cerita Parker	1570 Longfellow Avenue	Cerita Parker	1570 Longfellow Avenue, Bronx, NY 10460	Residential Apartment
Joseph Woodley	1568 Longfellow Avenue	Joseph Woodley	1568 Longfellow Avenue, Bronx, NY 10460	Residential Apartment
William Mendoza Tenemaza	1566 Longfellow Avenue	William Mendoza Tenemaza	1566 Longfellow Avenue, Bronx, NY 10460	Residential Apartment
Martin Lotan G	1564 Longfellow Avenue	Martin Lotan G	1564 Longfellow Avenue, Bronx, NY 10460	Residential Apartment
1562 Longfellow LLC	1562 Longfellow Avenue	Not Available	1562 Longfellow Avenue, Bronx, NY 10460	Residential Apartment
Rita Ritchardson	1560 Longfellow Avenue	Rita Ritchardson	1560 Longfellow Avenue, Bronx, NY 10460	Residential Apartment
Dennis Carty	1558 Longfellow Avenue	Dennis Carty	1558 Longfellow Avenue, Bronx, NY 10460	Residential Apartment
Amalfy Martinez	1556 Longfellow Avenue	Amalfy Martinez	1556 Longfellow Avenue, Bronx, NY 10460	Residential Apartment
Unavailable	1554 Longfellow Avenue	Not Available	1554 Longfellow Avenue, Bronx, NY 10460	Residential Apartment
Felicity K. Dalaba	1552 Longfellow Avenue	Felicity K. Dalaba	1552 Longfellow Avenue, Bronx, NY 10460	Residential Apartment
Dorothy Palmer	1550 Longfellow Avenue	Dorothy Palmer	1550 Longfellow Avenue, Bronx, NY 10460	Residential Apartment

Local News and Media

New York Daily News
PO Box 7180
New York, NY 10008

New York Post
1211 Avenue of the Americas
New York, NY 10036

Spectrum NY 1 News
75 Ninth Avenue
New York, NY 10011

Hoy Nueva York
Impremedia, 41 Flatbush Avenue 1st Floor
Brooklyn, NY 11217

El Diario NY
Impremedia, 41 Flatbush Avenue 1st Floor
Brooklyn, NY 11217

Schneps Media
3602 East Tremont Avenue
Bronx, NY 10465

Noticia NYC
3602 East Tremont Avenue
Bronx, NY 10465

School or Day Cares Located on or Proximal to the Site

East Bronx Academy for the Future
President/Executive Director/Principal
(718) 861-8641
1716 Southern Blvd
Bronx, NY 10460

P186X Walter J. Damrosch Day Treatment School
President/Executive Director/Principal
https://www.p186x.org/
1716 Southern Blvd,
Bronx, NY 10460
(718) 378-0006

P.S. X010
President/Executive Director/Principal
https://p10x.org/p10x817x.html
(718) 828-4022/ 347-352-3757
1680 Hoe Ave,
Bronx, NY 10460

Mott Hall V
President/Executive Director/Principal
https://www.motthallv.org/apps/contact/
1551 E 172nd St,
Bronx, NY 10472
(718) 620-8160

X511 Bronx Envision Academy
President/Executive Director/Principal
https://www.bronxenvision.org/
(718) 589-1590
1619 Boston Rd
Bronx, NY 10460

P.S. 006 The West Farms School
President/Executive Director/Principal
https://www.ps006x.org/
(718) 542-7676
1000 E Tremont Ave,
Bronx, NY 10460

X458 Samara Community School
President/Executive Director/Principal
https://www.samaracommunityschool.org/
929-946-4840
1570 Boone Ave,
Bronx, NY 10460

FAIRMONT NEIGHBORHOOD SCHOOL
President/Executive Director/Principal
https://www.thefairmontschool.com/
(718) 860-5210
1550 Vyse Ave,
Bronx, NY 10460

Community School 61/Intermediate School 190
President/Executive Director/Principal
https://www.is190.org/
(718) 620-9423
1550 Crotona Park E,
Bronx, NY 10460

P.S. 61 Francisco Oller
President/Executive Director/Principal
https://insideschools.org/school/12X061
(718) 542-7230
1550 Crotona Park E,
Bronx, NY 10460

Explorations Academy H.S.
President/Executive Director/Principal
https://www.explorationsnyc.us/
(718) 893-6173
1619 Boston Rd, 3rd Floor
Bronx, NY 10460

Fannie Lou Hamer Freedom High School
President/Executive Director/Principal
https://www.flhfhs.org/
(718) 861-0521
1021 Jennings St,
Bronx, NY 10460

"Magical Beginnings" Day Care
President/Executive Director/Principal
(646) 353-5556
1016 E 172nd St
Bronx, NY 10460

Tremont Crotona Day Care Center
President/Executive Director/Principal
(718) 378-5600
1600 Crotona Park E,
Bronx, NY 10460

Cuddle Bubbles daycare
President/Executive Director/Principal
(347) 791-9784
1671 Vyse Ave,
Bronx, NY 10460

Heaven's Tiny Tots East Tremont
President/Executive Director/Principal
https://www.heavenstinytots.com/about1-c1z94
(718) 684-5512
1020 E Tremont Ave,
Bronx, NY 10460

Beanstalk Academy
President/Executive Director/Principal
https://beanstalkacademy.com/location/1778-southern/
1778 Southern Boulevard
Bronx, NY, 10460
(718) 589-5900

My Savior Family Group Day care
President/Executive Director/Principal
1709 Boston Rd 3 M,
Bronx, NY 10460
(347) 695-6116

Divine Kids Klub
President/Executive Director/Principal
1010 E 173rd St,
Bronx, NY 10460

Leomarys' Little Stars
President/Executive Director/Principal
1359 Bronx River Ave,
Bronx, NY 10472
(929) 249-8289

Little Dreamers
President/Executive Director/Principal
(347) 348-5344
1707 Boston Rd
Bronx, NY 10460

Mayra Colon Group Family Daycare
President/Executive Director/Principal
(917) 517-1487
861 Crotona Park N Apt. 3B,
Bronx, NY 10460

Marjorie Baez Family Daycare
President/Executive Director/Principal
1700 Crotona Park E #2-t,
Bronx, NY 10460

Daycare diarisis polanco
President/Executive Director/Principal
(347) 435-8158
1728 Crotona Park E,
Bronx, NY 10460

Francheska's Family Daycare
President/Executive Director/Principal
(917) 932-3020
1939 W Farms Rd,
Bronx, NY 10460

Bronx River Childcare Center
President/Executive Director/Principal
(718) 842-6582
1555 E 174th St,
Bronx, NY 10472

Smiley Face Group Day Care
President/Executive Director/Principal
(347) 497-9397
1664 Bryant Ave
Bronx, NY 10460

Blessing Bless Day Care
President/Executive Director/Principal
(929) 531-2956
1665 Bryant Ave,
Bronx, NY 10460

Marianela Group Family Daycare
President/Executive Director/Principal
(347) 399-8511
1728 Crotona Park E,
Bronx, NY 10460

Tiny Tunes Daycare, Inc.
President/Executive Director/Principal
(718) 991-4939
1455 Bryant Ave,
Bronx, NY 10460

Cynthia Group DayCare
President/Executive Director/Principal
(347) 542-0371
1710 HOE AVE. APT #2B / 3ER. FLOOR,
Bronx, NY 10460

My Little Sunshine Group Family Daycare
President/Executive Director/Principal
(917) 608-5474
1359 Bronx River Ave,
Bronx, NY 10472

PS 214 The Lorraine Hansberry Academy
President/Executive Director/Principal
https://www.ps214x.com/
(718) 589-6728
1970 W Farms Rd,
Bronx, NY 10460

Emolior Academy
President/Executive Director/Principal
https://www.emolior.net/
718-842-2670
1970 W Farms Rd,
Bronx, NY 10460

P.S. 066 School of Higher Expectations
President/Executive Director/Principal
https://insideschools.org/school/12X066
(718) 319-2820
1001 Jennings St,
Bronx, NY 10460

BRONX RIVER & BRONX RIVER ADDITION (NYCHA)
President/Executive Director/Principal
DAY CARE CENTER
chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.nyc.gov/assets/nycha/downloads/pdf/Bronx%20River%20and%20Bronx%20River%20Addition.pdf
1619 EAST 174TH STREET
Bronx, NY 10472

Community, Civic, Religious and other Environmental Organizations:

Franchesca Diaz - Director Regional and Community Affairs team Bronx.
Consolidated Edison Corporate Affairs
511 Theodore Fremd Avenue
Rye, NY 10580

President Rev. Dr. J. Loren Russell
42nd Police Precinct Council
830 Washington Ave.
Bronx, NY 10451

BATTALION 18/ENGINE 45/LADDER 58
925 EAST TREMONT AVENUE
Bronx, NY 10451

Casa Boricua Senior Center
910 E 172nd St,
Bronx, NY 10460

Neighborhood Shopp Cm Program
910 E 172nd St,
Bronx, NY 10460

Iglesia Pentecostal La Senda Antigua
1682 Boston Rd,
Bronx, NY 10460

Christian Temple El Shaddai
1307 W Farms Rd,
Bronx, NY 10459

Bronx Deliverance Center Of Faith
1314 Southern Blvd,
Bronx, NY 10459

Bronx River Senior Center
1619 E 174th St,
Bronx, NY 10472

Saint Thomas Aquinas Church
1900 Crotona Pkwy
Bronx, NY 10460

Union Grove Missionary Baptist Church
1488 Hoe Ave,
Bronx, NY 10460

St. Joan of Arc Church
1388 Stratford Ave,
Bronx, NY 10472

Promised Land Covenant Church
1010 E 174th St,
Bronx, NY 10460

All Souls Evangelical Church
1701 Vyse Ave,
Bronx, NY 10460

Calvary Church
1010 E 174th St,
Bronx, NY 10460

Grace Episcopal Church
1909 Vyse Ave,
Bronx, NY 10460

Iglesia Universal
1749 Boston Rd,
Bronx, NY 10460

Little Mt. Bethel BC
1538 Longfellow Ave,
Bronx, NY 10460

Berean Prayer Center
1011-1001 E 173rd St,
Bronx, NY 10460

Iglesia Casa Del Alfarero
1559 Minford Pl,
Bronx, NY 10460

Salem Church
1406 Bryant Ave,
Bronx, NY 10459

Christian Church Christ the King
908 Jennings St,
Bronx, NY 10460

Emanuel Pentecostal Faith Church
1310 Elder Ave,
Bronx, NY 10472

Christian Missionary Vision
971 Jennings St,
Bronx, NY 10460

Beulah Christian Church Inc
1272 Hoe Avenue, #1274
Bronx, NY 10459

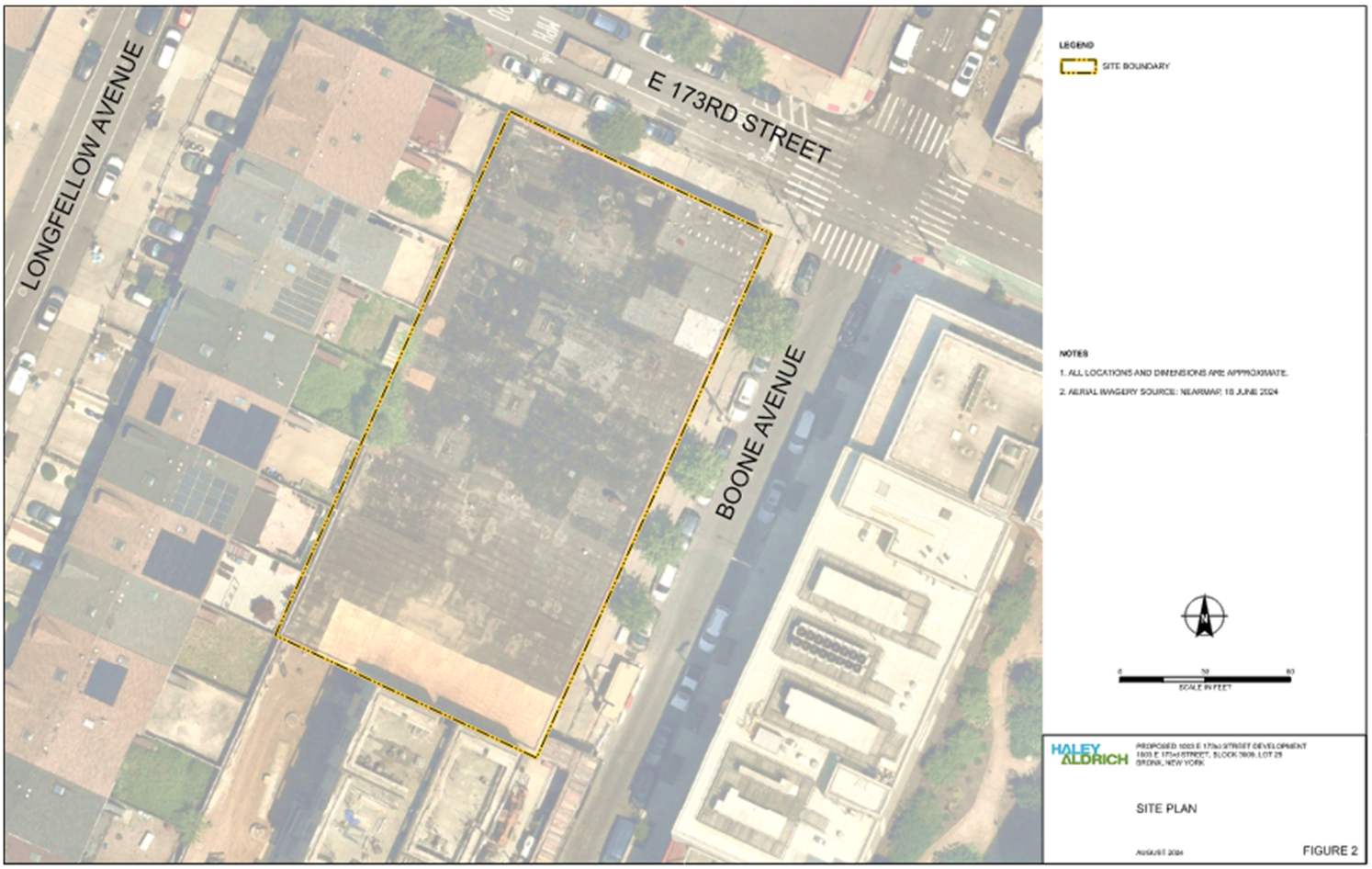
Tried Stone Baptist Church
1591 Boston Road
Bronx, NY 10460

New Gospel Temple / South Bronx Rising Together
1554 Minford Place
Bronx, NY 10460

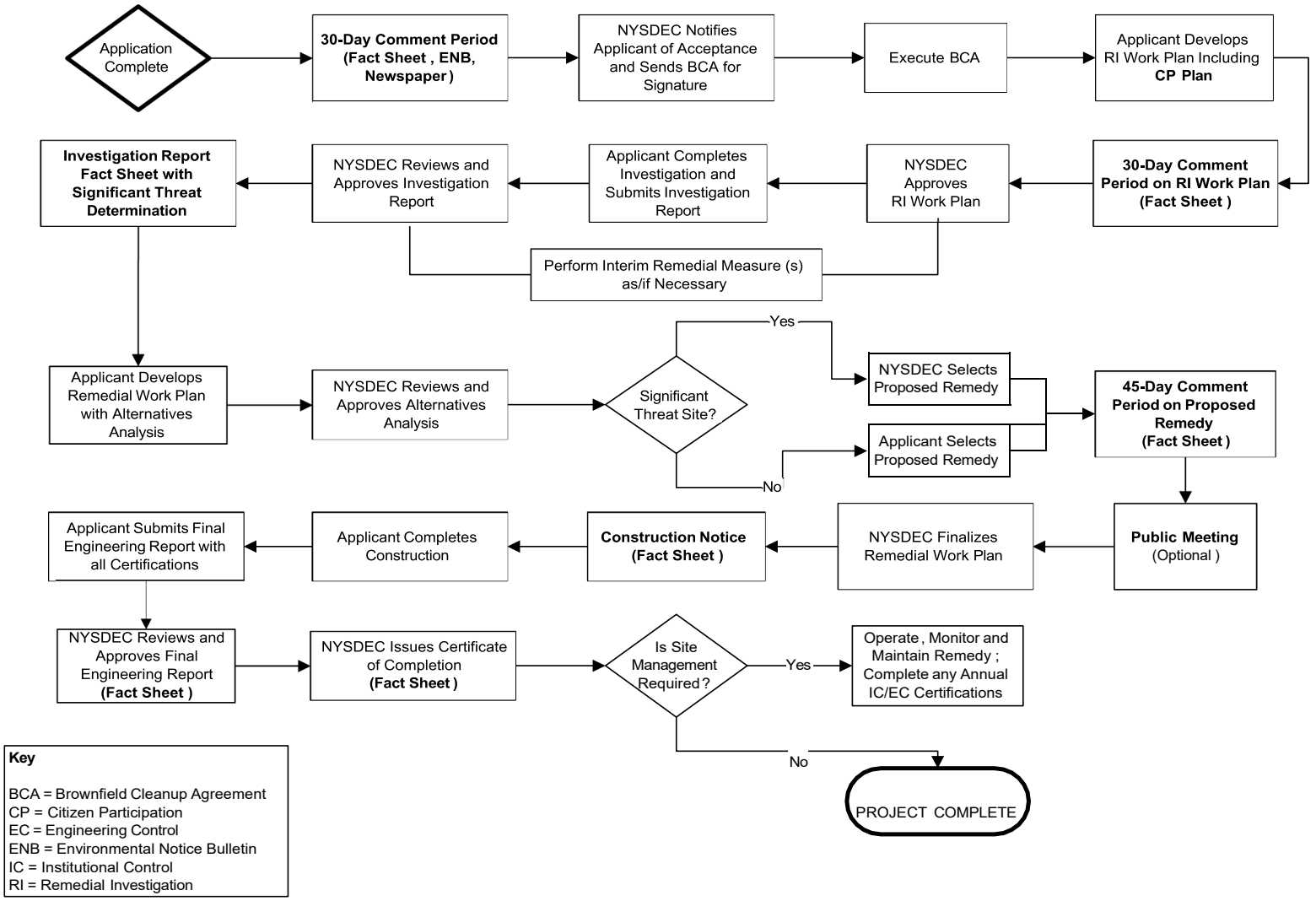
BRONX RIVER & BRONX RIVER ADDITION (NYCHA)
DEVELOPMENT MANAGEMENT OFFICE
chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.nyc.gov/assets/nycha/downloads/pdf/Bronx%20River%20and%20Bronx%20River%20Addition.pdf
1605 EAST 174TH STREET
Bronx, NY 10472

BRONX RIVER & BRONX RIVER ADDITION (NYCHA)
SENIOR CENTER/ COMMUNITY CENTER
chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.nyc.gov/assets/nycha/downloads/pdf/Bronx%20River%20and%20Bronx%20River%20Addition.pdf
1619 EAST 174TH STREET
Bronx, NY 10472

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 **Bol**

Division of Environmental Remediation

Remedial Programs
Scoping Sheet for Major Issues of Public Concern

Instructions

This Scoping Sheet assesses major issues of public concern; impacts of the site and its remedial program on the community; community interest in the site; information the public needs; and information needed from the public.

The information generated helps to plan and conduct required citizen participation (CP) activities, and to choose and conduct additional CP activities, if appropriate. The scoping sheet can be revisited and updated as appropriate during the site's remedial process to more effectively implement the site's CP program.

Note: Use the information as an aid to prepare and update the Major Issues of Public Concern section of the site CP Plan.

General Instructions

- When to prepare: During preparation of the CP Plan for the site. It can be revisited and updated anytime during the site remedial process.
- Fill in site name and other information as appropriate.
- The Scoping Sheet may be prepared by DEC or a remedial party, but must be reviewed and approved by the DER site project manager or his/her designee.

Instructions for Numbered Parts

Consider the bulleted issues and questions below and any others that may be unique or appropriate to the site and the community to help complete the five Parts of this Scoping Sheet. Identify the issue stakeholders in Parts 1 through 3 and adjust the site's contact list accordingly.

Part 1. List Major Issues of Public Concern and Information the Community Wants.

- Is our health being impacted? (e.g. Are there problems with our drinking water or air? Are you going to test our water, yards, sumps, basements? Have health studies been done?)
- There are odors in the neighborhood. Do they come from the site and are they hazardous?
- Are there restrictions on what we may do (e.g. Can our children play outside? Can we garden? Must we avoid certain areas? Can we recreate (fish, hunt, hike, etc. on/around the site?)
- How and when were the site's contamination problems created?
- What contaminants are of concern and why? How will you look for contamination and find out where it is going? What is the schedule for doing that?
- The site is affecting our property values!
- How can we get more information (e.g. who are the project contacts?)
- How will we be kept informed and involved during the site remedial process?
- Who has been contacted in the community about site remedial activities?
- What has been done to this point? What happens next and when?
- The site is going to be cleaned up for restricted use. What does that mean? We don't want redevelopment on a "dirty" site.

Part 2. List Important Information Needed From the Community, if Applicable.

- Can the community supplement knowledge about past/current uses of the site?
- Does the community have knowledge that the site may be significantly impacting nearby people, properties, natural resources, etc.?
- Are activities currently taking place at the site or at nearby properties that may need to be restricted?
- Who may be interested or affected by the site that has not yet been identified?
- Are there unique community characteristics that could affect how information is exchanged?
- Does the community and/or individuals have any concerns they want monitored?
- Does the community have information about other sources in the area for the contamination?

Part 3. List Major Issues and Information That Need to be Communicated to the Community.

- Specific site investigation or remediation activities currently underway, or that will begin in the near future.
- The process and general schedule to investigate, remediate and, if applicable, redevelop the site.
- Current understanding about the site contamination and effects, if any, on public health and the environment.
- Site impacts on the community and any restrictions on the public's use of the site and/or nearby properties.
- Planned CP activities, their schedule, and how they relate to the site's remedial process.
- Ways for the community to obtain/provide information (document repositories, contacts, etc.).

Part 4. Community Characteristics

a. - e. Obtain information from local officials, property owners and residents, site reports, site visits, "windshield surveys," other staff, etc.

f. Has the affected community experienced other **significant** present or past environmental problems unrelated to this site? Such experiences could significantly affect public concerns and perspectives about the site; how the community will relate to project staff; the image and credibility of project staff within the community; and the ways in which project staff communicate with the community.

g. In its remedial programs, DER seeks to integrate, and be consistent with, environmental justice principles set forth in *DEC Commissioner Policy 29 on Environmental Justice* and *DER 23 – Citizen Participation Handbook for Remedial Programs*. Is the site and/or affected community wholly or partly in an Environmental Justice (EJ) Area? Use the Search feature on DEC's public web site for "environmental justice". DEC's EJ pages define an EJ area, and link to county maps to help determine if the site and/or community are in an EJ area.

h. Consider factors such as:

- Is English the primary language of the affected community? If not, provisions should be considered regarding public outreach activities such as fact sheets, meetings, door-to-door visits and other activities to ensure their effectiveness.
- The age demographics of the community. For example, is there a significant number of senior citizens in the community? It may be difficult for some to attend public meetings and use document repositories. This may suggest adopting more direct interaction with the community with activities such as door-to-door visits, additional fact sheets, visits to community and church centers, nursing homes, etc.
- How do people travel about the community? Would most people drive to a public meeting or document repository? Is there adequate public transportation?

Part 5. Affected/Interested Public.

Individuals and organizations who need or want information and input can change during the site's remedial process. This need is influenced by real, potential, or perceived impacts of the site or the remedial process. Some people may want information and input throughout the remedial process. Others may participate only during specific remedial stages, or may only be interested in particular issues.

It is important to revisit this question when reviewing this scoping sheet. Knowing who is interested in the site – and the issues that are important to them – will help to select and conduct appropriate outreach activities, and to identify their timing and the information to be exchanged.

Check all affected/interested parties that apply to the site. **Note: Adjust the site's contact list appropriately.** The following are some ways to identify affected/interested parties:

- Tax maps of adjacent property owners
- Attendees at public meetings
- Telephone discussions
- Letters and e-mails to DER, the remedial party, and other agencies
- Political jurisdictions and boundaries
- Media coverage
- Current/proposed uses of site and/or nearby properties (recreational, commercial, industrial)
- Discussions with community organizations: grass roots organizations, local environmental groups, environmental justice groups, churches, and neighborhood advisory groups

Division of Environmental Remediation

Remedial Programs
Scoping Sheet for Major Issues of Public Concern (see instructions)

Site Name: 1003 East 173rd Street Development

Site Number: C203181

Site Address and County: 1003 East 173rd Street, Bronx County

Remedial Party(ies): The Vaja Group LLC

Note: For Parts 1. – 3. the individuals, groups, organizations, businesses and units of government identified should be added to the site contact list as appropriate.

Part 1. List major issues of public concern and information the community wants. Identify individuals, groups, organizations, businesses and/or units of government related to the issue(s) and information needs. **Use this information as an aid to prepare or update the Major Issues of Public Concern section of the site Citizen Participation Plan.**

The Site is located within a disadvantaged community based on the Criteria defined by the Climate Justice Working Group and is also 100% within an En-zone.

Based on the findings of the September 2024 Limited Phase II ESI, the primary contaminants of concern at the Site include heavy metals (manganese) in shallow soils between 2- and 5-feet below grade surface (bgs); and chlorinated volatile organic compounds (CVOCs) including, tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene and methylene chloride in soil vapor. Further investigation would be required to determine if an on-site source of chlorinated VOCs exists and to evaluate the quality of groundwater at the Site.

How were these issues and/or information needs identified?
These issues were identified through the previous subsurface investigations results and correspondence with NYSDEC.

Part 2. List important information needed **from** the community, if applicable. Identify individuals, groups, organizations, businesses and/or units of government related to the information needed.
Click here to enter text.

How were these information needs identified?
Click here to enter text.

Part 3. List major issues and information that need to be communicated **to** the community. Identify individuals, groups, organizations, businesses and/or units of government related to the issue(s) and/or information.
Following acceptance into the BCP and approval of the RIWP, the Remedial Investigation will commence. Following implementation of the RIWP, a Remedial Investigation Report will be prepared and will describe the nature and extent of contamination at the site. A Remedial Action Work Plan (RAWP) will then be developed to describe the preferred remedy and alternatives analysis. The RAWP will be subject to a 45-day public comment period prior to NYSDEC approval. Following NYSDEC approval of the RAWP, the remedial contractor will mobilize to the site to begin implementation of the NYSDEC-approved remedy.

How were these issues and/or information needs identified?
These issues were identified through the previous subsurface investigations results and correspondence

with NYSDEC

Part 4. Identify the following characteristics of the affected/interested community. This knowledge will help to identify and understand issues and information important to the community, and ways to effectively develop and implement the site citizen participation plan (mark all that apply):

a. Land use/zoning at and around site:
☒ **Residential** ☐ **Agricultural** ☐ **Recreational** ☒ **Commercial** ☐ **Industrial**

b. Residential type around site:
☒ **Urban** ☐ **Suburban** ☐ **Rural**

c. Population density around site:
☒ **High** ☐ **Medium** ☐ **Low**

d. Water supply of nearby residences:
☒ **Public** ☐ **Private Wells** ☐ **Mixed**

e. Is part or all of the water supply of the affected/interested community currently impacted by the site?
☐ **Yes** ☒ **No**

Provide details if appropriate:
Click here to enter text.

f. Other environmental issues significantly impacted/impacting the affected community?
☐ **Yes** ☒ **No**

Provide details if appropriate:
Click here to enter text.

g. Is the site and/or the affected/interested community wholly or partly in an Environmental Justice Area?
☒ **Yes** ☐ **No**

h. Special considerations:
☒ **Language** ☐ **Age** ☐ **Transportation** ☐ **Other**

Explain any marked categories in **h:**
Because there is a large Hispanic American population near the site, all future fact sheets will be translated into Spanish

Part 5. The site contact list must include, at a minimum, the individuals, groups, and organizations identified in Part 2. of the Citizen Participation Plan under 'Site Contact List'. Are *other* individuals, groups, organizations, and units of government affected by, or interested in, the site, or its remedial program? (Mark and identify all that apply, then adjust the site contact list as appropriate.)

☐ **Non-Adjacent Residents/Property Owners:** Click here to enter text.

☒ **Local Officials:** Click here to enter text.

☒ **Media:**

☐ **Business/Commercial Interests:** Click here to enter text.

☐ **Labor Group(s)/Employees:** Click here to enter text.

☐ **Indian Nation:** Click here to enter text.

☐ **Citizens/Community Group(s):** Click here to enter text.

☐ **Environmental Justice Group(s):** Click here to enter text.

☐ **Environmental Group(s):** Click here to enter text.

☒ **Civic Group(s):** The New York Public Library – Morrisania Branch on behalf of Bronx Community Board 3
New York Public Library – Clasons Point Branch

☐ **Recreational Group(s):** Click here to enter text.

☐ **Other(s):** Click here to enter text.

Prepared/Updated By: Delia Freliech **Date: 6-23-25**.

Reviewed/Approved By: Emily Butler **Date: 6-23-25**

APPENDIX G
Environmental Footprint Analyses

H & A OF NEW YORK ENGINEERING
AND GEOLOGY, LLP
213 W. 35th Street
7th Floor
New York, NY 10001
646.277.5685

August 7, 2026
File No. 0211679

New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York 12233-7014

Subject: Remedial Action Work Plan
1003 East 173rd Street Development
1003 East 173rd Street
Bronx County, New York
BCP Site C203181

H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) presents the following environmental footprint analysis in accordance with U.S. Environmental Protection Agency (EPA) 542-R-12-002 for the proposed Remedial Action Work Plan (RAWP) of the above-referenced site located at 1003 East 173rd Street, Bronx, New York (Site).

PROPOSED WORK PLAN

The Track I Preferred Remedy is anticipated to result in estimated totals of:

- 2,370.90 million metric British thermal units (MMBtus) of energy used;
- 190.0 tons of total greenhouse gas emissions (CO2e);
- 3,729.9 pounds (lbs) of NOx + SOx +PM emissions; and
- 34.2 lbs of Hazardous Air Pollutants (HAP) emissions.

Energy

- 1,438 MMbtus used for on-Site activities, such as air monitoring.
- 0.778 MMbtus used for Grid Electricity Generation.
- 195 MMbtus used for transportation of personnel and equipment.
- 737 MMbtus used for off-Site activities.

Greenhouse Gas Emissions (CO2e)

- 230,074 lbs of CO2e produced from on-Site activities, such as excavation.
- 126 lbs of CO2e produced from Grid Electricity Generation.
- 31,506 lbs of CO2e produced from transportation of personnel and equipment.
- 118,334 lbs of CO2e produced from off-Site activities.

Water Usage

- 750 gallons of water are estimated to be used during the investigation for the truck wash station.

Overall, roughly one-third of the environmental footprint of the preferred remedy is estimated to be the result of off-Site activities, which include off-Site laboratory analysis, landfill use, and diesel fuel production. On-Site activities are the next largest predicted contributor, and transportation of materials and personnel is the smallest. Off-Site energy use is anticipated to comprise 34.1 percent of all energy use, and off-Site greenhouse gas emissions are anticipated to comprise 34.1 percent of all emissions for the investigation.

Sincerely yours,
H & A OF NEW YORK ENGINEERING AND GEOLOGY, LLP

Environmental Footprint Summary

Core Element	Metric		Unit of Measure	Footprint						
				Alternative I - Track 1 Remedy	Alternative II - Track 2 Remedy					Total
Materials & Waste	M&W-1	Refined materials used on-site	Tons	3,179.4	3,131.8	0.0	0.0	0.0	0.0	6,311.2
	M&W-2	% of refined materials from recycled or reused material	%	0.0%	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	0.0	0.0	0.0	0.0	0.0	0.0
	M&W-6	On-site non-hazardous waste disposed of off-site	Tons	3,179.4	3,131.8	0.0	0.0	0.0	0.0	6,311.2
	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	0.0035	0.0034	0.0	0.0	0.0	0.0	0.0068
	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	2,370.9	1,700.6	0.0	0.0	0.0	0.0	4,071.5
	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	0.112	0.075	0.000	0.000	0.000	0.000	0.2
Air	A-1	On-site NOx, SOx, and PM emissions	Pounds	1,139.3	683.6	0.0	0.0	0.0	0.0	1,822.9
	A-2	On-site HAP emissions	Pounds	0.4	0.2	0.0	0.0	0.0	0.0	0.7
	A-3	Total NOx, SOx, and PM emissions	Pounds	3,729.9	3,125.0	0.0	0.0	0.0	0.0	6,854.9
	A-3A	Total NOx emissions	Pounds	1,848.4	1,374.4	0.0	0.0	0.0	0.0	3,222.8
	A-3B	Total SOx emissions	Pounds	469.6	407.0	0.0	0.0	0.0	0.0	876.6
	A-3C	Total PM emissions	Pounds	1,411.9	1,343.6	0.0	0.0	0.0	0.0	2,755.5
	A-4	Total HAP emissions	Pounds	34.2	26.0	0.0	0.0	0.0	0.0	60.2
	A-5	Total greenhouse gas emissions	Tons CO2e*	190.0	135.8	0.0	0.0	0.0	0.0	325.9
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:

Alternative I - Track 1 Remedy - Energy & Air Compiled Results

Category	Total Energy	GHG	NOx	SOx	PM	NOx + SOx + PM	HAPs
	MMbtus	lbs CO2e	lbs	lbs	lbs	lbs	lbs
On-site (Scope 1)	**1,438**	**230,074**	**1,045**	**1**	**93**	**1,139**	**0**
Grid Electricity Generation (Scope 2)	**0.778**	**126**	**0**	**1**	**0**	**1**	**0**
Transportation (Scope 3a)	**195**	**31,506**	**234**	**7**	**5**	**246**	**0**
Other Off-Site (Scope 3b)	**737**	**118,334**	**569**	**460**	**1,314**	**2,344**	**34**
Remedy Totals	**2,371**	**380,040**	**1,848**	**470**	**1,412**	**3,730**	**34**

Values that are forwarded to the "Summary" tab are indicated in orange.

Voluntary Renewable Energy Use	Unit	Quantity
On-site renewable energy generation or use	MMBtu	**0**
On-site biodiesel use	MMBtu	**0**
Biodiesel and other renewable resource use for transportation	MMBtu	**0**
On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	**0**
Voluntary purchase of renewable electricity	MWh	**0**
Voluntary purchase of RECs	MWh	**0**

(This value is the sum of the three rows above)

This worksheet is not intended for user input. Values on this worksheet are obtained from the following file: SEFA_calculations_(0211679).xlsx

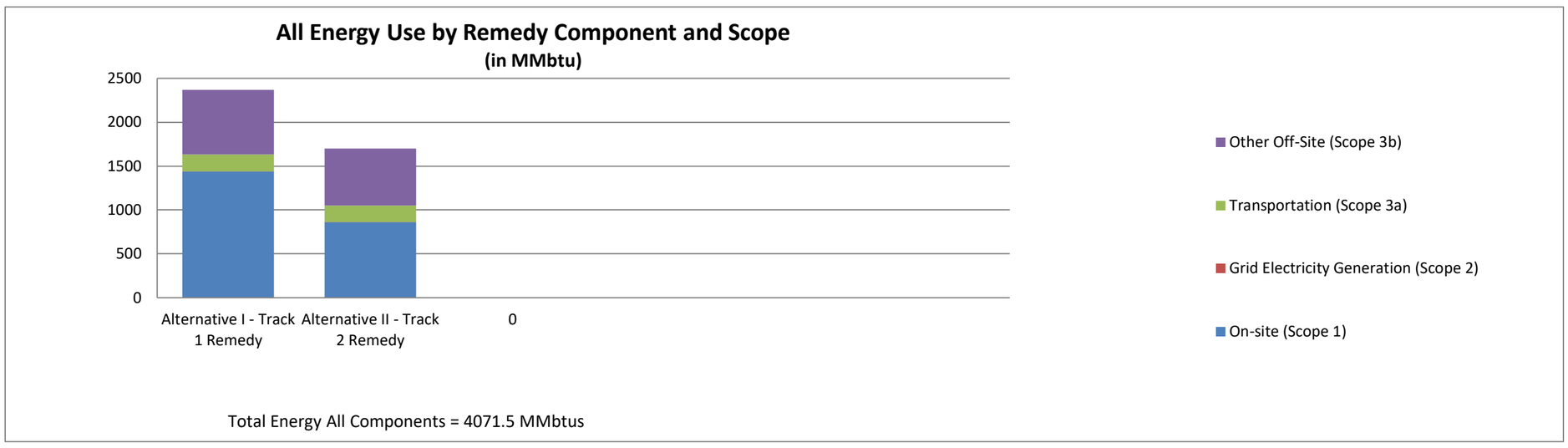
Alternative II - Track 2 Remedy - Energy & Air Compiled Results

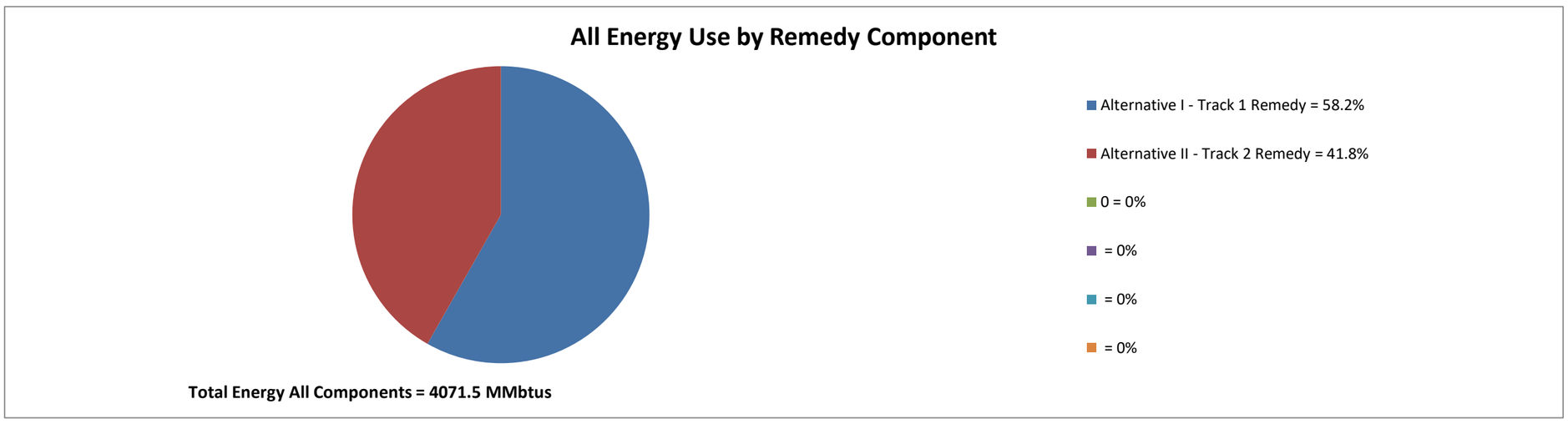
Category	Total Energy	GHG	NOx	SOx	PM	NOx + SOx + PM	HAPs
	MMbtus	lbs CO2e	lbs	lbs	lbs	lbs	lbs
On-site (Scope 1)	**863**	**138,044**	**627**	**1**	**56**	**684**	**0**
Grid Electricity Generation (Scope 2)	**1**	**26**	**0**	**0**	**0**	**0**	**0**
Transportation (Scope 3a)	**185**	**29,872**	**220**	**7**	**5**	**231**	**0**
Other Off-Site (Scope 3b)	**652**	**103,732**	**528**	**399**	**1,283**	**2,210**	**25**
Remedy Totals	**1,701**	**271,675**	**1,374**	**407**	**1,344**	**3,125**	**26**

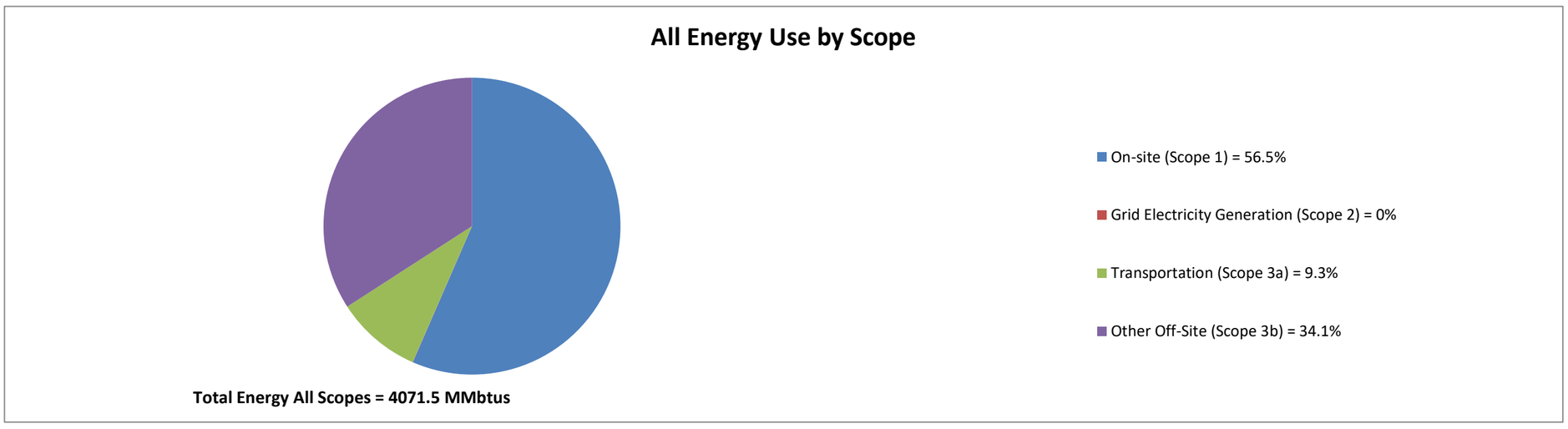
Values that are forwarded to the "Summary" tab are indicated in orange.

Voluntary Renewable Energy Use	Unit	Quantity	
On-site renewable energy generation or use	MMBtu	**0**	
On-site biodiesel use	MMBtu	**0**	
Biodiesel and other renewable resource use for transportation	MMBtu	**0**	
On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	**0**	*(This value is the sum of the three rows above)*
Voluntary purchase of renewable electricity	MWh	**0**	
Voluntary purchase of RECs	MWh	**0**	

This worksheet is not intended for user input. Values on this worksheet are obtained from the following file: SEFA_calculations_(0211679).xlsx


All Energy Use by Remedy Component and Scope
(in MMbtu)
2500
2000
1500
1000
500
0
Alternative I - Track 1 Remedy
Alternative II - Track 2 Remedy
0
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
Total Energy All Components = 4071.5 MMbtus


All Energy Use by Remedy Component
Alternative I - Track 1 Remedy = 58.2%
Alternative II - Track 2 Remedy = 41.8%
0 = 0%
= 0%
= 0%
= 0%
Total Energy All Components = 4071.5 MMbtus

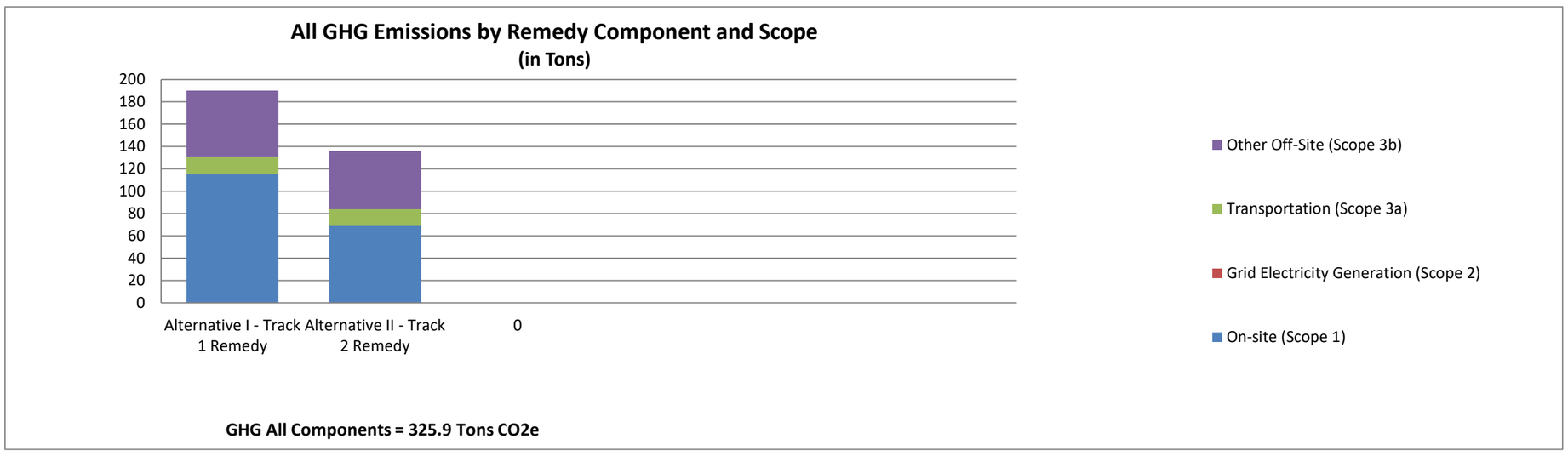

All Energy Use by Scope
On-site (Scope 1) = 56.5%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 9.3%
Other Off-Site (Scope 3b) = 34.1%
Total Energy All Scopes = 4071.5 MMbtus

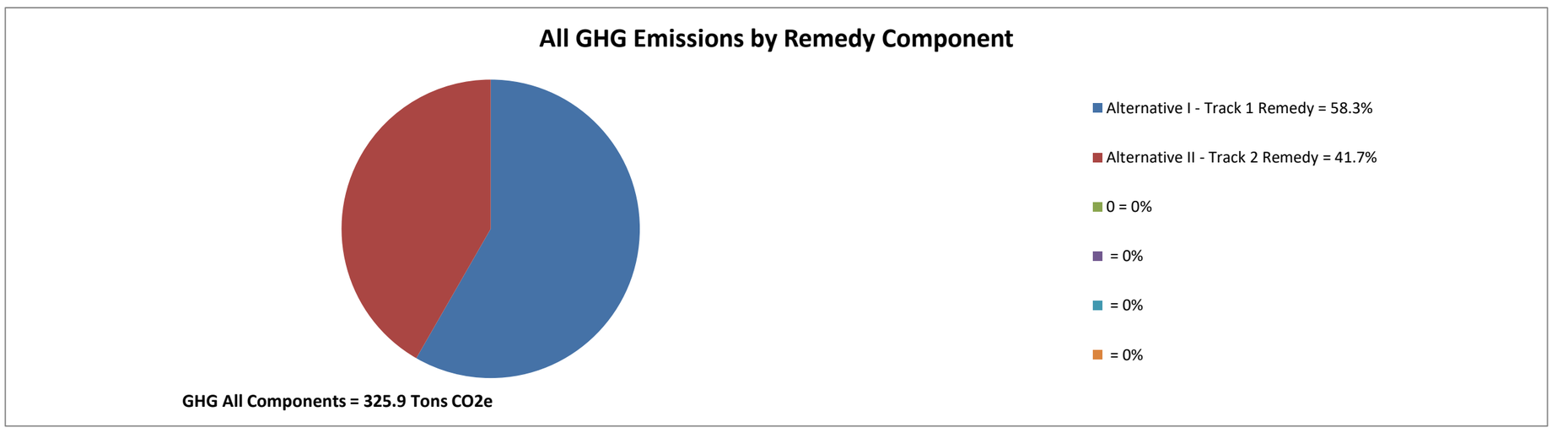
Total Energy MMbtus							
	Alternative I - Track 1 Remedy	Alternative II - Track 2 Remedy	0				Total
On-site (Scope 1)	1,438.3	863.0	0.0	0.0	0.0	0.0	2,301.4
Grid Electricity Generation (Scope 2)	0.8	0.5	0.0	0.0	0.0	0.0	1.3
Transportation (Scope 3a)	194.7	184.6	0.0	0.0	0.0	0.0	379.3
Other Off-Site (Scope 3b)	737.1	652.4	0.0	0.0	0.0	0.0	1,389.5
Total	2,370.9	1,700.6	0.0	0.0	0.0	0.0	4,071.5

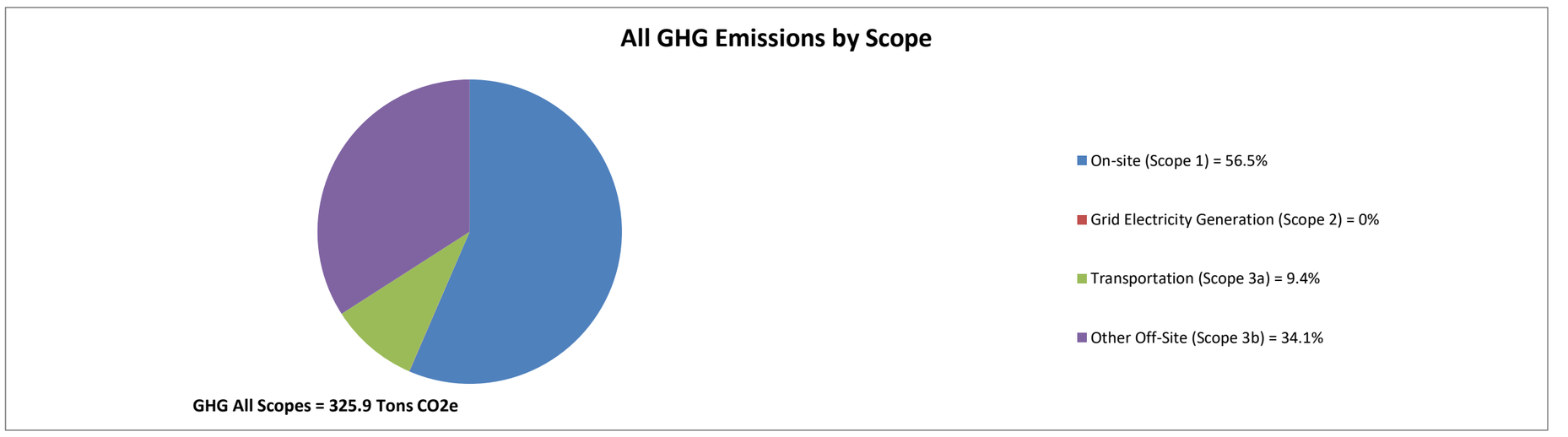
Alternative I - Track 1 Remedy = 58.2%
Alternative II - Track 2 Remedy = 41.8%
0 = 0%
= 0%
= 0%
= 0%

Total Energy All Components = 4071.5 MMbtus
Total Energy All Scopes = 4071.5 MMbtus

On-site (Scope 1) = 56.5%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 9.3%
Other Off-Site (Scope 3b) = 34.1%


All GHG Emissions by Remedy Component and Scope
(in Tons)
200
180
160
140
120
100
80
60
40
20
0
Alternative I - Track 1 Remedy
Alternative II - Track 2 Remedy
0
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
GHG All Components = 325.9 Tons CO2e


All GHG Emissions by Remedy Component
Alternative I - Track 1 Remedy = 58.3%
Alternative II - Track 2 Remedy = 41.7%
0 = 0%
= 0%
= 0%
= 0%
GHG All Components = 325.9 Tons CO2e

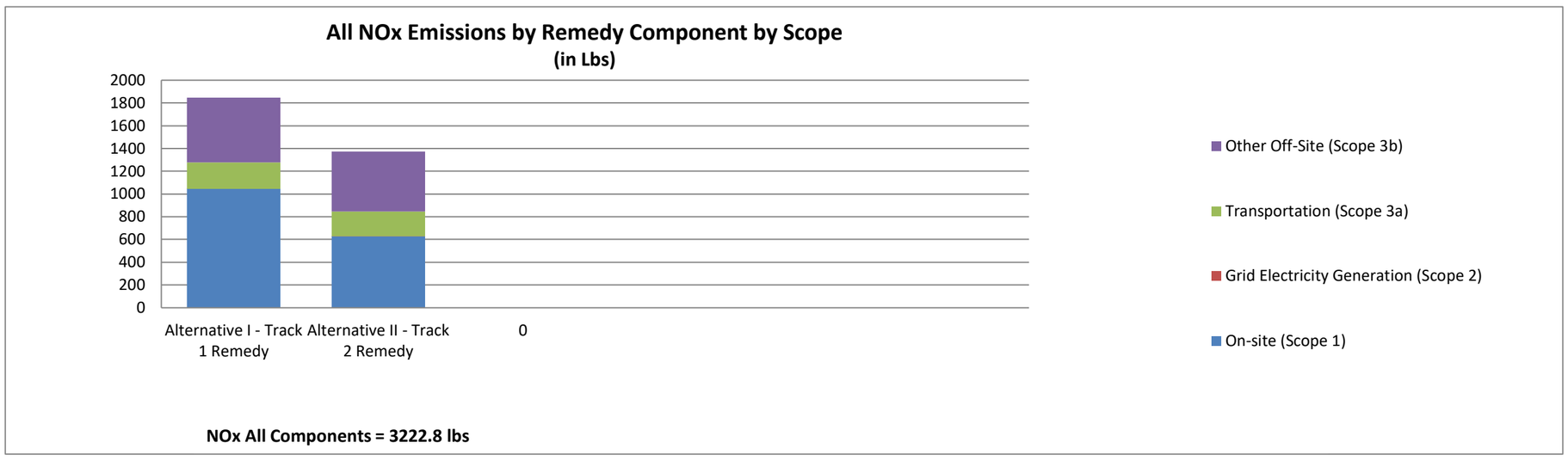

All GHG Emissions by Scope
On-site (Scope 1) = 56.5%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 9.4%
Other Off-Site (Scope 3b) = 34.1%
GHG All Scopes = 325.9 Tons CO2e

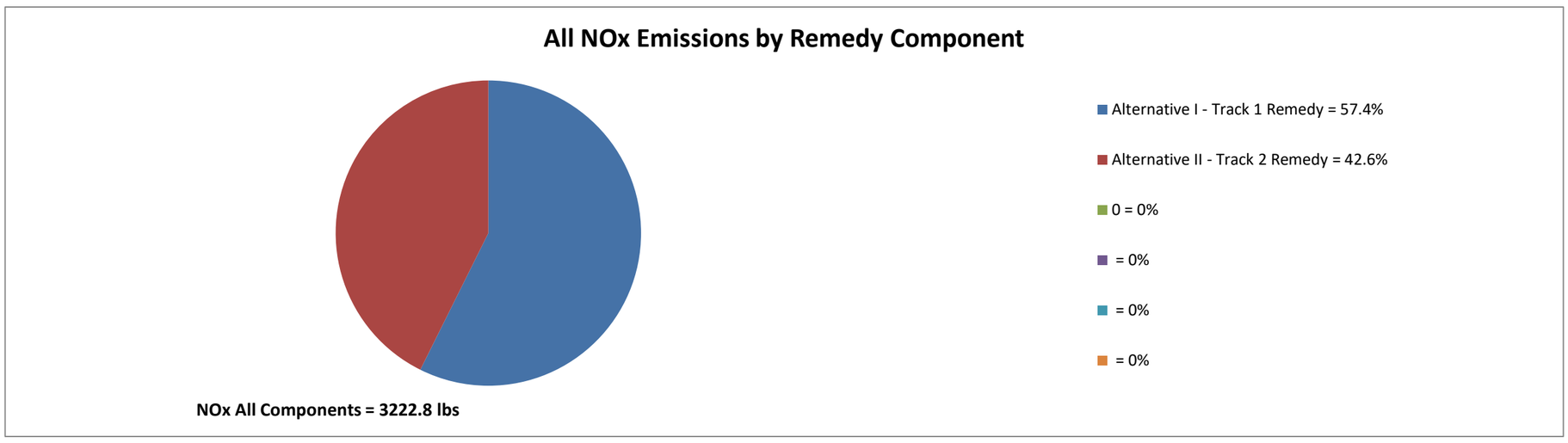
GHG Tons CO2e							
	Alternative I - Track 1 Remedy	Alternative II - Track 2 Remedy	0				Total
On-site (Scope 1)	115.0	69.0	0.0	0.0	0.0	0.0	184.1
Grid Electricity Generation (Scope 2)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Transportation (Scope 3a)	15.8	14.9	0.0	0.0	0.0	0.0	30.7
Other Off-Site (Scope 3b)	59.2	51.9	0.0	0.0	0.0	0.0	111.0
Total	190.0	135.8	0.0	0.0	0.0	0.0	325.9

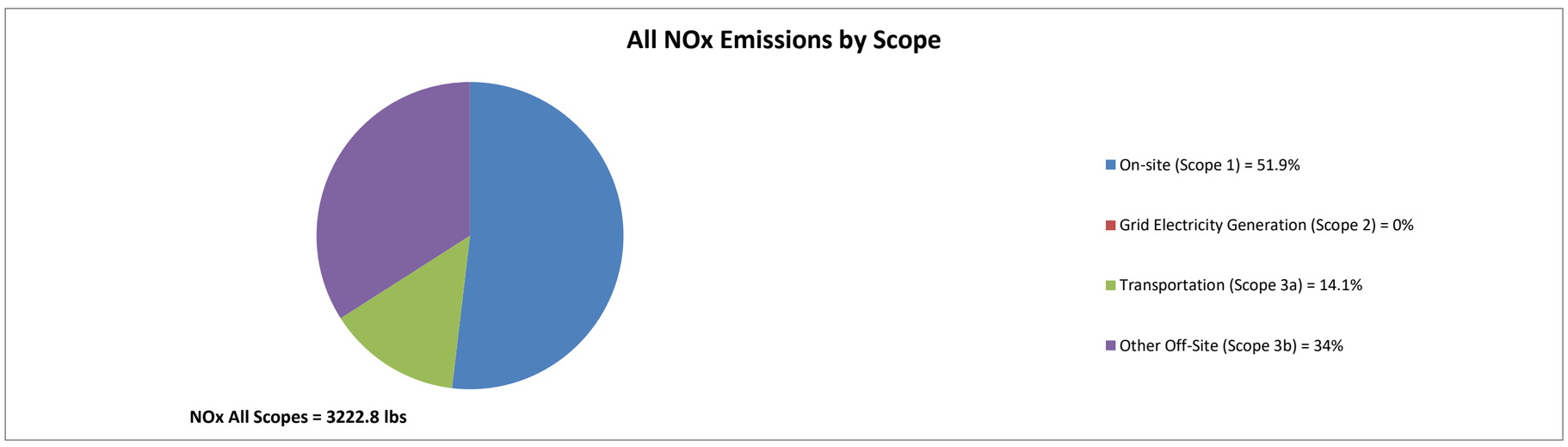
Alternative I - Track 1 Remedy = 58.3%
Alternative II - Track 2 Remedy = 41.7%
0 = 0%
= 0%
= 0%
= 0%

On-site (Scope 1) = 56.5%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 9.4%
Other Off-Site (Scope 3b) = 34.1%

GHG All Components = 325.9 Tons CO2e
GHG All Scopes = 325.9 Tons CO2e


All NOx Emissions by Remedy Component by Scope
(in Lbs)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Alternative I - Track 1 Remedy
Alternative II - Track 2 Remedy
0
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
NOx All Components = 3222.8 lbs


All NOx Emissions by Remedy Component
Alternative I - Track 1 Remedy = 57.4%
Alternative II - Track 2 Remedy = 42.6%
0 = 0%
= 0%
= 0%
= 0%
NOx All Components = 3222.8 lbs

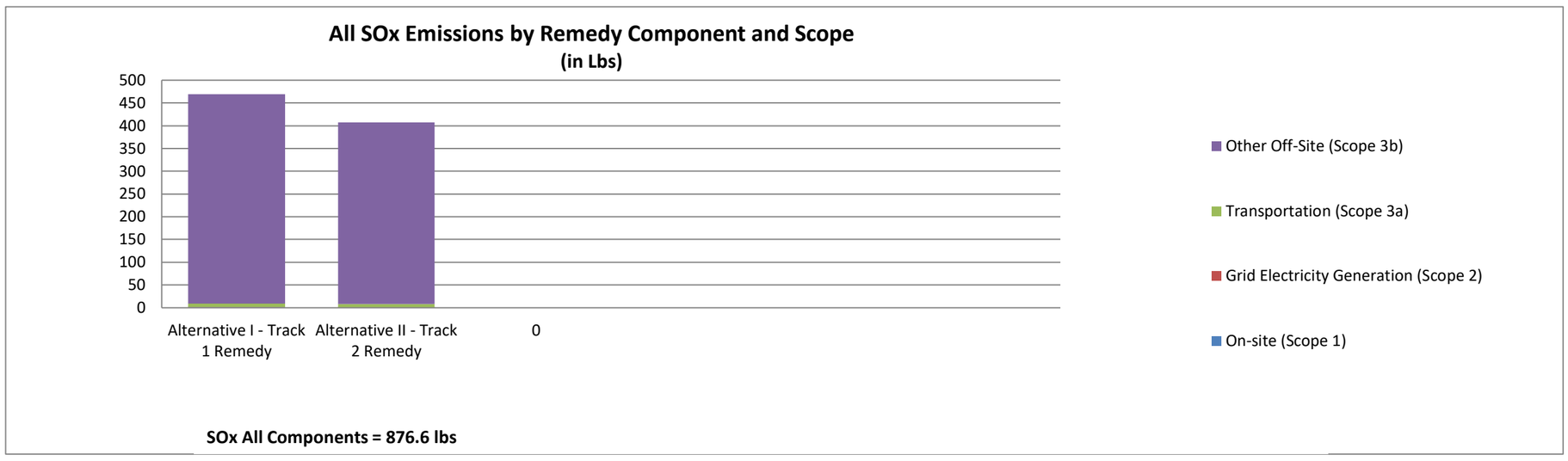

All NOx Emissions by Scope
On-site (Scope 1) = 51.9%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 14.1%
Other Off-Site (Scope 3b) = 34%
NOx All Scopes = 3222.8 lbs

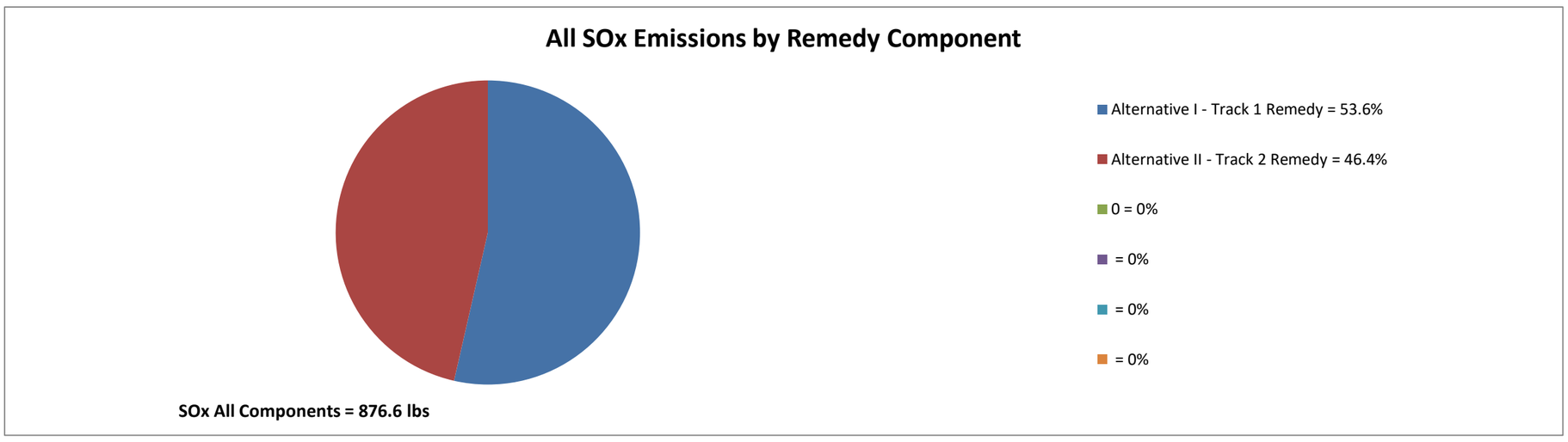
NOx lbs							
	Alternative I - Track 1 Remedy	Alternative II - Track 2 Remedy	0				Total
On-site (Scope 1)	1,044.9	626.9	0.0	0.0	0.0	0.0	1,671.8
Grid Electricity Generation (Scope 2)	0.3	0.1	0.0	0.0	0.0	0.0	0.4
Transportation (Scope 3a)	234.0	219.6	0.0	0.0	0.0	0.0	453.6
Other Off-Site (Scope 3b)	569.3	527.7	0.0	0.0	0.0	0.0	1,097.0
Total	1,848.4	1,374.4	0.0	0.0	0.0	0.0	3,222.8

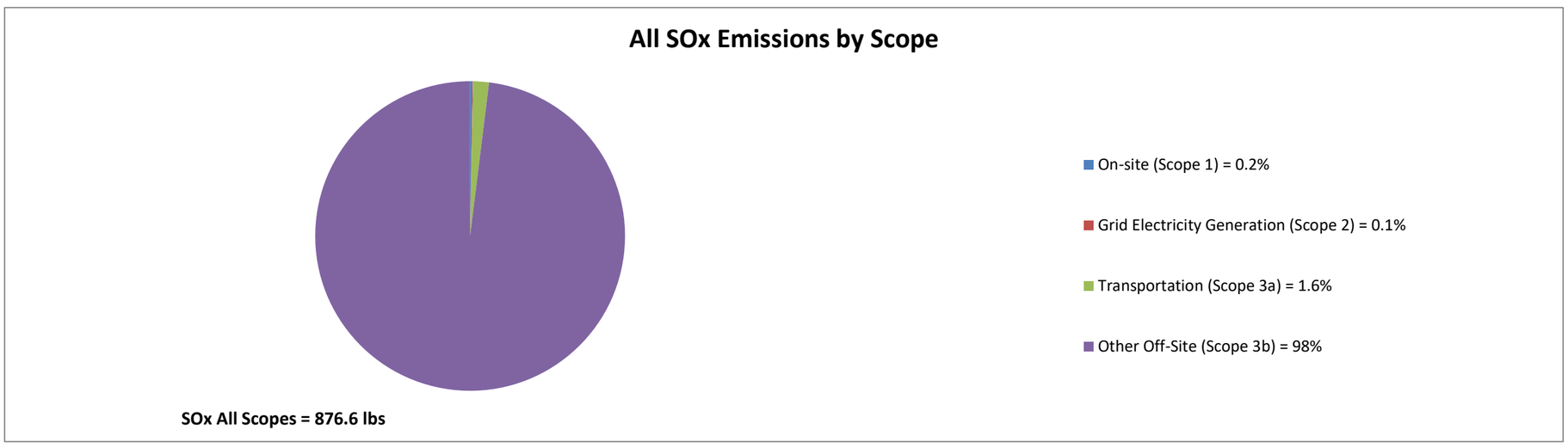
Alternative I - Track 1 Remedy = 57.4%
Alternative II - Track 2 Remedy = 42.6%
0 = 0%
= 0%
= 0%
= 0%

NOx All Components = 3222.8 lbs
NOx All Scopes = 3222.8 lbs

On-site (Scope 1) = 51.9%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 14.1%
Other Off-Site (Scope 3b) = 34%


All SOx Emissions by Remedy Component and Scope
(in Lbs)
500
450
400
350
300
250
200
150
100
50
0
Alternative I - Track 1 Remedy
Alternative II - Track 2 Remedy
0
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
SOx All Components = 876.6 lbs


All SOx Emissions by Remedy Component
Alternative I - Track 1 Remedy = 53.6%
Alternative II - Track 2 Remedy = 46.4%
0 = 0%
= 0%
= 0%
= 0%
SOx All Components = 876.6 lbs

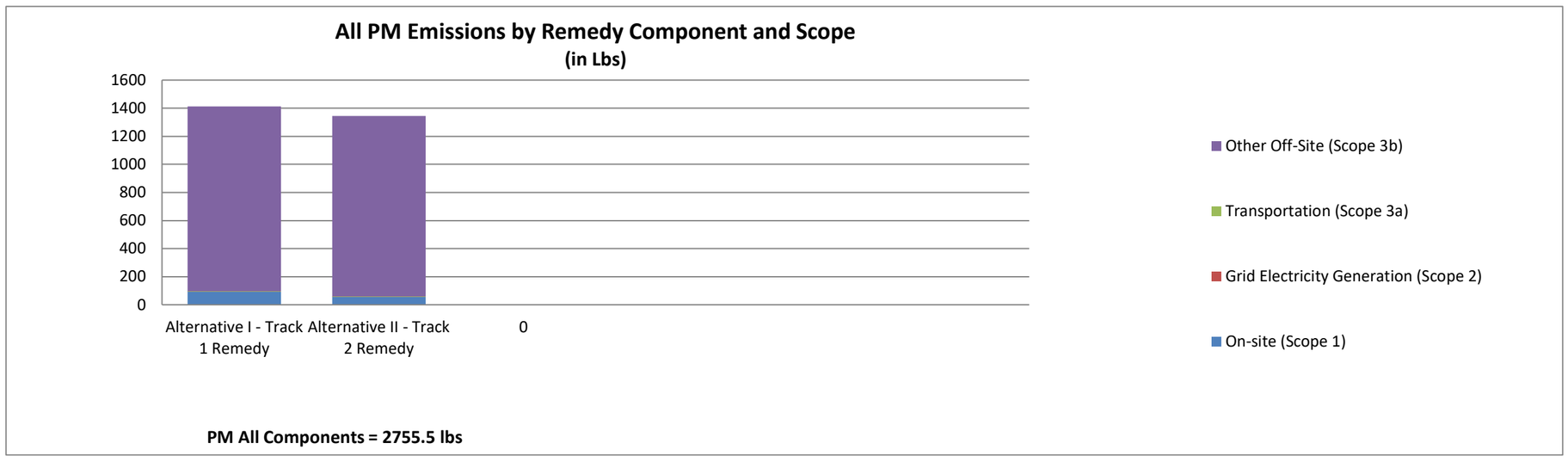

All SOx Emissions by Scope
On-site (Scope 1) = 0.2%
Grid Electricity Generation (Scope 2) = 0.1%
Transportation (Scope 3a) = 1.6%
Other Off-Site (Scope 3b) = 98%
SOx All Scopes = 876.6 lbs

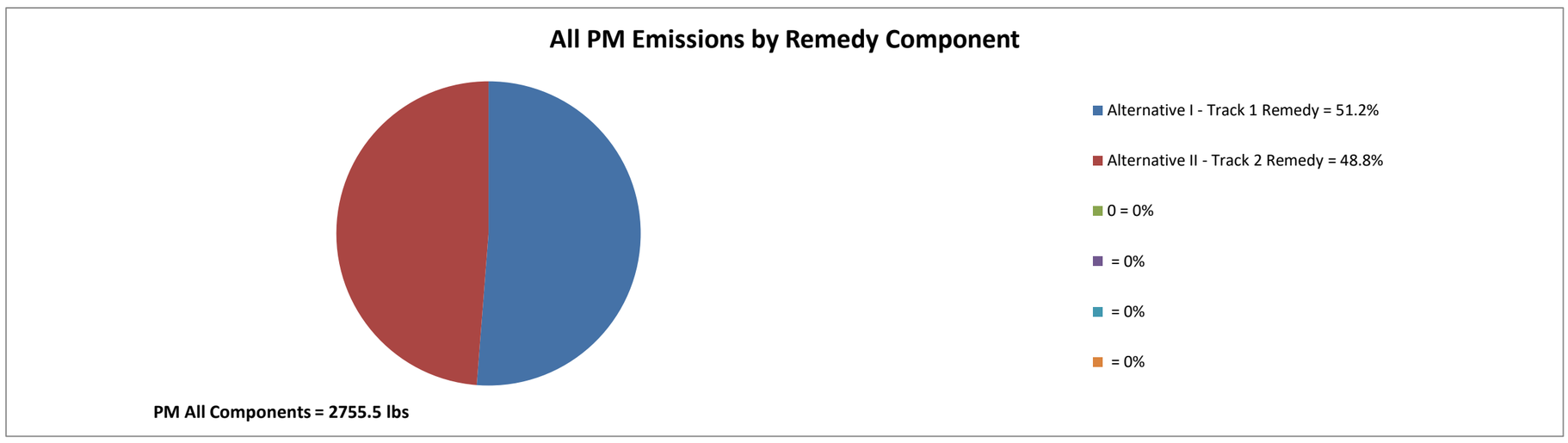
	SOx lbs						
	Alternative I - Track 1 Remedy	Alternative II - Track 2 Remedy	0			Total	
On-site (Scope 1)	1.3	0.8	0.0	0.0	0.0	0.0	2.2
Grid Electricity Generation (Scope 2)	0.5	0.1	0.0	0.0	0.0	0.0	0.6
Transportation (Scope 3a)	7.4	6.9	0.0	0.0	0.0	0.0	14.4
Other Off-Site (Scope 3b)	460.3	399.1	0.0	0.0	0.0	0.0	859.5
Total	469.6	407.0	0.0	0.0	0.0	0.0	876.6

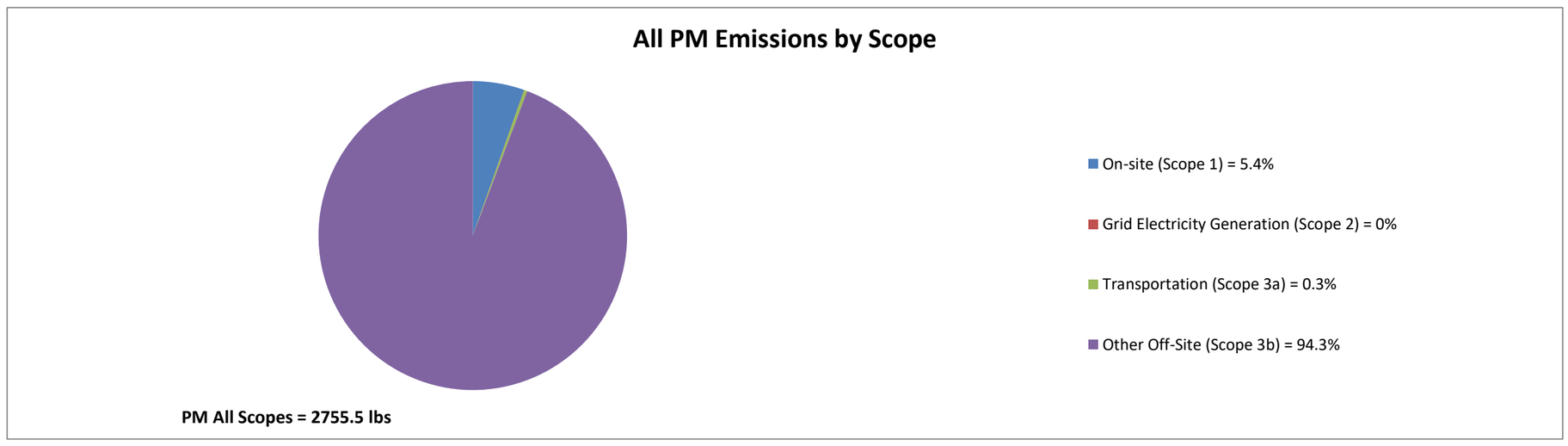
Alternative I - Track 1 Remedy = 53.6%
Alternative II - Track 2 Remedy = 46.4%
0 = 0%
= 0%
= 0%
= 0%

SOx All Components = 876.6 lbs
SOx All Scopes = 876.6 lbs

On-site (Scope 1) = 0.2%
Grid Electricity Generation (Scope 2) = 0.1%
Transportation (Scope 3a) = 1.6%
Other Off-Site (Scope 3b) = 98%


All PM Emissions by Remedy Component and Scope
(in Lbs)
1600
1400
1200
1000
800
600
400
200
0
Alternative I - Track 1 Remedy
Alternative II - Track 2 Remedy
0
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
PM All Components = 2755.5 lbs


All PM Emissions by Remedy Component
Alternative I - Track 1 Remedy = 51.2%
Alternative II - Track 2 Remedy = 48.8%
0 = 0%
= 0%
= 0%
= 0%
PM All Components = 2755.5 lbs

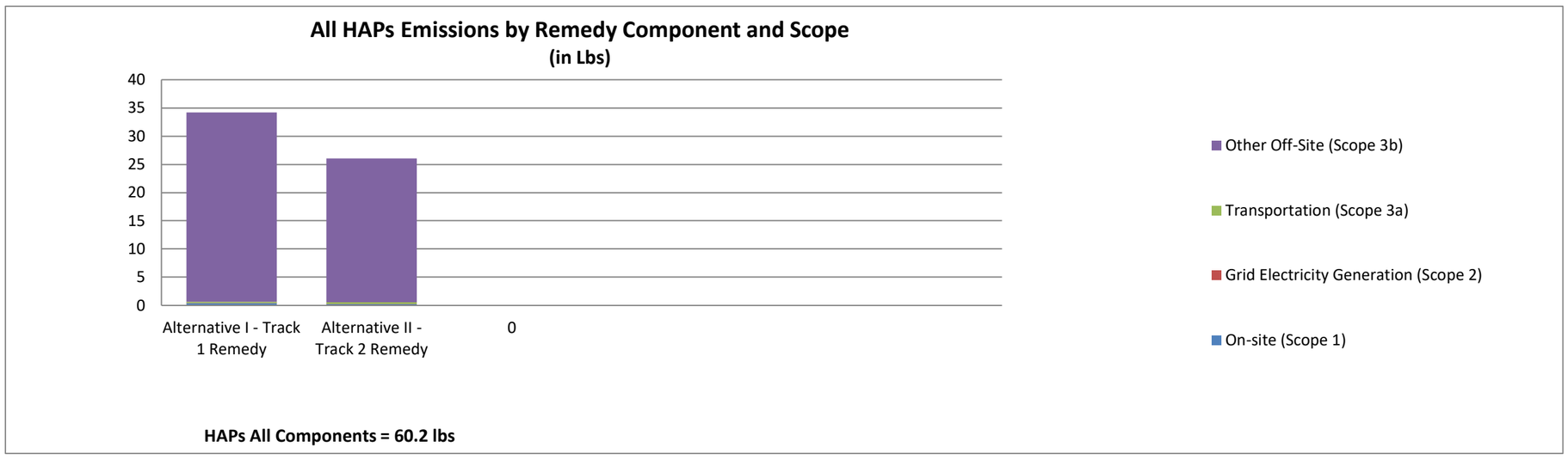

All PM Emissions by Scope
On-site (Scope 1) = 5.4%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.3%
Other Off-Site (Scope 3b) = 94.3%
PM All Scopes = 2755.5 lbs

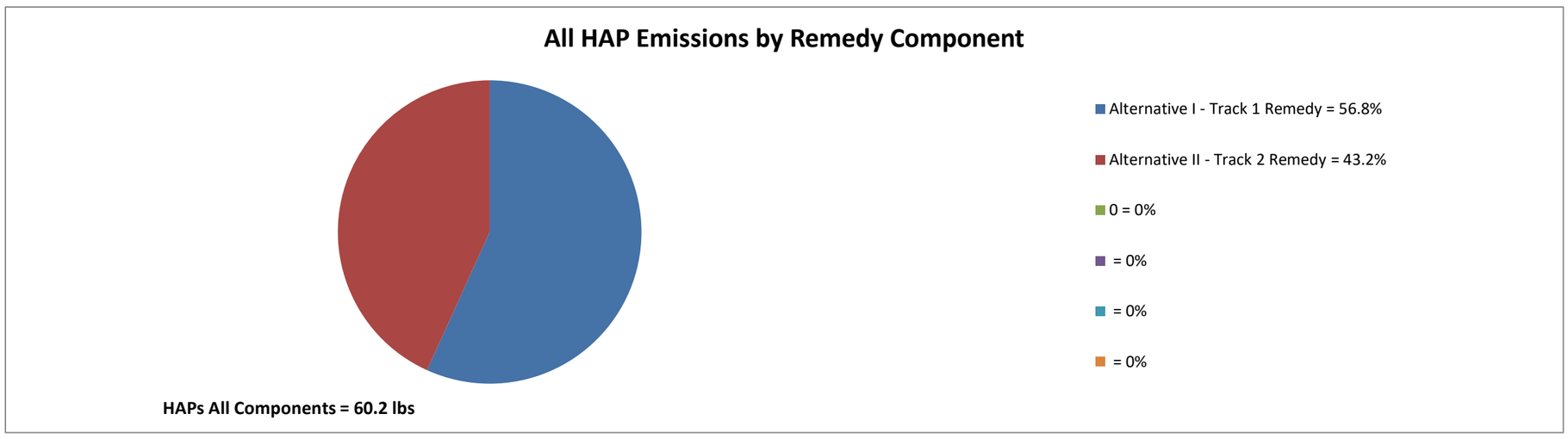
	PM lbs						
	Alternative I - Track 1 Remedy	Alternative II - Track 2 Remedy	0				Total
On-site (Scope 1)	93.1	55.9	0.0	0.0	0.0	0.0	149.0
Grid Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	4.8	4.5	0.0	0.0	0.0	0.0	9.3
Other Off-Site (Scope 3b)	1,314.1	1,283.2	0.0	0.0	0.0	0.0	2,597.2
Total	1,411.9	1,343.6	0.0	0.0	0.0	0.0	2,755.5

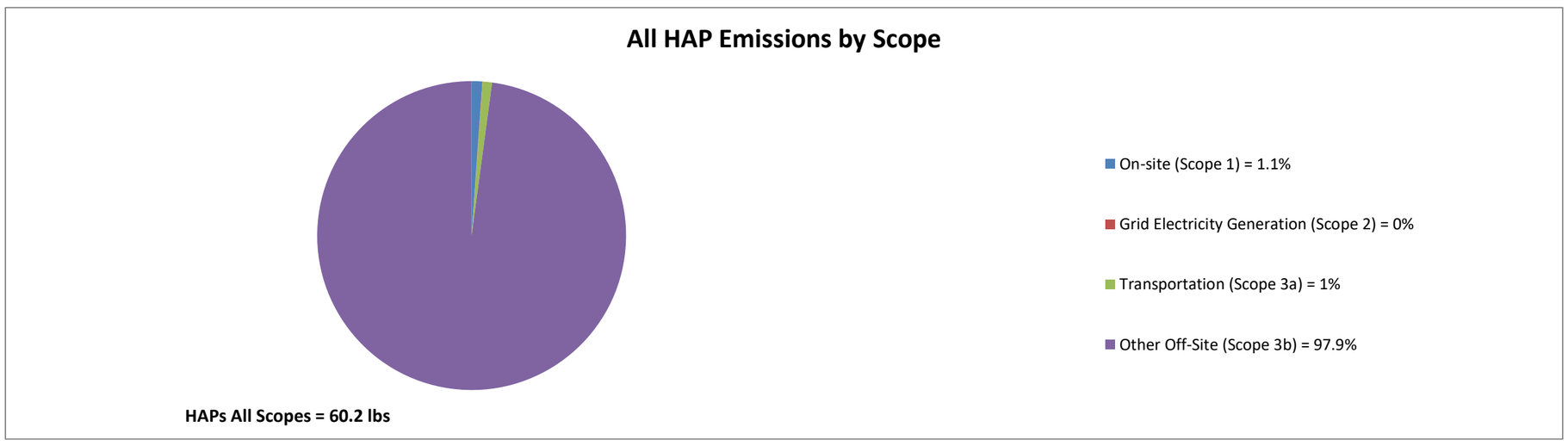
Alternative I - Track 1 Remedy = 51.2%
Alternative II - Track 2 Remedy = 48.8%
0 = 0%
= 0%
= 0%
= 0%

PM All Components = 2755.5 lbs
PM All Scopes = 2755.5 lbs

On-site (Scope 1) = 5.4%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.3%
Other Off-Site (Scope 3b) = 94.3%


All HAPs Emissions by Remedy Component and Scope
(in Lbs)
40
35
30
25
20
15
10
5
0
Alternative I - Track 1 Remedy
Alternative II - Track 2 Remedy
0
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
HAPs All Components = 60.2 lbs


All HAP Emissions by Remedy Component
Alternative I - Track 1 Remedy = 56.8%
Alternative II - Track 2 Remedy = 43.2%
0 = 0%
= 0%
= 0%
= 0%
HAPs All Components = 60.2 lbs


All HAP Emissions by Scope
On-site (Scope 1) = 1.1%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 1%
Other Off-Site (Scope 3b) = 97.9%
HAPs All Scopes = 60.2 lbs

HAPs lbs	Alternative I - Track 1 Remedy	Alternative II - Track 2 Remedy	0				Total
On-site (Scope 1)	0.4	0.2	0.0	0.0	0.0	0.0	0.7
Grid Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	0.2	0.3	0.0	0.0	0.0	0.0	0.6
Other Off-Site (Scope 3b)	33.5	25.4	0.0	0.0	0.0	0.0	59.0
Total	34.2	26.0	0.0	0.0	0.0	0.0	60.2

Alternative I - Track 1 Remedy = 56.8%
Alternative II - Track 2 Remedy = 43.2%
0 = 0%
= 0%
= 0%
= 0%

HAPs All Components = 60.2 lbs
HAPs All Scopes = 60.2 lbs

On-site (Scope 1) = 1.1%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 1%
Other Off-Site (Scope 3b) = 97.9%

APPENDIX H
Project Personnel Resumes

MARI C. CONLON

Project Manager

EDUCATION

M.S., Geology, Boston College
B.S., Geology with a minor in Economics and Business, Lafayette College

PROFESSIONAL REGISTRATIONS

NY: Professional Geologist (License No. 000769)

PROFESSIONAL SOCIETIES

Big Apple Brownfield Awards, Co-Chair, 2018-2019
Big Apple Brownfield Awards Nomination Committee, 2016-2017

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)
10-Hour OSHA Construction Safety
8-Hour OSHA Supervisor of Hazardous Waste (29 CFR 1910.120 & 29 CFR 1926.65)

Mari is a project manager with experience in soil, groundwater and soil vapor investigation and a focus on remedial design and implementation, and will focus her time at Haley & Aldrich serving the environmental and real estate markets. She is also experienced in completion of numerous Phase I Environmental Site Assessments and Phase II Environmental Site Investigations, site characterization, hazardous materials analysis, regulatory closure reports as well as remedial design and implementation.

Mari has experience in composing site closure documentation including Remedial Closure Reports and Noise Installation Reports reviewed by the Office of Environmental Remediation as well as Final Engineering Reports reviewed by the New York State Department of Environmental Conservation. Her background includes developing and complying with approved site management plans overseeing the operation and maintenance of on-site engineering controls and ensuring the protection of human health and the environment.

Mari has also worked on city rezoning proposals by performing work associated with and composing the Hazardous Materials Analysis chapter included in Final Environmental Impact Statements published by New York City Department of Planning. Analysis methods were performed in accordance with the City Environmental Quality Review (CEQR) guidelines for neighborhoods including East New York, Brooklyn, Jerome Avenue, Brooklyn, Inwood, and Manhattan.

RELEVANT PROJECT EXPERIENCE

State and City Agencies

School Construction Authority, Waste Characterization and Excavation Materials Disposal Plan, Brooklyn, New York. Project manager for consulting services for New York Public School 127. Services included composition of an Excavated Materials Disposal Plan, collection of waste characterization samples and preparation of and preparation of a findings and recommendations report.

Department of City Planning, Rezoning Environmental Impact Statement, Bronx, New York. Project lead for analysis and composing the Hazardous Materials Chapter as per City Environmental Quality Review (CEQR) Technical Manual guidelines included in the Final Environmental Impact Statement (FEIS) for an approximately 92-block area primarily along Jerome Avenue and its east-west commercial corridors in the Bronx. The review assessed the potential for the presence of hazardous materials in soil and/or groundwater at both the projected and potential development sites identified in the reasonable worst-case development scenario under the proposed East New York Rezoning Proposal. Procedures involved site inspections and review of historic Sanborn fire insurance maps, city directories and city/state regulatory databases. The assessment identified that each of the 146 projected and potential development sites has

some associated concern regarding environmental conditions. As a result, the proposed zoning map actions include (E) designations (E-366) for all privately-held projected and potential development sites.

Department of City Planning, Rezoning Environmental Impact Statement, Brooklyn, New York. Project lead for performance analysis and composing the Hazardous Materials Chapter as per CEQR Technical Manual guidelines included in the FEIS for an approximately 190-block area of East New York, Cypress Hills, and Ocean Hill neighborhoods of Brooklyn, New York. The review assessed the potential for the presence of hazardous materials in soil and/or groundwater at both the projected and potential development sites identified in the reasonable worst-case development scenario under the proposed East New York Rezoning Proposal. Procedures involved site inspections and review of historic Sanborn fire insurance maps, city directories and city/state regulatory databases. The assessment identified that each of the 186 projected and potential development sites has some associated concern regarding environmental conditions. As a result, the proposed zoning map actions include (E) designations (E-366) for all privately-held projected and potential development sites.

Redevelopment and Remediation

Titan Equity Group, Hotel Redevelopment, Bronx, New York. Project manager for a hotel redevelopment in the south Bronx. The site has been assigned New York City Office of Environmental Remediation (NYC OER) E-Designation status for hazardous materials, noise and air quality. Services included completion of a remedial investigation, composition of a Remedial Investigation Report and development of Hazardous Material Remedial Action Work Plan and Air Quality/Noise Remedial Action Plan as per NYC OER requirements.

The Related Companies, Chelsea Mixed-Use Redevelopment, New York, New York. Field geologist for oversight of the remediation of a mixed-use residential and commercial building, the second of a two-building development on 30th Street. Contaminants of concern included volatile and semi-volatile organic compounds associated with historic operations and underground storage tanks (USTs) located on the Site. The Site was given an E-designation (E-142) for hazardous materials and noise as part of the Highline/West Chelsea rezoning proposal. To satisfy the requirements of the E-designation program, soil was excavated to at least 12 feet below grade and bottom endpoint collected showing no contaminants of concern exceeding the New York State Department of Environmental Conservation (NYSDEC) Unrestricted Use Soil Cleanup Objectives (SCO). By achieving Unrestricted Use SCOs, no engineering controls were necessary, although the building slab was included as part of development, and removal of the hazardous materials E-designation was requested.

Tishman Speyer, Long Island City Residential Development, Long Island City, New York. Field geologist for remedial oversight and implementation of a Community Air Monitoring Program during concurrent remediation and development of three Brownfield Cleanup Program (BCP) sites located in Long Island City, New York. The Sites were grossly contaminated with creosote, a carcinogenic chemical formed from the distillation of various tars. Remediation strategies included soil excavation and in-situ soil stabilization. To prevent migration of groundwater off-site, a temporary and later a permanent capture well system was installed on the western boundary of the property. The BCP site located on the western portion of the property left residual contamination in place requiring installation of a sub-slab depressurization system.

Queens West Development Corporation, Queens Waterfront Development, Long Island City, New York. Field geologist for performance of site management post remedial action. Services included annual groundwater monitoring, evaluation of engineering and institutional controls completion and Period Review Reports. In addition to conducting annual site management activities, responsibilities included composing a work plan to evaluate the transition from active sub-slab depressurization systems to passive. Upon NYSDEC approval, active systems were shut down for 30 days prior to a sub-slab vapor sampling event evaluation soil vapor, indoor and outdoor air conditions for potential vapor intrusion risk. As results indicated no evidence of vapor intrusion, continued pressure monitoring was conducted for from the existing monitoring ports for one year assessing whether negative pressure was held by the existing slab by stack-effect or other passive processes.

Jim Beam Brands Co., Brownfield Cleanup Program Remediation Site, Long Island City, New York. Field geologist for oversight of the installation of an Electrical Resistive Heating (ERH) system implemented in order to remediate trichloroethylene groundwater plumes in shallow/intermediate and deep groundwater on- and off-site. The Site, a former stapler manufacturing facility, underwent various remedies, including a Soil Vapor Extraction system, air sparging, ozone injection and chemical oxidation using potassium permanganate injections, which resulted in little reduction to contamination levels and rebounding chlorinated solvents. Components of the ERH system installed included electrodes for delivery of steam, vapor recovery wells, and groundwater monitoring wells. The site is currently under remediation in the state BCP program.

Due Diligence and Site Characterization

Manufacturing Plants, Multiple Investors, Environmental and Compliance Assessment Portfolio United States. Project lead for completion of Phase I Environmental Site Assessments (ESAs) and Limited Compliance Reviews for multiple auto parts manufacturing facilities throughout the United States. Services included completion of Phase I ESAs in accordance with the American Society for Testing and Materials E1527-13 requirements and a limited review of each facility's compliance liabilities including issues pertaining to the Resource Conservation and Recovery Act, Greenhouse Gas Emission Standards and Tier II Emergency and Hazardous Chemical Inventory reporting requirements.

ARM Parking, Environmental Site Assessment and Subsurface Investigation, Brooklyn, New York. Project manager for site assessment and subsurface investigation of parking facility in Sunset Park neighborhood, Brooklyn, New York. Services included ground penetrating radar survey for former and current petroleum USTs, completion of a subsurface investigation of soils and composition of Limited Subsurface Investigation Report.

Spill Consulting

The Trump Organization, Spill Consulting Services, New York, New York. Project manager for consulting services provided after incidental release of calcium carbonate ice rink paint to the Central Park Pond from Wollman Rink. Services included liaising with NYSDEC regarding violations, consent order and required corrective action. Corrective action included designing alterations to the existing on-site drainage plans and routing all meltwater containing paint into the combined sewer system. Coordination was required with property owner, operations personnel, New York City Department of Parks and NYSDEC.

Richmond Gardens Apartments, Spill Management and Closure Services, Staten Island, New York. Project lead responsible for spill closure activities and reporting for Spill 1105661 located at the Richmond Gardens Apartment Complex in the Richmond neighborhood of Staten Island, New York. The spill was opened in 2011 when several underground storage tanks were identified adjacent to the apartments at Jersey Street and Hendricks Avenue. The tanks were cleaned and removed and impacted soils surrounding the tank area excavated to the extent possible. Excavation of all impacted material was not feasible due to the proximity of the tanks to the apartment buildings. Residual contamination in soil and groundwater remained and was monitored through 2016. Upon reviewing the groundwater monitoring data from over 12 consecutive quarters, it was apparent monitored natural attenuation was not a feasible option and an in situ chemical oxidation (ISCO) remedy was approved by NYSDEC. Due to success of the pilot test, the ISCO injection event was implemented utilizing pressure pulse technology to deliver the alkaline activated persulfate solution to the subsurface.



ZHAN SHU, P.E., PH.D.

Senior Project Manager/Technical Specialist

EDUCATION

Ph.D., Environmental Engineering, New Jersey Institute of Technology (NJIT)
B.S., and M.S., Environmental Engineering, National Hua Chiao University, China

PROFESSIONAL REGISTRATIONS

2018/ NJ: Professional Engineer (Reg. No. 24GE05424500)

PROFESSIONAL SOCIETIES

American Society of Civil Engineering
American Chemical Society
New Jersey Society of Women Environmental Professionals
Reviewer, Journal of Environmental Engineering Science
Reviewer, Journal of Science of Total Environment
Reviewer, Journal of Environmental Engineering

SPECIAL STUDIES AND COURSES

OSHA - Hazardous Waste Operations and Emergency Response (OSHA 40-Hour HAZWOPER)
8-Hour OSHA Annual HAZWOPER Refresher
Application of Risk Assessment as a Decision-Making Tool for Contaminated Sites

Zhan has over 11 years of experience in project management, environmental consulting, remediation, engineering, and construction management. She is a licensed professional engineer (P.E.) in the state of New Jersey. She is a senior project manager with experience in soil and groundwater remediation, geochemistry, contaminant hydrogeology, contaminant attenuation and mobility, mechanistic and transport modeling, statistical data analysis, and waste characterization. She has delivered several presentations at professional gatherings, including the Annual International Conference on Soil, Water, Energy, and Air (AEHS) and other technical conferences.

RELEVANT PROJECT EXPERIENCE

Former Pesticide Manufacturing Facility, Site Investigation and Remediation, Middlesex, New Jersey. The 57-acre site is composed of multiple properties that are impacted by former manufacturing activities involving arsenic compounds and other chemicals used as pesticide ingredients. A groundwater remediation system pumps and treats arsenic, pesticides, and volatile organic compounds (VOCs)-impacted groundwater in accordance with New Jersey Department of Environmental Protection (NJDEP) and Publicly Owned Treatment Work (POTW) permits. As project manager, performed a wide variety of tasks related to site investigation and remediation for this project, including:

- Assessed multimedia environmental data, delineated contaminant plumes, completed geologic mapping, and prepared conceptual site model (CSM) and associated interpretation;
- Prepared technical reports (RIR, RASR, RAW, and RAR) for clients and the NJDEP;
- Statistically developed surface water background threshold values (BTV) to evaluate the effectiveness of engineering controls;
- Statistically evaluated remedial alternatives to ensure environmental compliance;
- Assisted in groundwater treatment plant modification projects and feasibility studies, evaluated pilot study results and assessed feasibility of scaling up operations, and prepared associated engineering cost estimate; and

- Prepared engineering design, bid package, and assisted in permit application.

Former Dry Cleaner Facility Remediation, Toms River, New Jersey. As project manager, provided environmental engineering services for an in-site remediation project involving tetrachlorethene (PCE) vapor intrusion. Soil vapor extraction (SVE) and air sparging (AS), along with groundwater monitored natural attenuation (MNA) were applied to reduce contaminant residuals. Conceptually designed intuitional controls—Deed Notice and Classification Exception Area (CEA)—to address on-site residual soil and groundwater contamination.

Active Waste Oil Recycling Facility, Elizabeth, New Jersey. As project manager/project engineer, delineated previous and current light non-aqueous phase liquid (LNAPL) contaminant plume in the groundwater system. Updated facility's Storm Water Pollution Prevention Plan (SWPPP) according to New Jersey Pollution Discharge Elimination System (NJPDES) permit conditions.

The Salvation Army, Asbury Park, New Jersey. As project manager for this underground storage tank (UST) spill case, designed and performed the chemical injection to address petroleum-impacted groundwater and post-monitoring required to move this case toward regulatory closure. The objective of the in situ remediation is to destroy the VOCs in groundwater through chemical oxidation and enhance biodegradation within the source area.

Soil Geobiochemistry Study at DuPont Chambers Works Site (CWKs), Deepwater, New Jersey. As an external consultant for the DuPont Geobiochemistry group, developed protocols for collecting and processing soil core samples in an anaerobic condition, and analyzed the collected data to support the refinement of the site-wide CSM. Assisted in understanding the interactions and mechanisms at the interface as well as in explaining groundwater chemistry, redox conditions, Fe speciation, S speciation, and abiotic/biotic processes.

Former Steel Fabrication Shop, Brownfield Redevelopment Brooklyn, New York. As project manager/project engineer, provided environmental engineering services for a brownfield redevelopment site in the Williamsburg neighborhood of Brooklyn, New York. Previous remedial investigations had documented the presence of PCE in groundwater, soil, and soil gas. Performed a supplemental investigation to delineate the on-site and off-site PCE plumes. Performed the pilot study to evaluate the effectiveness of zero valent iron (ZVI) in treating the high concentrations of chlorinated volatile organic compounds (CVOCs) in groundwater. Also conducted strategic soil management (for hazardous [F-listed] and nonhazardous soil) and remediation as part of site redevelopment and building construction preferred. Reviewed site remedies, including soil excavation, ZVI wall injection, dewatering, in-situ chemical oxidation (ISCO)/in situ chemical reduction (ISCR), sub-slab depressurization system (SSDS), and other remedies.

205 Park Avenue, Brownfield Redevelopment, Brooklyn, New York. As project manager/project engineer, prepared Brownfield Cleanup Program Applications (BCA). Involved in each phase of the project including Phase I Environmental Site Assessment (ESAs), remedial investigations (for chlorinated solvents in soil, groundwater, and soil vapor), CSMs, remedial design (SSDS and ISCO), and long-term operations and maintenance of remedial systems. Prepared the remedial investigation, Remedial Action Work Plan, Site Management Plan (SMP), and Final Engineering Report (FER).

Former Alpine Paper Box Manufacturing Site, Brooklyn, New York. This project was under the jurisdiction of the New York City Office of Environmental Remediation (NYCOER), since an E-Designation for air quality, noise, and HAZMAT was placed on the subject property as part of a rezoning. As project manager/project engineer, performed a Phase I Preliminary Site Assessment, a Phase II Site Investigation, and prepared a Remedial Action Plan. Also prepared Brownfield Cleanup Program Applications and evaluated the potential tax credit for the client.

Former Cascade Laundry Site, Brownfield Redevelopment, Brooklyn, New York. The whole city block has been used as a commercial laundry beginning in the 1920s. USTs were observed, and the site had fuel oil/petroleum-related impacts to both soil and groundwater. As project manager/project engineer, conducted remedial investigation to delineate the vertical and horizontal extent of petroleum contamination in soil. Designed a vapor barrier and passive

SSDS system. Conducted ISCO to address the remaining CVOCs in groundwater. Negotiated with the New York State Department of Environmental Conservation (NYSDEC) to change the conditional track 1 to standard track 1 as the final remedy outcome to obtain more tax credits for the client.

Former Dry Cleaner Site, Brownfield Redevelopment, Coney Island, Brooklyn, New York. As project manager/project engineer, provided environmental services during the rehabilitation and expansion of the expansive, 1970s-era mixed-use complex. Facilitated the BCP applications for two adjacent parcels within the complex: the first for an existing retail space formerly occupied by a dry cleaner; the second application for an adjacent "historic" dry cleaner lot that had been razed as part of urban renewal in the 1960s. Previous site investigations had documented the presence of PCE in soil gas; the Remedial Investigation Work Plan (RIWP) outlined the work required to delineate the vertical and horizontal extent of the impacted soils, soil vapor, and groundwater at both BCP sites. A Remedial Action Work Plan was developed to address contaminated media. An SSDS was designed to protect residential and retail tenants, in conjunction with source area treatments.

296 Wythe Avenue, E-Designation Site, Brooklyn, New York. As project manager/project engineer, managed and oversaw the removal of three USTs and the excavation of non-hazardous soil/fill for off-site disposal. Designed a vapor barrier and passive SSDS. Prepared the OER and NYSDEC-required documents including daily/monthly report, Noise/Air Remedial Action Plan, and Remedial Action Report.

Standard Motor Products, Brownfields Redevelopment, New York. Low levels of chlorinated solvents were detected in the groundwater. As project engineer, contributed to AS and SVE system designed and implemented at the site. Project also entailed operating and managing the system, maintaining the right pressure and flow for the system to effectively remediate the contamination.

JPMorgan Chase, Brownfields Redevelopment, Orangeburg, New York. Served as project engineer. Investigation/remediation/oversight project at a 90+-year-old state hospital campus redeveloped as a database center. The 61-acre site consisted of 32 abandoned and derelict buildings, walkways, roads, and significantly overgrown landscape areas. Initial project work included the preparation of an NYSDEC BCP application and the design and implementation of a fast-track, comprehensive remedial investigation.

Former Nuhart Plastics Site, New York State Superfund Site, Brooklyn, New York. As project engineer, conducted a feasibility study and remedial planning for this former plasticizer facility with on-site and off-site pollutant concerns. Initial site investigations were conducted by others. Project is a high-profile New York State Superfund Site and requires regulatory compliance with NYSDEC and NYCOER, as well as close coordination with local government bodies.

Junior High School 226 Queens (I.S. 226), Queens, New York. As environmental engineer, managed construction support services related to soil management associated with the construction of a New York City school complex and associated utility corridors. Prepared Excavated Material Disposal Plans, reviewed potential disposal facilities, and conducted waste characterization soil sampling.

599 Valley Health Plaza, SSDS, Paramus, New Jersey. As environmental engineer, provided environmental services including a Phase I ESA, Vapor Encroachment Assessment, Phase II ESA, Remedial Action Plan, and Construction Health and Safety Plan. For active SSDS, designed and prepared bid specifications.

2581 & 2587 Atlantic Avenue, 40-44 Georgia Avenue, Brooklyn, New York. Served as environmental engineer and provided environmental services including a Phase I ESA, Vapor Encroachment Assessment, Phase II ESA, Remedial Action Plan, and Construction Health and Safety Plan. Designed the active and passive SSDS systems and prepared bid specifications.

Steel Craft, Newark, New Jersey. Served as environmental engineer and conducted groundwater sampling; delineated and differentiated the on-site and off-site PCE and Trichloroethylene (TCE) plumes.

Oil Spill Risk Assessment, BP and National Oceanic and Atmospheric Administration (NOAA), Gulf of Mexico. Performed risk assessment for oil spill contamination. Statistically evaluated the data obtained from the site. Reviewed reports and conducted associated research.

Contaminant Mobility in Paint Waste during Bridge Rehabilitation, New York State Department of Transportation, New York State. Collaborated with the New York State Department of Transportation (NYSDOT) to investigate the transport and mitigation of the heavy metal contamination from lead-based paint during bridge rehabilitation. Developed a mathematical model using a variety of statistical approaches to rapidly characterize paint waste during bridge rehabilitation. Nine task deliverables were submitted and presented to NYSDOT.

Impact Study on Effects of Superstorm Sandy, National Science Foundation (NSF), Raritan Bay, New Jersey. Investigated water quality, trace metals, nitrogen, phosphate, and related contaminants in the groundwater and sediment in the shorelines along Raritan Bay in New Jersey. Evaluated coastal ecosystem recovery and resilience potential after Superstorm Sandy.

Bio-remediation of Tannery Sludge, China. Conducted bio-remediation using indigenous sulfur-oxidizing bacteria present in the tannery sludge to reduce elevated hexavalent chromium in tannery sludge. Chromium removal rate of 90 percent was achieved.

Fujian Petrochemical Industrial Group Co., Compliance Services, China. Supported lead engineer in the preparation of planning documents and completion of regulatory permit applications. Assisted lead scientist in modifying related EHS programs and procedures to ensure compliance.

PUBLICATIONS

"Field Methods for Rapidly Characterizing Paint Waste during Bridge Rehabilitation," with L. Axe, K. Jahan, and K.V. Ramanujachary, *Chemosphere* 134: 598-605, 2015.

"Metal Concentrations and Distribution in Paint Waste Generated during Bridge Rehabilitation in New York State," with L. Axe, K. Jahan, and K.V. Ramanujachary, *Science of the Total Environment* 526: 262-270, 2015.

"Monitoring Changes in Salinity and Metal Concentrations in New Jersey (USA) Coastal Ecosystems Post Hurricane Sandy," with Y.R. Personna, X. Geng, F. Saleh, N. Jackson, M. Weinstein, and M. Boufadel, *Environ Earth Science*, 73(3): 1169-1177. 2015

"Metal Leaching from the Bridge Paint Waste in the Presence of Steel Grit, ," with L. Axe, K Jahan, and K.V. Ramanujachary, Chemosphere 119, 1105–1112, 2015.

INVITED LECTURER OR SPEAKER

"Thermal Enhanced Recovery for Phthalate-Cutting Oil Mixture Treatability Study – Former Plastic Manufacturing Facility," with D. Winslow, presented at 29th Annual International Conference on Soil, Water, Energy, & Air, March 18-21, 2019.

"Trace metal leaching from bridge paint waste in the presence of iron oxide surfaces," with L. Axe, K. Jahan, K.V. Ramanujachary, Division of Colloid and Surface Chemistry, 246th American Chemical Society (ACS) National Meeting, Indianapolis, Indiana, September 8-12, 2013.

"Leaching behavior of lead and chromium from bridge paint waste in the presence of steel grit," with L. Axe, K. Jahan, and K.V. Ramanujachary, session of Steel Bridges Committee, Transportation Research Board 92nd Annual Meeting, Washington, D.C., January 13-17, 2013.

"Field methods for rapidly characterizing paint waste during bridge rehabilitation," with L. Axe, K. Jahan, and K.V. Ramanujachary, session of Environmental Chemistry for a Sustainable World, 243rd American Chemical Society (ACS) National Meeting, San Diego, California, March 25-29, 2012.

ELIZABETH R. FITZGERALD

Project Manager

EDUCATION

B.S., Earth Science with a minor in Sustainability Leadership, Pennsylvania State University

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)
8-Hour OSHA HAZWOPER Refresher Training
10-Hour OSHA Construction Safety Training
8-Hour DOT Hazmat Employee & RCRA Hazardous Waste Generator Training
American Red Cross First Aid/CPR/AED Training

Elizabeth is an environmental scientist and project manager with broad experience across environmental remediation, due diligence, regulatory compliance, and infrastructure development. She has managed and supported projects under the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup (BCP), NYC Office of Environmental Remediation (NYC OER) Voluntary Cleanup Program (VCP), and New Jersey Department of Environmental Protection (NJDEP), with expertise in remedial construction oversight, regulatory coordination, and technical reporting. Elizabeth has authored numerous technical and regulatory reports and has successfully guided projects to regulatory closure or key milestones with agencies including NYSDEC, NYC OER, and NJDEP. Her project portfolio spans brownfield redevelopment, transportation and airport infrastructure, New York City School Construction Authority (NYCSCA) public school facilities, and resilience initiatives throughout the New York metropolitan area. Known for her strategic coordination, technical accuracy, and cross-disciplinary collaboration, Elizabeth delivers solutions that support regulatory closure, sustainable development, and long-term project success.

RELEVANT PROJECT EXPERIENCE

Remediation and Redevelopment

Elizabeth has managed and supported remedial investigations, remedy implementation, and regulatory coordination under the NYSDEC BCP, NYC OER VCP, and NJDEP oversight. Her experience includes overseeing remedial construction, authoring Final Engineering Reports (FERs) and Site Management Plans (SMPs), developing sampling and analysis strategies, and coordinating with contractors, regulators, and legal counsel throughout all phases of remediation.

Third at Third LLC, NYSDEC BCP site, Third Street Gowanus, Brooklyn, New York. Elizabeth managed remediation for a 0.47-acre former industrial site redeveloped into a 13-story mixed-use building under the BCP. She directed remedial activities, including excavation and off-site disposal of approximately 4,800 tons of impacted soil, in situ chemical oxidation (ISCO) to address arsenic impacts in groundwater, and installation of an active sub-slab depressurization system (SSDS), infiltration gallery, and composite cover system. Elizabeth led preparation of the FER and SMP and coordinated extensively with NYSDEC and legal counsel to support the issuance of the Certificate of Completion in January 2025.

Franklin 33 LLC, NYSDEC BCP site, 33 Franklin Street, Brooklyn, New York. Elizabeth supported a Track 1 unrestricted use remedy for a 0.48-acre former industrial site. She facilitated excavation and off-site disposal activities for over 9,500 tons of impacted soil, including chlorinated volatile organic compound (VOC)-impacted fill. Elizabeth managed post-excavation sampling and backfill approvals and directed field personnel during remedial activities. Elizabeth contributed to daily and monthly reporting to NYSDEC and New York State Department of Health (NYSDOH), prepared the FER and SMP, and supported regulatory communications to ensure issuance of the Certificate of Completion in December 2022.

Bedford N 1 LLC, NYC OER VCP site, 276 Bedford Avenue, Brooklyn, New York. Elizabeth implemented a Track 2 Residential remedy under the NYC OER VCP for a 2,736-square-foot site historically used for retail and residential purposes. Elizabeth managed transport and disposal operations of more than 2,600 tons of contaminated historical fill, assisted with endpoint sampling, daily reporting, air monitoring, and contractor oversight. Elizabeth helped ensure compliance with the Remedial Action Work Plan (RAWP), including installation of a composite cover system and a multi-layer vapor barrier integrated into the building foundation. She contributed to the Remedial Action Report and supported final certification with NYC OER.

DVL, Inc. Toch Park redevelopment, Kearny, New Jersey. Elizabeth managed polychlorinated biphenyl (PCB) concrete sampling program at a six-story brick-and-concrete warehouse formerly used for linoleum flooring manufacturing. She coordinated a team of six to collect over 800 grab samples on multiple floors, oversaw all decontamination procedures, maintained equipment and inventory, and ensured adherence to health and safety requirements.

S. Hekemian Group Montvale redevelopment, New Jersey. Elizabeth led a remedial investigation and action for a 25-acre former commercial farm property. She advanced 35 soil borings to delineate contamination, conducted synthetic precipitation leaching procedure (SPLP) sampling to establish site-specific cleanup goals, and identified and managed hotspot excavation. She also oversaw dust control during soil movement and supported Response Action Outcome (RAO) documentation to NJDEP to remove environmental restrictions on the property.

Due Diligence

Elizabeth has led environmental due diligence across a range of public and private properties, including commercial, industrial, residential, and institutional sites across all five boroughs of New York City, including NYCSCA school sites, former manufactured gas plant (MGP) sites, and legacy industrial parcels. Elizabeth has authored numerous Phase I Environmental Site Assessment (ESA) reports to support acquisition and redevelopment and has managed Phase II ESIs and Indoor Air Quality to evaluate subsurface conditions and vapor intrusion risks. Her work includes sampling design, regulatory review, and technical reporting to inform client decision-making.

The Jay Group, New York State Superfund site, Former NuHart Plastics site, New York State Superfund site (NuHart West) and BCP site (NuHart East), Brooklyn, New York. Elizabeth authored a Phase I ESA for a 0.6-acre property historically operated as a petroleum filling station and currently listed as a federal Superfund site. The assessment identified multiple Recognized Environmental Conditions (RECs), including historical and ongoing petroleum contamination from leaking underground storage tanks (USTs), improper hazardous material storage, and long-term operation as an auto service facility. Her evaluation included detailed regulatory records review, site reconnaissance, and assessment of historical land use and spill cases. The findings informed the client's acquisition and redevelopment strategy and addressed due diligence requirements under ASTM E1527-13 and the All Appropriate Inquiries (AAI) rule.

New York City Transit (NYCT) Mets/Willets Point Station Renovation Environmental Due Diligence Assessment (EDDA), Queens, New York. Elizabeth assisted with the preparation of an EDDA consistent with the requirements of New York's State Environmental Quality Review Act and City Environmental Quality Review for planned major renovations at NYCT's Mets/Willets Point station on the No. 7 Line as part of the environmental services group. Elizabeth consolidated the data from soil and groundwater sampling events and analyzed for sources of contamination and potential remedial actions prior to construction. In addition, her assessment included the potential impact of noise vibrations and other construction activities on the surrounding environment.

Transportation and Infrastructure

Elizabeth has supported environmental compliance and investigation efforts on high-profile transportation, education, and infrastructure projects in the NYC metro area.

Metropolitan Transportation Authority (MTA) Capital Construction (MTACC) / NYCT, Second Avenue Subway Phase 2, New York City. Elizabeth contributed to subsurface field investigations for the Supplemental Environmental Assessment and Environmental Impact Statement for Phase 2 of the Second Avenue Subway. Elizabeth conducted on-site soil and groundwater sampling, soil classification, contractor oversight, and soil disposal. Elizabeth also coordinated consultant field staff, managed daily site logistics with drilling contractors, tracked equipment and materials, and communicated field progress to the project team.

Port Authority of New York and New Jersey Newark Liberty (EWR) International Airport Terminal One, redevelopment design-build, Newark, New Jersey. Elizabeth assisted in designing a methane investigation program for the redevelopment of Terminal One at EWR. Her work included historical records review, evaluation of regional environmental conditions, and coordination with engineering and construction teams to support the design-build effort. Elizabeth helped interpret findings and communicate results to inform design planning for this LEED® Silver-certified $1.4 billion terminal redevelopment.

NYCSCA Citywide Lead in Water Testing and Potable Water Piping Disinfection Programs, various public schools, New York City. Elizabeth supported potable water investigation and remediation activities at over 100 public schools under NYCSCA contracts. As project coordinator for the Citywide Lead in Water Testing Program, Elizabeth managed the collection and analysis of more than 6,300 potable water samples at over 70 schools, overseeing complex after-hours scheduling and coordination with field teams, laboratories, and NYCSCA representatives. Elizabeth also supported more than 25 potable water piping disinfection projects, including oversight of bacteriological and lead sampling following system installation. At P.S. 62 in Staten Island, Elizabeth led field efforts to investigate blue-discolored water, collecting over 200 samples, assisting with bench-scale testing of copper corrosion, and implementing a targeted remedy to restore water quality and promote long-term passivation.

New York City Housing Authority (NYCHA), physical needs assessment and energy audit, New York City. Elizabeth analyzed more than 200 field reports to assess the overall quality and accuracy of site inspections during a $23-million physical needs assessment and energy audit of 2,413 buildings on 318 NYCHA developments. As quality control inspector, Elizabeth collaborated with a team of approximately 20 scientists, engineers, and architects to facilitate efficient and thorough quality control reviews. In this capacity, Elizabeth reviewed field reports and revised them as needed to display information in an organized, consistent, and accurate manner. These field reports contained information regarding the presence asbestos, mold, damaged building materials, and other such hazards.

NYCDEP Owl's Head Wastewater Treatment Plant (WWTP) resilience upgrades, Brooklyn, New York. Elizabeth supported the development of sustainability goals for $30 million in flood resilience upgrades at the 120-million gallons per day (mgd) Owl's Head WWTP**.** As sustainability officer, Elizabeth identified strategies to reduce greenhouse gas emissions, energy use, and waste generation across mechanical, electrical, and structural systems. Her work included evaluating opportunities for material reuse, water conservation, and stormwater management through permeable surfaces and topographic optimization. Elizabeth collaborated with the design team to incorporate these measures into the facility plan report, ensuring the project aligned with NYCDEP sustainability and environmental impact goals.



BRIAN FITZPATRICK, CHMM

Corporate Director, Health and Safety

EDUCATION

M.P.A., Environmental Policy, Syracuse University
B.S., Environmental Science, University of Massachusetts-Amherst
A.S., Chemistry, Valley Forge Military Junior College
Commissioned Officer, United States Army

CERTIFICATIONS

Certified Hazardous Materials Manager (Reg. No. 13454)
Certified Department of Transportation Shipper
Certified International Air Transport Authority Shipper

PROFESSIONAL SOCIETIES

Alliance of Hazardous Materials Professionals
Academy of Certified Hazardous Materials Managers, New England Chapter

SPECIAL STUDIES AND COURSES

Department of Transportation
International Air Transport Authority
Incident Commander
Confined Space Entry and Rescue
Radiation Safety Officer
RCRA Hazardous Waste
Massachusetts Industrial Waste Water Operator Grade 2I (expired)

AWARDS

Presidents Club Award (one million hours worked without a recordable injury, Cabot Corporation
Chancellors Award for Excellence, Syracuse University

Brian has over 25 years of experience in developing, implementing, and managing a wide range of environmental, health, and safety (EH&S) solutions for a variety of clients. Brian has served as the Health and Safety Manager and Incident Commander at several research and development sites and has managed extensive programs to maintain and clean contaminated sites under Federal and State regulatory programs. He has provided expertise in managing EH&S programs as a consultant, and has actively developed, implemented, and managed these programs as an EH&S professional for various industries.

Brian is currently working as the Chief Health and Safety Officer for Haley & Aldrich, Inc. He, and his staff, are involved in every project Haley & Aldrich, Inc. undertakes. Brian is involved on several projects, directly overseeing the health and safety on the project site of our staff, our contractors, and the public. Brian also acts as support for our on-site health and safety staff on other larger construction and remediation projects.

Through Brian's leadership our safety culture and focus extend from the top of our organization to each and every Haley & Aldrich employee as well as subconsultants and subcontractors. Utilizing a Behavior Based Safety approach, Haley & Aldrich expects every project team member to play an important role in making our projects safe and has given authority to every Haley & Aldrich employee, subconsultant, and subcontractor to stop any activity at any time for health or safety concerns. Our record illustrates that our hard work is paying off. The company has gone 4 years without a lost time injury, and our TRIR and EMR have consistently improved each of the last 3 years.

RELEVANT PROJECT EXPERIENCE

Haley & Aldrich, Inc., Burlington, Massachusetts. As Chief Health and Safety Officer, Brian has led and facilitated the development and implementation of corporate health and safety (H&S) improvement plans to enhance compliance and improve H&S performance. In Brian's time with Haley & Aldrich, Inc., the company has realized dramatic improvement on H&S goals and in Key Performance Indicators. Brian is responsible for developing a risk competence culture, where our staff are empowered to look for and engage to address risk before anyone is injured. Brian oversees the development, implementation and continuous improvement of all H&S programs for the company. Additional responsibilities include:

- Developing a safety culture through incident reporting, root cause analysis, behavior-based safety, hazard recognition and risk assessment, communication, and developing leaders;
- Monitoring proposed and existing SH&E regulations and legislation to determine their impact on operations and to ensure continued compliance;
- Overseeing the safety, industrial hygiene, and toxicology programs for over 600 staff members engaged in remediation, construction, health and safety, consulting, and general office work across 28 offices in the United States and on assignment to international project sites;
- Continuously seeks to improve H&S performance as measured by the OSHA Incident Rating (IR) and Worker's Compensation Experience Modification Rating (EMR), as well as Leading Indicators developed with the management team; and
- Participating in the corporate audit program as an auditor or lead auditor;

Energy Client, California. As Chief Health and Safety Officer, Brian led and facilitated the Alliance Partnership Safety Council in 2017, is still an active contributor to the council, and hosts routine contractor safety forums for the client. Brian is actively involved in the development and implementation of program safety, health, and environmental (SH&E) plans to ensure safe operations on project sites. Brian developed permits and Health and Safety Plans for large projects and routinely audits the site safety. Additional responsibilities include:

- Driving reporting and behavior-based safety initiatives to support our internal safety culture and developing monthly summary reports to illustrate performance to our client.
- Develop, assess and continuously improve site safety plans and practices, including specific safety protocols for working safely over and around water.
- Worked as an extension of the client's organization to provide assurance that the remedy was completed safely and consistent with client-specific requirements.
- Support on-site safety personnel in ensuring the health and safety of the general public, our staff, and our sub-contracted employees.
- Audits and visits sites to ensure compliance with our internal policies and client-specific requirements.

Energy Client, Ohio. As Chief Health and Safety Officer, Brian supports the project team in developing and executing client and project specific health and safety measures, such as a site specific Health and Safety Plan, Job Hazard Analyses, Industrial Hygiene program, and site specific training. Brian also routinely visits the site to assess current practices and condition and to ensure continuous improvement. Additional responsibilities include:

- Develop, assess, and continuously improve site safety plans and practices, including specific safety protocols to comply with supplemental EH&S requirements such as the Duke Health and Safety Handbook, Environmental Supplemental, and EHS Keys to Life.
- Develop, assess, and continuously improve site safety plans and practices to address the risks associated with the work being performed on site, as well as the environmental conditions and simultaneous operations, including trenching and excavation, hot work, work over and near water, heavy equipment, HAZWOPER, etc.
- Worked as an extension of the client's organization to provide assurance that the remedy was completed safely and consistent with client-specific requirements.
- Support on-site safety personnel in ensuring the health and safety of the general public, our staff, and our sub-contracted employees.
- Audits and visits site to ensure compliance with our internal policies and client-specific requirements.

BRIAN A. FERGUSON

Senior Engineer

EDUCATION

M. S. Geotechnical Engineering, Tufts University, Medford, Massachusetts; 2012
B. S. Civil Engineering, State University of New York - Environmental, Science, and Forestry, Syracuse, New York; 2000
Ass. Science Degree in Applied Science and Technology (Nuclear Engineering), Thomas A. Edison State College, Trenton, New Jersey; 2000

PROFESSIONAL SOCIETIES

Order of the Engineer – 2000
Boston Society of Civil Engineers (BSCE)
American Society of Civil Engineers (ASCE)

SPECIAL STUDIES AND COURSES

American Concrete Institute – Certified Field Technician Certified Grade 1
Radiation Safety and Operations of Nuclear Testing Equipment – Troxler
40-Hour OSHA Hazardous Waste Operations Training (+ 8-Hour annual refresher)
10-Hour OSHA Construction training
Confined Space Entry Training
16-Hour Asbestos Operations and Maintenance

Mr. Ferguson has over six years of experience serving as project engineer on a variety of real estate development projects. His project experience has included monitoring field investigations and performing construction oversight, performing due diligence and engineering analyses, performing geotechnical analyses and developing geotechnical recommendations, and preparing geotechnical reports and project specifications.

In addition to providing engineering design support, Mr. Ferguson has managed and participated in a number of field service activities. Field work has included construction monitoring and documentation of contractors' deep and shallow foundation related construction, including slurry walls, caissons, pile driving, pile cap installation, earthwork, backfilling and compaction, installation of soldier pile and wood lagging support systems, installation of tie backs, reading inclinometers, conducting in-place field unit weight tests, tie-back load testing, seismograph installation, monitoring, and evaluating, and preparation of footing bearing surfaces. Other responsibilities have included site development activities, including placement of utilities and subgrade preparation for roads; observations and testing to determine that work is completed in compliance with contract documents; on-site soil management; sampling of soil and groundwater for chemical laboratory testing and conducting in situ field screening; maintenance of job records including pile driving logs, results of field density tests, records of caisson and footing installations; preparation of daily field reports; in contact with key personnel; and resolution of field related problems.

RELEVANT PROJECT EXPERIENCE

St. Elizabeths Hostpital – West Campus Forensic Evaluations, Washington, D.C. Project Engineer for forensic evaluations on the adaptive reuse of former hospital buildings. Responsibilities included coordination of a field exploration program, including test borings and test pits to obtain subsurface information for project design and construction, overseeing multiple field personnel, subcontractors, assisting with project management, reviewing subcontractors invoices, reviewing and summarizing subsurface data and writing data reports.

TUFTS University, New Central Energy Plant, Medford, MA. Project engineer for a new Central Energy Plant that will house new co-generation steam boilers, centralized chilled water and electrical transformer switchgear that is planned to occupy approximately 20,000 square feet across two or three levels. Responsibilities included coordination of construction monitoring, observing SOE and footing installation, assisting with project management,

reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

Lahey Hospital and Medical Center – Stilts Infill Project, Burlington, MA Project Engineer for an addition to the existing Stilts building on the Lahey campus. Responsibilities included coordination and overseeing geotechnical and environmental subsurface investigations, coordination of construction monitoring, observing footing installation, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

Gloucester Beauport Hotel, Gloucester, MA Project engineer for a four story hotel with a seawall constructed adjacent to tidal beach. Responsibilities included coordination and overseeing geotechnical and environmental subsurface investigations, coordination of construction monitoring, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings, design and implementation of a sub-slab gas mitigation system.

275 Wyman Street, New Office Building, Waltham, MA. Project engineer for a new office building and parking garage founded on a shallow foundation system. Responsibilities included preparing proposals, assisting with management and planning of a subsurface investigation program, summarizing subsurface data and reviewing geotechnical test boring logs, coordination of construction monitoring and instrumentation monitoring programs, reviewing weekly field construction reports, reviewing and responding to specialty geotechnical design submittals and RFIs by others and attending project meetings.

Suffolk University - 20 Somerset Street, Boston, MA Project engineer for design of 8-story academic building with two levels of below grade finished space. Responsibilities included coordination of construction monitoring, observing SOE and footing installation, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

Worcester State University, New Student Housing, Worcester, MA Project engineer for design and construction of a 7-story residence/dining hall with a single level basement and a major site retaining wall structure. Responsibilities included overseeing geotechnical subsurface investigations, provided foundation recommendations and specifications, and prepared a retaining wall contract document. Responsibilities included coordination of construction monitoring, excavation and construction of footings, and soil reuse and management, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

University of Massachusetts Boston, General Academic Building No.1, Boston, MA. Project engineer responsible for assisting project manager in preliminary foundation engineering recommendations and construction considerations for a new academic building on a part of Columbia Point, a historic landfill area. Assisted in design phase services that included preparing foundation support design recommendations including the use of high allowable stresses for 190-ft long end-bearing H-piles and application of Slickcoat coating to address downdrag concerns and reduce foundation costs.

Waltham Watch Factory, Waltham, MA project engineer for redevelopment of former watch factory. Responsibilities included construction oversight of new precast parking garage, utilitiy upgrades, soil remediation and management, installation of gas mitigation systems, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

Massachusetts Green High Performance Computing Center, Holyoke, MA. Project engineer for 60,000 sq. ft high level computing center and associated support utilities. Redevelopment of the site included recycling 50,000 cy of construction debris into the site fills at this historic site along the Connecticut River. Responsibilities included coordinating geotechnical and environmental field investigations, coordination of construction monitoring, seismic analysis, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

The Shops at Riverwood, Hyde Park, MA. The project consisted of the redevelopment of a colonial era paper mill. The multi-building complex was demolished and the concrete and brick from the previous buildings were recycled. The project involved crushing 50,000 cy of brick and concrete and placement of excavated soils and recycled brick and concrete as compacted fill materials to support proposed buildings, pavement areas, and achieve 5 to 9 ft. raises in grade. Field Representative was responsible for management and reuse of brick and concrete stockpiles, in-place density testing, coordination of test pits, installation of soldier pile and versa-lok walls, and backfilling of underground vaults. Remedial activities included: excavation of 5,000 cy of petroleum contaminated soils, on-site cement batching in a pug mill, and placement of compacted recycled materials in roadway areas; delineation, excavation and off-site disposal of TSCA-regulated PCB contaminated soils associated with historical Askarel transformers and dioxin-contaminated soils associated with historical bleaching operations; and disposition of 1,000 tons of paper mill sludge encountered within an abandoned granite-walled sluiceway structure. In addition, assisted with weekly project meetings, maintaining a record of material reuse, and providing weekly field reports.

Harvard Law School, Cambridge, MA. The Harvard Law School project is located on Massachusetts Avenue in Cambridge. The project consisted of a multistory building above ground with 5 levels below ground for a parking garage. Field Representative was responsible for overseeing the installation of slurry walls into bedrock and LBEs with three installation rigs while monitoring the removal of urban fill and transfer to several different receiving facilities from another portion of the site. The slurry walls were constructed into bedrock. Other Field Representative activities were: testing of the slurry, management of the excavated soils, and record keeping of the Contractor's obstruction and down time of the equipment. In addition, assisted with weekly project meetings, maintaining a record of obstruction and machine time, and providing weekly field reports.

APPENDIX I
Quality Assurance Project Plan

HALEY ALDRICH

www.haleyaldrich.com

QUALITY ASSURANCE PROJECT PLAN
1003 EAST 173RD STREET DEVELOPMENT
1003 EAST 173RD STREET
BRONX, NEW YORK
NYSDEC SITE C203181

by
H & A of New York Engineering and Geology, LLP
New York, New York

for
The Vaja Group, LLC
Brooklyn, New York

File No. 0211679
August 2026



Executive Summary

This Quality Assurance Project Plan outlines the scope of the quality assurance and quality control activities associated with the site monitoring activities associated with the Remedial Action Work Plan for the 1003 East 173rd Street Development Site located at 1003 East 173rd Street, Bronx, New York.

Protocols for sample collection, sample handling and storage, chain-of-custody procedures, and laboratory and field analyses are described herein or specifically referenced to related project documents.

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1. Project Description

This Quality Assurance Project Plan (QAPP) has been prepared as a component of the Remedial Action Work Plan (RAWP) for the 1003 East 173rd Street Development Site located at 1003 East 173rd Street, Bronx, New York (the "Site").

1.1 PROJECT OBJECTIVES

The primary objective for data collection activities is to collect sufficient data necessary to characterize the subsurface conditions at the Site and determine the nature and extent of contamination.

1.2 SITE DESCRIPTION AND HISTORY

The general Site description and Site history are provided in the Site Description and History Summary that accompanies the RAWP appended to the Brownfield Cleanup Program application for the Site and incorporated herein by reference.

1.3 LABORATORY PARAMETERS

The laboratory parameters for soil include:

- Target Compound List (TCL) volatile organic compounds (VOCs) using U.S. Environmental Protection Agency (EPA) Method 8260B;
- TCL semi-volatile organic compounds (SVOCs) using EPA Method 8270C;
- Total Analyte List (TAL) metals using EPA Method 6010;
- TCL pesticides using EPA Method 8081B;
- Polychlorinated biphenyls (PCBs) using EPA Method 8082;
- Per- and polyfluoroalkyl substances (PFAS) using EPA Method 1633; and
- 1,4-dioxane using EPA Method 8270.

The laboratory parameters for groundwater include:

- TCL VOCs using EPA Method 8260C;
- TCL SVOCs using EPA Method 8270C;
- TAL metals using EPA Method 6010;
- PFAS using EPA Method 1633; and
- 1,4-dioxane using EPA Method 8270 SIM.

Note: PFAS sampling techniques will be conducted following the "Sampling, Analysis and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) under NYSDEC's Part 375 Remedial Programs, dated April 2023."

During the collection of groundwater samples, pH, specific conductivity, temperature, dissolved oxygen (DO), and oxidation/reduction potential (ORP) will be measured until stabilized.

The analytical laboratory parameters for soil vapor samples include:

- VOCs using EPA Method TO-15

Laboratory parameters for disposal samples will be determined by the disposal facility after an approved facility has been determined.

1.4 SAMPLING LOCATIONS

The RAWP provides the locations of soil borings, soil vapor implants, and groundwater monitoring wells that will be sampled (as applicable).

2. Project Organization and Responsibilities

This section defines the roles and responsibilities of the individuals who will perform the RAWP monitoring activities. A New York State Department of Health (NYSDOH)-certified analytical laboratory will perform the analyses of environmental samples collected at the Site.

2.1 MANAGEMENT RESPONSIBILITIES

The Project Manager is responsible for managing the implementation of the RAWP/ and monitoring and coordinating the collection of data. The Project Manager is responsible for technical quality control (QC) and project oversight. The Project Manager's responsibilities include the following:

- Acquire and apply technical and corporate resources as needed to ensure performance within budget and schedule restraints;
- Review work performed to ensure quality, responsiveness, and timeliness;
- Communicate with the client point of contact concerning the progress of the monitoring activities;
- Assure corrective actions are taken for deficiencies cited during audits of RAWP monitoring activities; and
- Assure compliance with the Site Health and Safety Plan (HASP).

2.2 QUALITY ASSURANCE RESPONSIBILITIES

The Quality Assurance (QA) team will consist of a QA Officer and the Data Validation Staff. QA responsibilities are described as follows:

2.2.1 Quality Assurance Officer

The QA Officer reports directly to the Project Manager and will be responsible for overseeing the review of field and laboratory data. Additional responsibilities include the following:

- Assure the application and effectiveness of the QAPP by the analytical laboratory and the project staff;
- Provide input to the Project Manager as to corrective actions that may be required as a result of the above-mentioned evaluations; and
- Prepare and/or review data validation and audit reports.

The QA Officer will be assisted by the Data Validation Staff in the evaluation and validation of field and laboratory-generated data.

2.2.2 Data Validation Staff

The Data Validation Staff will be independent of the laboratory and familiar with the analytical procedures performed. The validation will include a review of each validation criterion as prescribed by

the guidelines presented in Section 9.2 of this document and will be presented in a Data Usability Summary Report (DUSR) for submittal to the QA Officer.

2.3 LABORATORY RESPONSIBILITIES

Laboratory services in support of the RAWP monitoring include the following personnel:

2.3.1 Laboratory Project Manager

The Laboratory Project Manager will report directly to the QA Officer and Project Manager and will be responsible for ensuring all resources of the laboratory are available on an as-required basis. The Laboratory Project Manager will also be responsible for the approval of the final analytical reports.

2.3.2 Laboratory Operations Manager

The Laboratory Operations Manager will report to the Laboratory Project Manager and will be responsible for coordinating laboratory analysis, supervising in-house chain-of-custody reports, scheduling sample analyses, overseeing data review, and overseeing preparation of analytical reports.

2.3.3 Laboratory QA Officer

The Laboratory QA Officer will have sole responsibility for the review and validation of the analytical laboratory data. The Laboratory QA Officer will provide Case Narrative descriptions of any data quality issues encountered during the analyses conducted by the laboratory. The QA Officer will also define appropriate QA procedures, overseeing QA/QC documentation.

2.3.4 Laboratory Sample Custodian

The Laboratory Sample Custodian will report to the Laboratory Operations Manager and will be responsible for the following:

- Receive and inspect the incoming sample containers;
- Record the condition of the incoming sample containers;
- Sign appropriate documents;
- Verify the chain-of-custody and its correctness;
- Notify the Project Manager and Operations Manager of sample receipt and inspection;
- Assign a unique identification number and enter each into the sample receiving log;
- Initiate transfer of samples to laboratory analytical sections; and
- Control and monitor access/storage of samples and extracts.

2.3.5 Laboratory Technical Personnel

The Laboratory Technical Personnel will have the primary responsibility for the performance of sample analysis and the execution of the QA procedures developed to determine the data quality. These

activities will include the proper preparation and analysis of the project samples in accordance with the laboratory's Quality Assurance Manual (QAM) and associated Standard Operating Procedures (SOPs).

2.4 FIELD RESPONSIBILITIES

2.4.1 Field Coordinator

The Field Coordinator is responsible for the overall operation of the field team and reports directly to the Project Manager. The Field Coordinator works with the project Health and Safety Officer (HSO) to conduct operations in compliance with the project HASP. The Field Coordinator will facilitate communication and coordinate efforts between the Project Manager and the field team members.

Other responsibilities include the following:

- Develop and implement field-related work plans, ensuring schedule compliance, and adhering to management-developed project requirements;
- Coordinate and manage field staff;
- Perform field system audits;
- Oversee QC for technical data provided by the field staff;
- Prepare and approve text and graphics required for field team efforts;
- Coordinate and oversee technical efforts of subcontractors assisting the field team;
- Identify problems in the field, resolve difficulties in consultation with the Project QA Officer and Project Manager, and implement and document corrective action procedures; and
- Participate in preparation of the final reports.

2.4.2 Field Team Personnel

Field Team Personnel will be responsible for the following:

- Perform field activities as detailed in the RAWP and in compliance with the Field Sampling Plan (FSP), which is included as Appendix B of the approved Remedial Investigation Work Plan for this Site, and this QAPP.
- Immediately report any accidents and/or unsafe conditions to the Site HSO and take reasonable precautions to prevent injury.

3. Sampling Procedures

The FSP provides the SOPs for sampling required by the RAWP. Sampling will be conducted in general accordance with the New York State Department of Environmental Conservation (NYSDEC) *Technical Guidance for Site Investigation and Remediation* (Division of Environmental Remediation [DER]-10) and the "Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Program," when applicable.

3.1 SAMPLE CONTAINERS

Sample containers for each sampling task will be provided by the laboratory performing the analysis. The containers will be cleaned by the manufacturer to meet or exceed the analyte specifications established in the EPA's "Specifications and Guidance for Obtaining Contaminant-Free Sample Containers," April 1992, OSWER Directive #9240.0-0.5A. Certificates of analysis for each lot of sample containers used will be maintained by the laboratory.

The appropriate sample containers, preservation method, maximum holding times, and handling requirements for each sampling task are provided in Table I.

3.2 SAMPLE LABELING

Each sample will be labeled with a unique sample identifier that will facilitate tracking and cross-referencing of sample information. Equipment rinse blank and field duplicate samples will also be numbered with a unique sample identifier to prevent analytical bias of field QC samples.

Refer to the FSP for the sample labeling procedures.

3.3 FIELD QC SAMPLE COLLECTION

3.3.1 Field Duplicate Sample Collection

3.3.1.1 Water Samples

Field duplicate samples will be collected by filling the first sample container to the proper level, sealing, and then repeating for the second set of sample containers.

1. The samples are properly labeled as specified in Section 3.2.
2. Steps 1 through 4 are repeated for the bottles for each analysis. The samples are collected in order of decreasing analyte volatility as detailed in Section 3.3.1.
3. Chain-of-custody documents are executed.
4. The samples will be handled as specified in Table I.

3.3.1.2 Soil Samples

Soil field duplicates will be collected as specified in the following procedure:

1. Soils will be collected using stainless-steel trowel or sampling spoon into laboratory-supplied containers.
2. Soil for VOC analysis will be removed from the sampling device as specified in the FSP.
3. Soil for non-VOC analysis will be removed from the sampling device and collected into clean laboratory-provided containers.

4. Custody Procedures

Sample custody is addressed in three parts: field sample collection, laboratory analysis, and final project files. Custody of a sample begins when it is collected by or transferred to an individual and ends when that individual relinquishes or disposes of the sample.

A sample is under custody if:

1. The item is in actual possession of a person;
2. The item is in the view of the person after being in actual possession of the person;
3. The item was in actual possession and subsequently stored to prevent tampering; or
4. The item is in a designated and identified secure area.

4.1 FIELD CUSTODY PROCEDURES

Field personnel will keep written records of field activities on applicable preprinted field forms or in a bound field notebook to record data collecting activities. These records will be written legibly in ink and will contain pertinent field data and observations. Entry errors or changes will be crossed out with a single line, dated, and initialed by the person making the correction. Field forms and notebooks will be periodically reviewed by the Field Coordinator.

The beginning of each entry in the logbook or preprinted field form will contain the following information:

- Date;
- Start time;
- Weather;
- Names of field personnel (including subcontractors);
- Level of personal protection used at the Site; and
- Names of all visitors and the purpose of their visit.

For each measurement and sample collected, the following information will be recorded:

- Detailed description of sample location;
- Equipment used to collect the sample or make the measurement and the date equipment was calibrated;
- Time sample was collected;
- Description of the sample conditions;
- Depth sample was collected (if applicable);
- Volume and number of containers filled with the sample; and
- Sampler's identification.

4.1.1 Field Procedures

The following procedure describes the process to maintain the integrity of the samples:

- Upon collection, samples are placed in the proper containers. In general, samples collected for organic analysis will be placed in pre-cleaned glass containers, and samples collected for inorganic analysis will be placed in pre-cleaned plastic (polyethylene) bottles. Refer to the FSP for sample packaging procedures.
- Samples will be assigned a unique sample number and will be affixed to a sample label. Refer to the FSP for sample labeling procedures.
- Samples will be properly and appropriately preserved by field personnel to minimize loss of the constituent(s) of interest due to physical, chemical, or biological mechanisms.
- Appropriate volumes will be collected to ensure that the appropriate reporting limits can be successfully achieved and that the required QC sample analyses can be performed.

4.1.2 Transfer of Custody and Shipment Procedures

- A chain-of-custody record will be completed at the time of sample collection and will accompany each shipment of project samples to the laboratory. The field personnel collecting the samples will be responsible for the custody of the samples until the samples are relinquished to the laboratory. Sample transfer will require the individuals relinquishing and receiving the samples to sign, date, and note the time of sample transfer on the chain-of-custody record.
- Samples will be shipped or delivered in a timely fashion to the laboratory so that holding times and/or analysis times as prescribed by the methodology can be met.
- Samples will be transported in containers (coolers) that will maintain the refrigeration temperature for those parameters for which refrigeration is required in the prescribed preservation protocols.
- Samples will be placed in an upright position and limited to one layer of samples per cooler. Additional bubble wrap or packaging material will be added to fill the cooler. Shipping containers will be secured with strapping tape and custody tape for shipment to the laboratory.
- When samples are split with the NYSDEC representatives, a separate chain-of-custody will be prepared and marked to indicate with whom the samples are shared. The person relinquishing the samples will require the representative's signature acknowledging sample receipt.
- If samples are sent by a commercial carrier, a bill of lading will be used. A copy of the bill of lading will be retained as part of the permanent record. Commercial carriers will not sign the custody record as long as the custody record is sealed inside the sample cooler and the custody tape remains intact.
- Samples will be picked up by a laboratory courier or transported to the laboratory the same day they are collected, unless collected on a weekend or holiday. In these cases, the samples will be stored in a secure location until delivery to the laboratory. Additional ice will be added to the cooler as needed to maintain proper preservation temperatures.

4.2 LABORATORY CHAIN-OF-CUSTODY PROCEDURES

A Sample Custodian will be designated by the laboratory and will have the responsibility to receive all incoming samples. Once received, the custodian will document if the sample is received in good condition (i.e., unbroken, cooled, etc.) and that the associated paperwork, such as chain-of-custody forms, has been completed. The custodian will sign the chain-of-custody forms.

The custodian will also document if sufficient sample volume has been received to complete the analytical program. The Sample Custodian will then place the samples into secure, limited-access storage (refrigerated storage, if required). The Sample Custodian will assign a unique number to each incoming sample for use in the laboratory. The unique number will then be entered into the sample-receiving log, with the verified time and date of receipt also noted.

Consistent with the analyses requested on the chain-of-custody form, analyses by the laboratory's analysts will begin in accordance with the appropriate methodologies. Samples will be removed from secure storage, with internal chain-of-custody sign-out procedures followed.

4.3 STORAGE OF SAMPLES

Empty sample bottles will be returned to secure and limited-access storage after the available volume has been consumed by the analysis. Upon completion of the entire analytical work effort, samples will be disposed of by the Sample Custodian. The length of time that samples are held will be at least 30 days after reports have been submitted. Disposal of remaining samples will be completed in compliance with all federal, state, and local requirements.

4.4 FINAL PROJECT FILES CUSTODY PROCEDURES

The final project files will be the central repository for all documents with information relevant to sampling and analysis activities as described in this QAPP. The Haley & Aldrich of New York Project Manager will be the custodian of the project file. The project files, including all relevant records, reports, logs, field notebooks, pictures, subcontractor reports, and data reviews, will be maintained in a secured, limited-access area and under the custody of the Project Director or their designee.

The final project file will include the following:

- Project plans and drawings;
- Field data records;
- Sample identification documents and soil boring/monitoring well logs;
- All chain-of-custody documentation;
- Correspondence;
- References, literature;
- Laboratory data deliverables;
- Data validation and assessment reports;
- Progress reports and QA reports; and

- A final report.

The laboratory will be responsible for maintaining analytical logbooks, laboratory data, and sample chain-of-custody documents. Raw laboratory data files and copies of hard copy reports will be inventoried and maintained by the laboratory for a period of six years, at which time the laboratory will contact the Haley & Aldrich of New York Project Manager regarding the disposition of the project-related files.

5. Calibration Procedures and Frequency

5.1 FIELD INSTRUMENT CALIBRATION PROCEDURES

Several field instruments will be used for both on-site screening of samples and for health and safety monitoring, as described in the HASP. On-site air monitoring for health and safety purposes may be accomplished using a vapor detection device, such as a photoionization detector (PID).

Field instruments will be calibrated at the beginning of each day and checked during field activities to verify performance. Instrument-specific calibration procedures will be performed in accordance with the instrument manufacturer's requirements.

5.2 LABORATORY INSTRUMENT CALIBRATION PROCEDURES

Reference materials of known purity and quality will be utilized for the analysis of environmental samples. The laboratory will carefully monitor the preparation and use of reference materials, including solutions, standards, and reagents, through well-documented procedures.

All solid chemicals and acids/bases used by the laboratory will be rated as "reagent grade" or better. All gases will be "high" purity or better. All Standard Reference Materials (SRMs) or Performance Evaluation (PE) materials will be obtained from approved vendors of the National Institute of Standards and Technology (NIST; formerly National Bureau of Standards), the EPA Environmental Monitoring Support Laboratories (EMSL), or reliable Cooperative Research and Development Agreement (CRADA)-certified commercial sources.

6. Analytical Procedures

Analytical procedures to be utilized for analysis of environmental samples will be based on referenced EPA analytical protocols and/or project-specific SOP.

6.1 FIELD ANALYTICAL PROCEDURES

Field analytical procedures include the measurement of pH, temperature, ORP, DO, and specific conductivity during sampling of groundwater, and the qualitative measurement of VOC during the collection of soil samples.

6.2 LABORATORY ANALYTICAL PROCEDURES

Laboratory analyses will be based on the EPA methodology requirements promulgated in:

- "Test Methods for Evaluating Solid Waste," SW-846, EPA, Office of Solid Waste, and promulgated updates, 1986.

6.2.1 List of Project Target Compounds and Laboratory Detection Limits

The laboratory reporting limits (RLs) and associated method detection limits (MDLs) for the target analytes and compounds for the environmental media to be analyzed are presented in Table I. MDLs have been experimentally determined by the project laboratory using the method provided in Title 40 of the Code of Federal Regulations (CFR), Part 136, Appendix B.

Laboratory parameters for soil samples are listed in the RAWP. Laboratory parameters for disposal samples will be determined by the disposal facility after an approved facility has been determined.

6.2.2 List of Method-Specific Quality Control Criteria

The laboratory SOPs include a section that presents the minimum QC requirements for the project analyses. Section 7.0 references the frequency of the associated QC samples for each sampling effort and matrix.

7. Internal Quality Control Checks

This section presents the internal QC checks that will be employed for field and laboratory measurements.

7.1 FIELD QUALITY CONTROL

7.1.1 Field Blanks

Internal QC checks will include analysis of field blanks to validate equipment cleanliness. Whenever possible, dedicated equipment will be employed to reduce the possibility of cross-contamination of samples.

7.1.2 Trip Blanks

Trip blanks samples will be prepared by the project laboratory using ASTM Type II or equivalent water placed within pre-cleaned 40-milliliter (mL) VOC vials equipped with Teflon™ septa. Trip blanks will accompany each sample delivery group (SDG) of environmental samples collected for analysis of VOCs.

Trip blank samples will be placed in each cooler that stores and transports project samples that are to be analyzed for VOCs.

7.2 LABORATORY PROCEDURES

Procedures that contribute to the maintenance of overall laboratory QA/QC include appropriately cleaned sample containers, proper sample identification and logging, applicable sample preservation, storage, and analysis within prescribed holding times, and use of controlled materials.

7.2.1 Field Duplicate Samples

The precision or reproducibility of the data generated will be monitored through the use of field duplicate samples. Field duplicate analysis will be performed at a frequency of one in 20 project samples.

Precision will be measured in terms of the absolute value of the relative percent difference (RPD) as expressed by the following equation:

$$RPD = [|R1-R2|/[(R1+R2)/2]] \; X \; 100\%$$

Acceptance criteria for duplicate analyses performed on solid matrices will be 100 percent, and aqueous matrices will be 35 percent. RPD values outside these limits will require an evaluation of the sampling and/or analysis procedures by the project QA Officer and/or Laboratory QA Director. Corrective actions may include re-analysis of additional sample aliquots and/or qualification of the data for use.

7.2.2 Matrix Spike Samples

Ten percent of each project sample matrix for each analytical method performed will be spiked with known concentrations of the specific target compounds/analytes.

The amount of the compound recovered from the sample compared to the amount added will be expressed as a percent recovery. The percent recovery of an analyte is an indication of the accuracy of an analysis within the site-specific sample matrix. Percent recovery will be calculated for matrix spike and matrix spike duplicate (MS/MSD) samples using the following equation.

$$\%\ Recovery = \frac{Spiked\ Sample - Background}{Known\ Value\ of\ Spike} x100\%$$

If the QC value falls outside the control limits (upper control limit [UCL] or lower control limit [LCL]) due to sample matrix effects, the results will be reported with appropriate data qualifiers. To determine the effect a non-compliant MS recovery has on the reported results, the recovery data will be evaluated as part of the validation process.

7.2.3 Laboratory Control Sample Analyses

The laboratory will perform Laboratory Control Sample (LCS) analyses prepared from SRMs. The SRMs will be supplied from an independent manufacturer and traceable to NIST materials with known concentrations of each target analyte to be determined by the analytical methods performed. In cases where an independently supplied SRM is not available, the LCS may be prepared by the laboratory from a reagent lot other than that used for instrument calibration.

The laboratory will evaluate LCS analyses in terms of percent recovery using the most recent laboratory-generated control limits.

LCS recoveries that do not meet acceptance criteria will be deemed invalid. Analysis of project samples will cease until an acceptable LCS analysis has been performed. If sample analysis is performed in association with an out-of-control LCS sample analysis, the data will be deemed invalid.

Corrective actions will be initiated by the Haley & Aldrich of New York QA Officer and/or Laboratory QA Officer to investigate the problem. After the problem has been identified and corrected, the solution will be noted in the instrument run logbook, and re-analysis of project samples will be performed, if possible.

The analytical anomaly will be noted in the SDG Case Narrative and reviewed by the Data Validator. The Data Validator will confirm that appropriate corrective actions were implemented and recommend the applicable use of the affected data.

7.2.4 Surrogate Compound/Internal Standard Recoveries

For VOCs, surrogates will be added to each sample prior to analysis to establish purge and trap efficiency. Quantitation will be accomplished via internal standardization techniques.

The recovery of surrogate compounds and internal standards will be monitored by laboratory personnel to assess possible site-specific matrix effects on instrument performance.

For SVOC analyses, surrogates will be added to the raw sample to assess extraction efficiency. Internal standards will be added to all sample extracts and instrument calibration standards immediately before analysis for quantitation via internal standardization techniques.

Method-specific QC limits are provided in the attached laboratory method SOPs. Surrogate compound/internal standard recoveries that do not fall within accepted QC limits for the analytical methodology performed will have the analytical results flagged with data qualifiers as appropriate by the laboratory and will not be noted in the laboratory report Case Narrative.

To ascertain the effect non-compliant surrogate compound/internal standard recoveries may have on the reported results, the recovery data will be evaluated as part of the validation process. The Data Validator will provide recommendations for corrective actions, including but not limited to additional data qualification.

7.2.5 Calibration Verification Standards

Calibration verification (CV) standards will be utilized to confirm instrument calibrations and performance throughout the analytical process. CV standards will be prepared as prescribed by the respective analytical protocols. Continuing calibration will be verified by compliance with method-specific criteria prior to additional analysis of project samples.

Non-compliant analysis of CV standards will require immediate corrective action by the project Laboratory QA Officer and/or designated personnel. Corrective action may include re-analysis of each affected project sample, a detailed description of the problem, the corrective action undertaken, the person who performed the action, and the resolution of the problem.

7.2.6 Laboratory Method Blank Analyses

Method blank sample analysis will be performed as part of each analytical batch for each methodology performed. If target compounds are detected in the method blank samples, the reported results will be flagged by the laboratory in accordance with SOPs. The Data Validator will provide recommendations for corrective actions, including but not limited to additional data qualification.

8. Data Quality Objectives

Sampling that will be performed as described in the RAWP is designed to produce data of the quality necessary to achieve the minimum standard requirements of the field and laboratory analytical objectives described below. These data are being obtained with the primary objective of assessing levels of contaminants of concern associated with the Site.

The overall project data quality objective (DQO) is to implement procedures for field data collection, sample collection, handling, and laboratory analysis and reporting that achieve the project objectives. The following section is a general discussion of the criteria that will be used to measure achievement of the project DQO.

8.1 PRECISION

8.1.1 Definition

Precision is defined as a quantitative measure of the degree to which two or more measurements are in agreement. Precision will be determined by collecting and analyzing field duplicate samples and by creating and analyzing laboratory duplicates from one or more of the field samples. The overall precision of measurement data is a mixture of sampling and analytical factors. The analytical results from the field duplicate samples will provide data on sampling precision. The results from duplicate samples created by the laboratory will provide data on analytical precision. The measurement of precision will be stated in terms of RPD.

8.1.2 Field Precision Sample Objectives

Field precision will be assessed through the collection and measurement of field duplicate samples at a rate of one duplicate per 20 investigative samples. The RPD criteria for the project field duplicate samples will be +/- 100 percent for soil and +/- 35 percent for groundwater for parameters of analysis detected at concentrations greater than five times the laboratory RL.

8.1.3 Laboratory Precision Sample Objectives

Laboratory precision will be assessed through the analysis of LCS and laboratory control duplicate samples (LCSD) and MS/MSD samples for groundwater and soil samples, and the analysis of laboratory duplicate samples for air and soil vapor samples. Air and soil vapor laboratory duplicate sample analyses will be performed by analyzing the same Summa canister twice. The RPD criteria for the air/soil vapor laboratory duplicate samples will be +/- 35 percent for parameters of analysis detected at concentrations greater than five times the laboratory RL.

8.2 ACCURACY

8.2.1 Definition

Accuracy relates to the bias in a measurement system. Bias is the difference between the observed and the "true" value. Sources of error are the sampling process, field contamination, preservation techniques, sample handling, sample matrix, sample preparation, and analytical procedure limitations.

8.2.2 Field Accuracy Objectives

Sampling bias will be assessed by evaluating the results of field equipment rinse and trip blanks. Equipment rinse and trip blanks will be collected as appropriate based on sampling and analytical methods for each sampling effort.

If non-dedicated sampling equipment is used, equipment rinse blanks will be collected by passing ASTM Type II water over and/or through the respective sampling equipment utilized during each sampling effort. One equipment rinse blank will be collected for each type of non-dedicated sampling equipment used for the sampling effort. Equipment rinse blanks will be analyzed for each target parameter for the respective sampling effort for which environmental media have been collected.

Note: If dedicated or disposable sampling equipment is used, equipment rinse samples will not be collected as part of that field effort.

Trip blank samples will be prepared by the laboratory and provided with each shipping container that includes containers for the collection of groundwater samples for the analysis of VOC. Trip blank samples will be analyzed for each VOC for which groundwater samples have been collected for analysis.

8.3 LABORATORY ACCURACY OBJECTIVES

Analytical bias will be assessed through the use of LCS and Site-specific MS sample analyses. LCS analyses will be performed with each analytical batch of project samples to determine the accuracy of the analytical system.

One set of MS/MSD analyses will be performed with each batch of 20 project samples collected for analysis to assess the accuracy of the identification and quantification of analytes within the Site-specific sample matrices. Additional sample volume will be collected at sample locations selected for the preparation of MS/MSD samples so that the standard laboratory RLs are achieved.

The accuracy of analyses that include a sample extraction procedure will be evaluated through the use of system monitoring or surrogate compounds. Surrogate compounds will be added to each sample, standard, blank, and QC sample prior to sample preparation and analysis. Surrogate compound percent recoveries will provide information on the effect of the sample matrix on the accuracy of the analyses.

8.4 REPRESENTATIVENESS

8.4.1 Definition

Representativeness expresses the degree to which sample data represent a characteristic of a population, a parameter variation at a sampling point, or an environmental condition. Representativeness is a qualitative parameter that is dependent upon the design of the sampling program. The representativeness criterion is satisfied through the proper selection of sampling locations, the quantity of samples, and the use of appropriate procedures to collect and analyze the samples.

8.4.2 Measures to Ensure Representativeness of Field Data

Representativeness will be addressed by prescribing sampling techniques and the rationale used to select sampling locations. Sampling locations may be biased (based on existing data, instrument surveys, observations, etc.) or unbiased (completely random or stratified-random approaches).

8.5 COMPLETENESS

8.5.1 Definition

Completeness is a measure of the amount of valid (usable) data obtained from a measuring system compared to the total amount anticipated to be obtained. The completeness goal for all data uses is that a sufficient amount of valid data be generated so that determinations can be made related to the intended data use with a sufficient degree of confidence.

8.5.2 Field Completeness Objectives

Completeness is a measure of the amount of valid measurements obtained from measurements taken in this project versus the number planned. The field completeness objective for this project will be greater than 90 percent.

8.5.3 Laboratory Completeness Objectives

The laboratory data completeness objective is a measure of the amount of valid data obtained from laboratory measurements. The evaluation of the data completeness will be performed at the conclusion of each sampling and analysis effort.

The completeness of the data generated will be determined by comparing the amount of valid data, based on independent validation, with the total laboratory data set. The completeness goal will be greater than 90 percent.

8.6 COMPARABILITY

8.6.1 Definition

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another.

8.6.2 Measures to Ensure Comparability of Laboratory Data

Comparability of laboratory data will be measured from the analysis of SRM obtained from either EPA CRADA suppliers or NIST. The reported analytical data will also be presented in standard units of mass of contaminant within a known volume of environmental media. The standard units for various sample matrices are as follows:

- Solid Matrices – milligrams per kilogram (mg/kg) of media (Dry Weight).
- Aqueous Matrices – nanograms per liter (ng/L) for PFAS analyses, micrograms per liter (µg/L) of media for organic analyses, and milligrams per liter (mg/L) for inorganic analyses.

8.7 LEVEL OF QUALITY CONTROL EFFORT

If non-dedicated sampling equipment is used, equipment rinse blanks will be prepared by field personnel and submitted for analysis of target parameters. Equipment rinse blank samples will be analyzed to check for potential cross-contamination between sampling locations that may be introduced during the investigation. One equipment rinse blank will be collected per sampling event to the extent that non-dedicated sampling equipment is used.

If necessary, a separate equipment rinse blank sample will be collected for PFAS.

Note: If dedicated or disposable sampling equipment is used, equipment rinse samples will not be collected as part of that field effort.

Trip blanks will be used to assess the potential for contamination during sample storage and shipment. Trip blanks will be provided with the sample containers to be used for the collection of groundwater samples for the analysis of VOCs. Trip blanks will be preserved and handled in the same manner as the project samples. One trip blank will be included along with each shipping container containing project samples to be analyzed for VOCs.

Method blank samples will be prepared by the laboratory and analyzed concurrently with all project samples to assess potential contamination introduced during the analytical process.

Field duplicate samples will be collected and analyzed to determine sampling and analytical reproducibility. One field duplicate will be collected for every 20 or fewer investigative samples collected for off-Site laboratory analysis.

MS will provide information to assess the precision and accuracy of the analysis of the target parameters within the environmental media collected. One MS/MSD will be collected for every 20 or fewer investigative samples per sample matrix.

Note: Soil MS/MSD samples require triple sample volume for VOCs only. Aqueous MS/MSD samples require triple the normal sample volume for VOC analysis and double the volume for the remaining parameters.

9. Data Reduction, Validation, and Reporting

Data generated by the laboratory operation will be reduced and validated prior to reporting in accordance with the following procedures:

9.1 DATA REDUCTION

9.1.1 Field Data Reduction Procedures

Field data reduction procedures will be minimal in scope compared to those implemented in the laboratory setting. The pH, conductivity, temperature, turbidity, DO, ORP, and breathing zone VOC readings collected in the field will be generated from direct read instruments. The data will be written into field logbooks immediately after measurements are taken. If errors are made, data will be legibly crossed out, initialed and dated by the field member, and corrected in a space adjacent to the original entry.

9.1.2 Laboratory Data Reduction Procedures

Laboratory data reduction procedures are provided by the appropriate chapter of the EPA's "Test Methods for Evaluating Solid Waste," SW-846, Third Edition. Errors will be noted; corrections will be made with the original notations crossed out legibly. Analytical results for soil samples will be calculated and reported on a dry weight basis.

9.1.3 Quality Control Data

QC data (e.g., laboratory duplicates, surrogates, MS, and MSD) will be compared to the method acceptance criteria. Data determined to be acceptable will be entered into the laboratory information management system.

Unacceptable data will be appropriately qualified in the project report. Case Narratives will be prepared that will include information concerning data that fell outside acceptance limits and any other anomalous conditions encountered during sample analysis.

9.2 DATA VALIDATION

Data validation procedures of the analytical data will be performed by the Haley & Aldrich of New York QA Officer or designee using the following documents as guidance for the review process:

- "U.S. EPA National Functional Guidelines for Organic Data Review," and the "U.S. EPA National Functional Guidelines for Inorganic Data Review."
- The specific data qualifiers used will be applied to the reported results as presented and defined in the EPA National Functional Guidelines. Validation will be performed by qualified personnel at the direction of the Haley & Aldrich of New York QA Officer. Tier 1 data validation (the equivalent of EPA's Stage 2A validation) will be performed to evaluate data quality.
- The completeness of each data package will be evaluated by the Data Validator. Completeness checks will be administered on all data to determine that the deliverables are consistent with

the NYSDEC Analytical Services Protocol (ASP) Category A and Category B data package requirements. The validator will determine whether the required items are present and request copies of missing deliverables (if necessary) from the laboratory.

9.3 DATA REPORTING

Data reporting procedures will be carried out for field and laboratory operations as indicated below:

- Field Data Reporting: Field data reporting will be conducted principally through the transmission of report sheets containing tabulated results of measurements made in the field and documentation of field calibration activities.
- Laboratory Data Reporting: The laboratory data reporting package will enable data validation based on the protocols described above. The final laboratory data report format will include the QA/QC sample analysis deliverables to enable the development of a DUSR based on NYSDEC DER-10 Appendix 2B.

10. Performance and System Audits

A performance audit is an independent quantitative comparison with data routinely obtained in the field or the laboratory. Performance audits include two separate, independent parts: internal and external audits.

10.1 FIELD PERFORMANCE AND SYSTEM AUDITS

10.1.1 Internal Field Audit Responsibilities

Internal audits of field activities will be initiated at the discretion of the Project Manager and will include the review of sampling and field measurements. The audits will verify that all procedures are being followed. Internal field audits will be conducted periodically during the project. The audits will include examination of the following:

- Field sampling records, screening results, instrument operating records;
- Sample collection;
- Handling and packaging in compliance with procedures;
- Maintenance of QA procedures; and
- Chain-of-custody reports.

10.1.2 External Field Audit Responsibilities

External audits may be conducted by the Project Coordinator at any time during the field operations. These audits may or may not be announced and are at the discretion of the NYSDEC. The external field audits can include (but are not limited to) the following:

- Sampling equipment decontamination procedures;
- Sample bottle preparation procedures;
- Sampling procedures;
- Examination of HASPs;
- Procedures for verification of field duplicates; and
- Field screening practices.

10.2 LABORATORY PERFORMANCE AND SYSTEM AUDITS

10.2.1 Internal Laboratory Audit Responsibilities

The laboratory system audits are typically conducted by the Laboratory QA Officer or designee on an annual basis. The system audit will include an examination of laboratory documentation, including sample receiving logs, sample storage, chain-of-custody procedures, sample preparation and analysis, and instrument operating records.

At the conclusion of internal system audits, reports will be provided to the laboratory's operating divisions for appropriate comment and remedial/corrective action where necessary. Records of audits and corrective actions will be maintained by the Laboratory QA Officer.

10.2.2 External Laboratory Audit Responsibilities

External audits will be conducted as required by the NYSDOH or designee. External audits may include any of the following:

- Review of laboratory analytical procedures;
- Laboratory on-site visits; and
- Submission of performance evaluation samples for analysis.

Failure of any of the above audit procedures can lead to laboratory de-certification. An audit may consist of, but is not limited to:

- Sample receipt procedures;
- Custody, sample security, and log-in procedures;
- Review of instrument calibration logs;
- Review of QA procedures;
- Review of logbooks;
- Review of analytical SOPs; and
- Personnel interviews.

A review of a data package from samples recently analyzed by the laboratory can include (but not be limited to) the following:

- Comparison of resulting data to the SOP or method;
- Verification of initial and continuing calibrations within control limits;
- Verification of surrogate recoveries and instrument timing results;
- Review of extended quantitation reports for comparisons of library spectra to instrument spectra, where applicable; and
- Assurance that samples are run within holding times.

11. Preventive Maintenance

11.1 FIELD INSTRUMENT PREVENTIVE MAINTENANCE

The field equipment preventive maintenance program is designed to ensure the effective completion of the sampling effort and to minimize equipment downtime. Program implementation is concentrated in three areas:

- Maintenance responsibilities;
- Maintenance schedules; and
- Inventory of critical spare parts and equipment.

The maintenance responsibilities for field equipment will be assigned to the task leaders in charge of specific field operations. Field personnel will be responsible for daily field checks and calibrations and for reporting any problems with the equipment. The maintenance schedule will follow the manufacturer's recommendations. In addition, the field personnel will be responsible for determining that an inventory of spare parts will be maintained with the field equipment. The inventory will primarily contain parts that are subject to frequent failure, have limited useful lifetimes, and/or cannot be obtained in a timely manner.

11.2 LABORATORY INSTRUMENT PREVENTIVE MAINTENANCE

Analytical instruments at the laboratory will undergo routine and/or preventive maintenance. The extent of the preventive maintenance will be a function of the complexity of the equipment.

Generally, annual preventive maintenance service will involve cleaning, adjusting, inspecting, and testing procedures designed to reduce instrument failure and/or extend useful instrument life. Between visits, routine operator maintenance and cleaning will be performed according to manufacturer's specifications by laboratory personnel.

12. Specific Routine Procedures Used to Assess Data Precision, Accuracy, and Completeness

12.1 FIELD MEASUREMENTS

Field-generated information will be reviewed by the Field Coordinator and typically includes evaluation of bound logbooks/forms, data entry, and calculation checks. Field data will be assessed by the Project Coordinator, who will review the field results for compliance with the established QC criteria that are specified in Section 7.0 of this QAPP. The accuracy of pH and specific conductance will be assessed using daily instrument calibration, calibration check, and blank data. Accuracy will be measured by determining the percent recovery of calibration check standards. Precision of the pH and specific conductance measurements will be assessed on the basis of the reproducibility of duplicate readings of a field sample and will be measured by determining the RPD. Accuracy and precision of the soil VOC screening will be determined using duplicate readings of calibration checks. Field data completeness will be calculated using the following equation:

$$Completeness = \frac{Valid\ (usable)\ Data\ Obtained}{Total\ Data\ Planned} \ X\ 100$$

12.2 LABORATORY DATA

Surrogate, internal standard, and MS recoveries will be used to evaluate data quality. The laboratory QA/QC program will include the following elements:

- Precision, in terms of RPD, will be determined by relative sample analysis at a frequency of one duplicate analysis for each batch of ten project samples or a frequency of 10 percent. RPD is defined as the absolute difference of duplicate measurements divided by the mean of these analyses, normalized to a percentage.
- Accuracy, in terms of percent recovery (recovery of known constituent additions or surrogate recoveries), will be determined by the analysis of spiked and unspiked samples. MS/MSD will be used to determine analytical accuracy. The frequency of MS/MSD analyses will be one project sample MS/MSD per set of 20 project samples.
- One method blank will be prepared and analyzed with each batch of project samples. The total number of method blank sample analyses will be determined by the laboratory analytical batch size.
- SRMs will be used for each analysis. Sources of SRMs include the EPA, commercially available material from CRADA-certified vendors, and/or laboratory-produced solutions. SRMs, when available and appropriate, will be processed and analyzed on a frequency of one per set of samples.
- Completeness is the evaluation of the amount of valid data generated versus the total set of data produced from a particular sampling and analysis event. Valid data are determined by independent confirmation of compliance with method-specific and project-specific DQOs. The calculation of data set completeness will be performed using the following equation.

$$\frac{Number\ of\ Valid\ Sample\ Results}{Total\ Number\ of\ Samples\ Planned} X\ 100 = \%\ Complete$$

13. Quality Assurance Reports

Critically important to the successful implementation of this QAPP is a reporting system that provides the means by which the program can be reviewed, problems identified, and programmatic changes made to improve the plan.

QA reports to management can include:

- Audit reports, internal and external audits, with responses;
- Performance evaluation sample results; internal and external sources; and
- Daily QA/QC exception reports/corrective actions.

QA/QC corrective action reports will be prepared by the Haley & Aldrich of New York QA Officer when appropriate and presented to the project and/or laboratory management personnel so that performance criteria can be monitored for all analyses from each analytical department. The updated trend/QA charts prepared by the Laboratory QA Personnel will be distributed and reviewed by various levels of the laboratory management.

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5. United States Environmental Protection Agency, 1992. Specifications and Guidance for Contaminant-Free Sample Containers. OSWER Directive 9240.0-05A. April.

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8. United States Environmental Protection Agency. Test Methods for Evaluating Solid Waste, Office of Solid Waste, U.S. EPA, SW-846, November 1986, with updates.

9. United States Environmental Protection Agency. U.S. EPA National Functional Guidelines for Organic Data Review. U.S. EPA 540/R-2017-002.

10. United States Environmental Protection Agency. U.S. EPA National Functional Guidelines for Organic Data Review. U.S. EPA 540/R-2017-001.

TABLE

TABLE I
SUMMARY OF ANALYSIS METHOD, PRESERVATION METHOD, HOLDING TIME, SAMPLE SIZE REQUIREMENTS AND SAMPLE CONTAINERS
1003 EAST 173RD STREET DEVELOPMENT
BRONX, NEW YORK

Analysis/Method	Sample Type	Preservation	Holding Time	Volume/Weight	Container
Volatile Organic Compounds/8260C	Soil	1 - 1 Vial MeOH/2 Vial Water, Cool, 4 ± 2 °C	14 days[1]	120 mL	(3) 40-mL glass vials
Semi-volatile Organic Compounds/8270D	Soil	Cool, 4 ± 2 °C	14 days	250 mL	(1) 8-oz glass
Polychlorinated Biphenyls/8082A	Soil	Cool, 4 ± 2 °C	14 days	250 mL	(1) 8-oz glass
Metals/6010D	Soil	Cool, 4 ± 2 °C	180 days	60 mL	(1) 2-oz glass
PFAS 1633	Soil	Cool, 4 ± 2 °C	14 days	250 mL	(1) 8-oz glass
1,4-Dioxane 8270	Soil	Cool, 4 ± 2 °C	14 days	250 mL	(1) 8-oz glass
Volatile Organic Compounds/8260C	Groundwater	HCl, Cool, 4 ± 2 °C	14 days	120 mL	(3) 40-mL glass vials
Semi-volatile Organic Compounds/8270D	Groundwater	Cool, 4 ± 2 °C	7 days	500 mL	(2) 250-mL amber glass
TAL Metals 6020	Groundwater	HNO_3Cool, 4 ± 2 °C	180 days	500 mL	(1) 500-mL plastic bottle
PFAS 1633	Groundwater	H2O Cool, 4 ± 2 °C	14 days	500 mL	(2) Teflon-free 250-mL plastic containers
1,4-Dioxane 8270	Groundwater	Cool, 4 ± 2 °C	7 days	500 mL	(1) 500-mL plastic bottle
Volatile Organic Compounds/TO-15	Soil Vapor	N/A	30 days	2.7 - 6 L	(1) 2.7- or 6-L Summa canister

Notes:
1. Terracores and encores must be frozen within 48 hours of collection
2. Refer to text for additional information.

APPENDIX J
Proposed Remedial Action Project Schedule

PROPOSED REMEDIAL ACTION PROJECT SCHEDULE
1003 EAST 173RD STREET, BRONX, NEW YORK
NYSDEC BCP SITE C203181

Task	Duration	Start	End	2026										2027											
				Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Design and Permitting	90	3/1/2026	5/30/2026																						
NYSDEC BCP RAWP Review	60	5/4/2026	7/3/2026																						
45-Day Public Comment for RAWP	45	7/8/2026	8/22/2026																						
RAWP Revisions	30	8/24/2026	9/23/2026																						
Decision Documenat Issuance	15	9/24/2026	10/9/2026																						
Implementation of RAWP	120	10/15/2026	2/12/2027																						
Preparation of FER and SMP/ EE (if required)	30	2/1/2027	3/3/2027																						
NYSDEC & NYSDOH Review of FER & SMP/ EE (if required)	60	3/5/2027	5/4/2027																						
FER & SMP Revisions (if required)	45	5/5/2027	6/19/2027																						
Continued Monthly Program Management	174	7/10/2026	12/31/2026																						
SVI Evaluation	10	11/15/2027	11/25/2027																						
NYSDEC Issues COC	30	12/1/2027	12/31/2027																						

Notes:

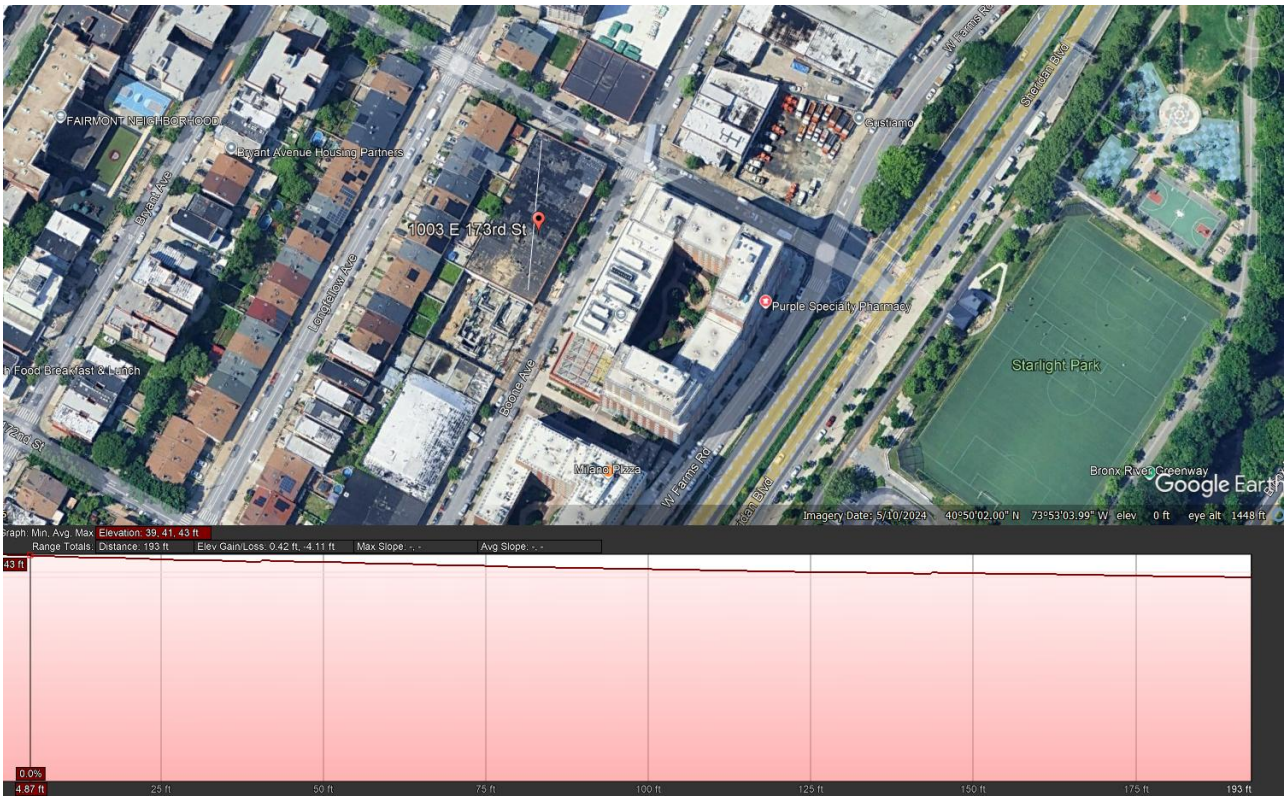
1. Schedule is preliminary and subject to change.
2. Implementation of RAWP does not include completion of building construction.
3. NYSDEC - New York State Department of Environmental Conservation
4. NYSDOH - New York State Department of Health
5. BCP - Brownfield Cleanup Program
6. RAWP - Remedial Action Work Plan
7. FER - Final Engineering Report
8. SMP - Site Management Plan
9. EE - Environmental Easement
10. SVI - Soil Vapor Intrusion
11. COC - Certificate of Completion
12. COC issuance estimated prior to December 31, 2025

APPENDIX K
Climate Screening Checklist

Climate Screening Checklist

Background Information

- Project Manager: Elizabeth Fitzgerald
- Site Name: 1003 East 173rd Street Development Site (the "Site")
- Site Number: C203181
- Site Location: 1003 East 173rd Street, Bronx, New York
- Site Elevation (average above sea level): Approximately 41 feet (ft) above sea level (Google Earth)



- ClimAID Region (Responding Climate Change in New York State (ClimAID) - NYSERDA): Region 4 – New York City and Long Island



- Remedial Stage/Site Classification: Remedial Action
- Contamination - Media Impacted/ Contaminants of Concern:
  - Soil – metals.
  - Soil vapor – petroleum-related volatile organic compounds (VOCs) and chlorinated VOCs.
- Proposed/Current Remedy: The remedy will consist of excavation, stockpiling, off-Site transport, and disposal of contaminated historical fill material and contaminated soil below the historic fill interval Site-wide that exceeded the Unrestricted Use Soil Cleanup Objectives (UUSCOs), and removal of underground storage tanks (USTs) and/or associated appurtenances, if encountered, and decommissioning and off-Site disposal.
- What is the predicted timeframe of the remedy? Will components of the remedy still be in place in 10+ years? Remedy is anticipated to be completed in approximately one year. If required, engineering controls will remain in place and be maintained or replaced as needed for the duration of the requirement under future Site management.
- Is the site in proximity to any sensitive receptors? (e.g., wetlands, waterbodies, residential properties, hospitals, schools, drinking water supplies, etc.) There are seven receptors within a 500-ft radius of the Site, including a health care facility, public schools, and day cares.

Is the site in a disadvantaged community (DAC) or potential environmental justice area (PEJA) (Use DECinfolocator: DECinfo Locator (ny.gov))?

X Yes ☐ No



LEGEND

APPROXIMATE LOCATION OF SITE

DISADVANTAGED COMMUNITY (MID-HUDSON)

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. DATA SOURCE: THE NEW YORK STATE ENERGY RESERACH AND DEVELOPMENT AUTHORITY (NYSERDA).
3. AERIAL IMAGERY SOURCE: NYSDEC DISADVANTAGED COMMUNITIES CRITERIA MAPS (VERSION 1.0, 2023).
4. DAC - DISADVANTAGED COMMUNITY

If the site is in a DAC or PEJA, will climate impacts be magnified? If yes, list how and why.

☐ **Yes X No**

Should thresholds of concern be lowered to account for magnification of impacts? If yes, indicate how lower thresholds will be used in the screening.

☐ **Yes X No**

Climate Screening Table*

Potential Climate Hazards	**Relevant to the Site Location** (Y/N/NA)[1]	**Projected Change** (Resilience Analysis and Planning Tool [RAPT]/arcgis.com)[3]	**Potential to Impact Remedy** (Y/N)	**Is remedy/site already resilient?** (Y/N)[4]
Precipitation	Potentially	N/A	N/A	N/A
Temperature[2] (Extreme Heat or Cold Weather Impacts)	Y	Y	Y	Future remedy will evaluate
Sea Level Rise	N	N/A	N/A	N/A
Flooding	N	N/A	N/A	N/A
Storm Surge	N	N/A	N/A	N/A
Wildfire	N	N/A	N/A	N/A
Drought	N	N/A	N/A	N/A
Storm Severity	Y	N/A	Y	Future remedy will evaluate
Landslides	N	N/A	N/A	N/A
Other Hazards:	N/A	N/A	N/A	N/A

* Links to potential data sources can be found on the following page

[1] If the first column is N --> The rest of the columns will be N/A, the hazard is not applicable to the site.

[2] Extreme Heat: periods of three or more days above 90°F- Extreme Cold: Individual days with minimum temperatures at or below 0 degrees F (NYSERDA ClimAID report)

[3] List the projected change in specific terms or units e.g. inches of rainfall, feet of sea level rise, etc.

[4] If final column is Y, provide reasoning, if the final column is N --> Climate Vulnerability Assessment (CVA) required.

Required Next Steps (If no further action is required, provide justification):

Conduct severe weather storm inspections during the active remedy, as necessary.

Potential Data Sources (not an exhaustive list)- from Superfund Climate Resilience: Vulnerability Assessment | US EPA

NYSERDA ClimAID report- Responding Climate Change in New York State (ClimAID) - NYSERDA

FEMA- National Flood Hazard Layer | FEMA.gov

NOAA- National Storm Surge Risk Maps - Version 3 (noaa.gov)

Department of Agriculture Forest Service Wildfire Risk to Communities

EPA Climate Change Indicators in the United States

EPA Climate Resilience Evaluation & Awareness Tool (CREAT) | U.S. Climate Resilience Toolkit

EPA National Stormwater Calculator

National Integrated Drought Information System U.S. Drought Portal

National Interagency Coordination Center National Interagency Fire Center

National Oceanic and Atmospheric Administration Coastal Services Digital Coast

- Resources to help communities assess coastal hazards, such as the Sea Level Rise Viewer for visualizing community-level impacts of flooding or sea level rise and downloadable LIDAR data

National Oceanic and Atmospheric Administration National Centers for Environmental Information website

National Oceanic and Atmospheric Administration Sea Level Trends

National Weather Service Climate Prediction Center

National Weather Service National Hurricane Center

National Weather Service Sea, Lake, and Overland Surges from Hurricanes (SLOSH)

National Weather Service Storm Surge Hazard Maps

U.S. Federal Government Climate Resilience Toolkit: The Climate Explorer

U.S. Army Corps of Engineers Climate Preparedness and Resilience

U.S. Geological Survey Coastal Change Hazards Portal

U.S. Geological Survey Landslide Hazards Program

U.S. Geological Survey National Ground-water Monitoring Network Data Portal

U.S. Geological Survey National Climate Change Viewer

U.S. Geological Survey National Water Dashboard

U.S. Geological Survey StreamStats

NYS Department of State- Assess | Department of State (ny.gov)

NYSERDA NY Costal Floodplain Mapper- Home Page (ny.gov)

NYSDEC Coastal Erosion Hazards- Coastal Areas Regulated By The CEHA Permit Program - NYDEC

NYSDOH Heat Index- health.ny.gov/environmental/weather/vulnerability_index/county_maps.htm

APPENDIX L
NYSDOH CAMP Guidance

Appendix 1A
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.

December 2009

APPENDIX 1B

FUGITIVE DUST AND PARTICULATE MONITORING FROM DER-10 TECHNICAL GUIDANCE FOR SITE INVESTIGATIONS AND REMEDIATION

Appendix 1B
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50° C (14 to 122° F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.