304-310 NORTH 7TH STREET

BROOKLYN, NEW YORK 11211

Remedial Action Work Plan

NYC VCP Number: 15CVCP147K

E-Designation Site Number: 15RHAZ013K

Prepared for:

Adam America Real Estate

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Prepared by:

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JUNE 2015

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LIST OF ACRONYMS

Acronym	Definition
AOC	Area of Concern
BOA	Brownfield Opportunity Area
CAMP	Community Air Monitoring Plan
COC	Certificate of Completion
CSOP	Contractors Site Operation Plan
ECs/ICs	Engineering and Institutional Controls
HASP	Health and Safety Plan
VCA	Voluntary Cleanup Agreement
NOC	Notice of Completion
NYC VCP	New York City Voluntary Cleanup Program
NYC DEP	New York City Department of Environmental Protection
NYC DOHMH	New York State Department of Health and Mental Hygiene
NYCRR	New York Codes Rules and Regulations
NYC OER	New York City Office of Environmental Remediation
NYS DEC	New York State Department of Environmental Conservation
NYS DOH	New York State Department of Health
NYS DOT	New York State Department of Transportation
OSHA	United States Occupational Health and Safety Administration
PE	Professional Engineer
PID	Photo Ionization Detector
QEP	Qualified Environmental Professional
QHHEA	Qualitative Human Health Exposure Assessment
RAOs	Remedial Action Objectives
RAR	Remedial Action Report
RAWP	Remedial Action Work Plan or Plan
RCA	Recycled Concrete Aggregate
RD	Remedial Design
RI	Remedial Investigation
RMZ	Residual Management Zone
SCOs	Soil Cleanup Objectives
SCG	Standards, Criteria and Guidance
SMP	Site Management Plan
SPDES	State Pollutant Discharge Elimination System
SVOC	Semi-Volatile Organic Compound
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compound

CERTIFICATION

I, Ariel Czemerinski, am currently a registered professional engineer licensed by the State of New York. I performed professional engineering services and had primary direct responsibility for designing the remedial program for the 304-310 North 7th Street site, site number 15CVCP147K. I certify to the following:

- I have reviewed this document and the Stipulation List, to which my signature and seal are affixed.
- Engineering Controls developed for this remedial action were designed by me or a person under my direct supervision and designed to achieve the goals established in this Remedial Action Work Plan for this site.
- The Engineering Controls to be constructed during this remedial action are accurately reflected in the text and drawings of the Remedial Action Work Plan and are of sufficient detail to enable proper construction.
- This Remedial Action Work Plan (RAWP) has a plan for handling, transport and disposal of soil, fill, fluids and other materials removed from the property in accordance with applicable City, State and Federal laws and regulations. Importation of all soil, fill and other material from off-Site will be in accordance with all applicable City, State and Federal laws and requirements. This RAWP has provisions to control nuisances during the remediation and all invasive work, including dust and odor suppression.

_____

Name

_____

PE License Number

_____

Signature

_____

Date

PE Stamp

EXECUTIVE SUMMARY

Adam America Real Estate has applied to enroll in the New York City Voluntary Cleanup Program (NYC VCP) to investigate and remediate a 13,800-ft^2 Site located at 304-310 North 7th Street in the Williamsburg section of Brooklyn, New York. A remedial investigation (RI) was performed to compile and evaluate data and information necessary to develop this Remedial Action Work Plan (RAWP). The remedial action described in this document provides for the protection of public health and the environment consistent with the intended property use, complies with applicable environmental standards, criteria and guidance and conforms with applicable laws and regulations.

Site Location and Current Usage

The Site is located at 304-310 North 7th Street in the Williamsburg section of Brooklyn, New York, and is currently identified as Block 2331 Lots 9, 10, and 15 on the New York City Tax Map. Figure 1 shows the Site location. Current lot 20 which was previously part of lot 9 was recently subdivided and is not part of the Site. The property consists of 138 feet of street frontage along North 7th Street and extends 100 deep for a total of 13,800 square feet (sf). The Site is located on the south side of North 7th Street, between Meeker Avenue and Havemeyer Street. The Site is bordered by North 7th Street to the north; a five-story multi-family building to the west (300 North 7th Street); and two, three-story multi-family buildings and a five-story commercial office building to the south; and the 30 ft by 200 ft building along Meeker Avenue (formerly part of lot 9) to the east. A map of the site boundary is shown on Figure 2.

The site is improved with two vacant attached brick and masonry buildings which together occupy the entire footprint of the property. The buildings have been partially demolished with the roof and interior portions removed.

Summary of Proposed Redevelopment Plan

The development project consists of redeveloping the lot with a new 7-story slab-on-grade residential apartment building with a rear on-grade courtyard. The building will not have a cellar. The first floor will consist of the residential lobby, three mechanical rooms, two recreational rooms, one residential unit, a stairwell, an elevator and a 5,794 sf parking area. The second floor

will consist of residential apartments and two private terraces. The third through seventh floors will consist of residential apartments.

The entire Site will require excavation to a depth of approximately 2 feet below grade for grading purposes and construction of the building's slab. An additional 7 ft by 9 ft excavation to approximately 6ft will be required for the elevator pit. An estimated 1,036 cubic yards (1,554 tons) of soil will require excavation for the new building's slab and elevator pit. The water table is at approximately 7 feet below grade surface (bgs), and will not be encountered during excavation.

Layout of the redevelopment plans for the first floor level, as well as the proposed building's front elevation drawing, is presented in Figure 3. The current zoning designation is M1-2/R6. The proposed use is consistent with existing zoning for the property.

The remedial action contemplated under this RAWP may be implemented independently of the proposed redevelopment plan.

Summary of Environmental Findings

1. The elevation of the Site is approximately 14 feet.
2. Depth to groundwater is estimated to be approximately 7 feet below sidewalk grade.
3. Groundwater flow is generally northeast.
4. Depth to bedrock is at the Site is greater than 100 feet.
5. The stratigraphy of the Site consists of historic fill material to depths as great as 4 feet, underlain by native brown silty sand.
6. Soil/fill samples results were compared to NYSDEC Unrestricted Use Soil Cleanup Objectives (Track 1) and Restricted Residential Use Soil Cleanup Objectives (Track 2) as presented in 6NYCRR Part 375-6.8 and CP51. The sample results showed no pesticides or PCBs above detection limits. The VOCs acetone (95 µg/kg) and methylene chloride (110 µg/kg) were detected above Unrestricted Use SCOs, and the VOCs 2-isopropyltoluene (max 240 ug/kg), carbon disulfide (max 1.6 ug/kg), ethylbenzene (max

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160 ug/kg), isopropylbenzene (max 460 ug/kg), methyl ethyl ketone (max 23 ug/kg), naphthalene (max 250 ug/kg), n-butylbenzene (max 1100 ug/kg), n-propylbenzene (max 800 ug/kg), and sec-butylbenzene (max 1200 ug/kg) were detected below Unrestricted Use SCOs. Five SVOCs, including benz(a)anthracene (max. of 10,000 µg/kg), benzo(a)pyrene (max. of 7,700 µg/kg), benzo(b)fluoranthene (max. of 9,400 µg/kg), chrysene (max. of 9,500 µg/kg) and indeno(1,2,3-cd)pyrene (2,900 µg/kg) were detected above Restricted Residential Use SCOs. Several metals, including arsenic (max. of 1,120 mg/kg), barium (max. of 3,270 mg/kg), chromium (max. of 226 mg/kg), lead (max. of 1,690 mg/kg), and mercury (max. of 11.9 mg/kg) exceeded Restricted Residential Use SCOs. Samples collected during a previous investigation performed in August 2000 (Singer Environmental and Pednault Associates) also identified high concentrations of the metals arsenic (max. of 3,834 mg/kg), and lead (max. of 2,055) exceeding Restricted Residential Use SCOs. Overall, the soil results were consistent with data identified at sites with urban fill material in NYC with the exception of the high metals levels identified which are believed to be associated with historic dye factory operations.

7. Groundwater samples results were compared to New York State 6NYCRR Part 703.5 Class GA groundwater quality standards (GQS). Groundwater samples showed no pesticides or PCBs at detectable concentrations. Six VOCs, including isopropylbenzene (7.1 µg/L), MTBE (340 µg/L), naphthalene (36 µg/L), n-butylbenzene (6.5 µg/L), n-propylbenzene (11 µg/L) and sec-butylbenzene (7.6 µg/L) were detected above GQS in one sample. SVOCs, including benz(a)anthracene (max. of 0.18 µg/L), benzo(b)fluoranthene (max. of 0.18 µg/L), benzo(k)fluoranthene (0.06 µg/L), chrysene (max. of 0.21 µg/L), indeno(1,2,3-cd)pyrene (max. of 0.06 µg/L), and naphthalene (max 33 µg/L) were detected above GQSs. Several metals were identified, but only iron (10.5 mg/L), manganese (max. of 0.875 mg/L) and sodium (max. of 123 mg/L) exceeded their respective GQS.

8. Soil vapor results collected during the RI were compared to the compounds listed in Vapor Intrusion Matrices in the New York State Department of Health (NYSDOH) Final Guidance for Evaluating Soil Vapor Intrusion, dated October 2006. Samples indicated petroleum-related and chlorinated VOCs were present at low concentrations. The total

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concentration of petroleum-related VOCs (BTEX) ranged from 139.31 $\mu g/m^3$ to 618.07 $\mu g/m^3$. The chlorinated VOC 1,1,1-trichloroethane was not detected in any of the soil gas samples. Trichloroethylene (TCE) (max. of 0.698 $\mu g/m^3$) was detected in three soil gas samples. Tetrachloroethylene (PCE) (max. 17.4 $\mu g/m^3$) was detected in all five soil gas samples. Carbon tetrachloride (max. of 0.566 $\mu g/m^3$) was detected in three of the soil gas samples. The TCE, PCE and carbon tetrachloride concentrations are below the monitoring level ranges established within the NYSDOH Final Guidance on Soil Vapor Intrusion.

Summary of the Remedy

The proposed remedial action achieves protection of public health and the environment for the intended use of the property. The proposed remedial action achieves all of the remedial action objectives established for the project and addresses applicable standards, criterion, and guidance; is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants; is cost effective and implementable; and uses standards methods that are well established in the industry.

The proposed remedial action will consist of:

1. Preparation of a Community Protection Statement and performance of all required NYC VCP Citizen Participation activities according to an approved Citizen Participation Plan.
2. Performance of a Community Air Monitoring Program for particulates and volatile organic carbon compounds.
3. Completion of a Waste Characterization Study prior to excavation activities. Waste characterization soil samples will be collected at a frequency dictated by disposal facility. A Waste Characterization Report documenting sample procedures, location, analytical results shall be submitted to NYCOER prior to start of remedial action.
4. Establishment of Site-Specific (Track 4) Soil Cleanup Objectives (SCOs).
5. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas.
6. Excavation and removal of soil/fill exceeding Track 4 Site-Specific SCOs. For development purposes, the entire Site will require excavation to a depth of approximately

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2 feet below grade for grading purposes and construction of the building's slab on grade. Additional excavation will be required for a 7ft by 9ft area to approximately 6ft for the elevator pit. An estimated 1,036 cubic yards (1,554 tons) of soil will require excavation for the new building's slab and elevator pit. Additional excavations will be required to remove five metal hotspots to achieve Track 4 Site-Specific SCOs. Approximately 339 tons of soil will be removed for the hotspots A total of approximately 1,893 tons of soil will be removed from the site.

7. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID. Appropriate segregation of excavated media on-Site.
8. Management of excavated materials including temporarily stockpiling and segregating to prevent co-mingling of contaminated material and non-contaminated materials.
9. Removal of underground storage tanks (if encountered) and closure of petroleum spills (if evidence of a spill/leak is encountered during Site excavation) in compliance with applicable local, State and Federal laws and regulations.
10. Transportation and off-Site disposal of all soil/fill material at permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media on-Site.
11. Collection and analysis of three confirmation end-point samples and a minimum of 12 hotspot delineation samples to determine the performance of the remedy with respect to attainment of SCOs.
12. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations.
13. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations.
14. Performance of all activities required for the remedial action, including permitting requirements and pretreatment requirements, in compliance with applicable laws and regulations.
15. Submission of a Remedial Action Report (RAR) that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries,

and describes all Engineering and Institutional Controls to be implemented at the Site, and lists any changes from this RAWP.

16. Installation of a vapor barrier system below the concrete slab of the building as well as behind foundation walls of the proposed building. The vapor barrier will consist of the VaporBlock 20 Plus system as manufactured by Ravens Industries or equivalent system.
17. Construction and maintenance of an engineered composite cover consisting of the 6 inch thick concrete slab to prevent human exposure to residual soil/fill remaining under the Site.
18. Submission of an approved Site Management Plan (SMP) in the RAR for long-term management of residual contamination, including plans for operation, maintenance, monitoring, inspection and certification of Engineering and Institutional Controls and reporting at a specified frequency.
19. The property will continue to be registered with a Restrictive Declaration by the NYC Buildings Department. Establishment of Engineering Controls and Institutional Controls in this RAWP and a requirement that management of these controls must be in compliance with an approved SMP. Institutional Controls will include prohibition of the following: (1) vegetable gardening and farming; (2) use of groundwater without treatment rendering it safe for the intended use; (3) disturbance of residual contaminated material unless it is conducted in accordance with the SMP; and (4) higher level of land usage without OER-approval.

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COMMUNITY PROTECTION STATEMENT

The Office of Environmental Remediation created the New York City Voluntary Cleanup Program (NYC VCP) to provide governmental oversight for the cleanup of contaminated property in NYC. This Remedial Action Work Plan ("cleanup plan") describes the findings of prior environmental studies that show the location of contamination at the Site, and describes the plans to clean up the Site to protect public health and the environment.

This cleanup plan provides a very high level of protection for neighboring communities and also includes many other elements that address common community concerns, such as community air monitoring, odor, dust and noise controls, hours of operation, good housekeeping and cleanliness, truck management and routing, and opportunities for community participation. The purpose of this Community Protection Statement is to explain these community protection measures in non-technical language to simplify community review.

Remedial Investigation and Cleanup Plan. Under the NYC VCP, a thorough cleanup study of this property (called a remedial investigation) has been performed to identify past property usage, to sample and test soils, groundwater and soil vapor, and identify contaminant sources present on the property. The cleanup plan has been designed to address all contaminant sources that have been identified during the study of this property.

Identification of Sensitive Land Uses. Prior to selecting a cleanup, the neighborhood was evaluated to identify sensitive land uses nearby, such as schools, day care facilities, hospitals and residential areas. The cleanup program was then tailored to address the special conditions of this community.

Qualitative Human Health Exposure Assessment. An important part of the cleanup planning for the Site is the performance of a study to find all of the ways that people might come in contact with contaminants at the Site now or in the future. This study is called a Qualitative Human Health Exposure Assessment (QHHEA). A QHHEA was performed for this project. This assessment has considered all known contamination at the Site and evaluated the potential for people to come in contact with this contamination. All identified public exposures will be addressed under this cleanup plan.

Construction Health and Safety Plan. This cleanup plan includes a Construction Health and Safety Plan (CHASP) that is designed to protect community residents and on-Site workers. The elements of this plan are in compliance with safety requirements of the United States Occupational Safety and Health Administration (OSHA). This plan includes many protective elements including those discussed below.

Site Safety Coordinator. This project has a designated Site Safety Coordinator to implement the CHASP. The Site Safety Coordinator maintains an emergency contact sheet and protocol for management of emergencies. The Site Safety Coordinator is Mr. Kevin Waters of Environmental Business Consultants. Mr. Waters can be reached at (631) 504-6000.

Worker Training. Workers participating in cleanup of contaminated material on this project are required to be trained in a 40-hour hazardous waste operators training course and to take annual refresher training. This pertains only to workers performing specific tasks including removing hazardous material and installing cleanup systems in contaminated areas.

Community Air Monitoring Plan. Community air monitoring will be performed during this cleanup project to ensure that the community is properly protected from contaminants, dust and odors. Air samples will be tested in accordance with a detailed plan called the Community Air Monitoring Plan (CAMP). Results will be regularly reported to the NYC OER. This cleanup plan also has a plan to address any unforeseen problems that might occur during the cleanup (called a 'Contingency Plan').

Odor, Dust and Noise Control. This cleanup plan includes actions for odor and dust control. These actions are designed to prevent off-Site odor and dust nuisances and includes steps to be taken if nuisances are detected. Generally, dust is managed by application of physical covers and by water sprays. Odors are controlled by limiting the area of open excavations, physical covers, spray foams and by a series of other actions (called operational measures). The project is also required to comply with NYC noise control standards. If you observe problems in these areas, please contact the on-Site Project Manager, Mr. Kevin Waters at (631) 504-6000 or NYC Office of Environmental Remediation Project Manager, Eric Ilijevich (212) 341-2034.

Quality Assurance. This cleanup plan requires that evidence be provided to illustrate that all cleanup work required under the plan has been completed properly. This evidence will be summarized in the final report, called the Remedial Action Report. This report will be submitted to the NYC Office of Environmental Remediation and will be thoroughly reviewed.

Storm-Water Management. To limit the potential for soil erosion and discharge, this cleanup plan has provisions for storm-water management. The main elements of the storm water management include physical barriers such as tarp covers and erosion fencing, and a program for frequent inspection.

Hours of Operation. The hours for operation of cleanup will comply with the NYC Department of Buildings construction code requirements or according to specific variances issued by that agency. For this cleanup project, the hours of operation are 7:00AM to 6:00PM Monday through Friday.

Signage. While the cleanup is in progress, a placard will be prominently posted at the main entrance of the property with a laminated project Fact Sheet that states that the project is in the NYC Voluntary Cleanup Program, provides project contact names and numbers, and locations of project documents can be viewed.

Complaint Management. The contractor performing this cleanup is required to address all complaints. If you have any complaints, you can call the facility Project Manager, Kimberly Somers (EBC) at (631) 504-6000, the NYC Office of Environmental Remediation Project Manager, Eric Ilijevich at (212) 341-2034, or call 311 and mention the Site is in the NYC Voluntary Cleanup Program.

Utility Mark-outs. To promote safety during excavation in this cleanup, the contractor is required to first identify all utilities and must perform all excavation and construction work in compliance with NYC Department of Buildings regulations.

Soil and Liquid Disposal. All soil and liquid material removed from the Site as part of the cleanup will be transported and disposed of in accordance with all applicable City, State and Federal regulations and required permits will be obtained.

Soil Chemical Testing and Screening. All excavations will be supervised by a trained and properly qualified environmental professional. In addition to extensive sampling and chemical testing of soils on the Site, excavated soil will be screened continuously using hand-held instruments, by sight, and by smell to ensure proper material handling and management, and community protection.

Stockpile Management. Soil stockpiles will be kept covered with tarps to prevent dust, odors and erosion. Stockpiles will be frequently inspected. Damaged tarp covers will be promptly replaced. Stockpiles will be protected with silt fences. Hay bales will be used, as needed to protect storm water catch basins and other discharge points.

Trucks and Covers. Loaded trucks leaving the Site will be covered in compliance with applicable laws and regulations to prevent dust and odor. Trucks will be properly recorded in logs and records and placarded in compliance with applicable City, State and Federal laws, including those of the New York State Department of Transportation. If loads contain wet material that can leak, truck liners will be used. All transport of materials will be performed by licensed truckers and in compliance with all laws and regulations.

Imported Material. All fill materials proposed to be brought onto the Site will comply with rules outlined in this cleanup plan and will be inspected and approved by a qualified worker located on-Site. Waste materials will not be brought onto the Site. Trucks entering the Site with imported clean materials will be covered in compliance with applicable laws and regulations.

Equipment Decontamination. All equipment used for cleanup work will be inspected and washed, if needed, before it leaves the Site. Trucks will be cleaned at a truck inspection station on the property before leaving the Site.

Housekeeping. Locations where trucks enter or leave the Site will be inspected every day and cleaned regularly to ensure that they are free of dirt and other materials from the Site.

Truck Routing. Truck routes have been selected to: (a) limit transport through residential areas and past sensitive nearby properties; (b) maximize use of city-mapped truck routes; (c) limit total

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distance to major highways; (d) promote safety in entry to highways; (e) promote overall safety in trucking; and (f) minimize off-Site line-ups (queuing) of trucks entering the property. Operators of loaded trucks leaving the Site will be instructed not to stop or idle in the local neighborhood.

Final Report. The results of all cleanup work will be fully documented in a final report (called a Remedial Action Report) that will be available for you to review online at OER's website.

Long-Term Site Management. To provide long-term protection after the cleanup is complete, the property owner will be required to comply with an ongoing Site Management Plan that calls for continued inspection of protective controls, such as Site covers. The Site Management Plan is evaluated and approved by the NYC OER. Requirements that the property owner must comply with are established through a city environmental designation. A certification of continued protectiveness of the cleanup will be required from time to time to show that the approved cleanup is still effective.

REMEDIAL ACTION WORK PLAN

1.0 SITE BACKGROUND

Adam America Real Estate has applied to enroll in the New York City Voluntary Cleanup Program (NYC VCP) to investigate and remediate a property located at 304-310 North 7th Street in the Williamsburg section of Brooklyn, New York (the Site). A Remedial Investigation (RI) was performed to compile and evaluate data and information necessary to develop this Remedial Action Work Plan (RAWP) in a manner that will render the Site protective of public health and the environment consistent with the contemplated end use. This RAWP establishes remedial action objectives, provides remedial alternatives analysis that includes consideration of a permanent cleanup, and provides a description of the selected remedial action. The remedial action described in this document provides for the protection of public health and the environment, complies with applicable environmental standards, criteria and guidance and applicable laws and regulations.

1.1 Site Location and Current Usage

The Site is located at 304-310 North 7th Street in the Williamsburg section of Brooklyn, New York, and is currently identified as Block 2331 Lots 9, 10, and 15 on the New York City Tax Map. Figure 1 shows the Site location. Current lot 20 which was previously part of lot 9 was recently subdivided and is not part of the Site. The property consists of 138 feet of street frontage along North 7th Street and extends 100 deep for a total of 13,800 square feet (sf). The Site is located on the south side of North 7th Street, between Meeker Avenue and Havemeyer Street. The Site is bordered by North 7th Street to the north; a five-story multi-family building to the west (300 North 7th Street); and two, three-story multi-family buildings and a five-story commercial office building to the south; and the 30 ft by 200 ft building along Meeker Avenue (formerly part of lot 9) to the east. A map of the site boundary is shown on Figure 2.

The site is improved with two vacant attached brick and masonry buildings which together occupy the entire footprint of the property. The buildings have been partially demolished with the roof and interior portions removed.

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1.2 Proposed Redevelopment Plan

The development project consists of redeveloping the lot with a new 7-story residential apartment building with a rear on-grade courtyard. The building will not have a cellar. The first floor will consist of the residential lobby, three mechanical rooms, two recreational rooms, one residential unit, a stairwell, an elevator and a 5,794 sf parking area. The second floor will consist of residential apartments and two private terraces. The third through seventh floors will consist of residential apartments.

The entire Site will require excavation to a depth of approximately 2 feet below grade for grading purposes and construction of the building's slab on grade. An additional excavation of a 7ft by 9ft area to approximately 6ft will be required for the elevator pit. An estimated 1,036 cubic yards (1,554 tons) of soil will require excavation for the new building's slab and elevator pit. The water table is at approximately 7 feet below grade surface (bgs), and will not be encountered during excavation.

Layout of the redevelopment plans for the first floor level, as well as the proposed building's front elevation drawing is presented in Figure 3. The current zoning designation is M1-2/R6. The proposed use is consistent with existing zoning for the property.

The remedial action contemplated under this RAWP may be implemented independently of the proposed redevelopment plan.

1.3 Description of Surrounding Property

The area immediately surrounding Site consists of a 5-story residential multi-family building to the west; a 2-story commercial building to the east on the un-included portion of lot 9; a 5-story commercial office building to the south; and a 3-story mixed-use building, a 1-story industrial/manufacturing building, and a 3-story residential multi-family building to the north just beyond North 7th Street. Figure 4 shows the surrounding land usage of the adjacent properties listed below as well as additional properties located up to 500 feet away from the Site. No hospitals or daycare facilities are located within a 250-ft radius of the Site. One school, Williamsburg Preparatory High School is located approximately 240 feet northwest of the Site.

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Williamsburg Northside Lower School is identified within 100 ft of the Site, across North 7th Street.

Surrounding Property Usage

Direction	Property Description
North – Opposite side of North 7th Street	Block 2323, Lots 54, 55, and 57 – 281, 289 and 293 North 7th Street A 2,500 ft^2 lot developed with a 3-story residential building constructed in 1910; a 4,400 ft^2 lot developed with a 1-story industrial/manufacturing building built in 1920; and a 8,700 ft^2 lot developed with a 3-story mixed-use residential and commercial building built in 1920.
South – Adjacent Properties	Block 2331 Lots 42, 46 and 47 – 277, 279 and 285 North 6th Street A 10,000 ft^2 lot developed with a commercial/office building built in 1901; a 2,500 ft^2 lot developed with a 3-story residential building built in 1910; and a 2,583 ft^2 lot developed with a 3-story residential building built in 1910.
East – Adjacent Property	Block 2331, Lot 20 (un-included portion) – 310 North 7th Street A 8,600 ft^2 lot developed with a 2-story commercial building.
West – Adjacent Property	Block 2331, Lot 8 – 300 North 7th Street A 2,500 ft^2 lot developed with a 5-story residential building built in 2009.

1.4 Remedial Investigation

A remedial investigation was performed and the results are documented in a companion document called "*Remedial Investigation Report, 304-310 North 7th Street, Brooklyn, NY*", dated April 2015 (RIR).

Summary of Past Uses of Site and Areas of Concern

A Phase I screening was competed by EBC in October 2014. The following Site history was established based on historic Sanborn maps:

EBC was able to establish a history for the property dating back to 1887. From approximately 1887 to 1905, the Site was occupied by the A.B. Ansbacher & Co. Dye factory. The current buildings, constructed in 1907, were occupied by A.B. Ansbacher through at least 1942 at which time a portion of the property was identified as an insecticide works. From 1951 through 1981 the buildings along North 7th are occupied by the Star Candle and Soap factory. By 1981 Star expanded into the brake works building and occupied the entire Site through 2001 when the building became vacant.

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The report noted that the Site is a portion of the BQE / Ansbacher Color & Dye Factory which appears on the NYSDEC Registry of Inactive Hazardous Waste Sites under Site Number 2-24-016. The listing is classified as not presenting a significant threat to public health or the environment. In August 2000, a Subsurface Investigation was performed by Singer Environmental and Pednault Associates which identified elevated levels of metals (arsenic, lead) at the Site. In October 2000 Enviro-Comp petitioned the NYSDEC to redefine the boundary of the Site and remove lot 9 from the listing. The NYSDEC agreed and modified the registry by removing lot 9 on November 9, 2000.

The Site has been assigned a Restrictive Declaration for R-53; CEQR 05BSA058K in April 2005 as part of an application for a use variance to convert the buildings to residential use.

Areas of Concern (AOCs) identified for the Site include:

1. The presence of historic fill to a depth of approximately 3-4 feet;
2. During the 2014 Phase II investigation, free phase oil was detected in monitoring well MW3. The petroleum ID on the oil sample was inconclusive with the majority of the mass listed as unidentified. Based on the analysis of the laboratory data, and the lack of VOCs or SVOCs that would indicate petroleum, no spill was reported to NYSDEC.
3. The Site is listed in the NYSDEC Spills Database with the following closed spills:
    a. **Spill No. 0510912**: A release of 50-gallons of fuel oil occurred on December 17, 2005 at 310 North 7th Street. A responsible party was identified and corrective action was taken. Case closure was granted by the NYSDEC on December 19, 2005.
    b. **Spill No. 0706592**: On September 13, 2007, approximately 10 gallons of No. 6 fuel oil was discovered during pumping water from the basement at 304 North 7th Street. Case closure was granted by NYSDEC on September 13, 2007.
    c. **Spill Nos. 0706476** and **0706478**: A release of approximately 500 gallons of No. 2 fuel oil was discovered in abandoned drums at 304 North 7th Street. Spill No. 0706478 was considered closed by NYSDEC on September 13, 2007. Spill No. 0706476 was considered closed by NYSDEC on September 11, 2007.
4. The historic use of the Site as a dye factory and as an insecticide works; and

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5. Elevated levels of metals (arsenic, lead) at the Site.

Summary of the Work Performed under the Remedial Investigation

EBC performed the following scope of work at the Site in July of 2014 and April 2015:

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e. structures, buildings, etc.);
2. Installed 11 soil borings across the Site, and collected 15 soil samples for chemical analysis from the soil borings to evaluate soil quality;
3. Installed 3 groundwater monitoring wells throughout the Site and collected 3 groundwater samples and one duplicate groundwater sample for chemical analysis to evaluate groundwater quality;
4. Installed 5 sub slab gas implants and collected 5 soil vapor samples for chemical analysis.

Summary of Environmental Findings

1. The elevation of the Site is approximately 14 feet.
2. Depth to groundwater is estimated to be approximately 7 feet below sidewalk grade.
3. Regional groundwater flow is generally northeast.
4. Depth to bedrock is at the Site is greater than 100 feet.
5. The stratigraphy of the Site from the surface down consists of historic fill material to depths as great as 4 feet, underlain by native brown silty sand.
6. Soil/fill samples results were compared to New York State Department of Environmental Conservation (NYSDEC) Part 375 Table 375-6.8 Unrestricted Use and Restricted Residential Use Soil Cleanup Objectives (SCOs). The sample results showed no pesticides or PCBs above detection limits. The VOCs acetone (95 µg/kg) and methylene chloride (110 µg/kg) were detected above Unrestricted Use SCOs, and the VOCs 2-isopropyltoluene (max 240 ug/kg), carbon disulfide (max 1.6 ug/kg), ethylbenzene (max 160 ug/kg), isopropylbenzene (max 460 ug/kg), methyl ethyl ketone (max 23 ug/kg), naphthalene (max 250 ug/kg), n-butylbenzene (max 1100 ug/kg), n-propylbenzene (max 800 ug/kg), and sec-butylbenzene (max 1200 ug/kg) were detected below Unrestricted Use SCOs. Five SVOCs, including benz(a)anthracene (max. of 10,000 µg/kg), benzo(a)pyrene (max. of 7,700 µg/kg), benzo(b)fluoranthene (max. of 9,400 µg/kg),

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chrysene (max. of 9,500 µg/kg) and indeno(1,2,3-cd)pyrene (2,900 µg/kg) were detected above Restricted Residential Use SCOs. Several metals, including arsenic (max. of 1,120 mg/kg), barium (max. of 3,270 mg/kg), chromium (max. of 226 mg/kg, lead (max. of 1,690 mg/kg), and mercury (max. of 11.9 mg/kg) exceeded Restricted Residential Use SCOs. Samples collected during a previous investigation performed in August 2000 (Singer Environmental and Pednault Associates) also identified high concentrations of the metals arsenic (max. of 3,834 mg/kg), and lead (max. of 2,055) exceeding Restricted Residential Use SCOs. Overall, the soil results were consistent with data identified at sites with urban fill material in NYC with the exception of the high metals levels identified which are believed to be associated with historic dye factory operations.

7. Groundwater sample results were compared to NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (GQS) for Class GA (drinking water). No pesticides or PCBs at were reported in any of the groundwater samples at detectable concentrations. Six VOCs, including isopropylbenzene (7.1 µg/L), MTBE (340 µg/L), naphthalene (36 µg/L), n-butylbenzene (6.5 µg/L), n-propylbenzene (11 µg/L) and sec-butylbenzene (7.6 µg/L) were detected above GQS in one sample. SVOCs, including benz(a)anthracene (max. of 0.18 µg/L), benzo(b)fluoranthene (max. of 0.18 µg/L), benzo(k)fluoranthene (0.06 µg/L), chrysene (max. of 0.21 µg/L), indeno(1,2,3-cd)pyrene (max. of 0.06 µg/L), and naphthalene (max 33 µg/L) were detected above GQSs. Several metals were identified, but only iron (10.5 mg/L), manganese (max. of 0.875 mg/L) and sodium (max. of 123 mg/L) exceeded their respective GQS.
8. Soil vapor samples collected during the 2014 EBC RI were compared to the New York State Department of Health (NYSDOH) Final Guidance on Soil Vapor Intrusion (October 2006) Matrix 1 and Matrix 2 values. Samples indicated petroleum-related and chlorinated VOCs were present at low concentrations. The total concentration of petroleum-related VOCs (BTEX) ranged from 139.31 µg/m3 to 618.07 µg/m3. The chlorinated VOC 1,1,1-trichloroethane was not detected in any of the soil gas samples. Trichloroethylene (TCE) (max. of 0.698 µg/m3) was detected in three soil gas samples. Tetrachloroethylene (PCE) (max. 17.4 µg/m3) was detected in all five soil gas samples. Carbon tetrachloride

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(max. of 0.566 µg/m3) was detected in three of the soil gas samples. The TCE, PCE and carbon tetrachloride concentrations are below the monitoring level ranges established within the NYSDOH Final Guidance on Soil Vapor Intrusion.

For more detailed results, consult the RIR. Based on an evaluation of the data and information from the RIR and this RAWP, disposal of significant amounts of hazardous waste is not suspected at this site.

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2.0 REMEDIAL ACTION OBJECTIVES

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

Groundwater

- Prevent direct exposure to contaminated groundwater.
- Prevent exposure to contaminants volatilizing from contaminated groundwater.

Soil

- Prevent direct contact with contaminated soil.
- Prevent exposure to contaminants volatilizing from contaminated soil.
- Prevent migration of contaminants that would result in groundwater contamination.

Soil Vapor

- Prevent exposure to contaminants in soil vapor.
- Prevent migration of soil vapor into dwelling and other occupied structures.

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3.0 REMEDIAL ALTERNATIVES ANALYSIS

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

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

The following is a detailed description of the alternative analysis and remedy selection to address impacted media at the Site. As required, a minimum of two remedial alternatives (including a Track 1 Unrestricted Use scenario) are evaluated, as follows:

Alternative 1 involves:

- Selection of NYSDEC 6NYCRR Part 375 Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs).
- Removal of all soil/fill exceeding Track 1 Unrestricted Use SCOs throughout the Site and confirmation that Track 1 Unrestricted Use SCOs have been achieved with post-excavation endpoint sampling. Based on the results of the remedial investigation, it is

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anticipated that at least 6 feet of soil/fill would be required in order to achieve Track 1 Unrestricted Use SCOs. If soil/fill containing analytes at concentrations above Track 1 Unrestricted Use SCOs is still present at the base of the excavation, additional excavation would be performed to ensure complete removal of soil that does not meet Track 1 Unrestricted Use SCO;

- No Engineering or Institutional Controls are required for a Track 1 Unrestricted Use cleanup, but installation of a vapor barrier beneath the foundation and elevator pit, and behind foundation sidewalls of the new building as a part of development to prevent any potential future exposures from soil vapor; and
- Placement of a final cover over the entire Site as part of new development.

Alternative 2 involves:

- Establishment of Site-Specific (Track 4) SCOs and establishment of metal hotspot excavation areas for depths greater than 2 feet.
- Removal of all soil/fill exceeding Track 4 Site-Specific SCOs and removal of metal hotspots. Confirmation that Track 4 Site-Specific SCOs have been achieved and metal hotspots have been removed from deeper soils with post-excavation endpoint sampling. Excavation for construction of the new building's slab would take place to a depth of approximately 2 feet below grade across the entire Site. Additional excavations will be performed for a 7ft by 9ft area to approximately 6ft for the elevator pit. If soil/fill containing analytes at concentrations above Track 4 Site-Specific SCOs is still present at the base of the excavation after removal of soil/ fill required for construction of the new building's slab is complete, additional excavation would be performed to ensure complete removal of soil that does not meet Track 4 Site-Specific SCOs;
- Placement of a final cover over the entire Site to prevent exposure to remaining soil/fill;
- Installation of a soil vapor barrier system beneath the building's slab and elevator pit, and along foundation side walls to prevent any potential future exposures from off-Site soil vapor;
- Establishment of use restrictions including prohibitions on the use of groundwater from the Site; prohibitions of sensitive Site uses, such as farming or vegetable gardening, to

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prevent future exposure pathways; and prohibition of a higher level of land use without OER approval;

- Establishment of an approved Site Management Plan (SMP) to ensure long-term management of these Engineering and Institutional Controls including the performance of periodic inspections and certification that the controls are performing as they were intended; and
- Continued registration with a Restricted Declaration to memorialize the remedial action and the Engineering and Institutional Controls required by the RAWP.

3.1 Threshold Criteria

Protection of Public Health and the Environment

This criterion is an evaluation of the remedy's ability to protect public health and the environment, and an assessment of how risks posed through each existing or potential pathway of exposure are eliminated, reduced or controlled through removal, treatment, and implementation of Engineering Controls or Institutional Controls. Protection of public health and the environment must be achieved for all approved remedial actions.

Alternative 1 would be protective of human health and the environment by removing contaminated soil/fill exceeding Track 1 Unrestricted Use SCOs and groundwater protection standards, thus eliminating potential for direct contact with contaminated soil/fill once construction is complete and eliminating the risk of contamination leaching into groundwater.

Alternative 2 would achieve comparable protections of human health and the environment by excavating the soil and historic fill at the Site and by ensuring that any remaining soil/fill on-Site meets Track 4 Site-Specific SCOs and high metals concentrations are removed from deeper soil, as well as by placement of Institutional and Engineering Controls, including a composite cover system. The composite cover system would prevent direct contact with any remaining on-Site soil/fill. The vapor barrier would mitigate any vapors from entering the building. Implementing Institutional Controls including a Site Management Plan would ensure that the composite cover system remains intact and protective. Establishment of Track 4 Site-Specific SCOs would minimize the risk of contamination leaching into groundwater.

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For both Alternatives, potential exposure to contaminated soils during construction would be minimized by implementing a Construction Health and Safety Plan (CHASP), an approved Soil/Materials Management Plan and Community Air Monitoring Plan (CAMP). Potential contact with contaminated groundwater would be prevented as its use is prohibited by city laws and regulations. Potential future migration of soil vapors into the new building would be prevented by installing a vapor barrier system below the new building's slab and continuing the vapor barrier around foundation walls.

3.2. Balancing Criteria

Compliance with Standards, Criteria and Guidance (SCGs)

This evaluation criterion assesses the ability of the alternative to achieve applicable standards, criteria and guidance.

Alternative 1 would achieve compliance with the remedial goals, chemical-specific SCGs and RAOs for soil through removal of soil to achieve Track 1 Unrestricted Use SCOs and Groundwater Protection Standards. Compliance with SCGs for soil vapor would also be achieved by installing a vapor barrier system below the new building's slab and continuing the vapor barrier around foundation walls, as part of development.

Alternative 2 would achieve compliance with the remedial goals, chemical-specific SCGs and RAOs for soil through removal of soil to meet Track 4 Site-Specific SCOs. Compliance with SCGs for soil vapor would also be achieved by installing a vapor barrier system below the new building's slab and continuing the vapor barrier around foundation walls. A Site Management Plan would ensure that these controls remained protective for the long term.

Health and safety measures contained in the CHASP and Community Air Monitoring Plan (CAMP) that comply with the applicable SCGs shall be implemented during Site redevelopment under this RAWP. For both Alternatives, focused attention on means and methods employed during the remedial action would ensure that handling and management of contaminated material would be in compliance with applicable SCGs. These measures will protect on-site workers and

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the surrounding community from exposure to Site-related contaminants.

Short-term effectiveness and impacts

This evaluation criterion assesses the effects of the alternative during the construction and implementation phase until remedial action objectives are met. Under this criterion, alternatives are evaluated with respect to their effects on public health and the environment during implementation of the remedial action, including protection of the community, environmental impacts, time until remedial response objectives are achieved, and protection of workers during remedial actions.

Both alternatives 1 and 2 have similar short-term effectiveness during their respective implementations, as each requires excavation of historic fill material. Both alternatives would result in short-term dust generation impacts associated with excavation, handling, load out of materials, and truck traffic. Short term impacts would be higher for Alternative 1 because additional soil/ fill would be excavated below the excavation depth of the proposed building. However, focused attention to means and methods during the remedial action during a Track 1 removal action, including community air monitoring and appropriate truck routing, would minimize or negate the overall impact of these activities.

An additional short-term adverse impact and risks to the community associated with both remedial alternatives is increased truck traffic. Approximately 76, 25-ton capacity truck trips would be necessary to transport fill and soil excavated during Site development. Truck traffic will be routed on the most direct course using major thoroughfares where possible and flaggers will be used to protect pedestrians at Site entrances and exits.

The effects of these potential adverse impacts to the community, workers and the environment will be minimized through implementation of corresponding control plans including a Construction Health and Safety Plan, a Community Air Monitoring Plan (CAMP) and a Soil/Materials Management Plan (SMMP), during all on-Site soil disturbance activities and would minimize the release of contaminants into the environment. Both alternatives provide short term effectiveness in protecting the surrounding community by decreasing the risk of

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contact with on-Site contaminants. Construction workers operating under appropriate management procedures and a Construction Health and Safety Plan (CHASP) would be protected from on-Site contaminants (personal protective equipment would be worn consistent with the documented risks within the respective work zones).

Long-term effectiveness and permanence

This evaluation criterion addresses the results of a remedial action in terms of its permanence and quantity/nature of waste or residual contamination remaining at the Site after response objectives have been met, such as permanence of the remedial alternative, magnitude of remaining contamination, adequacy of controls including the adequacy and suitability of ECs/ICs that may be used to manage contaminant residuals that remain at the Site and assessment of containment systems and ICs that are designed to eliminate exposures to contaminants, and long-term reliability of Engineering Controls.

Alternative 1 would achieve long-term effectiveness and permanence related to on-Site contamination by permanently removing all impacted soil/fill and enabling unrestricted usage of the property.

Alternative 2 would provide long-term effectiveness by removing most on-Site contamination and attaining Track 4 Site-Specific SCOs; establishing Engineering Controls including a composite cover system across the Site; establishing Institutional Controls to ensure long-term management including use restrictions, a Site Management Plan and maintaining continued registration as Restrictive Declaration property to memorialize these controls for the long term. The SMP would ensure long-term effectiveness of all ECs and ICs by requiring periodic inspection and certification that these controls and restrictions continue to be in place and are functioning as they were intended assuring that protections designed into the remedy will provide a continued high level of protection in perpetuity.

Both alternatives would result in removal of soil contamination providing a high level, effective and permanent remedy over the long-term with respect to a remedy for contaminated soil, which would prevent migration of contamination to groundwater.

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Reduction of toxicity, mobility, or volume of contaminated material

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

Alternative 1 would permanently eliminate the toxicity, mobility, and volume of contaminants from on-Site soil by removing all soil in excess of Track 1 Unrestricted Use SCOs.

Alternative 2 would remove most contamination at the Site, and any remaining on-Site soil beneath the new building and at-grade rear courtyard will meet Track 4 - Site-Specific SCOs. Alternative 1 would eliminate a greater total mass of contaminants on-Site.

Implementability

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

The proposed remedial action is both feasible and implementable. The techniques, materials and equipment to implement Alternatives 1 and 2 are readily available and have been proven effective in remediating the contaminants associated with the Site. They use standard materials and services that are well established technology. The reliability of each remedy is also high. There are no special difficulties associated with any of the activities proposed.

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Cost effectiveness

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

Since the new building requires excavation of the entire Site to a depth of approximately 2 feet with additional excavations to depths as great as 6ft for the elevator pit and hotspots, the costs associated with Alternative 1 would be significantly higher because additional excavation to at least 6 feet would be required across the site to achieve Track 1 Unrestricted Use SCOs. Additional long-term costs would be required for Alternative 2 based on implementation of a Site Management Plan as part of Alternative 2.

The remedial plan creates an approach that combines the remedial action with the redevelopment of the Site, including the construction of the building foundation and subgrade structures. The remedial plan is also cost effective in that it will take into consideration the selection of the closest and most appropriate disposal facilities to reduce transportation and disposal costs during the excavation of historic fill and other soils during the redevelopment of the Site.

Community Acceptance

This evaluation criterion addresses community opinion and support for the remedial action. Observations here will be supplemented by public comment received on the RAWP.

Based on the overall goals of the remedial program and initial permitting associated with the proposed site development, no adverse community opinion is anticipated for either alternative. This RAWP will be subject to a public review under the NYC VCP and will provide the opportunity for detailed public input on the remedial alternatives and the selected remedy. This public comment will be considered by OER prior to approval of this plan. The Citizen Participation Plan for the project is provided in Attachment B.

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Land use

This evaluation criterion addresses the proposed use of the property. This evaluation has considered reasonably anticipated future uses of the Site and takes into account: current use and historical and/or recent development patterns; applicable zoning laws and maps; NYS Department of State's Brownfield Opportunity Areas (BOA) pursuant to section 970-r of the general municipal law; applicable land use plans; proximity to real property currently used for residential use, and to commercial, industrial, agricultural, and/or recreational areas; environmental justice impacts, Federal or State land use designations; population growth patterns and projections; accessibility to existing infrastructure; proximity of the site to important cultural resources and natural resources, potential vulnerability of groundwater to contamination that might emanate from the site, proximity to flood plains, geography and geology; and current Institutional Controls applicable to the Site.

The proposed redevelopment of the Site is compatible with its current zoning and is consistent with recent development patterns. Following remediation, the Site will meet either Track 1 Unrestricted Use or Track 4 Site-Specific SCOs, both of which are appropriate for its planned residential use. Improvements in the current environmental condition of the property achieved by both alternatives are also consistent with the City's goals for cleanup of contaminated land and bringing such properties into productive reuse. Both alternatives are equally protective of natural resources and cultural resources.

Sustainability of the Remedial Action

This criterion evaluates the overall sustainability of the remedial action alternatives and the degree to which sustainable means are employed to implement the remedial action including those that take into consideration NYC's sustainability goals defined in *PlaNYC: A Greener, Greater New York*. Sustainability goals may include: maximizing the recycling and reuse of non-virgin materials; reducing the consumption of virgin and non-renewable resources; minimizing energy consumption and greenhouse gas emissions; improving energy efficiency; and promotion of the use of native vegetation and enhancing biodiversity during landscaping associated with Site development.

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The remedial plan would take into consideration the shortest trucking routes during off-Site disposal of historic fill and other soils, which would reduce greenhouse gas emissions and conserve energy used to fuel trucks. New York City Clean Soil Bank program may be utilized for reuse of import soils. To the extent practicable, energy efficient building materials, appliances, and equipment will be utilized to complete the development. While Alternative 2 would result in lower energy usage based on reducing the volume of material transported off-Site, both remedial alternatives are comparable with respect to the opportunity to achieve sustainable remedial action. A complete list of green remedial activities considered as part of the NYC VCP is included in the Sustainability Statement, included as Appendix C.

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4.0 REMEDIAL ACTION

4.1 Summary of Preferred Remedial Action

The preferred remedial action alternative is the Track 4 Alternative. The preferred remedial action alternative achieves protection of public health and the environment for the intended use of the property. The preferred remedial action alternative will achieve all of the remedial action objectives established for the project and addresses applicable SCGs. The preferred remedial action alternative is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants. The preferred remedial action alternative is cost effective and implementable and uses standards methods that are well established in the industry.

The proposed remedial action will consist of:

1. Preparation of a Community Protection Statement and performance of all required NYC VCP Citizen Participation activities according to an approved Citizen Participation Plan.
2. Performance of a Community Air Monitoring Program for particulates and volatile organic carbon compounds.
3. Completion of a Waste Characterization Study prior to excavation activities. Waste characterization soil samples will be collected at a frequency dictated by disposal facility. A Waste Characterization Report documenting sample procedures, location, analytical results shall be submitted to NYCOER prior to start of remedial action.
4. Establishment of Site-Specific (Track 4) Soil Cleanup Objectives (SCOs).
5. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas.
6. Excavation and removal of soil/fill exceeding Track 4 Site-Specific SCOs. For development purposes, the entire Site will require excavation to a depth of approximately 2 feet below grade for the building slab and excavation of a 7ft by 9ft area to 6ft for the elevator pit. Additional excavation will be required in select areas of the site where metal hotspots were identified extending as great as 6 ft below grade to achieve Track 4 Site-Specific SCOs. Approximately 1,893 tons of soil will be removed.
7. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID. Appropriate segregation of excavated

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media on-Site.

8. Management of excavated materials including temporarily stockpiling and segregating to prevent co-mingling of contaminated material and non-contaminated materials.
9. Removal of underground storage tanks (if encountered) and closure of petroleum spills (if evidence of a spill/leak is encountered during Site excavation) in compliance with applicable local, State and Federal laws and regulations.
10. Transportation and off-Site disposal of all soil/fill material at permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media on-Site.
11. Collection and analysis of confirmation end-point samples and a minimum of 12 hotspot delineation samples to determine the performance of the remedy with respect to attainment of SCOs.
12. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations.
13. Installation of a vapor barrier system below the concrete slab of the building as well as behind foundation walls of the proposed building. The vapor barrier will consist of the VaporBlock 20 Plus system as manufactured by Ravens Industries or equivalent system.
14. Construction and maintenance of an engineered composite cover consisting of the 6 inch thick concrete slab to prevent human exposure to residual soil/fill remaining under the Site.
15. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations.
16. Performance of all activities required for the remedial action, including permitting requirements and pretreatment requirements, in compliance with applicable laws and regulations.
17. Submission of a Remedial Action Report (RAR) that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, and describes all Engineering and Institutional Controls to be implemented at the Site, and lists any changes from this RAWP.

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18. Submission of an approved Site Management Plan (SMP) in the RAR for long-term management of residual contamination, including plans for operation, maintenance, monitoring, inspection and certification of Engineering and Institutional Controls and reporting at a specified frequency.
19. The property will continue to be registered with a Restrictive Declaration by the NYC Buildings Department. Establishment of Engineering Controls and Institutional Controls in this RAWP and a requirement that management of these controls must be in compliance with an approved SMP. Institutional Controls will include prohibition of the following: (1) vegetable gardening and farming; (2) use of groundwater without treatment rendering it safe for the intended use; (3) disturbance of residual contaminated material unless it is conducted in accordance with the SMP; and (4) higher level of land usage without OER-approval.

4.2 Soil Cleanup Objectives and Soil/Fill Management

The following Site-Specific Track 4 SCOs will be used:

Contaminant	Track 4 SCOs
Arsenic (0-2 ft bgs)	16 ppm
Barium	750 ppm
Lead	1,000 ppm
Mercury	2.8 ppm
SVOCs	250 ppm
VOCs	CP-51 Tables 2 and 3

High levels of arsenic beyond 2 ft below grade will be removed as arsenic hotspots. Soil and materials management on-Site and off-Site, including excavation, handling and disposal, will be conducted in accordance with the Soil/Materials Management Plan in Attachment D. The location of planned excavations is shown in Figure 5.

If any additional hot-spot areas are identified during development and remediation at the Site, they will be removed to the extent practical.

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Discrete contaminant sources (such as hotspots) identified during the remedial action will be identified by GPR or survey. This information will be provided in the Remedial Action Report.

Estimated Soil/Fill Removal Quantities

The total quantity of soil/fill expected to be excavated and disposed off-Site is 1,893 tons. Disposal location(s) will be reported promptly to the OER Project Manager prior to the start of the remedial action.

End-Point Sampling

End-point samples will be analyzed for compounds and elements as described below utilizing the following methodology:

- Volatile organic compounds by EPA Method 8260;
- Semi-volatile organic compounds by EPA Method 8270;
- Target Analyte List metals; and
- Pesticides/PCBs by EPA Method 8081/8082.

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

Confirmation End-Point Sampling

Removal actions for development purposes under this plan will be performed in conjunction with confirmation end-point sampling. Confirmation end-point sampling and testing will be performed following materials removal and completed proper to Site development activities. To evaluate attainment of Track 4 Site-Specific SCOs, three end-point samples will be collected and analyzed for the analytes established on the Track 4 Site-Specific SCOs list according to analytical methods described above. If Track 1 Unrestricted Use SCOs are pursued, samples will be analyzed for VOCs, SVOCs, pesticides, PCBs and metals according to analytical methods described above.

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Hotspot End-Point Sampling

End-point samples will be collected from the sidewalls and base of excavation at each of the five hotspot locations identified in the Remedial Investigation, according to the procedure listed below. Hotspots are identified on figure 6. End-point samples will be analyzed for SCO trigger parameters. The approximate collection location of the confirmation end-point soil samples is shown on Figure 6.

For any hotspots identified during this remedial program, including any hotspots identified during the remedial action, hotspot removal actions will be performed to ensure that hotspots are fully removed and end-point samples will be collected at the following frequency:

1. For excavations less than 20 feet in total perimeter, at least one bottom sample and one sidewall sample biased in the direction of surface runoff.
2. For excavations 20 to 300 feet in perimeter:
   - For surface removals, one sample from the top of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
   - For subsurface removals, one sample from each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
3. For sampling of volatile organics, bottom samples should be taken within 24 hours of excavation, and should be taken from the zero to six-inch interval at the excavation floor. Samples taken after 24 hours should be taken at six to twelve inches.
4. For contaminated soil removal, post remediation soil samples for laboratory analysis should be taken immediately after contaminated soil removal. If the excavation is enlarged horizontally, additional soil samples will be taken pursuant to bullets 1-3 above.

Post-remediation sample locations and depth will be biased towards the areas and depths of highest contamination identified during previous sampling episodes unless field indicators such as field instrument measurements or visual contamination identified during the remedial action indicate that other locations and depths may be more heavily contaminated. In all cases, post-

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remediation samples should be biased toward locations and depths of the highest expected contamination.

If either LNAPL and/or DNAPL are detected, appropriate samples will be collected for characterization and required regulatory reporting (i.e. spills hotline) will be performed.

Quality Assurance/Quality Control

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

One duplicate sample for every 20 samples collected will be submitted to the approved laboratory for analysis of the same parameters. One trip blank will be submitted to the laboratory with each shipment of soil samples.

Collected samples will be appropriately packaged, placed in coolers and shipped via overnight courier or delivered directly to the analytical laboratory by field personnel. Samples will be containerized in appropriate laboratory provided glassware and shipped in plastic coolers. Samples will be preserved through the use of ice or "cold-paks" to maintain a temperature of $4^{o}C$.

Dedicated disposable sampling materials will be used for the collection endpoint samples, eliminating the need to prepare field equipment (rinsate) blanks. However, if non-disposable equipment is used, (stainless steel scoop, etc.) field rinsate blanks will be prepared at the rate of 1 for every eight samples collected. Decontamination of non-dedicated sampling equipment will consist of the following:

- Gently tap or scrape to remove adhered soil
- Rinse with tap water
- Wash with alconox® detergent solution and scrub
- Rinse with tap water

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- Rinse with distilled or deionized water

Prepare field blanks by pouring distilled or deionized water over decontaminated equipment and collecting the water in laboratory provided containers. Trip blanks will be used whenever samples are transported to the laboratory for analysis of VOCs. Trip blanks will not be used for samples to be analyzed for metals, SVOCs or pesticides. One blind duplicate sample will be prepared and submitted for analysis every 20 samples.

Import and Reuse of Soils

Import of soils onto the property and reuse of soils already on-Site will be performed in conformance with the Soil/Materials Management Plan in Attachment D. The estimated quantity of soil to be imported into the Site for backfill and cover soil is approximately 750 tons. The estimated quantity of on-Site soil/fill expected to be reused/relocated on Site is 0 tons.

4.3 Engineering Controls

The excavation required for the proposed Site development will achieve Track 4 Site Specific SCOs. Engineering Controls are required in the remedial action to address residual contamination remaining at the Site. The Site has two primary Engineering Control Systems: composite cover system and vapor barrier system.

Composite Cover System

Exposure to residual soil/fill will be prevented by an engineered, composite cover system to be built on the Site. This composite cover system is comprised of the 6 inch thick concrete slab.

The composite cover system will serve as a permanent engineering control for the Site. The system will be inspected and reported at specified intervals as required by this RAWP and the SMP. A Soil Management Plan will be included in the Site Management Plan and will outline the procedures to be followed in the event that the composite cover system and underlying residual soil/fill is disturbed after the remedial action is complete. Maintenance of this composite cover system will be described in the Site Management Plan in the RAR. Figure 5 shows the location of the composite cover system.

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Vapor Barrier

Migration of potential soil vapor from on-Site or off-Site in the future will be mitigated with a vapor barrier. The vapor barrier will consist of Raven Industries' VaporBlock 20 Plus, which is a seven layer co-extruded barrier made from state-of-the-art polyethylene and EVOH resins. The vapor barrier will be installed prior to pouring the building's concrete slab. The vapor barrier will extend throughout the area occupied by the footprint of the new buildings and up the foundation sidewalls in accordance with manufacturer specifications. The specifications for installation will be provided to the construction management company and the foundation contractor or installer of the liner. The specifications state that all vapor barrier seam, penetrations, and repairs will be sealed either by the tape method or weld method, according to the manufacturer's recommendations and instructions.

The project's Professional Engineer licensed by the State of New York will have primary direct responsibility for overseeing the implementation of the vapor barrier. The extent of the proposed vapor barrier membrane is provided in Figure 7. Product specification sheets are provided in Attachment F.

The Remedial Action Report will include photographs (maximum of two photos per page) of the installation process, PE/RA certified letter (on company letterhead) from primary contractor responsible for installation oversight and field inspections, and a copy of the manufacturers certificate of warranty.

4.4 Institutional Controls

Institutional Controls (IC) have been incorporated in this remedial action to manage residual soil/fill and other media and render the Site protective of public health and the environment. Institutional Controls are listed below. Long-term employment of EC/ICs will be established in a site-specific Site Management Plan (SMP) that will be included in the RAR.

Institutional Controls for this remedial action are:

- The property will continue to be registered with a Restrictive Declaration at the NYC Buildings Department. This RAWP includes a description of all ECs and ICs and

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summarizes the requirements of the Site Management Plan which will note that the property owner and property owner's successors and assigns must comply with the approved SMP;

- Submittal of a Site Management Plan in the RAR for approval by OER that provides procedures for appropriate operation, maintenance, monitoring, inspection, reporting and certification of ECs. SMP will require that the property owner and property owner's successors and assigns will submit to OER a periodic written statement that certifies that: (1) controls employed at the Site are unchanged from the previous certification or that any changes to the controls were approved by OER; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. OER retains the right to enter the Site in order to evaluate the continued maintenance of any controls. This certification shall be submitted annually and will comply with RCNY §43-1407(l)(3);
- Vegetable gardens and farming on the Site are prohibited;
- Use of groundwater underlying the Site is prohibited without treatment rendering it safe for its intended use;
- All future activities on the Site that will disturb residual material must be conducted pursuant to the soil management provisions in an approved SMP; and
- The Site will be used for residential use and will not be used for a higher level of use without prior approval by OER.

4.5 Site Management Plan

Site Management is the last phase of remediation and begins with the approval of the Remedial Action Report and issuance of the Notice of Completion (NOC) for the Remedial Action. The Site Management Plan (SMP) describes appropriate methods and procedures to ensure implementation of all ECs and ICs that are required by this RAWP. The Site Management Plan is submitted as part of the RAR but will be written in a manner that allows its use as an independent document. Site Management continues until terminated in writing by OER. The property owner is responsible to ensure that all Site Management responsibilities defined in this RAWP and the Site Management Plan are implemented.

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The SMP will provide a detailed description of the procedures required to manage residual soil/fill left in place following completion of the remedial action in accordance with the Voluntary Cleanup Agreement with OER. This includes a plan for: (1) implementation of EC's and ICs; (2) operation and maintenance of EC's; (3) inspection and certification of IC's and EC's.

Site management activities, reporting, and EC/IC certification will be scheduled on a periodic basis to be established in the SMP and will be subject to review and modification by OER. The Site Management Plan will be based on a calendar year and certification reports will be due for submission to OER by July 30 of the year following the reporting period.

4.6 Qualitative Human Health Exposure Assessment

Investigations reported in the Remedial Investigation Report (RIR) are sufficient to complete a Qualitative Human Health Exposure Assessment (QHHEA).

The objective of the qualitative exposure assessment is to identify potential receptors to the contaminants of concern (COC) that are present at, or migrating from, the Site. The identification of exposure pathways describes the route that the COC takes to travel from the source to the receptor. An identified pathway indicates that the potential for exposure exists; it does not imply that exposures actually occur.

Investigations reported in the Remedial Investigation Report (RIR) are sufficient to complete a Qualitative Human Health Exposure Assessment (QHHEA). As part of the VCP process, a QHHEA was performed to determine whether the Site poses an existing or future health hazard to the Site's exposed or potentially exposed population. The sampling data from the RI were evaluated to determine whether there is any health risk by characterizing the exposure setting, identifying exposure pathways, and evaluating contaminant fate and transport. This EA was prepared in accordance with Appendix 3B and Section 3.3 (b) 8 of the NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation.

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Known and Potential Sources

Based on the results of the Remedial Investigation Report the contaminants of concern found are:

Soil

- SVOCs exceeding Restricted Residential Use SCOs.
- Metals, including arsenic, barium, lead and mercury exceeding Restricted Residential Use SCOs.

Groundwater

- VOCs, including isopropylbenzene, methyl t-butyl either, naphthalene, n-butylbenzene, n-propylbenzene and sec-butylbenzene;
- SVOCs (PAH compounds) including benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene and indeno(1,2,3-cd)pyrene identified above GQS; and
- Metals, including iron, manganese, and sodium were detected above GQS in the filtered groundwater samples.

Soil Vapor

- Petroleum VOCs detected at low concentrations including benzene, toluene, ethyl-benzene and xylenes; and
- CVOCs trichloroethylene, tetrachloroethylene and carbon tetrachloride detected at low concentrations.

Nature, Extent, Fate and Transport of Contaminants

Metals and SVOCs are present in the historic fill material and soil to depths of at least 6 feet below grade. Five metal hotspots were identified across the site extending to depths as great as 6 ft with the metal arsenic, barium, mercury, lead exceeding the Restricted Residential Use SCO. No chlorinated or petroleum-related VOCs were detected in on-Site soil above Unrestricted Use SCOs, and no chlorinated VOCs were detected above GQS in groundwater.

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Potential Routes of Exposure

The five elements of an exposure pathway are: (1) a contaminant source; (2) contaminant release and transport mechanisms; (3) a point of exposure; (4) a route of exposure; and (5) a receptor population. An exposure pathway is considered 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 cannot be documented. An exposure pathway may be eliminated from further evaluation when any one of the five elements comprising an exposure pathway has not existed in the past, does not exist in the present, and will never exist in the future. Three potential primary routes exist by which chemicals can enter the body:

- Ingestion of fill/soil;
- Inhalation of vapors and particulates; and
- Dermal contact with water, fill, soil, or building materials.

Points of Human Health Exposure

Current Conditions: A potential for exposure to surficial historic fill exists under current conditions in the area of the rear yard which is uncapped. The Site is served by public water supply and groundwater use for potable supply is prohibited, groundwater is not used at the Site and there is no potential for exposure. The potential for accumulation of soil vapor into the building exists.

Construction/Remediation Activities: Once redevelopment activities begin, construction workers will come into direct contact with surface and subsurface soils, as a result of on-Site construction and excavation activities. On-Site construction workers potentially could ingest, inhale, or have dermal contact with any exposed impacted soil, and fill. Similarly, off-Site receptors could be exposed to dust and vapors from on-Site activities. During remedial action, on-Site and off-Site exposures to contaminated dust from on-Site will be addressed through the implementation of the Soil/Materials Management Plan, stormwater pollution prevention, dust controls, and through the implementation of the Community Air-Monitoring Program and a Construction Health and Safety Plan.

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Proposed Future Conditions: Under future remediated conditions, all soils in excess of Track 4 Site-Specific SCOs will be removed. The Site will be fully capped, limiting potential direct exposure to soil and groundwater remaining in place, and a vapor barrier system will prevent any exposure to potential off-Site soil vapors in the future. The Site is served by a public water supply, and groundwater is not used at the Site for potable supply.

Receptor Populations

On-Site Receptors - The property is currently vacant, and potential receptors are limited to Site representatives, visitors, and trespassers. During redevelopment of the Site, the on-Site potential receptors will include construction workers, site representatives, and visitors. Once the Site is redeveloped, the on-Site potential sensitive receptors will include adult and child building residents and visitors.

Off-Site Receptors - Potential off-Site receptors within a 0.25-mile radius of the Site include: adult and child residents, and commercial and construction workers, pedestrians, trespassers, and cyclists, based on the following:

1. Commercial Businesses (up to 0.25 mile) - existing and future
2. Residential Buildings (up to 0.25 mile) - existing and future
3. Building Construction/Renovation (up to 0.25 mile) - existing and future
4. pedestrians, Trespassers, Cyclists (up to 0.25 mile) - existing and future
5. Schools (up to 0.25 mile) - existing and future

Overall Human Health Exposure Assessment

There are potential complete exposure pathways for the current Site condition. Under current conditions, on-Site exposure pathways exist for Site personnel and trespassers. There is a potential complete, exposure pathway that requires mitigation during implementation of the remedy. During remedial construction, on-Site and off-Site exposures to contaminated dust from historic fill material will be addressed through dust controls, and through the implementation of the Community Air Monitoring Program, the Soil/Materials Management Plan, and a Construction Health and Safety Plan. There is no complete exposure pathway under future

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conditions after the Site is developed. After the remedial action is complete, there will be no remaining exposure pathways to on-Site soil/fill, as soil above Track 4 Site Specific SCOs will have been removed and a vapor barrier system will have been installed as part of development. The vapor barrier system will prevent potential vapor intrusion. The composite cover system and use restrictions will prevent contact with residual soil or groundwater and continued protection after the remedial action will be achieved by the implementation of site management including periodic inspection and certification of the performance of remedial controls. Potential post-construction use of groundwater is not considered an option because groundwater in this area of New York City is not used as a potable water source. There are no surface waters in close proximity to the Site that could be impacted or threatened. This assessment takes into consideration the reasonably anticipated use of the Site, which includes a residential structure, site-wide impervious surface cover cap, and a vapor barrier for the building.

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5.0 REMEDIAL ACTION MANAGEMENT

5.1 Project Organization and Oversight

Principal personnel who will participate in the remedial action include Kimberly Somers, Project Manager-EBC and Kevin Waters, Field Operations Officer-EBC. The Professional Engineer (PE) and Qualified Environmental Professionals (QEP) for this project are Ariel Czemerinski P.E., AMC Engineering and Charles Sosik P.G., EBC.

5.2 Site Security

Site access will be controlled by a chain link or wooden construction fence, which will surround the property.

5.3 Work Hours

The hours for operation of remedial construction will be from 7:00AM to 6:00PM. These hours conform to the New York City Department of Buildings construction code requirements.

5.4 Construction Health and Safety Plan

The Health and Safety Plan is included in Appendix E. The Site Safety Coordinator will be Kevin Waters - EBC. Remedial work performed under this RAWP will be in full compliance with applicable health and safety laws and regulations, including Site and OSHA worker safety requirements and HAZWOPER requirements. Confined space entry, if any, will comply with OSHA requirements and industry standards and will address potential risks. The parties performing the remedial construction work will ensure that performance of work is in compliance with the HASP and applicable laws and regulations. The HASP pertains to remedial and invasive work performed at the Site until the issuance of the Notice of Completion.

All field personnel involved in remedial activities will participate in training required under 29 CFR 1910.120, including 40-hour hazardous waste operator training and annual 8-hour refresher training. Site Safety Officer will be responsible for maintaining workers training records.

Personnel entering any exclusion zone will be trained in the provisions of the HASP and be required to sign an HASP acknowledgment. Site-specific training will be provided to field

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personnel. Additional safety training may be added depending on the tasks performed. Emergency telephone numbers will be posted at the site location before any remedial work begins. A safety meeting will be conducted before each shift begins. Topics to be discussed include task hazards and protective measures (physical, chemical, environmental); emergency procedures; PPE levels and other relevant safety topics. Meetings will be documented in a log book or specific form.

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

5.5 Community Air Monitoring Plan

Real-time air monitoring for volatile organic compounds (VOCs) and particulate levels at the perimeter of the exclusion zone or work area will be performed. Continuous monitoring will be performed for all ground intrusive activities and during the handling of contaminated or potentially contaminated media. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pit excavation or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be performed 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, for instance, will 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. Depending upon the proximity of potentially exposed individuals, continuous monitoring may be performed 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. Exceedances of action levels observed during performance of the Community Air Monitoring Plan (CAMP) will be reported to the OER Project Manager and included in the Daily Report.

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VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis during invasive work. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.
- 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 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.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shutdown.

All 15-minute readings must be recorded and be available for OER personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate

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monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- 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 will be employed. Work will 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.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work will 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.

All readings will be recorded and be available for OER personnel to review.

5.6 Agency Approvals

All permits or government approvals required for remedial construction have been or will be obtained prior to the start of remedial construction. Approval of this RAWP by OER does not constitute satisfaction of these requirements and will not be a substitute for any required permit.

5.7 Site Preparation

Pre-Construction Meeting

OER will be invited to attend the pre-construction meeting at the Site with all parties involved in the remedial process prior to the start of remedial construction activities.

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Mobilization

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

Utility Marker Layouts, Easement Layouts

The presence of utilities and easements on the Site will be fully investigated prior to the performance of invasive work such as excavation or drilling under this plan by using, at a minimum, the One-Call System (811). Underground utilities may pose an electrocution, explosion, or other hazard during excavation or drilling activities. All invasive activities will be performed incompliance with applicable laws and regulations to assure safety. Utility companies and other responsible authorities will be contacted to locate and mark the locations, and a copy of the Markout Ticket will be retained by the contractor prior to the start of drilling, excavation or other invasive subsurface operations. Overhead utilities may also be present within the anticipated work zones. Electrical hazards associated with drilling in the vicinity of overhead utilities will be prevented by maintaining a safe distance between overhead power lines and drill rig masts.

Proper safety and protective measures pertaining to utilities and easements, and compliance with all laws and regulations will be employed during invasive and other work contemplated under this RAWP. The integrity and safety of on-Site and off-Site structures will be maintained during all invasive, excavation or other remedial activity performed under the RAWP.

Dewatering

Groundwater is present at approximately 9 feet below grade and excavation to a depth of approximately 7 feet is anticipated; therefore, dewatering of groundwater during construction will not be necessary. If dewatering is necessary, the water will be disposed into the New York City combined sanitary/storm sewer system. A permit to discharge will be obtained from the New York City Department of Environmental Protection (NYCDEP). As part of the permit to

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discharge, the location of discharge will be based on the Site-Specific requirements of the DEP. The need for pretreatment will be determined by DEP's requirements for the discharge permit. If pretreatment is required by the DEP, it will be performed in accordance with the requirements of the DEP.

Equipment and Material Staging

Equipment and materials will be stored and staged in a manner that complies with applicable laws and regulations. Staging locations will be reported to OER prior to the start of the remedial action.

Stabilized Construction Entrance

Steps will be taken to ensure that trucks departing the Site will not track soil, fill or debris off-Site. Such actions may include use of cleaned asphalt or concrete roads or use of stone or other aggregate-based egress paths between the truck inspection station and the property exit. Measures will be taken to ensure that adjacent roadways will be kept clean of project related soils, fill and debris.

Truck Inspection Station

An outbound-truck inspection station will be set up close to the Site exit. Before exiting the NYC VCP 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. 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.

Extreme Storm Preparedness and Response Contingency Plan

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

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extreme storm event, the enrollee 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; lose materials will be secured to prevent dislocation and blowing by wind or water; heavy equipment such as excavators and generators will be removed from holes, trenches and depressions on the property to high ground or removed from the property; an inventory of the property with photographs will be performed to establish conditions for the site and equipment prior to the event; stockpile covers for soil and fill will be secured by adding weights such as sandbags for added security and worn or ripped stockpile covers will be replaced with competent covers; stockpiled hazardous wastes will be removed from the property; stormwater management systems will be inspected and fortified, including, as necessary: clean and reposition silt fences, haybales; 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 OER at the completion of site inspection and after the site security is assessed. Site conditions will be compared to the inventory of site conditions and material performed prior to the storm event and significant differences will be noted. Damage from storm conditions that result in acute public safety threats, such as downed power lines or imminent collapse of buildings, structures or equipment will be reported to public safety authorities via appropriate means such as calling 911. Petroleum spills will be reported to NYS DEC within 2 hours of identification and consistent with State regulations. Emergency and spill conditions will also be reported to OER. 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

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stabilized and fortified. Dislocated materials will by collected and appropriately managed. Support of excavation structure will be inspected and fortified as necessary. Impacted stockpiles will be contained and damaged stockpile covers will be replaced. Storm-water control systems and structures will be inspected and maintained as necessary. If soil or fill materials are discharged off-Site to adjacent properties, property owners and OER will be notified and corrective measure plan designed to remove and clean dislocated material will be submitted to OER and implemented following approval by OER and granting of site access by the property owner. Impacted offsite areas may require characterization based on site conditions, at the discretion of OER. If on-Site petroleum spills are identified, a qualified environmental professional will determine the nature and extent of the spill and report to NYS DEC's spill hotline at DEC 800-457-7362. If the source of the spill is ongoing and can be identified, it should be stopped it this can be done safely. Potential hazards will be addressed immediately, consistent with guidance issued by NYS DEC.

Storm Response Reporting

A site inspection report will be submitted to OER at the completion of site inspection. An inspection report established by OER is available on OER's website (www.nyc.gov/oer) and will be used for this purpose. Site conditions will be compared to the inventory of site conditions and material performed prior to the storm event and significant differences will be noted. The site inspection report will be sent to the OER project manager and will include the site name, address, tax block and lot, site primary and alternate contact name and phone number. Damage and soil release assessment will include: whether the project had stockpiles; whether stockpiles were damaged; photographs of damage and notice of plan for repair; report of whether soil from the site was dislocated and whether any of the soil left the Site; estimates of the volume of soil that left the site, nature of impact, and photographs; description of erosion damage; description of equipment damage; description of damage to the remedial program or the construction program, such as damage to the support of excavation; presence of onsite or offsite exposure pathways caused by the storm; presence of petroleum or other spills and status of spill reporting to NYS DEC; description of corrective actions; schedule for corrective actions. This report should be completed and submitted to OER project manager with photographs within 24 hours of

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the time of safe entry to the property after the storm event.

5.8 Traffic Control

Drivers of trucks leaving the NYC VCP Site with soil/fill will be instructed to proceed without stopping in the vicinity of the Site to prevent neighborhood impacts. The planned route is shown on Figure 8.

5.9 Demobilization

Demobilization will include:

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

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

5.10 Reporting and Record Keeping

Daily Reports

Daily reports providing a general summary of activities for each day of *active remedial work* will be emailed to the OER Project Manager by the end of the following day. Those reports will include:

- Project number and statement of the activities and an update of progress made and locations of work performed;
- Quantities of material imported and exported from the Site;
- Status of on-Site soil/fill stockpiles;

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- A summary of all citizen complaints, with relevant details (basis of complaint; actions taken; etc.);
- A summary of CAMP excursions, if any;
- Photograph of notable Site conditions and activities.

The frequency of the reporting period may be revised in consultation with OER project manager based on planned project tasks. Daily email reports are not intended to be the primary mode of communication for notification to OER of emergencies (accidents, spills), requests for changes to the RAWP or other sensitive or time critical information. However, such information will be included in the daily reports. Emergency conditions and changes to the RAWP will be communicated directly to the OER project manager by personal communication. Daily reports will be included as an Appendix in the Remedial Action Report.

Record Keeping and Photo-Documentation

Job-site record keeping for all remedial work will be performed. These records will be maintained on-Site during the project and will be available for inspection by OER staff. Representative photographs will be taken of the Site prior to any remedial activities and during major remedial activities to illustrate remedial program elements and contaminant source areas. Photographs will be submitted at the completion of the project in the RAR in digital format (i.e. jpeg files).

5.11 Complaint Management

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

5.12 Deviations from the Remedial Action Work Plan

All changes to the RAWP will be reported to the OER Project Manager and will be documented in daily reports and reported in the Remedial Action Report. The process to be followed if there are any deviations from the RAWP will include a request for approval for the change from OER

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noting the following:

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

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6.0 REMEDIAL ACTION REPORT

A Remedial Action Report (RAR) will be submitted to OER following implementation of the remedial action defined in this RAWP. The RAR will document that the remedial work required under this RAWP has been completed and has been performed in compliance with this plan. The RAR will include:

- Information required by this RAWP;
- As-built drawings for all constructed remedial elements, required certifications, manifests and other written and photographic documentation of remedial work performed under this remedy;
- Site Management Plan;
- Description of any changes in the remedial action from the elements provided in this RAWP and associated design documents;
- Tabular summary of all end point sampling results and all material characterization results, QA/QC results for end-point sampling, and other sampling and chemical analysis performed as part of the remedial action and DUSR;
- Test results or other evidence demonstrating that remedial systems are functioning properly;
- Account of the source area locations and characteristics of all contaminated material removed from the Site including a map showing source areas;
- Account of the disposal destination of all contaminated material removed from the Site. Documentation associated with disposal of all material will include transportation and disposal records, and letters approving receipt of the material.
- Account of the origin and required chemical quality testing for material imported onto the Site.
- Continue registration of the property with a Restrictive Declaration by the NYC Department of Buildings.
- Reports and supporting material will be submitted in digital form.

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Remedial Action Report Certification

The following certification will appear in front of the Executive Summary of the Remedial Action Report. The certification will include the following statements:

I, [name], am currently a registered professional engineer licensed by the State of New York. I performed professional engineering services and had primary direct responsibility for implementation of the remedial program for the [site name (address)] site, site number [VCP site number]. I certify to the following:

- I have reviewed this document, to which my signature and seal are affixed.
- Engineering Controls implemented during this remedial action were designed by me or a person under my direct supervision and achieve the goals established in the Remedial Action Work Plan for this site.
- The Engineering Controls constructed during this remedial action were professionally observed by me or by a person under my direct supervision and (1) are consistent with the Engineering Control design established in the Remedial action Work Plan and (2) are accurately reflected in the text and drawings for as-built design reported in this Remedial Action Report.
- The OER-approved Remedial Action Work Plan dated [date] and Stipulations in a letter dated [date] were implemented and that all requirements in those documents have been substantively complied with. I certify that contaminated soil, fill, liquids or other material from the property were taken to facilities licensed to accept this material in full compliance with applicable laws and regulations.

Name

PE License Number

Signature

Date

PE Stamp

I, [name], am a Qualified Environmental Professional. I had primary direct responsibility for implementation of the remedial program for the [site name (address)] site, site number [VCP site number]. I certify to the following:

- The OER-approved Remedial Action Work Plan dated August 15, 2012 and Stipulations in a letter dated September 10, 2014 were implemented and that all requirements in those documents have been substantively complied with. I certify that contaminated soil, fill, liquids or other material from the property were taken to facilities licensed to accept this material in full compliance with applicable laws and regulations.

QEP Name

QEP Signature

Date

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7.0 SCHEDULE

The table below presents a schedule for the proposed remedial action and reporting. If the schedule for remediation and development activities changes, it will be updated and submitted to OER. Currently, a 2 month remediation period is anticipated.

Schedule Milestone	Weeks from Remedial Action Start	Duration (weeks)
OER Approval of RAWP	0	-
Fact Sheet 2 announcing start of remedy	0	-
Mobilization	1	1
Remedial Excavation	2	6
Demobilization	8	1
Submit Remedial Action Report	15	-

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TABLES

TABLE 1
Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water
		Residential	Restricted-Residential	Commercial	Industrial		
METALS							
Arsenic	7440-38 -2	16[f]	16[f]	16[f]	16[f]	13[f]	16[f]
Barium	7440-39 -3	350[f]	400	400	10,000 [d]	433	820
Beryllium	7440-41 -7	14	72	590	2,700	10	47
Cadmium	7440-43 -9	2.5[f]	4.3	9.3	60	4	7.5
Chromium, hexavalent [h]	18540-29-9	22	110	400	800	1[e]	19
Chromium, trivalent[h]	16065-83-1	36	180	1,500	6,800	41	NS
Copper	7440-50 -8	270	270	270	10,000 [d]	50	1,720
Total Cyanide [h]		27	27	27	10,000 [d]	NS	40
Lead	7439-92 -1	400	400	1,000	3,900	63[f]	450
Manganese	7439-96 -5	2,000[f]	2,000[f]	10,000 [d]	10,000 [d]	1600[f]	2,000[f]
Total Mercury		0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.18[f]	0.73
Nickel	7440-02 -0	140	310	310	10,000 [d]	30	130
Selenium	7782-49 -2	36	180	1,500	6,800	3.9[f]	4[f]
Silver	7440-22 -4	36	180	1,500	6,800	2	8.3
Zinc	7440-66 -6	2200	10,000 [d]	10,000 [d]	10,000 [d]	109[f]	2,480
PESTICIDES / PCBs							
2,4,5-TP Acid (Silvex)	93-72-1	58	100[a]	500[b]	1,000[c]	NS	3.8
4,4'-DDE	72-55-9	1.8	8.9	62	120	0.0033 [e]	17
4,4'-DDT	50-29-3	1.7	7.9	47	94	0.0033 [e]	136
4,4'-DDD	72-54-8	2.6	13	92	180	0.0033 [e]	14
Aldrin	309-00-2	0.019	0.097	0.68	1.4	0.14	0.19
alpha-BHC	319-84-6	0.097	0.48	3.4	6.8	0.04[g]	0.02
beta-BHC	319-85-7	0.072	0.36	3	14	0.6	0.09
Chlordane (alpha)	5103-71 -9	0.91	4.2	24	47	1.3	2.9
delta-BHC	319-86-8	100[a]	100[a]	500[b]	1,000[c]	0.04[g]	0.25
Dibenzofuran	132-64-9	14	59	350	1,000[c]	NS	210
Dieldrin	60-57-1	0.039	0.2	1.4	2.8	0.006	0.1
Endosulfan I	959-98-8	4.8[i]	24[i]	200[i]	920[i]	NS	102
Endosulfan II	33213-65-9	4.8[i]	24[i]	200[i]	920[i]	NS	102
Endosulfan sulfate	1031-07 -8	4.8[i]	24[i]	200[i]	920[i]	NS	1,000[c]
Endrin	72-20-8	2.2	11	89	410	0.014	0.06
Heptachlor	76-44-8	0.42	2.1	15	29	0.14	0.38
Lindane	58-89-9	0.28	1.3	9.2	23	6	0.1
Polychlorinated biphenyls	1336-36 -3	1	1	1	25	1	3.2
SEMI-VOLATILES							
Acenaphthene	83-32-9	100[a]	100[a]	500[b]	1,000[c]	20	98
Acenapthylene	208-96-8	100[a]	100[a]	500[b]	1,000[c]	NS	107
Anthracene	120-12-7	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Benz(a)anthracene	56-55-3	1[f]	1[f]	5.6	11	NS	1[f]
Benzo(a)pyrene	50-32-8	1[f]	1[f]	1[f]	1.1	2.6	22
Benzo(b) fluoranthene	205-99-2	1[f]	1[f]	5.6	11	NS	1.7
Benzo(g,h,i) perylene	191-24-2	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Benzo(k) fluoranthene	207-08-9	1	3.9	56	110	NS	1.7
Chrysene	218-01-9	1[f]	3.9	56	110	NS	1[f]
Dibenz(a,h) anthracene	53-70-3	0.33[e]	0.33[e]	0.56	1.1	NS	1,000[c]
Fluoranthene	206-44-0	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Fluorene	86-73-7	100[a]	100[a]	500[b]	1,000[c]	30	386
Indeno(1,2,3-cd) pyrene	193-39-5	0.5[f]	0.5[f]	5.6	11	NS	8.2
m-Cresol	108-39-4	100[a]	100[a]	500[b]	1,000[c]	NS	0.33[e]
Naphthalene	91-20-3	100[a]	100[a]	500[b]	1,000[c]	NS	12
o-Cresol	95-48-7	100[a]	100[a]	500[b]	1,000[c]	NS	0.33[e]
p-Cresol	106-44-5	34	100[a]	500[b]	1,000[c]	NS	0.33[e]
Pentachlorophenol	87-86-5	2.4	6.7	6.7	55	0.8[e]	0.8[e]
Phenanthrene	85-01-8	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Phenol	108-95-2	100[a]	100[a]	500[b]	1,000[c]	30	0.33[e]
Pyrene	129-00-0	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]

TABLE 1
Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water
		Residential	Restricted-Residential	Commercial	Industrial		
VOLATILES							
1,1,1-Trichloroethane	71-55-6	100[a]	100[a]	500[b]	1,000[c]	NS	0.68
1,1-Dichloroethane	75-34-3	19	26	240	480	NS	0.27
1,1-Dichloroethene	75-35-4	100[a]	100[a]	500[b]	1,000[c]	NS	0.33
1,2-Dichlorobenzene	95-50-1	100[a]	100[a]	500[b]	1,000[c]	NS	1.1
1,2-Dichloroethane	107-06-2	2.3	3.1	30	60	10	0.02[f]
cis-1,2-Dichloroethene	156-59-2	59	100[a]	500[b]	1,000[c]	NS	0.25
trans-1,2-Dichloroethene	156-60-5	100[a]	100[a]	500[b]	1,000[c]	NS	0.19
1,3-Dichlorobenzene	541-73-1	17	49	280	560	NS	2.4
1,4-Dichlorobenzene	106-46-7	9.8	13	130	250	20	1.8
1,4-Dioxane	123-91-1	9.8	13	130	250	0.1[e]	0.1[e]
Acetone	67-64-1	100[a]	100[b]	500[b]	1,000[c]	2.2	0.05
Benzene	71-43-2	2.9	4.8	44	89	70	0.06
Butylbenzene	104-51-8	100[a]	100[a]	500[b]	1,000[c]	NS	12
Carbon tetrachloride	56-23-5	1.4	2.4	22	44	NS	0.76
Chlorobenzene	108-90-7	100[a]	100[a]	500[b]	1,000[c]	40	1.1
Chloroform	67-66-3	10	49	350	700	12	0.37
Ethylbenzene	100-41-4	30	41	390	780	NS	1
Hexachlorobenzene	118-74-1	0.33[e]	1.2	6	12	NS	3.2
Methyl ethyl ketone	78-93-3	100[a]	100[a]	500[b]	1,000[c]	100[a]	0.12
Methyl tert-butyl ether	1634-04 -4	62	100[a]	500[b]	1,000[c]	NS	0.93
Methylene chloride	75-09-2	51	100[a]	500[b]	1,000[c]	12	0.05
n-Propylbenzene	103-65-1	100[a]	100[a]	500[b]	1,000[c]	NS	3.9
sec-Butylbenzene	135-98-8	100[a]	100[a]	500[b]	1,000[c]	NS	11
tert-Butylbenzene	98-06-6	100[a]	100[a]	500[b]	1,000[c]	NS	5.9
Tetrachloroethene	127-18-4	5.5	19	150	300	2	1.3
Toluene	108-88-3	100[a]	100[a]	500[b]	1,000[c]	36	0.7
Trichloroethene	79-01-6	10	21	200	400	2	0.47
1,2,4-Trimethylbenzene	95-63-6	47	52	190	380	NS	3.6
1,3,5-Trimethylbenzene	108-67-8	47	52	190	380	NS	8.4
Vinyl chloride	75-01-4	0.21	0.9	13	27	NS	0.02
Xylene (mixed)	1330-20 -7	100[a]	100[a]	500[b]	1,000[c]	0.26	1.6

All soil cleanup objectives (SCOs) are in parts per million (ppm). NS=Not specified. See Technical Support Document (TSD). Footnotes

a The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.

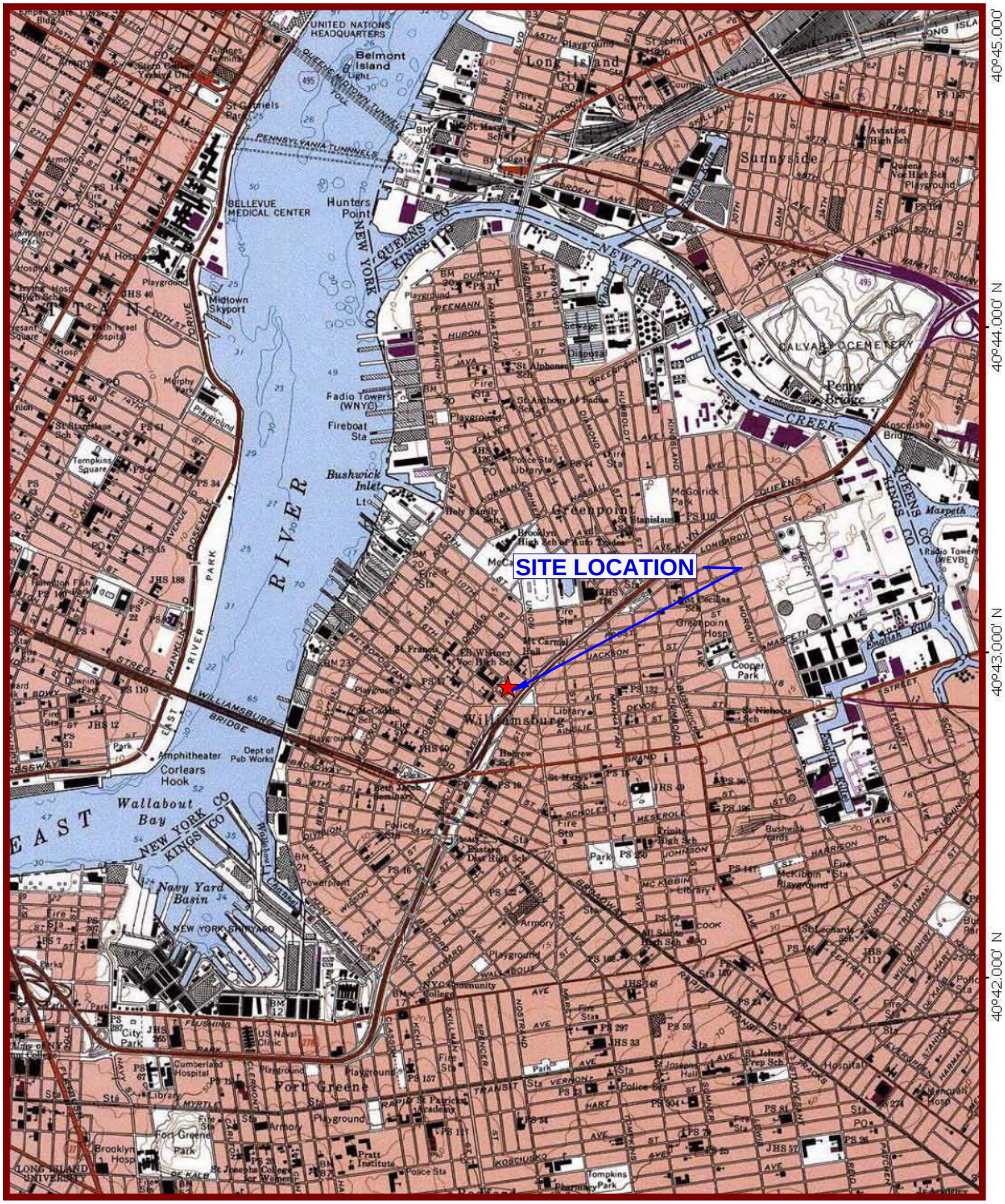
b The SCOs for commercial use were capped at a maximum value of 500 ppm. See TSD section 9.3.

c The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See TSD section 9.3.

d The SCOs for metals were capped at a maximum value of 10,000 ppm. See TSD section 9.3.

e For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the SCO value.

FIGURES



USGS Brooklyn Quadrangle 1995, Contour Interval = 10 feet

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BLOCK 2331 LOT 9

FIGURE 1 SITE LOCATION MAP

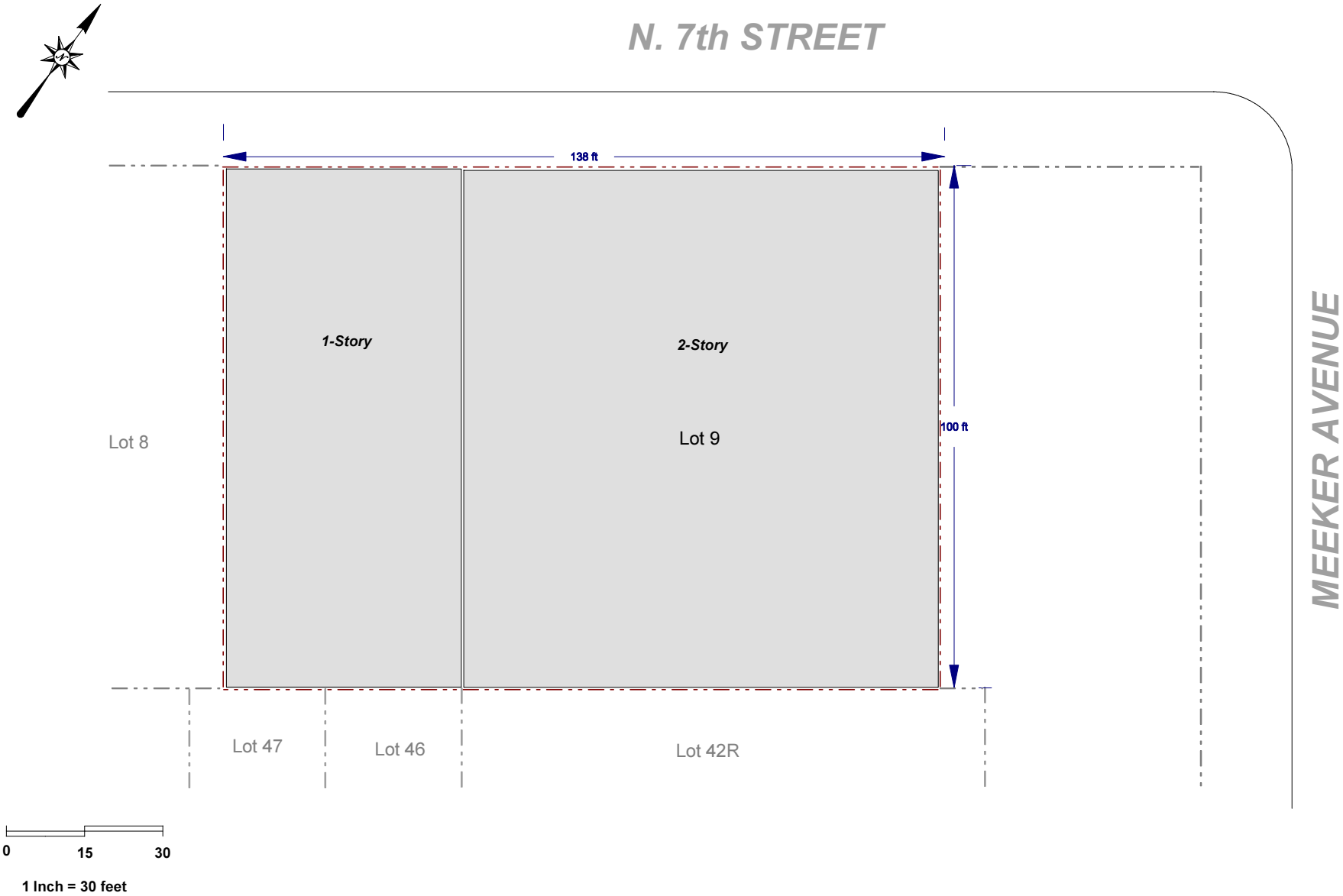

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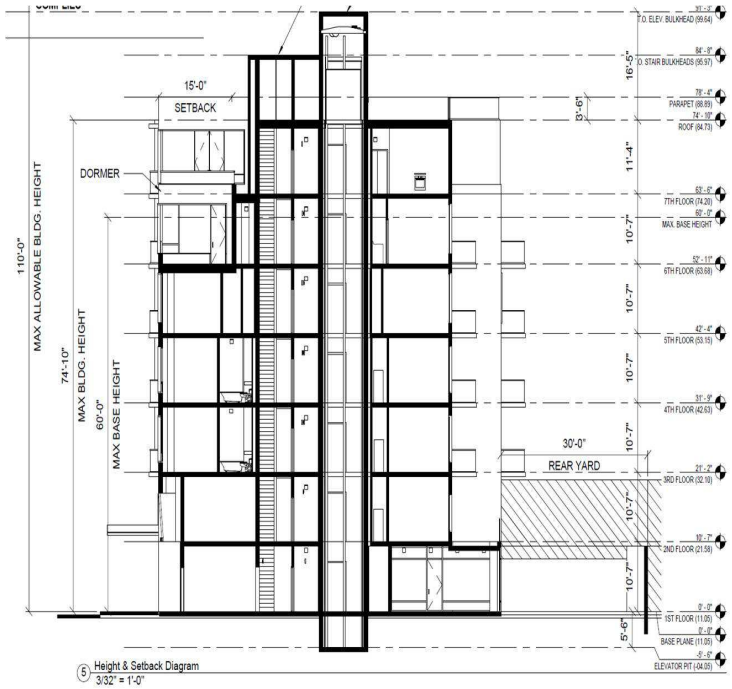
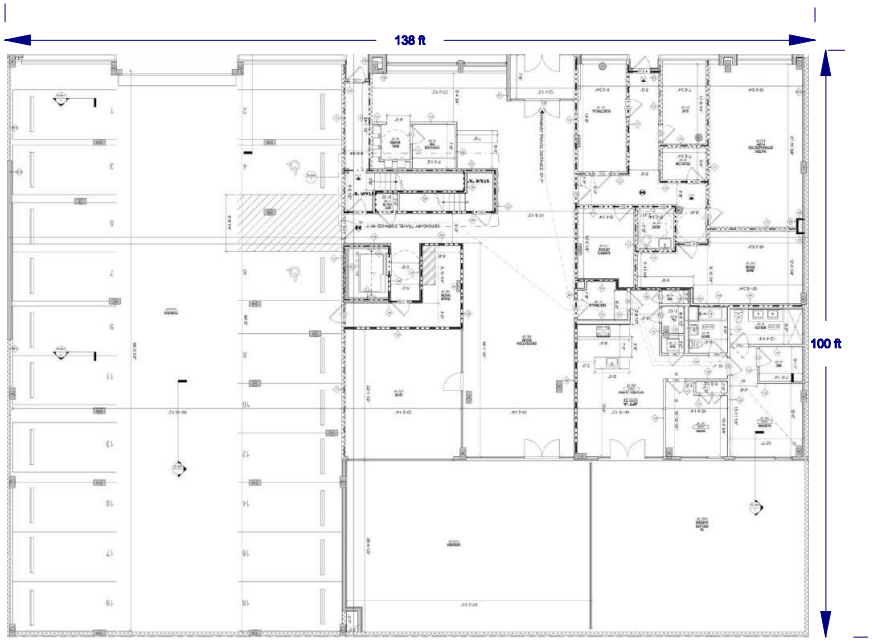
FIGURE 2

Site Address: 310 N. 7th Street, Brooklyn, NY

Drawing Title: Site Plan



SIDE ELEVATION



FIRST FLOOR PLAN

0 15 30

1 Inch = 30 feet

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FIGURE 3

SITE ADDRESS: 310 N. 7TH STREET, BROOKLYN, NY

DRAWING TITLE: REDEVELOPMENT PLAN

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FIGURE 4

SITE ADDRESS: 310 N. 7TH STREET, BROOKLYN, NY

DRAWING TITLE: SURROUNDING LAND USE

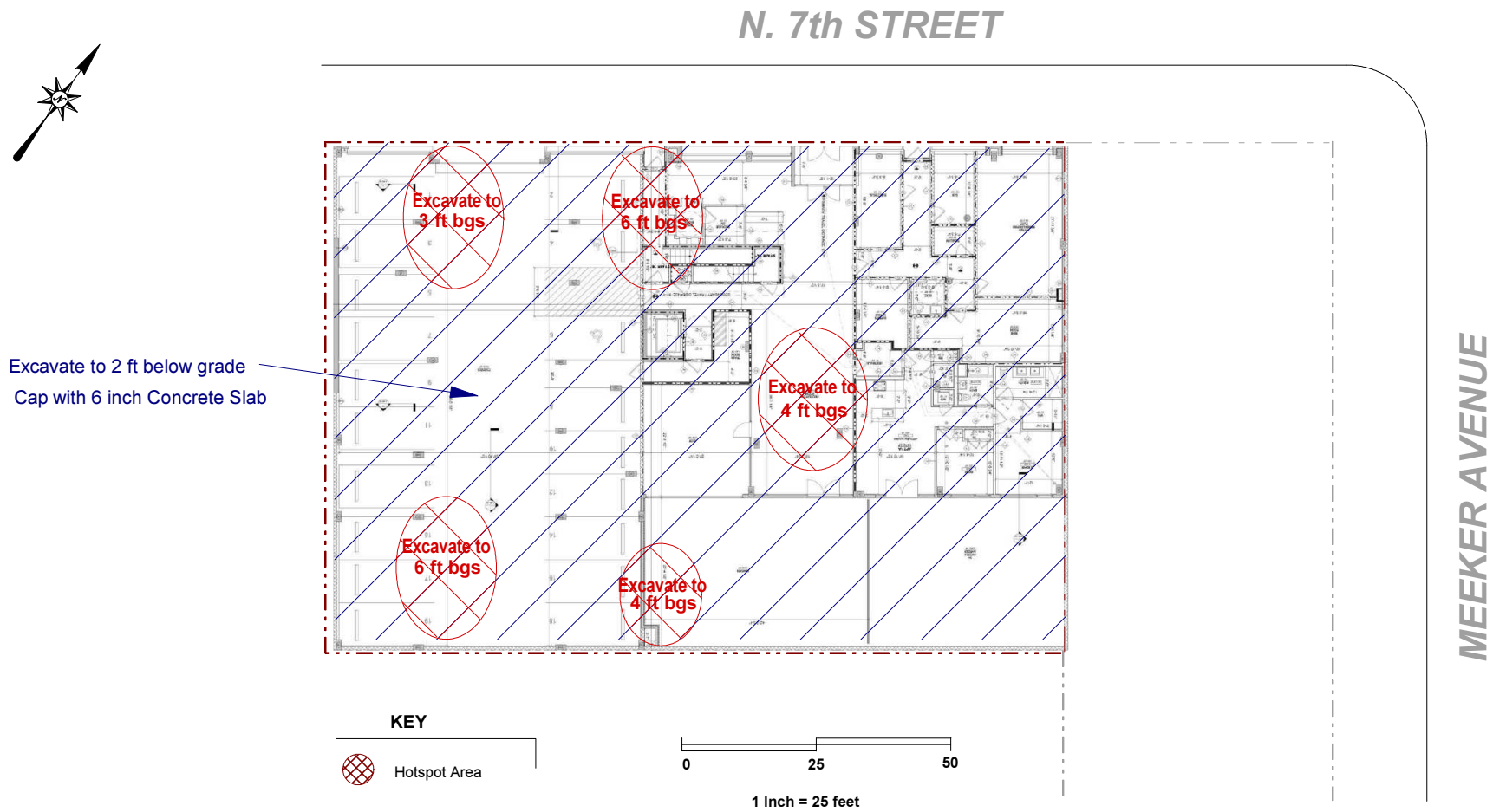

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Figure No. 5

Site Name:	REDEVELOPMENT PROJECT
Site Address:	310 N. 7TH STREET, BROOKLYN, NY
Drawing Title:	EXCAVATION AND CAPPING PLAN

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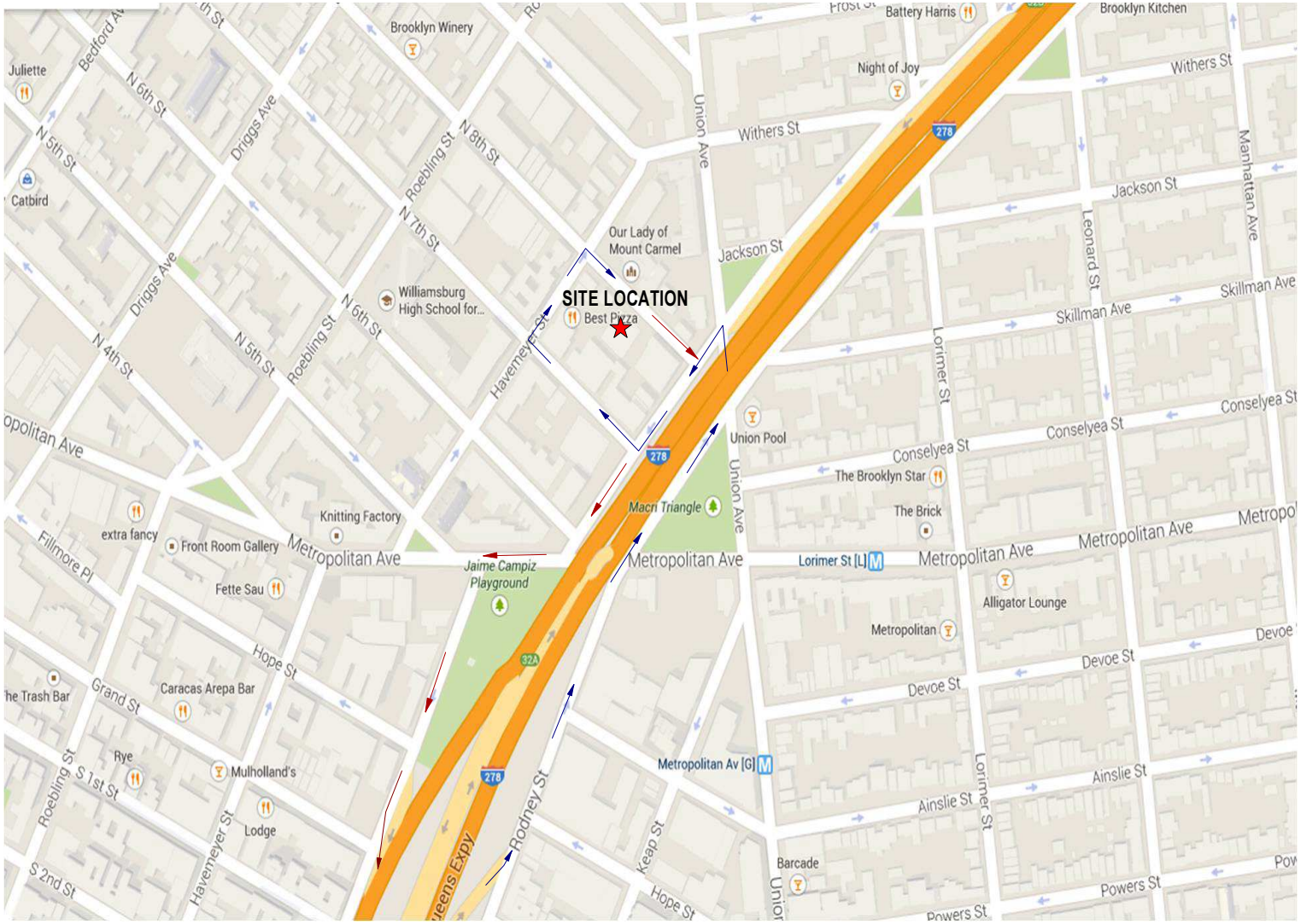
Figure No. 7

Site Name:	REDEVELOPMENT PROJECT
Site Address:	310 N. 7TH STREET, BROOKLYN, NY
Drawing Title:	EXCAVATION AND CAPPING PLAN



Key

Truck Route to the Site

Truck Route from the Site

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Figure No. 8

Site Name: Redevelopment Project

Site Address: 304-310 N 7th Street, Brooklyn, NY

Drawing Title: Truck Route Map

ATTACHMENT A
Redevelopment Plans

SHEET #	ARCHITECTURAL
T-000.00	COVER
Z-100.00	ZONING ANALYSIS
G-100.00	BUILDING CODE ANALYSIS, GENERAL NOTES & ADA COMPLIANCE
G-200.00	SURVEY
G-300.00	AREA DEDUCTIONS
G-301.00	AREA DEDUCTIONS
EN-100.00	ENERGY ANALYSIS
A-010.00	SITE PLAN
A-101.00	1ST FLOOR PLAN
A-102.00	2ND FLOOR PLAN
A-103.00	3RD FLOOR PLAN
A-107.00	7TH FLOOR PLAN
A-105.00	5TH FLOOR PLAN
A-106.00	6TH FLOOR PLAN
A-201.00	1ST FLOOR RCP
A-202.00	2ND FLOOR RCP
A-203.00	3RD FLOOR RCP
A-204.00	4TH FLOOR RCP
A-205.00	5TH FLOOR RCP
A-206.00	6TH FLOOR RCP
A-207.00	7TH FLOOR RCP
A-208.00	ROOF RCP
A-300.00	NORTH ELEVATION
A-301.00	SOUTH ELEVATION
A-302.00	EAST ELEVATION
A-310.00	LONGITUDINAL SECTION
A-311.00	TRANSVERSE BUILDING SECTION
A-400.00	WALL SECTIONS
A-401.00	WALL SECTIONS
A-600.00	STAIR PLANS & SECTIONS
A-610.00	STAIR PLANS, SECTIONS & DETAILS
A-800.00	PARTITION TYPES
A-810.00	DOOR SCHEDULE,DOOR HEAD & JAMB DETAILS, DOOR SADDLE DETAILS
A-820.00	WINDOW SCHEDULE & DETAILS

2 COVER IMAGE

D.O.B. NOTES:

- THIS BUILDING CONTAINS A FIRE ALARM SYSTEM FILED UNDER A SEPARATE APPLICATION # - - - - - - - - -.
- ELEVATOR TO BE FILED UNDER A SEPARATE APPLICATION.
- THIS BUILDING IS NOT WITHIN 90' OF A HISTORIC / LANDMARK BUILDING OR DISTRICT

PROGRESS SET: 12/9/2014 8:13:22 PM

Project

308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO ASSOCIATES INC
1 PENNSYLVANIA PLAZA
NEW YORK, NY 10023

MEP ENGINEER:
A & E ENGINEERING PLLC
308 N 7TH STREET
BROOKLYN, NY 11211

CODE CONSULTANT:

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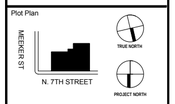
Issuance Schedule

No.	Date	Description
	12/09/13	ISSUED FOR DOB FILING

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

Drawing Title
COVER

Sign & Seal

Drawing No.
T-000.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/16" = 1'-0"	Checker	1 OF 22

DOB NUMBER

308 N 7th Street
ZONING ANALYSIS

ZONING MAP	13b
ZONING DISTRICT	M1-2 / R6
SPECIAL DISTRICT	MX-8
BLOCK	2331
LOTS	15 & 20
USE GROUPS	2,3,4,5,6
STREETS	MEEKER AVE (WIDE) NORTH 7TH (NARROW)

	LOT	LOT AREA
20 (AREA A)	8,403.47	SF
15 (AREA B)	5,149.53	SF
15 (AREA C)	8,734.00	SF
LOT AREA	22,287.00	SF
LOT AREA 100' OF WIDE ST (AREA A+AREA B)	13,553	SF
LOT 15 AREA BEYOND 100' OF WIDE ST (AREA C)	8,734	SF

FLOOR AREA

123-64 MIXED USE BUILDINGS
WHEN TWO OR MORE BUILDINGS ON A SINGLE ZONING LOT AREA USED IN ANY COMBINATION FOR USES WHICH, IF LOCATED IN A SINGLE BUILDING, WOULD MAKE IT A MIXED USE BUILDING, THE REGULATIONS SET FORTH IN THIS SECTION SHALL APPLY AS IF SUCH BUILDINGS WERE A SINGLE MIXED USE BUILDING.

(a)(4) MAX FA SHALL BE THE MAX PERMITTED FOR EITHER COMMERCIAL OR RESIDENTIAL, WHICHEVER IS THE GREATEST AMOUNT OF FA

RESIDENTIAL

123-61 RESIDENTIAL BUILDINGS SHALL CONFORM TO THE REQUIREMENTS OF ARTICLE 2 CHAPTER 3

123-63 INCLUSIONARY HOUSING DESIGNATED AREAS TO COMPLY WITH SECTION 23-952

123-64 MIXED USE BUILDINGS

(a)(3) RESIDENTIAL PER SECTION 123-63

23-952 R6 (WIDE ST) FAR 2.7
MAX FA **MAX FA 36,593.10** SF

R6 (NARROW ST) FAR 2.2
LOT 15 BEYOND 100' OF WIDE STREET 19,215 SF
TOTAL (NARROW ST) **MAX FA 19,217** SF

TOTAL ALLOWABLE FLOOR AREA 55,810 SF

77-22 FLOOR AREA RATIO
ADJUSTED FLOOR RATIO CAN BE USED FOR ENTIRE SITE OR MAXIMUM FAR FOR PORTION OF SITE

ADJUSTED FAR

	PERCENTAGE	FAR	ADJUSTED FAR
WIDE ST PERCENTAGE	61%	2.7	1.6
NARROW ST PERCENTAGE	39%	2.2	0.9
ADJUSTED TOTAL			2.50

TOTAL ALLOWABLE FLOOR AREA WIDE FAR 2.5	**33,937**	SF
TOTAL ALLOWABLE FLOOR AREA NARROW FAR 2.5	**21,870**	SF
TOTAL FLOOR AREA 15 & 20	**55,808**	**SF**

FAR	ALLOWED SF	PROPOSED SF	
2.7	36,593.10	23,650	**COMPLIES**
2.5	21,870	31,950	**COMPLIES**

COMMERCIAL

123-61 FAR SHALL BE AS SET FORTH IN ARTICLE 4 CHAPTER 3

123-64 MIXED USE BUILDINGS

(a)(1) COMMERCIAL PER SECTION 43-12

43-12 M1-2 FAR 2.0
MAX FA **44,574** SF
LOT 20: USE GROUP 6 EXISTING 8,403 **COMPLIES**

DENSITY

23-20
R6
RES. F.A. (Permitted) 55,808 SF
UNIT FACTOR 680
MAX PERMITTED DU'S 82
PROPOSED 37 **COMPLIES**

LOT COVERAGE

123-64 LOT COVERAGE REQUIREMENTS SHALL NOT APPLY

YARDS

FRONT & SIDE YARD

123-652 NOT REQUIRED- IF OPEN AREA IS PROVIDED THE MINIMUM WIDTH OF 8'-0"
NOT REQUIRED- IF OPEN AREA IS PROVIDED THE MINIMUM WIDTH OF 8'-0"

REAR YARD

123-652 FOR THE RESIDENTIAL PORTION, THE REAR YARD SHALL BE PROVIDED AT THE FLOOR LEVEL THE LOWEST STORY CONTAINING DWELLING UNITS

23-44(B)(5)(ii) HEIGHT OF BUILDING PORTION CONTAINING PARKING SHALL NOT EXCEED 14'-0" ABOVE BASE PLANE.
PROPOSED 10'-7" **COMPLIES**

23-47 REQUIRED 30'-0"
PROPOSED 30'-0" **COMPLIES**

23-541 NO REAR YARD REQUIRED WITHIN 100' OF STREET CORNERS

INNER COURT

23-851 MINIMUM AREA SHALL BE NO LESS THAN 1,200 SF WITH NO DIMENSIONS LESS THAN 30'-0"
PROPSED 1,547 SF **COMPLIES**

HEIGHT & SETBACK

123-662 THE HEIGHT AND SETBACK REGULATIONS OF SECTION 23-60 AND 43-40 SHALL NOT APPLY- IN LIEU THEREOF SECTION 123-662 SHALL APPLY

123-662 (a) THE HEIGHT OF THE BUILDING LOCATED WITHIN 10 FEET OF A WIDE STREET OR 15 FEET OF A NARROW STREET SHALL NOT EXCEED THE MAXIMUM HEIGHT SPECIFIED IN TABLE A

23-633 TBL. A MAX BASE HT MAX BUILDING HT
R6 60'-0" 110'-0"
PROVIDED HT PROVIDED
60'-0" **COMPLIES** 74'-10" **COMPLIES**

123-662 (3) REQUIRED SETBACK AREAS MAY BE PENETRATED BY DORMERS IN ACCORDANCE WITH PARAGRAPH (c) OF THIS SECTION

123-662 (c) THE AGGREGATE WIDTH OF ALL DORMERS AT THE MAXIMUM BASE HEIGHT DOES NOT EXCEED 60% OF THE LENGTH OF THE STREET WALL OF THE HIGHEST STORY ENTIRELY BELOW THE MAXIMUM BASE HEIGHT AT ANY LEVEL ABOVE THE MAXIMUM BASE HEIGHT, THE LENGTH OF THE STREET WALL OF A DORMER SHALL BE DECREASED BY ONE PERCENT FOR EVERY FOOT THAT SUCH LEVEL OF DORMER EXCEEDSS THE MAXIMUM BASE HEIGHT.
ALOLOWABLE DORMER WIDTH: 62'-10 3/8"
PROVIDED DORMER WIDTH: 53'-3 1/2" **COMPLIES**
SEE DORMER CALCULATION

PARKING

123-70 FOR SPECIAL MIXED USE DISTRICTS, THE PROVISONS OF SECTION 123-70 SHALL APPLY

RESIDENTIAL

123-72 RESIDENTIAL USES
THE ACCESSORY OFF-STREET PARKING AND LOADING REGULATIONS OF THE DESIGNATED RESIDENCE DISTRICT AS SET FORTH IN ARTICLE 2 CHAPTER 5 SHALL APPLY, EXCEPT

123-72 (a) THE PROVISIONS OF SECTION 25-50 SHALL NOT APPLY. IN LIEU THEREOF THE PROVISIONS OF SECTION 44-30 SHALL APPLY TO SUCH USES

123-72 (b) IN ADDITION TO THE APPLICABLE ACCESSORY OFF-STREET PARKING IN ARTICLE 2 CHAPTER 5, THE PROVISIONS OF SECTION 44-46, 44-47, AND 44-48 SHALL APPLY

25-02 THE REGULATIONS OF ARTICLE 2 CHAPTER 5 ON PERMITTED OR REQUIRED ACCESSORY OFF-STREET PARKING SPACES AND ACCESSORY BICYCLE PARKING SPACES SHALL APPLY TO RESIDENCES

25-025 R6- ALL ACCESSORY OFF-STREET PARKING SPACES SHALL COMPLY WITH THE PROVISIONS OF SECTION 26-50

25-11 ACCESSORY OFF-STREET PARKING SPACES MAY BE PROVIDED FOR ALL PERMITTED USES SUBJECT TO THE APPLICABLE PROVISIONS SET FORTH IN SECTION 44-12. SUCH SPACES SHALL BE OPEN OR ENCLOSED, BUT NOT LOCATED ON THE ROOF.

25-162 IN R6 OR R7 DISTRICTS FOR RESIDENCES CREATED PURSUANT TO THE QUALITY HOUSING PROGRAM, ACCESSORY OFF - STREET PARKING SPACES SHALL BE PROVIDED FOR AT LEAST 50 PERCENT OF THE TOTAL NUMBER OF SUCH RESIDENCES

25-23 R6 UNITS 50 % OF UNITS
37
REQUIRED SPACES: 19
PROVIDED SPACES: 19 **COMPLIES**

25-811 ENCLOSED BICYCLE PARKING SPACES
RESIDENTIAL
USE GROUP 2- 1 PER 2 DWELLING UNITS
PROVIDED 19 **COMPLIES**

25-83 15 SF OF AREA PER BIKE REQUIRED SF: 285
PROVIDED SF: 285 **COMPLIES**

STREET TREE PLANTING AND PLANTING STRIP REQUIREMENTS

26-41 STREET TREE PLANTING
1 STREET TREE SHALL BE PROVIDED FOR EVERY 25'-0" OF STREET FRONTAGE OF THE ZONING LOT
139 FT
FRONTAGE 6 TREES

QUALITY HOUSING

28-01 RESIDENTIAL DEVELOPMENTS ARE PERMITTED WHEN ELECTING TO USE OPTIONAL QUALITY HOUSING REGULATIONS IN ARTICLE II, CHAPTER 3, SHALL COMPLY WITH QUALITY HOUSING STANDARDS SET FORTH IN CHAPTER 28 **COMPLIES**

28-21 SIZE OF DWELLING UNITS
ALL UNITS ARE AT LEAST 400 SF **COMPLIES**

28-22 WINDOWS
ALL WINDOWS SHALL BE DOUBLE GLAZED **COMPLIES**

28-23 REFUSE STORAGE AND DISPOSAL
REFUSE ROOM AT EACH FLOOR MIN. 12SF
REFUSE ROOM PROPOSED AT EACH FLOOR 36SF **COMPLIES**
12 SF OF REFUSE ROOM SHALL BE EXCLUED FROM THE DEFINITION OF FLOOR AREA

28-24 LAUNDRY FACILITIES
PROVIDED IN UNIT **COMPLIES**
(1) WAHER/DRYER PER 40 DWELLING UNITS
PROVIDED IN UNIT **COMPLIES**

28-25 DAYLIGHT IN CORRIDORS
50% OF THE SQUARE FOOTAGE OF A CORRIDOR MAY BE EXCLUDED FROM THE FLOOR AREA IF A WINDOW WITH A CLEAR, NON-TINTED, GLAZED AREA OF AT LEAST 20 SF IS PROVIDED IN SUCH CORRIDOR PROVIDED THAT SUCH WINDOW: **COMPLIES**

(a) SHALL BE DIRECTLY VISIBLE FROM 50% OF THE CORRIDOR OR FROM THE VERTICAL CIRCULATION CORE **COMPLIES**

(b) IS LOCATED AT LEAST 20' FROM A WALL OR SIDE OR REAR LOT LINE
PROVIDED: 30'-0" **COMPLIES**

28-31 REQUIRED RECREATION SPACE
R6 3.30% 1,384 SF
PROVIDED: 706 SF: LOUNGE
430 SF: GYM
242 SF: ROOF
1,378 SF **COMPLIES**

28-41 DENSITY PER CORRIDOR
50% OF THE SQUARE FEET OF THE CORRIDOR SERVING SUCH DWELLING UNITS ON SUCH STORY MAY BE EXCLUDED FROM THE FLOOR AREA IF THE NUMBER OF DWELLING UNITS DOES NOT EXCEED:

R6 11 UNITS
PROVIDED: 8 UNITS **COMPLIES**

BASE PLANE CALCULATION:

N 7TH STREET

EAST ELEVATION = 11.72
WEST ELEVATION = 10.38

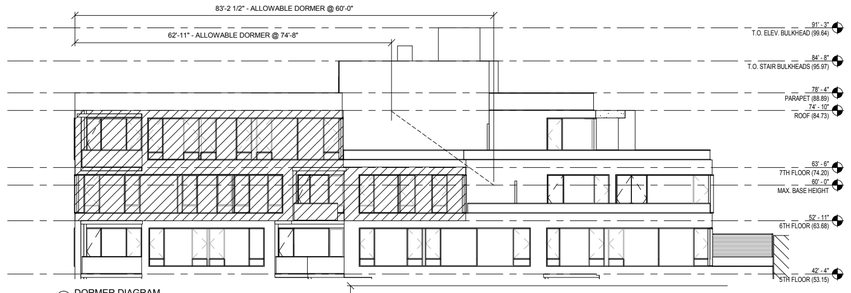
CALCULATION 11.72 + 10.38 = 22.1

22.1/2 = 11.05

BASE PLANE = 11.05

FLOOR AREA TABLE

FLOOR	LOT 20 EXIST. BUILDING	PROPOSED BLDG GROSS	PARKING CAR/BIKE	LOT 15 2.7 FAR GROSS	LOT 15 2.5 FAR GROSS	QH DEDUCT FAS 2.7	QH DEDUCT FAS 2.5	MECH DEDUCT FAR 2.7	MECH DEDUCT FAR 2.5	PROPOSED ZA 2.7 FAR	PROPOSED ZA 2.5 FAR	TOTAL PROPOSED ZA
1	6,582	11,134	6108	3,523	7,611	1081	7202	1122	3	1320	406	1,726 SF
2	-	5,812	-	2,699	3,113	191	436	65	228	2443	2449	4,892 SF
3	-	8,820	-	3,545	5,275	169	437	69	106	3307	4712	8,019 SF
4	-	8,824	-	3,545	5,279	169	433	69	125	3307	4721	8,028 SF
5	-	8,134	-	3,525	4,609	158	379	70	119	3297	4111	7,408 SF
6	-	7,462	-	3,593	3,869	154	346	133	85	3306	3438	6,744 SF
7	-	5,414	-	3,220	2,194	59	107	69	53	3093	2035	5,127 SF
TOTAL		**55,600**	**6,108**	**23,650**	**31,950**	**1,981**	**9,360**	**1,597**	**719**	**20,073**	**21,872**	**41,944 SF**



1 DORMER DIAGRAM
3/32" = 1'-0"

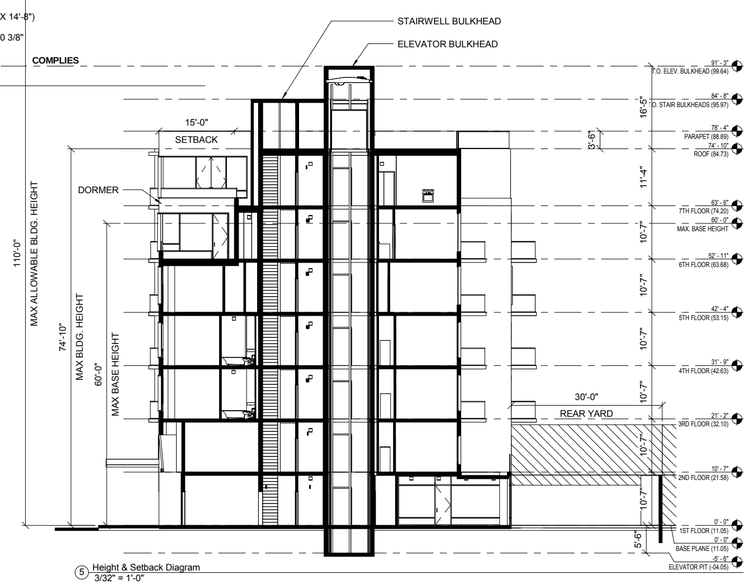
ALLOWABLE DORMER WIDTH: 60%(138'-8") - (1%(138'-8") X 14'-8")
83'-2 1/2" - (1'-4" X 14'-8")
83'-2 1/2" - 20'-4 1/8" = 62'-10 3/8"

ALLOWABLE DORMER WIDTH: 53'-3 1/2" > 62'-10 3/8" **COMPLIES**

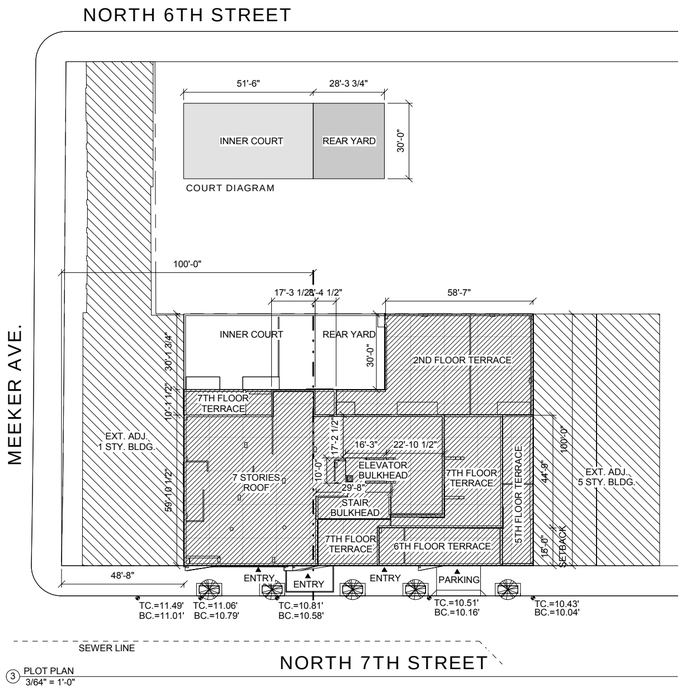
2 DORMER CALCULATION
1/16" = 1'-0"

LIGHT & AIR CALCULATIONS

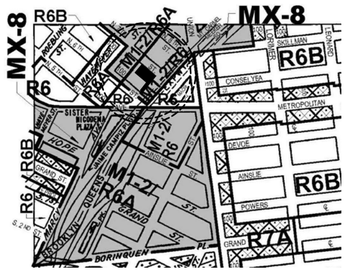
UNIT NO.	RM. NO.	RM. SF	REQ. LIGHT SF	PROPOSED LIGHT	REQ. AIR SF	PROPOSED AIR SF
1A	1A01	408	40.8	80.4	20.4	47.28
	1A02	185	18.5	57.65	9.25	16.96
	1A03	122	12.2	43.17	6.1	16.96
2A	2A01	386	38.6	71.06	19.3	57.13
	2A02	213	21.3	54.09	10.65	30.26
	2A03	145	14.5	41.26	7.25	15.13
2B/3B	2B01	383	38.3	71.06	19.15	57.13
	2B02	175	17.5	61.97	8.75	14.9
	2B03	143	14.3	60.41	7.15	14.9
	2B04	140	14	35.39	7	15.13
2C	2C01	419	41.9	67.5	20.95	30.26
	2C02	278	27.8	48.74	13.9	30.26
	2C03	126	12.6	45.84	6.3	30.26
2D	2D01	358	35.8	51.51	17.9	30.43
	2D02	139	13.9	38.51	6.95	15.13
2E	2E01	453	45.3	56.59	22.65	30.26
3A	3A01	386	38.6	80.32	19.3	39.9
	3A02	213	21.3	64.45	10.65	30.36
	3A03	144	14.4	49.88	7.2	14.9
3C	3C01	306	30.6	80.06	15.3	40.35
	3C02	192	19.2	56.24	9.6	29.8
	3C03	134	13.4	50.9	6.7	14.9
	3C04	129	12.9	43.97	6.45	14.9
3D	3D01	357	35.7	104.22	17.85	29.8
3E	3E01	273	27.3	85.37	13.65	41.29
	3E02	111	11.1	69.74	5.55	29.8
3F	3F01	413	41.3	74.23	20.65	37.9
	3F02	188	18.8	54.22	9.4	14.9
	3F03	129	12.9	47.38	6.45	14.9
	3F04	138	13.8	48.63	6.9	14.9
3G	3G01	359	35.9	67.58	17.95	39.9
	3G02	139	13.9	47.38	6.95	14.9
3H	3H01	423	42.3	77.83	21.15	39.9
	3H02	244	24.4	39.51	12.2	25
	3H03	135	13.5	67.22	6.75	29.8
	3H04	150	15	37.13	7.5	14.9
4A	4A01	386	38.6	80.32	19.3	39.9
	4A02	213	21.3	64.45	10.65	30.36
	4A03	144	14.4	49.88	7.2	14.9
4B	4B01	465	46.5	74.38	23.25	39.9
	4B02	202	20.2	56.04	10.1	29.8
	4B03	128	12.8	49.05	6.4	14.9
	4B04	146	14.6	44.97	7.3	14.9
4C	4C01	240	24	70.53	12	39.9
	4C02	134	13.4	56.04	6.7	29.8
4D	4D01	358	35.8	103.87	17.9	29.8
4E	4E01	270	27	84.52	13.5	39.9
	4E02	111	11.1	71.84	5.55	11.16
4F	4F01	460	46	168.04	23	69.7
	4F02	190	19	54.22	9.5	14.9
	4F03	129	12.9	47.38	6.45	14.9
	4F04	139	13.9	48.63	6.95	14.9
4G	4G01	356	35.6	67.58	17.8	39.9
	4G02	140	14	47.38	7	14.9
4H	4H01	422	42.2	77.83	21.1	39.9
	4H02	244	24.4	39.51	12.2	25
	4H03	137	13.7	67.22	6.85	29.8
	4H04	150	15	37.13	7.5	14.9
5A	5A01	410	41	278.2	20.5	104.13
	5A02	203	20.3	71.38	10.15	16.73
	5A03	151	15.1	63.92	7.55	16.73
	5A04	149	14.9	40.89	7.45	16.73
5B	5B01	390	39	256.16	19.5	104.22
	5B02	189	18.9	34.55	9.45	16.73
	5B03	114	11.4	81.03	5.7	34.48
5C	5C01	345	34.5	151.23	17.25	34.48
5D	5D01	329	32.9	100.95	16.45	43.73
	5D02	137	13.7	86.88	6.85	34.48
5E	5E01	381	38.1	176.05	19.05	73.93
	5E02	201	20.1	80.16	10.05	17.24
	5E03	140	14	81.95	7	34.48
5F	5F01	340	34	218.88	17	60.46
	5F02	154	15.4	53.18	7.7	16.73
	5F03	106	10.6	53.3	5.3	16.73
5G	5G01	409	40.9	86.92	20.45	43.73
	5G02	245	24.5	44.79	12.25	27.38
	5G03	140	14	73.86	7	33.46
	5G04	152	15.2	40.8	7.6	16.73
6A	6A01	392	39.2	144.52	19.6	33.46
6B	6B01	426	42.6	314.46	21.3	106.22
	6B02	175	17.5	91.31	8.75	43.73
	6B03	219	21.9	198.07	10.95	50.57
	6B04	141	14.1	69.12	7.05	17.24
6C	6C01	342	34.2	121.68	17.1	58.31
	6C02	190	19	177.97	9.5	60.11
6D	6D01	449	44.9	251.74	22.45	48.81
	6D02	196	19.6	63.87	9.8	32.54
	6D03	143	14.3	67.53	7.15	32.54
	6D04	102	10.2	51.87	5.1	16.33
6E	6E01	323	32.3	202.85	16.15	60.46
	6E02	147	14.7	51.97	7.35	16.73
	6E03	106	10.6	67.14	5.3	33.46
6F	6F01	408	40.8	86.92	20.4	43.73
	6F02	244	24.4	44.79	12.2	27.38
	6F03	140	14	73.86	7	33.46
	6F04	152	15.2	40.8	7.6	16.73
7A	7A01	501	50.1	282.69	25.05	112.3
	7A02	194	19.4	192.54	9.7	65.2
	7A03	117	11.7	44.9	5.85	29
	7A04	114	11.4	71.79	5.7	18.1
7B	7B01	473	47.3	262.8	23.65	93.39
	7B02	210	21	194.37	10.5	80.43
	7B03	148	14.8	75.37	7.4	36.2
	7B04	153	15.3	74	7.65	36.2
7C	7C01	596	59.6	172.7	29.8	74.31
	7C02	265	26.5	205.26	13.25	82.01
	7C03	141	14.1	73.75	7.05	36.2
	7C04	139	13.9	69.59	6.95	36.2



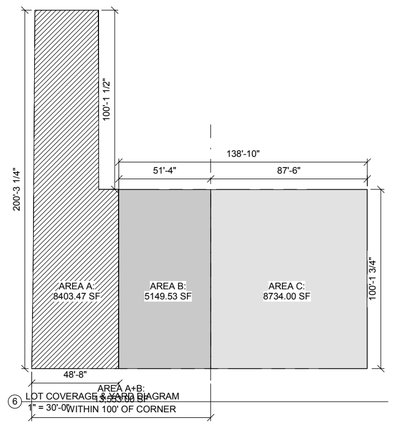
5 Height & Setback Diagram
3/32" = 1'-0"



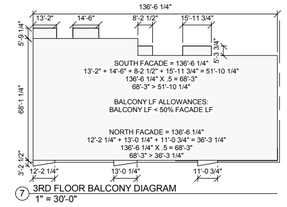
3 PLOT PLAN
3/64" = 1'-0"



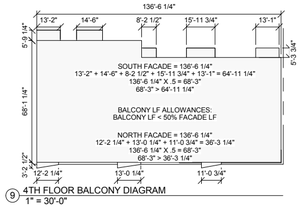
4 Zoning Map
3/32" = 1'-0"



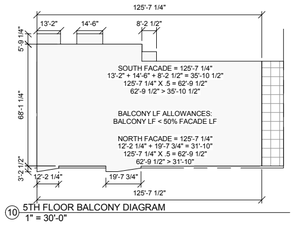
6 LOT COVERAGE & YARD DIAGRAM
1" = 30'-0" WITHIN 100' OF CORNER



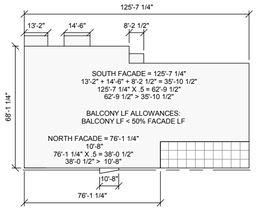
7 3RD FLOOR BALCONY DIAGRAM
1" = 30'-0"



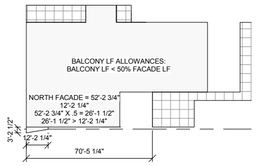
9 4TH FLOOR BALCONY DIAGRAM
1" = 30'-0"



10 5TH FLOOR BALCONY DIAGRAM
1" = 30'-0"



11 6TH FLOOR BALCONY DIAGRAM
1" = 30'-0"



12 7TH FLOOR BALCONY DIAGRAM
1" = 30'-0"

PROGRESS SET: 12/9/2014 8:13:42 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER: 308 N 7TH STREET LLC 308 N 7TH STREET BROOKLYN, NY 11211

STRUCTURAL ENGINEER: MARCO ASSOCIATES INC 1123 BROADWAY, SUITE 1114 NEW YORK, NY 10010

MEP ENGINEERS: A.G.V. ENGINEERING P.L.C. 1123 BROADWAY, SUITE 1114 BROOKLYN, NY 11204

CODE CONSULTANT:

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Issuance Schedule

No.	Date	Description
1	12/09/2013	ISSUE PLANNING

Revision Schedule

No.	Date	Description

Plot Plan

For Department of Buildings Use

Drawing Title
ZONING ANALYSIS

Sign & Seal	Drawing No.
	Z-100.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	**checked by**	**DOB sheet**
As indicated	Checker	2 OF 22

DOB NUMBER

BUILDING CODE REQUIREMENTS

APPLICABLE CODE: Building code of the City of New York - 2008 - Latest Edition
NOTE: All numbers noted after listings refer to section numbers from this document. Energy Conservation Construction Code of New York State. Cabo/ ANSI A117.1- 1986.

FIRE DISTRICT: The property is located within a fire district (BC D101.2)

MOTOR-VEHICLE-RELATED OCCUPANCIES:
(BC 406)

406.2.3.1 CLEAR HEIGHT
SHALL NOT BE LESS THAN 7'" IN HEIGHT
PROVIDED: **9'-6"**

406.2.3.2 GUARDS
PROVIDE IN ACCORDANCE WITH SECTION 1012. AT INTERIOR VERTICAL OPENINGS WHERE THE VERTICAL DISTANCE EXCEEDS 30" IN HEIGHT.
PROVIDED: SEE DWG **XXX**

406.2.3.3 VEHICLE BARRIERS
PROVIDE IN ACCORDANCE WITH SECTION 1067.7 VEHICLE BARRIERS NOT LESS THAN 2' HIGH SHALL BE PLACED AT THE ENDS OF DRIVE LANES AND AT THE END OF PARKING SPACES WHERE THE DIFFERENCE IN ADJACENT FLOOR ELEVATION IS GREATER THAN 1'.
COMPLIES: NO DROP EXCEEDS 1'

406.2.3.4 RAMPS
RAMPS HALL HAVE A GRADIENT NOT EXCEEDING 1 IN 7. WITH NON-SLIP SURFACES. A LEVEL LANDING HAVING A MINIMUM DIMENSION OF 20' 20' SHALL BE PROVIDED AT THE DISCHARGE POINT OF ALL RAMPS AT THE STREET LEVEL.
PROVIDED: SEE DWG **20'-0"**

406.2.3.5 FLOOR SURFACE
PARKING SURFACES SHALL BE OF CONCRETE OR SIMILAR NONCOMBUSTIBLE AND NONABSORBENT MATERIALS. FLOOR SURFACE TO BE SLOPED.
PROVIDED: CONCRETE FLOOR WITH SLOPE

406.2.3.6 SEPARATION
PARKING GARAGES SHALL BE SEPARATED FROM OTHER OCCUPANCIES IN ACCORDANCE WITH SECTION 508.
OPENINGS PROHIBITED
OPENINGS FROM A PARKING GARAGE INTO A ROOM USED FOR SLEEPING PURPOSES IS PROHIBITED.
COMPLIES: NO OPENINGS TO GARAGE FROM A SLEEPING ROOM

406.2.3.7 FIRE-FIGHTER AISLES
ONE OR MORE AISLES AT LEAST 24" IN WIDTH SHALL BE PROVIDED TO PERMIT ACCESS. NO MORE THAN THREE ROWS OF PARKED MOTOR VEHICLES BETWEEN AISLES.
PROVIDED: SEE DWG. **XXXXX**

406.4 HEIGHTS AND AREAS
SHALL BE LIMITED TO THE HEIGHTS AND AREAS SPECIFIED IN TABLE 503.

406.4.2 VENTILATION
A MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED IN ACCORDANCE WITH THE NEW YORK CITY MECHANICAL CODE.
COMPLIES: SEE MECHANICAL DRAWINGS

SEPARATION OF OCCUPANCIES:
(CHAPTER 5)

INCIDENTAL USE AREAS
(TABLE 508.2)

ROOM OR AREA	SEPARATION REQ.	MIN. PROVIDED	
ROOMS WITH BOILER OVER 15 PSI / 10 HP	2 HR OR 1 HR W/ AUTOMATIC FIRE-EXTINGUISHING SYSTEM	2 HOUR	COMPLIES
ROOMS WITH BOILER 15 PSI / 10 HP OR LESS	1 HR OR AUTOMATIC SPRINKLER SYSTEM	2 HOUR	COMPLIES
MECHANICAL AND / OR ELECTRICAL ROOMS	1 HR OR AUTOMATIC SPRINKLER SYSTEM	1 HOUR	COMPLIES
PARKING GARAGE	2 HOURS	2 HOUR	COMPLIES
LAUNDRY ROOMS	1 HOUR	1 HOUR	COMPLIES
STORAGE ROOMS	1 HOUR	1 HOUR	COMPLIES
WASTE ROOMS	1 HOUR	1 HOUR	COMPLIES

SPECIAL PROVISIONS: (BC 509.9) SPACES OR DWELLING UNITS OCCUPIED BY DIFFERENT TENANTS SHALL BE SEPARATED BY FIRE BARRIERS HAVING AT LEAST 1-HOUR FIRE RESISTANT RATING.

TYPE OF CONSTRUCTION: (CHAPTER 6) IB (Table 601)
Table 503 allows for unlimited stories, and unlimited floor area.

	ELEMENT:	HOURS REQUIRED:	PROVIDED/HOURS:	
TABLE 601	STRUCTURAL FRAME Including Columns, girders, trusses	2 hour(s)	2 hour(s) CONCRETE	COMPLIES
	BEARING WALLS	EXTERIOR : 2 hour(s) INTERIOR : 2 hour(s)	2 hour(s) min. CONCRETE 2 hour(s) min. CONCRETE	COMPLIES
	FLOOR CONSTRUCTION	2 hour(s)	2 hour(s) CONCRETE	COMPLIES
	ROOF CONSTRUCTION	1 hour(s)	2 hour(s) CONCRETE	COMPLIES
	NON-BEARING EXTERIOR WALLS:			
TABLE 602	SEPARATION DISTANCE: <5'	1 hour(s)	1 hour(s) METAL STUD	COMPLIES
	SEPARATION DISTANCE: 5' to <10'	1 hour(s)	1 hour(s) METAL STUD	COMPLIES
	SEPARATION DISTANCE: 10' to < 30'	1 hour(s)	1 hour(s) METAL STUD	COMPLIES
	SEPARATION DISTANCE: >30'	0 hour(s)	0 hour(s)	COMPLIES

INTERIOR FINISHES:
(CHAPTER 8)

FLAME SPREAD RATING: (803.1)

INTERIOR FINISH CLASS	FLAME SPREAD RATING
A	0 TO 25
B	26 TO 75
C	76 TO 225

LOCATION	SMOKE DEVELOPED RATING
EXIT & CORRIDORS	25

INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY: (TABLE 803.5)

	OCCUPANCY GROUP
SPRINKLERED AREAS	R-2
VERTICAL AND EXIT PASSAGEWAYS	B
EXIT ACCESS CORRIDORS & OTHER EXITWAYS	B
ROOMS & ENCLOSED SPACES	C

FIRE PROTECTION SYSTEM:
(CHAPTER 9)
THIS BUILDING CONTAINS A SPRINKLER SYSTEM THROUGHOUT THE ENTIRE BUILDING FILED UNDER A SEPARATE APPLICATION # **XXXXXXXXXXXX**

EXIT AND ACCESS REQUIREMENTS: Sprinklered Building - IB Construction Class
(CHAPTER 10)

Occupancy loads (Table 1004.1.2):	Residential:	200 SF Gross	/Occ.
	Accessory Storage/ Mech. Rooms:	300 SF Gross	/Occ

CELLAR OCCUPANCY	**SQ.FT.**	**FACTOR (SF/OCC.)**	**OCCUPANTS**
Residential	934	200 GROSS	4
Parking	9,733	200 GROSS	48
Accessory	2,064	300 GROSS	7
			59

FIRST FLOOR OCCUPANCY	**SQ.FT.**	**FACTOR (SF/OCC.)**	**OCCUPANTS**
Residential	6,486	200 GROSS	32
Lobby	2,173	200 GROSS	10
			42

2nd - 6th FLOOR(TYP) OCCUPANCY	**SQ.FT.**	**FACTOR (SF/OCC.)**	**OCCUPANTS**
Residential	8729	200 GROSS	44
			220

7th - 8th FLOOR(TYP) OCCUPANCY	**SQ.FT.**	**FACTOR (SF/OCC.)**	**OCCUPANTS**
Residential	7,576	200 GROSS	38
			76

EXIT CAPACITY PER TABLE 1005.1:

EXIT TYPE	**WIDTH**	**FACTOR**	**MAX CAPACITY**
Stair A	36"	.3" / Occ.	120 Occ / Stair
Stair B	36"	.3" / Occ.	120 Occ / Stair
Stair A Door	36"	.2" / Occ.	180 Occ / Stair Door
Stair B Door	36"	.2 / Occ	180 Occ / Stair Door
Corridor	60"	.2" / Occ.	300 Occ.

Egress Width per Occupancy Occupant Served: (Table 1005.1)	Occupancy	Stairways	Other Components
	Other than H Occ.	0.3" / Occ.	0.2" / Occ.

NOTE: MULTIPLE MEANS OF EGRESS SHALL BE SIZED SUCH THAT THE LOSS OF ANY ONE MEANS OF EGRESS SHALL NOT REDUCE THE AVAILABLE CAPACITY TO LESS THAN 50% AS PER 1005.1
- MIN. 44" AT ALL STAIRS AND CORRIDORS *See Floor Plans For Calculations

(Table 1015.1 and BC 1016.3)	REQUIRED:	PROVIDED:	
Maximum travel distance R-2 Occ.:	200'-0" max.	*LESS THAN 200'-0"	COMPLIES
Maximum Dead end corridor I-1 Occ.:	80'-0" max.	*LESS THAN 80'-0"	COMPLIES

* See Floor Plans For Calculations

PUBLIC CORRIDOR FIRE RESISTANCE RATING (Table 1016.1.2)	OCCUPANCY R-2 (NONCOMBUSTIBLE) - 1-HOUR	PROVIDED 2HRS	COMPLIES

1968 (LL 58/67) PROVISIONS TO SATISFY ACCESSIBILITY REQUIREMENTS FOR DWELLING UNITS ACCEPTABLE PER OMH LETTER DATED 12/09/2009 AND ACCEPTED BY FATMA AMER ON 12/15/2009

INTERIOR ENVIRONMENT:
(CHAPTER 12)

SOUND TRANSMISSION
(BC1207)

ELEMENT:	REQUIRED:	PROVIDED:
Between Dwelling Units	STC 50	3" Thermafiber SAB between metal studs with 5/8" F.C. Type X" gypsum board both sides - STC 52
Between Dwelling Units and Public Hall (walls)	STC 50	3" Thermafiber SAB btw metal studs with 5/8" F.C. Type X" gypsum board two layers one side and one layer on the other STC 50
Between Dwelling Units and Public Hall (doors):	STC 35	1-3/4" thick 3'-0" x 6'-8" F.P.S.C. hollow metal door with core - STC 37
Elevator Shafts, etc.:	STC 35	3" Themafiber SAB btw. metal studs w/ double layer of 1/2" F.C. Type X" gypsum board on one side and 1" shaft wall liner on the other side. STC 50
Between Dwelling Units and Dwelling Units (floor):	STC 50	8" Concrete Plank
Ductwork:	INC - 0	To comply with chapter 28

ENERGY CONSERVATION CONSTRUCTION CODE OF THE STATE OF NEW YORK:
(§1104.2.1)

SEE ENERGY CALCULATION DRAWINGS (EN-100.00)

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH THE RULES AND REGULATIONS OF LOCAL CODES AND ORDINANCES AND OTHER AUTHORITIES HAVING JURISDICTION. ALL REQUIRED PERMITS SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR.
2. DRAWINGS ARE NOT TO BE SCALED. USE DIMENSIONS ONLY. CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE COMMENCING WORK.
3. ALL DIMENSIONS ARE GIVEN FINISHED FACE TO FINISHED FACE, UNLESS OTHERWISE NOTED.
4. CONTRACTOR SHALL PATCH AND REPAIR ALL HOLES WHICH OCCUR AS A RESULT OF DRILLING AND/OR CUTTING IN EXISTING MASONRY WALLS TO MATCH EXISTING.
5. ALL EXITS SHALL BE KEPT READILY ACCESSIBLE AND UNOBSTRUCTED AT ALL TIMES.
6. ILLUMINATION OF AT LEAST 10 FOOT CANDLES MEASURED AT FLOOR LEVEL SHALL BE MAINTAINED CONTINUOUSLY DURING OCCUPANCY IN EXITS AND THEIR ACCESS FACILITIES.
7. EXIT LIGHTING SHALL BE ON CIRCUITS THAT ARE SEPARATE FROM ANY OTHER CIRCUITS, TAKE OFFS AHEAD OF MAIN SWITCH.
8. LOCATION OF EVERY EXIT ON FLOOR SHALL BE CLEARLY INDICATED BY EXIT SIGNS. PLACE-IF REQUIRED- AT ANGLE WITH EXIT OPENING. INSTALL DIRECTIONAL SIGNS TO SERVE AS GUIDE FROM ALL PORTIONS OF THE CORRIDOR OPENING OF FLOOR.
9. CORRIDORS AND EXIT PASSAGEWAYS SHALL HAVE A CLEAR HEIGHT OF 7'-6" FOR AT LEAST 75% OF THE FLOOR AREA WITH NO POINT LESS THAN 7'-0" IN HEIGHT. PROJECTION BELOW THE CEILING SHALL NOT OBSTRUCT FULL VIEW OF EXIT SIGNS.
10. EXIT DOORS SHALL BE READILY OPEN-ABLE AT ALL TIMES FROM THE SIDE FROM WHICH EGRESS IS TO BE MADE. DOORS OPENING INTO INTERIOR-ENCLOSED STAIRS SHALL NOT BE LOCKED FROM EITHER SIDE.
11. EXHAUST SYSTEM DUCTS SHALL BE FIRE PROTECTED WITH CONSTRUCTION HAVING A FIRE RATING OF ONE OR TWO HOURS AS PER THE BUILDING CODE. REFER TO DETAILS.
12. DUCTS, PIPES, AND CONDUITS PASSING THROUGH FIRE-RATED CONSTRUCTION SHALL HAVE SPACES NOT EXCEEDING 1/2" PACKED WITH MINERAL WOOL, OR CLOSED OFF WITH CLOSE FITTING METAL ESCUTCHEONS. AGGREGATE NET AREA OF SUCH OPENING SHALL NOT EXCEED 25 SQUARE INCHES IN ANY 100 SQUARE FOOT WALL OR FLOOR AREA UNLESS PROTECTED BY RATED SELF-CLOSING DEVICES.
13. ENTIRE ALTERATION, INCLUDING INSULATION OF NEW PLUMBING PIPES AND VENT DUCTS, TO COMPLY WITH THE NEW YORK STATE ENERGY CODE.
14. CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING OF ANY AND ALL DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. FAILURE TO NOTIFY THE ARCHITECT WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PERFORM THE WORK AS INTENDED BY THE CONTRACT DOCUMENTS.
15. CONTRACTOR TO OBTAIN FENCE PERMIT PRIOR TO THE START OF CONSTRUCTION AND TO INFORM ADJOINING NEIGHBORS BY LETTER AT LEAST 5 DAYS PRIOR TO THE START OF CONSTRUCTION
16. FLOOR TILES SHALL BE THIN SET CERAMIC, UNLESS OTHERWISE NOTED.
17. CONTRACTOR ASSUMES RESPONSIBILITY FOR ALL CONCRETE TESTING UNLESS OTHERWISE NOTED IN THE DRAWINGS.

CONTROLLED INSPECTIONS

CONCRETE CAST- CAST-IN-PLACE	BC 1704.4
CONCRETE- PRECAST	BC 1704.4
MASONRY	BC 1704.5
SOILS- INVESTIGATIONS (BORINGS/ TEST PITS)	BC 1704.7.4 (TR1 & TR4)
PIER FOUNDATIONS	BC 1704.9
SPRAYED FIRE-RESISTANT MATERIALS	BC 1704.11
STRUCTURAL SAFTEY- STRUCTURAL STABILITY	BC 1704.19
SPRINKLER SYSTEMS	BC 1704.21
STANDPIPE SYSTEMS	BC 1704.22
HEATING SYSTEMS	BC 1704.23
FIRESTOP, DRAFTSTOP, AND FIREBLOCK SYSTEMS	BC 1704.25
CONCRETE TEST CYLINDERS	BC 1905.6 (TR1 & TR2)
CONCRETE DESIGN MIX	BC 1905.3 (TR1 & TR3)
FOOTING & FOUNDATION	BC 109.3.1
ENERGY CODE COMPLIANCE INSPECTIONS	BC 109.3.5
FIRE-RESISTANCE RATED CONSTRUCTION	BC 109.3.4
FINAL	28-116.2.4.2, BC 109.5

1. ALL OTHER CONTROLLED INSPECTIONS AS LISTED ON RELEVANT DRAWINGS.
2. CONTROLLED INSPECTIONS ARE TO BE PERFORMED BY A LICENSED PROFESSIONAL ENGINEER OR A REGISTERED ARCHITECT, RETAINED BY THE OWNER AND ACCEPTABLE TO THE ARCHITECT OF RECORD. THE BUILDER OR CONTRACTOR SHALL BE RESPONSIBLE FOR RETAINING, COORDINATING, AND SCHEDULING ALL INSPECTIONS. ALL INSPECTIONS TO BE MADE PRIOR TO PROCEEDING FURTHER WITH THE WORK. IF WORK OR MATERIALS SUBJECT TO CONTROLLED INSPECTION ARE COVERED UP BEFORE THE CONTROLLED INSPECTION OCCURS, SUCH WORK SHALL BE ENTIRELY UNCOVERED UNDER THE SUPERVISION OF THE ENGINEER. ARCHITECT OR HISHER REPRESENTATIVE. THE ARCHITECT OR ENGINEER SHALL SEE THAT ALL WORK UNDER THEIR INSPECTION COMPLIES WITH THE APPROVED PLANS.
3. A LOG OR OTHER DOCUMENTATION SHALL BE MAINTAINED AT THE JOB SITE STATING WHEN ALL CONTROLLED INSPECTIONS WERE PERFORMED, THE IDENTITY OF THE INSPECTOR, AND THE SCOPE OF THE WORK WHICH WAS PERFORMED.
4. WHEN A "TR-1, 2, 3, OR 4" CONTROLLED INSPECTION FORM IS FILED WITH THE BUILDING DEPARTMENT, SUCH FORM SHALL BE ACCOMPANIED BY A REPORT WHICH SHALL INCLUDE THE DATES OF INSPECTIONS, THE IDENTITY OF THE INSPECTOR, AND THE SCOPE OF THE WORK WHICH WAS OBSERVED. REPORTS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW AND RECORD.
5. WHEN A TRADE INSTALLING MECHANICAL WORK CAUSES STRUCTURAL MEMBERS OR RATED ASSEMBLIES TO LOSE THEIR INTEGRITY, REPAIRS SHALL BE PERFORMED UNDER THE SUPERVISION OF A DESIGNATED PERSON.
6. BUILDING DEPARTMENT INSPECTORS SHALL REVIEW RECORDS AT JOB SITES TO MAKE CERTAIN THAT THERE IS ADEQUATE SELF-INSPECTION.

SMOKE / CO2 DETECTORS

1. ALL SMOKE AND CARBON MONOXIDE DETECTORS TO COMPLY WITH NEW YORK CITY LOCAL LAW 7/2004.
2. EACH DWELLING UNIT SHALL BE EQUIPPED WITH AN APPROVED TYPE SMOKE DETECTION DEVICE AND A SEPARATE OR COMBINED CARBON MONOXIDE DEVICE RECEIVING ITS PRIMARY POWER FROM BUILDING WIRING WITH NO SWITCH IN CIRCUIT OTHER THAN THE OVERCIRCUIT PROTECTING THE BRANCH CIRCUIT AS PER APPLICABLE BUILDING CODES.
3. SMOKE DETECTOR SHALL BE EITHER THE IONIZATION CHAMBER TYPE OR THE PHOTOELECTRIC TYPE AS PER APPLICABLE BUILDING CODES.
4. ALL SMOKE & CO□ DETECTORS MUST BE INSTALLED WITHIN 15 FEET OF ENTRANCE OF ANY SLEEPING ROOM WALL OR CEILING MOUNTED AND INDICATED ON PLANS AS PER NYC BUILDING CODE, APPENDIX Q, FIRE CODE AND ELECTRICAL CODE.
5. A CERTIFICATE OF SATISFACTORY INSTALLATION SHALL BE FILED WITH THE DIVISION OF CODE ENFORCEMENT 10 DAYS AFTER THE INSTALLATION IS COMPLETE.

MULTIPLE DWELLING LAW

1. BUILDING SHALL CONFORM TO ARTICLE 7 MULTIPLE DWELLING LAW AND DEPARTMENT RULES AND REGULATIONS AND HOUSING MAINTENANCE CODE
2. EXTERIOR LIGHT OR LIGHTS SHALL BE OF AT LEAST 50 WATTS SHALL BE LOCATED AT A HEIGHT OF BETWEEN 8'-0" AND 10'-0" ABOVE GROUND LEVEL AND SHALL BE LOCATED SO AS TO ADEQUATELY LIGHT ALL PORTIONS OF REAR YARD AS PER SECTION 26 MULTIPLE DWELLING LAW AND SECTION 27-2040 HOUSING MAINTENANCE CODE.
3. OWNER SHALL PROVIDE LIGHTING OF AT LEAST 50 WATTS FOR EVERY VESTIBULE, ENTRANCE HALL, PUBLIC HALL STAIR, AND PUBLIC HALL LIGHTS SHALL BE SO LOCATED THAT EVERY PART THEREOF SHALL BE LIGHTED AS PER SECTION 37.1 MULTIPLE DWELLING LAW.
4. OWNER SHALL PROVIDE LIGHTS FROM SUNSET TO SUNRISE OF THE FOLLOWING DAY AS PER SECTION 37.2 MULTIPLE DWELLING LAW.
5. OWNER SHALL PROVIDE APPROVED-TYPE GOVERNMENT MAILBOXES AS APPROVED BY THE POST OFFICE AS PER SECTION 57 MULTIPLE DWELLING LAW AND 27-2041 HOUSING MAINTENANCE CODE.
6. OWNER SHALL INSTALL INTERCOM SYSTEM, FOR EACH APARTMENT, IN VESTIBULE OF BUILDING AS PER SECTION 57 MULTIPLE DWELLING LAW.
7. CELLAR CEILINGS SHALL BE FIRE-RETARDED WITH 5/8" FIRECODE 60 AS PER SECTION 185 MULTIPLE DWELLING LAW.
8. PARAPETS AND GUARDRAILS TO BE 3'-6" HIGH AS PER SECTION 62 MULTIPLE DWELLING LAW.
9. AS PER SECTION 64.2 MULTIPLE DWELLING LAW NO GAS METER SHALL BE PLACED IN A BOILER ROOM, STAIR OR PUBLIC HALL.
10. ALL LIQUID OR WATER-BORNE WASTE FROM PLUMBING FIXTURES SHALL BE CONVEYED BY A HOUSE DRAIN AND HOUSE SEWER TO A STREET SEWER AS PER SECTION 77.1 MULTIPLE DWELLING LAW.
11. THE OWNER OF EVERY MULTIPLE DWELLING OR PART THERE OF SHALL THOROUGHLY CLEANSE AND KEEP CLEAN AT ALL TIMES, AND IN GOOD REPAIR. THE ENTIRE PLUMBING AND DRAINAGE SYSTEM AS PER SECTION 77.4 MULTIPLE DWELLING LAW.
12. A REAR YARD SHALL BE PROVIDED, 13'-0" OR MORE IN DEPTH ACROSS THE ENTIRE LOT AS PER SECTION 22 MULTIPLE DWELLING LAW.
13. SKYLIGHT OVER PUBLIC HALL ON TOP STORY SHALL HAVE AT LEAST 20 SQUARE FEET GLAZED AREA (PLAIN GLASS) MINIMUM 40 SQUARE INCH RIDGE VENT WITH SUITABLE WIRE SCREENS ABOVE AND BELOW AS PER SECTION 178 MULTIPLE DWELLING LAW.
14. ROOF SCUTTLES SHALL BE AT LEAST 22" IN WIDTH AND 26" IN LENGTH COVERED ON THE EXTERIOR WITH METAL AND PROVIDED WITH A STATIONARY METAL LADDER AS PER SECTION 198 MULTIPLE DWELLING LAW.
15. STAIRS LEADING FROM A CELLAR TO THE FLOOR ABOVE SHALL BE CONSTRUCTED OF INCOMBUSTIBLE MATERIALS AS PER SECTION 190 MULTIPLE DWELLING LAW.
16. REMOVE ALL WAINSCOTING ON ANY PUBLIC HALL OR STAIR AS PER SECTION 191 MULTIPLE DWELLING LAW.
17. A CELLAR ENTRANCE FROM OUTSIDE THE DWELLING SHALL BE PROVIDED WITH A METAL FIRE LADDER OR A FIRE PROOF STAIR LEADING TO AN EXTERIOR OPENING 2'-6" IN WIDTH AND 6'-0" IN HEIGHT AS PER SECTION 192 MULTIPLE DWELLING LAW.
18. CEILING OF KITCHENETTES AND BATHROOMS SHALL BE FURRED DOWN AS REQUIRED; KITCHENETTE ARCH TO BE FURRED DOWN TO A MINIMUM OF 1'-0" FROM CEILING.
19. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF AND SHALL BE SUBJECT TO THE APPROVAL OF THE DEPARTMENT OF WATER SUPPLY, GAS, AND ELECTRICITY OR CON EDISON.
20. GAS RANGES SHALL BE OF TYPE APPROVED BY AMERICAN GAS ASSOCIATION AND UNDERWRITERS' LABORATORIES
21. OWNER SHALL PROVIDE AND MAINTAIN A PEEPHOLE IN THE ENTRANCE DOOR OF EACH DWELLING UNIT; SUCH PEEPHOLE SHALL BE LOCATED AND CONFORM IN ALL RESPECTS TO THE REQUIREMENTS OF SECTION 27-2041 HOUSING MAINTENANCE CODE.
22. THE CEILINGS AND WALLS OF ALL KITCHENETTES AND PUBLIC HALLS SHALL BE FIRE-RETARDED WITH 5/8" NATIONAL GOLD BOND "FIRE-SHIELD" (NYC BSA CAL.NO. 439-52-SM) OR APPROVED EQUAL.
23. OWNER SHALL INSTALL AND MAINTAIN LIGHTS ON EXTERIOR OF BUILDING; WHICH LIGHTS SHALL BE PROTECTED BY A METAL GUARD OR SHATTERPROOF GLOBE; LIGHTS SHALL BE OF AT LEAST 50 WATTS ILLUMINATION AND BE PLACED ON EACH SIDE OF FRONT ENTRANCE AT A HEIGHT OF BETWEEN 8'-0" AND 10'-0" ABOVE FLOOR LEVEL ADJACENT TO THE ENTRANCEWAY AS PER SECTION 26 MULTIPLE DWELLING LAW AND SECTION 27-2040HOUSING MAINTENANCE CODE.
24. ALL WINDOW SIZES SHOWN ARE BETWEEN STOP BEADS ALL ENTRANCE AND VESTIBULE DOORS TO CONTAIN NOT LESS THAN 5 SQUARE FEET OF GLAZED AREA.
25. OWNER SHALL PROVIDE A KEY LOCK, DEAD BOLT LOCK AND CHAIN GUARD ON EACH DWELLING UNIT DOOR AS PER SECTION 27-2043 HOUSING MAINTENANCE CODE.
26. ALL APARTMENT ENTRANCE DOORS AND DOORS TO PUBLIC HALL STAIRS TO BE ONE-HOUR APPROVED, FIREPROOF, SELF-CLOSING INCLUDING DOOR ASSEMBLY.
27. OWNER SHALL REGISTER BUILDING AT HOUSING DIVISION AS PER SECTION 27-2097 HOUSING MAINTENANCE CODE.
28. OWNER SHALL PROVIDE A SIGN IN VESTIBULE IDENTIFYING OWNER, MANAGER, AND SUPERINTENDENT AS PER SECTION 27-2104 HOUSING MAINTENANCE CODE.
29. ALL LIVING ROOMS WILL HAVE A MINIMUM CEILING HEIGHT OF 8'-0" AND A MINIMUM ROOM SIZE OF 132 SQUARE FEET FOR BUILDING PERMITS FILED AFTER APRIL 18, 1929. AS PER SECTION 27-2074 HOUSING MAINTENANCE CODE.
30. THE MAXIMUM NUMBER OF PERSONS FOR ANY APARTMENT SHALL BE THE TOTAL LIVABLE FLOOR AREA DIVIDED BY 80 SQUARE FEET AS PER SECTION 27-2075 HOUSING MAINTENANCE CODE.
31. NO NEW ROOMING UNITS SHALL BE CREATED AS PER SECTION 27-2077 HOUSING MAINTENANCE CODE.
32. OWNER SHALL FILE FIRE REGISTRATION STATEMENT WITH HOUSING DIVISION AS PER SECTION 27-2098 HOUSING MAINTENANCE CODE.
33. REGISTRATION SHALL CONTAIN THE FOLLOWING INFORMATION: BLOCK AND LOT, STREET NUMBER, NAME OF OWNER INCLUDING HOME AND OFFICE ADDRESS, NAME AND ADDRESS OF MANAGING AGENT, TELEPHONE NUMBER OF OWNER, AND PAY REQUIRED FEE AS PER SECTION 27-2098 HOUSING MAINTENANCE CODE.
34. CHANGE OF OWNERSHIP OF A BUILDING REQUIRES CHANGE OF REGISTRATION STATEMENT AS PER SECTION 27-2099 HOUSING MAINTENANCE CODE.
35. CHANGE OF MANAGING AGENT SHALL REQUIRE FILING AS PER SECTION 27-2101 HOUSING MAINTENANCE CODE.
36. ASHES OR WASTE MATTER SHALL NOT BE ALLOWED TO ACCUMULATE OTHER THAN IN PROPER RECEPTACLES; A SUFFICIENT NUMBER OF RECEPTACLES SHALL BE PROVIDED FOR WASTE DISPOSAL AS PER SECTION 27-2021 HOUSING MAINTENANCE CODE.
37. EVERY MULTIPLE DWELLING SHALL BE PROVIDED WITH HEAT FROM A CENTRAL HEATING SYSTEM AS PER SECTION 27-2028 HOUSING MAINTENANCE CODE.
38. A MINIMUM TEMPERATURE SHALL BE SUPPLIED FROM A CENTRAL HEATING SYSTEM. SUCH SYSTEM SHALL KEEP THE INSIDE TEMPERATURE AT 68 WHEN THE OUTSIDE TEMPERATURE FALLS BELOW 55 DURING THE HOURS OF 6:00 A.M. AND 10:00 P.M., AND AT AN INSIDE TEMPERATURE OF 55 WHEN THE OUTSIDE TEMPERATURE FALLS BELOW 40 BETWEEN THE HOURS OF 10:00 P.M. AND 6:00 A.M., ALL DURING THE MONTHS OF OCTOBER 1 THROUGH MAY 31 AS PER SECTION 27-2029HOUSING MAINTENANCE CODE.
39. THE OWNER SHALL HAVE THE CENTRAL HEATING SYSTEM INSPECTED BY A QUALIFIED PERSON AS PER SECTION 27-2030 HOUSING MAINTENANCE CODE.
40. FLOOR SIGNS DESIGNATING FLOORS SHALL BE PROVIDED WITHIN STAIR ENCLOSURES AND IN PUBLIC HALLS NEAR THE STAIRS AS PER SECTION 27-2048 HOUSING MAINTENANCE CODE.
41. OWNER SHALL PROVIDE A STREET NUMBER ON THE FRONT OF THE BUILDING VISIBLE FROM THE SIDEWALK AS PER SECTION 27-2049 HOUSING MAINTENANCE CODE.

NYS ENERGY NOTES

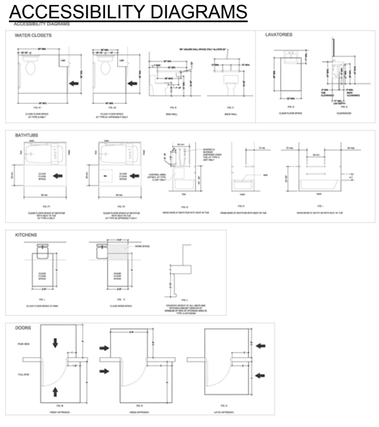
1. TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE LATEST EDITION OF THE ENERGY CONSERVATION CONSTRUCTION CODE OF THE STATE OF NEW YORK. SEE ENERGY CALCULATION SHEETS.

HANDICAP COMPLIANCE NOTES

NYC BUIDING CODE, APPENDIX P, ANSI ICC 117.1-2003

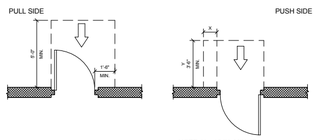
1. ALL HALLS, CORRIDORS, AISLES AND OTHER SPACES THAT ARE A PART OF AN ACCESSIBLE ROUTE SHALL COMPLY WITH ANSI A 117.1-2003.
2. ALL DWELLING UNIT BATHROOMS SHALL COMPLY WITH NYC BUILDING CODE, APPENDIX P, ANSI ICC 117.1-2003.
3. SPACE ALLOWANCE AND REACH RANGES AT ALL ROOMS AND SPACES SHALL COMPLY WITH ANSI 308.2. REACH RANGES TO BE:
   FORWARD REACH HEIGHT: MIN. 15 IN. (308.2); MAX. 48 IN. (UNOBSTRUCTED) MAX. 44 IN. (OBSTRUCTED)
   SIDE REACH HEIGHT: MIN. 15 IN. (308.3); MAX. 48 IN. (UNOBSTRUCTED) MAX. 54" - 48" (OBSTRUCTED)
4. GROUND AND FLOOR SURFACES ALONG ACCESSIBLE ROUTES AND IN ROOMS AND SPACES INCLUDING FLOORS, WALLS, AND STAIRS SHALL BE STABLE, FIRM AND SLIP RESISTANT AND COMPLY WITH 302.
5. ALL THRESHOLDS AT DOORWAYS SHALL NOT EXCEED 1/2" AND SHALL COMPLY WITH THE REQUIREMENTS OF 303.
6. ALL DOORS TO ACCESSIBLE SPACES SHALL COMPLY WITH 404.
7. ALL HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES AT ENTRANCE DOORS AND AT PUBLIC SPACES SHALL COMPLY WITH 404.2.6. IF A DOOR CLOSER IS REQUIRED IT SHALL COMPLY WITH 404.2.7.
8. ALL ACCESIBLE STORAGE FACILITIES SUCH AS CABINETS, SHELVES, CLOSETS AND DRAWERS SHALL COMPLY WITH 905.
9. ALL CONTROLS AND OPERATING MECHANISMS FOR LIGHT SWITCHES, DISPENSERS AND ALARMS SHALL BE ACCESSIBLE AND COMPLY WITH 309.
10. ALL EMERGENCY WARNING SYSTEMS SHALL COMPLY WITH 702.
11. ALL SIGNAGE THAT PROVIDES INFORMATION OR GENERAL CIRCULATION DIRECTION OR IDENTIFIES ROOMS OR SPACES SHALL COMPLY WITH 703. SYMBOLS OF ACCESSIBILITY SHALL BE PROVIDED AT PUBLIC TOILETS.
12. ALL TOILET ROOMS PROVIDED FOR COMMON USE SHALL COMPLY WITH THE REQUIREMENTS SET FORTH IN NYC BUILDING CODE AND ANSI 117.1-2003.

ACCESSIBILITY DIAGRAMS

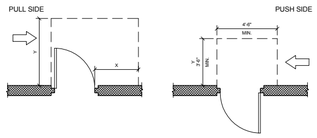


ABBREVIATIONS

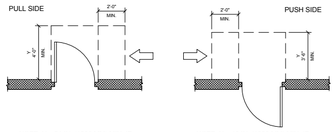
AFF	above finished floor	FB	face brick			OC	on center (s)
ACT	acoustical tile	FOC	face of concrete			OPG	opening
ADJ	adjacent	FOF	face of finish			OPP	opposite
A/C	air conditioning	FOM	face of masonry			OD	outside diameter
ALT	alternate	FOS	face of studs				
AL	aluminum	FF	finish face			PTD	paint (ed)
ASD	aluminum saddle	FIN	finish (ed)			PNL	panel
ANOD	anodized	FFE	finished floor elevation			PVMT	pavement
APX	approximate	FFL	finished floor line			PLAM	plastic laminate
ARCH	architect	FE	fire extinguisher			PL	plate
AD	area drain	FPSC	fire proof self-closing			PWD	plywood
ASPH	asphalt	FL	floor			PT	point
		FD	floor drain			PSF	pounds per square foot
BIT	bituminous	FTG	footing			PSI	pounds per square inch
BLK	block	FND	foundation			PC	precast concrete
BLKG	blocking	FBO	furnished by others			PL	property line
BOT	bottom						
BOS	bottom of steel	GA	gage, gauge			RAD	radius
B



FRONT APPROACHES - SWINGING DOORS
N.T.S

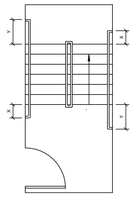


HINGE SIDE APPROACHES - SWINGING DOORS
N.T.S

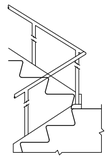


LATCH SIDE APPROACHES - SWINGING DOORS
N.T.S

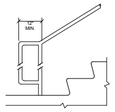
SADDLE
N.T.S



PLAN

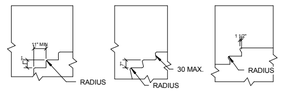


ELEVATION OF CENTER HANDRAIL

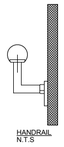


EXTENSION AT BOTTOM OF RUN

EXTENSION AT TOP OF RUN



USABLE TREAD WIDTH AND EXAMPLES OF ACCEPTABLE NOSING
N.T.S



HANDRAIL
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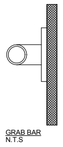
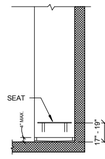
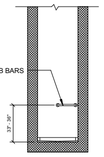


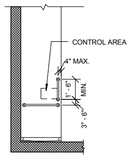
GRAB BAR
N.T.S



SEAT WALL

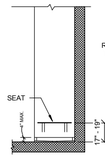


BACK WALL



CONTROL WALL

ACCESSIBLE SHOWERS
N.T.S



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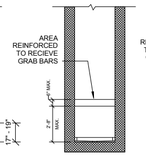
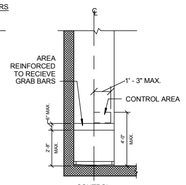


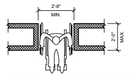
BACK WALL



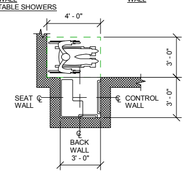
CONTROL WALL

ADAPTABLE SHOWERS
N.T.S

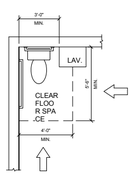
60-IN DIAMETER SPACE
N.T.S



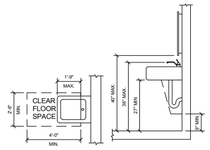
CLEAR DOORWAY WIDTH AND DEPTH
N.T.S



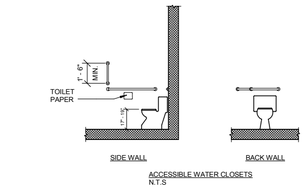
TRANSFER TYPE SHOWER COMPARTMENT SIZE AND CLEARANCE
N.T.S



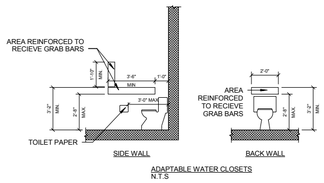
CLEAR FLOOR SPACE AT WATER CLOSETS
N.T.S



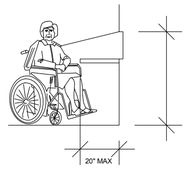
CLEAR ANCE AT LAVATORIES
N.T.S



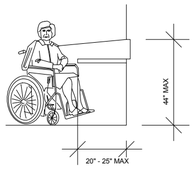
ACCESSIBLE WATER CLOSETS
N.T.S

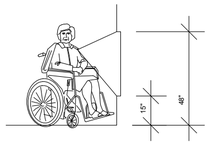


ADAPTABLE WATER CLOSETS
N.T.S

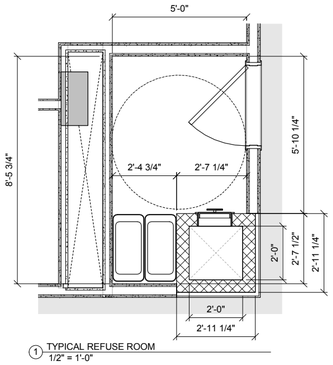


OBSTRUCTED HIGH FORWARD REACH

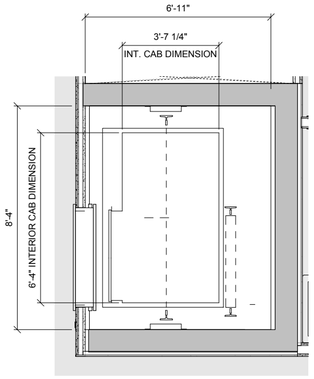




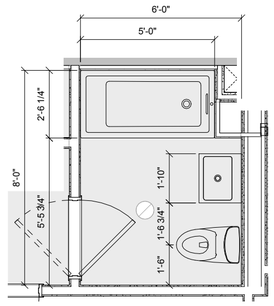
UNOBSTRUCTED FORWARD + SIDE REACH



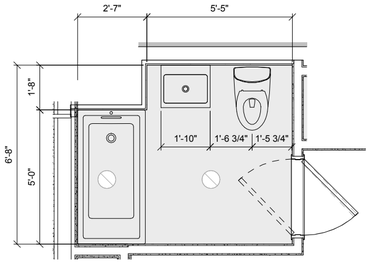
1 TYPICAL REFUSE ROOM
1/2" = 1'-0"



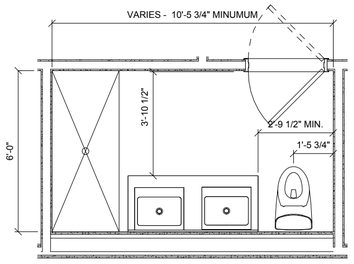
2 ELEVATOR PLAN
1/2" = 1'-0"



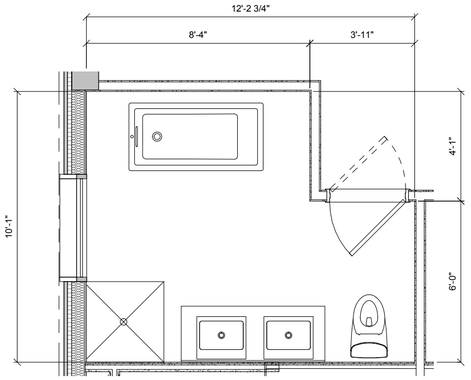
3 ADAPTABLE BATHROOM (FRONT APPROACH)
1/2" = 1'-0"



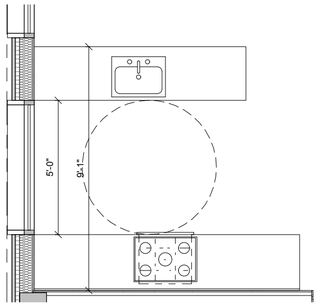
4 ADAPTABLE BATHROOM (SIDE APPROACH)
1/2" = 1'-0"



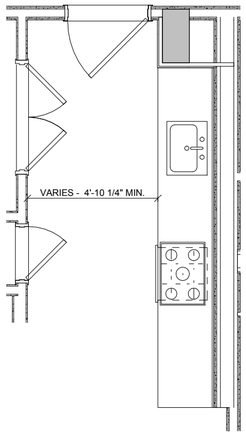
5 ADAPTABLE MASTER BATHROOM (TYPICAL)
1/2" = 1'-0"



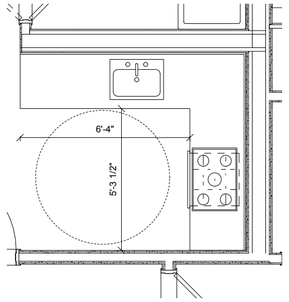
6 ADAPTABLE MASTER BATHROOM (ALTERNATE)
1/2" = 1'-0"



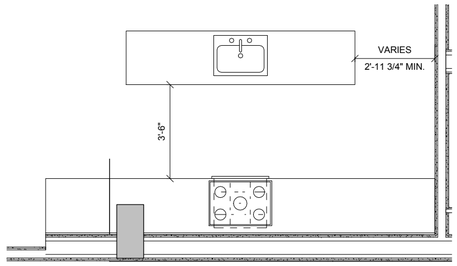
7 KITCHEN TYPE A
1/2" = 1'-0"



8 KITCHEN TYPE B
1/2" = 1'-0"



9 KITCHEN TYPE C
1/2" = 1'-0"



10 KITCHEN TYPE D
1/2" = 1'-0"

PROGRESS SET: 12/9/2014 8:11:48 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N. 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO ASSOCIATES INC
1 PENNSYLVANIA PLAZA
NEW YORK, NY 10001

MEP ENGINEER:
A & E ENGINEERING PLLC
308 N. 7TH STREET
BROOKLYN, NY 11211

CODE CONSULTANT:

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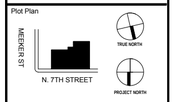
Issuance Schedule

No.	Date	Description

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

Drawing Title
ADA NOTES

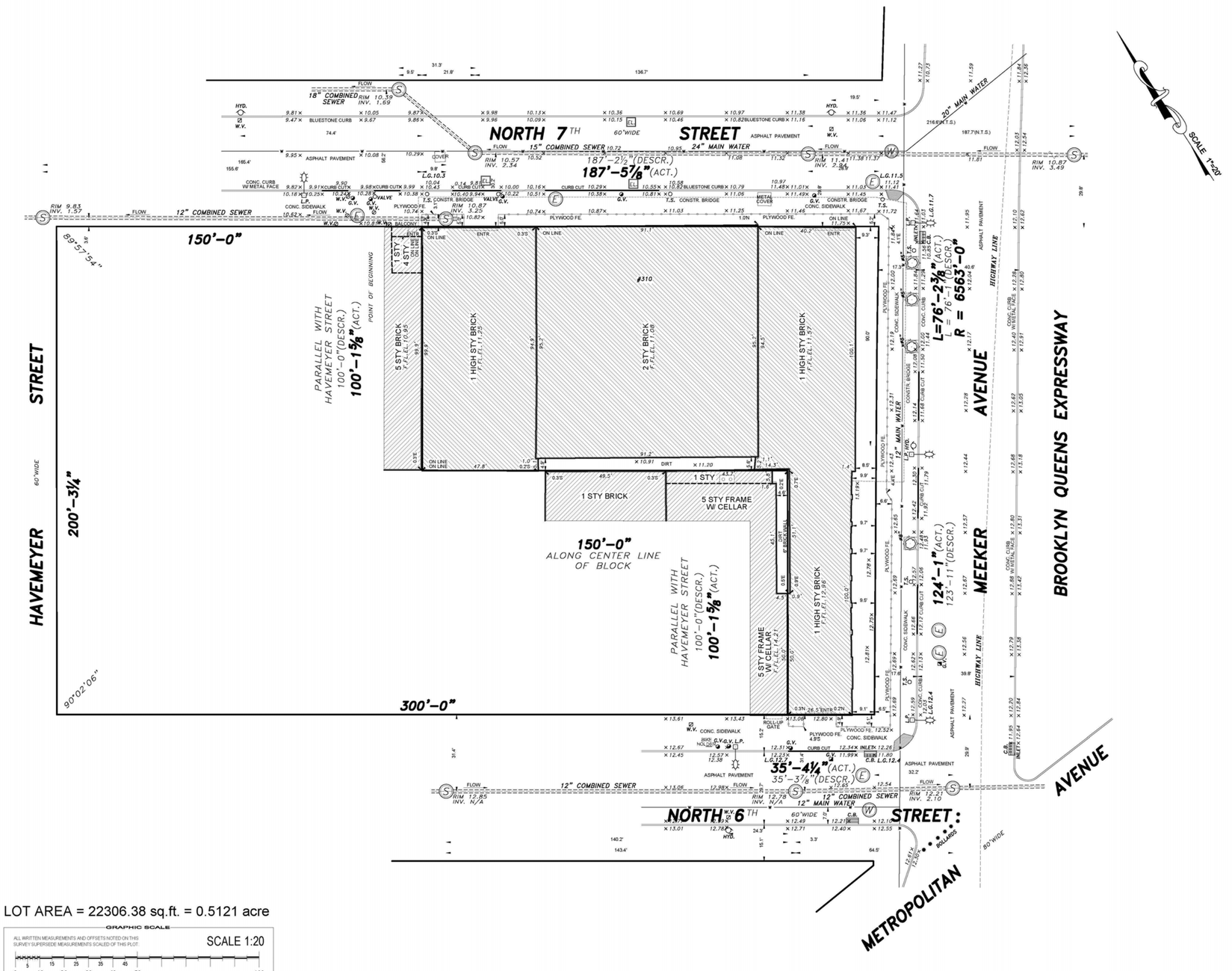
Sign & Seal

Drawing No.
G-101.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
As indicated	Checker	

DOB NUMBER

JOB NO. B 2331-9-TO
SURVEYED ON: SEPTEMBER 30, 2013



LOT AREA = 22306.38 sq.ft. = 0.5121 acre

GRAPHIC SCALE

ALL WRITTEN MEASUREMENTS AND OFFSETS NOTED ON THIS SURVEY SUPERSEDE MEASUREMENTS SCALED OF THIS PLOT.

SCALE 1:20

0 5 10 15 20 25 30 35 40 45 50 100

SYMBOLS AND ABBREVIATIONS

FENCE	CHL/FE. WOOD FE.
UTILITY POLE	U.P.
PARKING METER	P.M.
OIL FILL	O.F.
MONITORING WELL	M.W.
TRAFFIC LIGHT	T.L.
LIGHT	
STREET LIGHT	L.P.
FIRE HYDRANT	HYD.
SIAMESE CONNECTION	SPR.
SHUT OFF VALVE	G.V. G.V. W.V. W.V.
HANDICAPPED PARKING	
EXISTING TREE	#12"
DRAINS	DR.
ROOF OVER	R.O.
EXISTING ELEVATIONS	×43.15 TOP OF CURB ×42.83 BOTTOM OF CURB ×43.78 L.G.7.52
CITY ESTABLISHED GRADES	
CURB AND CURB CUT	CURB CUT CH.S.W.
OVERHEAD SERVICE	
CABLE TV MANHOLE	CTV
MANHOLES	MH E T W S RIM EL. INV.EL.
CATCH BASIN	C.B. C.B.
FIRE ESCAPE	F.E.
PLATFORM	PL. or PLTF.
BASEMENT ENTRANCE	B.E.
CELLAR ENTRANCE	C.E.
AIR WAY	A.W.
BAY WINDOW	B.W.
CONCRETE	CONC.
OVERHANG	O.H.
AIR CONDITION	AC
METAL	MET.
NORTH OF PROPERTY LINE	N
SOUTH OF PROPERTY LINE	S
EAST OF PROPERTY LINE	E
WEST OF PROPERTY LINE	W

GENERAL NOTES

SUBSURFACE UTILITIES ARE NOT GUARANTEED BY SURVEYOR. HIGH CAUTION RECOMMENDED AND VERIFICATION WITH PROPER CITY AGENCIES, IS MANDATORY BEFORE COMMENCING ALL NEW WORK.

ALL SUBSURFACE AND OVERHEAD UTILITIES (AS TO SIZE , TYPE AND DEPTH) SHOWN ON THIS SURVEY ARE TAKEN FROM RECORDS OF GOVERNMENTAL AGENCIES AND UTILITY COMPANIES. UNLESS OTHERWISE NOTED AND SHOWN.

COVER OR DEPTH OF UTILITIES WHICH DERIVED FROM FIELD MEASUREMENTS SHOWN ON THIS SURVEY SHOULD BE VERIFIED WITH PROPER AGENCY PRIOR TO CONSTRUCTION OF PROJECT. INVERT ELEVATIONS ARE DERIVED FROM CITY AGENCY RECORDS WHEN NOT AVAILABLE BY FIELD SURVEY AND NOTED AS "PER RECORD" ON THE SURVEY.

ALL SUBSURFACE UTILITY AS TO LOCATION AND DEPTH, SHOULD BE RECHECKED AND LEGAL GRADES SHOULD BE VERIFIED WITH THE TOPOGRAPHICAL BUREAU, PREFERABLY IN WRITING BEFORE COMMENCING CONSTRUCTION.

THIS IS TO CERTIFY THAT THERE ARE NO STREAMS OR NATURAL WATER COURSES ON THE SURVEYED PROPERTY EXCEPT AS SHOWN AND/OR DESCRIBED ON THIS SURVEY.

ALL OPERATIONS OF UNDERGROUND FACILITIES AND ALL EXCAVATORS ARE OBLIGATED TO COMPLY WITH ARTICLE 36 OF THE GENERAL BUSINESS LAW AND WITH PROVISIONS OF INDUSTRIAL CODE PART (RULE NO.35) BEFORE ANY EXCAVATION OR DEMOLITION IS COMMENCED. EVERY EXCAVATOR IS REQUIRED BY THESE LAWS TO GIVE ADVANCE NOTICE TO EVERY OPERATOR OF UNDERGROUND FACILITIES OF HIS INTENT TO PERFORM EXCAVATION OR DEMOLITION WORK IN THE SPECIFIED AREA

ALL ELEVATIONS SHOWN REFER TO THE **BROOKLYN** DATUM WHICH IS **2.547** ABOVE MEAN SEA LEVEL AT SANDY HOOK AS ESTABLISHED THE U.S. COAST AND GEODETIC SURVEY.

EASEMENTS IF ANY ARE NOT SHOWN ON THIS SURVEY. NO INFORMATION PROVIDED TO SURVEYOR AT THIS TIME.

UNDERGROUND UTILITIES NOTES

UNDERGROUND, OVERHEAD AND GROUND LEVEL UTILITIES ARE NOT GUARANTEED AS TO ACCURACY, EXACT LOCATION, TYPE OR USE, ACTIVE OR INACTIVE. VERIFICATION IS MANDATORY WITH MUNICIPAL AGENCIES, PUBLIC AND PRIVATE UTILITY COMPANIES PRIOR TO TAKING TITLE AND OR DESIGN WORK. BOUNDARIES ARE NOT GUARANTEED UNLESS SO NOTED.

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GUARANTEED TO: Buildings Development

COUNTY: KINGS CITY: BROOKLYN

SECTION: BLOCK: 2331 LOT(S): 9

PROPERTY ADDRESS: 310 NORTH 7th STREET

TOPOGRAPHICAL SURVEY

PREPARED BY

PERFECT POINT
LAND SURVEYING RT
brooklyn - queens - manhattan - bronx
staten island - nassau
phone: (718) 474-7700
fax: (718) 872-9699
info@ppsurveying.com
www.ppsurveying.com

N.Y.S. L.L.S. 049844

PROGRESS SET: 12/9/2014 8:11:57 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER: 308 N 7TH STREET LLC 308 N 7TH STREET BROOKLYN NY 11211

STRUCTURAL ENGINEER: NARDUCCI ASSOCIATES INC 230 EAST 15TH STREET NEW YORK, NY 10003

MEP ENGINEER: A & E ENGINEERING PLLC 1455 EAST 15TH STREET BROOKLYN, NY 11230

CODE CONSULTANT:

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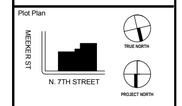
Issuance Schedule

No.	Date	Description
	12/09/13	ISSUED FOR PERMIT

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

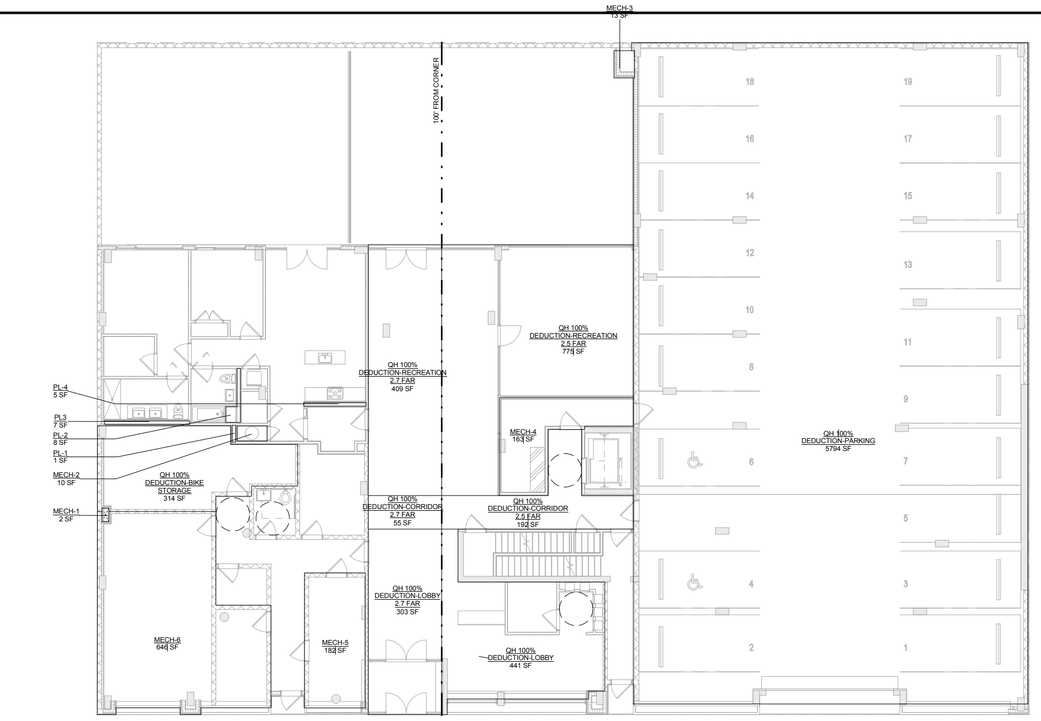
Drawing Title: SURVEY

Sign & Seal

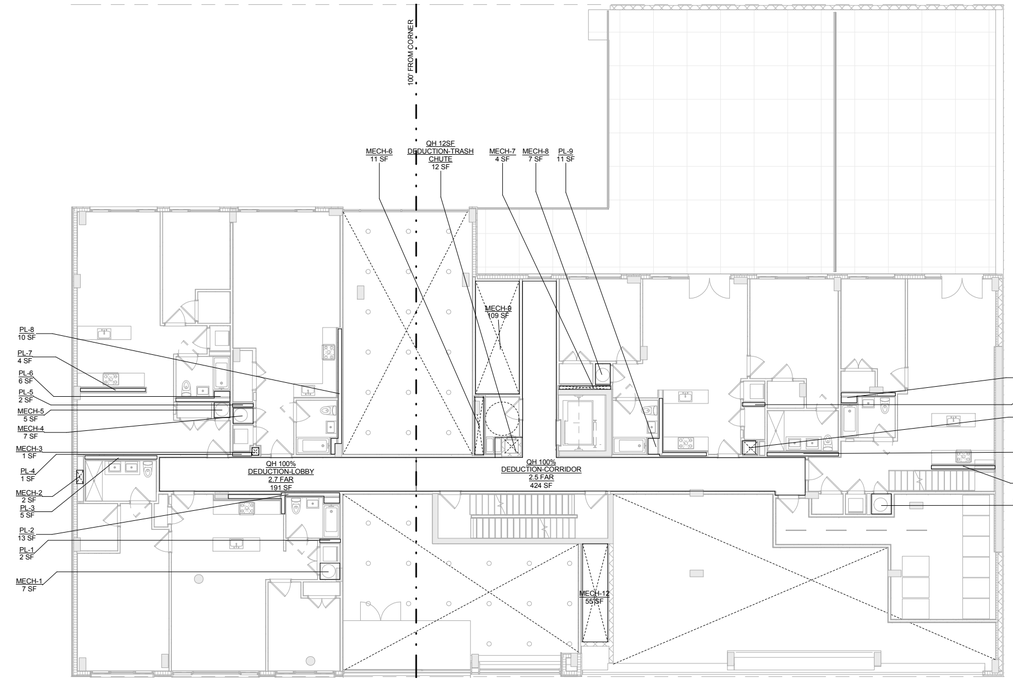
Drawing No. G-200.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
	Checker	4 OF 22

DOB NUMBER



1 1ST FLOOR (11.05)
1/8" = 1'-0"



2 2ND FLOOR (21.58)
1/8" = 1'-0"

Area Schedule (Area Deductions)		
Level	Name	Area
1ST FLOOR (11.05)	MECH-1	2.00 SF
1ST FLOOR (11.05)	MECH-2	10.00 SF
1ST FLOOR (11.05)	MECH-3	12.50 SF
1ST FLOOR (11.05)	MECH-4	162.75 SF
1ST FLOOR (11.05)	MECH-5	182.25 SF
1ST FLOOR (11.05)	MECH-6	646.50 SF
1ST FLOOR (11.05)	PL3	6.50 SF
1ST FLOOR (11.05)	PL-1	1.25 SF
1ST FLOOR (11.05)	PL-2	8.00 SF
1ST FLOOR (11.05)	PL-4	4.75 SF
1ST FLOOR (11.05)	QH 100% DEDUCTION-BIKE STORAGE	314.50 SF
1ST FLOOR (11.05)	QH 100% DEDUCTION-CORRIDOR 2.5 FAR	191.50 SF
1ST FLOOR (11.05)	QH 100% DEDUCTION-CORRIDOR 2.7 FAR	54.75 SF
1ST FLOOR (11.05)	QH 100% DEDUCTION-LOBBY	441.00 SF
1ST FLOOR (11.05)	QH 100% DEDUCTION-LOBBY 2.7 FAR	302.75 SF
1ST FLOOR (11.05)	QH 100% DEDUCTION-PARKING	5793.50 SF
1ST FLOOR (11.05)	QH 100% DEDUCTION-RECREATION 2.5 FAR	775.25 SF
1ST FLOOR (11.05)	QH 100% DEDUCTION-RECREATION 2.7 FAR	409.50 SF
1ST FLOOR (11.05): 18		9319.50 SF

Area Schedule (Area Deductions)		
Level	Name	Area
2ND FLOOR (21.58)	MECH-1	7.00 SF
2ND FLOOR (21.58)	MECH-2	2.00 SF
2ND FLOOR (21.58)	MECH-3	1.25 SF
2ND FLOOR (21.58)	MECH-4	6.75 SF
2ND FLOOR (21.58)	MECH-5	5.25 SF
2ND FLOOR (21.58)	MECH-6	11.25 SF
2ND FLOOR (21.58)	MECH-7	3.75 SF
2ND FLOOR (21.58)	MECH-8	7.00 SF
2ND FLOOR (21.58)	MECH-9	109.25 SF
2ND FLOOR (21.58)	MECH-10	4.00 SF
2ND FLOOR (21.58)	MECH-11	8.75 SF
2ND FLOOR (21.58)	MECH-12	54.75 SF
2ND FLOOR (21.58)	PL-1	1.50 SF
2ND FLOOR (21.58)	PL-2	12.75 SF
2ND FLOOR (21.58)	PL-3	5.25 SF
2ND FLOOR (21.58)	PL-4	1.50 SF
2ND FLOOR (21.58)	PL-5	1.50 SF
2ND FLOOR (21.58)	PL-6	6.25 SF
2ND FLOOR (21.58)	PL-7	4.25 SF
2ND FLOOR (21.58)	PL-8	10.25 SF
2ND FLOOR (21.58)	PL-9	11.25 SF
2ND FLOOR (21.58)	PL-10	6.25 SF
2ND FLOOR (21.58)	PL-11	1.75 SF
2ND FLOOR (21.58)	PL-12	5.25 SF
2ND FLOOR (21.58)	PL-13	4.75 SF
2ND FLOOR (21.58)	QH 12SF DEDUCTION-TRASH CHUTE	12.25 SF
2ND FLOOR (21.58)	QH 100% DEDUCTION-CORRIDOR 2.5 FAR	424.00 SF
2ND FLOOR (21.58)	QH 100% DEDUCTION-LOBBY 2.7 FAR	191.25 SF
2ND FLOOR (21.58): 28		921.25 SF

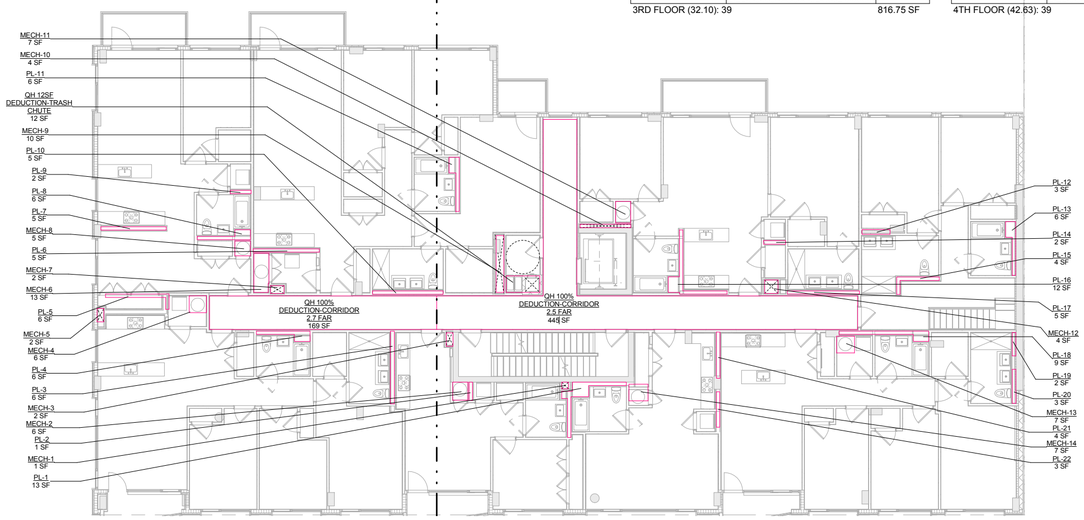
Area Schedule (Area Deductions)		
Level	Name	Area
3RD FLOOR (32.10)	MECH-1	1.00 SF
3RD FLOOR (32.10)	MECH-2	6.00 SF
3RD FLOOR (32.10)	MECH-3	2.00 SF
3RD FLOOR (32.10)	MECH-4	6.50 SF
3RD FLOOR (32.10)	MECH-5	2.00 SF
3RD FLOOR (32.10)	MECH-6	13.00 SF
3RD FLOOR (32.10)	MECH-7	2.25 SF
3RD FLOOR (32.10)	MECH-8	5.00 SF
3RD FLOOR (32.10)	MECH-9	9.75 SF
3RD FLOOR (32.10)	MECH-10	3.75 SF
3RD FLOOR (32.10)	MECH-11	7.25 SF
3RD FLOOR (32.10)	MECH-12	4.00 SF
3RD FLOOR (32.10)	MECH-13	6.75 SF
3RD FLOOR (32.10)	MECH-14	7.00 SF
3RD FLOOR (32.10)	PL-1	12.50 SF
3RD FLOOR (32.10)	PL-2	1.50 SF
3RD FLOOR (32.10)	PL-3	6.25 SF
3RD FLOOR (32.10)	PL-4	6.50 SF
3RD FLOOR (32.10)	PL-5	5.75 SF
3RD FLOOR (32.10)	PL-6	5.00 SF
3RD FLOOR (32.10)	PL-7	4.75 SF
3RD FLOOR (32.10)	PL-8	6.25 SF
3RD FLOOR (32.10)	PL-9	1.50 SF
3RD FLOOR (32.10)	PL-10	5.25 SF
3RD FLOOR (32.10)	PL-11	6.25 SF
3RD FLOOR (32.10)	PL-12	3.00 SF
3RD FLOOR (32.10)	PL-13	6.25 SF
3RD FLOOR (32.10)	PL-14	1.75 SF
3RD FLOOR (32.10)	PL-15	4.25 SF
3RD FLOOR (32.10)	PL-16	11.75 SF
3RD FLOOR (32.10)	PL-17	5.00 SF
3RD FLOOR (32.10)	PL-18	9.00 SF
3RD FLOOR (32.10)	PL-19	1.75 SF
3RD FLOOR (32.10)	PL-20	2.75 SF
3RD FLOOR (32.10)	PL-21	3.75 SF
3RD FLOOR (32.10)	PL-22	2.75 SF
3RD FLOOR (32.10)	QH 12SF DEDUCTION-TRASH CHUTE	12.25 SF
3RD FLOOR (32.10)	QH 100% DEDUCTION-CORRIDOR 2.5 FAR	445.00 SF
3RD FLOOR (32.10)	QH 100% DEDUCTION-CORRIDOR 2.7 FAR	169.25 SF
3RD FLOOR (32.10): 39		816.75 SF

Area Schedule (Area Deductions)		
Level	Name	Area
4TH FLOOR (42.63)	MECH15	2.00 SF
4TH FLOOR (42.63)	MECH-1	7.00 SF
4TH FLOOR (42.63)	MECH-2	1.00 SF
4TH FLOOR (42.63)	MECH-3	6.00 SF
4TH FLOOR (42.63)	MECH-4	2.00 SF
4TH FLOOR (42.63)	MECH-5	6.50 SF
4TH FLOOR (42.63)	MECH-6	2.75 SF
4TH FLOOR (42.63)	MECH-7	2.25 SF
4TH FLOOR (42.63)	MECH-8	13.00 SF
4TH FLOOR (42.63)	MECH-9	5.00 SF
4TH FLOOR (42.63)	MECH-10	9.75 SF
4TH FLOOR (42.63)	MECH-11	3.75 SF
4TH FLOOR (42.63)	MECH-12	7.25 SF
4TH FLOOR (42.63)	MECH-13	4.00 SF
4TH FLOOR (42.63)	MECH-14	5.25 SF
4TH FLOOR (42.63)	MECH-16	10.00 SF
4TH FLOOR (42.63)	PL3	6.50 SF
4TH FLOOR (42.63)	PL-1	12.75 SF
4TH FLOOR (42.63)	PL-2	5.50 SF
4TH FLOOR (42.63)	PL-4	5.00 SF
4TH FLOOR (42.63)	PL-5	6.00 SF
4TH FLOOR (42.63)	PL-6	5.00 SF
4TH FLOOR (42.63)	PL-7	5.00 SF
4TH FLOOR (42.63)	PL-8	6.75 SF
4TH FLOOR (42.63)	PL-9	1.50 SF
4TH FLOOR (42.63)	PL-10	6.50 SF
4TH FLOOR (42.63)	PL-11	12.00 SF
4TH FLOOR (42.63)	PL-12	1.75 SF
4TH FLOOR (42.63)	PL-13	11.75 SF
4TH FLOOR (42.63)	PL-14	2.25 SF
4TH FLOOR (42.63)	PL-15	5.50 SF
4TH FLOOR (42.63)	PL-16	5.50 SF
4TH FLOOR (42.63)	PL-17	2.25 SF
4TH FLOOR (42.63)	PL-18	1.50 SF
4TH FLOOR (42.63)	PL-19	3.50 SF
4TH FLOOR (42.63)	PL-20	2.75 SF
4TH FLOOR (42.63)	QH 12SF DEDUCTION-TRASH CHUTE	12.25 SF
4TH FLOOR (42.63)	QH 100% DEDUCTION-CORRIDOR 2.5 FAR	421.25 SF
4TH FLOOR (42.63)	QH 100% DEDUCTION-CORRIDOR 2.7 FAR	169.25 SF
4TH FLOOR (42.63): 39		798.75 SF

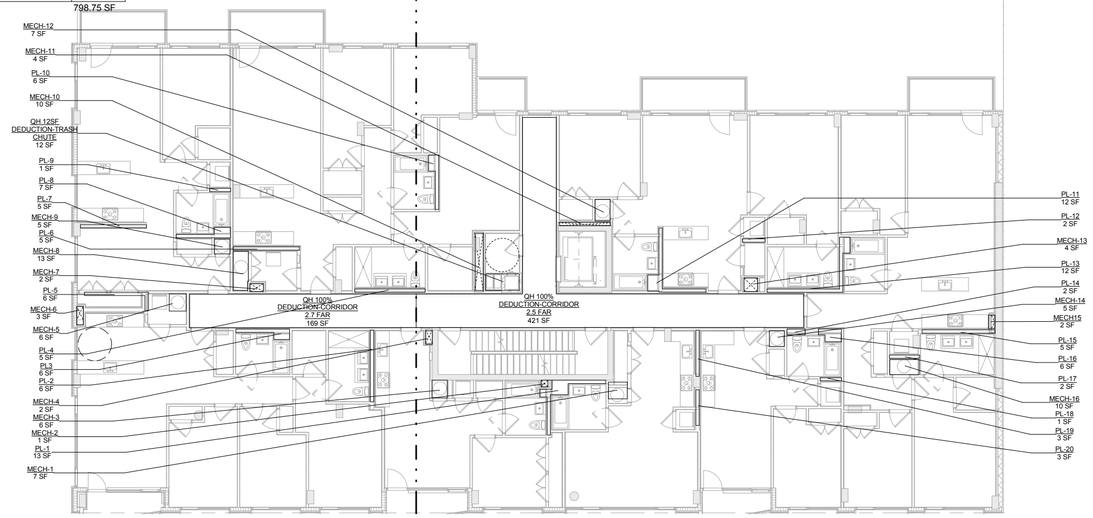
Area Schedule (Area Deductions)		
Level	Name	Area
5TH FLOOR (53.15)	MECH-1	6.50 SF
5TH FLOOR (53.15)	MECH-2	6.50 SF
5TH FLOOR (53.15)	MECH-3	2.00 SF
5TH FLOOR (53.15)	MECH-4	2.00 SF
5TH FLOOR (53.15)	MECH-5	2.25 SF
5TH FLOOR (53.15)	MECH-6	6.75 SF
5TH FLOOR (53.15)	MECH-7	5.75 SF
5TH FLOOR (53.15)	MECH-8	9.75 SF
5TH FLOOR (53.15)	MECH-9	3.75 SF
5TH FLOOR (53.15)	MECH-10	5.75 SF
5TH FLOOR (53.15)	MECH-11	4.00 SF
5TH FLOOR (53.15)	MECH-12	6.00 SF
5TH FLOOR (53.15)	MECH-13	10.25 SF
5TH FLOOR (53.15)	MECH-14	1.00 SF
5TH FLOOR (53.15)	PL-1	1.50 SF
5TH FLOOR (53.15)	PL-2	1.25 SF
5TH FLOOR (53.15)	PL-3	1.50 SF
5TH FLOOR (53.15)	PL-4	9.00 SF
5TH FLOOR (53.15)	PL-5	19.75 SF
5TH FLOOR (53.15)	PL-6	8.75 SF
5TH FLOOR (53.15)	PL-7	6.50 SF
5TH FLOOR (53.15)	PL-8	5.25 SF
5TH FLOOR (53.15)	PL-9	6.50 SF
5TH FLOOR (53.15)	PL-10	5.50 SF
5TH FLOOR (53.15)	PL-11	2.50 SF
5TH FLOOR (53.15)	PL-12	7.25 SF
5TH FLOOR (53.15)	PL-13	10.00 SF
5TH FLOOR (53.15)	PL-14	7.50 SF
5TH FLOOR (53.15)	PL-15	14.75 SF
5TH FLOOR (53.15)	PL-16	8.75 SF
5TH FLOOR (53.15)	PL-17	8.00 SF
5TH FLOOR (53.15)	QH 12SF DEDUCTION-TRASH CHUTE	12.25 SF
5TH FLOOR (53.15)	QH 100% DEDUCTION-CORRIDOR 2.5 FAR	367.50 SF
5TH FLOOR (53.15)	QH 100% DEDUCTION-CORRIDOR 2.7 FAR	158.00 SF
5TH FLOOR (53.15): 34		733.75 SF

Area Schedule (Area Deductions)		
Level	Name	Area
6TH FLOOR (63.68)	MECH-1	1.00 SF
6TH FLOOR (63.68)	MECH-2	6.25 SF
6TH FLOOR (63.68)	MECH-3	5.50 SF
6TH FLOOR (63.68)	MECH-4	2.00 SF
6TH FLOOR (63.68)	MECH-5	2.00 SF
6TH FLOOR (63.68)	MECH-6	2.25 SF
6TH FLOOR (63.68)	MECH-7	5.00 SF
6TH FLOOR (63.68)	MECH-8	6.00 SF
6TH FLOOR (63.68)	MECH-9	5.75 SF
6TH FLOOR (63.68)	MECH-10	10.50 SF
6TH FLOOR (63.68)	MECH-11	3.75 SF
6TH FLOOR (63.68)	MECH-12	6.25 SF
6TH FLOOR (63.68)	MECH-13	4.00 SF
6TH FLOOR (63.68)	MECH-14	5.00 SF
6TH FLOOR (63.68)	PL-1	6.25 SF
6TH FLOOR (63.68)	PL-2	1.50 SF
6TH FLOOR (63.68)	PL-3	1.50 SF
6TH FLOOR (63.68)	PL-4	0.75 SF
6TH FLOOR (63.68)	PL-5	8.00 SF
6TH FLOOR (63.68)	PL-6	5.25 SF
6TH FLOOR (63.68)	PL-7	1.75 SF
6TH FLOOR (63.68)	PL-8	9.00 SF
6TH FLOOR (63.68)	PL-9	5.25 SF
6TH FLOOR (63.68)	PL-10	9.50 SF
6TH FLOOR (63.68)	PL-11	7.00 SF
6TH FLOOR (63.68)	PL-12	6.50 SF
6TH FLOOR (63.68)	PL-13	22.50 SF
6TH FLOOR (63.68)	PL-14	5.25 SF
6TH FLOOR (63.68)	PL-15	4.75 SF
6TH FLOOR (63.68)	PL-16	1.25 SF
6TH FLOOR (63.68)	PL-17	5.00 SF
6TH FLOOR (63.68)	QH 12SF DEDUCTION-TRASH CHUTE	12.00 SF
6TH FLOOR (63.68)	QH 100% DEDUCTION-CORRIDOR 2.5 FAR	334.25 SF
6TH FLOOR (63.68)	QH 100% DEDUCTION-CORRIDOR 2.7 FAR	153.50 SF
6TH FLOOR (63.68): 34		665.25 SF

Area Schedule (Area Deductions)		
Level	Name	Area
7TH FLOOR (74.20)	MECH-1	1.00 SF
7TH FLOOR (74.20)	MECH-2	2.00 SF
7TH FLOOR (74.20)	MECH-3	6.50 SF
7TH FLOOR (74.20)	MECH-4	2.00 SF
7TH FLOOR (74.20)	MECH-5	2.25 SF
7TH FLOOR (74.20)	MECH-6	5.75 SF
7TH FLOOR (74.20)	MECH-7	9.75 SF
7TH FLOOR (74.20)	MECH-8	6.75 SF
7TH FLOOR (74.20)	MECH-9	3.75 SF
7TH FLOOR (74.20)	MECH-10	4.00 SF
7TH FLOOR (74.20)	PL-1	7.00 SF
7TH FLOOR (74.20)	PL-2	9.50 SF
7TH FLOOR (74.20)	PL-3	29.25 SF
7TH FLOOR (74.20)	PL-4	1.25 SF
7TH FLOOR (74.20)	PL-5	6.75 SF
7TH FLOOR (74.20)	PL-6	5.50 SF
7TH FLOOR (74.20)	PL-7	2.25 SF
7TH FLOOR (74.20)	PL-8	2.75 SF
7TH FLOOR (74.20)	PL-9	1.75 SF
7TH FLOOR (74.20)	PL-10	5.75 SF
7TH FLOOR (74.20)	PL-11	5.25 SF
7TH FLOOR (74.20)	QH 12SF DEDUCTION-TRASH CHUTE	12.25 SF
7TH FLOOR (74.20)	QH 50 % DEDUCTION-CORRIDOR 2.5 FAR	189.25 SF
7TH FLOOR (74.20)	QH 100% DEDUCTION-CORRIDOR 2.7 FAR	117.25 SF
7TH FLOOR (74.20): 24		439.25 SF



3 3RD FLOOR (32.10)
1/8" = 1'-0"



4 4TH FLOOR (42.63)
1/8" = 1'-0"

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Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

STRUCTURAL ENGINEER: MARCO ASSOCIATES INC 1123 BROADWAY, SUITE 914 NEW YORK, NY 10010

MEP ENGINEER: A & E ENGINEERING PLLC 1123 BROADWAY, SUITE 914 NEW YORK, NY 10010

CODE CONSULTANT:

OWNER: 308 N 7TH STREET 308 N 7TH STREET BROOKLYN, NY 11211

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Issuance Schedule

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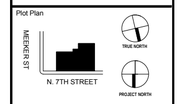
Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

Drawing Title
AREA DEDUCTIONS

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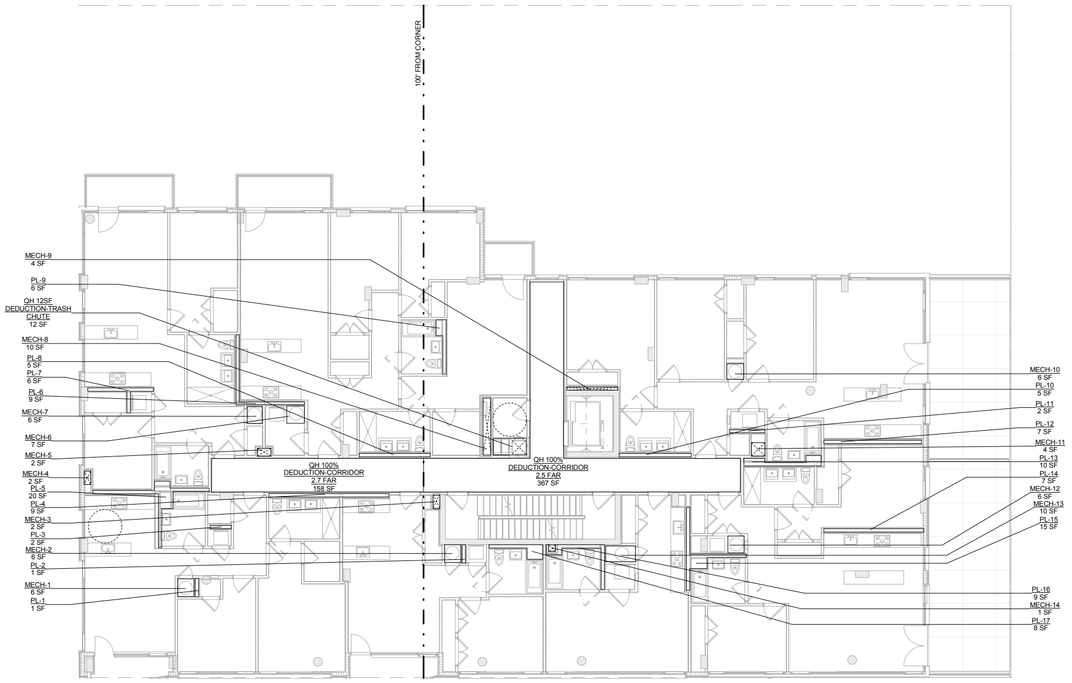
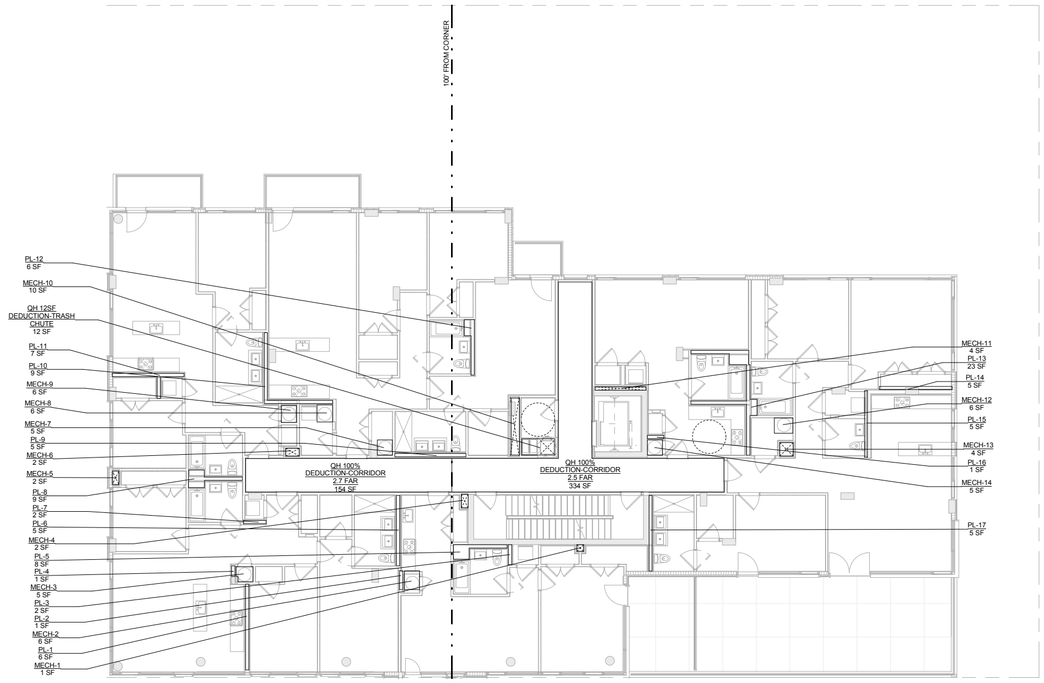
Drawing No.
G-300.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/8" = 1'-0"	Checker	5 OF 22

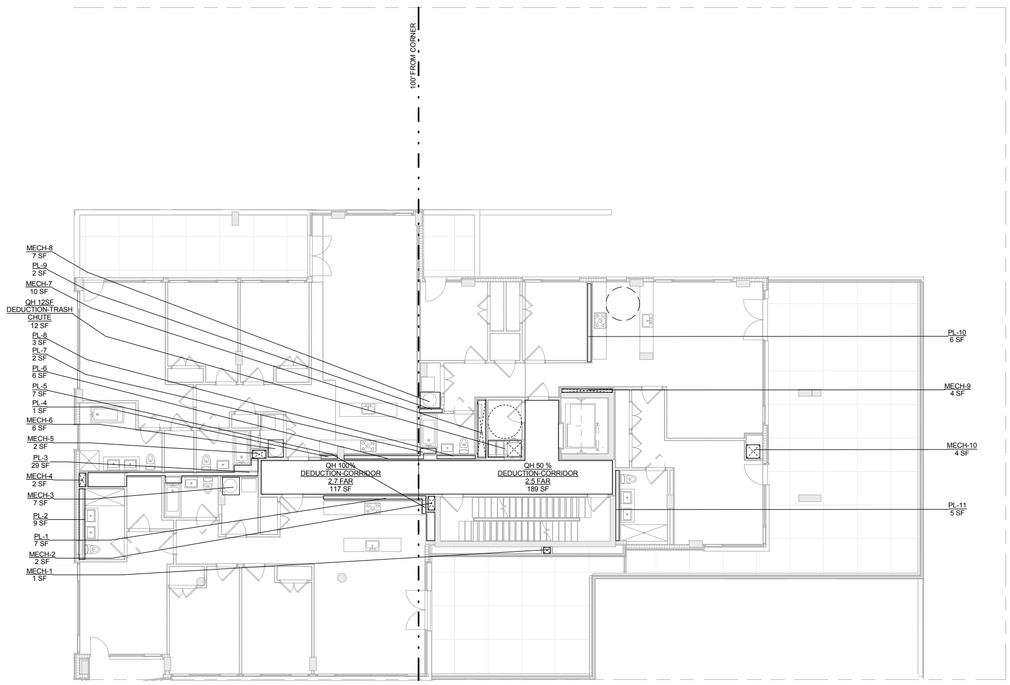
DOB NUMBER



1 5TH FLOOR (53.15)
1/8" = 1'-0"



2 6TH FLOOR (63.68)
1/8" = 1'-0"



3 7TH FLOOR (74.20)
1/8" = 1'-0"

PROGRESS SET: 12/9/2014 8:12:27 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

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308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDUCI ASSOCIATES INC
1 HANOVER SQUARE, FLOOR 4
NEW YORK, NY 10003

MEP ENGINEER:
A & D ENGINEERING PLLC
308 N 7TH STREET
BROOKLYN, NY 11211

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Issuance Schedule

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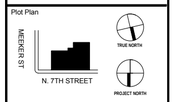
Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

Drawing Title
AREA DEDUCTIONS

Sign & Seal

Drawing No.
G-301.00

date	drawn by	job no.
11/01/10	Author	2014-093

sheet scale	checked by	DOB sheet
1/8" = 1'-0"	Checker	

DOB NUMBER

COM*check* Software Version 3.9.3

Envelope Compliance Certificate

2010 New York Energy Conservation Construction Code

Section 1: Project Information

Project Type: **New Construction**
Project Title : 308 N 7th street

Construction Site:	Owner/Agent:	Designer/Contractor:
308 N 7th Street Brooklyn, NY 11211	N7 OWNER LLC 360 3rd Avenue 13-D New York, NY 10022 646.422.7244 Info@AdamAmericaRE.com	Daniel Bernstein Kutnicki Bernstein Architects 434 Broadway 4th Floor New York, NY 10013 212.431.5552 db@kbanyc.com

Section 2: General Information

Building Location (for weather data):	**Kings, New York**
Climate Zone:	**4a**
Building Space Conditioning Type(s):	**Residential**
Vertical Glazing / Wall Area Pct.:	**39%**

Activity Type(s)	Floor Area
Multifamily	49868

Section 3: Requirements Checklist

Envelope PASSES: Design 16% better than code

Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
North Wall - Taktyl: Steel-Framed, 16" o.c.	5474	24.6	8.2	0.053	0.064
Operable Windows: Metal Frame with Thermal Break:Operable, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	808	---	---	0.450	0.550
Fixed Glazing: Metal Frame with Thermal Break:Operable, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	1649	---	---	0.450	0.550
Terrace/Balcony Doors: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.05 (c)	258	---	---	0.900	0.550
North Wall - Taktyl 6th Floor Setback: Steel-Framed, 16" o.c.	591	24.6	8.2	0.053	0.064
Operable Windows: Metal Frame with Thermal Break:Operable, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	32	---	---	0.450	0.550
Fixed Glazing: Metal Frame with Thermal Break:Fixed, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	143	---	---	0.450	0.550
Terrace/Balcony Doors: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.05 (c)	81	---	---	0.900	0.550
North Wall - Taktyl 7th Floor Setback: Steel-Framed, 16" o.c.	234	24.6	8.2	0.053	0.064
Operable Windows: Metal Frame with Thermal Break:Operable, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	18	---	---	0.450	0.550

Fixed Glazing: Metal Frame with Thermal Break:Fixed, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	57	---	---	0.450	0.550
North Wall - Taktyl Stair Bulkhead: Steel-Framed, 16" o.c.	623	24.6	8.2	0.053	0.064
North Wall - Taktyl Elevator Bulkhead: Steel-Framed, 16" o.c.	100	24.6	8.2	0.053	0.064
North - Tilted Walls: Steel-Framed, 16" o.c.	1688	24.6	8.2	0.053	0.064
Fixed Window: Metal Frame with Thermal Break:Fixed, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	434	---	---	0.450	0.550
Entry Door: Glass (> 50% glazing):Metal Frame, Entrance Door, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.05 (c)	60	---	---	0.900	0.850
East Wall - Taktyl: Steel-Framed, 16" o.c.	4546	24.6	8.2	0.053	0.064
Operable Windows: Metal Frame with Thermal Break:Operable, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	276	---	---	0.450	0.550
Fixed Glazing: Metal Frame with Thermal Break:Fixed, Perf. Type: Other testing/cert. Product ID: Alumil M1000, SHGC 0.37, PF 0.06 (c)	1299	---	---	0.450	0.550
East Wall - CMU: Concrete Block:8", Solid Grouted,Medium Density , Furring: Metal	724	0.0	8.2	0.089	0.090
East Wall - EIFS 7th Floor Setback: Steel-Framed, 16" o.c.	121	24.6	8.2	0.053	0.064
Fixed Glazing: Metal Frame with Thermal Break:Fixed, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	35	---	---	0.450	0.550
Terrace Door: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.05 (c)	56	---	---	0.900	0.550
East Wall - Taktyl Elevator Bulkhead: Steel-Framed, 16" o.c.	64	24.6	8.2	0.053	0.064
Fixed Glazing: Metal Frame with Thermal Break:Fixed, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.05 (c)	57	---	---	0.450	0.550
East Wall - Taktyl Satir Bulkhead: Steel-Framed, 16" o.c.	76	24.6	8.2	0.053	0.064
Stair Bulkhead Door: Insulated Metal, Swinging	25	---	---	0.900	0.700
East Parking Wall: Concrete Block:8", Solid Grouted,Medium Density , Furring: None	338	---	8.2	0.096	0.090
South Wall - EIFS: Steel-Framed, 16" o.c.	2481	24.6	8.2	0.053	0.064
Operable Windows: Metal Frame with Thermal Break:Operable, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	497	---	---	0.450	0.550
Fixed Glazing: Metal Frame with Thermal Break:Fixed, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	1636	---	---	0.450	0.550
Terrace/Balcony Doors: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.05 (c)	254	---	---	0.900	0.550
Garden Door: Glass (> 50% glazing):Metal Frame, Entrance Door, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.45, PF 0.05 (c)	46	---	---	0.900	0.850
South Wall - EIFS Setback: Steel-Framed, 16" o.c.	4745	24.6	8.2	0.053	0.064
Operable Windows: Metal Frame with Thermal Break:Operable, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	527	---	---	0.450	0.550
Fixed Glazing: Metal Frame with Thermal Break:Fixed, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	1546	---	---	0.450	0.550
Terrace/Balcony Doors: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.05 (c)	321	---	---	0.900	0.550
South Parking Wall: Concrete Block:8", Solid Grouted,Medium Density , Furring: None	661	---	0.0	0.580	0.090
South Elevator Bulkhead Wall: Steel-Framed, 16" o.c.	160	24.6	8.2	0.053	0.064
Fixed Glazing: Metal Frame with Thermal Break:Fixed, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.05 (c)	37	---	---	0.450	0.550
Bulkhead Door: Glass (> 50% glazing):Metal Frame, Entrance Door, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.05 (c)	22	---	---	0.900	0.850

South Stair Bulkhead Wall: Steel-Framed, 16" o.c.	281	24.6	8.2	0.053	0.064
Fixed Glazing: Metal Frame with Thermal Break:Fixed, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	20	---	---	0.450	0.550
West Shear Wall Parking: Solid Concrete:12" Thickness,Medium Density , Furring: None	325	---	0.0	0.450	0.090
West Shear Wall: Solid Concrete:12" Thickness,Medium Density , Furring: Metal	974	0.0	8.2	0.085	0.090
West Block Wall Parking: Concrete Block:8", Solid Grouted,Medium Density , Furring: None	928	---	0.0	0.580	0.090
West Block Wall: Concrete Block:8", Solid Grouted,Medium Density , Furring: Metal	733	0.0	8.2	0.089	0.090
West Wall - Taktyl 5th Floor Setback: Steel-Framed, 16" o.c.	1187	24.6	8.2	0.053	0.064
Operable Windows: Metal Frame with Thermal Break:Operable, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	128	---	---	0.450	0.550
Fixed Glazing: Metal Frame with Thermal Break:Fixed, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	372	---	---	0.450	0.550
Terrace Doors: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.05 (c)	108	---	---	0.900	0.550
West Wall - Taktyl 6th Floor Setback: Steel-Framed, 16" o.c.	175	24.6	8.2	0.053	0.064
Fixed Glazing: Wood Frame:Fixed, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	79	---	---	0.450	0.400
Terrace Door: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.05 (c)	27	---	---	0.900	0.550
West Wall - Taktyl 7th Floor Setback: Steel-Framed, 16" o.c.	725	24.6	8.2	0.053	0.064
Operable Windows: Metal Frame with Thermal Break:Operable, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.06 (c)	36	---	---	0.450	0.550
Fixed Glazing: Metal Frame with Thermal Break:Fixed, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.45, PF 0.06 (c)	306	---	---	0.370	0.550
Terrace Doors: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Type: Other testing/cert. Product ID: Alumil M11000, SHGC 0.37, PF 0.05 (c)	95	---	---	0.900	0.550
West Wall - Taktyl Bulkhead: Steel-Framed, 16" o.c.	198	24.6	8.2	0.053	0.064
Bulkhead Doors: Insulated Metal, Swinging	75	---	---	0.900	0.700
West Wall - EIFS Bulkhead: Steel-Framed, 16" o.c.	627	24.6	8.2	0.053	0.064
Slab-On-Grade Under Heated Space: Slab-On-Grade:Heated, Horizontal with vertical >= 4 ft.	5632	---	10.0	---	---
Slab-On-Grade Under Unheated Space: Slab-On-Grade:Unheated, Horizontal with vertical >= 4 ft.	5821	---	10.0	---	---
Roof Above Conditioned Space: Insulation Entirely Above Deck	8291	---	30.0	0.032	0.048
Roof Above Unconditioned Space: Insulation Entirely Above Deck	2485	---	11.2	0.083	0.048

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) 'Other' components require supporting documentation for proposed U-factors.
(c) Fenestrations product performance must be certified in accordance with NFRC and requires supporting documentation.

Air Leakage, Component Certification, and Vapor Retarder Requirements:

- ☐ 1. All joints and penetrations are caulked, gasketed or covered with a moisture vapor-permeable wrapping material installed in accordance with the manufacturer's installation instructions.
- ☐ 2. Windows, doors, and skylights certified as meeting leakage requirements.
- ☐ 3. Component R-values & U-factors labeled as certified.
- ☐ 4. No roof insulation is installed on a suspended ceiling with removable ceiling panels.
- ☐ 5. 'Other' components have supporting documentation for proposed U-Factors.
- ☐ 6. Insulation installed according to manufacturer's instructions, in substantial contact with the surface being insulated, and in a manner that achieves the rated R-value without compressing the insulation.
- ☐ 7. Stair, elevator shaft vents, and other outdoor air intake and exhaust openings in the building envelope are equipped with motorized dampers.
- ☐ 8. Cargo doors and loading dock doors are weather sealed.
- ☐ 9. Recessed lighting fixtures installed in the building envelope are Type IC rated as meeting ASTM E283, are sealed with gasket or caulk.
- ☐ 10. Building entrance doors have a vestibule equipped with self-closing devices.

Exceptions:

- ☐ Building entrances with revolving doors.
- ☐ Doors not intended to be used as a building entrance.
- ☐ Doors that open directly from a space less than 3000 sq. ft. in area.
- ☐ Doors used primarily to facilitate vehicular movement or materials handling and adjacent personnel doors.
- ☐ Doors opening directly from a sleeping/dwelling unit.

Section 4: Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed envelope system has been designed to meet the 2010 New York Energy Conservation Construction Code requirements in COM*check* Version 3.9.3 and to comply with the mandatory requirements in the Requirements Checklist.

When a Registered Design Professional has stamped and signed this page, they are attesting that to the best of his/her knowledge, belief, and professional judgment, such plans or specifications are in compliance with this Code.

Name - Title	Signature	Date

PROGRESS SET: 12/9/2014 8:11:31 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO ASSOCIATES INC
1 HANOVER SQUARE, PH 1
NEW YORK, NY 10004

MEP ENGINEER:
A & G ENGINEERING PLLC
1420 BEDFORD AVENUE, #2-F
BROOKLYN, NY 11216

CODE CONSULTANT:

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Issuance Schedule

No.	Date	Description
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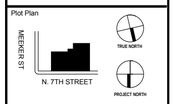
Revision Schedule

No.	Date	Description

Plot Plan



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Drawing Title
ENERGY ANALYSIS

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11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
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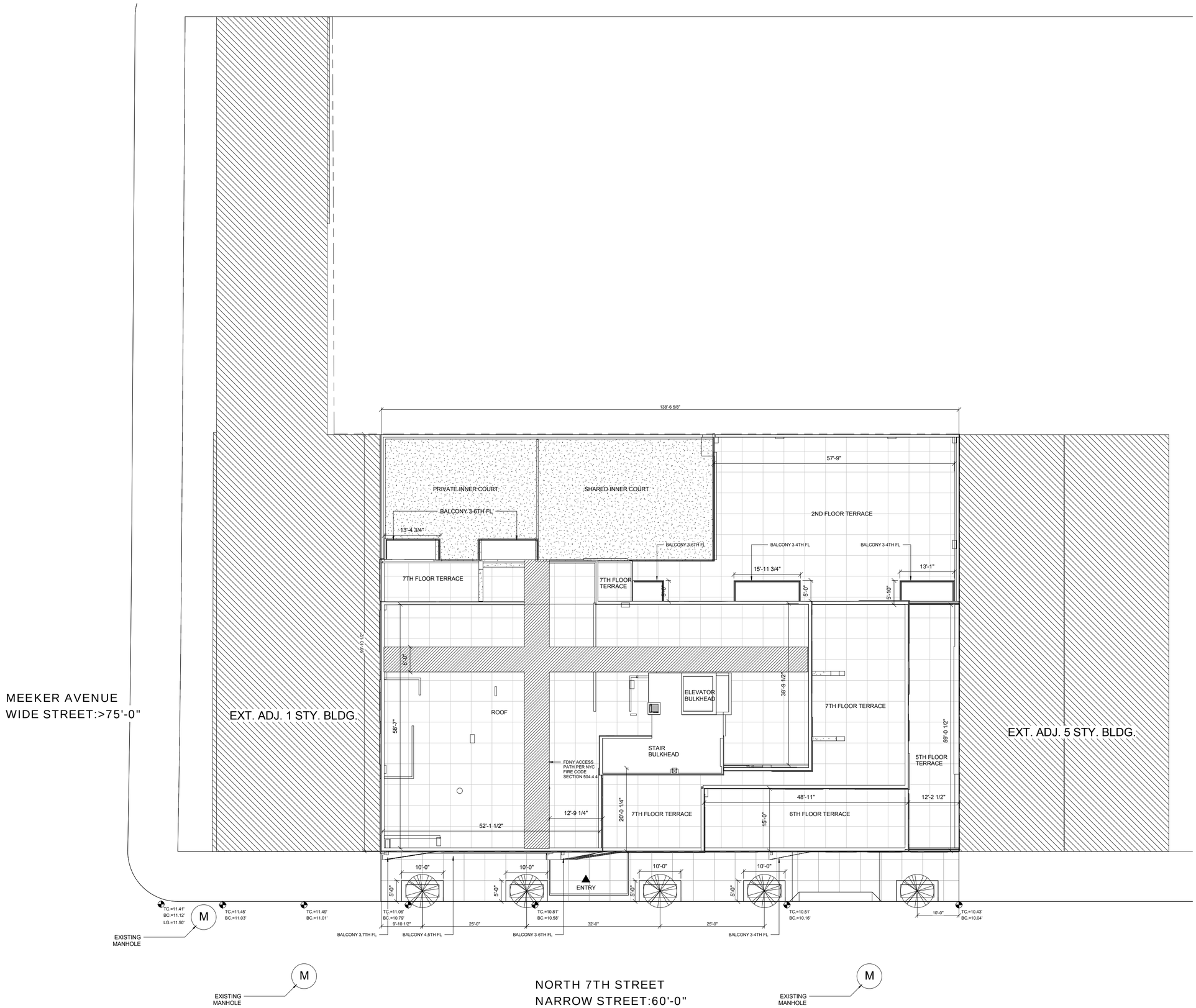

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Project

308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDUCI ASSOCIATES INC
231 WEST 29TH STREET
NEW YORK, NY 10001

MEP ENGINEER:
A & E ENGINEERING PLLC
308 N 7TH STREET
BROOKLYN, NY 11211

CODE CONSULTANT:

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Issuance Schedule

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Revision Schedule

No.	Date	Description

Plot Plan

MEEKER ST
N. 7TH STREET
TRUE NORTH
PROJECT NORTH

For Department of Buildings Use

Drawing Title
SITE PLAN

Sign & Seal

Drawing No.
A-010.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
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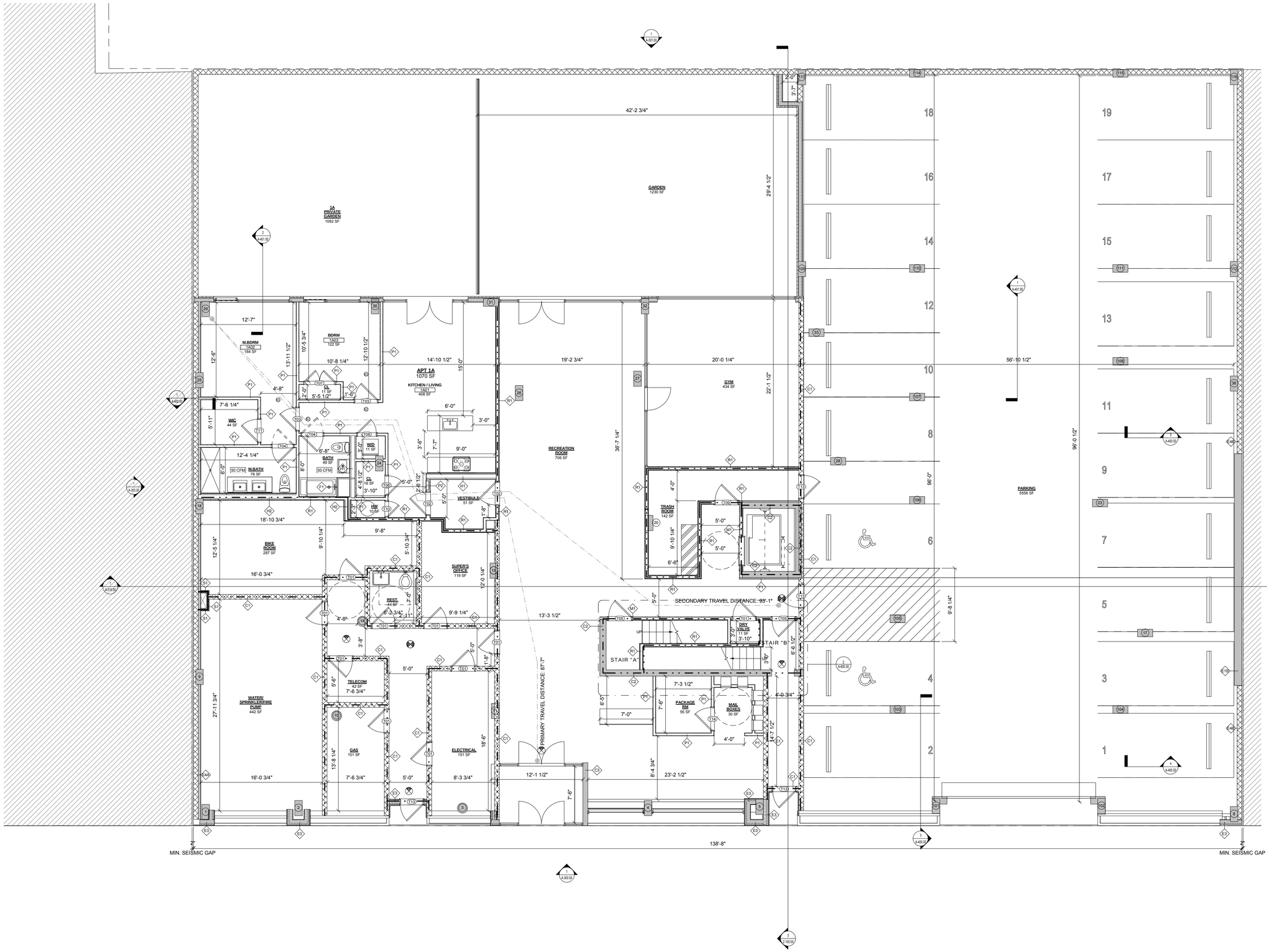
DOB NUMBER



1 1ST FLOOR (11.05)
1/4" = 1'-0"

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Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDUCI ASSOCIATES INC
307 7TH AVENUE, SUITE 1904
NEW YORK, NY 10001

MEP ENGINEER:
A & E ENGINEERING LLC
307 7TH AVENUE, SUITE 1904
NEW YORK, NY 10001

CODE CONSULTANT:

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Issuance Schedule

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Revision Schedule

No.	Date	Description

Plot Plan

MEEKER ST
N. 7TH STREET
TRUE NORTH
PROJECT NORTH

For Department of Buildings Use

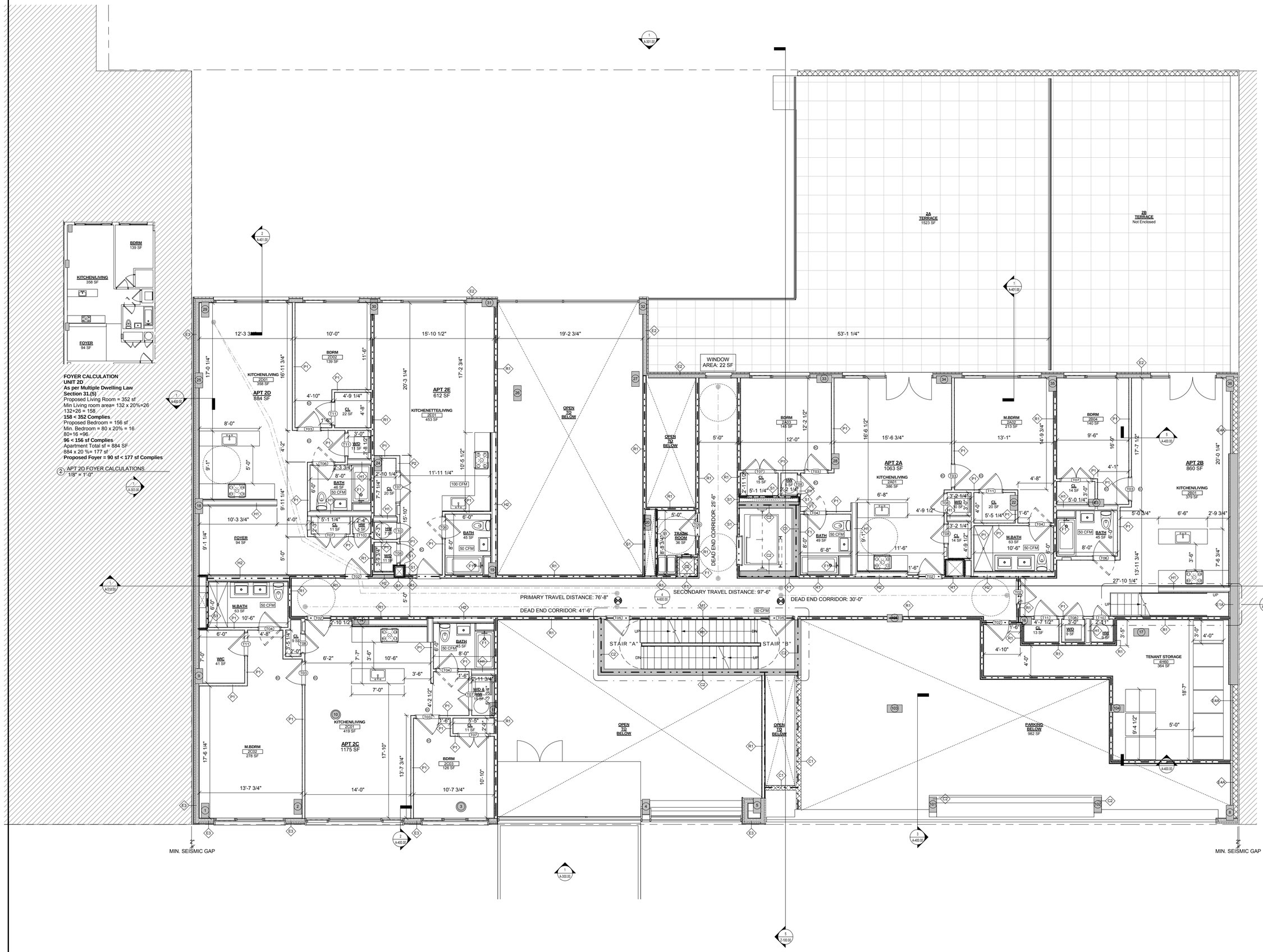
Drawing Title
1ST FLOOR PLAN

Sign & Seal

Drawing No.
A-101.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	9 OF 22

DOB NUMBER



FOYER CALCULATION
UNIT 2D
As per Multiple Dwelling Law
Section 31.(5)
Proposed Living Room = 352 sf
Min Living room area= 132 x 20%=26
132+26 = 158
158 < 352 Complies
Proposed Bedroom = 156 sf
Min. Bedroom = 80 x 20% = 16
80+16 =96
96 < 156 sf Complies
Apartment Total sf = 884 SF
884 x 20 %= 177 sf
Proposed Foyer = 90 sf < 177 sf Complies

2 APT 2D FOYER CALCULATIONS
1/8" = 1'-0"

1 2ND FLOOR (21.58)
1/4" = 1'-0"

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Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER: 308 N 7TH STREET LLC 308 N 7TH STREET BROOKLYN, NY 11211

STRUCTURAL ENGINEER: NARDUCI ASSOCIATES INC 231 WEST 29TH STREET NEW YORK, NY 10001

MEP ENGINEER: A & E ENGINEERING LLC 308 N 7TH STREET BROOKLYN, NY 11211

CODE CONSULTANT:

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Plot Plan

MEEKER ST
N. 7TH STREET
TRUE NORTH
PROJECT NORTH

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Drawing Title
2ND FLOOR PLAN

Sign & Seal

Drawing No.
A-102.00

date	drawn by	job no.
11/01/10	Author	2014-093
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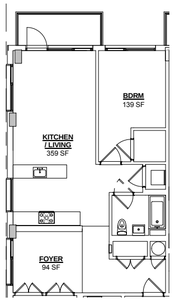
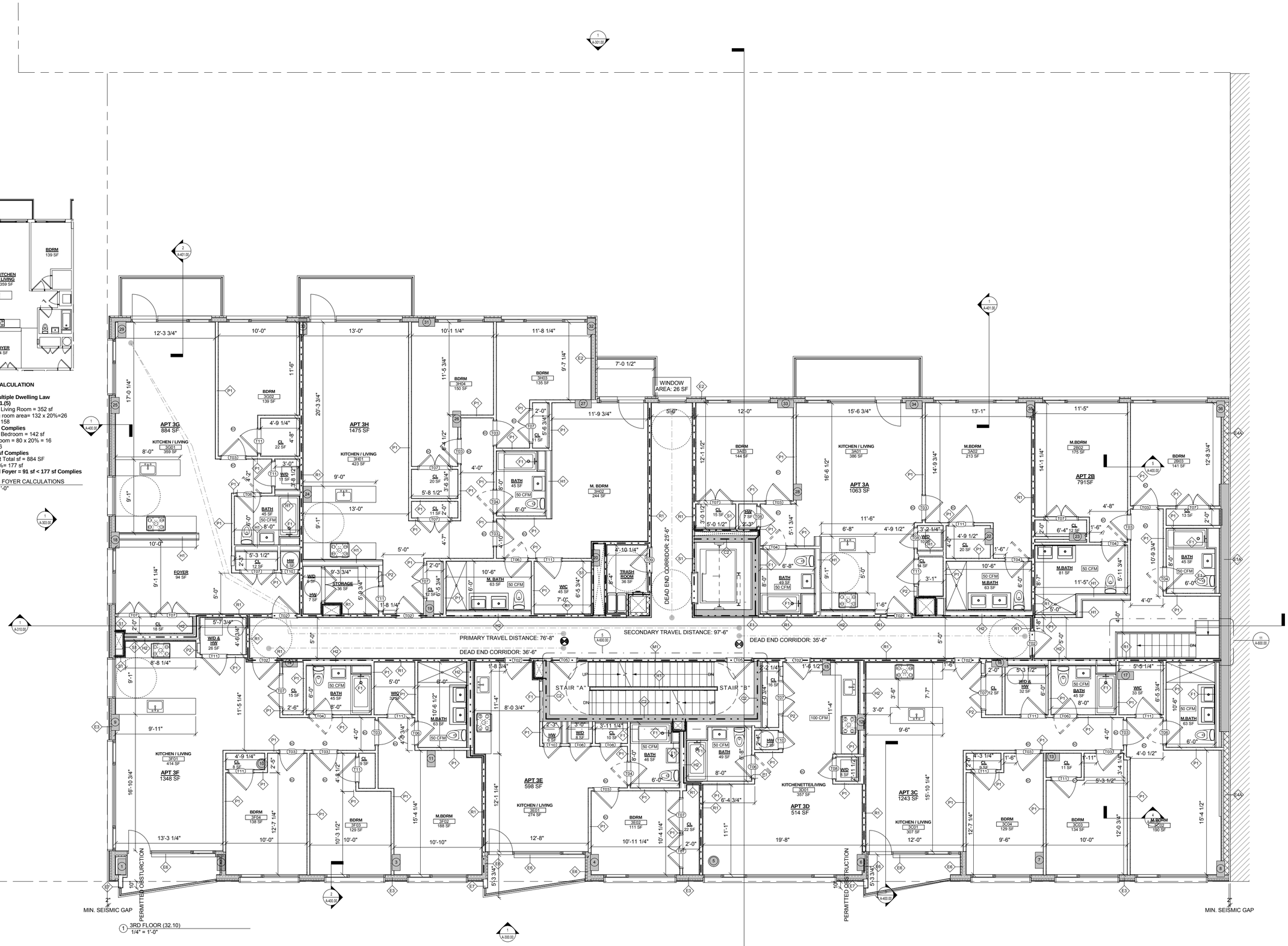
As indicated	Checker	10 OF 22

DOB NUMBER



FOYER CALCULATION
UNIT 3G
As per Multiple Dwelling Law
Section 31.(5)
Proposed Living Room = 352 sf
Min Living room area= 132 x 20%=26
132+26 = 158
158 < 352 Complies
Proposed Bedroom = 142 sf
Min. Bedroom = 80 x 20% = 16
80+16 =96
96 < 142 sf Complies
Apartment Total sf = 884 SF
884 x 20 %= 177 sf
Proposed Foyer = 91 sf < 177 sf Complies

2 APT 3G FOYER CALCULATIONS
1/8" = 1'-0"



1 3RD FLOOR (32.10)
1/4" = 1'-0"

PROGRESS SET: 12/9/2014 8:07:18 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET LLC
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDUCI ASSOCIATES INC
307 SEVENTH AVENUE, RM 1
NEW YORK, NY 10001

MEP ENGINEER:
A & E ENGINEERING LLC
307 SEVENTH AVENUE, RM 1
NEW YORK, NY 10001

CODE CONSULTANT:

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Issuance Schedule

No.	Date	Description
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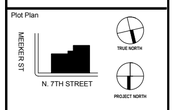
Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

Drawing Title
3RD FLOOR PLAN

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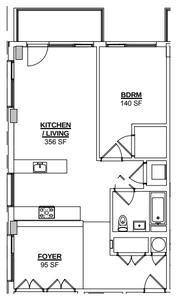
As indicated	Checker	11 OF 22

DOB NUMBER



FOYER CALCULATION
UNIT 4G
As per Multiple Dwelling Law
Section 31.(5)
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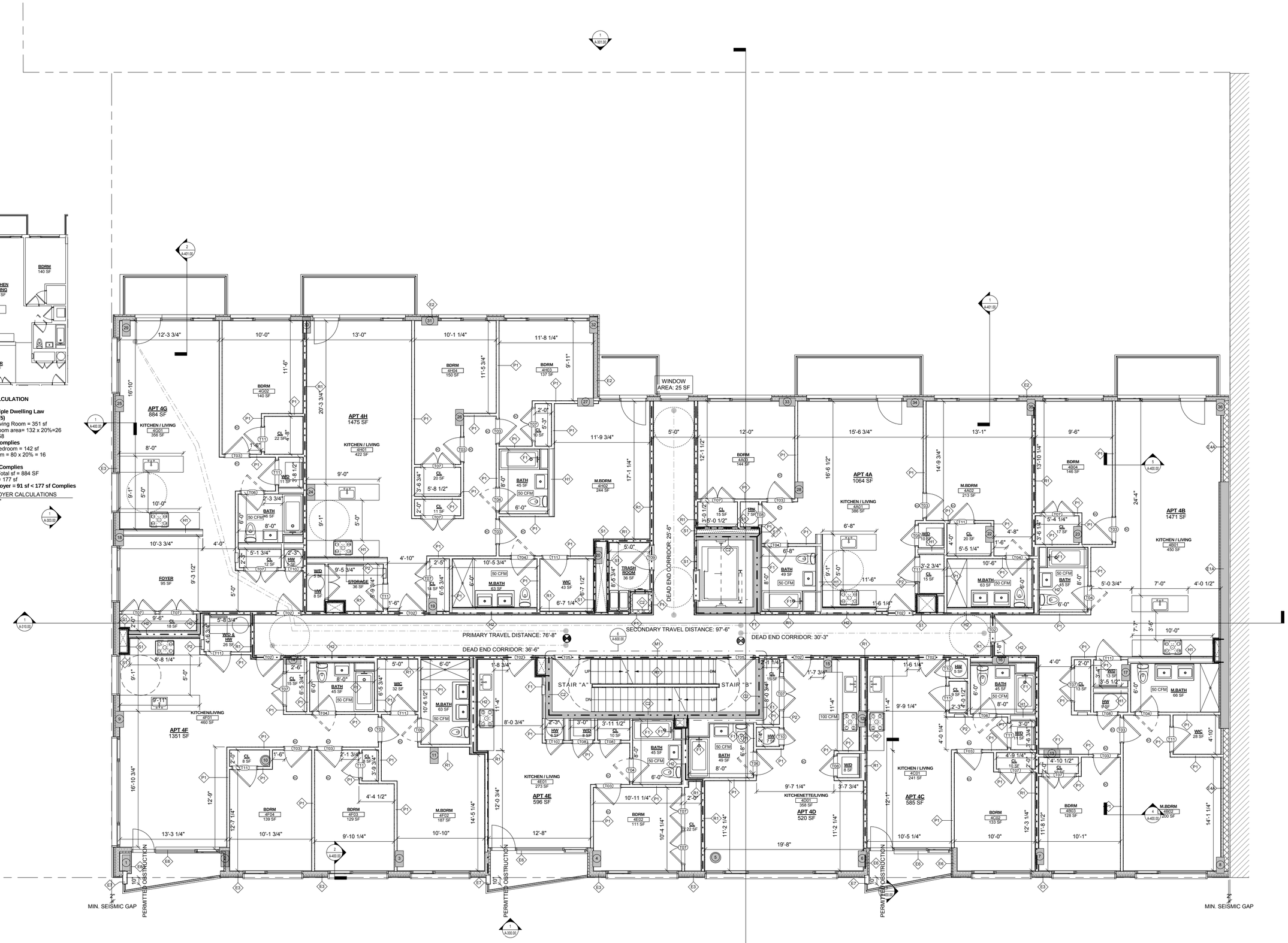
132×26 = 158
158 < 351 Complies
Proposed Bedroom = 142 sf
Min. Bedroom = 80 x 20% = 16
80+16 =96
96 < 142 sf Complies
Apartment Total sf = 884 SF
884 x 20 %= 177 sf
Proposed Foyer = 91 sf < 177 sf Complies

2 APT 4G FOYER CALCULATIONS
1/8" = 1'-0"



PROGRESS SET: 12/9/2014 8:07:30 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET LLC
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDUCI ASSOCIATES INC
307 SEVENTH AVENUE, SUITE 1904
NEW YORK, NY 10001

MEP ENGINEER:
A & E ENGINEERING PLLC
307 SEVENTH AVENUE, SUITE 1904
BROOKLYN, NY 11224

CODE CONSULTANT:

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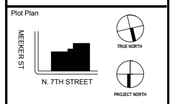
Issuance Schedule

No.	Date	Description

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

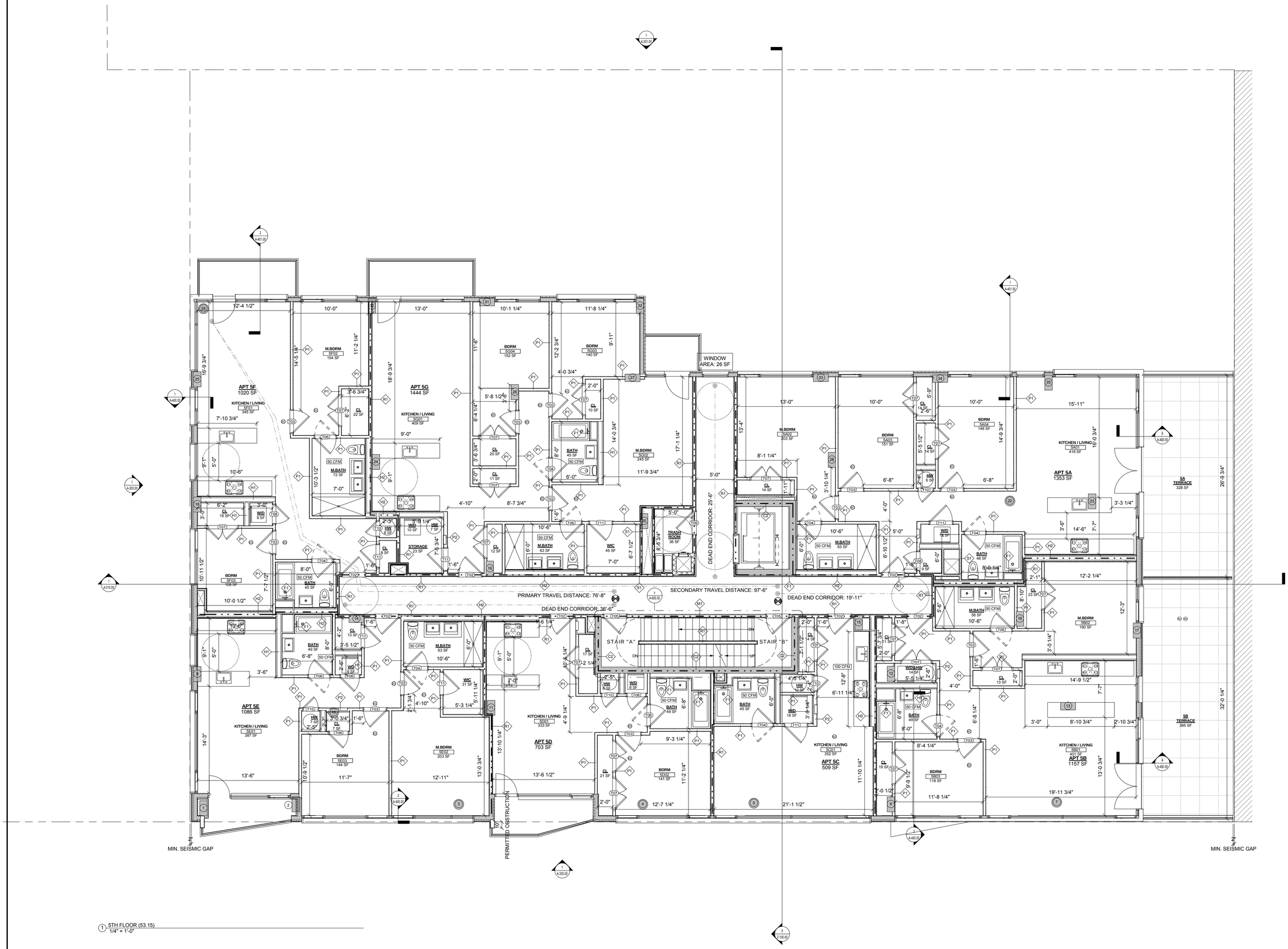
Drawing Title
4TH FLOOR PLAN

Sign & Seal

Drawing No.
A-104.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
As indicated	Checker	

DOB NUMBER



1 5TH FLOOR (53.15)
1/4" = 1'-0"

PROGRESS SET: 12/9/2014 8:07:41 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDUCI ASSOCIATES INC
307 SEVENTH AVENUE, RM 1
NEW YORK, NY 10001

MEP ENGINEER:
A & E ENGINEERING PLLC
308 N 7TH STREET
BROOKLYN, NY 11211

CODE CONSULTANT:

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Issuance Schedule

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Revision Schedule

No.	Date	Description

Plot Plan

MEEKER ST
N. 7TH STREET
TRUE NORTH
PROJECT NORTH

For Department of Buildings Use

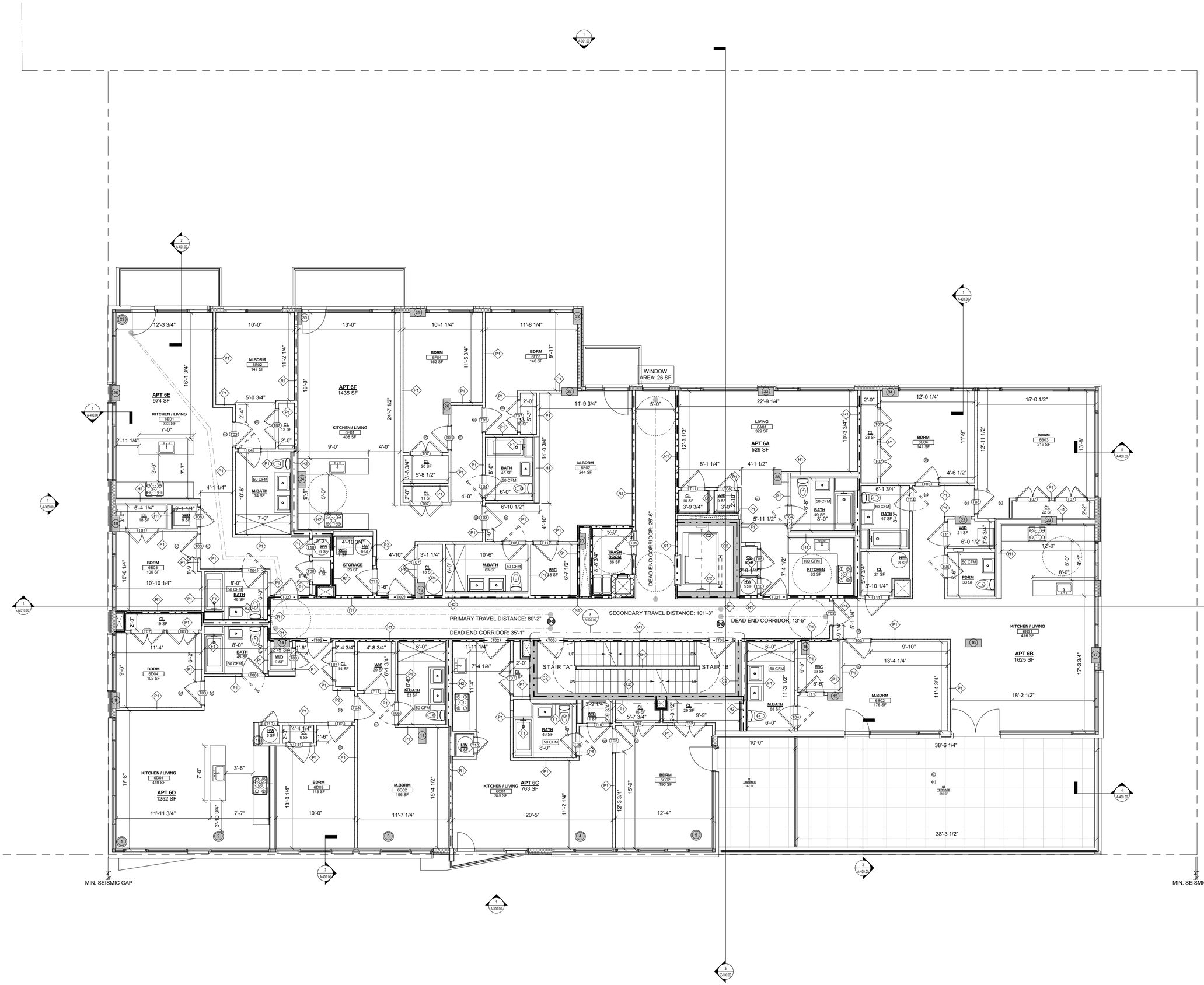
Drawing Title
5TH FLOOR PLAN

Sign & Seal

Drawing No.
A-105.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	13 OF 22

DOB NUMBER



1 6TH FLOOR (63.68)
1/4" = 1'-0"

PROGRESS SET: 12/9/2014 8:07:51 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET LLC
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO ASSOCIATES INC
2519 AVENUE U STREET
NEW YORK, NY 11223

MEP ENGINEER:
A & D ENGINEERING PLLC
2519 AVENUE U STREET
BROOKLYN, NY 11229

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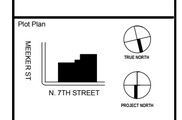
Issuance Schedule

No.	Date	Description
1	12/09/2013	ISSUED FOR FILING

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

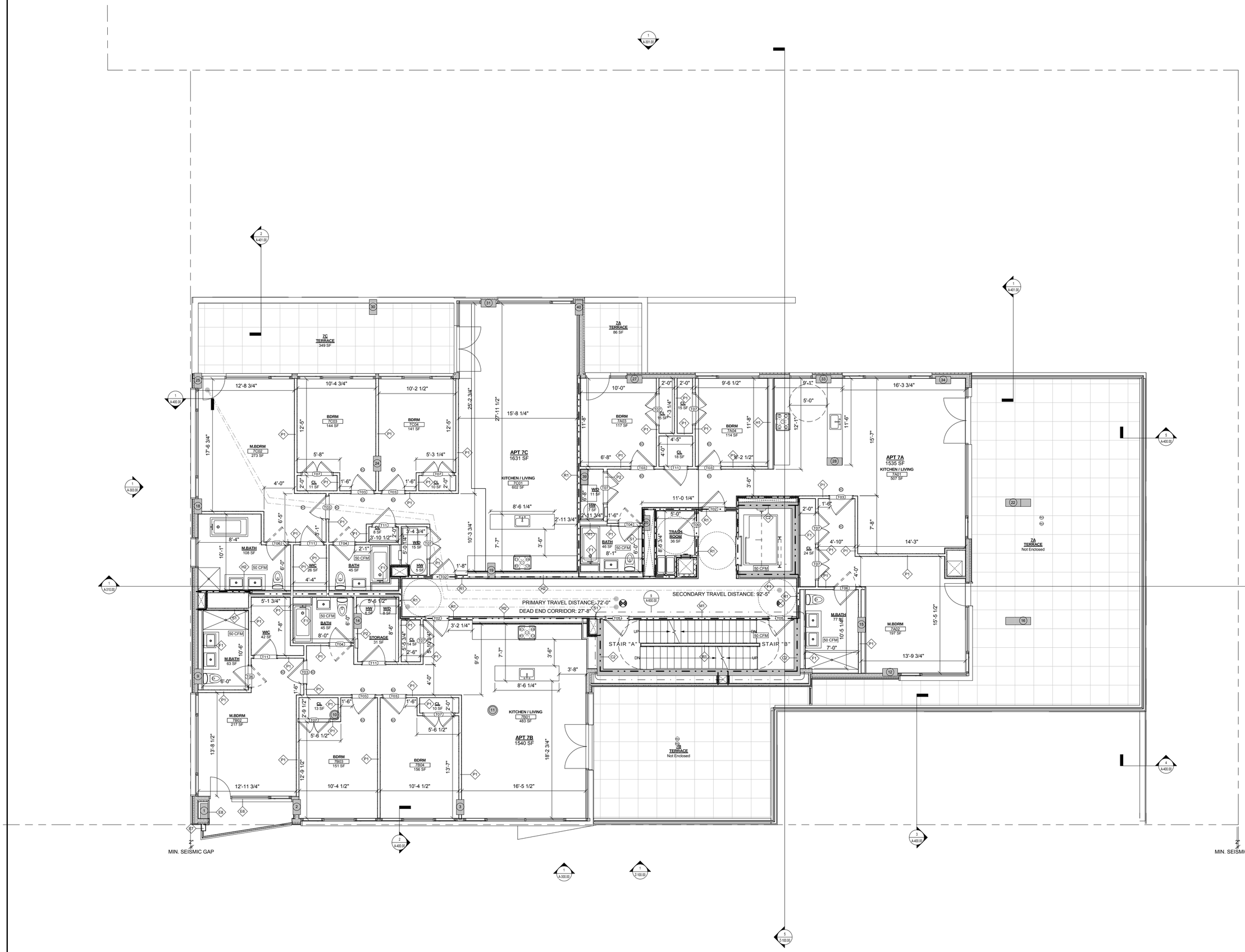
Drawing Title
6TH FLOOR PLAN

Sign & Seal

Drawing No.
A-106.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	14 OF 22

DOB NUMBER



Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDUCI ASSOCIATES INC
307 SEVENTH AVENUE, SUITE 2
NEW YORK, NY 10001

MEP ENGINEER:
A & E ENGINEERING PLLC
307 SEVENTH AVENUE, SUITE 2
BROOKLYN, NY 11224

CODE CONSULTANT:

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Issuance Schedule

No.	Date	Description
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Revision Schedule

No.	Date	Description

Plot Plan

MEEKER ST
N. 7TH STREET
TRUE NORTH
PROJECT NORTH

For Department of Buildings Use

Drawing Title
7TH FLOOR PLAN

Sign & Seal

Drawing No.
A-107.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	12 OF 22

DOB NUMBER

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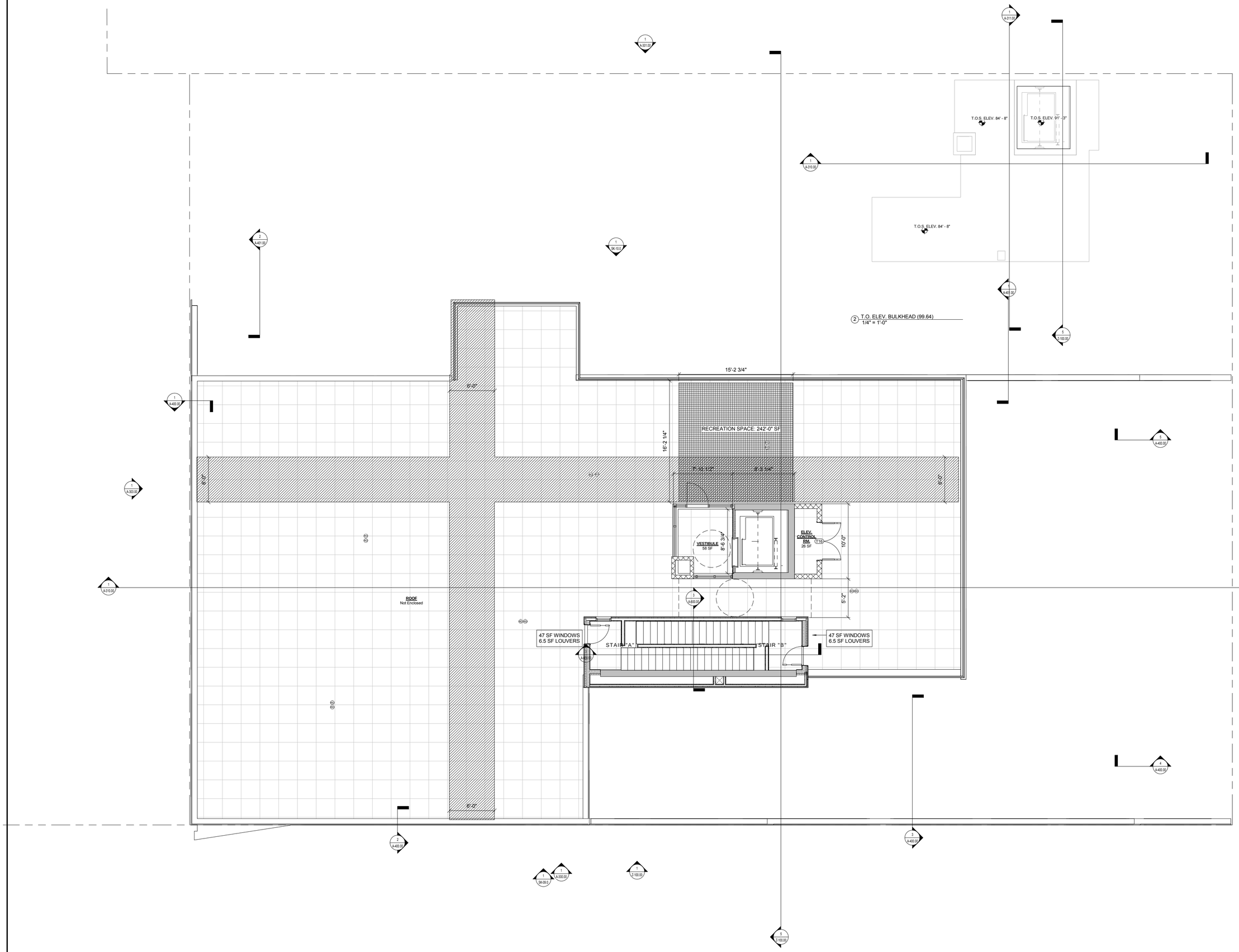

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Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 NORTH 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO ASSOCIATES INC
307 SEVENTH AVENUE, SUITE 1
NEW YORK, NY 10001

MEP ENGINEER:
A & D ENGINEERING PLLC
307 SEVENTH AVENUE, SUITE 1
NEW YORK, NY 10001

CODE CONSULTANT:

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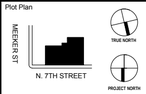
Issuance Schedule

No.	Date	Description

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

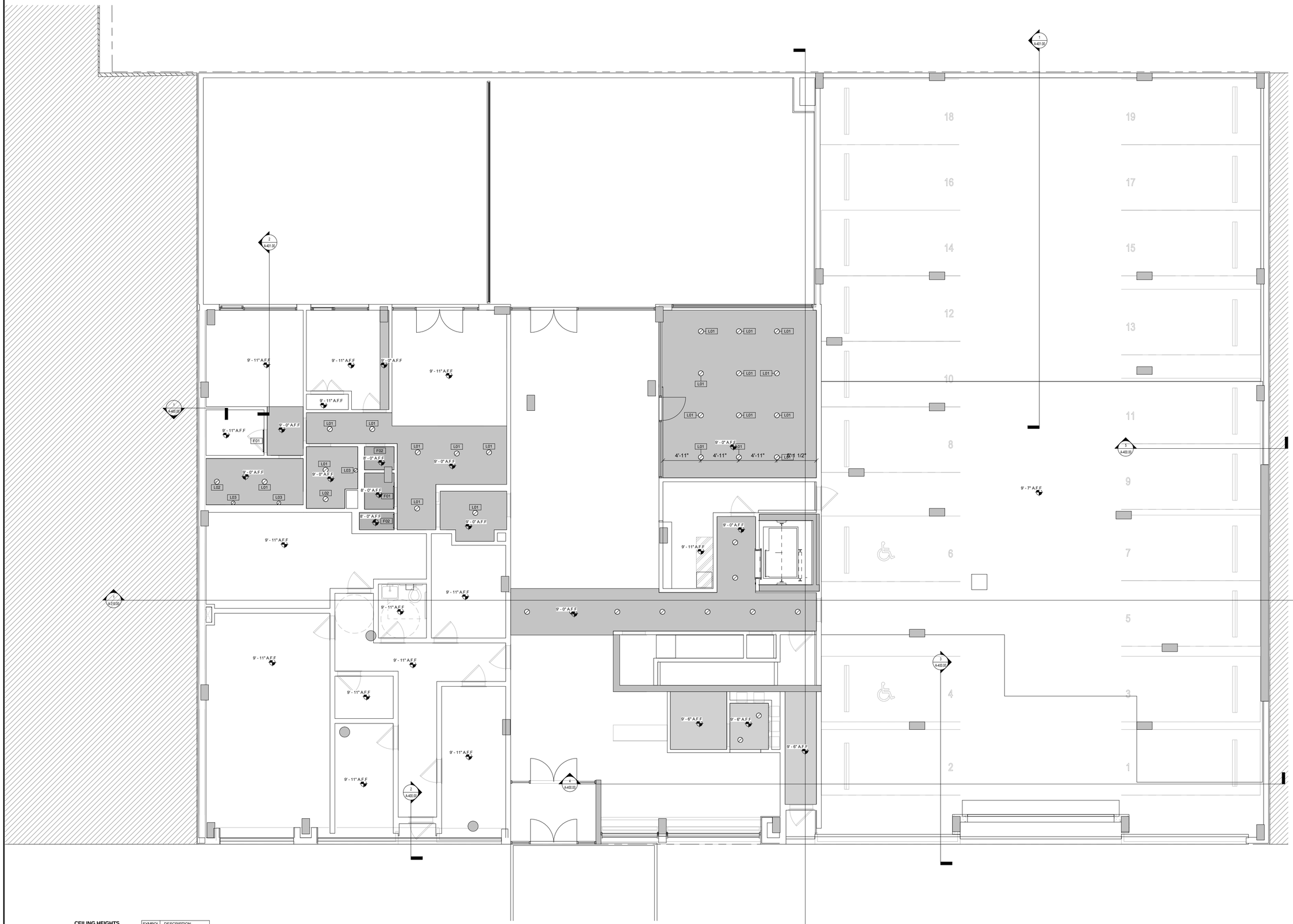
Drawing Title
ROOF FLOOR PLAN

Sign & Seal

Drawing No.
A-108.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	

DOB NUMBER



CEILING HEIGHTS

- 8'-0" AFF
- 9'-0" AFF
- 9'-6" AFF
- 16'-0" AFF

SYMBOL	DESCRIPTION
S	SMOKE DETECTOR
S/R	SMOKE DETECTOR W/ ELEVATOR RECALL
CO	CARBON MONOXIDE DETECTOR
H	HEAT DETECTOR
	EMERGENCY EXIT
	SECURITY CAMERA
	ELEVATION CHANGE

PROGRESS SET: 12/9/2014 8:08:11 PM

Project

308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO ASSOCIATES INC
1 BROADWAY 14TH FLOOR
NEW YORK, NY 10004

MEP ENGINEER:
A & E ENGINEERING PLLC
1 WALLABOUT STREET
BROOKLYN, NY 11206

CODE CONSULTANT:

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Issuance Schedule

No.	Date	Description

Revision Schedule

No.	Date	Description

Plot Plan

MEEKER ST
N. 7TH STREET
TRUE NORTH
PROJECT NORTH

For Department of Buildings Use

Drawing Title
1ST FLOOR RCP

Sign & Seal

Drawing No.
A-201.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	15 OF 22

DOB NUMBER

CEILING HEIGHTS

- 8'-0" AFF
- 9'-0" AFF
- 9'-6" AFF
- 16'-0" AFF

SYMBOL	DESCRIPTION
	SMOKE DETECTOR
	SMOKE DETECTOR W/ ELEVATOR RECALL
	CARBON MONOXIDE DETECTOR
	HEAT DETECTOR
	EMERGENCY EXIT
	SECURITY CAMERA
	ELEVATION CHANGE

PROGRESS SET: 12/9/2014 8:08:19 PM

Project

308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO ASSOCIATES INC
30 SOUTH 9TH STREET
NEW YORK, NY 10003

MEP ENGINEER:
A & D ENGINEERING P.C.
30 SOUTH 9TH STREET
BROOKLYN, NY 11204

CODE CONSULTANT:

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Issuance Schedule

No.	Date	Description

Revision Schedule

No.	Date	Description

Plot Plan

MEEKER ST
N. 7TH STREET
TRUE NORTH
PROJECT NORTH

For Department of Buildings Use

Drawing Title

2ND FLOOR RCP

Sign & Seal

Drawing No.

A-202.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	16 OF 22

DOB NUMBER

CEILING HEIGHTS

- 8'-0" AFF
- 9'-0" AFF
- 9'-6" AFF
- 16'-0" AFF

SYMBOL	DESCRIPTION
	SMOKE DETECTOR
	SMOKE DETECTOR W/ ELEVATOR RECALL
	CARBON MONOXIDE DETECTOR
	HEAT DETECTOR
	EMERGENCY EXIT
	SECURITY CAMERA
	ELEVATION CHANGE

PROGRESS SET: 12/9/2014 8:08:30 PM

Project

308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO ASSOCIATES INC
2519 FOSTER AVENUE
BROOKLYN, NY 11210

MEP ENGINEER:
A & E ENGINEERING LLC
2519 FOSTER AVENUE
BROOKLYN, NY 11210

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Issuance Schedule

No.	Date	Description

Revision Schedule

No.	Date	Description

Plot Plan

MERCER ST
N. 7TH STREET
TRUE NORTH
PROJECT NORTH

For Department of Buildings Use

Drawing Title
3RD FLOOR RCP

Sign & Seal

Drawing No.
A-203.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	

DOB NUMBER

CEILING HEIGHTS

- 8'-0" AFF
- 9'-0" AFF
- 9'-6" AFF
- 16'-0" AFF

SYMBOL	DESCRIPTION
	SMOKE DETECTOR
	SMOKE DETECTOR W/ ELEVATOR RECALL
	CARBON MONOXIDE DETECTOR
	HEAT DETECTOR
	EMERGENCY EXIT
	SECURITY CAMERA
	ELEVATION CHANGE

PROGRESS SET: 12/9/2014 8:08:39 PM

Project

308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO ASSOCIATES INC
307 SEVENTH AVENUE, SUITE 1
NEW YORK, NY 10001

MEP ENGINEER:
A & D ENGINEERING PLLC
307 SEVENTH AVENUE, SUITE 1
BROOKLYN, NY 11224

CODE CONSULTANT:

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Issuance Schedule

No.	Date	Description

Revision Schedule

No.	Date	Description

Plot Plan

MEEKER ST
N. 7TH STREET
TRUE NORTH
PROJECT NORTH

For Department of Buildings Use

Drawing Title
4TH FLOOR RCP

Sign & Seal

Drawing No.
A-204.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	

DOB NUMBER

CEILING HEIGHTS

- 8'-0" AFF
- 9'-0" AFF
- 9'-6" AFF
- 16'-0" AFF

SYMBOL	DESCRIPTION
	SMOKE DETECTOR
	SMOKE DETECTOR W/ ELEVATOR RECALL
	CARBON MONOXIDE DETECTOR
	HEAT DETECTOR
	EMERGENCY EXIT
	SECURITY CAMERA
	ELEVATION CHANGE

PROGRESS SET: 12/9/2014 8:08:46 PM

Project

308 N. 7TH STREET

BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS

434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO ASSOCIATES INC
2010 EAST 12TH STREET
NEW YORK, NY 11223

MEP ENGINEER:
A & D ENGINEERING PLLC
2010 EAST 12TH STREET
BROOKLYN, NY 11224

CODE CONSULTANT:

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Issuance Schedule

No.	Date	Description

Revision Schedule

No.	Date	Description

Plot Plan

MEEKER ST

N. 7TH STREET

TRUE NORTH

PROJECT NORTH

For Department of Buildings Use

Drawing Title

5TH FLOOR RCP

Sign & Seal

Drawing No.

A-205.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	

DOB NUMBER

CEILING HEIGHTS

- 8'-0" AFF
- 9'-0" AFF
- 9'-6" AFF
- 16'-0" AFF

SYMBOL	DESCRIPTION
SD	SMOKE DETECTOR
SD/R	SMOKE DETECTOR W/ ELEVATOR RECALL
CO	CARBON MONOXIDE DETECTOR
H	HEAT DETECTOR
	EMERGENCY EXIT
	SECURITY CAMERA
2'-0"	ELEVATION CHANGE

PROGRESS SET: 12/9/2014 8:08:54 PM

Project

308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO ASSOCIATES INC
2519 NOSTRAND AVENUE
NEW YORK, NY 11210

MEP ENGINEER:
A & D ENGINEERING PLLC
2519 NOSTRAND AVENUE
BROOKLYN, NY 11234

CODE CONSULTANT:

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Issuance Schedule

No.	Date	Description

Revision Schedule

No.	Date	Description

Plot Plan

MEEKER ST
N. 7TH STREET
TRUE NORTH
PROJECT NORTH

For Department of Buildings Use

Drawing Title

6TH FLOOR RCP

Sign & Seal

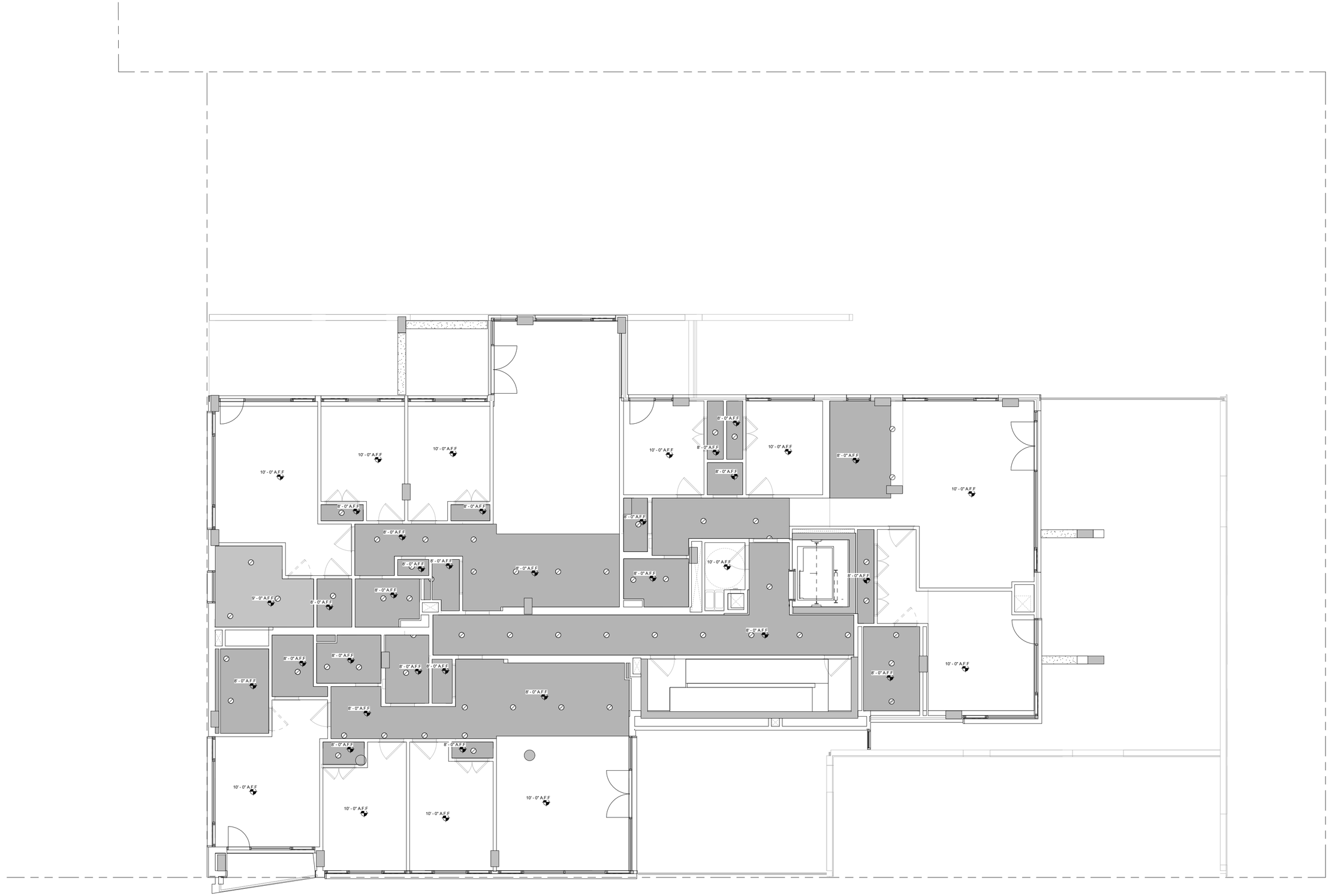
Drawing No.

A-206.00

date	drawn by	job no.
11/01/10	Author	2014-093

sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	

DOB NUMBER



CEILING HEIGHTS

- 8'-0" AFF
- 9'-0" AFF
- 9'-6" AFF
- 16'-0" AFF

SYMBOL	DESCRIPTION
S	SMOKE DETECTOR
S/R	SMOKE DETECTOR W/ ELEVATOR RECALL
S	CARBON MONOXIDE DETECTOR
D	HEAT DETECTOR
	EMERGENCY EXIT
	SECURITY CAMERA
	ELEVATION CHANGE

PROGRESS SET: 12/9/2014 8:09:02 PM

Project

308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO ASSOCIATES INC
2510 HOLDEN AVENUE
NEW YORK, NY 10465

MEP ENGINEER:
A & D ENGINEERING PLLC
2510 HOLDEN AVENUE
BROOKLYN, NY 11224

CODE CONSULTANT:

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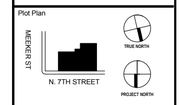
Issuance Schedule

No.	Date	Description

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

Drawing Title

7TH FLOOR RCP

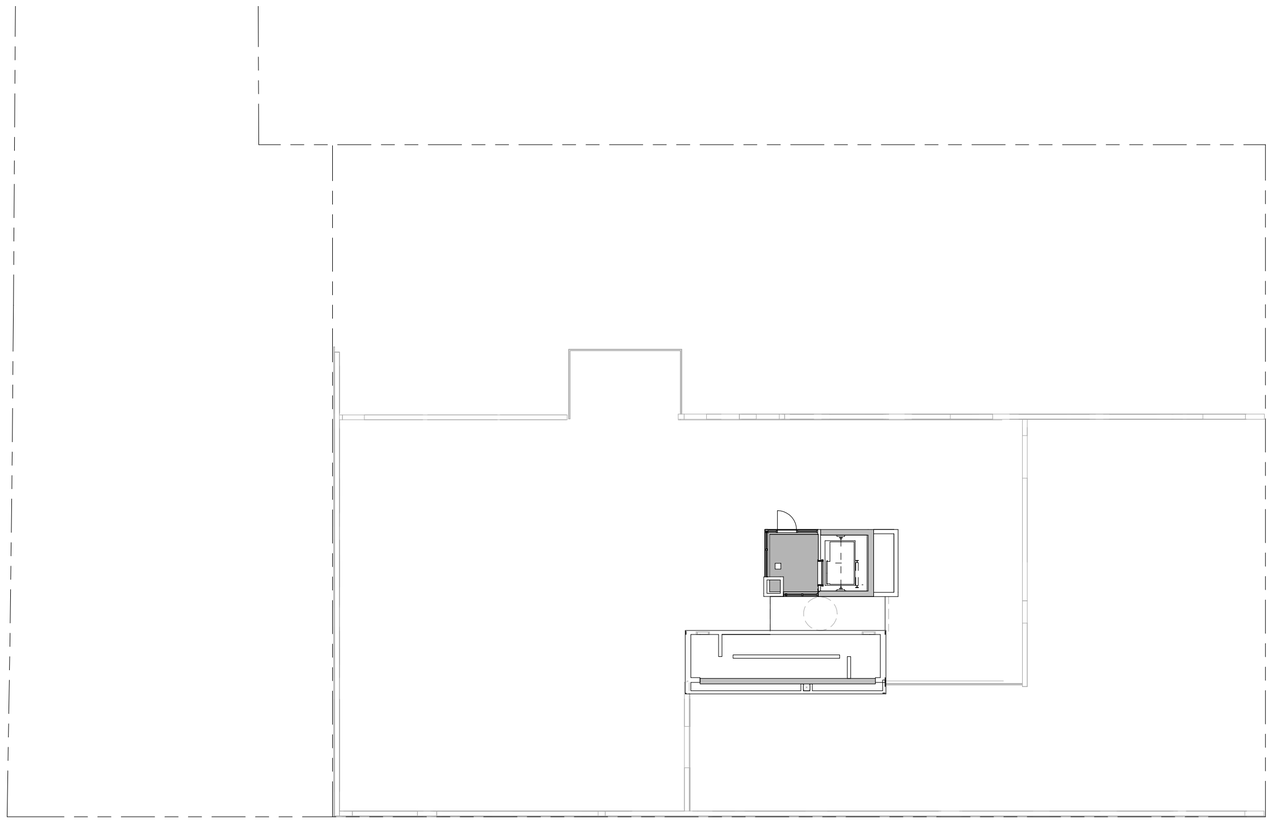
Sign & Seal

Drawing No.

A-207.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	

DOB NUMBER



CEILING HEIGHTS

- 8'-0" AFF
- 9'-0" AFF
- 9'-6" AFF
- 16'-0" AFF

SYMBOL	DESCRIPTION
SD	SMOKE DETECTOR
SD EL	SMOKE DETECTOR W/ ELEVATOR RECALL
CO	CARBON MONOXIDE DETECTOR
HD	HEAT DETECTOR
	EMERGENCY EXIT
	SECURITY CAMERA
6"	ELEVATION CHANGE

PROGRESS SET: 12/9/2014 8:09:07 PM

Project

308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO ASSOCIATES INC
2 WALL STREET, 10TH FLOOR
NEW YORK, NY 10005

MEP ENGINEER:
A & E ENGINEERING PLLC
308 NORTH 7TH STREET
BROOKLYN, NY 11211

CODE CONSULTANT:

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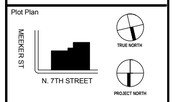
Issuance Schedule

No.	Date	Description

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

Drawing Title

ROOF RCP

Sign & Seal

Drawing No.

A-208.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
As indicated	Checker	

DOB NUMBER

1 North Elevation
1/4" = 1'-0"

PROGRESS SET: 12/9/2014 8:09:15 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO ASSOCIATES INC
31 BOND STREET, SUITE 4
NEW YORK, NY 10003

MEP ENGINEER:
A & E ENGINEERING PLLC
31 BOND STREET, SUITE 4
BROOKLYN, NY 11201

CODE CONSULTANT:

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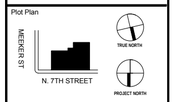
Issuance Schedule

No.	Date	Description
	12/09/13	ISSUE FOR PLANNING

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

Drawing Title
NORTH ELEVATION

Sign & Seal

Drawing No.
A-300.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	15 OF 22

DOB NUMBER

1 South Elevation
1/4" = 1'-0"

PROGRESS SET: 12/9/2014 8:09:23 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N. 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
MARCO ASSOCIATES INC
308 N. 7TH STREET
NEW YORK, NY 10003

MEP ENGINEER:
A & D ENGINEERING LLC
308 N. 7TH STREET
BROOKLYN, NY 11211

CODE CONSULTANT:

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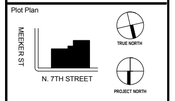
Issuance Schedule

No.	Date	Description
	12/09/2013	ISSUED FOR PERMIT

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

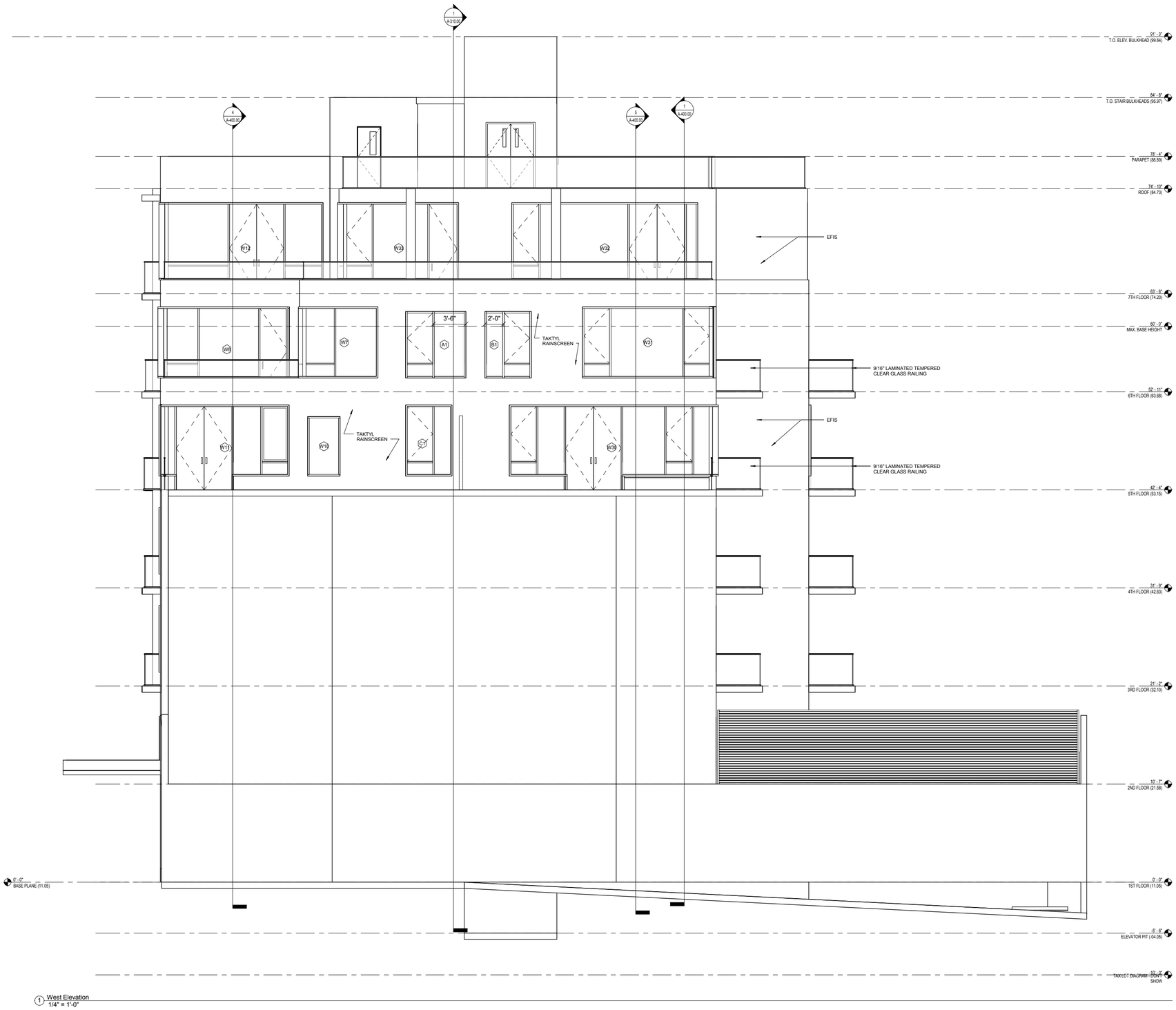
Drawing Title
SOUTH ELEVATION

Sign & Seal

Drawing No.
A-301.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	16 OF 22

DOB NUMBER



1 West Elevation
1/4" = 1'-0"

PROGRESS SET: 12/9/2014 8:09:31 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO ASSOCIATES INC
2 STEINWAY PLACE, STE 4
NEW YORK, NY 10003

MEP ENGINEER:
A & D ENGINEERING PLLC
2 STEINWAY PLACE, STE 4
BROOKLYN, NY 11205

CODE CONSULTANT:

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Issuance Schedule

No.	Date	Description
	12-09-13	ISSUED FOR PERMIT

Revision Schedule

No.	Date	Description

Plot Plan

MEEKER ST
N. 7TH STREET
TRUE NORTH
PROJECT NORTH

For Department of Buildings Use

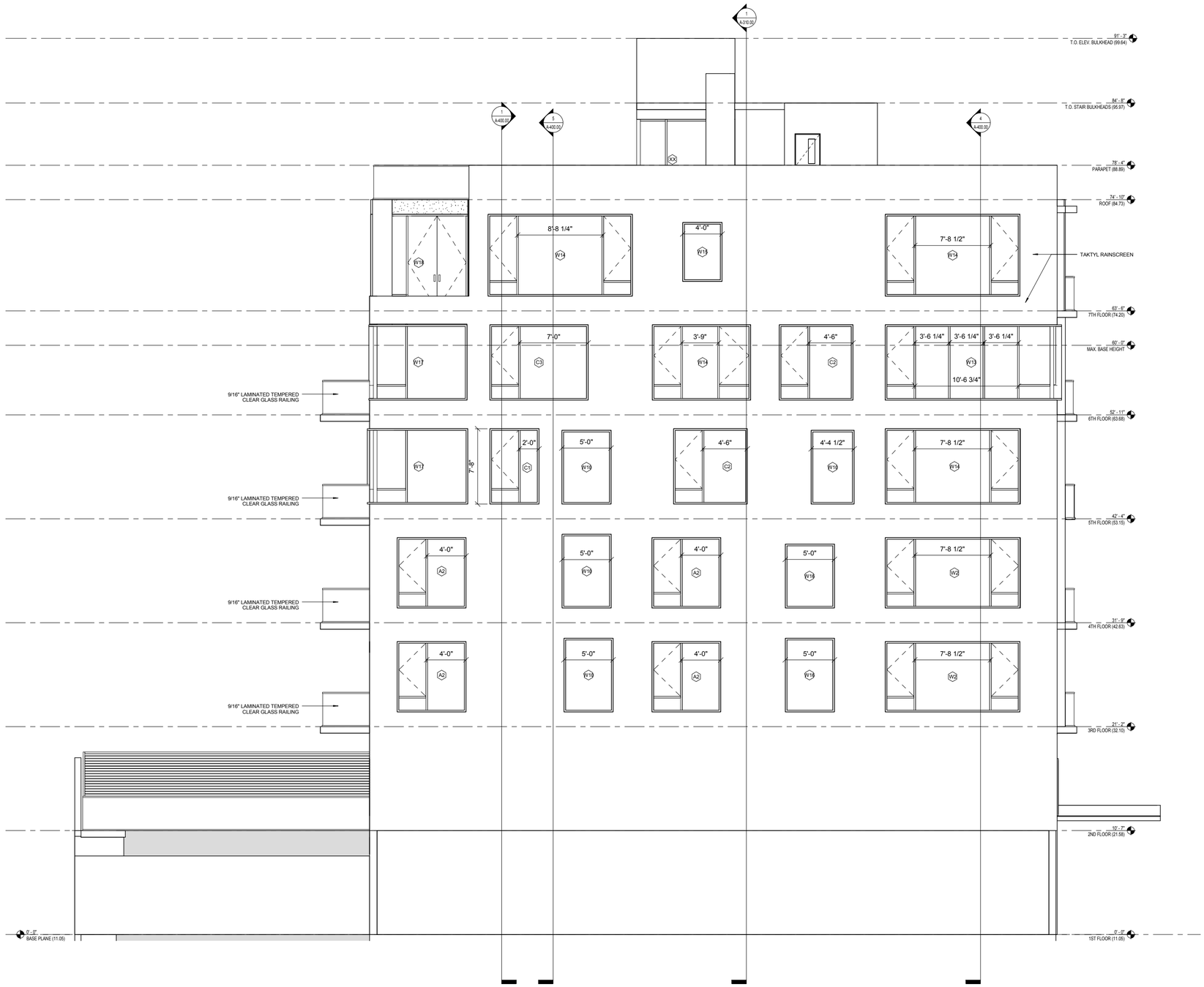
Drawing Title
EAST ELEVATION

Sign & Seal

Drawing No.
A-302.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	17 OF 22

DOB NUMBER



1 East Elevation
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PROGRESS SET: 12/9/2014 8:09:39 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDUCI ASSOCIATES INC
37 WEST 26TH STREET, SUITE 4
NEW YORK, NY 10003

MEP ENGINEER:
A & E ENGINEERING PLLC
308 N 7TH STREET, SUITE 2
BROOKLYN, NY 11211

CODE CONSULTANT:

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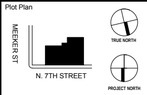
Issuance Schedule

No.	Date	Description

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

Drawing Title
WEST ELEVATION

Sign & Seal

Drawing No.
A-303.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	

DOB NUMBER

1 Longitudinal Section
1/4" = 1'-0"

PROGRESS SET: 12/9/2014 8:09:48 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDUCI ASSOCIATES INC
37 WEST 20TH STREET, SUITE 1104
NEW YORK, NY 10003

MEP ENGINEER:
A & D ENGINEERING PLLC
37 WEST 20TH STREET, SUITE 1104
BROOKLYN, NY 11204

CODE CONSULTANT:

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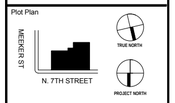
Issuance Schedule

No.	Date	Description

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

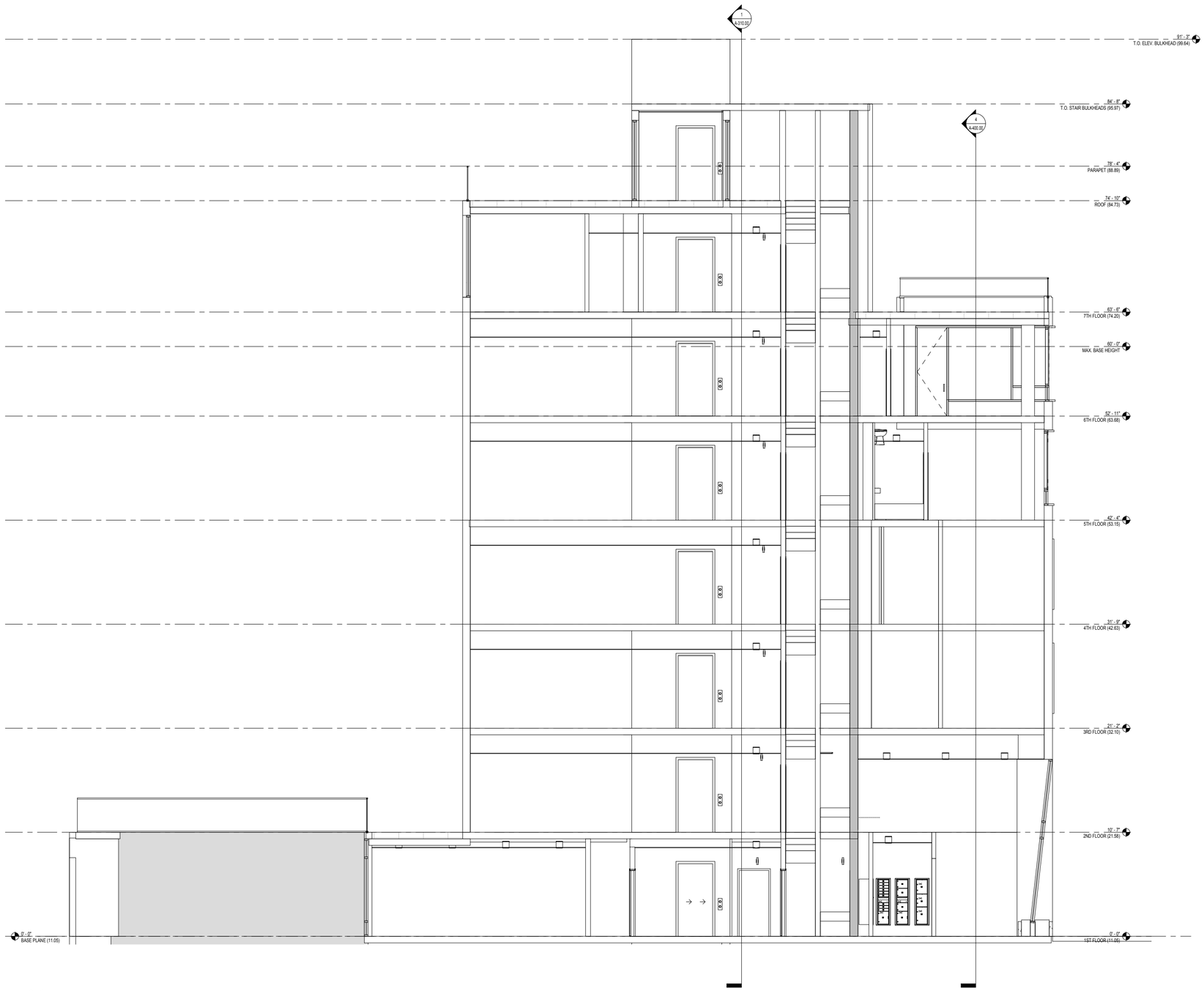
Drawing Title
LONGITUDINAL SECTION

Sign & Seal

Drawing No.
A-310.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	18 OF 22

DOB NUMBER



1 Transverse Section
1/4" = 1'-0"

PROGRESS SET: 12/9/2014 8:09:53 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO & ASSOCIATES INC
1133 BROADWAY, SUITE 1614
NEW YORK, NY 10010

MEP ENGINEER:
A & D ENGINEERING PLLC
308 N 7TH STREET, SUITE 2
BROOKLYN, NY 11211

CODE CONSULTANT:

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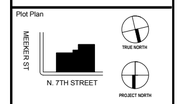
Issuance Schedule

No.	Date	Description
	12/09/13	ISSUED FOR PERMIT

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

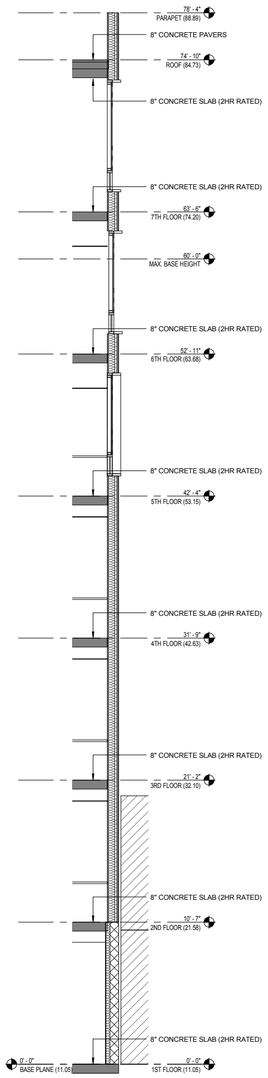
Drawing Title
TRANSVERSE BUILDING SECTION

Sign & Seal

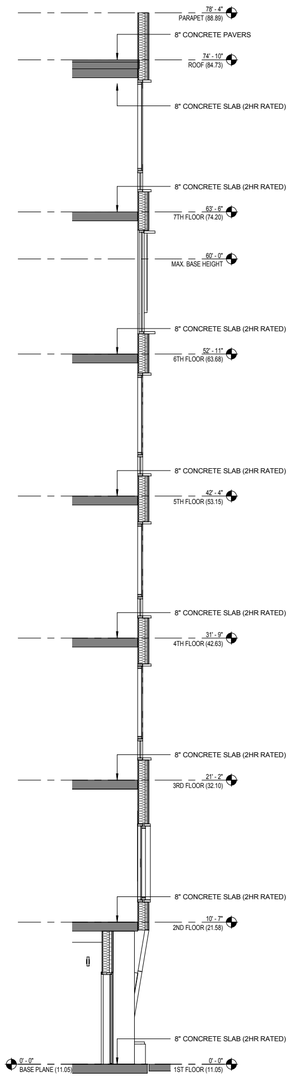
Drawing No.
A-311.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	18 OF 22

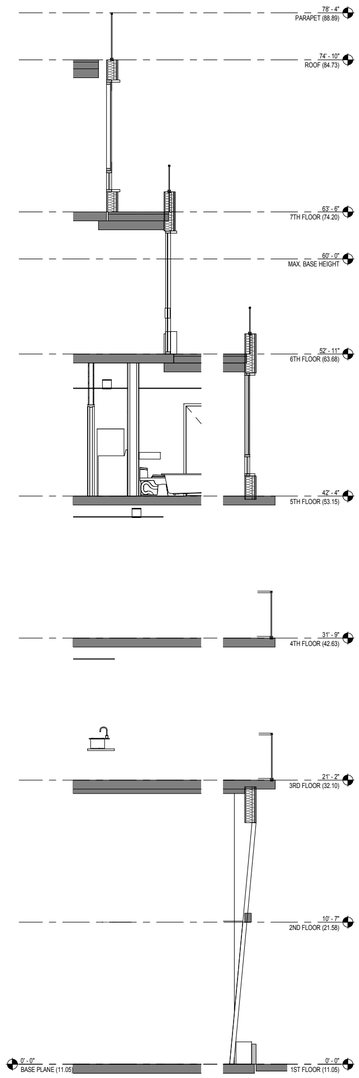
DOB NUMBER



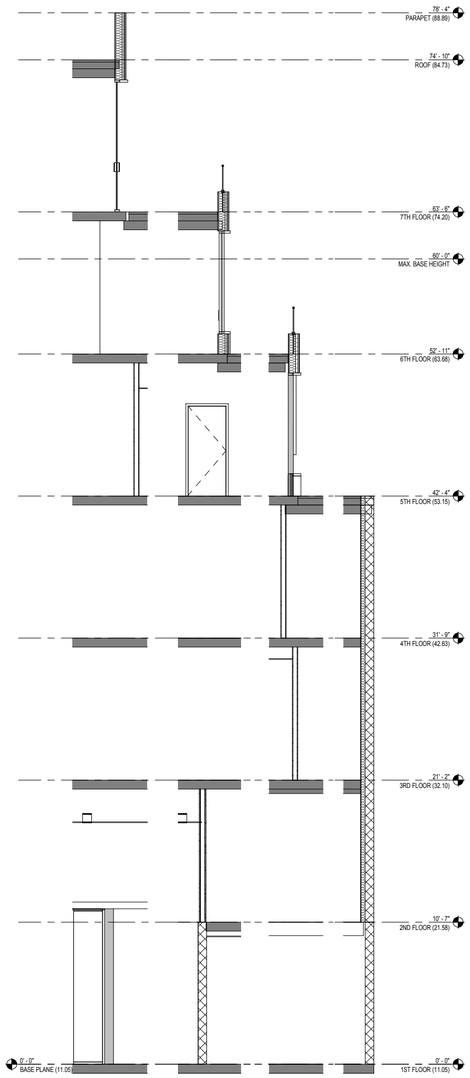
1 WALL SECTION - EAST ELEVATION 1
1/4" = 1'-0"



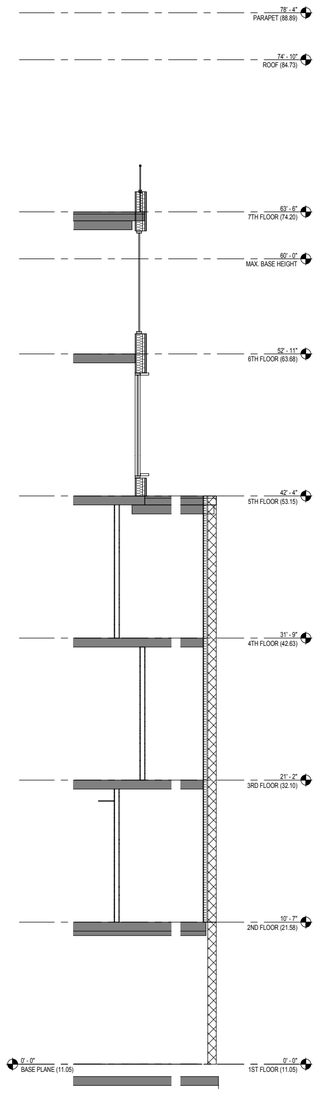
2 WALL SECTION - NORTH ELEVATION 1
1/4" = 1'-0"



3 WALL SECTION - NORTH ELEVATION 2
1/4" = 1'-0"



4 WALL SECTION - WEST ELEVATION 1
1/4" = 1'-0"



5 WALL SECTION - WEST ELEVATION 2
1/4" = 1'-0"

PROGRESS SET: 12/9/2014 8:10:02 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDUCI ASSOCIATES INC
37 WEST 20TH STREET
NEW YORK, NY 10003

MEP ENGINEER:
A & E ENGINEERING PLLC
308 N 7TH STREET
BROOKLYN, NY 11211

CODE CONSULTANT:

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Issuance Schedule

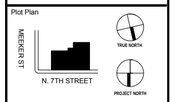
No.	Date	Description

12/31/2014 ISSUE FOR FILING

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

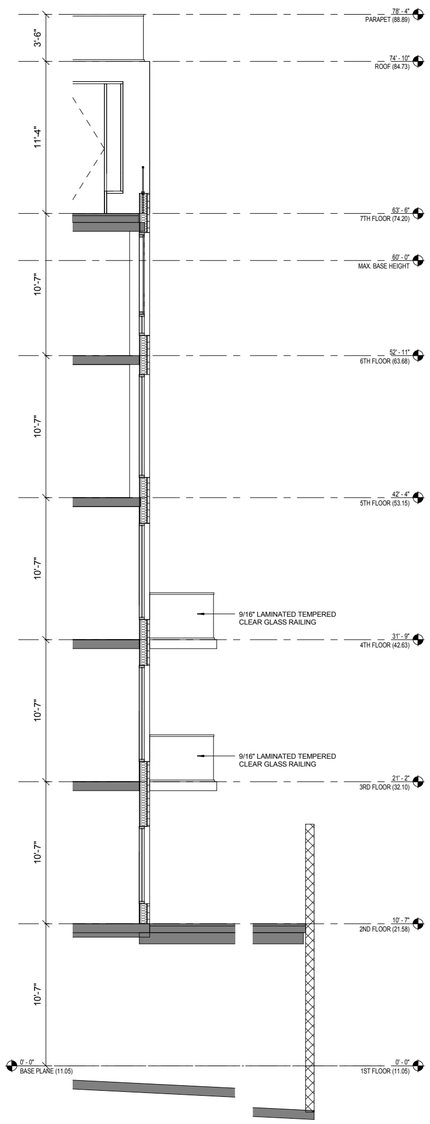
Drawing Title
WALL SECTIONS

Sign & Seal

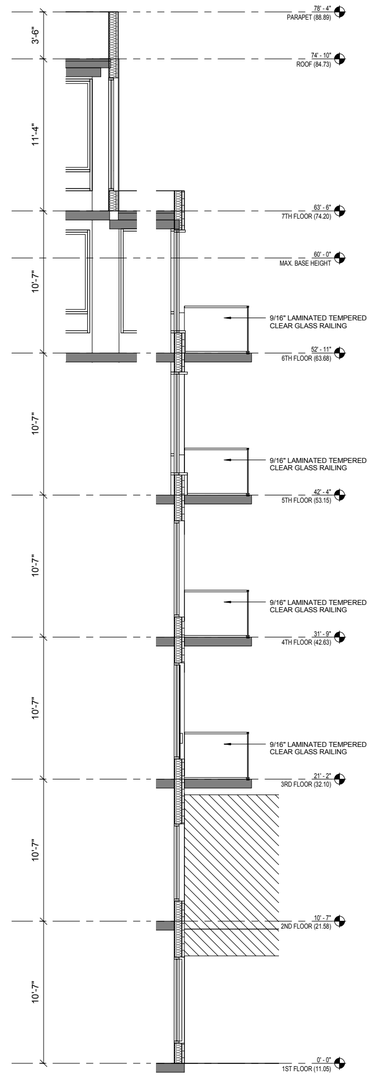
Drawing No.
A-400.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	19 OF 22

DOB NUMBER



1 WALL SECTION - SOUTH ELEVATION 1
1/4" = 1'-0"



2 WALL SECTION - SOUTH ELEVATION 2
1/4" = 1'-0"

PROGRESS SET: 12/9/2014 8:10:08 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDO ASSOCIATES INC
307 SOUTH 4TH STREET
NEW YORK, NY 10003

MEP ENGINEER:
A & D ENGINEERING LLC
307 SOUTH 4TH STREET
BROOKLYN, NY 11204

CODE CONSULTANT:

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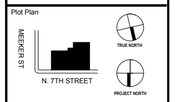
Issuance Schedule

No.	Date	Description

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

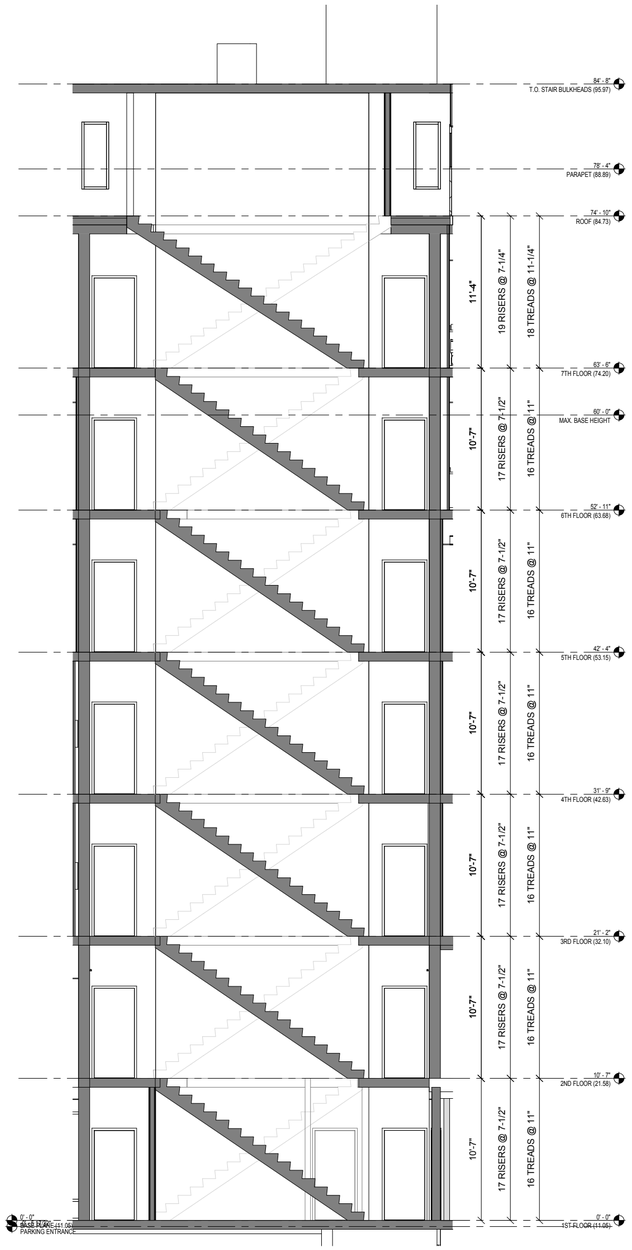
Drawing Title
WALL SECTIONS

Sign & Seal

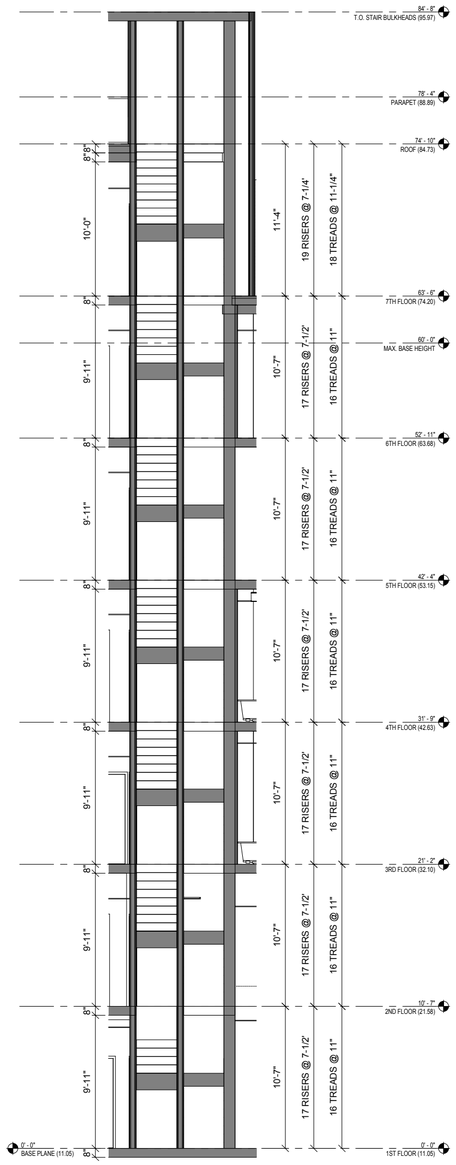
Drawing No.
A-401.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
1/4" = 1'-0"	Checker	

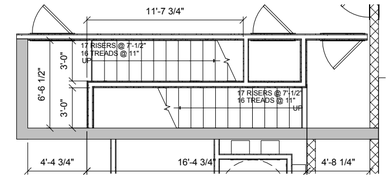
DOB NUMBER



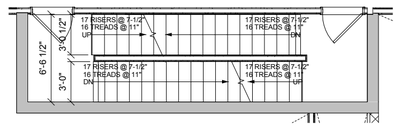
1 STAIRS "A" & "B" - LONG SECTION
1/4" = 1'-0"



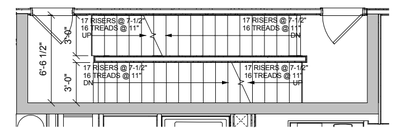
3 STAIRS "A" & "B" - SHORT SECTION
1/4" = 1'-0"



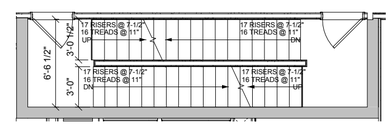
2 1ST FLOOR - STAIR PLAN
1/4" = 1'-0"



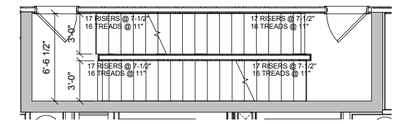
4 2ND FLOOR - STAIR PLAN
1/4" = 1'-0"



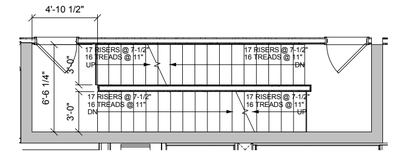
5 3RD FLOOR - STAIR PLAN
1/4" = 1'-0"



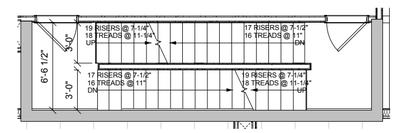
6 4TH FLOOR - STAIR PLAN
1/4" = 1'-0"



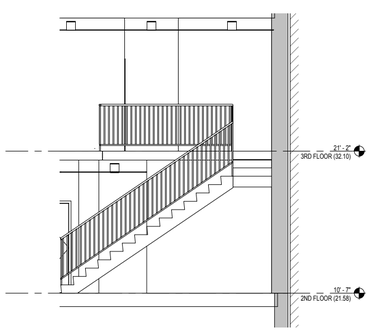
7 5TH FLOOR - STAIR PLAN
1/4" = 1'-0"



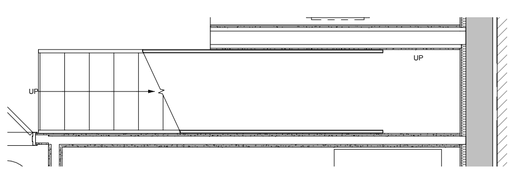
8 6TH FLOOR - STAIR PLAN
1/4" = 1'-0"



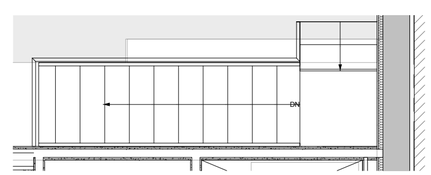
9 7TH FLOOR - STAIR PLAN
1/4" = 1'-0"



12 Section 2
1/4" = 1'-0"



10 2ND FLOOR - STAIR
1/2" = 1'-0"



11 3RD FLOOR - STAIR
1/2" = 1'-0"

PROGRESS SET: 12/9/2014 8:10:25 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

STRUCTURAL ENGINEER:
NARDUCI ASSOCIATES INC
37 WEST 20TH STREET, SUITE 1104
NEW YORK, NY 10003

MEP ENGINEER:
A & E ENGINEERING PLLC
1123 BROADWAY, SUITE 314
BROOKLYN, NY 11221

CODE CONSULTANT:

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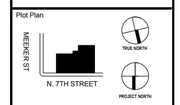
Issuance Schedule

No.	Date	Description
	12/09/2013	ISSUED FOR DOB

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

Drawing Title
STAIR PLANS & SECTIONS

Sign & Seal

Drawing No.
A-600.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
As indicated	Checker	20 OF 22

DOB NUMBER

SHEET NOTES

SCHEDULED WALL DETAILS ARE BASIC MATERIAL AND COMPONENTS OF TYPICAL SCHEDULED WALLS, REFER TO DETAIL SHEETS AND SPECIFICATION FOR FURTHER DETAILS FOR SPECIFIC AREAS SUCH AS TRIMS, TERMINATION, PENETRATIONS AND APPLICATIONS.

1. PROVIDED 5/8" THICK MOISTURE RESISTANT GYP.. BD. AT ALL BATHROOMS, KITCHENS, WINDOW REPRESENTATIVES, ETC. AS SHOWN IN DETAILS, FIRECODE MS. BOARD PROVIDED IN RATED PARTITIONS. 5/8" CEMENTITIOUS BACKER BOARD REQUIRED ATH ALL WALL OF TUB SURROUND, AND OTHER "WET AREAS"

2. REFER TO FINISH DETAILS FOR CEILING DETAILS.

3. ALL LOADBEARING WALLS TO BE RATED AS PER CONSTRUCTION CLASSIFICATION. REFER TO STRUCTURAL DWGS FOR ONLY BEARING WALLS.

4. USE 1" TYPS S-DRYWALL SCREWS 8" O.C. AT VERTICAL SURFACES AND 12" O.C. AT FLOOR AND CEILING CORNERS AND INTERMEDIATE METAL STUD.

5. STAGGER GYP. BD. JOINTS AT 24" ON EACH SIDE AND ON OPPOSITE SIDES.

6. PROVIDE FIRE STOPPING AT ALL OPENINGS AND UNDERSIDE OF JOISTS.

7. LIMITING HEIGHT SCHEDULE.

U.S.C. METAL STUD SIZE — MAX. PARTITION HEIGHT
1-5/8" — 9'
2-1/2" — 12'
3-5/8" — 16'

8. ALL SPECIFIED MATERIALS TO HAVE U.L. CLASSIFICATION MARKING.

9. METAL FRAMING TO BE STEEL NOT ALUMINUM.

10. ALL INTERIOR WALL STUDS AND FURRING MEMBERS SHALL BE 25-38 GA. GALV. STEEL UNLESS OTHERWISE NOTED IN DETAILS OR SPECIFICATIONS.

11. ALL STUDS AND FURRING MEMBERS AT 16" O.C. UNLESS OTHERWISE NOTED OR REQUIRED TO MEET DEFLECTION RATING.

12. 5/8" THICK GYP. BD. TYPE X IN AREA INDICATED AS FIRE RATED IN PARTITION TYPES AT WALLS, CEILINGS, FOYERS, CLOSETS, ARCHWAY TO KITCHEN, IN ALL ROOMS OF APARTMENTS, PUBLIC SPACES AND COMMERCIAL SPACES.

13. FIRE RATED PARTITIONS TO BE CONTINUOUS FROM FLOOR TO UNDERSIDE OF STRUCTURE ABOVE ALL OPENINGS (DOORS), PENETRATIONS (DUCTS, PIPES) CONNECTIONS AND JOINTS (CAULKING AND INSULATION) SHALL BE RATED TO MAINTAIN PARTITION'S RATING.

14. FIRE OR SMOKE RATED PARTITIONS SHALL BE UL LABELED AND SHALL CONFORM TO THE CODE REQUIREMENTS.

15. PROVIDE 3" THERMAFIBER SAFB (SOUND ATTENUATION FIRE BLANKET) INSULATION AT ALL DEMISING WALLS, PLUMBING RISERS, MECHANICAL RISERS, BEARING METAL AND WOOD STUD WALLS, AND BATHROOM WALLS (MEA 208-82-M).

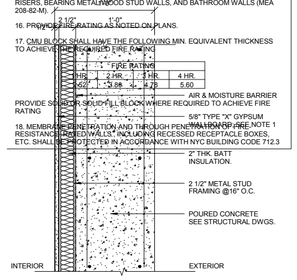
16. PROVIDE FIRE RATING AS NOTED ON PLANS.

17. CMU BLOCK SHALL HAVE THE FOLLOWING MIN. EQUIVALENT THICKNESS TO ACHIEVE THE REQUIRED FIRE RATING

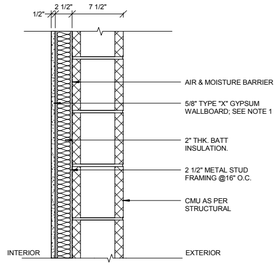
FIRE RATING	1 HR	2 HR	3 HR	4 HR
MIN. EQUIVALENT THICKNESS	2.72	3.88	4.78	5.60

PROVIDE SOLID OR SOLIDFILL BLOCK WHERE REQUIRED TO ACHIEVE FIRE RATING

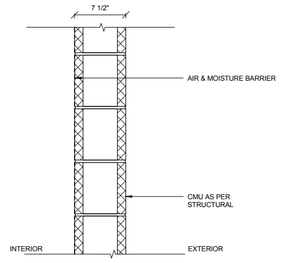
18. MEMBRANE PENETRATION AND THROUGH PENETRATION OF FIRE RESISTANCE RATED WALLS, INCLUDING RECESSED RECEPTACLE BOXES, ETC. SHALL BE PROTECTED IN ACCORDANCE WITH NYC BUILDING CODE 712.3



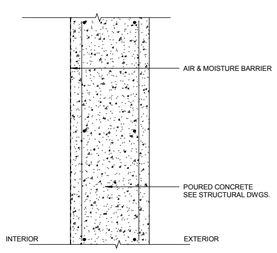
E1A CONCRETE WALL
TOTAL WALL R VALUE = 12.86 — 1-1/2"= 1'-0"



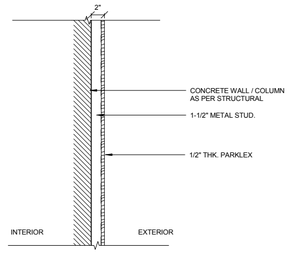
E4A CMU WALL
TOTAL WALL R VALUE = 12.86 — 1-1/2"= 1'-0"



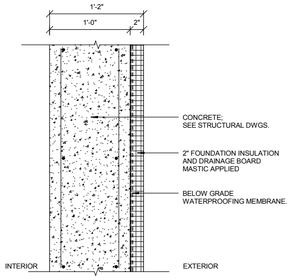
E4B CMU WALL
TOTAL WALL R VALUE = 12.86 — 1-1/2"= 1'-0"



E1B CONCRETE WALL
TOTAL WALL R VALUE = 12.86 — 1-1/2"= 1'-0"

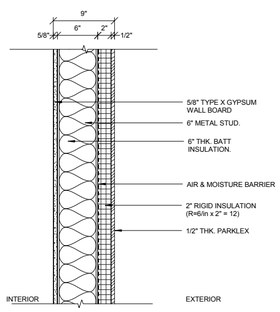


E8 PARKLEX FURRING WALL
TOTAL WALL R VALUE = 13.50 — 1-1/2"= 1'-0"

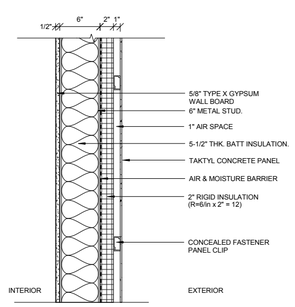


E10 CONCRETE FOUNDATION WALL
TOTAL WALL R VALUE = 14.40 — 1-1/2"= 1'-0"

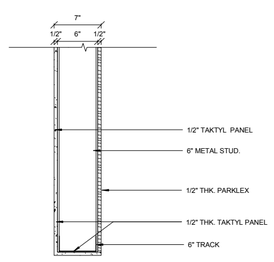
NOTE: USE BLIND SIDE WATERPROOFING AT NEIGHBORING BUILDINGS AND WHERE ACCESS IS LIMITED



E6 BALCONY PARKLEX WALL
TOTAL WALL R VALUE = 13.50 — 1-1/2"= 1'-0"



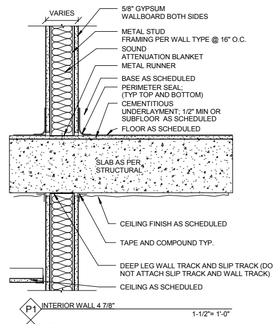
E3 TYPICAL TAKTYL RAINSCREEN STUD WALL
TOTAL WALL R VALUE = — 1-1/2"= 1'-0"



E7 BALCONY RETURN EDGE
TOTAL WALL R VALUE = 13.50 — 1-1/2"= 1'-0"

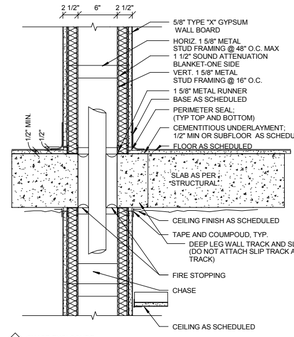
EXTERIOR WALL TYPES

INTERIOR WALL TYPES

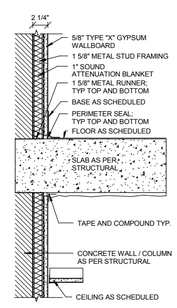


P1 INTERIOR WALL 4 7/8"
1-1/2"= 1'-0"

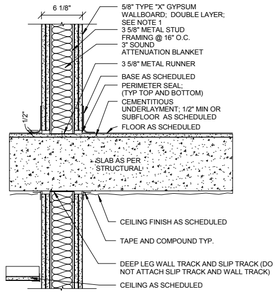
P2 INTERIOR WALL 6 3/4"
1-1/2"= 1'-0"



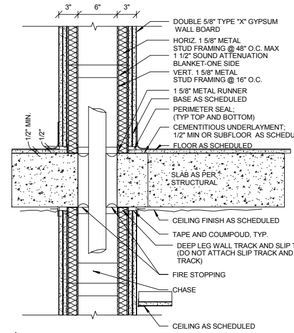
H1 CHASE ENCLOSURE
1 HR RATED UL #420; STC 52 — 1-1/2"= 1'-0"



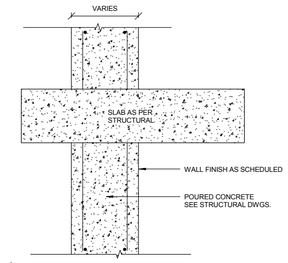
F1 FURRING WALL
1-1/2"= 1'-0"



R1 NON-LOAD BEARING STUD WALL (@ STAIR & ELEVATOR SHAFT)
2 HR RATED UL #411; STC 52 — 1-1/2"= 1'-0"

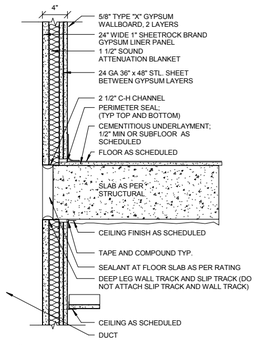


H2 CHASE ENCLOSURE
2 HR RATED UL #420; STC 52 — 1-1/2"= 1'-0"

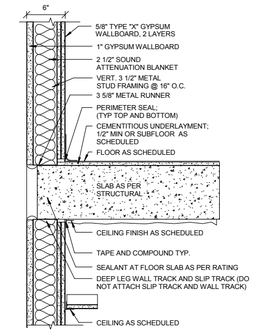


C3 8" CONCRETE WALL
2 HR FIRE RATING — 1-1/2"= 1'-0"

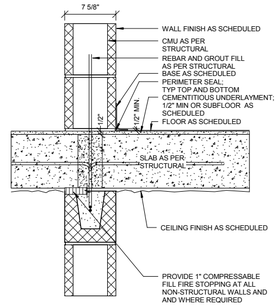
C2 10" CONCRETE WALL
2 HR FIRE RATING — 1-1/2"= 1'-0"



S1 SHAFT ENCLOSURE
2 HR RATED UL #438; STC 52 — 1-1/2"= 1'-0"



M1 6" MASONRY EQUIVALENT
2 HR RATED UL #438; STC 52 — 1-1/2"= 1'-0"



C1 MASONRY WALL 8" CMU
2 HR FIRE RATING — 1-1/2"= 1'-0"

PROGRESS SET: 12/9/2014 8:10:32 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

OWNER: 308 N 7TH STREET, 308 N. 7TH STREET BROOKLYN, NY 11211

STRUCTURAL ENGINEER: NARDUCCI ASSOCIATES INC. 231 SOUTH 5TH STREET BROOKLYN, NY 11211

MEP ENGINEER: A.R.C. ENGINEERING PLLC 231 SOUTH 5TH STREET BROOKLYN, NY 11211

CODE CONSULTANT:

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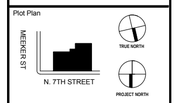
Issuance Schedule

No.	Date	Description
	12/09/2013	ISSUED FOR PERMIT

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

Drawing Title
PARTITION TYPES

Sign & Seal

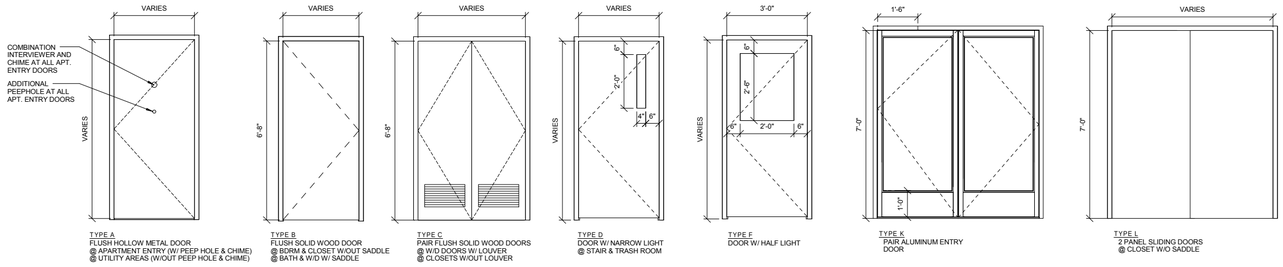
Drawing No.
A-800.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
As indicated	Checker	21 OF 22

DOB NUMBER

DOOR SCHEDULE												
			DOOR				FRAME					
DOOR NUMBER	Description	TYPE	WIDTH	HEIGHT	THICKNESS	MATL.	TYPE	JAMB /HEAD	SADDLE	FIRE RATING	STC	COMMENTS
T01	Mech Room	A	3' - 0"	6' - 8"	0' - 1 3/4"	HM	HMW					
T02			3' - 0"	6' - 8"	0' - 1 3/4"							
T03	Closet	B	3' - 0"	6' - 8"	0' - 1 3/4"	WD	HMKD			--	--	
T04	Double Swing	B	2' - 10"	6' - 8"	0' - 1 3/4"	WD	HMKD			--	--	
T05	Fire Stair	A	3' - 0"	6' - 8"	0' - 1 3/4"	HM	HMW					
T06	Reverse Swing	B	2' - 10"	6' - 8"	0' - 1 3/4"	WD	HMKD			--	--	
T07	(2) 24" Panels	C	4' - 0"	6' - 8"	0' - 1 3/4"	WD	HMKD			--	--	
T08	Closet	B	2' - 6"	6' - 8"	0' - 1 3/4"	WD	HMKD			--	--	
T09	Trash	A	3' - 0"	6' - 8"	0' - 1 3/4"	HM	HMW					
T10	Closet	B	2' - 0"	6' - 8"	0' - 1 3/4"	WD	HMKD			--	--	
T11	Closet	B	3' - 0"	6' - 8"	0' - 1 3/4"	WD	HMKD			--	--	
T12		E	2' - 6"	6' - 8"	0' - 1 3/4"	HM	HMW					
T13	Building Entry	A	3' - 0"	6' - 8"	0' - 1 3/4"	HM	HMW					
T14	Package Room	B	3' - 0"	6' - 8"	0' - 1 3/4"	WD	HMKD			--	--	
T15	Closet	B	2' - 10"	6' - 8"	0' - 1 3/4"	WD	HMKD			--	--	
T16	Elev. Cntrl Room	D	5' - 0"	7' - 0"	0' - 1 3/4"	HM	HMW					
T17		E	2' - 6"	6' - 8"	0' - 1 3/4"	HM	HMW					
T20	Apt Entry	A	3' - 0"	6' - 8"	0' - 1 3/4"	HM	HMW					
TC	Trash Chute	TT										

DOOR TYPES



TYPE A
FLUSH HOLLOW METAL DOOR
@ APARTMENT ENTRY (W/ PEEP HOLE & CHIME)
@ UTILITY AREAS (W/OUT PEEP HOLE & CHIME)

TYPE B
FLUSH SOLID WOOD DOOR
@ BDRM & CLOSET W/OUT SADDLE
@ BATH & W/D W/ SADDLE

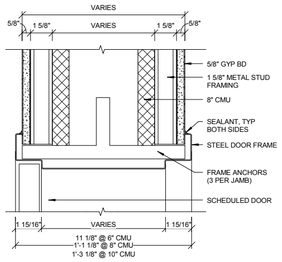
TYPE C
PAIR FLUSH SOLID WOOD DOORS
@ W/D DOORS W/ LOUVER
@ CLOSETS W/OUT LOUVER

TYPE D
DOOR W/ NARROW LIGHT
@ STAIR & TRASH ROOM

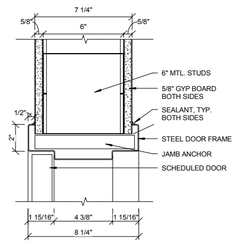
TYPE F
DOOR W/ HALF LIGHT

TYPE K
PAIR ALUMINUM ENTRY DOOR

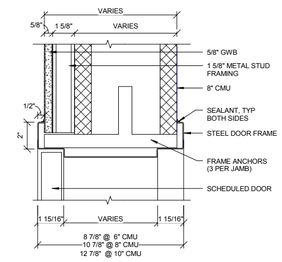
TYPE L
2 PANEL SLIDING DOORS
@ CLOSET W/O SADDLE



12 JAMB, HEAD SIM.
3" = 1'-0"



9B JAMB, HEAD SIM.
3" = 1'-0"



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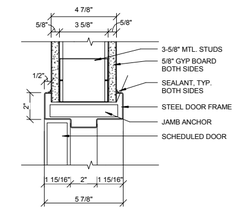
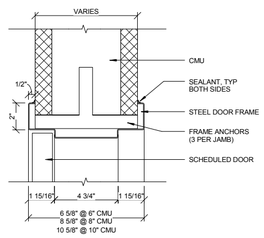


9A JAMB, HEAD SIM.
3" = 1'-0"



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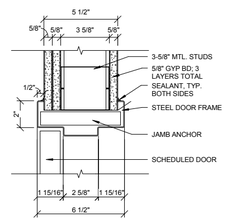
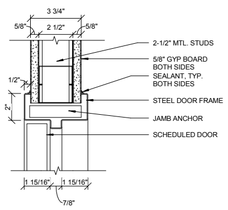


2 JAMB, HEAD SIM.
3" = 1'-0"



4 JAMB, HEAD SIM.
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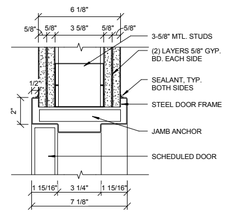
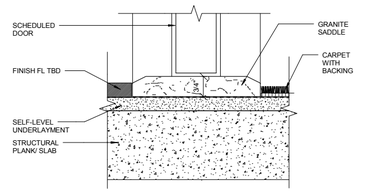
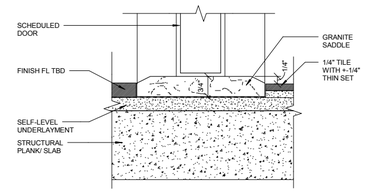


1 JAMB, HEAD SIM.
3" = 1'-0"

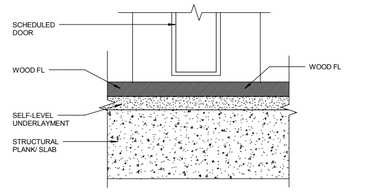
1 DOOR HEAD & JAMB DETAILS
3" = 1'-0"



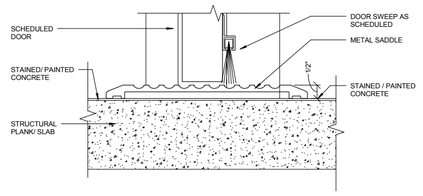
9 SADDLE DETAIL @ WOOD FL TO CARPET
6" = 1'-0"



9 SADDLE DETAIL @ TILE FLOORING TO TILE FLOORING
6" = 1'-0"



9 SADDLE DETAIL @ CONT. WOOD FL
6" = 1'-0"



5 SADDLE DETAIL @ STAINED CONC. TO STAINED CONC.
6" = 1'-0"

2 DOOR SADDLE DETAILS
6" = 1'-0"

PROGRESS SET: 12/9/2014 8:10:41 PM

Project
308 N. 7TH STREET
BROOKLYN, NY 11211

KUTNICKI BERNSTEIN ARCHITECTS
434 BROADWAY NEW YORK CITY 10013 P.212.431.5552 F.212.431.5663

CODE CONSULTANT:

STRUCTURAL ENGINEER:
MAROU ASSOCIATES INC.
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NEW YORK, NY 10023

MEP ENGINEERS:
A.S.T. ENGINEERING PLLC
1 PENNSYLVANIA PLAZA
NEW YORK, NY 10023

OWNER:
308 N 7TH STREET
308 N 7TH STREET
BROOKLYN, NY 11211

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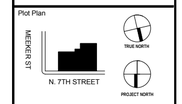
Issuance Schedule

No.	Date	Description
	12/09/13	ISSUED FOR PERMIT

Revision Schedule

No.	Date	Description

Plot Plan



For Department of Buildings Use

Drawing Title
DOOR SCHEDULE,DOOR HEAD & JAMB DETAILS, DOOR SADDLE DETAILS

Sign & Seal

Drawing No.
A-810.00

date	drawn by	job no.
11/01/10	Author	2014-093
sheet scale	checked by	DOB sheet
As indicated	Checker	22 OF 22

DOB NUMBER

ATTACHMENT B
CITIZEN PARTICIPATION PLAN

The NYC Office of Environmental Remediation and Adam America Real Estate have established this Citizen Participation Plan because the opportunity for citizen participation is an important component of the NYC Voluntary Cleanup Program. This Citizen Participation Plan describes how information about the project will be disseminated to the Community during the remedial process. As part of its obligations under the NYC VCP, Adam America Real Estate will maintain a repository for project documents and provide public notice at specified times throughout the remedial program. This Plan also takes into account potential environmental justice concerns in the community that surrounds the project Site. Under this Citizen Participation Plan, project documents and work plans are made available to the public in a timely manner. Public comment on work plans is strongly encouraged during public comment periods. Work plans are not approved by the NYC Office of Environmental Remediation (OER) until public comment periods have expired and all comments are formally reviewed. An explanation of cleanup plans in the form of a public meeting or informational session is available upon request to OER's project manager assigned to this Site, Eric Ilijevich, who can be contacted about these issues or any others questions, comments or concerns that arise during the remedial process at (212) 341-2034.

Project Contact List. OER has established a Site Contact List for this project to provide public notices in the form of fact sheets to interested members of the Community. Communications will include updates on important information relating to the progress of the cleanup program at the Site as well as to request public comments on the cleanup plan. The Project Contact List includes owners and occupants of adjacent buildings and homes, principal administrators of nearby schools, hospitals and day care centers, the public water supplier that serves the area, established document repositories, the representative Community Board, City Council members, other elected representatives and any local Brownfield Opportunity Area (BOA) grantee organizations. Any member of the public or organization will be added to the Site Contact List on request. A copy of the Site Contact List is maintained by OER's project manager. If you would like to be added to the Project Contact List, contact NYC OER at (212) 788-8841 or by email at

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Ph: 631.504.6000
Fax: 631.928.2780

brownfields@cityhall.nyc.gov.

Repositories. A document repository is maintained in online. Internet access to view OER's document repositories is available at public libraries. This document repository is intended to house, for community review, all principal documents generated during the cleanup program including Remedial Investigation plans and reports, Remedial Action work plans and reports, and all public notices and fact sheets produced during the lifetime of the remedial project.

The library nearest the Site is:

Brooklyn Public Library - Williamsburg Branch
240 Division Avenue, Brooklyn, NY
Telephone Number: 718-302-3485
Hours of Operation:

Mon	closed
Tue	10:00AM - 6:00PM
Wed	10:00AM - 6:00PM
Thu	1:00PM - 8:00PM
Fri	10:00AM - 6:00PM
Sat	10:00AM - 5:00PM
Sun	closed

Digital Documentation. NYC OER strongly encourages the use of digital documents in repositories as a means of minimizing paper use while also increasing convenience in access and ease of use.

Identify Issues of Public Concern. The major issues of concern to the public will be potential impacts of nuisance odors and dust during the disturbance of historic fill soils at the Site. This work will be performed in accordance with procedures which will be specified under a detailed

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Ph: 631.504.6000
Fax: 631.928.2780

Remedial Program which considers and takes preventive measures for exposures to future residents of the property and those on adjacent properties during construction. Detailed plans to monitor the potential for exposure including a Construction Health and Safety Plan and a Community Air Monitoring Plan are required components of the remedial program. Implementation of these plans will be under the direct oversight of the New York City Department of Environmental Remediation (NYCOER).

These plans will specify the following worker and community health and safety activities during remedial activity at the Site:

- On-Site air monitoring for worker protection,
- Perimeter air monitoring for community protection.

The Health and Safety Plan and the Community Air Monitoring Plan prepared as part of the Remedial Action Work Plan will be available for public review at the document repository.

Public Notice and Public Comment. Public notice to all members of the Project Contact List is required at three major steps during the performance of the cleanup program (listed below) and at other points that may be required by OER. Notices will include Fact Sheets with descriptive project summaries, updates on recent and upcoming project activities, repository information, and important phone and email contact information. All notices will be prepared by Adam America Real Estate, reviewed and approved by OER prior to distribution and mailed by Adam America Real Estate. Public comment is solicited in public notices for all work plans developed under the NYC Voluntary Cleanup Program. Final review of all work plans by OER will consider all public comments. Approval will not be granted until the public comment period has been completed.

Citizen Participation Milestones. Public notice and public comment activities occur at several steps during a typical NYC VCP project. See flow chart on the following page, which identifies when during the NYC VCP public notices are issued: These steps include:

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- **Public Notice of the availability of the Remedial Investigation Report and Remedial Action Work Plan and a 30-day public comment period on the Remedial Action Work Plan.**

  Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the availability of the Remedial Investigation Report and Remedial Action Work Plan and the initiation of a 30-day public comment period on the Remedial Action Work Plan. The Fact Sheet summarizes the findings of the RIR and provides details of the RAWP. The public comment period will be extended an additional 15 days upon public request. A public meeting or informational session will be conducted by OER upon request.

- **Public Notice announcing the approval of the RAWP and the start of remediation**
  Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the approval of the RAWP and the start of remediation.

- **Public Notice announcing the completion of remediation, designation of Institutional and Engineering Controls and issuance of the Notice of Completion**
  Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the completion of remediation, providing a list of all Institutional and Engineering Controls implemented for to the Site and announcing the issuance of the Notice of Completion.

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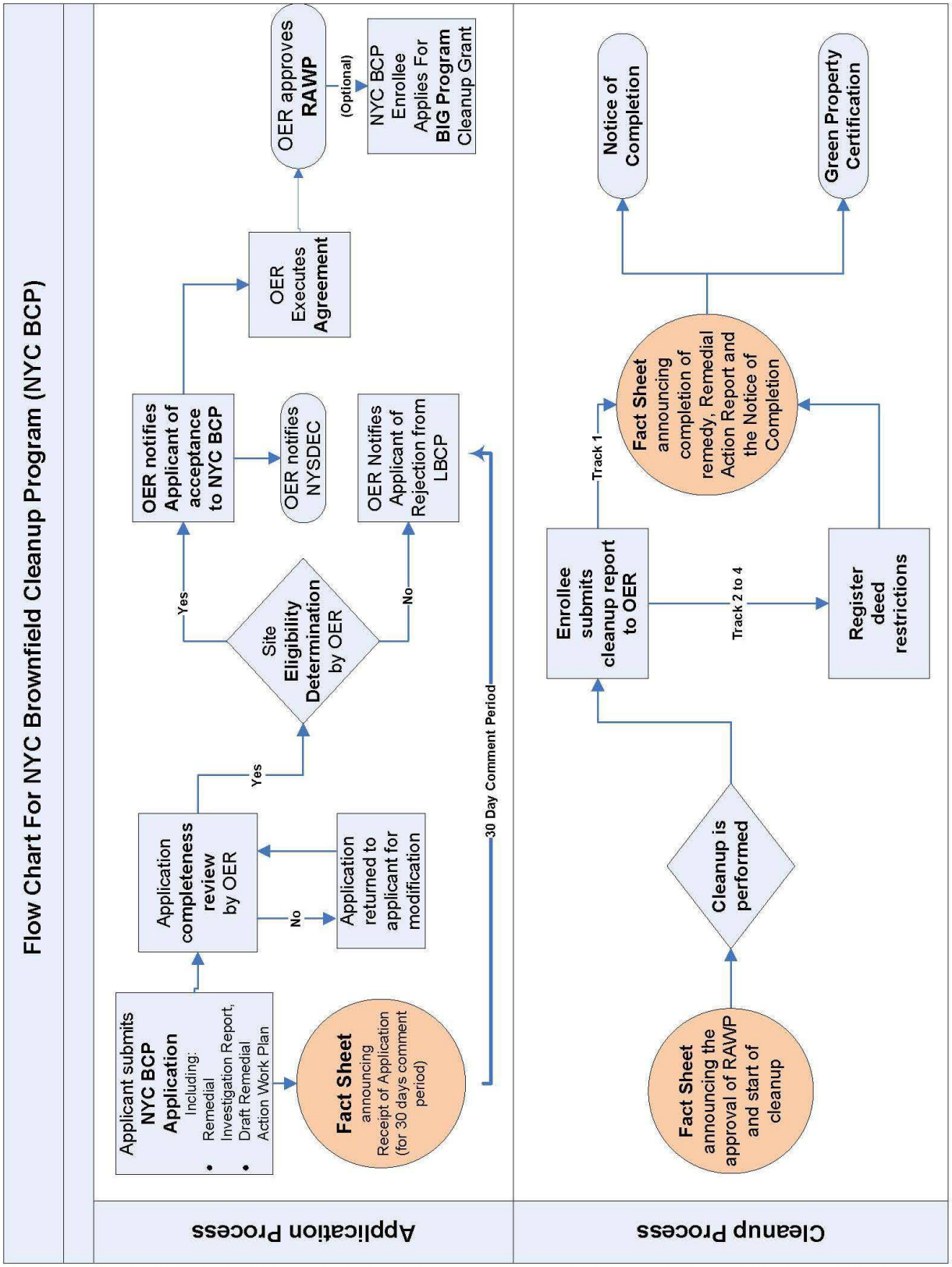

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ATTACHMENT C
SUSTAINABILITY STATEMENT

This Sustainability Statement documents sustainable activities and green remediation efforts planned under this remedial action.

Reuse of Clean, Recyclable Materials. Reuse of clean, locally-derived recyclable materials reduces consumption of non-renewable virgin resources and can provide energy savings and greenhouse gas reduction.

This project intends to use recycled concrete aggregate wherever possible in grading and backfilling the Site. An estimate of the quantity (in tons) of clean, non-virgin materials (reported by type of material) reused under this plan will be quantified and reported in the RAR.

Reduce Consumption of Virgin and Non-Renewable Resources. Reduced consumption of virgin and non-renewable resources lowers the overall environmental impact of the project on the region by conserving these resources.

The project will reduce the consumption of virgin materials by substituting recycled concrete aggregate for mined gravel and/or sand backfill whenever possible. An estimate of the quantity (in tons) of virgin and non-renewable resources, the use of which will be avoided under this plan, will be quantified and reported in the RAR.

Reduced Energy Consumption and Promotion of Greater Energy Efficiency. Reduced energy consumption lowers greenhouse gas emissions, improves local air quality, lessens in-city power generation requirements, can lower traffic congestion, and provides substantial cost savings.

Recycled concrete materials and other backfill materials will be locally sourced reducing the energy consumption associated with transporting these materials to the Site. Best efforts will be made to quantify energy efficiencies achieved during the remediation and will be reported in the Remedial Action Report (RAR). Where energy savings cannot be easily quantified, a gross indicator of the amount of energy saved or the means by which energy savings was achieved will

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be reported.

Paperless Voluntary Cleanup Program. Adam America Real Estate is participating in OER's Paperless Voluntary Cleanup Program. Under this program, submission of electronic documents will replace submission of hard copies for the review of project documents, communications and milestone reports.

Low-Energy Project Management Program. Adam America Real Estate is participating in OER's low-energy project management program. Under this program, whenever possible, meetings are held using remote communication technologies, such as videoconferencing and teleconferencing to reduce energy consumption and traffic congestion associated with personal transportation.

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ATTACHMENT D
SOIL/MATERIALS MANAGEMENT PLAN

1.1 SOIL SCREENING METHODS

Visual, olfactory and PID soil screening and assessment will be performed under the supervision of a Qualified Environmental Professional and will be reported in the RAR. Soil screening will be performed during invasive work performed during the remedy and development phases prior to issuance of the Notice of Completion.

1.2 STOCKPILE METHODS

Excavated soil from suspected areas of contamination (e.g., hot spots, USTs, drains, etc.) will be stockpiled separately and will be segregated from clean soil and construction materials. Stockpiles will be used only when necessary and will be removed as soon as practicable. While stockpiles are in place, they will be inspected daily, and before and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by OER. Excavated soils will be stockpiled on, at minimum, double layers of 8-mil minimum sheeting, will be kept covered at all times with appropriately anchored plastic tarps, and will be routinely inspected. Broken or ripped tarps will be promptly replaced.

All stockpile activities will be compliant with applicable laws and regulations. Soil stockpile areas will be appropriately graded to control run-off in accordance with applicable laws and regulations. Stockpiles of excavated soils and other materials shall be located at least of 50 feet from the property boundaries, where possible. Hay bales or equivalent will surround soil stockpiles except for areas where access by equipment is required. Silt fencing and hay bales will be used as needed near catch basins, surface waters and other discharge points.

1.3 CHARACTERIZATION OF EXCAVATED MATERIALS

Soil/fill or other excavated media that is transported off-Site for disposal will be sampled in a manner required by the receiving facility, and in compliance with applicable laws and regulations. Soils proposed for reuse on-Site will be managed as defined in this plan.

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1.4 MATERIALS EXCAVATION, LOAD-OUT AND DEPARTURE

The PE/QEP overseeing the remedial action will:

- oversee remedial work and the excavation and load-out of excavated material;
- ensure that there is a party responsible for the safe execution of invasive and other work performed under this work plan;
- ensure that Site development activities and development-related grading cuts will not interfere with, or otherwise impair or compromise the remedial activities proposed in this RAWP;
- ensure that the presence of utilities and easements on the Site has been investigated and that any identified risks from work proposed under this plan are properly addressed by appropriate parties;
- ensure that all loaded outbound trucks are inspected and cleaned if necessary before leaving the Site; and
- ensure that all egress points for truck and equipment transport from the Site will be kept clean of Site-derived materials during Site remediation.

Locations where vehicles exit the Site shall be inspected daily for evidence of soil tracking off premises. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

Open and uncontrolled mechanical processing of historical fill and contaminated soil on-Site will not be performed without prior OER approval.

1.5 OFF-SITE MATERIALS TRANSPORT

Loaded vehicles leaving the Site will comply with all applicable materials transportation requirements (including appropriate covering, manifests, and placards) in accordance with applicable laws and regulations, including use of licensed haulers in accordance with 6 NYCRR Part 364. If loads contain wet material capable of causing leakage from trucks, truck liners will be used. Queuing of trucks will be performed on-Site, when possible in order to minimize off Site disturbance. Off-Site queuing will be minimized. The outbound truck transport route is shown on Figure 8.

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This routing takes into account the following factors: (a) limiting transport through residential areas and past sensitive sites; (b) use of mapped truck routes; (c) minimizing off-Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport. To the extent possible, all trucks loaded with Site materials will travel from the Site using these truck routes. Trucks will not stop or idle in the neighborhood after leaving the project Site.

1.6 MATERIALS DISPOSAL OFF-SITE

The following documentation will be established and reported by the PE/QEP for each disposal destination used in this project to document that the disposal of regulated material exported from the Site conforms with applicable laws and regulations: (1) a letter from the PE/QEP or Enrollee to each disposal facility describing the material to be disposed and requesting written acceptance of the material. This letter will state that material to be disposed is regulated material generated at an environmental remediation Site in Brooklyn, New York under a governmental remediation program. The letter will provide the project identity and the name and phone number of the PE/QEP or Enrollee. The letter will include as an attachment a summary of all chemical data for the material being transported; and (2) a letter from each disposal facility stating it is in receipt of the correspondence (1, above) and is approved to accept the material. These documents will be included in the RAR.

The Remedial Action Report will include an itemized account of the destination of all material removed from the Site during this remedial action. Documentation associated with disposal of all material will include records and approvals for receipt of the material. This information will be presented in the RAR.

All impacted soil/fill or other waste excavated and removed from the Site will be managed as regulated material and will be disposed in accordance with applicable laws and regulations. Historic fill and contaminated soils taken off-Site will be handled as solid waste and will not be disposed at a Part 360-16 Registration Facility (also known as a Soil Recycling Facility).

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Waste characterization will be performed for off-Site disposal in a manner required by the receiving facility and in conformance with its applicable permits. Waste characterization sampling and analytical methods, sampling frequency, analytical results and QA/QC will be reported in the RAR. A manifest system for off-Site transportation of exported materials will be employed. Manifest information will be reported in the RAR. Hazardous wastes derived from on-Site will be stored, transported, and disposed of in compliance with applicable laws and regulations.

If disposal of soil/fill from this Site is proposed for unregulated disposal (i.e., clean soil removed for development purposes), including transport to a Part 360-16 Registration Facility, a formal request will be made for approval by OER with an associated plan compliant with 6NYCRR Part 360-16. This request and plan will include the location, volume and a description of the material to be recycled, including verification that the material is not impacted by site uses and that the material complies with receipt requirements for recycling under 6NYCRR Part 360. This material will be appropriately handled on-Site to prevent mixing with impacted material.

1.7 MATERIALS REUSE ON-SITE

Soil and fill that is derived from the property that meets the soil cleanup objectives established in this plan may be reused on-Site. The soil cleanup objectives for on-Site reuse are listed in Table 1. 'Reuse on-Site' means material that is excavated during the remedy or development, does not leave the property, and is relocated within the same property and on comparable soil/fill material, and addressed pursuant to the NYC VCP agreement subject to Engineering and Institutional Controls. The PE/QEP will ensure that reused materials are segregated from other materials to be exported from the Site and that procedures defined for material reuse in this RAWP are followed.

Organic matter (wood, roots, stumps, etc.) or other waste derived from clearing and grubbing of the Site will not be buried on-Site. Soil or fill excavated from the site for grading or other purposes will not be reused within a cover soil layer or within landscaping berms.

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1.8 DEMARCATION

After completion of hotspot removal and any other invasive remedial activities, and prior to backfilling, the top of the residual soil/fill will be defined by one of three methods: (1) placement of a demarcation layer. The demarcation layer will consist of geosynthetic fencing or equivalent material to be placed on the surface of residual soil/fill to provide an observable reference layer. A description or map of the approximate depth of the demarcation layer will be provided in the SMP; or (2) a land survey of the top elevation of residual soil/fill before the placement of cover soils, pavement and associated sub-soils, or other materials or structures or, (3) all materials beneath the approved cover will be considered impacted and subject to site management after the remedy is complete. Demarcation may be established by one or any combination of these three methods. As appropriate, a map showing the method of demarcation for the Site and all associated documentation will be presented in the RAR.

This demarcation will constitute the top of the site management horizon. Materials within this horizon require adherence to special conditions during future invasive activities as defined in the Site Management Plan.

1.9 IMPORT OF BACKFILL SOIL FROM OFF-SITE SOURCES

This Section presents the requirements for imported fill materials to be used below the cover layer and within the clean soil cover layer. All imported soils will meet OER-approved backfill and cover soil quality objectives for this Site. The backfill and cover soil quality objectives are listed in Table 1.

A process will be established to evaluate sources of backfill and cover soil to be imported to the Site, and will include an examination of source location, current and historical use(s), and any applicable documentation. Material from industrial sites, spill sites, environmental remediation sites or other potentially contaminated sites will not be imported to the Site.

The following potential sources may be used pending attainment of backfill and cover soil quality objectives:

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- Clean soil from construction projects at non-industrial sites in compliance with applicable laws and regulations;
- Clean soil from roadway or other transportation-related projects in compliance with applicable laws and regulations;
- Clean recycled concrete aggregate (RCA) from facilities permitted or registered by the regulations of NYS DEC.

All materials received for import to the Site will be approved by a PE/QEP and will be in compliance with provisions in this RAWP. The RAR will report the source of the fill, evidence that an inspection was performed on the source, chemical sampling results, frequency of testing, and a Site map indicating the locations where backfill or soil cover was placed.

Source Screening and Testing

Inspection of imported fill material will include visual, olfactory and PID screening for evidence of contamination. Materials imported to the Site will be subject to inspection, as follows:

- Trucks with imported fill material will be in compliance with applicable laws and regulations and will enter the Site at designated locations;
- The PE/QEP is responsible to ensure that every truck load of imported material is inspected for evidence of contamination; and
- Fill material will be free of solid waste including pavement materials, debris, stumps, roots, and other organic matter, as well as ashes, oil, perishables or foreign matter.

Composite samples of imported material will be taken at a minimum frequency of one sample for every 500 cubic yards of material. Once it is determined that the fill material meets imported backfill or cover soil chemical requirements and is non-hazardous, and lacks petroleum contamination, the material will be loaded onto trucks for delivery to the Site.

Recycled concrete aggregate (RCA) will be imported from facilities permitted or registered by NYSDEC. Facilities will be identified in the RAR. A PE/QEP is responsible to ensure that the facility is compliant with 6NYCRR Part 360 registration and permitting requirements for the period of acquisition of RCA. RCA imported from compliant facilities will not require additional

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testing, unless required by NYSDEC under its terms for operation of the facility. RCA imported to the Site must be derived from recognizable and uncontaminated concrete. RCA material is not acceptable for, and will not be used as cover material.

1.10 FLUIDS MANAGEMENT

All liquids to be removed from the Site, including dewatering fluids, will be handled, transported and disposed in accordance with applicable laws and regulations. Liquids discharged into the New York City sewer system will receive prior approval by New York City Department of Environmental Protection (NYC DEP). The NYC DEP regulates discharges to the New York City sewers under Title 15, Rules of the City of New York Chapter 19. Discharge to the New York City sewer system will require an authorization and sampling data demonstrating that the groundwater meets the City's discharge criteria. The dewatering fluid will be pretreated as necessary to meet the NYC DEP discharge criteria. If discharge to the City sewer system is not appropriate, the dewatering fluids will be managed by transportation and disposal at an off-Site treatment facility.

Discharge of water generated during remedial construction to surface waters (i.e. a stream or river) is prohibited without a SPDES permit issued by New York State Department of Environmental Conservation.

1.11 STORM-WATER POLLUTION PREVENTION

Applicable laws and regulations pertaining to storm-water pollution prevention will be addressed during the remedial program. Erosion and sediment control measures identified in this RAWP (silt fences and barriers, and hay bale checks) will be installed around the entire perimeter of the remedial construction area and inspected once a week and after every storm event to ensure that they are operating appropriately. Discharge locations will be inspected to determine whether erosion control measures are effective in preventing significant impacts to receptors. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by OER. All necessary repairs shall be made immediately. Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. Undercutting or erosion of the silt fence toe anchor will be repaired immediately with appropriate backfill materials.

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

1.12 CONTINGENCY PLAN

This contingency plan is developed for the remedial construction to address the discovery of unknown structures or contaminated media during excavation. Identification of unknown contamination source areas during invasive Site work will be promptly communicated to OER's Project Manager. Petroleum spills will be reported to the NYS DEC Spill Hotline. These findings will be included in the daily report. If previously unidentified contaminant sources are found during on-Site remedial excavation or development-related excavation, sampling will be performed on contaminated source material and surrounding soils and reported to OER. Chemical analytical testing will be performed for TAL metals, TCL volatiles and semi-volatiles, TCL pesticides and PCBs, as appropriate.

1.13 ODOR, DUST AND NUISANCE CONTROL

Odor Control

All necessary means will be employed to prevent on- and off-Site odor nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) use of foams to cover exposed odorous soils. If odors develop and cannot otherwise be controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; and (e) use of chemical odorants in spray or misting systems.

This odor control plan is capable of controlling emissions of nuisance odors. If nuisance odors are identified, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. OER will be notified of all odor complaint events. Implementation of all odor controls, including halt of work, will be the responsibility of the PE/QEP's certifying the Remedial Action Report.

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Dust Control

Dust management during invasive on-Site work will include, at a minimum:

- Use of a dedicated water spray methodology for roads, excavation areas and stockpiles.
- Use of properly anchored tarps to cover stockpiles.
- Exercise extra care during dry and high-wind periods.
- Use of gravel or recycled concrete aggregate on egress and other roadways to provide a clean and dust-free road surface.

This dust control plan is capable of controlling emissions of dust. If nuisance dust emissions are identified, work will be halted and the source of dusts will be identified and corrected. Work will not resume until all nuisance dust emissions have been abated. OER will be notified of all dust complaint events. Implementation of all dust controls, including halt of work, will be the responsibility of the PE/QEP's responsible for certifying the Remedial Action Report.

Other Nuisances

Noise control will be exercised during the remedial program. All remedial work will conform, at a minimum, to NYC noise control standards.

Rodent control will be provided, during Site clearing and grubbing, and during the remedial program, as necessary, to prevent nuisances.

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ATTACHMENT E
Site-Specific Construction Health & Safety Plan (CHASP)

304-310 NORTH 7TH STREET

BROOKLYN, NEW YORK

Block 2331, Lot 9

CONSTRUCTION
HEALTH AND SAFETY PLAN

MAY 2015

Prepared By:

EBC

ENVIRONMENTAL BUSINESS CONSULTANTS

1808 Middle Country Road
Ridge, NY 11961

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304-310 NORTH 7TH STREET, BROOKLYN, NY

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STATEMENT OF COMMITMENT

This Construction Health and Safety Plan (CHASP) has been prepared to ensure that workers are not exposed to risks from hazardous materials during the Remedial Action at 53 Grand Street, Brooklyn, NY.

This CHASP, which applies to persons present at the site actually or potentially exposed to hazardous materials, describes emergency response procedures for actual and potential chemical hazards. This CHASP is also intended to inform and guide personnel entering the work area or exclusion zone. Persons are to acknowledge that they understand the potential hazards and the contents of this Health and Safety policy by signing off on receipt of their individual copy of the document. Contractors and suppliers are retained as independent contractors and are responsible for ensuring the health and safety of their own employees.

1.0 INTRODUCTION AND SITE ENTRY REQUIREMENTS

This document describes the health and safety guidelines developed by Environmental Business Consultants (EBC) for the planned Remedial Action at 304-310 North 7th Street, New York, NY to protect on-site personnel, visitors, and the public from physical harm and exposure to hazardous materials or wastes during remedial activities. In accordance with the Occupational Safety and Health Administration (OSHA) 29 CFR Part 1910.120 Hazardous Waste Operations and Emergency Response Final rule, this CHASP, including the attachments, addresses safety and health hazards related to excavation, loading and other soil disturbance activities and is based on the best information available. The CHASP may be revised by EBC at the request of the developer and/or a regulatory agency upon receipt of new information regarding site conditions. Changes will be documented by written amendments signed by EBC's project manager, site safety officer and/or the EBC health and safety consultant.

1.1 Training Requirements

Personnel entering the exclusion zone or decontamination zone are required to be certified in health and safety practices for hazardous waste site operations as specified in the Federal OSHA Regulations CFR 1910.120e (revised 3/6/90).

Paragraph (e - 3) of the above referenced regulations requires that all on-site management personnel directly responsible for or who supervise employees engaged in hazardous waste operations, must initially receive 8 hours of supervisor training related to managing hazardous waste work.

Paragraph (e - 8) of the above referenced regulations requires that workers and supervisors receive 8 hours of refresher training annually on the items specified in Paragraph (e-1) and/or (e-3).

Additionally all on-site personnel must receive adequate site-specific training in the form of an on-site Health and Safety briefing prior to participating in field work with emphasis on the following:

- Protection of the adjacent community from hazardous vapors and / or dust which may be released during intrusive activities.
- Identification of chemicals known or suspected to be present on-site and the health effects and hazards of those substances.
- The need for vigilance in personnel protection, and the importance of attention to proper use, fit and care of personnel protective equipment.
- Decontamination procedures.
- Site control including work zones, access and security.
- Hazards and protection against heat or cold.
- The proper observance of daily health and safety practices, such as entry and exit of work zones and site. Proper hygiene during lunch, break, etc.
- Emergency procedures to be followed in case of fire, explosion and sudden release of hazardous gases.

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Health and Safety meetings will be conducted on a daily basis and will cover protective clothing and other equipment to be used that day, potential and chemical and physical hazards, emergency procedures, and conditions and activities from the previous day.

1.2 Medical Monitoring Requirements

Field personnel and visitors entering the exclusion zone or decontamination zone must have completed appropriate medical monitoring required under OSHA 29 CFR 1910.120(f) if respirators or other breathing related PPE is needed. Medical monitoring enables a physician to monitor each employee's health, physical condition, and his fitness to wear respiratory protective equipment and carry out on-site tasks.

1.3 Site Safety Plan Acceptance, Acknowledgment and Amendments

The project superintendent and the site safety officer are responsible for informing personnel (EBC employees and/or owner or owners representatives) entering the work area of the contents of this plan and ensuring that each person signs the safety plan acknowledging the on-site hazards and procedures required to minimize exposure to adverse effects of these hazards. A copy of the Acknowledgement Form is included in **Appendix A**.

Site conditions may warrant an amendment to the CHASP. Amendments to the HASP are acknowledged by completing forms included in **Appendix B**.

1.4 Key Personnel - Roles and Responsibilities

Personnel responsible for implementing this Health and Safety Plan are:

Name	Title	Address	Contact Numbers
Kimberly Somers	EBC – Project Manager	1808 Middle Country Rd Ridge, NY 11961	(631) 504-6000
Kimberly Somers	Health & Safety Manager	1808 Middle Country Rd Ridge, NY 11961	(631) 504-6000
Kevin Waters	Site Safety Officer	1808 Middle Country Rd Ridge, NY 11961	(631) 504-6000

The project manager is responsible for overall project administration and, with guidance from the site safety officer, for supervising the implementation of this CHASP. The site safety officer will conduct daily (tail gate or tool box) safety meetings at the project site and oversee daily safety issues. Each subcontractor and supplier (defined as an OSHA employer) is also responsible for the health and safety of its employees. If there is any dispute about health and safety or project activities, on-site personnel will attempt to resolve the issue. If the issue cannot be resolved at the site, then the project manager will be consulted.

The site safety officer is also responsible for coordinating health and safety activities related to hazardous material exposure on-site. The site safety officer is responsible for the following:

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1. Educating personnel about information in this CHASP and other safety requirements to be observed during site operations, including, but not limited to, decontamination procedures, designation of work zones and levels of protection, air monitoring, fit testing, and emergency procedures dealing with fire and first aid.

2. Coordinating site safety decisions with the project manager.

3. Designating exclusion, decontamination and support zones on a daily basis.

4. Monitoring the condition and status of known on-site hazards and maintaining and implementing the air quality monitoring program specified in this CHASP.

5. Maintaining the work zone entry/exit log and site entry/exit log.

6. Maintaining records of safety problems, corrective measures and documentation of chemical exposures or physical injuries (the site safety officer will document these conditions in a bound notebook and maintain a copy of the notebook on-site).

The person who observes safety concerns and potential hazards that have not been addressed in the daily safety meetings should immediately report their observations/concerns to the site safety officer or appropriate key personnel.

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2.0 SITE BACKGROUND AND SCOPE OF WORK

The Site is located at 304-310 North 7th Street in the Williamsburg section of Brooklyn, New York, and is currently identified as Block 2331, Lot 9 on the New York City Tax Map. Figure 1 shows the Site location. The lot is currently being divided to exclude the 30 ft x 200 ft building that extends along Meeker Avenue from N. 6th Street to N. 7th Street. The portion of Lot 9 that is the focus of this investigation consists of 138 feet of street frontage along North 7th Street and extends 100 deep for a total of 13,800 square feet (sf). The Site is located on south side of North 7th Street, between Meeker Avenue and Havemeyer Street. The Site is bordered by North 7th Street to the north; a five-story multi-family building to the west (300 North 7th Street); and two, three-story multi-family buildings and a five-story commercial office building to the south; and the un-included portion of lot 9 to the east. Currently, the site is improved with two attached brick and masonry buildings which together occupy the entire footprint of the property. The buildings have been partially demolished with the roof and interior portions removed.

The development project consists of redeveloping the lot with a new 7□story residential apartment building with a rear on-grade courtyard. The building will not have a cellar. The first floor will consist of the residential lobby, three mechanical rooms, two recreational rooms, an elevator, one residential unit, a stairwell, an elevator and a 5,794 sf parking area. The second floor will consist of residential apartments and two private terraces. The third through seventh floors will consist of residential apartments.

The building will cover the front 60 feet of the lot and will have a full height basement level beneath the entire building footprint and will require excavation of the 70 % of the lot to a depth of at least 10 feet below grade. A rear yard is planned for the Site and will be approximately 34 x 25 feet. The rear yard will be excavated to a depth of 2 feet. Therefore, an estimated 833 cubic yards (1,249 tons) of soil will require excavation for the new building's cellar. The water table is expected at approximately 20 feet below grade surface (bgs), and will therefore not be encountered during excavation.The water table is expected at approximately 20 feet below grade surface (bgs). The current zoning designation is M1-2/R6B. The proposed use is consistent with existing zoning for the property. The entire Site will require excavation to a depth of approximately 2 feet below grade for grading purposes and construction of the building's slab. An additional 7 ft by 9 ft excavation to approximately 6ft will be required for the elevator pit. An estimated 1,036 cubic yards (1,554 tons) of soil will require excavation for the new building's slab and elevator pit. The water table is at approximately 7 feet below grade surface (bgs), and will not be encountered during excavation.

Layout of the redevelopment plans for the cellar level, as well as the proposed building's front elevation drawing, is presented in Figure 3. The current zoning designation is M1-2/R6. The proposed use is consistent with existing zoning for the property.

2.1 Previous Investigations

2.1.1 Phase II Subsurface Investigation Report (EBC April 2015)

A Phase I screening was competed by EBC in October 2014. The following Site history was established based on historic Sanborn maps:

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EBC was able to establish a history for the property dating back to 1887. From approximately 1887 to 1905, the Site was occupied by the A.B. Ansbacher & Co. Dye factory. The current buildings, constructed in 1907, were occupied by A.B. Ansbacher through at least 1942 at which time a portion of the property was identified as an insecticide works. From 1951 through 1981 the buildings along North 7th are occupied by the Star Candle and Soap factory. By 1981 Star expanded into the brake works building and occupied the entire Site through 2001 when the building became vacant.

The report noted that the Site is a portion of the BQE / Ansbacher Color & Dye Factory which appears on the NYSDEC Registry of Inactive Hazardous Waste Sites under Site Number 2-24-016. The listing is classified as not presenting a significant threat to public health or the environment. In August 2000, a Subsurface Investigation was performed by Singer Environmental and Pednault Associates which identified elevated levels of metals (arsenic, lead) at the Site. In October 2000 Enviro-Comp petitioned the NYSDEC to redefine the boundary of the Site and remove lot 9 from the listing. The NYSDEC agreed and modified the registry by removing lot 9 on November 9, 2000.

The Site has been assigned a Restrictive Declaration for R-53; CEQR 05BSA058K in April 2005 as part of an application for a use variance to convert the buildings to residential use.

A RIR investigation was completed for the site and consisted of:

1. Installed 11 soil borings across the Site, and collected 15 soil for chemical analysis from the soil borings to evaluate soil quality;
2. Installed 3 groundwater monitoring wells throughout the Site and collected 2 groundwater samples and one duplicate groundwater sample for chemical analysis to evaluate groundwater quality; and
3. Installed 5 soil gas implants and collected 5 soil gas samples for chemical analysis.

Summary of Environmental Findings

1. The elevation of the Site is approximately 14 feet.
2. Depth to groundwater is estimated to be approximately 7 feet below sidewalk grade.
3. The stratigraphy of the Site from the surface down consists of historic fill material to depths as great as 4 feet, underlain by native brown silty sand.
4. Soil/fill samples results were compared to NYSDEC Unrestricted Use Soil Cleanup Objectives (UUSCOs) and Restricted Residential Soil Cleanup Objectives (RRSCOs) as presented in 6NYCRR Part 375-6.8. The sample results showed no pesticides or PCBs above detection limits. VOCs, including acetone (95 µg/kg) and methylene chloride (110 µg/kg) were detected above Unrestricted Use SCOs. Six SVOCs, including benz(a)anthracene (max. of 10,000 µg/kg), benzo(a)pyrene (max. of 7,700 µg/kg), benzo(b)fluoranthene (max. of 9,400 µg/kg), chrysene (max. of 9,500 µg/kg) and indeno(1,2,3-cd)pyrene (2,900 µg/kg) were detected above Restricted Residential Use SCOs. One SVOC, benzo(k)fluoranthene (max. of 2,500 µg/kg) was detected above Unrestricted Use SCOs. Several metals, including arsenic (max. of 1,120 mg/kg), barium (max. of 3,270 mg/kg), chromium (max. of 378 mg/kg), lead (max. of 1,690 mg/kg), mercury (max. of 11.9 mg/kg), and zinc (max. of 528 mg/kg) exceeded Restricted Residential Use SCOs. Two metals, copper (max. of 188 mg/kg) and zinc (max. of 1,230

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mg/kg) exceeded Unrestricted Use SCOs. Overall, the soil results were consistent with data identified at sites with urban fill material in NYC; however, five metal hotspots were identified across the site extending to depths as great as 6 ft.

5. Groundwater samples results were compared to New York State 6NYCRR Part 703.5 Class GA groundwater quality standards (GQS). No pesticides or PCBs at were reported in any of the groundwater samples at detectable concentrations. Six VOCs, including isopropylbenzene (7.1 µg/L), MTBE (340 µg/L), naphthalene (36 µg/L), n-butylbenzene (6.5 µg/L), n-propylbenzene (11 µg/L) and sec-butylbenzene (7.6 µg/L) were detected above GQS in one sample. SVOCs, including benz(a)anthracene (max. of 0.18 µg/L), benzo(b)fluoranthene (max. of 0.18 µg/L), benzo(k)fluoranthene (0.06 µg/L), chrysene (max. of 0.21 µg/L) and indeno(1,2,3-cd)pyrene (max. of 0.06 µg/L) were detected above GQS in two samples. Several metals were identified, but only aluminum (max. 3.28 mg/L), iron (10.5 mg/L), manganese (max. of 0.875 mg/L) and sodium (max. of 123 mg/L) exceeded their respective GQS in all three groundwater samples.
6. Soil vapor results collected during the RI were compared to the compounds listed in Table 3.1 Air Guidance Values derived by the New York State Department of Health (NYSDOH) located in the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion, dated October 2006. Samples indicated petroleum-related VOCs were present at low concentrations and chlorinated VOCs present at low to moderate concentrations. The total concentration of petroleum-related VOCs (BTEX) ranged from 139.31 µg/m3 to 618.07 µg/m3. The chlorinated VOC 1,1,1-trichloroethane was not detected in any of the soil gas samples. Trichloroethylene (TCE) (max. of 0.698 µg/m3) was detected in two soil gas samples. Tetrachloroethylene (PCE) (max. 17.4 µg/m3) was detected in all three soil gas samples. Carbon tetrachloride (max. of 0.566 µg/m3) was detected in two of the soil gas samples. The TCE, PCE and carbon tetrachloride concentrations are below the monitoring level ranges established within the NYSDOH Final Guidance on Soil Vapor Intrusion.

The report recommended specific management and handling of soils excavated during construction and proper off-site disposal of this material including:

- Visual separation of the historic fill and native soil layer while excavating for the new building(s).
- Proper disposal of excavated fill materials at a permitted disposal facility.
- Pre-classified in-situ sampling or excavated stockpile sampling as required to properly classify the materials and at intervals specified by the disposal facility.
- Installation of a vapor barrier beneath the proposed building's slab, unless this portion of the Site was to remain open or if it were to be used for parking.

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2.2 Redevelopment Plans

The development project consists of redeveloping the lot with a 7-story slab-on-grade residential apartment building with a rear on-grade courtyard. The first floor will consist of the residential lobby, three mechanical rooms, two recreational rooms, an elevator, one residential unit, a stairwell, an elevator and a 5,794 sf parking area. The second floor will consist of residential apartments and two private terraces. The third through seventh floors will consist of residential apartments.

The entire Site will require excavation to a depth of approximately 2 feet below grade for grading purposes and construction of the building's slab. An additional 7 ft by 9 ft excavation to approximately 6ft will be required for the elevator pit. An estimated 1,036 cubic yards (1,554 tons) of soil will require excavation for the new building's slab and elevator pit. The water table is at approximately 7 feet below grade surface (bgs), and will not be encountered during excavation. The water table is expected at approximately 7 feet below grade surface (bgs), and will therefore not be encountered during excavation.

The current zoning designation is M1-2/R6. The proposed use is consistent with existing zoning for the property. Layout of the proposed site development is presented in Figure 3.

2.3 Description of Remedial Action

Site activities included within the Remedial Action that are included within the scope of this HASP include the following:

- Visual separation of the historic fill and native soil layer while excavating for the new building(s).
- Proper disposal of excavated fill materials at a permitted disposal facility.
- Pre-classified in-situ sampling or excavated stockpile sampling as required to properly classify the materials and at intervals specified by the disposal facility.

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3.0 HAZARD ASSESSMENT

This section identifies the hazards associated with the proposed scope of work, general physical hazards that can be expected at most sites; and presents a summary of documented or potential chemical hazards at the site. Every effort must be made to reduce or eliminate these hazards. Those that cannot be eliminated must be guarded against using engineering controls and/or personal protective equipment.

3.1 Physical Hazards

3.1.1 Tripping Hazards

An area of risk associated with on-site activities are presented by uneven ground, concrete, curbstones or equipment which may be present at the site thereby creating a potential tripping hazard. During intrusive work, care should be taken to mark or remove any obstacles within the exclusion zone.

3.1.2 Climbing Hazards

During site activities, workers may have to work on excavating equipment by climbing. The excavating contractor will conform with any applicable NIOSH and OSHA requirements or climbing activities.

3.1.3 Cuts and Lacerations

Field activities that involve excavating activities usually involve contact with various types of machinery. A first aid kit approved by the American Red Cross will be available during all intrusive activities.

3.1.4 Lifting Hazards

Improper lifting by workers is one of the leading causes of industrial injuries. Field workers in the excavation program may be required to lift heavy objects. Therefore, all members of the field crew should be trained in the proper methods of lifting heavy objects. All workers should be cautioned against lifting objects too heavy for one person.

3.1.5 Utility Hazards

Before conducting any excavation, the excavation contractor will be responsible for locating and verifying all existing utilities at each excavation.

3.1.6 Traffic Hazards

All traffic, vehicular and pedestrian, shall be maintained and protected at all times consistent with local, state and federal agency regulations regarding such traffic and in accordance with NYCDOT guidelines. The excavation contractor shall carry on his operations without undue interference or delays to traffic. The excavation contractor shall furnish all labor, materials, guards, barricades, signs, lights, and anything else necessary to maintain traffic and to protect his work and the public, during operations.

3.2 Work in Extreme Temperatures

Work under extremely hot or cold weather conditions requires special protocols to minimize the chance that employees will be affected by heat or cold stress.

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3.2.1 Heat Stress

The combination of high ambient temperature, high humidity, physical exertion, and personal protective apparel, which limits the dissipation of body heat and moisture, can cause heat stress.

The following prevention, recognition and treatment strategies will be implemented to protect personnel from heat stress. Personnel will be trained to recognize the symptoms of heat stress and to apply the appropriate treatment.

1. Prevention
   a. Provide plenty of fluids. Available in the support zone will be a 50% solution of fruit punch and water or plain water.
   b. Work in Pairs. Individuals should avoid undertaking any activity alone.
   c. Provide cooling devices. A spray hose and a source of water will be provided to reduce body temperature, cool protective clothing and/or act as a quick-drench shower in case of an exposure incident.
   d. Adjustment of the work schedule. As is practical, the most labor-intensive tasks should be carried out during the coolest part of the day.

2. Recognition and Treatment
   a Heat Rash (or prickly heat):
      Cause: Continuous exposure to hot and humid air, aggravated by chafing clothing.
      Symptoms: Eruption of red pimples around sweat ducts accompanied by intense itching and tingling.
      Treatment: Remove source or irritation and cool skin with water or wet cloths.

   b. Heat Cramps (or heat prostration)
      Cause: Profuse perspiration accompanied by inadequate replenishment of body water and electrolytes.
      Symptoms: Muscular weakness, staggering gait, nausea, dizziness, shallow breathing, pale and clammy skin, approximately normal body temperature.
      Treatment: Perform the following while making arrangement for transport to a medical facility. Remove the worker to a contamination reduction zone. Remove protective clothing. Lie worker down on back in a cool place and raise feet 6 to 12 inches. Keep warm, but loosen all clothing. If conscious, provide sips of salt-water solution, using one teaspoon of salt in 12 ounces of water. Transport to a medical facility.
   c. Heat Stroke
      Cause: Same as heat exhaustion. This is also an extremely serious condition.
      Symptoms: Dry hot skin, dry mouth, dizziness, nausea, headache, rapid pulse.
      Treatment: Cool worker immediately by immersing or spraying with cool water or sponge bare skin after removing protective clothing. Transport to hospital.

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3.2.2 Cold Exposure

Exposure to cold weather, wet conditions and extreme wind-chill factors may result in excessive loss of body heat (hypothermia) and /or frostbite. To guard against cold exposure and to prevent cold injuries, appropriate warm clothing should be worn, warm shelter must be readily available, rest periods should be adjusted as needed, and the physical conditions of on-site field personnel should be closely monitored. Personnel and supervisors working on-site will be made aware of the signs and symptoms of frost bite and hypothermia such as shivering, reduced blood pressure, reduced coordination, drowsiness, impaired judgment, fatigue, pupils dilated but reactive to light and numbing of the toes and fingers.

3.3 Chemical Hazards

"Urban fill" materials, present throughout the New York City area typically contain elevated levels of semi-volatile organic compounds and metals. These "contaminants" are not related to a chemical release occurring on the site, but are inherent in the reworked fill material in the area which contains ash and bits of tar and asphalt. Considering the previous sampling results and the past and present use of the site, the following compounds are considered for the site as potential contaminants: benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-c,d)pyrene, cadmium, chromium, copper, lead, mercury and zinc.

The primary routes of exposure to these contaminants are inhalation, ingestion and absorption.

Appendix C includes information sheets for suspected chemicals that may be encountered at the site.

3.3.1 Respirable Dust

Dust may be generated from vehicular traffic and/or excavation activities. If visible observation detects elevated levels of dust, a program of wetting will be employed by the site safety officer. If elevated dust levels persist, the site safety office will employ dust monitoring using a particulate monitor (Miniram or equivalent). If monitoring detects concentrations greater than 150 µg/m3 over daily background, the site safety officer will take corrective actions as defined herein, including the use of water for dust suppression and if this is not effective, requiring workers to wear APRs with efficiency particulate air (HEPA) cartridges.

Absorption pathways for dust and direct contact with soils or groundwater will be mitigated with the implementation of latex gloves, hand washing and decontamination exercises when necessary.

3.3.2 Dust Control and Monitoring During Earthwork

Dust generated during excavation activities or other earthwork may contain contaminants identified in soils at the site. Dust will be controlled by wetting the working surface with water. Calcium chloride may be used if the problem cannot be controlled with water. Air monitoring and dust control techniques are specified in a site specific Dust Control Plan (if applicable). Site workers will not be required to wear APR's unless dust concentrations are consistently over 150 $\mu g/m^3$ over site-specific background in the breathing zone as measured by a dust monitor unless the site safety officer directs workers to wear APRs. The site safety officer will use visible dust as an indicator to implement the dust control plan.

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3.3.3 Organic Vapors

Elevated levels of VOCs were detected in both soil and soil vapor samples collected during previous investigations at the site. Therefore, excavation activities may cause the release of organic vapors to the atmosphere. The site safety officer will periodically monitor organic vapors with a Photoionization Detector (PID) during excavation activities to determine whether organic vapor concentrations exceed action levels shown in Section 5 and/or the Community Air Monitoring Plan.

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4.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) shall be selected in accordance with the site air monitoring program, OSHA 29 CFR 1910.120(c), (g), and 1910.132. Protective equipment shall be NIOSH approved and respiratory protection shall conform to OSHA 29 CFR Part 1910.133 and 1910.134 specifications; head protection shall conform to 1910.135; eye and face protection shall conform to 1910.133; and foot protection shall conform to 1910.136. The only true difference among the levels of protection from D thru B is the addition of the type of respiratory protection. **It is anticipated that work will be performed in Level D PPE.**

4.1 Level D

Level D PPE shall be donned when the atmosphere contains no known hazards and work functions preclude splashes, immersion, or the potential for inhalation of, or contact with, hazardous concentrations of harmful chemicals. Level D PPE consists of:

- standard work uniform, coveralls, or tyvek, as needed;
- steel toe and steel shank work boots;
- hard hat;
- gloves, as needed;
- safety glasses;
- hearing protection;
- equipment replacements are available as needed.

4.2 Level C

Level C PPE shall be donned when the concentrations of measured total organic vapors in the breathing zone exceed background concentrations (using a portable OVA, or equivalent), but are less than 5 ppm. The specifications on the APR filters used must be appropriate for contaminants identified or expected to be encountered. Level C PPE shall be donned when the identified contaminants have adequate warning properties and criteria for using APR have been met. Level C PPE consists of:

- chemical resistant or coated tyvek coveralls;
- steel-toe and steel-shank workboots;
- chemical resistant overboots or disposable boot covers;
- disposable inner gloves (surgical gloves);
- disposable outer gloves;
- full face APR fitted with organic vapor/dust and mist filters or filters appropriate for the identified or expected contaminants;
- hard hat;
- splash shield, as needed; and,
- ankles/wrists taped with duct tape.

The site safety officer will verify if Level C is appropriate by checking organic vapor concentrations using compound and/or class-specific detector tubes.

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- chemical resistant coveralls;
- steel-toe and steel-shank workboots;
- chemical resistant overboots or disposable boot covers;
- disposable inner gloves;
- disposable outer gloves;
- hard hat; and,
- ankles/wrists taped.

The exact PPE ensemble is decided on a site-by-site basis by the Site Safety Officer with the intent to provide the most protective and efficient worker PPE.

4.3 Activity-Specific Levels of Personal Protection

The required level of PPE is activity-specific and is based on air monitoring results (Section 4.0) and properties of identified or expected contaminants. **It is expected that site work will be performed in Level D.** If air monitoring results indicate the necessity to upgrade the level of protection engineering controls (i.e. Facing equipment away from the wind and placing site personnel upwind of drilling locations, active venting, etc.) will be implemented before requiring the use of respiratory protection.

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5.0 AIR MONITORING AND ACTION LEVELS

29 CFR 1910.120(h) specifies that monitoring shall be performed where there may be a question of employee exposure to hazardous concentrations of hazardous substances in order to assure proper selection of engineering controls, work practices and personal protective equipment so that employees are not exposed to levels which exceed permissible exposure limits, or published exposure levels if there are no permissible exposure limits, for hazardous substances.

5.1 Air Monitoring Requirements

If excavation work is performed, air will be monitored for VOCs with a portable ION Science 3000EX photoionization detector, or the equivalent. If necessary, Lower Explosive Limit (LEL) and oxygen will be monitored with a Combustible Gas Indicator (CGI). If appropriate, fugitive dust will be monitored using a MiniRam Model PDM-3 aerosol monitor. Air will be monitored when any of the following conditions apply:

- initial site entry;
- during any work where a potential IDLH condition or flammable atmosphere could develop;
- excavation work begins on another portion of the site;
- contaminants, other than those previously identified, have been discovered;
- each time a different task or activity is initiated;
- during trenching and/or excavation work.

The designated site safety officer will record air monitoring data and ensure that air monitoring instruments are calibrated and maintained in accordance with manufacturer's specifications. Instruments will be zeroed daily and checked for accuracy. Monitoring results will be recorded in a field notebook and will be transferred to instrument reading logs.

5.2 Work Stoppage Responses

The following responses will be initiated whenever one or more of the action levels necessitating a work stoppage are exceeded:

1. The SSO will be consulted immediately
2. All personnel (except as necessary for continued monitoring and contaminant migration, if applicable) will be cleared from the work area (eg from the exclusion zone).
3. Monitoring will be continued until intrusive work resumes.

5.3 Action Levels During Excavation Activities

Instrument readings will be taken in the breathing zone above the excavation pit unless otherwise noted. Each action level is independent of all other action levels in determining responses.

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Organic Vapors (PID)	LEL %	Responses
0-1 ppm above background	0%	• Continue excavating • Level D protection • Continue monitoring every 10 minutes
1-5 ppm Above Background, Sustained Reading	1-10%	• Continue excavating • Go to Level C protection or employ engineering controls • Continue monitoring every 10 minutes
5-25 ppm Above Background, Sustaineed Reading	10-20%	• Discontinue excavating, unless PID is only action level exceeded. • Level C protection or employ engineering controls • Continue monitoring for organic vapors 200 ft downwind • Continuous monitoring for LEL at excavation pit
>25 ppm Above Background, Sustained Reading	>20%	• Discontinue excavating • Withdraw from area, shut off all engine ignition sources. • Allow pit to vent • Continuous monitoring for organic vapors 200 ft downwind.

Notes: Air monitoring will occur in the breathing zone 30 inches above the excavation pit. Readings may also be taken in the excavation pit but will not be used for action levels.

If action levels for any one of the monitoring parameters are exceeded, the appropriate responses listed in the right hand column should be taken. If instrument readings do not return to acceptable levels after the excavation pit has been vented for a period of greater than one-half hour, a decision will then be made whether or not to seal the pit with suppressant foam.

If, during excavation activities, downwind monitoring PID readings are greater than 5 ppm above background for more than one-half hour, excavation will stop until sustained levels are less then 5 ppm (see Community Air Monitoring Plan).

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6.0 SITE CONTROL

6.1 Work Zones

The primary purpose of site controls is to establish the perimeter of a hazardous area, to reduce the migration of contaminants into clean areas, and to prevent access or exposure to hazardous materials by unauthorized persons. When operations are to take place involving hazardous materials, the site safety officer will establish an exclusion zone, a decontamination zone, and a support zone. These zones "float" (move around the site) depending on the tasks being performed on any given day. The site safety officer will outline these locations before work begins and when zones change. The site safety officer records this information in the site log book.

Due to the dimensions of the Site and the work area, it is expected that an exclusion zone will include the entire fenced area with the exception of the construction entrance area, which will serve as the decontamination zone. A support zone if needed will be located outside of the fenced area. All onsite workers engaged in the excavation of hazardous or contaminated materials must provide evidence of OSHA 24 or 40-hour Hazardous Waste Operations and Emergency Response Operations training to conduct work within the exclusion zone established by the site safety officer. Gross decontamination (as determined by the site Health and Safety Officer) is conducted in the exclusion zone; all other decontamination is performed in the decontamination zone or trailer.

Protective equipment is removed in the decontamination zone. Disposable protective equipment is stored in receptacles staged in the decontamination zone, and non-disposable equipment is decontaminated. All personnel and equipment exit the exclusion zone through the decontamination zone. If a decontamination trailer is provided the first aid equipment, an eye wash unit, and drinking water are kept in the decontamination trailer.

The support zone is used for vehicle parking, daily safety meetings, and supply storage. Eating, drinking, and smoking are permitted only in the support zone. When a decontamination trailer is not provided, the eye wash unit, first aid equipment, and drinking water are kept at a central location designated by the site safety officer.

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7.0 CONTINGENCY PLAN/EMERGENCY RESPONSE PLAN

Site personnel must be prepared in the event of an emergency. Emergencies can take many forms: illnesses, injuries, chemical exposure, fires, explosions, spills, leaks, releases of harmful contaminants, or sudden changes in the weather.

Emergency telephone numbers and a map to the hospital will be posted in the command post. Site personnel should be familiar with the emergency procedures, and the locations of site safety, first aid, and communication equipment.

7.1 Emergency Equipment On-site

Private telephones:	Site personnel.
Two-way radios:	Site personnel where necessary.
Emergency Alarms:	On-site vehicle horns*.
First aid kits:	On-site, in vehicles or office.
Fire extinguisher:	On-site, in office or on equipment.

* Horns: Air horns will be supplied to personnel at the discretion of the project superintendent or site safety officer.

7.2 Emergency Telephone Numbers

General Emergencies	911
New York City Police	911
Health Professionals NYC	1-718-218-7352
NYSDEC Spills Division	1-800-457-7362
NYSDEC Hazardous Waste Division	1-718-482-4994
NYCDEP	1-718-699-9811
NYC Department of Health	1-212-788-4711
NYC Fire Department	911
National Response Center	1-800-424-8802
Poison Control	1-212-340-4494
Site Safety Officer	1-631-504-6000
Alternate Site Safety Officer	1-631-504-6000

7.3 Personnel Responsibilities During an Emergency

The project manager is primarily responsible for responding to and correcting any emergency situations. However, in the absence of the project manager, the site safety officer shall act as the project manager's on-site designee and perform the following tasks:

- Take appropriate measures to protect personnel including: withdrawal from the exclusion zone, evacuate and secure the site, or upgrade/downgrade the level of protective clothing and respiratory protection;

- Ensure that appropriate federal, state, and local agencies are informed and emergency response plans are coordinated. In the event of fire or explosion, the local fire department

should be summoned immediately. If toxic materials are released to the air, the local authorities should be informed in order to assess the need for evacuation;

- Ensure appropriate decontamination, treatment, or testing for exposed or injured personnel;
- Determine the cause of incidents and make recommendations to prevent recurrence; and,
- Ensure that all required reports have been prepared.

The following key personnel are planned for this project:

- Project Manager — Kimberly Somers (631) 504-6000
- Construction Superintendent — To be added
- Site Safety Officer — Kevin Waters (631) 504-6000

7.4 Medical Emergencies

A person who becomes ill or injured in the exclusion zone will be decontaminated to the maximum extent possible. If the injury or illness is minor, full decontamination will be completed and first aid administered prior to transport. First aid will be administered while waiting for an ambulance or paramedics. A Field Accident Report (**Appendix D**) must be filled out for any injury.

A person transporting an injured/exposed person to a clinic or hospital for treatment will take the directions to the hospital (**Appendix D**).and information on the chemical(s) to which they may have been exposed (**Appendix C**).

7.5 Fire or Explosion

In the event of a fire or explosion, the local fire department will be summoned immediately. The site safety officer or his designated alternate will advise the fire commander of the location, nature and identification of the hazardous materials on-site. If it is safe to do so, site personnel may:

- use fire fighting equipment available on site; or,
- remove or isolate flammable or other hazardous materials that may contribute to the fire.

7.6 Evacuation Routes

Evacuation routes established by work area locations for each site will be reviewed prior to commencing site operations. As the work areas change, the evacuation routes will be altered accordingly, and the new route will be reviewed.

Under extreme emergency conditions, evacuation is to be immediate without regard for equipment. The evacuation signal will be a continuous blast of a vehicle horn, if possible, and/or by verbal/radio communication. When evacuating the site, personnel will follow these instructions:

- Keep upwind of smoke, vapors, or spill location.

- Exit through the decontamination corridor if possible.

- If evacuation through the decontamination corridor is not possible, personnel should remove contaminated clothing once they are in a safe location and leave it near the exclusion zone or in a safe place.

- The site safety officer will conduct a head count to ensure that all personnel have been evacuated safely. The head count will be correlated to the site and/or exclusion zone entry/exit log.

- If emergency site evacuation is necessary, all personnel are to escape the emergency situation and decontaminate to the maximum extent practical.

7.7 Spill Control Procedures

Spills associated with site activities may be attributed to project equipment and include gasoline, diesel and hydraulic oil. In the event of a leak or a release, site personnel will inform their supervisor immediately, locate the source of spillage and stop the flow if it can be done safely. A spill containment kit including absorbent pads, booms and/or granulated speedy dry absorbent material will be available to site personnel to facilitate the immediate recovery of the spilled material. Daily inspections of site equipment components including hydraulic lines, fuel tanks, etc. will be performed by their respective operators as a preventative measure for equipment leaks and to ensure equipment soundness. In the event of a spill, site personnel will immediately notify the NYSDEC (1-800-457-7362), and a spill number will be generated.

7.8 Vapor Release Plan

If work zone organic vapor (excluding methane) exceeds 5 ppm, then a downwind reading will be made either 200 feet from the work zone or at the property line, whichever is closer. If readings at this location exceed 5 ppm over background, the work will be stopped.

If 5 ppm of VOCs are recorded over background on a PID at the property line, then an off-site reading will be taken within 20 feet of the nearest residential or commercial property, whichever is closer. If efforts to mitigate the emission source are unsuccessful for 30 minutes, then the designated site safety officer will:

- contact the local police;
- continue to monitor air every 30 minutes, 20 feet from the closest off-site property. If two successive readings are below 5 ppm (non-methane), off-site air monitoring will be halted.
- All property line and off site air monitoring locations and results associated with vapor releases will be recorded in the site safety log book.

APPENDIX A

SITE SAFETY ACKNOWLEDGEMENT FORM

DAILY BREIFING SIGN-IN SHEET

Date:_____ Person Conducting Briefing:_____

Project Name and Location:_____

1. AWARENESS (topics discussed, special safety concerns, recent incidents, etc…):

_____

_____

_____

_____

2. OTHER ISSUES (HASP changes, attendee comments, etc…):

_____

_____

_____

3. ATTENDEES (Print Name):

1.	11.
2.	12.
3.	13.
4.	14.
5.	15.
6.	16.
7.	17.
8.	18.
9.	19.
10.	20.

APPENDIX B

SITE SAFETY PLAN AMENDMENTS

SITE SAFETY PLAN AMENDMENT FORM

Site Safety Plan Amendment #:_____

Site Name: _____

Reason for Amendment:_____

_____

_____

_____

Alternative Procedures:_____

_____

_____

_____

Required Changes in PPE:_____

_____

_____

_____

_____ _____

Project Superintendent (signature) **Date**

_____ _____

Health and Safety Consultant (signature) **Date**

_____ _____

Site Safety Officer (signature) **Date**

APPENDIX C

CHEMICAL HAZARDS

CHEMICAL HAZARDS

The attached International Chemical Safety Cards are provided for contaminants of concern that have been identified in soils and/or groundwater at the site.

International Chemical Safety Cards

ARSENIC

ICSC: 0013

Grey arsenic
As
Atomic mass: 74.9

ICSC # 0013
CAS # 7440-38-2
RTECS # CG0525000
UN # 1558
EC # 033-001-00-X
October 18, 1999 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames. NO contact with strong oxidizers. NO contact with hot surfaces.	Powder, water spray, foam, carbon dioxide.
EXPLOSION	Risk of fire and explosion is slight when exposed to hot surfaces or flames in the form of fine powder or dust.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		PREVENT DISPERSION OF DUST! AVOID ALL CONTACT! AVOID EXPOSURE OF (PREGNANT) WOMEN!	IN ALL CASES CONSULT A DOCTOR!
•INHALATION	Cough. Sore throat. Shortness of breath. Weakness. See Ingestion.	Closed system and ventilation.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
•SKIN	Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse skin with plenty of water or shower.
•EYES	Redness.	Face shield or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. Diarrhoea. Nausea. Vomiting. Burning sensation in the throat and chest. Shock or collapse. Unconsciousness.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Evacuate danger area! Sweep spilled substance into sealable containers. Carefully collect remainder, then remove to safe place. Chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment.	Separated from strong oxidants, acids, halogens, food and feedstuffs. Well closed.	Do not transport with food and feedstuffs. Marine pollutant. T symbol N symbol R: 23/25-50/53 S: 1/2-20/21-28-45-60-61 UN Hazard Class: 6.1 UN Packing Group: II

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0013

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

ARSENIC

ICSC: 0013

IMPORTANT DATA

PHYSICAL STATE; APPEARANCE:
ODOURLESS, BRITTLE, GREY, METALLIC-LOOKING CRYSTALS.

PHYSICAL DANGERS:

CHEMICAL DANGERS:
Upon heating, toxic fumes are formed. Reacts violently with strong oxidants and halogens, causing fire and explosion hazard. Reacts with acids to produce

OCCUPATIONAL EXPOSURE LIMITS:
TLV: 0.01 mg/m³ as TWA A1 (confirmed human carcinogen); BEI issued (ACGIH 2004).
MAK:
Carcinogen category: 1; Germ cell mutagen group: 3A; (DFG 2004).
OSHA PEL: 1910.1018 TWA 0.010 mg/m^3
NIOSH REL: Ca C 0.002 mg/m^3 15-minute See Appendix A
NIOSH IDLH: Ca 5 mg/m^3 (as As) See: 7440382

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.

INHALATION RISK:
Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly, when dispersed.

EFFECTS OF SHORT-TERM EXPOSURE:
The substance is irritating to the eyes the skin and the respiratory tract. The substance may cause effects on the gastrointestinal tract cardiovascular system central nervous system kidneys , resulting in severe gastroenteritis, loss of fluid, and electrolytes, cardiac disorders shock convulsions and kidney impairment Exposure above the OEL may result in death. The effects may be delayed. Medical observation is indicated.

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the mucous membranes, skin, peripheral nervous system liver bone marrow , resulting in pigmentation disorders, hyperkeratosis, perforation of nasal septum, neuropathy, liver impairment anaemia This substance is carcinogenic to humans. Animal tests show that this substance possibly causes toxicity to human reproduction or development.

PHYSICAL PROPERTIES

Sublimation point: 613°C
Density: 5.7 g/cm³

Solubility in water:
none

ENVIRONMENTAL DATA

The substance is toxic to aquatic organisms. It is strongly advised that this substance does not enter the environment.

NOTES

The substance is combustible but no flash point is available in literature. Depending on the degree of exposure, periodic medical examination is suggested. Do NOT take working clothes home. Refer also to cards for specific arsenic compounds, e.g., Arsenic pentoxide (ICSC 0377), Arsenic trichloride (ICSC 0221), Arsenic trioxide (ICSC 0378), Arsine (ICSC 0222).

Transport Emergency Card: TEC (R)-61GT5-II

ADDITIONAL INFORMATION

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International Chemical Safety Cards

BARIUM SULFATE

ICSC: 0827

Barium sulphate
Blanc fixe
Artificial barite
$BaSO_4$
Molecular mass: 233.43

ICSC # 0827
CAS # 7727-43-7
RTECS # CR0600000
October 20, 1999 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION			
EXPOSURE		PREVENT DISPERSION OF DUST!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves.	Remove contaminated clothes. Rinse skin with plenty of water or shower.
•EYES		Safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Personal protection: P1 filter respirator for inert particles.		R: S:

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0827

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

BARIUM SULFATE

ICSC: 0827

I M P O R T A N T D A T A	**PHYSICAL STATE; APPEARANCE:** ODOURLESS TASTELESS, WHITE OR YELLOWISH CRYSTALS OR POWDER. **PHYSICAL DANGERS:** **CHEMICAL DANGERS:** Reacts violently with aluminium powder. **OCCUPATIONAL EXPOSURE LIMITS:** TLV: 10 mg/m³ as TWA; (ACGIH 2004). MAK: (Inhalable fraction) 4 mg/m³; (Respirable fraction) 1.5 mg/m³; (DFG 2004). OSHA PEL†: TWA 15 mg/m^3 (total) TWA 5 mg/m^3 (resp) NIOSH REL: TWA 10 mg/m^3 (total) TWA 5 mg/m^3 (resp) NIOSH IDLH: N.D. See: IDLH INDEX	**ROUTES OF EXPOSURE:** The substance can be absorbed into the body by inhalation of its aerosol. **INHALATION RISK:** Evaporation at 20°C is negligible; a nuisance-causing concentration of airborne particles can, however, be reached quickly. **EFFECTS OF SHORT-TERM EXPOSURE:** **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** Lungs may be affected by repeated or prolonged exposure to dust particles , resulting in baritosis (a form of benign pneumoconiosis).
PHYSICAL PROPERTIES	Melting point (decomposes): 1600°C Density: 4.5 g/cm³	Solubility in water: none
ENVIRONMENTAL DATA		

N O T E S

Occurs in nature as the mineral barite; also as barytes, heavy spar. Card has been partly updated in October 2005. See section Occupational Exposure Limits.

ADDITIONAL INFORMATION

(C) IPCS, CEC, 1994

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International Chemical Safety Cards

CHROMIUM

ICSC: 0029

Chrome
Cr
Atomic mass: 52.0
(powder)

ICSC # 0029
CAS # 7440-47-3
RTECS # GB4200000
October 27, 2004 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible under specific conditions.	No open flames if in powder form.	In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION		Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		PREVENT DISPERSION OF DUST!	
•INHALATION	Cough.	Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves.	Remove contaminated clothes. Rinse skin with plenty of water or shower.
•EYES	Redness.	Safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Personal protection: P2 filter respirator for harmful particles.		R: S:

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0029

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

CHROMIUM

ICSC: 0029

I M P

PHYSICAL STATE; APPEARANCE:
GREY POWDER

PHYSICAL DANGERS:
Dust explosion possible if in powder or granular form, mixed with air.

ROUTES OF EXPOSURE:

INHALATION RISK:
A harmful concentration of airborne particles can be reached quickly when dispersed.

O R T A N T D A T A	**CHEMICAL DANGERS:** Chromium is a catalytic substance and may cause reaction in contact with many organic and inorganic substances , causing fire and explosion hazard. **OCCUPATIONAL EXPOSURE LIMITS:** TLV: (as Cr metal, Cr(III) compounds) 0.5 mg/m³ as TWA A4 (ACGIH 2004). MAK not established. OSHA PEL*: TWA 1 mg/m^3 See Appendix C *Note: The PEL also applies to insoluble chromium salts. NIOSH REL: TWA 0.5 mg/m^3 See Appendix C NIOSH IDLH: 250 mg/m^3 (as Cr) See: 7440473	**EFFECTS OF SHORT-TERM EXPOSURE:** May cause mechanical irritation tothe eyesandthe respiratory tract. **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:**
PHYSICAL PROPERTIES	Boiling point: 2642°C Melting point: 1900°C Density: 7.15 g/cm³	Solubility in water: none
ENVIRONMENTAL DATA		

N O T E S

The surface of the chromium particles is oxidized to chromium(III)oxide in air. See ICSC 1531 Chromium(III) oxide.

ADDITIONAL INFORMATION

ICSC: 0029 **CHROMIUM**

(C) IPCS, CEC, 1994

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International Chemical Safety Cards

COPPER

ICSC: 0240

Cu
(powder)

ICSC # 0240
CAS # 7440-50-8
RTECS # GL5325000
September 24, 1993 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Special powder, dry sand, NO other agents.
EXPLOSION			
EXPOSURE		PREVENT DISPERSION OF DUST!	
•INHALATION	Cough. Headache. Shortness of breath. Sore throat.	Local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
•SKIN	Redness.	Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES	Redness. Pain.	Safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. Nausea. Vomiting.	Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers. Carefully collect remainder. Then remove to safe place. (Extra personal protection: P2 filter respirator for harmful particles).	Separated from - See Chemical Dangers.	R: S:

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0240

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

COPPER

ICSC: 0240

I M P

PHYSICAL STATE; APPEARANCE:
RED POWDER, TURNS GREEN ON EXPOSURE TO MOIST AIR.

PHYSICAL DANGERS:

CHEMICAL DANGERS:

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation and by ingestion.

INHALATION RISK:
Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.

O R T A N T D A T A	Shock-sensitive compounds are formed with acetylenic compounds, ethylene oxides and azides. Reacts with strong oxidants like chlorates, bromates and iodates, causing explosion hazard. **OCCUPATIONAL EXPOSURE LIMITS:** TLV: 0.2 mg/m³ fume (ACGIH 1992-1993). TLV (as Cu, dusts & mists): 1 mg/m³ (ACGIH 1992-1993). Intended change 0.1 mg/m³ Inhal., A4 (not classifiable as a human carcinogen); MAK: 0.1 mg/m³ (Inhalable fraction) Peak limitation category: II(2) Pregnancy risk group: D (DFG 2005). OSHA PEL*: TWA 1 mg/m^3 *Note: The PEL also applies to other copper compounds (as Cu) except copper fume. NIOSH REL*: TWA 1 mg/m^3 *Note: The REL also applies to other copper compounds (as Cu) except Copper fume. NIOSH IDLH: 100 mg/m^3 (as Cu) See: 7440508	**EFFECTS OF SHORT-TERM EXPOSURE:** Inhalation of fumes may cause metal fume fever. See Notes. **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** Repeated or prolonged contact may cause skin sensitization.
PHYSICAL PROPERTIES	Boiling point: 2595°C Melting point: 1083°C Relative density (water = 1): 8.9	Solubility in water: none
ENVIRONMENTAL DATA		

N O T E S

The symptoms of metal fume fever do not become manifest until several hours.

ADDITIONAL INFORMATION

ICSC: 0240 **COPPER**

(C) IPCS, CEC, 1994

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International Chemical Safety Cards

LEAD

ICSC: 0052

Lead metal
Plumbum
Pb
Atomic mass: 207.2
(powder)

ICSC # 0052
CAS # 7439-92-1
RTECS # OF7525000
October 08, 2002 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE	See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE.	PREVENT DISPERSION OF DUST! AVOID EXPOSURE OF (PREGNANT) WOMEN!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. Nausea. Vomiting.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Give plenty of water to drink. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment. Personal protection: P3 filter respirator for toxic particles.	Separated from food and feedstuffs incompatible materials See Chemical Dangers.	R: S:

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0052

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

LEAD

ICSC: 0052

I M P O R T A N T D A T A

PHYSICAL STATE; APPEARANCE:
BLUISH-WHITE OR SILVERY-GREY SOLID IN VARIOUS FORMS. TURNS TARNISHED ON EXPOSURE TO AIR.

PHYSICAL DANGERS:
Dust explosion possible if in powder or granular form, mixed with air.

CHEMICAL DANGERS:
On heating, toxic fumes are formed. Reacts with oxidants. Reacts with hot concentrated nitric acid, boiling concentrated hydrochloric acid and sulfuric acid. Attacked by pure water and by weak organic acids in the presence of oxygen.

OCCUPATIONAL EXPOSURE LIMITS:
TLV: 0.05 mg/m³ A3 (confirmed animal carcinogen with unknown relevance to humans); BEI issued (ACGIH 2004).
MAK:
Carcinogen category: 3B; Germ cell mutagen group: 3A; (DFG 2004).
EU OEL: as TWA 0.15 mg/m³ (EU 2002).
OSHA PEL*: 1910.1025 TWA 0.050 mg/m^3 See Appendix C *Note: The PEL also applies to other lead compounds (as Pb) -- see Appendix C.
NIOSH REL*: TWA 0.050 mg/m^3 See Appendix C
*Note: The REL also applies to other lead compounds (as Pb) -- see Appendix C.
NIOSH IDLH: 100 mg/m^3 (as Pb) See: 7439921

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation and by ingestion.

INHALATION RISK:
A harmful concentration of airborne particles can be reached quickly when dispersed, especially if powdered.

EFFECTS OF SHORT-TERM EXPOSURE:

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
The substance may have effects on the blood bone marrow central nervous system peripheral nervous system kidneys , resulting in anaemia, encephalopathy (e.g., convulsions), peripheral nerve disease, abdominal cramps and kidney impairment. Causes toxicity to human reproduction or development.

PHYSICAL PROPERTIES

Boiling point: 1740°C
Melting point: 327.5°C
Density: 11.34 g/cm3
Solubility in water: none

ENVIRONMENTAL DATA

Bioaccumulation of this chemical may occur in plants and in mammals. It is strongly advised that this substance does not enter the environment.

N O T E S

Depending on the degree of exposure, periodic medical examination is suggested. Do NOT take working clothes home.

Transport Emergency Card: TEC (R)-51S1872

ADDITIONAL INFORMATION

(C) IPCS, CEC, 1994

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International Chemical Safety Cards

MERCURY

ICSC: 0056

Quicksilver
Liquid silver
Hg
Atomic mass: 200.6

ICSC # 0056
CAS # 7439-97-6
RTECS # OV4550000
UN # 2809
EC # 080-001-00-0
April 22, 2004 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION	Risk of fire and explosion.		In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		STRICT HYGIENE! AVOID EXPOSURE OF (PREGNANT) WOMEN! AVOID EXPOSURE OF ADOLESCENTS AND CHILDREN!	IN ALL CASES CONSULT A DOCTOR!
•INHALATION	Abdominal pain. Cough. Diarrhoea. Shortness of breath. Vomiting. Fever or elevated body temperature.	Local exhaust or breathing protection.	Fresh air, rest. Artificial respiration if indicated. Refer for medical attention.
•SKIN	MAY BE ABSORBED! Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
•EYES		Face shield, or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work. Wash hands before eating.	Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Evacuate danger area in case of a large spill! Consult an expert! Ventilation. Collect leaking and spilled liquid in sealable non-metallic containers as far as possible. Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Chemical protection suit including self-contained breathing apparatus.	Provision to contain effluent from fire extinguishing. Separated from food and feedstuffs Well closed.	Special material. Do not transport with food and feedstuffs. T symbol N symbol R: 23-33-50/53 S: 1/2-7-45-60-61 UN Hazard Class: 8 UN Packing Group: III

SEE IMPORTANT INFORMATION ON BACK

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

ZINC POWDER

ICSC: 1205

Blue powder
Merrillite
Zn
Atomic mass: 65.4
(powder)

ICSC # 1205
CAS # 7440-66-6
RTECS # ZG8600000
UN # 1436 (zinc powder or dust)
EC # 030-001-00-1
October 24, 1994 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Highly flammable. Many reactions may cause fire or explosion. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks, and NO smoking. NO contact with acid(s), base (s) and incompatible substances (see Chemical Dangers).	Special powder, dry sand, NO other agents. NO water.
EXPLOSION	Risk of fire and explosion on contact with acid(s), base(s), water and incompatible substances.	Closed system, ventilation, explosion-proof electrical equipment and lighting. Prevent build-up of electrostatic charges (e.g., by grounding). Prevent deposition of dust.	In case of fire: cool drums, etc., by spraying with water but avoid contact of the substance with water.
EXPOSURE		PREVENT DISPERSION OF DUST! STRICT HYGIENE!	
•INHALATION	Metallic taste and metal fume fever. Symptoms may be delayed (see Notes).	Local exhaust.	Fresh air, rest. Refer for medical attention.
•SKIN	Dry skin.	Protective gloves.	Rinse and then wash skin with water and soap.
•EYES		Safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. Nausea. Vomiting.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Extinguish or remove all ignition sources. Do NOT wash away into sewer. Sweep spilled substance into containers. then remove to safe place. Personal protection: self-contained breathing apparatus.	Fireproof. Separated from acids, bases oxidants Dry.	Airtight. F symbol N symbol R: 15-17-50/53 S: 2-7/8-43-46-60-61 UN Hazard Class: 4.3 UN Subsidiary Risks: 4.2

SEE IMPORTANT INFORMATION ON BACK

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

ZINC POWDER

ICSC: 1205

IMPORTANT DATA

PHYSICAL STATE; APPEARANCE:
ODOURLESS GREY TO BLUE POWDER.

PHYSICAL DANGERS:
Dust explosion possible if in powder or granular form, mixed with air. If dry, it can be charged electrostatically by swirling, pneumatic transport, pouring, etc.

CHEMICAL DANGERS:
Upon heating, toxic fumes are formed. The substance is a strong reducing agent and reacts violently with oxidants. Reacts with water and reacts violently with acids and bases forming flammable/explosive gas (hydrogen - see ICSC0001) Reacts violently with sulfur, halogenated hydrocarbons and many other substances causing fire and explosion hazard.

OCCUPATIONAL EXPOSURE LIMITS:
TLV not established.

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation and by ingestion.

INHALATION RISK:
Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.

EFFECTS OF SHORT-TERM EXPOSURE:
Inhalation of fumes may cause metal fume fever. The effects may be delayed.

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
Repeated or prolonged contact with skin may cause dermatitis.

PHYSICAL PROPERTIES

Boiling point: 907°C
Melting point: 419°C
Relative density (water = 1): 7.14
Solubility in water: reaction
Vapour pressure, kPa at 487°C: 0.1
Auto-ignition temperature: 460°C

ENVIRONMENTAL DATA

NOTES

Zinc may contain trace amounts of arsenic, when forming hydrogen, may also form toxic gas arsine (see ICSC 0001 and ICSC 0222). Reacts violently with fire extinguishing agents such as water, halons, foam and carbon dioxide. The symptoms of metal fume fever do not become manifest until several hours later. Rinse contaminated clothes (fire hazard) with plenty of water.

Transport Emergency Card: TEC (R)-43GWS-II+III
NFPA Code: H0; F1; R1;

ADDITIONAL INFORMATION

(C) IPCS, CEC, 1994

IMPORTANT LEGAL NOTICE:
Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

Material Safety Data Sheet

Version 4.0
Revision Date 03/12/2010
Print Date 12/09/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	4,4'-DDD PESTANAL,250 MG (2,2-BIS(4-CHL&
Product Number	:	35486
Brand	:	Fluka
Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+1 800-325-5832
Fax	:	+1 800-325-5052
Emergency Phone #	:	(314) 776-6555

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Toxic by ingestion, Harmful by skin absorption., Possible carcinogen.

GHS Label elements, including precautionary statements

Pictogram

Signal word: Danger

Hazard statement(s)

H301	Toxic if swallowed.
H312	Harmful in contact with skin.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H413	May cause long lasting harmful effects to aquatic life.

Precautionary statement(s)

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

HMIS Classification

Health hazard:	2
Chronic Health Hazard:	*
Flammability:	0
Physical hazards:	0

NFPA Rating

Health hazard:	2
Fire:	0
Reactivity Hazard:	0

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	Harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 1,1-Dichloro-2,2-bis(4-chlorophenyl)ethane
4,4′-DDD
TDE

Formula : $C_{14}H_{10}Cl_4$
Molecular Weight : 320.04 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
2,2-bis(4-Chlorophenyl)-1,1-dichloro-ethane			
72-54-8	200-783-0	-	-

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves.

Eye protection
Face shield and safety glasses

Skin and body protection
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	solid

Safety data

pH	no data available
Melting point	94.0 - 96.0 °C (201.2 - 204.8 °F)
Boiling point	193.0 °C (379.4 °F) at 1.3 hPa (1.0 mmHg)
Flash point	no data available
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	< 0.00001 hPa (< 0.00001 mmHg) at 25.0 °C (77.0 °F)
Density	1.38 g/cm3
Water solubility	no data available
Partition coefficient: n-octanol/water	log Pow: 6.02

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Conditions to avoid
no data available

Materials to avoid
Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas
Hazardous decomposition products formed under fire conditions. - Nature of decomposition products not known.

11. TOXICOLOGICAL INFORMATION

Acute toxicity
LD50 Oral - Hamster - > 5,000 mg/kg

TDLo Oral - Human - 428.5 mg/kg
Remarks: Endocrine:Adrenal cortex hypoplasia.

TDLo Oral - rat - 6,000 mg/kg
Remarks: Cardiac:Other changes. Gastrointestinal:Other changes. Kidney, Ureter, Bladder:Changes in both tubules and glomeruli.

TDLo Oral - rat - 14 mg/kg
Remarks: Liver:Changes in liver weight. Endocrine:Estrogenic. Musculoskeletal:Other changes.

TDLo Oral - rat - 2,100 mg/kg
Remarks: Behavioral:Altered sleep time (including change in righting reflex).

LD50 Dermal - rabbit - 1,200 mg/kg
Remarks: Behavioral:Excitement. Behavioral:Convulsions or effect on seizure threshold. Skin irritation

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity

no data available

Carcinogenicity

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Limited evidence of carcinogenicity in animal studies

IARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure (GHS)
no data available

Specific target organ toxicity - repeated exposure (GHS)
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion	Toxic if swallowed.
Skin	Harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information
RTECS: KI0700000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	LC50 - other fish - 1.18 - 9 mg/l - 96.0 h
	LC50 - Lepomis macrochirus (Bluegill) - 0.04 - 0.05 mg/l - 96.0 h
	LC50 - Oncorhynchus mykiss (rainbow trout) - 0.06 - 0.09 mg/l - 96.0 h
	LC50 - Pimephales promelas (fathead minnow) - 3.47 - 5.58 mg/l - 96.0 h
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia pulex (Water flea) - 0.01 mg/l - 48 h

Persistence and degradability
no data available

Bioaccumulative potential
Indication of bioaccumulation.

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Product
Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN-Number: 2811 Class: 6.1 Packing group: III
Proper shipping name: Toxic solids, organic, n.o.s. (2,2-bis(4-Chlorophenyl)-1,1-dichloro-ethane)
Reportable Quantity (RQ): 1 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN-Number: 2811 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (2,2-bis(4-Chlorophenyl)-1,1-dichloro-ethane)
Marine pollutant: No

IATA
UN-Number: 2811 Class: 6.1 Packing group: III
Proper shipping name: Toxic solid, organic, n.o.s. (2,2-bis(4-Chlorophenyl)-1,1-dichloro-ethane)

15. REGULATORY INFORMATION

OSHA Hazards
Toxic by ingestion, Harmful by skin absorption., Possible carcinogen.

DSL Status
This product contains the following components that are not on the Canadian DSL nor NDSL lists.

	CAS-No.
2,2-bis(4-Chlorophenyl)-1,1-dichloro-ethane	72-54-8

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
2,2-bis(4-Chlorophenyl)-1,1-dichloro-ethane	72-54-8	

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
2,2-bis(4-Chlorophenyl)-1,1-dichloro-ethane	72-54-8	

New Jersey Right To Know Components

	CAS-No.	Revision Date
2,2-bis(4-Chlorophenyl)-1,1-dichloro-ethane	72-54-8	

California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the State of California to cause cancer. 2,2-bis(4-Chlorophenyl)-1,1-dichloro-ethane	72-54-8	

16. OTHER INFORMATION

Further information
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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

ChemCAS

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Search
72-55-9 msds
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MSDS 250,000+

MSDS : 2,2-Bis-(4-chlorophenyl)-1,1-dichloroethylene, 99%
CAS : 72-55-9
SYNONYMS : p,p'-DDE ; ethylene,1,1-dichloro-2,2-bis-(p-chlorophenyl)- ; DDT dehydrochloride ; DDE; 1-1'-(Dichloroethenylidene)bis(4-chlorobenzene)

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AdChoices

Catalog of Chemical Suppliers, Buyers, Custom Synthesis Companies And Equipment Manufacturers
[2,2-Bis-(4-chlorophenyl)-1,1-dichloroethylene, 99% 72-55-9]

Suppliers:

Not Available

Buyers:

Not Available

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AdChoices

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
72-55-9	2,2-Bis-(4-chlorophenyl)-1,1-dichloroethylene	99	200-784-6

Hazard Symbols: XN
Risk Phrases: 22 33

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW
Harmful if swallowed. Danger of cumulative effects.Cancer suspect agent.Possible risks of irreversible effects.

Potential Health Effects
Eye:
May cause eye irritation.
Skin:
May cause skin irritation.
Ingestion:
May cause irritation of the digestive tract. May be harmful if swallowed. Ingestion of large amounts may cause liver and/or kidney damage.
Inhalation:
May cause respiratory tract irritation.
Chronic:
May cause cancer according to animal studies. Adverse reproductive effects have been reported in animals. Laboratory experiments have resulted in mutagenic effects.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes:
Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin:
Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion:
If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Inhalation:
Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician:
Treat symptomatically and supportively.

**** SECTION 5 - FIRE FIGHTING MEASURES ****

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Will burn if involved in a fire.
Extinguishing Media:
For large fires, use water spray, fog or regular foam. For small fires, use dry chemical, carbon dioxide, water spray or regular foam. Cool containers with flooding quantities of water until well after fire is out.

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks:
Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:
Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Do not ingest or inhale. Use with adequate ventilation.
Storage:
Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Exposure Limits
CAS# 72-55-9:

Personal Protective Equipment

Eyes:
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin:
Wear appropriate protective gloves to prevent skin exposure.
Clothing:
Wear appropriate protective clothing to prevent skin exposure.
Respirators:
A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State: Crystals
Color: white
Odor: None reported.
pH: Not available.
Vapor Pressure: 6.5106 mm Hg @ 20 C
Viscosity: Not available.
Boiling Point: 336 deg C
Freezing/Melting Point: 88.00 - 90.00 deg C
Autoignition Temperature: Not available.
Flash Point: Not available.
Explosion Limits, lower: Not available.
Explosion Limits, upper: Not available.
Decomposition Temperature:
Solubility in water: 0.010 ppm
Specific Gravity/Density:
Molecular Formula: $C_{14}H_8Cl_4$
Molecular Weight: 318.02

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
Stable under normal temperatures and pressures.
Conditions to Avoid:
Incompatible materials, dust generation, strong oxidants.
Incompatibilities with Other Materials:
Strong oxidizing agents - strong bases.
Hazardous Decomposition Products:
Hydrogen chloride, carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:
CAS# 72-55-9: KV9450000
LD50/LC50:
CAS# 72-55-9: Oral, mouse: LD50 = 700 mg/kg; Oral, rat: LD50 = 880 mg/kg.
Carcinogenicity:
2,2-Bis-(4-chlorophenyl)-1,1-dichloroethylene -
California: carcinogen, initial date 1/1/89

Other:
See actual entry in RTECS for complete information.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecotoxicity:
Estimated BCF value = 8,300 based on water solubility. Estimated Koc value = 8,300. There was no movement of DDE reported in soil column mobility experiments.

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Dispose of in a manner consistent with federal, state, and local regulations.

**** SECTION 14 - TRANSPORT INFORMATION ****

IATA
Not regulated as a hazardous material.
IMO
Not regulated as a hazardous material.
RID/ADR
Not regulated as a hazardous material.
USA RQ: CAS# 72-55-9: 1 lb final RQ; 0.454 kg final RQ

**** SECTION 15 - REGULATORY INFORMATION ****

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: XN
Risk Phrases:
R 22 Harmful if swallowed.
R 33 Danger of cumulative effects.
Safety Phrases:
S 24/25 Avoid contact with skin and eyes.
WGK (Water Danger/Protection)
CAS# 72-55-9: 3
Canada
None of the chemicals in this product are listed on the DSL/NDSL list.
CAS# 72-55-9 is listed on Canada's Ingredient Disclosure List.
US FEDERAL
TSCA
CAS# 72-55-9 is not listed on the TSCA inventory.
It is for research and development use only.

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 9/28/1998 Revision #3 Date: 3/18/2003

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

Search More 72-55-9 msds GO

ALL MSDS PAGES IN THIS GROUP

NAME	CAS
M-Benzyloxybenzyl Alcohol , 97%	1700-30-7
Octaphenylcyclotetrasiloxane, 98%	546-56-5
Cetylpyridinium chloride	123-03-5
3,4-Difluorophenol, 99%	2713-33-9
1-Benzyl-4-Hydroxypiperidine, 97%	4727-72-4
4-tert-Butylbenzoyl chloride	1710-98-1
Borane-morpholine complex, 97%	4856-95-5
Benzyl Ether, 99%	103-50-4
5-Amino-1-Naphtol (Pract)	83-55-6
Pyridinium-P-Toluenesulfonate 98%	24057-28-1
Pyrogallol Red, 98% (Titr.)	32638-88-3
Amberlite ira 416	9002-26-0
3-Methoxybenzonitrile, 98%	1527-89-5
1-Adamantanemethanol, 99%	770-71-8
Inosine, 99%	58-63-9
Pentafluoropropionic Acid	422-64-0
Pyruvic Acid	127-17-3
Potassium hydrogen fluoride, 99+%	7789-29-9
Aluminum Nitride, 98% Particle Size <10 Micron	24304-00-5
Nickel(II) hydroxide, c.p., 60-61% Ni	12054-48-7
1-Adamantanamine sulfate, 99%	31377-23-8
S-(Thiobenzoyl)-Thioglycolic Acid, 97%	942-91-6
N,N-Dimethyl-P-Nitroaniline	100-23-2
Benzofuroxan	480-96-6
cis-2-Aminomethyl-1-cyclohexanol hydrochloride, 99%	24947-68-0
Silver Phosphate, 98% (Titr.)	7784-09-0

4-Cyano-4-Phenylpiperidine Hydrochloride, 99% (TLC)	51304-58-6
Methanesulfonamide	3144-09-0
gamma-Octanoic lactone, 98%	104-50-7
Cis,cis,cis,cis-1,2,3,4-cyclopentane- tetracarboxylic dianhydride,	4802-47-5
Tetrachloroethylene Carbonate, 98+%	22432-68-4
Oxamic Acid, 98%	471-47-6
1O,11-Dihydro-5H-Dibenzo(A,D)-Cycloheptene, 98%	833-48-7
Thallium (I) Sulfate, 99.9+%	7446-18-6
N-(2,6-Dimethylphenylcarbamoyl-Methyl)-Iminodiacetic Acid, 99%	59160-29-1
P-(Dimethylamino)cinnamic Acid, 99%	1552-96-1
Biebrich Scarlet, 99% (UV-VIS)	4196-99-0
4-Chlorobenzenediazonium hexafluoro- phosphate	1582-27-0
Ammonium hexachloroiridate(IV), 99.99%	16940-92-4
Methylamine-d2 deuteriochloride, 98+ atom % D	593-51-1
2,2-Bis-(4-chlorophenyl)-1,1-dichloroethylene, 99%	72-55-9
Nitro red	56431-61-9
Methyl 2,3-dichlorobenzoate, 98+%	2905-54-6
Isopropyl Bromoacetate, 98% (GC)	29921-57-1
1-Iodo-4-Nitrobenzene, 99%	636-98-6
4-Ethylcyclohexanol, 99% cis/trans mixture	4534-74-1
Fluorescamine	38183-12-9
Tris(2,2,6,6-Tetramethyl-3,5-Heptanedionato)Dysprosium(III), 99+%	15522-69-7
3-Amino-2,2,5,5-Tetramethyl-1-Pyrrolidinyloxy, 99% (Titr.)	34272-83-8
3,4-Dihydroxyphenylacetic Acid,98%	102-32-9

Free MSDS Search (Providing 250，000+ Material Properties)
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APPENDIX D

HOSPITAL INFORMATION AND MAP

FIELD ACCIDENT REPORT

FIELD ACCIDENT REPORT

This report is to be filled out by the designated Site Safety Officer after EVERY accident.

PROJECT NAME _____ PROJECT. NO._____

Date of Accident _____ Time _____ Report By _____

Type of Accident (Check One):

( ) Vehicular ( ) Personal ( ) Property

Name of Injured _____ DOB or Age _____

How Long Employed _____

Names of Witnesses _____

_____

Description of Accident _____

_____

_____

Action Taken _____

_____

_____

Did the Injured Lose Any Time? _____ How Much (Days/Hrs.)? _____

Was Safety Equipment in Use at the Time of the Accident (Hard Hat, Safety Glasses, Gloves, Safety Shoes, etc.)? _____

_____

(If not, it is the EMPLOYEE'S sole responsibility to process his/her claim through his/her Health and Welfare Fund.)

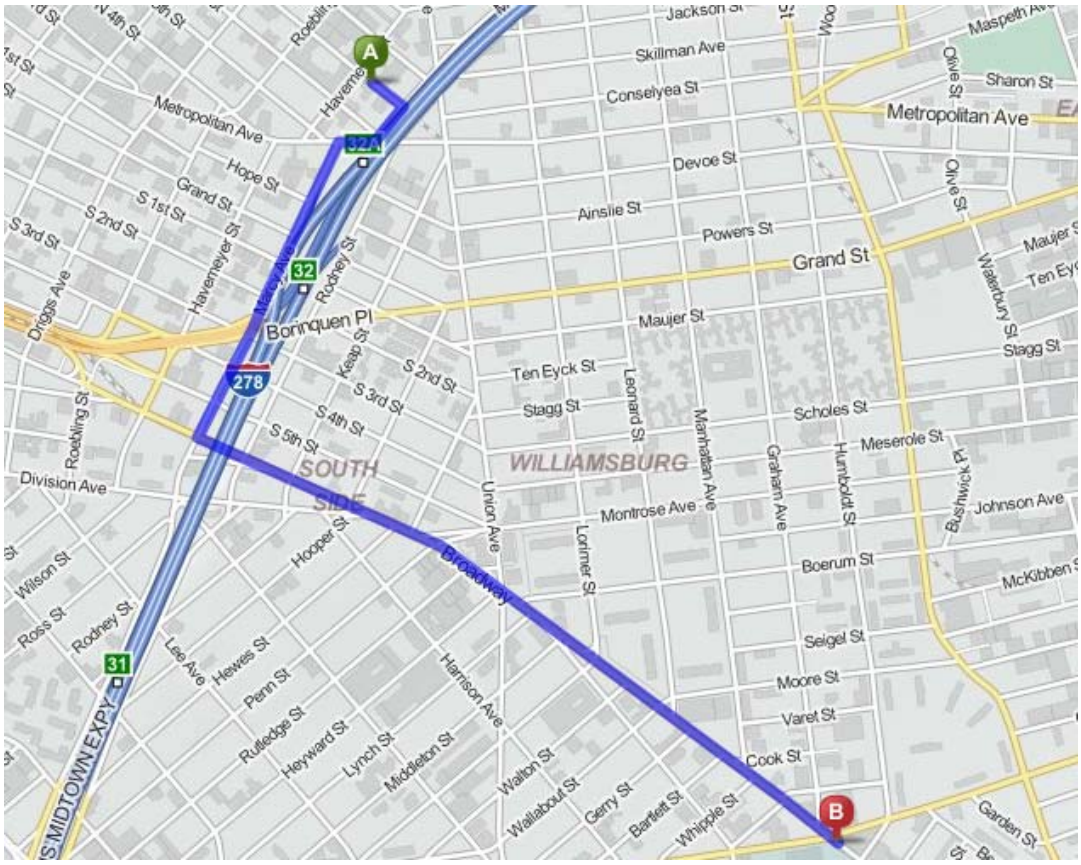
INDICATE STREET NAMES, DESCRIPTION OF VEHICLES, AND NORTH ARROW

HOSPITAL INFORMATION AND MAP

The hospital nearest the site is:

The BROOKLYN HOSPITAL CENTER

WOODHULL MEDICAL CENTER
760 Broadway Brooklyn, New York 11206
718-963-8000
1.6 Miles – About 6 Minutes



START:
A 304-310 N 7th St, Brooklyn
Head towards Meeker Avenue

Turn right onto Meeker Avenue

Take 2nd right onto Metropolitan Avneue

Take 1st left onto Marcy Avenue

Turn left onto Broadway

Your destination on Broadway is on the right. The trip takes 1.6 mi and 6 mins.

HOSPITAL:
B 760 Broadway, Brooklyn, NY 11206-5317

ATTACHMENT F
Vapor Barrier Specifications

VAPORBLOCK® PLUS™ VBP20

Under-Slab Vapor / Gas Barrier

RAVEN INDUSTRIES

Product Description

VaporBlock® Plus™ 20 is a seven-layer co-extruded barrier made from state-of-the-art polyethylene and EVOH resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission. VaporBlock® Plus™ 20 is a highly resilient underslab / vertical wall barrier designed to restrict naturally occurring gases such as radon and/or methane from migrating through the ground and concrete slab. VaporBlock® Plus™ 20 is more than 100 times less permeable than typical high-performance polyethylene vapor retarders against Methane, Radon and other harmful VOCs.

VaporBlock® Plus™ 20 is one of the most effective underslab gas barriers in the building industry today far exceeding ASTM E-1745 (Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs) Class A, B and C requirements. Available in a 20 (Class A) mil thicknesses designed to meet the most stringent requirements. VaporBlock® Plus™ 20 is produced within the strict guidelines of our ISO 9001:2008 Certified Management System.

Product Use

VaporBlock® Plus™ 20 resists gas and moisture migration into the building envelop when properly installed to provide protection from toxic/harmful chemicals. It can be installed as part of a passive or active control system extending across the entire building including floors, walls and crawl spaces. When installed as a passive system it is recommended to also include a ventilated system with sump(s) that could be converted to an active control system with properly designed ventilation fans.

VaporBlock® Plus™ 20 works to protect your flooring and other moisture-sensitive furnishings in the building's interior from moisture and water vapor migration, greatly reducing condensation, mold and degradation.

Size & Packaging

VaporBlock® Plus™ 20 is available in 10' x 150' rolls to maximize coverage. All rolls are folded on heavy-duty cores for ease in handling and installation. Other custom sizes with factory welded seams are available based on minimum volume requirements. Installation instructions and ASTM E-1745 classifications accompany each roll.

Under-Slab Vapor/Gas Retarder

Product	Part #
VaporBlock Plus 20	VBP 20

APPLICATIONS

- Radon Barrier
- Methane Barrier
- VOC Barrier
- Under-Slab Vapor Retarder
- Foundation Wall Vapor Retarder

VaporBlock® Plus™
UNDERSLAB VAPOR RETARDER / GAS BARRIER

VAPORBLOCK® PLUS™ VBP20

Under-Slab Vapor / Gas Barrier

ISO 9001:2008
CERTIFIED MANAGEMENT SYSTEM

		VAPORBLOCK PLUS 20	
PROPERTIES	**TEST METHOD**	**IMPERIAL**	**METRIC**
APPEARANCE		White/Gold	
THICKNESS, NOMINAL		20 mil	0.51 mm
WEIGHT		102 lbs/MSF	498 g/m²
CLASSIFICATION	ASTM E 1745	CLASS A, B & C	
TENSILE STRENGTH LBF/IN (N/CM) AVERAGE MD & TD (NEW MATERIAL)	ASTM E 154 Section 9 (D-882)	58 lbf	102 N
IMPACT RESISTANCE	ASTM D 1709	2600 g	
MAXIMUM USE TEMPERATURE		180° F	82° C
MINIMUM USE TEMPERATURE		-70° F	-57° C
PERMEANCE (NEW MATERIAL)	ASTM E 154 Section 7 ASTM E 96 Procedure B	0.0051 Perms grains/(ft²·hr·in·Hg)	0.0034 Perms g/(24hr·m²·mm Hg)
RADON DIFFUSION COEFFIECIENT	K124/02/95	< 1.1 x 10^{-13} m²/s	
METHANE PERMEANCE	ASTM D 1434	< 1.7 x 10^{-10} m²/d• atm 0.32 GTR (Gas Transmission Rate) ml/m²•D•ATM	

VaporBlock® Plus™ Placement

All instructions on architectural or structural drawings should be reviewed and followed.
Detailed installation instructions accompany each roll of VaporBlock® Plus™ and can also be located on our website.
ASTM E-1643 also provides general installation information for vapor retarders.

VaporBlock® Plus™
UNDERSLAB VAPOR RETARDER / GAS BARRIER

VaporBlock® Plus™ is a seven-layer co-extruded barrier made using high quality virgin-grade polyethylene and EVOH resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission.

Note: To the best of our knowledge, unless otherwise stated, these are typical property values and are intended as guides only, not as specification limits. Chemical resistance as well as other performance criteria is not implied or given and actual testing must be performed for applicability in specific applications and/or conditions. RAVEN INDUSTRIES MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability for resulting loss or damage.

RAVEN INDUSTRIES

Engineered Films Division
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Sioux Falls, SD 57117-5107
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Toll Free: **800-635-3456**
Email: **efdsales@ravenind.com**
www.ravenefd.com

Limited Warranty available at www.RavenEFD.com