Remedial Action Plan

For

WC-W28th Realty, LLC.

533-535 West 27th Street & 530-536 West 28th Street

Block 699, Lot(s) 49

E-Designation E-142

NYSDEC Spill Number: 1306369

NYC VCP Site Number: 14CVCP241M

Prepared for:

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REMEDIAL ACTION PLAN

TABLE OF CONTENTS

FIGURES

List of Figures

- Figure 1a: Site Location Map
- Figure 1b: Orthophoto
- Figure 2: Redevelopment Plan
- Figure 3: Surrounding Land Use
- Figure 4: Planned excavation diagrams
- Figure 5: End Point Samples
- Figure 6: Equipment Layout
- Figure 7: Site Grid

Figures Embedded in Appendices

- Figure A5-1: Vapor barrier/waterproofing membrane diagrams
- Figure A5-2: Cover System
- Figure A7-1: Hospital Route Map

LIST OF ACRONYMS

Acronym	Definition
AST	Aboveground Storage Tank
CAMP	Community Air Monitoring Plan
C&D	Construction & Demolition
CEQR	City Environmental Quality Review
CFR	Code of Federal Regulations
CHASP	Construction Health and Safety Plan
CO	Certificate of Occupancy
CPC	City Planning Commission
DSNY	Department of Sanitation
“E”	E-Designation
EAS	Environmental Assessment Statement
EIS	Environmental Impact Statement
ESA	Environmental Site Assessment
EC/IC	Engineering Control and Institutional Control
ELAP	Environmental Laboratory Accreditation Program
FDNY	New York City Fire Department
GPR	Ground Penetrating Radar
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations Emergency Response
IDW	Investigation Derived Waste
Notice - NNO	Notice of No Objection
Notice - NTP	Notice To Proceed
Notice - NOS	Notice Of Satisfaction
Notice - FNOS	Final Notice of Satisfaction
NYC BSA	New York City Board of Standards and Appeals
NYC DCP	New York City Department of City Planning
NYC DEP	New York City Department of Environmental Protection
NYC DOB	New York City Department of Buildings
NYC DOF	New York City Department of Finance
NYC HPD	New York City Housing Preservation and Development
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 DEC DER	New York State Department of Environmental Conservation Division of Environmental Remediation
NYS DEC PBS	New York State Department of Environmental Conservation Petroleum Bulk Storage
NYS DOH	New York State Department of Health
NYS DOT	New York State Department of Transportation
OSHA	United States Occupational Health and Safety Administration
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PE	Professional Engineer
PID	Photo Ionization Detector
PM	Particulate Matter
QEP	Qualified Environmental Professional
RA	Register Architect
RAP	Remedial Action Plan
RCA	Recycled Concrete Aggregate
RCR	Remedial Closure Report
RD	Restrictive Declaration
RI	Remedial Investigation
SCOs	Soil Cleanup Objectives
SCG	Standards, Criteria and Guidance
SMP	Site Management Plan
SPDES	State Pollutant Discharge Elimination System
SSDS	Sub-Slab Depressurization System
SVOCs	Semi-Volatile Organic Compounds
USCS	Unified Soil Classification System
USGS	United States Geological Survey
UST	Underground Storage Tank
TAL	Target Analyte List
TCL	Target Compound List
TCO	Temporary Certificate of Occupancy
VB	Vapor Barrier
VOCs	Volatile Organic Compounds

CERTIFICATION

I, Daniel Stone, am a Professional Engineer licensed in the State of New York. I have primary direct responsibility for implementation of the remedial action for the WC-W28th St Realty Site Site 14CVCP241M.

I, Kevin P. McGrath, PG, CPG am a Qualified Environmental Professional as defined in §43-140. I have primary direct responsibility for implementation of the remedial action for the WC-W28th St Realty Site 14CVCP241M. (Optional)

I certify that this Remedial Action Plan (RAP) 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 RAP has provisions to control nuisances during the remediation and all invasive work, including dust and odor suppression.

Daniel Stone, PE
Name

NYS PE License Number

Signature

Date

PE Stamp

Kevin P. McGrath, PG, CPG
QEP Name

QEP Signature

Date

EXECUTIVE SUMMARY

WC-W28th Realty, LLC. has applied to enroll in the New York City Voluntary Brownfield Cleanup Program (NYC VCP) to investigate and remediate a 20,000-square foot site located at 526-530 West 28th Street in Manhattan, 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, achieves the remedial objectives, 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 525-531 West 27th Street & 526-532 West 28th Street, Manhattan in the Highline/West Chelsea District in Manhattan, New York and is identified as Block 699and Lot 49 on the New York City Tax Map. A Site Location Map is included as **Figure 1a**.

The Site is 20,000-square feet and is bounded by: West 28th Street to the north; West 27th Street to the south; a vacant lot to the east; and, a two-story former night club to the west. An ortho-photograph with the site boundary is included as **Figure 1b**.

The Site consists of a single-story slab on grade commercial warehouse building abutting a four-story building with partial basement. The Site was most recently used as a Cabaret/Night Club but has been unoccupied for the several years.

Summary of Proposed Redevelopment Plan

The proposed future use of the Site will consist of high-rise town home/condominium style residential use building with floor level and sub-grade commercial uses. Layout of the proposed site development is presented in **Figure 2**. The current zoning designation is C6-3. The proposed use is consistent with existing zoning for the property.

The existing on-site structures will be demolished and replaced with new structures specifically designed and constructed for the intended use. It is anticipated that the first floor and

sub-grade levels will be used for commercial storefronts and an underground parking facility for the residents. The upper levels (second floor and higher) will be residential.

Subsurface spaces will consist of cellar and subcellar floors devoted to residential amenity spaces, parking, storage and mechanical systems, as well as retail spaces used in conjunction with ground floor retail spaces. Grade level uses will include retail spaces, lobbies, indoor garden spaces, access drive and ancillary spaces such as storage, egress stairs and interior corridors.

There will be one building covering the entire lot. However the development above the level of the second floor will be divided into two towers, one fronting on 28th Street, and one fronting on 27th Street. Each will be a total of 10 stories above the one story base, and be 135 feet tall. Total gross square feet including cellars will be approximately 135,000 sf. The 27th Street tower will have a footprint of 52 feet x 46 feet before setbacks and accommodate one apartment per floor, for a total of 10 apartments maximum. The 28th Street tower will have a footprint of 75 feet x 100 feet, and accommodate three or four apartment per floor for a total of 40 to 50 apartments for the entire development.

The new building(s) will cover the entire footprint of the property. No open space or landscaped areas are planned.

The entire Site will be excavated to not less than sixteen feet below existing grade with deeper excavations to twenty-one feet below grade around the perimeter for the footings. Alternately, if feasible, the site may be excavated to bedrock (22-23 feet). An estimated range of 12,000 to 17,000 cubic yards of materials (estimated at 18,000-26,000 tons) will be removed from the site. The subgrade excavation and development is necessary to provide the off-street parking, utilities, and amenities for the residents of the building.

The water table is at approximately eleven feet below existing grade. In order to complete the construction it will be necessary to dewater the excavation and maintain water table depression until sufficient structural elements are in place. Initial dewatering will require the removal of approximately 650,000 gallons of groundwater. Up to an additional 7,500 gallons per day will be removed during construction. Excavation water may need to be collected and treated prior to discharge.

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. Establishment of Unrestricted Use Track 1 Soil Cleanup Objectives (SCOs);
4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas.
5. Installation of a sheet pile barrier wall along the four property boundaries from grade to bedrock to minimize groundwater infiltration during the excavation, removal, and subsequent construction phases of the project.
6. Installation of a groundwater recovery sump to dewater the site during the excavation and construction phases of the project.
7. Operation of the groundwater recovery and treatment system until the construction phase is sufficiently advanced so that dewatering is no longer required.
8. Additional delineation of impacted soils using X-Ray Fluorescence for quantification of selected heavy metals to further characterize materials for proper segregation, handling, and off-site disposal.
9. Excavation and removal of soil/fill exceeding Track 1 Unrestricted Use SCOs. The basement of the proposed new building will occupy the entire site and will be excavated

from grade to bedrock at a depth of approximately 22 feet below grade. Excavation for the cellar will generate approximately 12,000- cubic yards of soil;

10. Screening of excavated materials for visual or olfactory evidence of impacts and with a Photoionization detector.

11. Additional screening and soil sample analysis to confirm impacted soil removal.

12. Construction Phase with excavation of non-impacted soils down to the bedrock interface.

13. Removal of USTs (if encountered) and closure of petroleum spills (if evidence of a new spill/leak is encountered during Site excavation) in compliance with applicable local, State and Federal laws and regulations;
14. Import of construction materials to be used for backfill in compliance with this plan and in accordance with applicable laws and regulations.

15. 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 onsite.

16. Collection and analysis of end-point samples to determine the performance of the remedy with respect to attainment of SCOs;

17. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations, if backfilling is necessary to complete construction;

18. As part of development, installation of a vapor barrier system beneath the building slab as well as behind foundation walls of the proposed building. The vapor barrier/waterproofing membrane will be comprised of a Grace Preprufe 300R and Bituthene 4000 system, or OER approved equivalent;

19. As part of development, construction and maintenance of an engineered composite cover consisting of an 12-inch concrete building slab across the footprint of the new building;

20. Performance of all activities required for the remedial action, including permitting requirements and pretreatment requirements, in compliance with applicable laws and regulations.

21. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations;

22. Submission of a Remedial Action Report (RAR) that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the site boundaries, lists any changes from this RAWP, and if Track 1 SCOs are not achieved, describes all Engineering and Institutional Controls to be implemented at the site;

23. If Track 1 Unrestricted Use SCOs are not achieved, submission of an approved Site Management Plan (SMP) in the RAR for long-term management of residual contamination, including plans for maintenance, inspection and certification of Engineering and Institutional Controls and reporting at a specified frequency;

24. If Track 1 SCOs are not achieved, continued registration with an E-Designation at NYC Buildings Department. Establishment of Engineering Controls and Institutional Controls and management of these controls 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.

COMMUNITY PROTECTION STATEMENT

The New York City Mayor's Office of Environmental Remediation (OER) 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 soil, 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.

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 Health and Safety Plan. The safety coordinator maintains an emergency contact sheet and protocol for management of emergencies. The Site Safety Coordinator is Mr. Tom Zografos and can be reached at (631) 434-7300.

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 to workers performing specific tasks including removal of contaminated material.

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 or CAMP. Results will be regularly reported to the NYC Office of Environmental Remediation. 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 site Project Manager Joe Cenzoprano (631) 434-7300 or NYC Office of Environmental Remediation Project Manager Rebecca Bub (212-788-8841).

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 (RAR). This report will be submitted to the NYC Office of Environmental Remediation and will be thoroughly reviewed.

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 Monday through Friday, 7:00 AM to 5:00 PM.

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 site Project Manager Joe Cenzoprano (631) 434-7300 the NYC Office of Environmental Remediation Project Manager, Rebecca Bub (212-788-8841), or call 311 and mention that the Site is in the NYC VCP.

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 (DOB) 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 (QEP). In addition to extensive sampling and chemical testing of soil at 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 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 (RAR) that will be available for you to review on OER's website (http://www.nyc.gov/html/oer/html /repository/RManhattan.shtml) Internet access to view documents is available at the public library. The closest location is: Muhlenberg Library, 209 West 23rd Street (near Seventh Ave.) New York, NY 10011-2379 (212) 924-1585

Long-Term Site Management. If long-term protection after the cleanup is needed, the property owner will be required to comply with an ongoing Site Management Plan (SMP) 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 defined in the property's deed or 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 PLAN

1.0 SITE BACKGROUND

WC-W28th Realty has applied to enroll in the New York City Voluntary Cleanup Program (NYC VCP) to investigate and remediate the property located at 533-535 West 27th Street & 530-536 West 28th Street in the West Chelsea section of Manhattan, 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 a 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, and complies with applicable environmental standards, criteria and guidance and applicable laws and regulations. This project has been assigned project number 14CVCP241M by OER.

This RAP describes the remediation and/or mitigation activities to be implemented at the Site in coordination with the New York City Office of Environmental Remediation (OER) for the purposes of satisfying the requirements of the Hazardous Materials E-Designation Program and obtaining a Notice To Proceed. An E-Designation for Hazardous Materials (E-142) was placed on the Site by the New York City Department of City Planning (DCP) as part of the 6/23/2005, Highline/West Chelsea rezoning or variance action rezoning action (CEQR number 03DCP069M).

The site-specific CHASP included as Appendix 1 addresses site-specific hazards, identified contaminants of concern and safety requirements associated with remediation and mitigation activities in accordance with ASTM and OSHA guidelines.

1.1 Site Location and Current Usage

The Site is located at 525-531 West 27th Street & 526-532 West 28th Street, Manhattan in the Highline/West Chelsea District in Manhattan, New York and is identified as Block 699and Lot 49 on the New York City Tax Map. A Site Location Map is included as **Figure 1a**.

The Site is 20,000-square feet and is bounded by: West 28th Street to the north; West 27th Street to the south; a vacant lot to the east; and, a two-story former night club to the west. An ortho-photograph with the site boundary is included as **Figure 1b**.

The Site consists of a single-story slab on grade commercial warehouse building abutting a four-story building with partial basement. The Site was most recently used as a Cabaret/Night Club but has been unoccupied for the several years.

1.2 Proposed Redevelopment Plan

The proposed future use of the Site will consist of high-rise town home/condominium style residential use building with floor level and sub-grade commercial uses. Layout of the proposed site development is presented in **Figure 2**. The current zoning designation is C6-3 (see Zoning Map, Section 8b). The proposed use is consistent with existing zoning for the property.

The existing on-site structures will be demolished and replaced with new structures specifically designed and constructed for the intended use. It is anticipated that the first floor and first sub-grade level will be used for commercial storefronts with an second sub-level underground parking facility for the residents. The upper levels (second floor and higher) will be residential.

Subsurface spaces will consist of cellar and sub-cellar floors devoted to residential amenity spaces, parking, storage and mechanical systems, as well as retail spaces used in conjunction with ground floor retail spaces. Grade level uses will include retail spaces, lobbies, garden spaces, access drive and ancillary spaces such as storage, egress stairs and corridors.

There will be one building covering the entire lot. However the development above the level of the second floor will be divided into two towers, one fronting on 28th Street, and one fronting on 27th Street. Each will be a total of 10 stories above the one story base, and be 135 feet tall. Total gross square feet including cellars will be approximately 135,000 sf. The 27th

Street tower will have a footprint of 52 feet x 46 feet before setbacks and accommodate one apartment per floor, for a total of 10 apartments maximum. The 28th Street tower will have a footprint of 75 feet x 100 feet, and accommodate three or four apartment per floor for a total of 40 to 50 apartments for the entire development.

The new building(s) will cover the entire footprint of the property. No open space or landscaped areas are planned.

The entire Site will be excavated to not less than twenty-six feet below existing grade with deeper excavations around the perimeter for the footings. The subgrade excavation and development is necessary to provide the off-street parking, utilities, and amenities for the residents of the building An estimated 12,000 cubic yards of soil and up to 4,000 cubic yards of bedrock materials will be removed from the site.

The water table is at approximately eleven feet below existing grade. In order to complete the construction it will be necessary to dewater the excavation and maintain water table depression until sufficient structural elements are in place. Initial dewatering will require the removal of approximately 650,000 gallons of groundwater. Up to an additional 7,500 gallons per day may be removed during construction based on seepage and precipitation. Excavation water will be collected and treated via a temporary groundwater treatment system appoved by the IPPC Division of NYCDEP. Once treated, the effluent will be discharged to the 28th street combined sewer system with the apporcval of the Sewer Operations Division of NYCDEP and permit obtained from the Borough Office.

1.3 Description of Surrounding Property

The Site is located in the historical West Chelsea manufacturing district. The surrounding properties consist of a mixture of residential, commercial, offices, and light industrial uses. There are no sensitive receptors located within 500 feet of the Site.

Figure 3 shows the surrounding land usage.

1.4 Environmental Investigation Reports

The following environmental work plans and reports were developed for the Site:

"Phase I Environmental Site Assessment, 530 W28th Street", August 1997; prepared by Foster-Wheeler

"Phase I Environmental Site Assessment, 526-532 W 28th Street", October 2010; prepared by EBI

"Phase I Environmental Site Assessment, RN Realty L.L.C. Property, 525-531 West 27th and 526-532 West 28th Streets", April 2013; prepared by The Chazen Companies.

"Phase II Work Plan", August 2013; prepared by Chazen.

"Remedial Investigation Report, WC-W28th St", January 2014; prepared by Chazen.

"Remedial Action Work Plan, WC-W28th St" (this document); February 2014; prepared by Chazen.

"*Supplemental XRF Study Memo*": April 2014, Chazen

Copies of these reports were previously submitted to OER. The supplemental XRF Study memo is included in **Appendix 1.**

Summary of Past Uses of Site and Areas of Concern

The Site was originally built in 1916 and occupied by E.R. Merrill Spring Company, a manufacturer of automobile springs/parts and parts for Sherman Tanks. Historical site uses included a truck terminal garage, warehouse and foundry. After E.R. Merrill-Spring Co. and various subsequent subsidiaries (1980), the Site was occupied as a warehouse for storage and construction of theatrical props and scenery and was reportedly used as a studio for filming. From 1998 to 2002 the building was used as a warehouse for a packaging supply company. In 2002, the Site was renovated into its current configuration and used as a night club/Cabarets. Areas of Concern (AOCs) include:

1. Suspected presence of historic fill material up to 6 to 8 feet below grade

2. Evidence of a potential historical petroleum release identified by odors, staining, and elevated PID measurements was reported to NYSDEC and Spill 1306369 assigned to the Site. No evidence of petroleum impacts that exceed NYSDEC CP-51 Petroleum Contaminated Soil Clean-up Standards were reported by the laboratory
3. Prior uses of the site as foundries/metalworking (blacksmith) shops

Summary of the Work Performed under the Remedial Investigation

The following work has been performed at the site:

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e. structures, buildings, etc.);
2. Installed nine soil borings across the entire project Site, and collected 22 soil samples for chemical analysis from the soil borings to evaluate soil quality;
3. Installed four groundwater monitoring wells throughout the Site to establish groundwater flow and collected four groundwater samples for chemical analysis to evaluate groundwater quality;
4. Installed six sub-slab soil vapor probes around Site perimeter and collected five sub-slab vapor samples for chemical analysis (one probe location was beneath the water table).

Digital (PDF) copies of the above referenced reports have been supplied to OER under separate cover except for the 1997 Foster-Wheeler report which is unavailable to the current property owner.

1.5 Summary of Environmental Findings

1. Elevation of the property ranges from 11 ft to 13 ft above mean sea level (AMSL);
2. Depth to groundwater in the overburden ranges from 10 to 12 feet below grade;
    a. Overburden groundwater elevation is approximately 1 ft AMSL,
    b. Potentiometric groundwater surface in the bedrock is estimated at 5 ft AMSL,

c. Little to no communication exists between bedrock and overburden groundwater in southern Manhattan Island (USGS).

3. Groundwater flow is generally from Northeast to Southwest beneath the Site;

4. Average depth to bedrock is 23.8 feet below grade at an elevation of approximately 11 ft below MSL;

5. The stratigraphy of the site, from the surface down, consists of 6-8 feet of urban fill underlain by 18-20 feet of silty-sand and gravel;

6. Soil/fill samples collected during the RI detected VOCs, SVOCs, and regulated metals at concentrations that exceed the Unrestricted Use Soil Clean-up Objectives.

   a. One VOC, acetone (max of 0.084 mg/kg) was detected above its Unrestricted Use SCO, and was well below its Restricted Residential Use SCO.

   b. Four SVOCs including: benz(a)anthracene (max of 5.50 mg/Kg); benzo(a)pyrene (max of 4.59 mg/Kg); benzo(b)fluoranthene (max of 3.65 mg/Kg); and, dibenzo(a,h)anthracene (max of 1.87 mg/kg); were detected above their respective Restricted Residential Use SCOs in four shallow samples (< 4 feet below grade). Chrysene and indeno(1,2,3)pyrene were also detected above Unrestricted Use SCOs in two of the shallow samples.

   c. Metals including arsenic (384 mg/kg), barium (max of 957 mg/kg), cadmium (max of 6.02 mg/kg), copper (max of 440 mg/kg), lead (max of 13,400 mg/kg) and mercury (max of 10.1) were detected in five of the shallow soil (< 4 feet below grade) samples above Restricted Residential Use SCOs. The greatest concentrations of mercury and lead detected in the RI were reported in the 0-4 foot interval in two of the soil borings (SB-1 and SB-2), indicating a potential shallow hotspot area. The XRF study delineated an area of approximately 600 ft^2 between SB-1 and SB2 with potentially hazardous concentrations of TOTAL lead in the soils. The results of the XRF survey also identified a second area approximately 600 ft^2 with lead concentrations that did exceed the hazardous waste criteria by TCLP analysis. No metals

were detected in any of the deeper soil samples (> 14 feet below grade). PCBs and Pesticides were not tested during this investigation and will be tested during waste characterization and/or with the endpoint samples.

7. Groundwater samples collected during the RI showed several VOCs detected above New York State 6 NYCRR Part 703.5 Groundwater Quality Standards (GQS) including 1,1-dichloroethane (max of 6.2 µg/L), cis-1,2-Dichloroethylene (max of 120 µg/L), methyl tert-butyl ether (MTBE) (max of 15 µg/L), and vinyl chloride (max of 3.0 µg/L). One SVOC, 2-methylnaphthalene was detected above GQS in one monitoring well at a concentration of 18.6 µg/L. Dissolved metals including magnesium (max 140,000 µg/L), manganese (max of 3,820 µg/L), and sodium (max of 235,000 µg/L) were detected above GQS. PCBs and Pesticides were not tested. Results indicate a relatively low concentration chlorinated solvent plume extending from the NE corner of the site toward the west-southwest boundary.

8. Soil vapor results collected during the RI were compared to the compounds listed in Table 3.1 Air Guideline Values Derived by the NYSDOH located in the New York State Department of Health (NYSDOH) Final Guidance for Evaluating Soil Vapor Intrusion dated October 2006. All compounds were detected at concentrations less than 20 ug/m^3 except for chloroform that was detected in two samples at a maximum concentration of 290 ug/m^3. Chlorinated VOCs were detected in all four soil vapor samples, and in the indoor and outdoor air samples. 1,1,1-Trichloroethane was detected in two samples at a maximum concentration of 27 ug/$m^{3.}$ Carbon tetrachloride was detected in all four soil vapor samples at a maximum concentration of 0.67 ug/$m^{3.}$ Tetrachloroethene (PCE) was detected in all four soil vapor samples at a maximum concentration of 7.9 ug/$m^{3,}$ and Trichloroethene (TCE) was detected in all four soil vapor samples at a maximum concentration of 17 ug/$m^{3.}$ The results for TCE are above the monitoring level ranges established by the New York State Department of Health (NYS DOH) soil vapor guidance matrix and warrant remedial action to address soil vapor.

2.0 DESCRIPTION OF REMEDIATION

2.1 OBJECTIVES

The Primary site remediation and mitigation objective is to achieve a Track 1 Clean-up by excavation and removal of on-site impacted soils and groundwater. The secondary objective is to prevent the influx of impacted groundwater onto the Site and potentially associated soil vapor intrusion.

Soil

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

Groundwater

- Remove contaminant sources potentially causing impact to groundwater.
- Prevent direct exposure to contaminated groundwater.
- Prevent exposure to contaminants volatilizing from contaminated groundwater.
- Prevent off-Site migration of contaminated groundwater above applicable groundwater standards.

Soil Vapor

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

Remedial and mitigation measures described herein will be performed in accordance with applicable laws and regulations, and the site-specific CHASP. This remedy is protective of public health and/or the environment for the intended use.

3.0 REMEDIAL ALTERNATIVES ANALYSIS.

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

1. Protection of human health and the environment;
2. Compliance with SCGs;
3. Short-term effectiveness and impacts;
4. Long-term effectiveness and permanence;
5. Reduction of toxicity, mobility, or volume of contaminated material;
6. Implementability;
7. Cost effectiveness;
8. Community Acceptance;
9. Land use; and
10. Sustainability of the remedial action.

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

Alternative 1:

- Establishment of Track 1 Unrestricted Use SCOs
- Removal of all soil and fill exceeding Track 1 6 NYCRR Part 375 Unrestricted Use SCOs throughout the site. Based on the results of the Remedial Investigation, it is expected that this alternative would require excavation across the site to a depth of approximately 6 to 8 feet bgs. Planned excavation for development is approximately 23 ft bgs with deeper excavations to twenty-six feet below grade around the perimeter for the footings. The site will be excavated to bedrock (22-23 feet) and a mimimum of 3 feet into the top of rock. An estimated range of 15,000 to 17,000 cubic yards of soils (estimated at 18,000-26,000 tons) and 3,000 cubic yards of bedrock will be removed from

the site. If soil/fill is still present at the base of the excavation after the removal for construction of the new building's cellar level is complete, additional excavation will be performed to ensure complete removal of all soil from the site.. Post-excavation confirmatory sampling will not be required nor possible as all on-site soils will be removed.

- Installation of a waterproofing membrane/vapor barrier beneath the basement foundation and on the exterior of foundation walls as part of development to limit the potential for future exposures from off-site soil vapor.
- As part of the new development, placement of a final cover consisting of a concrete floor slab.

Alternative 2 involves:

- Establishing Track 4 Site Specific Use SCOs.
- Removal of soil/fill exceeding Track 4 Site Specific SCOs and confirmation that Track 4 SCOs have been achieved with post excavation endpoint sampling. Historic fill at the site extends to the depths of 6 to 8 feet. This would require a minimum excavation to the development depth of approximately 16 bgs for the cellar level. End-point samples would be collected to confirm remaining soil meets Track 4 SCOs.
- Installation of a waterproofing membrane/vapor barrier system beneath the cellar foundation slab and along the exterior of the foundation walls;
- Placement of a final cover, consisting of the building slab, over the entire site to eliminate exposure to remaining soil and fill;
- Establishment of use restrictions including prohibitions on the use of groundwater from the site and prohibitions on sensitive site uses, such as farming or vegetable gardening, to eliminate future exposure pathways; and prohibition of a higher 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. SMP will note that the property owner and property’s owners successors and its assigns must comply with the approved SMP; and

- The property will continue to be registered with an E-designation at the NYC Buildings Department

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 impacted soil/fill that exceeds 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 protection of human health and the environment by excavating historic fill at the Site and by documenting that remaining soil/fill meets Track 4 Site Specific SCOs. Exposure to residual contaminated soil would be mitigated through implementation of Engineering and Institutional Controls.

In both alternatives, a site-wide cap consisting of a concrete slab would be constructed to prevent direct contact with underlying soil and groundwater at the Site. A vapor barrier system would be installed to prevent migration of vapors into the occupied structure and eliminate associated inhalation exposures consistent with remedial action objectives.

For both alternatives, potential exposure to impacted soil or groundwater during construction would be minimized by implementing a Construction Health and Safety Plan (CHASP), an approved Soil/Materials Management Plan (SMMP) and Community Air Monitoring Plan (CAMP). Potential contact with impacted groundwater would be mitigated as its use is prohibited by city laws and regulations. In both cases, installation of the building slab well below the water table and installation of a waterproofing/vapor barrier outsidebeneath the slab and along foundation walls would provide protection against potential off site soil vapors.

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 the soil to achieve Track 1 Unrestricted Use SCOs and groundwater protection standards. Compliance with SCCs for soil vapor would also be achieved by installing a vapor barrier as part of development..

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

Health and safety measures contained in the CHASP and CAMP that conform to applicable SCGs will be implemented during Site redevelopment under this RAWP. For both Alternatives, focused attention on means and methods employed during the remedial action such that handling and management of impacted material would be in compliance with applicable SCGs. These measures will protect on-Site workers and the surrounding community from exposure to Site-related constituents

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 could potentially be higher for Alternative 1 if excavation of greater amounts of historical fill material is encountered below the excavation depth of the proposed building. However, focused attention to means and methods during the remedial 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 risk to the community associated with both remedial alternatives is increased truck traffic. 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.

Both alternatives would employ appropriate measures to mitigate the potential for short-term impacts, including a CHASP, a CAMP, and a SMMP during the on-Site soil disturbance activities and would minimize the release of constituents into the environment. Both alternatives provide short-term effectiveness in protecting the surrounding community by decreasing the risk of contact with on-Site constituents. Construction workers operating under appropriate management procedures and a CHASP will be protected from on-Site constituents (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 Institutional Controls (ICs) and Engineering Controls (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 soil and fill above Track 1 Unrestricted Use SCOs and thereby eliminating any potential on-site sources of contaminated soil vapor and groundwater consistent with the RAOs.

Alternative 2 would also provide long-term effectiveness by removal of soil/fill above Track 4 Site-Specific SCOs and implementation of an SMP to ensure long-term management of ECs/ICs, and maintaining continued registration as an E-designated property to record these controls for long term. The SMP would document long-term effectiveness of the EC/IC by requiring periodic inspection and certification that these controls and restrictions continue to be in place and are functioning as they were intended thereby documenting that protections designed into the remedy would continue to provide an acceptable level of protection.

Both alternatives would result in removal of impacted material exceeding the SCOs providing a high level, effective and permanent remedy over the long-term with respect to a remedy for impacted material, which will mitigate the migration to groundwater. Potential sources of soil vapor and groundwater impacts will also be mitigated as part of the remedy. In both alternatives, installation of the building slab well below the water table and installation of a waterproofing/vapor barrier beneath the slab and along foundation walls would provide protection against potential off site soil vapors.

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 provide maximum reduction of toxicity, mobility and volume of on-site contaminated material by excavation and removal of soil/fill above the Track 1 SCOs..

Alternative 2 would reduce toxicity, mobility and volume of on-site contaminated material and eliminate exposure to residual contaminated material by excavation and removal of historic fill and soil above Track 4 Site Specific SCOs. Because Alternative 2 includes a Track 4 component, an SMP would be implemented.

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.

Both alternatives are considered feasible and implementable. The planned construction excavation is expected to result in the removal of all soil/fill above the Track 1 SCOs. Additional excavation (and backfilling) below construction sub-grade will be required in the area of former boring B-5 to attain Track 1 SCOs and may be warranted elsewhere based on the results of end-point sampling. Should end-point sampling indicate that the required excavation depth for attainment of Track 1 SCOs is not feasible, Alternative 2 will be implemented.

Both alternatives utilize standard methods that are commonly available and routinely applied by the industry. They use standard materials and services that are well established technology. The reliability of the remedies are also high. There are no special difficulties associated with any of the activities proposed.

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 Alternative 1 will require additional excavation in the area of former boring B-5 to achieve Track 1 SCOs, initial remedial costs will be higher than Alternative 2. However, the long-term costs associated with Alternative 2 are likely higher, because it requires post-remedial management during implementation of the SMP and deed restriction that would not be incurred for Alternative 1. Alternative 1 poses no post-remedial, long-term costs.

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 observations by the project team, Alternatives 1 and 2 are acceptable to the community. This RAWP will be subject to and undergo public review under the NYC VCP and will provide the opportunity for detailed public input on the remedial alternatives and the selected remedial action. This public comment will be considered by NYC OER prior to approval of this plan. A Citizen Participation Plan is included as **Appendix 2**.

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 alternatives are comparable with respect to the proposed use and to land uses in the vicinity of the site. The proposed use under both alternatives is consistent with the existing zoning designation for the property and recent development patterns. The site is surrounded by

hotels and commercial and residential properties, and both alternatives provide comprehensive protection of public health and the environment for these uses. Improvements of 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. This RAWP will be subject to public review under the NYC VCP and will provide the opportunity for detailed public input on the land use factors described in this section. This public comment will be considered by OER prior to approval of this plan.

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.

Alternatives 1 and 2 are comparable with respect to sustainability, energy consumption, and greenhouse gas emissions. Alternative 1 may require additional energy consumption associated with excavation below construction sub-grade and import of clean fill, attributable to additional excavation in the area of former boring B5. . The remedial plan would take into consideration the shorter trucking routes during off-Site disposal of historic fill and other soil, which would reduce greenhouse gas emissions and conserve energy used to fuel trucks. The New York City Clean Soil Bank may be utilized for reuse of native soil. To the extent practicable, energy efficient building materials, appliances and equipment will be utilized to complete the development. A complete list of green remedial activities considered as part of the NYC VCP is included in the Sustainability Statement, included as **Appendix 3**.

4.0 REMEDIAL ACTION

4.1 SUMMARY OF PREFERRED REMEDIAL ACTION

The preferred remedial action alternative is Alternative 1, which is the Track 1 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 and 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. Establishment of Unrestricted Use Track 1 Soil Cleanup Objectives (SCOs);
4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas.
5. Installation of a sheet pile barrier wall along the four property boundaries from grade to bedrock to minimize groundwater infiltration during the excavation, removal, and subsequent construction phases of the project.
6. Installation of a groundwater recovery sump to dewater the site during the excavation and construction phases of the project.
7. Operation of the groundwater recovery and treatment system until the construction phase is sufficiently advanced so that dewatering is no longer required.

8. Additional delineation of impacted soils using X-Ray Fluorescence for quantification of selected heavy metals to further characterize materials for proper segregation, handling, and off-site disposal.

9. Excavation and removal of soil/fill exceeding Track 1 Unrestricted Use SCOs. The basement of the proposed new building will occupy the entire site and will be excavated to a depth of approximately 16 feet below grade surface with deeper excavations to twenty-one feet below grade around the perimeter for the footings. Alternately, if feasible, the site may be excavated to bedrock (22-23 feet). Excavation for the cellar will generate approximately 12,000-17,000 cubic yards of soil;

10. Screening of excavated materials for visual or olfactory evidence of impacts and with a Photoionization detector.

11. Additional screening and soil sample analysis to confirm impacted soil removal.

12. Construction Phase with excavation of non-impacted soils down to the bedrock interface.

13. Removal of USTs (if encountered) and closure of petroleum spills (if evidence of a new spill/leak is encountered during Site excavation) in compliance with applicable local, State and Federal laws and regulations;
14. Import of construction materials to be used for backfill in compliance with this plan and in accordance with applicable laws and regulations.

15. 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 onsite.

16. Collection and analysis of end-point samples to determine the performance of the remedy with respect to attainment of SCOs;

17. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations, if backfilling is necessary to complete construction;

18. As part of development, installation of a vapor barrier system beneath the building slab as well as behind foundation walls of the proposed building. The vapor barrier/waterproofing membrane will be comprised of a Grace Preprufe 300R, or OER approved equivalent;

19. As part of development, construction and maintenance of an engineered composite cover consisting of an 12-inch concrete building slab across the footprint of the new building;

20. Performance of all activities required for the remedial action, including permitting requirements and pretreatment requirements, in compliance with applicable laws and regulations.

21. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations;

22. Submission of a Remedial Action Report (RAR) that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the site boundaries, lists any changes from this RAWP, and if Track 1 SCOs are not achieved, describes all Engineering and Institutional Controls to be implemented at the site;

23. If Track 1 Unrestricted Use SCOs are not achieved, submission of an approved Site Management Plan (SMP) in the RAR for long-term management of residual contamination, including plans for maintenance, inspection and certification of Engineering and Institutional Controls and reporting at a specified frequency;

24. If Track 1 SCOs are not achieved, continued registration with an E-Designation at NYC Buildings Department. Establishment of Engineering Controls and Institutional Controls and management of these controls 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 Soil Cleanup Objectives (SCOs) for this project will be the Unrestricted Use Soil-Clean-up objectives in 6 NYCRR Part 375-6.8(a). 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 **Appendix 4**.

The location of planned excavation is shown in **Figure 4**.

Discrete contaminant sources (such as hotspots) identified during the remedial action will be horizontally and vertically identified by GPS. This information will be provided in the RCR.

Estimated Soil/Fill Removal Quantities

The total estimated quantity of soil/fill to be excavated and removed for off-site disposal is [19,255 ft^2 * 23.8 ft/27ft^3/yd^3] *1.34 tns/yd^3) = 22,743 tons An additional estimated quantity of 3,000 tons of shot-rock will also be removed.

The following table provides the estimated volume and mass of soils to be removed.

Volume and Mass per Interval

Interval	ft^2	ft^3	yds^3	Tons
0-4 ft	19255	77020	2853	3822
4-8 ft	19255	77020	2853	3822
8-23.8 ft	19255	304229	11268	15099
0-23.8 ft	19255	458269	16973	22744

The following table provides the estimated volume of soil per interval based on the SCOs.

Volume by Classification per Interval

	yds^3				
Interval	> IU	> CU	> RR	< UU	Total
0-4 ft	150	300	2403	0	2853
4-8 ft	0	1000	1853	0	2853
8-23.8 ft	0	0	0	11268	11268
	150	1300	4255	11268	16973

The following table provides the estimated mass of soil per interval based on the SCOs.

Mass by Classification per Interval

Tons

Interval	> IU	> CU	> UR	< UU	Total
0-4 ft	201	402	3219	0	3822
4-8 ft	0	1340	2482	0	3822
8-23.8 ft	0	0	0	15099	15099
	201	1742	5702	15099	22744

> IU	Concentration exceeds Industrial Use Standard, assume hazardous for disposal
> CU	Concentration exceeds Commercial Use Standard but less than IU
> UR	Concentration Exceed Unrestricted Restricted Use but less than CU
< UU	Meets Unrestricted Use Criteria

Approximately 7,645 tons of soils to be removed are expected to be impacted with regulated metals at concentrations that exceed the unrestricted use soil clean up objectives. The balance (15,099 tons) is non-impacted native soils being removed for construction of the new buildings.

Of the 7,645 tons of impacted materials, 201 tons contain regulate metals at concentrations exceeding the industrial use soil clean-up objective and are assumed to be hazardous (for lead) for disposal purposes based on TCLP anlaysis, 1,742 tons contain impacts greater than commercial use but less than industrial use, and 5,702 tons contain impacts that exceed the unrestricted use criteria..

The disposal locations for Site-derived impacted materials will be established prior to commencement of excavation activities and reported to the OER.

Disposal Facility	**Waste Type**	**Estimated Quantities (Tons)**
TBD	**Historic Urban Fill > IU-SCO**	**201**
TBD	**Historic Urban Fill > CU-SCO**	**1742**
TBD	**Historic Urban fill >**	**5702**

	UU-SCO	
TBD	**Native Soils < UU-SCO**	**15099**

End-Point Sampling

Removal actions under this plan will be performed in conjunction with remedial end-point sampling if bedrock is not encountered at the base of excavation. If all on-site soils are excavated for development purposes, end point samples will not be required. The recommended end-point sampling frequency presented in NYSDEC's DER-10 – Technical Guidance for Site Investigation and Remediation, dated May 3, 2010, is one bottom sample per 900 square feet of excavation and one sidewall sample per 30 linear feet of excavation perimeter. Based on the site area of approximately 20,000 square feet, six bottom confirmation samples are warranted. A map of end-point sampling locations is provided in Figure 6. For comparison to Track 1 SCOs, analytes will include VOCs, SVOC, pesticides, PCBs and metals according to analytical methods described below.

Hot-spot removal actions, whether established under this RAWP or identified during the remedial program, will be performed in conjunction with post remedial end-point samples to ensure that hot-spots are fully removed. Analytes for end-point sampling will be those parameters that are driving the hot-spot removal action and will be approved by OER.

Frequency for hot-spot end-point sample collection is as follows:

For excavations less than 20 feet in total perimeter,

a. At least one base sample and one sidewall sample biased in the direction of surface runoff.

For excavations 20 to 300 feet in perimeter:

b. 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.

c. 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.

d. For sampling of VOCs, base 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 collected after 24 hours should be collected at six to twelve inches.

For contaminated soil removal, post remediation soil samples for laboratory analysis should be collected 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 end-point 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-remediation samples should be biased toward locations and depths of the highest expected contamination.

New York State Department of Environmental Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified labs will be used for all confirmation and end-point sample analyses. Labs performing confirmation and end-point sample analyses will be reported in the RAR. The RAR will provide a tabular and map summary of all confirmation and end-point sample results and will include all data including non-detects and applicable standards and/or guidance values. End-point samples will be analyzed for compounds and elements as described above utilizing the following methodology:

Soil analytical methods will include:

- Volatile organic compounds by EPA Method 8260;
- Semi-volatile organic compounds by EPA Method 8270;
- Target Analyte List metals by EPA 6010, 6020, 7470, and 7471; and,

- Pesticides/PCBs by EPA Method 8081/8082.

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

Quality Assurance/Quality Control

Quality Assurance/Quality Control (QA/QC) sampling will performed for all post excavation samples in accordance with the NYS ASP-CLP protocol. Trip Blanks, one blind duplicate sample, appropriate MS/MSD duplicates, and field blanks and equipment blanks if needed, will be collected for each sample delivery group (SDG) for each environmental media for each analytical method. A completeness check of the analytical data packages and review QA/QC observations and deficiencies. Data Usability Summary Reports (DUSRs) will be prepared by an independent chemist for each SDG collected to validate the data and demonstrate the completeness of the remedial action

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 degrees Celsius.

Dedicated disposable sampling materials will be used for the collection endpoint samples, eliminating the need to prepare field equipment blanks. However, if non-disposable equipment is used, (stainless steel scoop, etc.) field blanks will be prepared at the rate of 1 for every 20 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

- 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.

Import and Reuse of Soils

No soils will be imported or reused on site as fill except that needed for construction of the building subgrade infrastructure. Construction materials will meet the specifications include in the building design plans for grain-size and chemical quality. All earth materials imported for on-site use will be secured from a NYS permitted 420 facility or the equivalent.

The specifications for imported materials will be submitted to OER prior to importation and use on-site.

4.3 Engineering Controls

The excavation required for the proposed site development and the delineated hot-spot removal will achieve Track 1 SCOs. No engineering controls are required to address residual contamination at the site. However, the following elements will be incorporated into the foundation design, as part of development; composite cover system and soil vapor barrier.

If Track 1 is not achieved, these two elements will constitute the Engineering Controls that will be employed in the remedial action to address residual contamination remaining at the site.

Composite Cover System

Potential exposure to residual soil/fill will be prevented by the removal of the on-site overburden down to competent bedrock and installation of an engineered, composite cover system consisting of a minimum 12-inch thick reinforced concrete floor slab keyed into the bedrock to be built on the site. The composite cover system is 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 cover system will be described in the Site Management Plan in the RAR. .

Vapor Barrier

Migration of soil vapor from offsite in the future will be mitigated with a combination of building slab and vapor barrier. A seamless waterproofing/vapor barrier system will be incorporated as part of the foundation construction. Site development plans include a waterproofing membrane (W.R. Grace & Co. Construction Products, Inc. Preprufe and Bituthene, or equivalent) installed underneath the cellar floor slab and along the sub-grade exterior of the foundation walls. The membrane will also function as a vapor barrier that provides complete protection against vapor infiltration into the building.

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 Remedial Action Report will include photographs of the installation process, PE/RA certified letter on letterhead from the primary contractor responsible for installation oversight and field inspections, and a copy of the manufacturer's certificate of warranty.

Design diagrams and specifications for the vapor barrier and waterproofing membrane systems are provided in **Appendix 5.** The extent of the proposed vapor barrier membrane is provided in **Figure A5-1. Figure A5-2** shows the typical design and location for the cover system, respectively.

4.4 INSTITUTIONAL CONTROLS

Institutional Controls are not required on sites that achieve Track 1 Remedial Action. If Track 1 SCOs are not achieved, Institutional Controls (ICs) will be 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 would be implemented under a site-specific Site Management Plan (SMP) that will be included in the RAR.

Institutional Controls for this remedial action would be:

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

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

- Submittal of an SMP in the RAR for approval by OER that provides procedures for appropriate maintenance, inspection and certification of ECs and ICs. The 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 at a frequency to be determined by OER in the SMP and will comply with RCNY §43-1407(l)(3).
- Vegetable gardens and farming on the site are prohibited in contact with residual soil materials;
- 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;
- 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 not required for Track 1 remedial actions. However, if Track 1 SCOs are not achieved, Site Management will be 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 SMP describes appropriate methods and procedures to ensure implementation of all ECs and ICs that are required by the E-Designation and this RAWP. The SMP 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 by the E-Designation and the Site Management Plan are implemented.

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 the NYC OER. This includes a plan for: (1) implementation of EC's and ICs; (2) implementation of monitoring programs; (3) operation and maintenance of EC's; (4) inspection and certification of EC's; and (5) reporting.

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 the NYC OER. The SMP will be based on a calendar year and certification reports will be due for submission to the NYC OER by July 31 of the year following the reporting period.

4.6 QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT

The objective of the qualitative exposure assessment is to identify potential receptors and pathways for human exposure 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 QHHEA 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.

Known and Potential Sources

Historic fill material is present at the site from grade to maximum depth of about 8 feet. Based on the results of the RIR, the contaminants of concern found are:

Soil:

- VOCs – acetone exceeded Unrestricted Use SCO
- SVOCs including; (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene, exceeded Restricted Residential Use SCOs.
- Metals - arsenic, barium, cadmium, copper, lead and mercury exceeded Restricted Residential SCOs;

Groundwater:

- VOCs including 1,1-dichloroethane, cis-1,2-Dichloroethylene, methyl tert-butyl ether (MTBE), and vinyl chloride were detected above GQS
- One SVOC, 2-methylnaphthalene was detected above GQS;
- Metals, including aluminum, magnesium, manganese, and sodium, exceeded their respective GQS

Soil Vapor:

- 1,1,1-Trichloroethane was detected at a max of 27 ug/m^3.
- Carbon tetrachloride was detected at a max of 0.67 ug/m^3.
- PCE was detected at a max of 7.9 ug/m^3
- TCE was detected at a max of 17 ug/m^3.
- **Nature, Extent, Fate and Transport of Contaminants**

Data compiled during the RI confirms the presence of SVOCs and metals in historic fill at concentrations above the Track 1 SCOs from surface grade to depths ranging from 2 to 17 feet bgs. The vertical extent of lead and mercury-impacted soil was delineated in the XRF survey and is limited to near surface impacts in two approximately 600 ft^2 areas of the site in the upper 0-4 foot interval.

The absence of evidence for lead and mercury impacts in groundwater samples indicates that mercury is immobile at the hot spot location. The detection of SVOCs and the dissolved metals magnesium, manganese, selenium, and sodium in groundwater samples at concentrations above the AWQS is attributable to multiple possible sources, including historic fill and surface water infiltration. These factors constitute regional conditions that are not consistent with the off-site migration of contaminants from soil. The removal of historic fill during site development will eliminate potential on-site sources of SVOCs, metals, and pesticides.

Potential Routes of Exposure

The five elements of an exposure pathway are: (1) a constituent source; (2) constituent 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 are documented. A potential exposure pathway exists when any one or more of the elements cannot be documented. An exposure pathway may be eliminated from further evaluation when any one of the elements has not existed in the past, does not exist in the present, and will not exist in the future. Three potential primary routes exist by which chemicals can enter the body:

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

Current and future environmental site conditions (i.e., development as a high-rise hotel) indicate no plausible on- or off-site pathways for oral, inhalation, or dermal exposure to contaminants derived from the site. Potential exposure pathways may exist via ingestion, inhalation or dermal exposures to site workers during the remedial action. During the remedial action, on-site exposure pathways will be eliminated by preventing access to the site, through implementation of soil/materials management, dust control measures, employment of a Community Air Monitoring Plan (CAMP) and implementation of a Construction Health and Safety Plan (CHASP). The CAMP is included as **Appendix 6** and the CHASP is included as **Appendix 7**.

Existence of Human Health Exposure

An exposure pathway begins with a source and mechanism of contaminant release, resulting in the contamination of a receiving matrix (environmental medium). A complete exposure pathway also requires a point of potential contact with the contaminated matrix (i.e., exposure point), an exposure route (i.e., inhalation, ingestion, or dermal contact), and a receptor population. If an exposure pathway is not complete because it does not include a contaminated matrix, a point of potential contact, an exposure route, or a receptor, then no risk exists.

Current Conditions: The potential for exposure to surficial historic fill is limited because entire property is covered with an asphalt parking lot. Groundwater is marginally contaminated but is not exposed at the Site, and because the Site is served by the public water supply and groundwater use for potable supply is prohibited, groundwater is not used at the Site. Since there is currently no building onsite, except for a small parking attendant kiosk, the exposure pathway for soil vapor is incomplete.

Construction/Remediation Activities: Once redevelopment activities begin, construction workers may come into direct contact with impacted historic fill or soil. On-Site construction workers could potentially ingest, inhale, have dermal contact or have contact via the eyes with impacted historic fill or soil. Off-Site receptors could potentially inhale dust particulates or vapor from impacted historic fill or soil that could emanate off the Site. During construction, potential on-Site and off-Site exposures to particulates from impacted material on the Site will be addressed through a Soil/Materials Management Plan, dust controls, and through the implementation of both a Community Air Monitoring Program and a Construction Health and Safety Plan.

Proposed Future Conditions: Under future remediated conditions, all soils in excess of Track 1 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. There are no plausible off-Site pathways for ingestion, inhalation, or dermal exposure to contaminants derived from the Site under future conditions. There are no plausible off-Site pathways for ingestion, inhalation, or dermal exposure to constituents derived from the Site under future conditions.

Receptor Populations

During construction activities, potential on-Site receptors are construction workers performing the remedial construction, visitors, site representatives, trespassers, and any Site security personnel. Potential off-Site receptors within a 0.25-mile radius of the Site include commercial and construction workers, pedestrians, children, and nearby residents based on the following:

1. Commercial Business (up to 0.25 mile)
2. Residential Buildings (up to 0.25 mile)
3. Construction Sites (up to 0.25 mile)
4. Pedestrians, Cyclists (up to 0.25 mile)
5. City Parks (up to 0.25 mile)

Overall Human Health Exposure Assessment

The proposed development will consist of the construction of 10-story residential apartment building with 2 cellar sub-grade level2. The sub-cellar level top-of-slab will be at approximately 26 ft bgs. Soil and fill material containing concentrations above Track 1 SCOs will be removed during site development, eliminating the threat to human health and the environment. Additionally, the impermeable cap (i.e., the proposed development building slab) and vapor barrier will eliminate potential threats to human health via residual historic fill, groundwater and soil vapor.

There are potential complete exposure pathways for the current site condition. There is a potential complete exposure pathway that requires mitigation during implementation of the remedy. There is no complete exposure pathway under future conditions after the site is developed. This assessment takes into consideration the reasonably anticipated use of the site, which includes a commercial hotel, site-wide impervious surface cover cap, and a subsurface vapor barrier system for the building. 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.

Under current conditions, on-Site exposure pathways exist for those given access to the Site or trespassers. Workers on site during excavation activities may be exposed to hazardous substances from historic fill and/or dust. Excavation for site development may result in short-term exposure to historic fill by individuals involved in excavation activities involving this media. Although it is possible for contaminated soil to become airborne in the form of fugitive dust during the excavation work, on-Site and off-Site exposures to impacted dust from historic fill and petroleum impacted fill will be addressed through dust and vapor control and the implementation of the Community Air Monitoring Program, the Soil/Material Management Plan, and a Construction Health and Safety Plan. After the remedial action is complete, there will be no remaining exposure pathways to on-Site soil/fill, as all soil above Track 1 Unrestricted Use SCOs will have been removed and the vapor barriers system will have been installed as part of the development.

5.0 REMEDIAL ACTION MANAGEMENT

5.1 Project Organization and Oversight

Principal personnel who will participate in the remedial action include:

- Larry Greenberg, Centaur Properties, LLC: Owner Rep;
- Dan Stone, P.E., The Chazen Companies: Principal-in-Charge;
- Kevin McGrath, PG, CPG, QEP, The Chazen Companies: Project Manage, Senior Technical Lead, QA/QC;
- Scott Schmit; Chazen; Field Team Leader, Environmental Monitor, Site Environmental Safety Officer (HAZWOP SSO);
- Sean Martin et.al.; Chazen, on-site Environmental Technician;
- Excavation and Transportation: Veritas Services, Inc;
- Disposal: (TBD); and,
- Laboratory Analytical services. York Laboratories, Stratford, CT.

The Professional Engineer (PE) is Dan Stone and Qualified Environmental Professionals (QEP) for this project is Kevin P. McGrath.

5.2 Site Security

Site access will be controlled by gated entrances to the fenced property.

5.3 Work Hours

The hours for operation of remedial construction will be from 7 am to 6 pm Monday-Friday. These hours conform to the New York City Department of Buildings construction code requirements.

5.4 Construction Health and Safety Plan

A site-specific Construction Health and Safety Plan (CHASP) is included in **Appendix 7**. The plan includes full details for compliance with the Health and Safety requirements of Chapter 33 of the NYC Building Codes, 29 CFR 1926.1 (general construction), and 29 CFR 1910.120 (hazardous waste operations). The Site Safety Coordinator will be Mr. Tom Zagrafos.

Remedial work performed under this RAP 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 CHASP and applicable laws and regulations. The CHASP pertains to remedial and invasive work performed at the Site until the issuance of the Notice Of Satisfaction.

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. At a minimum, the Site Safety Officer must also have OSHA 8-hour site supervisor training certification and will be responsible for maintaining workers' training records.

Personnel entering any exclusion zone will be trained in the provisions of the CHASP and be required to sign the CHASP acknowledgment. Site-specific training will be provided to field personnel. Additional safety training may be added depending on the tasks performed. Emergency telephone numbers will be posted at the site location before any 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 CHASP. 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 recovery wells.

Periodic monitoring for VOCs during non-intrusive activities is not required. No evidence of significant VOC concentrations have been identified on-site except in the groundwater. Dewtering activities will remove the on-site groundwater prior to excavation activities below the static water level estimate at 11 feet below grade.

Exceedences 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.

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 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 remediation and construction have been or will be obtained prior to the start of remediation and construction. Acceptance of this RAP 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.

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 RAP. 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 RAP.

Dewatering

Dewatering activities will be performed commencing immediately after installation of the sheet pile barrier wall and groundwater collection sump.

A dewatering sump consisting of a filter fabric wrapped 24" minimum outer diameter slotted corrugated steel pipe will be installed near the northeastern most corner of the site. The sump will be fitted with a submersible pump capable of producing a maximum of 50 gallons per minute (72,000 gallons per day). Groundwater will be pumped directly from the sump into an 21,000 gallon capacity frac-tank with two internally partitioned areas.

Water from the frac-tank will be treated prior to discharge using a NYC DEP IPPC approved treatment system consisting of a portable skid-mounted filter bag system to remove suspended solids with three granular activated carbon (GAC) units to remove VOCs and associated transfer pumps.

Treated water will be discharged directly to the combined sewer system located on the 28th street side of the property via an existing (currently capped) sewer connection under a NYC DEP discharge permit.

A copy of the discharge permit and all system testing and monitoring data will be submitted to OER in the RAR.

Equipment and Material Staging

Equipment and materials will be stored and staged in a manner that complies with applicable laws and regulations. The location of proposed equipment and material staging areas, truck inspection station, stockpile areas, and other pertinent remedial management features is included as **Figure 4**.

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 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 extreme storm event, the enrollee and/or their contractor will undertake the following steps for site preparedness prior to the event and response after the event.

Storm Preparedness

Preparations performed by the enrollee and/or their contractors 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, hay bales; clean storm sewer filters and traps; and secure and protect pumps and hosing.

Storm Response

At the conclusion of an extreme storm event, as soon as it is safe to access the property, a complete inspection of the property will be performed by the enrollee and/or their contractors. 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.

a. 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.

b. Petroleum spills will be reported to NYSDEC‘s spill hotline at DEC 800-457-7362 within 2 hours of identification by any party with such knowledge of said release and consistent with State regulations. Emergency and spill conditions will also be reported to OER.

c. Public safety structures, such as construction security fences will be repaired promptly to eliminate public safety threats.

d. Debris will be collected and removed.

e. Dewatering will be performed in compliance with existing laws and regulations and consistent with emergency notifications, if any, from proper authorities.

f. Eroded areas of soil including unsafe slopes will be stabilized and fortified.

g. Dislocated materials will be collected and appropriately managed.

h. Support of excavation structure will be inspected and fortified as necessary.

i. Impacted stockpiles will be contained and damaged stockpile covers will be replaced.

j. Storm-water control systems and structures will be inspected and maintained as necessary.

k. 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 off-site areas may require characterization based on site conditions, at the discretion of OER.

l. If onsite petroleum spills are identified, a qualified environmental professional will be notified by the enrollee or contractor and this professional will determine the nature and extent of the spill. If the source of the spill is ongoing and can be identified, it should be stopped if this can be done safely. Potential hazards will be addressed immediately, consistent with guidance issued by NYSDEC.

Storm Response Reporting

A site inspection report will be prepared by enrollee and/or their contractor(s) and 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 on-site or off-site exposure pathways caused by the storm; presence of petroleum or other spills and status of spill reporting to NYSDEC; description of corrective actions; schedule for corrective actions. This report should be completed and

submitted to OER project manager with photographs within 24 hours of the time of safe entry to the property after the storm event.

5.8 Traffic Control

Drivers of trucks leaving the Site with soil/fill will be instructed to proceed without stopping in the vicinity of the site to prevent neighborhood impacts. The planned route on local roads for trucks entering an/or leaving the site is:

Inbound:

From North: Route 9A to 29th Street to 11th Ave to 28th Street to Site

From South: Route 9A to 28th Street to Site.

Outbound:

To North: 27th Street to Route 9A.

To South: 27th Street to 11th Ave to 24th Street to 9A.

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 Field Reports (DFRs) 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;
- 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 RAP or other sensitive or time critical information. However, such information will be included in the daily reports. Emergency conditions and changes to the RAP will be communicated directly to the OER project manager by personal communication. Daily reports will be included as an Appendix in the RCR.

An alpha-numeric site map (grid) will be used to identify locations described in reports submitted to OER and is shown in **Figure 5**.

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 RCR 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 Plan

All changes to the RAP will be reported to the OER Project Manager and will be documented in daily reports and reported in the RCR. The process to be followed if there are any deviations from the RAP will include a request for approval for the change from OER noting the following:

- Reasons for deviating from the approved RAP;
- 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.

5.13 DATA USABILITY SUMMARY REPORT

- The primary objective of a Data Usability Summary Report (DUSR) is to determine whether or not data meets the site specific criteria for data quality and data use. The DUSR provides an evaluation of analytical data without third party data validation. The DUSR for end-point samples collected during implementation of this RAWP will be included in the RAR.

6.0 REMEDIAL CLOSURE REPORT

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

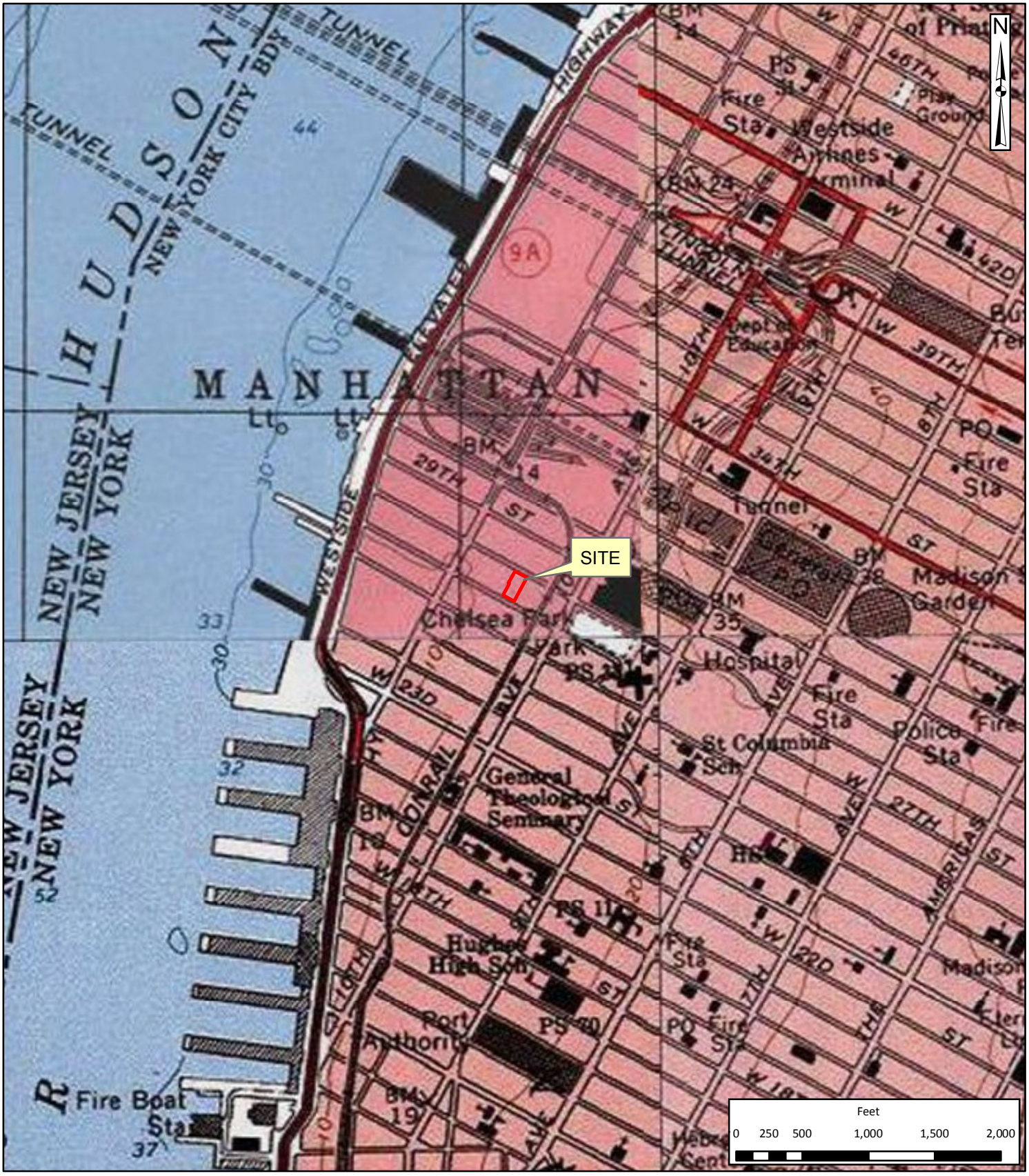
- Information required by this RAP;
- As-built drawings for all constructed remedial elements, required certifications, manifests and other written and photographic documentation of remedial work performed under this remedy;
- [NOT APPLICABLE] Site Management Plan;
- Description of any changes in the remedial action from the elements provided in this RAP and associated design documents;
- Tabular summary of all sampling results and all material characterization results, and other sampling and chemical analysis performed as part of the remedial action;
- 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.
- Reports and supporting material will be submitted in digital form.

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 two month active remediation period is anticipated with an additional 1-2 months required to complete construction of the subgrade infrastructure for the new building and one month to complete the Remedial Closure Report.

Schedule Milestone	Weeks from Remedial Action Start	Duration (weeks)
OER Approval of RAP	0	-
Initial Mobilization	4	4 weeks From OER approval
Remedial Action Removal Phase	8	5 weeks
Interim Report	13	1
Sub-grade Construction Phase	14	5
Demobilization (removal phase infrastructure and equipment only)	19	1
Submit Remedial Closure Report	23	4 weeks from demobilization

FIGURES



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Dutchess County Office:
21 Fox Street, Poughkeepsie, NY 12601
Phone: (845) 454-3980

Capital District Office:
547 River Street, Troy, NY 12180
Phone: (518) 273-0055

North Country Office:
375 Bay Road, Queensbury, NY 12804
Phone: (518) 812-0513

Centaur Properties - Chelsea Site

Figure 1a - Site Location Map

530 West 28th Street
Borough of Manhattan, New York County, New York

Source: USGS topographic maps of the Brooklyn NY, Central Park NY-NJ, Weehawken NJ-NY and Jersey City NJ-NY quadrangles, dated 1967 (Photorevised 1979), 1966 (Photorevised 1979), 1967 (Photorevised 1981) and 1967 (Photorevised 1981) respectively, 7.5-minute series; NYS Department of Transportation 2008 roads dataset; New York City Department of Finance 2012 tax parcel data.

Drawn:	EJO
Date:	October 2013
Scale:	As Noted
Project:	91337.00
Figure:	1a

Map Document: (R:\0\standards\Gis\ChazenGIS\8X11P_MinimalChazenAddress.mxt)
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Centaur Properties - Chelsea Site

FIGURE 1b - **Orthophoto Map**

530 West 28th Street
Borough of Manhattan, New York County, New York

Source: USGS topographic maps of the Brooklyn NY, Central Park NY-NJ, Weehawken NJ-NY and Jersey City NJ-NY quadrangles, dated 1967 (Photorevised 1979), 1966 (Photorevised 1979), 1967 (Photorevised 1981) and 1967 (Photorevised 1981) respectively, 7.5-minute series; NYS Department of Transportation 2008 roads dataset; New York City Department of Finance 2012 tax parcel data.

Drawn:	EJO
Date:	October 2013
Scale:	As Noted
Project:	91337.00
Figure:	1b

Map Document: (R:\0\standards\Gis\ChazenGIS\8X11P_MinimalChazenAddress.mxt)
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ZONING ANALYSIS

PROJECT LOCATION:

526 WEST 28TH STREET, NY, NY 10001
BOROUGH OF MANHATTAN, STATE OF NEW YORK
BLOCK 699, LOT 49

ZONING DISTRICT: C6-3
WEST CHELSEA SPECIAL DISTRICT SUBAREA 'B'

ZONING MAP: 8B

MANHATTAN COMMUNITY DISTRICT: CD-4

FLOOR AREA RATIO (FAR) (ZR 98.20)
MAX. FAR ALLOWED: 5.0

LOT AREA:
(98.75 x 100)+(98.75 x 95= 19,232.50 x 5 = 96,162.5 SQFT

HEIGHT LIMITATIONS

TOTAL ALLOWED AREA

MIN BASE HEIGHT = 60'-0"
MAX. BASE HEIGHT = 95'-0"
MAX. BLDG HEIGHT = 135'-0"

PROPOSED USE GROUPS:

USE GROUP 2-A MULTI-FAMILY RESIDENTIAL APARTMENTS

USE GROUP 6-A RETAIL
USE GROUP 6-C COMMERCIAL ART GALLERY

YARDS (ZR 98.40):
SIDE YARD NOT REQUIRED
REAR YARD EQUIVALENT 60'-0" REQUIRED*

BUILDING HEIGHT (ZR-98-423):
MAXIMUM BUILDING HEIGHT = 135 FT.

SETBACKS (ZR-98-423):
INITIAL SETBACK 15'-0" NARROW STREET

SKY EXPOSURE (ZR-98-423):
NARROW 1:2.7

BUILDING CODE ANALYSIS

BUILDING CODE:
2008 BUILDING CODE OF THE CITY OF NEW YORK

PARKING REQUIREMENTS
TOTAL NUMBER OF RESIDENTIAL UNITS = 36
TOTAL RETAIL AREA (SQFT) = 10,788 SQFT

ZR-36-33- RETAIL (25-23)

REQUIRED PARKING = MINIMUM 40% OF UNITS

ZR-13.00 -(OFF STREET PARKING REQUIRED IN C.D. 1-8 IN MANHATTAN)
ZR-13.01 - MOST RESTRICTIVE PROVISIONS APPLY FOR PARKING.
FEWER NUMBER OF PARKING SPACES
ZR-13.12 - AREA SOUTH OF 60th STREET - PARKING SPACES SHALL NOT
EXCEED 20% OF DWELLING UNITS
ZR-13.36 - SPECIAL PERMIT - ACCESSORY OFF STREET PARKING
SPACES (SEE PROVIDED PROVISION (a) - (e) FOR APPROVAL)

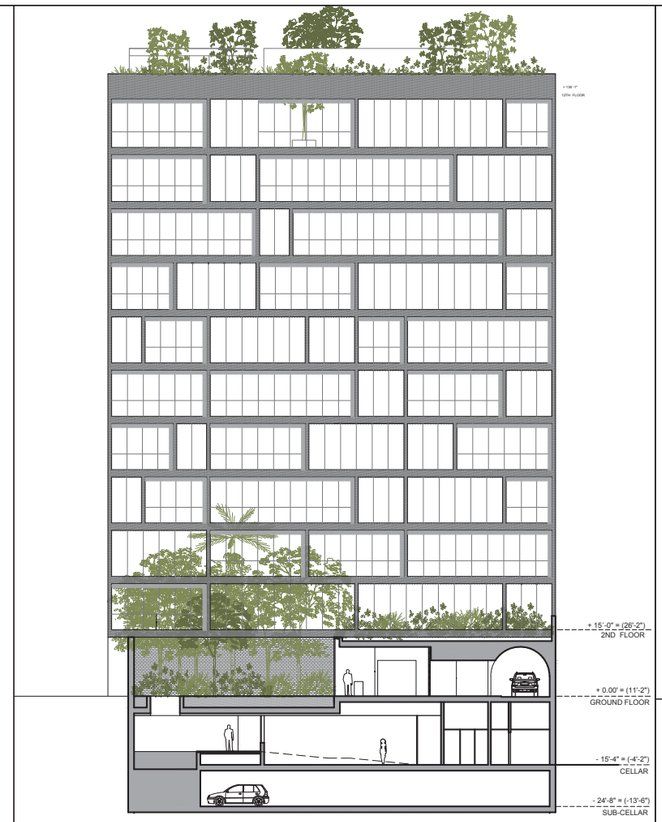
(e) - REQUIRED RESERVOIR - 20% OF 36 = 8 CARS (SEE 1ST FLOOR PLAN)

LEGEND

ARCHITECTURAL ELEVATION — 0.00' = (-0'-0") FIRST FLOOR — TRUE ELEVATION

1 ZONING INFORMATION

SCALE: 1/8"=1'-0"



4 CROSS SECTION

SCALE: 1/16"=1'-0"

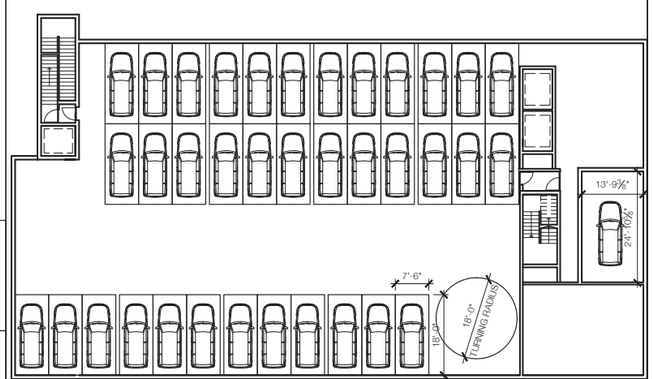
5 CROSS SECTION

SCALE: 1/16"=1'-0"

PROJECT INFORMATION
Centaur Properties LLC
530 West 28th Street
New York, NY 10001

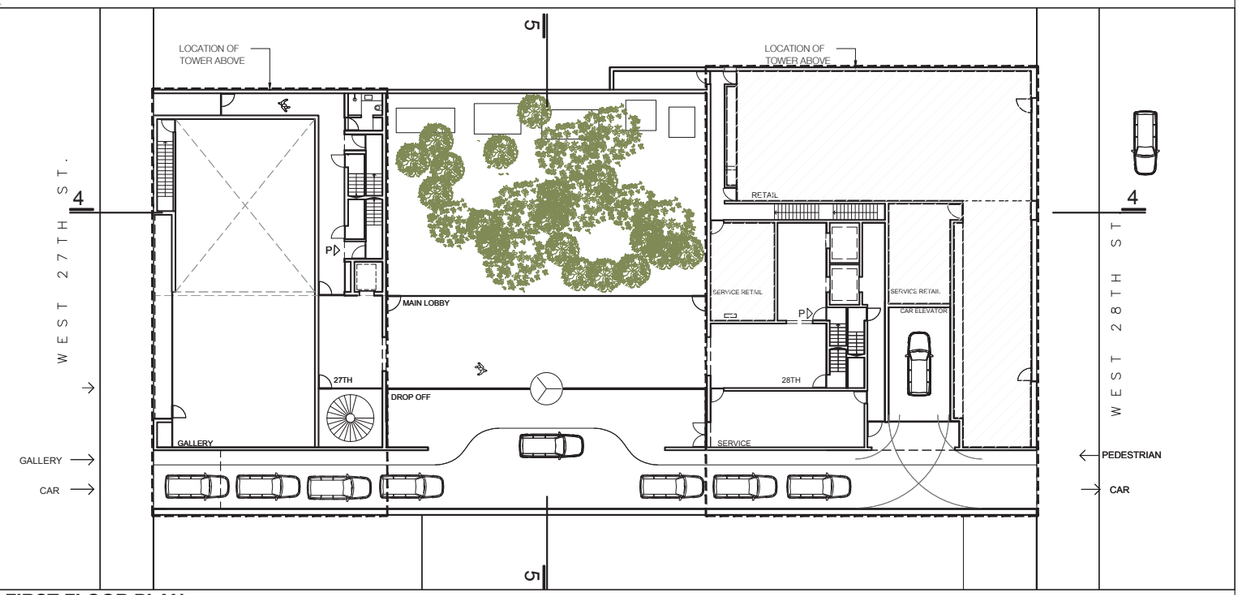
PARKING ANALYSIS
DATE: 12/24/13

SK-001



2 SUB-CELLAR PLAN

SCALE: 1/16"=1'-0"



3 FIRST FLOOR PLAN

SCALE: 1/16"=1'-0"

FIGURE 3
Surrounding Land Use

Map generated from NYC GIS Database

Zoning

Commercial Overlay


C1-1


C1-2


C1-3


C1-4


C1-5


C2-1


C2-2


C2-3


C2-4


C2-5

Zoning Districts

Zoning Districts Thematic

Residence District (Medium and Higher Density)

Residence District (Lower Density)

Commercial District

Mixed Use District

Manufacturing District

Battery Park City

Park

Environmental Designation

Primary Land Use

One & Two Family Residence

Multi-Family Residence (Walkup)

Multi-Family Residence (Elevator)

Mixed Residential & Commercial

Commercial Use

Industrial / Manufacturing

Transportation / Utility

Public Facilities and Institutions

Open Space & Recreation

Parking

Vacant Land

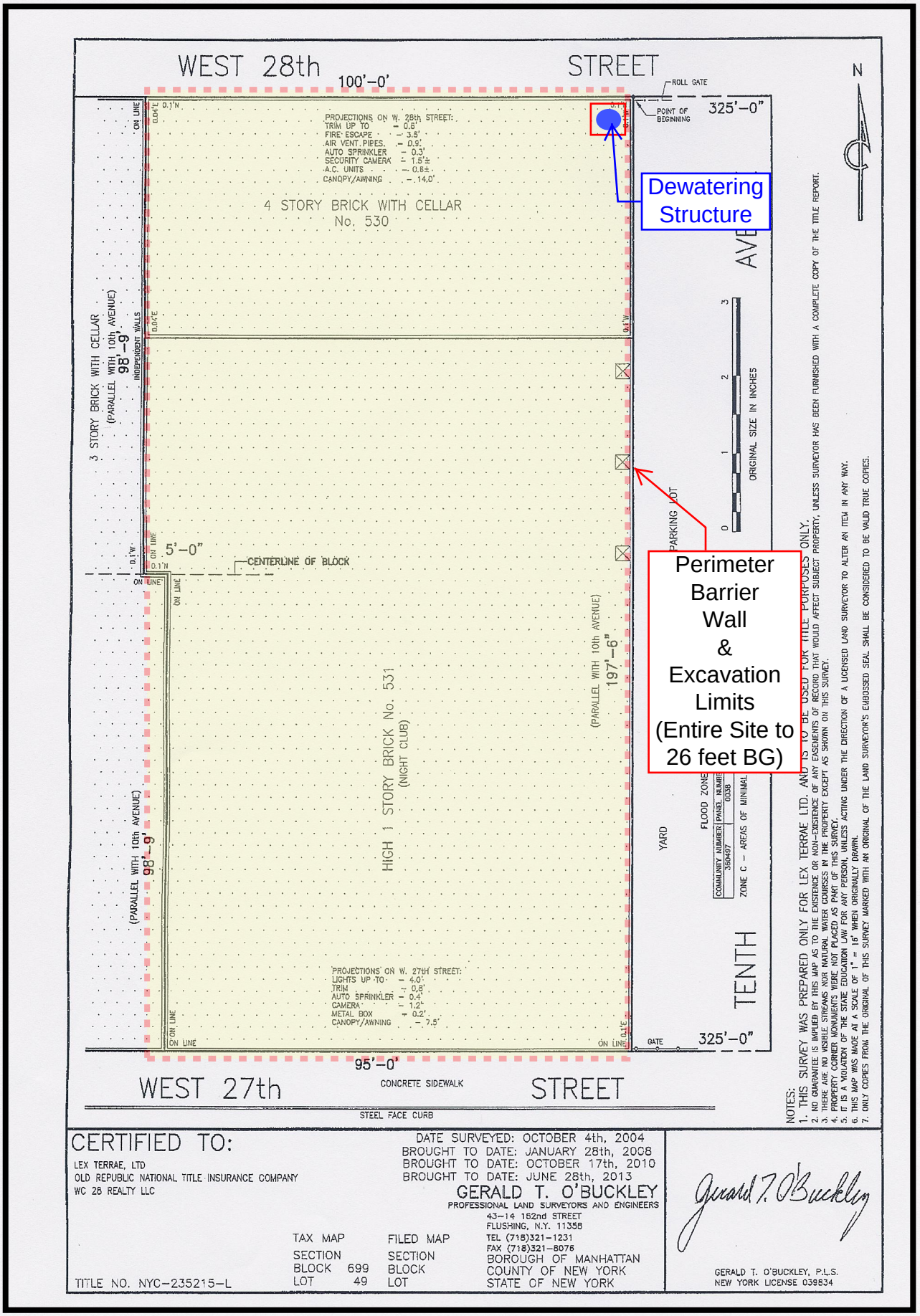


FIGURE 4: Site Excavation Limits

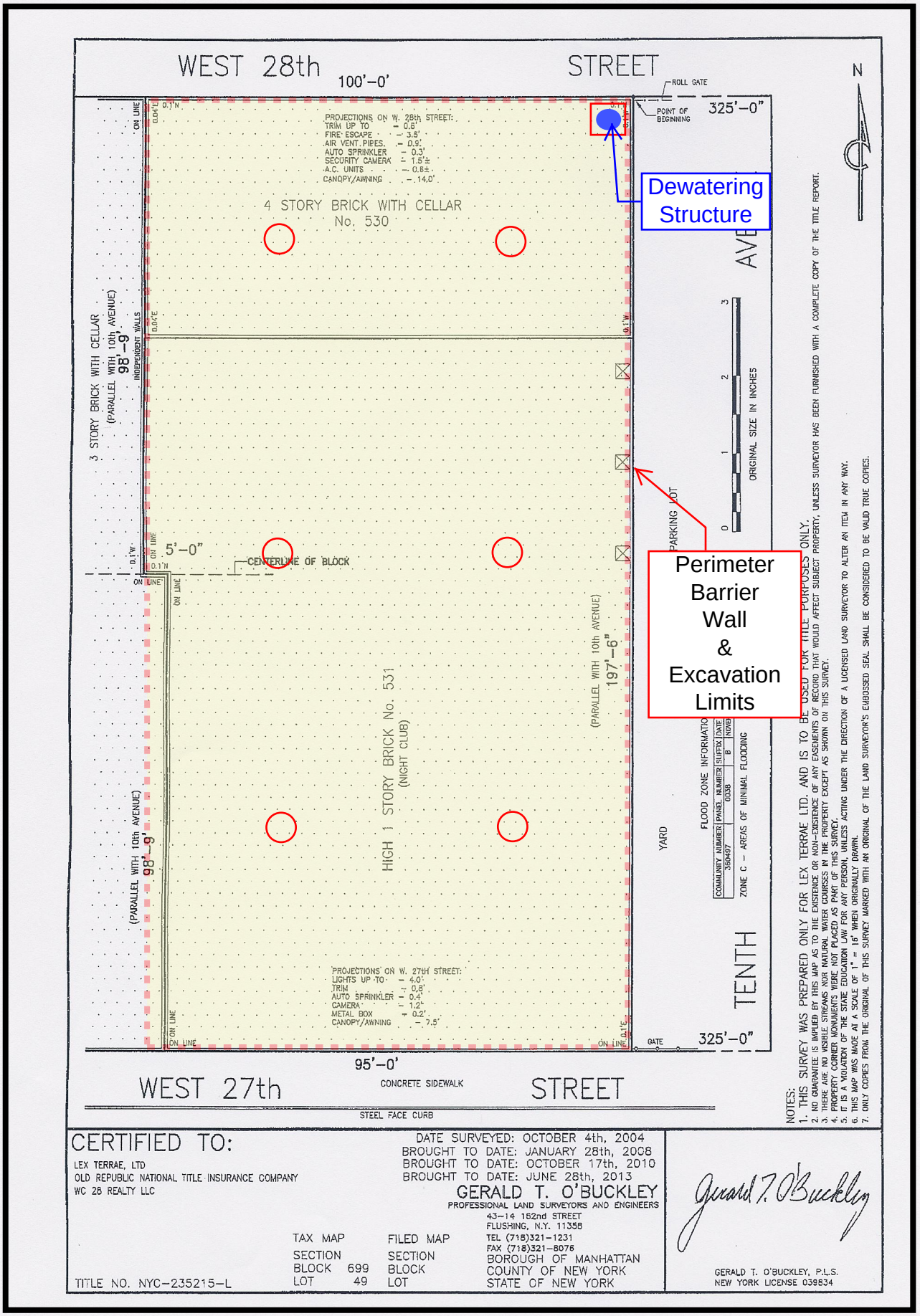


FIGURE 5: End Point Samples (if needed)

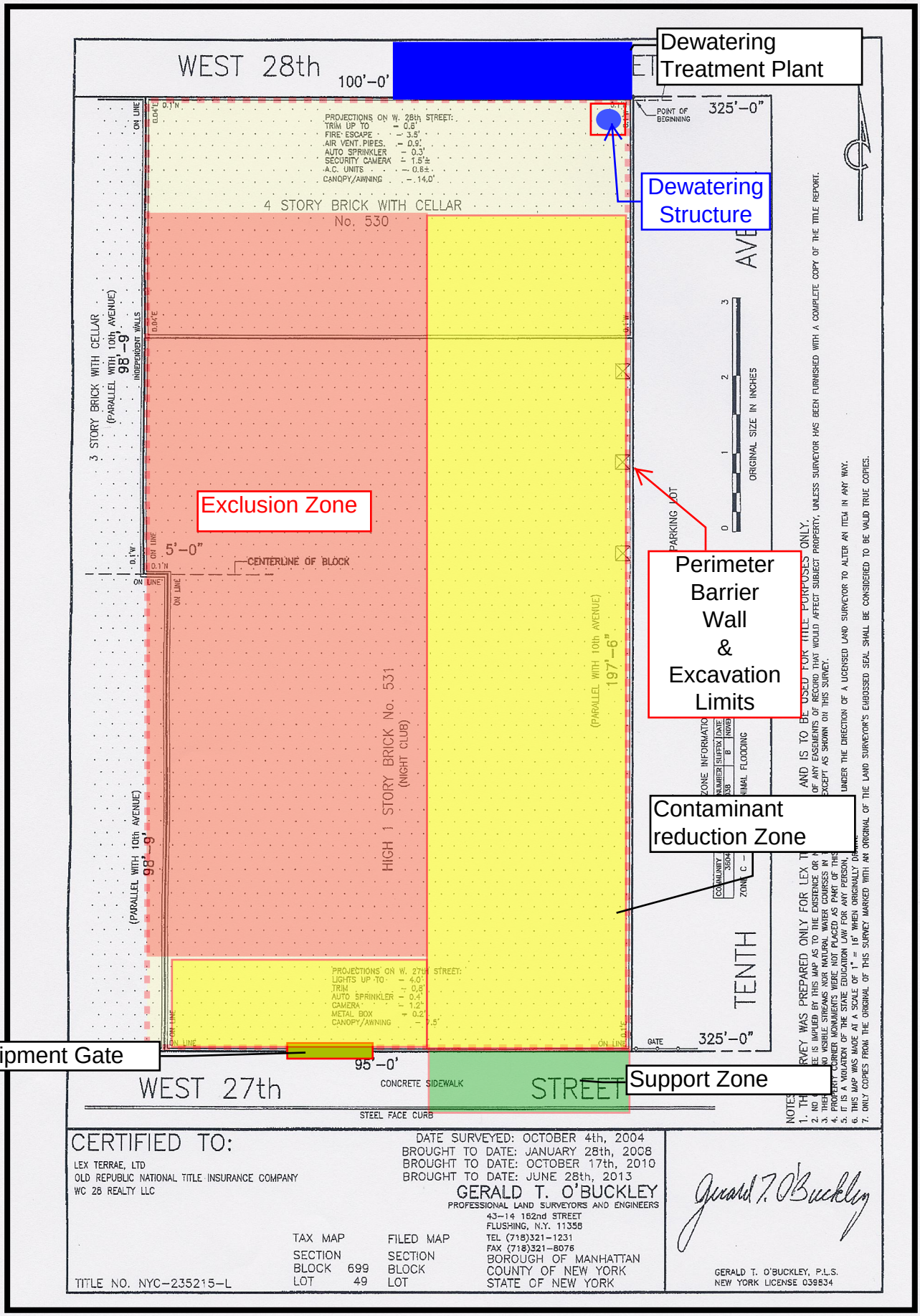


FIGURE 6: Equipment Layout

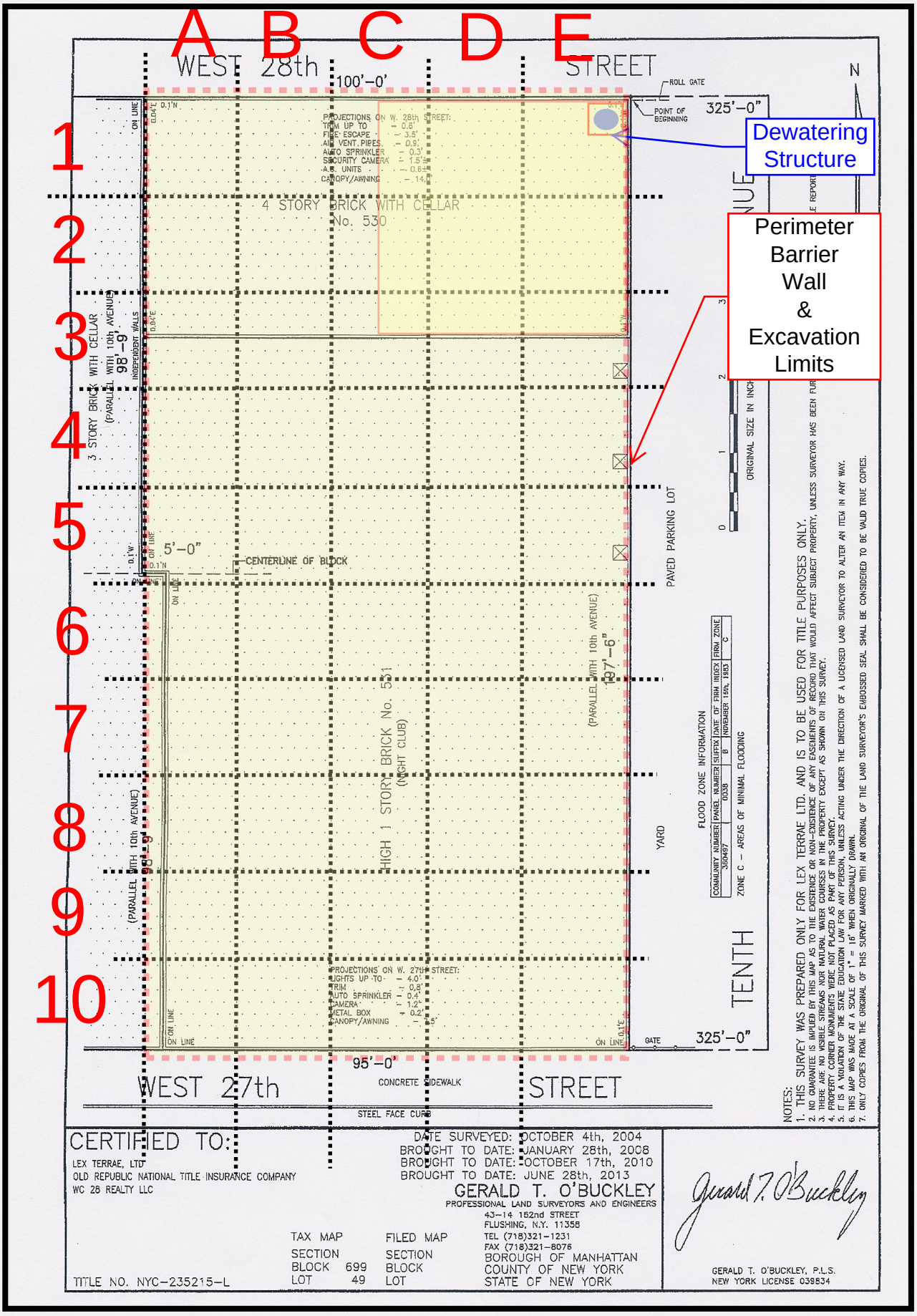


FIGURE 7: Site Control Grid

APPENDIX 1

Previous Environmental Investigations and Reports

MEMORANDUM

To: WC W28 Realty Project Team

From: Kevin P. McGrath

cc: Rebecca Bub, NYC OER

Date: May 13, 2103

Re: XRF Survey Results

Job #: 91337.00

OER Tracking Number: 14EHAN086M
OER Project Number: 14CVCP241M

The XRF survey was completed in May 1, 2014 and May 2, 2014 in general accordance with our plan. A total of XRF 35 soil screenings, two calibration/confirmation laboratory samples, and 2 TCLP waste profile samples were collected from the Site. The locations of each of the XRF samples and associated lab sample results are included on the attached site plan.

Based on the RIR, copper and lead were the targeted species of the supplemental investigation as both of these metals were identified in the urban fill at elevated concentrations. The concentration of lead and copper in the soils exceeded the unrestricted-use soil clean-up objectives (UUSCO) of 6 NYCRR 375-6.8(a) in one or more locations across the grid. The following table is a summary of the XRF results compared to the Soil Clean-up Objectives.

SCOs		Number Exceeding		Criteria
Lead	Copper			
> 5,000	NA	2	0	Exceeds Hazardous Waste Criteria
> 3,900	>10000	0	0	Exceeds Industrial Use Standards
> 1,000	>270	6	3	Exceeds Commercial Use Standards
> 400	> 270	13	0	Exceeds Residential Use
> 63	> 50	14	15	Exceeds Unrestricted
< 63	< 50.	0	17	Meets Unrestricted Use
	Total Screenings	35	35	

Note that Copper was not detected in the XRF screening samples, confirmatory totals analysis, or by TCLP at concentrations that exceeded the commercial use soil clean-up objectives (CUSCO) of 6 NYCRR 375-6.8(b). Additionally, the detected concentration of copper was less than the UUSCO in 17 of the 35 screening samples. Consequently, copper should no longer be considered a compound of concern or significant driver for remedial action. The remaining discussion will focus on the reported concentrations of lead and its implications to the planned remedial actions.

Two soil samples were submitted to the laboratory for TAL metals with TCLP extraction. A comparison of the ratio of the XRF results to the TCLP results for lead only and the calculated relative percent difference indicates a good correlation between the ratios of the XRF data and the TCLP lab results. This indicates that the raw XRF data can be used to determine the potential for the soils to exhibit hazardous concentrations of leachable lead. Raw XRF sample data that exceed 4,500 ppm are likely to indicate be hazardous concentrations (> 5 ppm) if tested by TCLP methods. For practical purposes, samples that exceed the Industrial Use Criteria of 3,900 ppm should be considered hazardous and managed appropriately.

Sample ID	XRF (mg/kg)	TCLP (mg/l)	Ratio	RPD
SS-04	58,273	62.9	0.0011	
SS-13	908	1.2	0.0013	20%

Two soil samples were submitted to the laboratory for totals TAL metals. A comparison of the XRF results to the Total Lead reported by the laboratory and the calculated relative percent difference indicates an excellent correlation for the XRF data in one sample (SS-28) a fair to poor correlation with the other (SS-29).

Sample	XRF	Total	RPD
SS-28	**5,055**	5320	5.1%
SS-29	346	690	66.3%

One pocket of soils with an estimated footprint of 100 yd^2 with concentrations that would likely exceed hazardous waste clean-up criteria was identified at and around the location of SS-04. Assuming a depth of impact of 4 feet, 150 cubic yards of materials from this area should be removed and assumed to be hazardous for off-site disposal.

Three pockets of impacted soils with a total footprint of 2,100 ft^2 were identified with concentrations that exceed the commercial use clean-up standards at and around the locations of SS-02, SS-03, and SS-07. Excavation and removal with off-site disposal of this material to a depth of 4 feet is recommended and would generate approximately 300 cubic yards of material that exceed the commercial use standards.

A review of the XRF data indicates that the average concentration of lead in the soils outside the limits of the delineated areas is 495 ppm which is only slightly higher than the Restricted Residential Use Criteria. With the exception of the pockets delineated, there does not appear to be impacted zones with significant areal extent. It is considered likely that lead would be detected anywhere in the upper four feet of urban fill at concentrations that could vary from 100 to 1,000 ppm.

For estimating the costs of excavation and disposal assume the following quantities of each type of material and an assumed density of 1.34 tons per cubic yard. Actual tonnage is determined by the receiving facility based on the weight at time of receipt and can vary based on actual density and moisture content.

Interval	ft²	yds²	yds ³	Tons	> IU	> CU	> RR	< UU
0-4	19255	77020	2853	3822	150	300	2403	0
4-8	19255	77020	2853	3822	0	1000	1853	0
8-26	19255	346590	12837	17201	0	0	0	12837

> IU Concentration exceeds Industrial Use Standard, assume hazardous for disposal

> CU Concentration exceeds Commercial Use Standard, non-hazardous for disposal

> RR Concentrations Exceed Restricted Residential Use:
May be acceptable to NYCOER soil bank or dispose of as non-haz, or
Can be disposed of off-site at permitted facility

UU Meets Unrestricted Use Criteria:
Soils may be reused on site
Soils may be acceptable to soil bank
May be used off-site as clean fill or beneficial use

Note: Acceptance to the soil bank is not guaranteed
Off-site use (other than soil bank) requires testing and certification
Beneficial use requires permission from NYSDEC

For off-site disposal and/or acceptance to the soil bank, confirmatory testing will be required by the receiving facility based on their specific testing requirements. As soon as practical, the potential receiving facilities and their testing requirements should be identified. The cost of required testing should be provided by the excavation contractor in their bid(s).

Per our previous discussions, the excavation plan should include a provision to excavate the site in four-foot lifts. Once a lift is nearly complete, the XRF scan will be repeated to assess the second lift before removal. If phased properly, this should result in no delay to the excavation work as the XRF will provide real-time data to direct the process. It is assumed that once the second lift has been removed, the final XRF scan will confirm the removal of the elevated lead concentrations in the impacted urban fill and the remedial action for the site will be essentially complete. Since the excavation will continue down to and beyond the bedrock interface, no confirmatory samples will be required to document/certify the completion of the remedial action. The waste profile samples and disposal manifests will be sufficient to document completion of the RAWP.

TC 9.70
BC 9.27

TC 9.81
BC 9.45

TC 10.08
BC 9.82

TC 10.22
BC 9.94

TC 10.45
BC 10.18

TC 10.59
BC 10.35

TC 10.79
BC 10.54

SEWER MH
RIM 9.83
INV. 0.92 RECORD

CL 10.07

CL 10.16

15" MASONRY SEWER PIPE 1867 AS PER RECORD

SEWER MH
RIM 10.32
INV. 1.32 RECORD

CL 10.64

15" MASONRY SEWER PIPE 1867 AS PER RECORD

CL 10.76

CL 10.86

SEWER MH
RIM 10.92
INV. 1.64 RECORD

ASPHALT ROADWAY

WEST 28TH STREET
(60' R.O.W.)

12" 1870 CAST IRON WATER PIPE

ELEC. BOX

TC 10.06
BC 9.84

TC 10.28
BC 10.01

TC 10.52
BC 10.00 STEEL FACED CONC. CURB

TC 10.62
BC 10.13

ELEC. BOX

TC 10.71
BC 10.04

TC 10.86
BC 10.24

DC 10.28 DEPRESSED CURB DC 10.36

VALVE
(UNABLE TO DETERMINE
TYPE COULD BE WATER)

CONCRETE SIDEWALK

LIGHTS ON SIDEWALK

BSW
10.47

14.89'

10.61
BSW

10.83
BSW

10.87
BSW

CONSTRUCTION FENCE ALONG FACE OF BUILDING

11.21
BSW

15.09'

11.14
BSW

11.20
BSW

325'-0"

BLDG
0.10' N
0.05' W

100'-0"

FF 10.98'

90°0'0"

90°0'0"

SS01

Basement Level
9 feet below grade
~ 2 ft AMSL

"Sample ID"	PB	CU
SS-01	632	48
SS-02	2,811	72
SS-03	1,653	113
SS-04	58,273	414
SS-05	888	328
SS-06	171	27
SS-07	3,870	94
SS-08	293	40
SS-09	916	88
SS-10	149	46
SS-11	695	50
SS-12	203	47
SS-13	908	506
SS-14	299	50
SS-15	888	60
SS-16	176	49
SS-17	286	0
SS-18	201	26
SS-19	336	38
SS-20	1,077	63
SS-21	920	63
SS-22	136	49
SS-23	311	32
SS-24	733	50
SS-25	958	39
SS-26	417	0
SS-27	400	43
SS-28	5,055	227
SS-29	346	30
SS-30	488	42
SS-31	333	54
SS-32	879	71
SS-33	389	52
SS-34	1,121	98
SS-35	1,078	45

TOP OF
PARAPET
49.50'

600 ft² > IU

98'-9"

SS17

SS09

SS25

SS33

SS02

SS23

SS10

SS26

SS32

300 ft ² > IU

SS18

SS08

SS16

1200 ft² > IU

3 STORY BRICK
#536

90°0'0"

BLDG
ON LINE N/S
0.11' W

5'-0"

SS03

SS22

SS11

BUILDING BEING DEMOLISHED
AT TIME OF SURVEY

197'-6"

BLDG
0.1' N
1.08' W

LOT 49, BLOCK 699

SS31

SS34

LOT AREA: 19,256.25
0.442± ACRES

SS24

SS19

SS07

SS15

SS27

SS30

SS35

600 ft² Haz material to 4
feet below grade = 80 yd³

TCLP

SS04

SS21

SS12

SS28

97'-8"

SS29

TOTAL

TOTAL

1.45' CLEAR

BULKHEAD
ON ROOF
EL. 69.24'

1.45' CLEAR

SS20

SS06

SS14

TCLP

SS05

SS13

BULKHEAD
ON ROOF
EL. 57.51'

0.89' CLEAR

TP 49.81'
COPING 50.16'

90°0'0"

10.66 FF

95'-0"

90°0'0"

BSW
9.37

BSW
9.54

BSW
9.72

BSW
10.11

CONSTRUCTION FENCE ALONG FACE OF BUILDING

BSW
10.22

BSW
10.36

BSW 10.38

UNABLE TO ATTAIN
BSW DUE TO CONSTRUCTION

GRATE

GRATE

325'-0"

BLDG
0.02' S
0.17' W

12.16'

CONCRETE SIDEWALK

MW 9.95

12.15'

TC 9.27
BC 8.86

TC 9.44
BC 8.88

TC 9.61
BC 9.04

TC 9.73
BC 9.17

STEEL FACED CONC. CURB

TC 9.78
BC 9.26

TC 9.92
BC 9.44

TC 9.86
BC 9.56

ELEC. BOX

ELEC. BOX

ASPHALT ROADWAY

12" 1958 LINED CAST IRON WATER PIPE

CL 9.28

CL 9.40

SEWER MH
RIM 9.51
INV. 0.09 RECORD

CL 9.69

CL 9.85

SEWER MH
RIM 9.98
INV. 0.54' RECORD

CL 9.15

SEWER MH
RIM 9.02
INV. 0.05 RECORD

4'X3' ELLIPTICAL SEWER PIPE 1867 AS PER RECORD

WEST 27TH STREET
(60' R.O.W.)

TC 9.05
BC 8.65

TC 9.33
BC 8.86

STEEL FACED CONC. CURB

TC 9.42
BC 8.86

TC 9.50
BC 8.87

DEPRESSED
CURB

DC 9.09

TC 9.79
BC 9.26

TC 10.14
BC 9.43

10TH AVE

LEGEND:

TC–TOP OF CURB
BC–BOTTOM OF CURB
LG–LEGAL GRADE
TW–TOP OF WALL
BW–BOTTOM OF WALL
CLF–CHAIN LINK FENCE
ASPH–ASPHALT PAVEMENT
CONC–CONCRETE PAVEMENT
FH–FIRE HYDRANT
S–SEWER
E–ELECTRIC
W–WATER
GV–GAS VALVE
WV–WATER VALVE
OV–OIL VALVE
T–TELEPHONE
TP–TOP PARAPET
–LIGHT POLE
–UTILITY POLE
MW–MONITORING WELL
[0.00]–LEGAL GRADE
BSW – BACK OF SIDEWALK
DC– DEPRESSED CURB

NOTES:

1) ELEVATIONS SHOWN ON THIS SURVEY MAP REFER TO MANHATTAN BORO DATUM WHICH IS 2.752 FEET ABOVE MEAN SEA LEVEL AT SANDY HOOK, NJ AS ESTABLISHED BY THE U.S. COAST & GEODETIC SURVEY DATUM.

MANHATTAN BORO DATUM BENCHMARK 546 WAS USED FOR THIS SURVEY.

2) ALL DIMENSIONS SHOWN HEREON ARE IN THE UNITED STATES STANDARD OF MEASUREMENT.

3) THIS IS TO CERTIFY THAT THERE ARE NO STREAMS OR NATURAL WATER COURSES VISIBLE ON THE PREMISES SHOWN HEREON.

VAULTS, IF ANY, BELOW SIDEWALK LEVEL, ARE NOT LOCATED OR SHOWN HEREON.

THE SUBSURFACE UTILITY INFORMATION SHOWN HEREON HAS BEEN EXTRACTED FROM INFORMATION OBTAINED FROM THE VARIOUS MUNICIPAL DEPARTMENTS AND PRIVATE COMPANIES AND IS PLACED ON THIS SURVEY FOR SCHEMATIC PURPOSES ONLY. SUCH INFORMATION IS NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS EITHER BY SAID DEPARTMENTS OR COMPANIES NOR BY THE UNDERSIGNED. BEFORE ANY DRILLING, EXCAVATION OR CONSTRUCTION ON OR NEAR THE PREMISES SHOWN HEREON, IT IS REQUIRED BY NEW YORK STATE INDUSTRIAL CODE 53 THAT THE SUBSURFACE UTILITIES BE MARKED OUT AND IDENTIFIED BY THE COMPANIES OR AGENCIES HAVING JURISDICTION.

UTILITY MAPS SUPPLIED BY RESPECTIVE UTILITY AND GOVERMENTAL AGENCY, AND AS SUCH IT IS RECOMMENDED THAT BEFORE CONSTRUCTION COMMENCES THAT THE APPROPRIATE UTILITIES ARE CONTACTED. THE UTILITIES SHOWN ON THIS SURVEY MAP HAVE BEEN LOCATED BY FIELD OBSERVATIONS AND GUARANTEE IS GIVEN AS TO THE COMPLETENESS, LOCATION, SIZE OR TYPE OF UTILITY. IT IS RECOMMENDED THAT BEFORE CONSTRUCTION COMMENCES THAT THE APPROPRIATE UTILITIES ARE CONTACTED.

4) ESTABLISHED LEGAL GRADES SHOWN PER FINAL SECTION MAP #53 AS SHOWN ON THE KEP MAP FOR 80' SCALE SECTIONAL MAP FOUND IN THE CITY OF NEW YORK, OFFICE OF THE PRESIDENT, BOROUGH OF MANHATTAN, TOPOGRAPHICAL BUREAU.

5) STREET NAMES AND R.O.W. WIDTHS, BLOCK, AND LOT NUMBERS AS PER CURRENT TAX MAPS.

6) OFFSETS (IF SHOWN) ARE FOR SURVEYING REFERENCES ONLY AND ARE NOT TO BE USED IN CONSTRUCTION OF ANY TYPE.

7) ELEVATIONS/LOCATION OF #536 TAKEN AT GROUND LEVEL. NO ACCESS TO ROOF AT TIME OF SURVEY.

I CERTIFY TO:
CENTAUR PROPERTIES AND
THE NEW YORK CITY BUILDING DEPARTMENT
THAT THIS SURVEY WAS PREPARED AND REVIEWED
UNDER MY SUPERVISION IN THE OFFICE AND THE FIELD.

REVISIONS	AUTH.	DATE	FIELD DATE: 3-4-2014
			FB PG
			SCALE: 1" = 10'
			DRAWN BY: AV
			CHKD BY: JJV
			COMP FILE: 3-11-14

ARCHITECTUAL SURVEY
SITUATED IN
THE BOROUGH OF MANHATTAN
CITY OF NEW YORK
STATE OF NEW YORK

530 WEST 28TH STREET
BLOCK 699, LOT 49

True North Surveyors, P.C.
111 Kosciuszko Road, Whitehouse Station, NJ 08889
phone: (908) 534-6248 fax: (908) 534-6237

John J.Vida N.Y.P.L.S. Lic. No. 050298
PROFESSIONAL LAND SURVEYOR

Sample id	LEAD				COPPER			
	Pb_1	Pb_2	Pb_3	**AVG**	Cu_1	Cu_2	Cu_3	**AVG**
SS-04	61,840	59,217	53,763	**58,273**	489	403	351	**414**
SS-28	4,793	5,720	4,652	**5,055**	252	227	202	**227**
SS-07	3,284	4,167	4,158	**3,870**	59	113	111	**94**
SS-02	3,024	2,914	2,494	**2,811**	73	74	69	**72**
SS-03	1,472	1,373	2,115	**1,653**	117	88	133	**113**
SS-34	1,414	1,040	910	**1,121**	129	92	72	**98**
SS-35	872	1,160	1,201	**1,078**	44	35	56	**45**
SS-20	1,082	967	1,183	**1,077**	90	50	50	**63**
SS-25	1,213	794	868	**958**	40	38	nd	**39**
SS-21	1,053	946	761	**920**	78	50	61	**63**
SS-09	887	1,007	853	**916**	79	99	86	**88**
SS-13	885	824	1,016	**908**	538	479	501	**506**
SS-05	881	800	984	**888**	217	361	407	**328**
SS-15	771	1,002	891	**888**	47	59	73	**60**
SS-32	878	825	935	**879**	71	75	66	**71**
SS-24	783	791	626	**733**	32	57	62	**50**
SS-11	600	936	549	**695**	72	36	42	**50**
SS-01	771	533	593	**632**	35	57	53	**48**
SS-30	409	582	472	**488**	42	nd	nd	**42**
SS-26	314	375	563	**417**	nd	nd	nd	**0**
SS-27	338	431	431	**400**	33	40	57	**43**
SS-33	410	419	338	**389**	36	nd	67	**52**
SS-29	349	332	358	**346**	31	33	25	**30**
SS-19	293	344	371	**336**	37	46	30	**38**
SS-31	305	344	349	**333**	63	46	54	**54**
SS-23	257	427	250	**311**	nd	32	32	**32**
SS-14	297	273	327	**299**	nd	46	54	**50**
SS-08	277	312	289	**293**	50	29	nd	**40**
SS-17	409	243	207	**286**	nd	nd	nd	**0**
SS-12	177	230	203	**203**	47	46	49	**47**
SS-18	161	217	226	**201**	26	nd	nd	**26**
SS-16	157	168	204	**176**	41	60	46	**49**
SS-06	152	219	143	**171**	nd	nd	27	**27**
SS-10	145	151	152	**149**	54	37	nd	**46**
SS-22	120	152	136	**136**	30	71	45	**49**

APPENDIX 2

CITIZEN PARTICIPATION PLAN

The NYC Office of Environmental Remediation and WC_W28th Realty, LLC 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, WC_W28th Realty, LLC 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, Rebecca Bub, who can be contacted about these issues or any others questions, comments or concerns that arise during the remedial process at (212) 788-8841

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 brownfields@cityhall.nyc.gov.

Repositories. A document repository is maintained on OER's website (http://www.nyc.gov/html/oer/html/repository/RManhattan.shtml). 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. Internet access to view documents is available at the public library. The closest location is:

New York Public Library (Columbus Library)

742 Tenth Avenue

New York, NY 10019

Telephone: (212) 586-5098

Hours of Operation: Tuesday-Thursday 10:00 AM - 6:00 PM, Friday 10:00 AM - 5:00 PM,

Saturday 10:00 AM - 5:00 PM, Sunday - 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. WC_W28th Realty, LLC is required to identify whether there are specific issues of concern to stakeholders proximate to the project site. Such issues include but are not limited to interests of Environmental Justice communities. There are no known specific issues of concern to stakeholders proximate to the project site.

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 WC_W28th Realty, LLC, reviewed and approved by OER prior to distribution and mailed by WC_W28th Realty, LLC. 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:

- **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.

APPENDIX 3

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.

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.

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. Best efforts will be made to reduce energy consumption during remedial activities.

Conversion to Clean Fuels. Use of clean fuel improves NYC's air quality by reducing harmful emissions.

Recontamination Control. Recontamination after cleanup and redevelopment is completed undermines the value of work performed, may result in a property that is less protective of public health or the environment, and may necessitate additional cleanup work later or impede future redevelopment. Recontamination can arise from future releases that occur within the property or by influx of contamination from off-site.

An estimate of the area of the site that utilizes recontamination controls under this plan will be reported in the RAR in square feet.

Storm-water Retention. Storm-water retention improves water quality by lowering the rate of combined storm-water and sewer discharges to NYC's sewage treatment plants during periods of precipitation, and reduces the volume of untreated influent to local surface waters.

An estimate of the enhanced storm-water retention capability of the redevelopment project will be included in the RAR.

Linkage with Green Building. Green buildings provide a multitude of benefits to the city across a broad range of areas, such as reduction of energy consumption, conservation of resources, and reduction in toxic materials use.

Paperless Brownfield Cleanup Program. 310 Group, LLC is participating in OER's Paperless Brownfield 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. WC W28th Realty 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.

Trees and Plantings. Trees and other plantings provide habitat and add to NYC's environmental quality in a wide variety of ways. Native plant species and native habitat provide optimal support to local fauna, promote local biodiversity, and require less maintenance.

An estimate of the land area that will be vegetated, including the number of trees planted or preserved, will be reported in square feet in the RAR.

APPENDIX 4

SOIL/MATERIALS MANAGEMENT PLAN (SMMP)

This SMMP specifies the methods and procedures to be used to screen, handle, and manage the excavation, removal, and off-site disposal earth materials removed from the WC-W28th Street Site during the remedial action phase of the redevelopment project.

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 Remedial Closure Report (RCR). Soil screening will be performed during invasive work performed during the remedy and development phases prior to issuance of the Notice of Satisfaction.

A hand held XRF monitor will be used in the field to evaluate the qualitative concentrations of metals in the soils before and after excavation. The XRF is capable of quantifying the concentration of lead and copper with a lower limit that is less than the applicable unrestricted use standards for those elements. Consequently, The XRF will be calibrated for Copper and Lead and used to segregate soils that exceed the IU-SCOs for appropriate handling and disposal.

Based on the data collected during the RIR elevated concentrations of Arsenic, Barium, Cadmium, and Mercury reported in the on-site soils were closely associated with elevated concentrations of either lead and/or copper. Consequently, lead and/or copper will be used as indicator parameters to delineate hotspots for targeted removal. Targeted removal will continue until no lead or copper are detected at concentrations that exceed the Industrial Use standards for. Target “hotspot” soils will directly loaded into 20 yard container for off-site disposal.

Initial screening will be at conducted at 18 locations on a twenty-foot off-set center grid. Additional screening will be conducted at adjacent grid points around those areas identified in the initial screening and at center nodes between gridlines as warranted. This will allow delineation of hotspots to be removed to within not more than10 feet in all directions. Hot spots will be removed in 1-2 foot lifts and rescreened until the XRF results indicate that the concentrations metals have been reduced to less than restricted commercial use standards.

Once all hotspots have been removed, the remaining urban fill will be stripped off in 2-3 foot lifts down to the native soil interface. A final screening with the XRF and confirmation samples will be used to assess completeness of the urban fill impact removal before removal of materials that meet Unrestricted Use Criteria. Periodic screening with the PID and/or XRF and periodic sampling for laboratory analysis (based on receiving facility/program requirements will be used to demonstrate the continued quality of materials classified for Unrestricted Use.

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 and/or from each other 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 discharge points. To the extent practical storm water will be directed to a collection sump for removal and treatment prior to discharge or allowed to infiltrate into the subsurface for subsequent capture and removal by the groundwater recovery system.

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.

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;
- be responsible for the proper collection, handling, analysis, and reporting of all environmental media samples;
- be responsible for the collection, analysis, and reporting of CAMP monitoring data, permit compliance data, and screening level data;
- 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 RAP;
- ensure that the presence of utilities and easements on the Site has been investigated and that any identified risks from work proposed under this plan are properly addressed by appropriate parties;
- ensure that all loaded outbound trucks are inspected and cleaned if necessary before leaving the Site;
- ensure that all egress points for truck and equipment transport from the Site will be kept clean of Site-derived materials during Site remediation.

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

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

Outbound truck transport routes are in Section 3.8 of the RAP. 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 Applicant to each disposal facility describing the material to be disposed and requesting written acceptance of the material. This letter will state that material to be disposed is regulated material generated at an environmental remediation Site in New York under a governmental remediation program. The letter will provide the project identity and the name and phone number of the PE/QEP or Applicant. 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 RCR.

The RCR 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 RCR.

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

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

1.7 MATERIALS REUSE ON-SITE

The soil cleanup objectives for on-Site reuse are listed in the RAP. “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 Engineering Controls. At this time, there is no intent or plan to reuse any excavated materials on-site. However, small pockets of native soils greater than 15 feet below grade that meet the site clean-up objectives may be left in-place based on the final dimensions of the foundation slabs and basement floor layout.

The PE/QEP will ensure that any residual materials are segregated from other materials to be exported from the Site and that procedures defined for material reuse in this RAP are followed.

No organic matter (wood, roots, stumps, etc.) or other waste derived from clearing and grubbing of the Site will be generated or buried on-Site.

1.8 DEMARCATION

Not Applicable: The building exterior is the demarcation barrier for the walls and floors of the finale excavation.

1.9 IMPORT OF BACKFILL SOIL FROM OFF-SITE SOURCES

All materials received for import to the Site will be approved by a PE/QEP and will be in compliance with provisions in this RAP. The RCR 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.

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 RAP (silt fences and barriers, and hay bale checks) will be installed around the perimeter where needed (on-top of the barrier wall where the top of the wall is below natural grade) up to 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 anchor will be repaired immediately with appropriate backfill materials. 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 Full List volatiles and semi-volatiles, pesticides/PCBs, and TAL metals, 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 RCR.

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 Closure 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.

APPENDIX 5

Design Diagrams for Vapor Barrier/Waterproofing Membrane

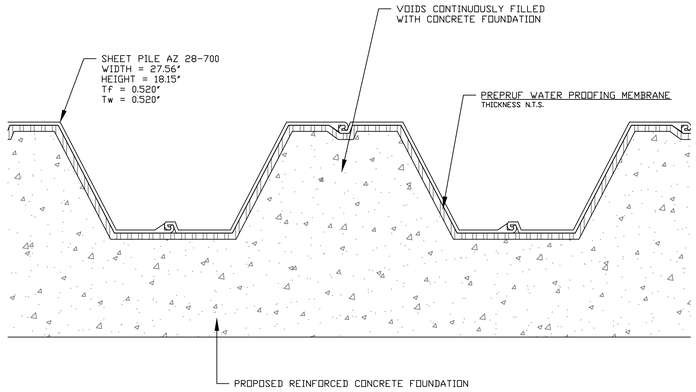
Waterproofing/Vapor Barrier Membrane

Certified drawings prepared by the SOE PE and/or RA of Record depicting the extent of the proposed waterproofing/vapor barrier membrane and the installation details (penetrations, joints, etc.) with respect to the proposed building foundation, footings, slab, and sidewalls, and product specification sheets are provided.

The Remedial Closure 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.

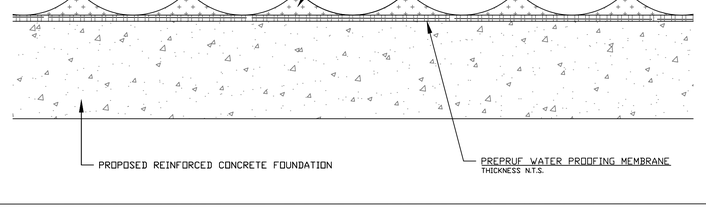
1 SHEET PILE OPTION #1:
PILES BACKED WITH MEMBRANE THEN BACK-FILLED CONTINUOUSLY WITH FOUNDATION

N.T.S.



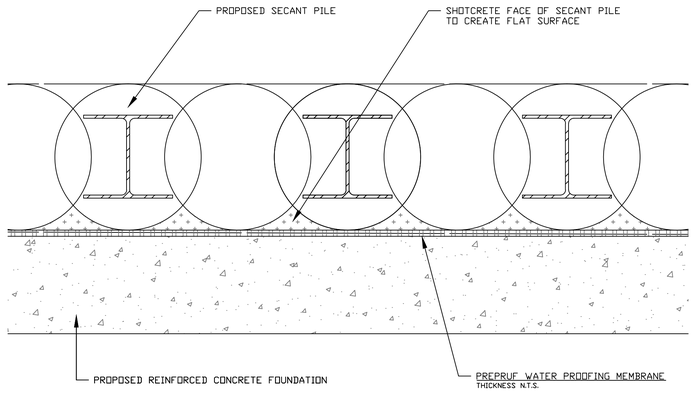
2 SHEET PILE OPTION #2:
PLYWOOD BACKING WITH GROUT FILL

N.T.S.

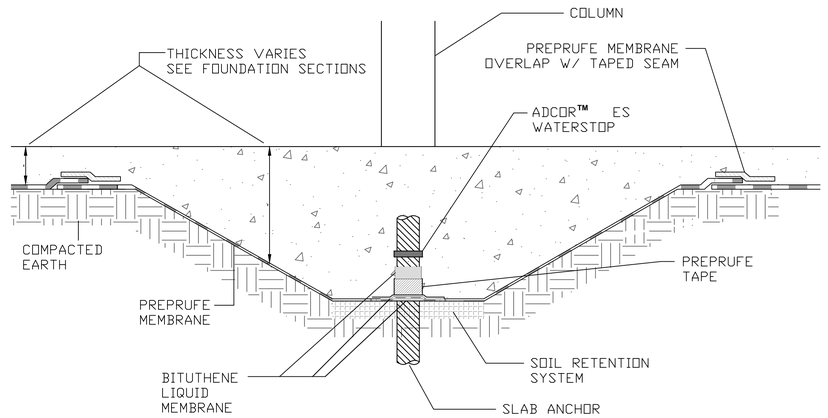


3 SECANT PILES
SHOTCRETE BACKING

N.T.S.



4 SLAB PENETRATION AT TIE-DOWN ANCHOR (TYP)
N.T.S.



5 TYPICAL SEAM DETAIL
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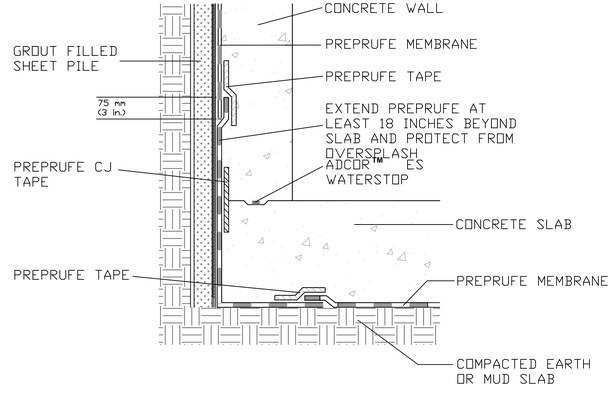

FIGURE A5-1
Vapor Barrier/Membrane Details

SBLM

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Brooklyn NY 11231
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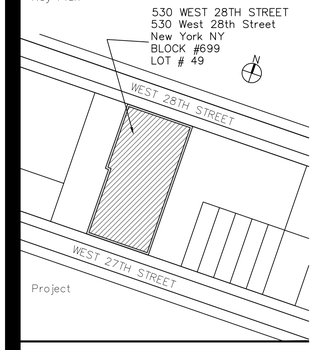
Email: info@futuregreenstudio.com

Revisions

1	04/22/2014	ISSUED FOR REVISIONS

NOT FOR CONSTRUCTION

Key Plan



Project

NEW YORK CITY DEPARTMENT OF BUILDINGS

530 WEST 28TH STREET
530 West 28th Street
New York NY

Drawing Title
DRAFT WATERPROOFING DETAIL – FOUNDATION

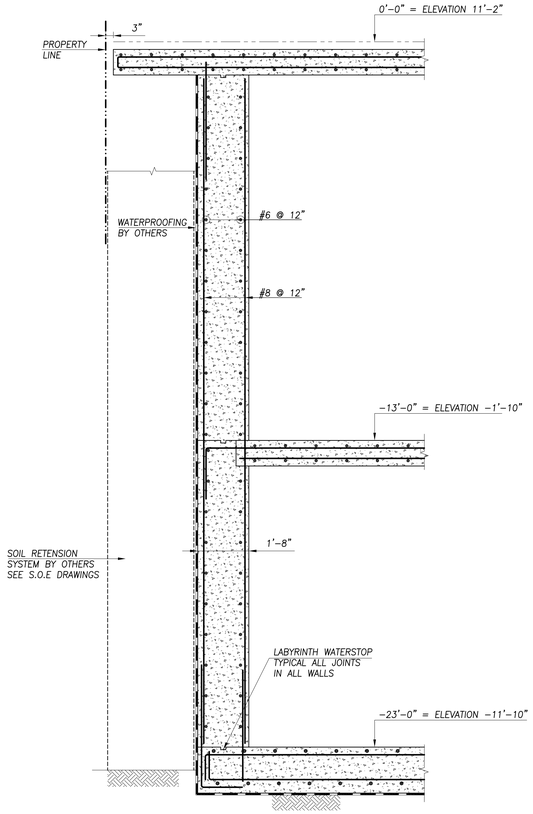
Drawing Number

AS INDICATED

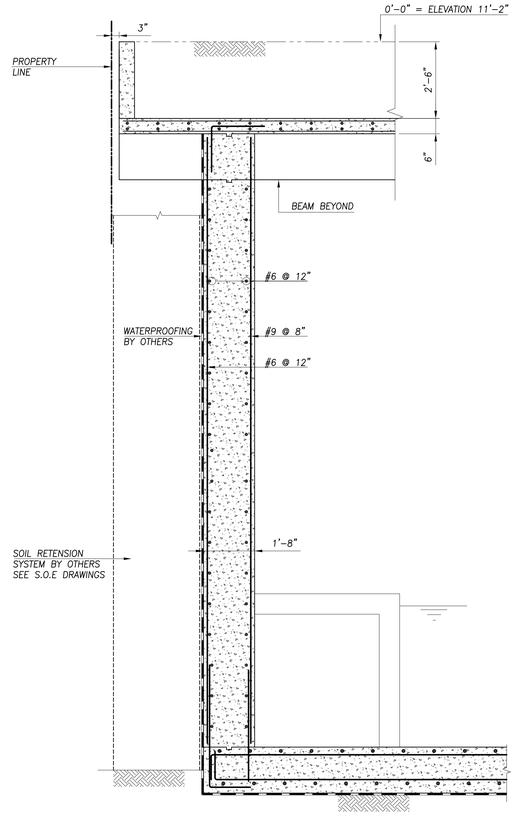
Seal & Signature

Drawing Date 04-22-14
Project No. 013042
Drawn By
Checked By
Drawing No. X of X

Reserved for DOB



SECTION 1/2" = 1'-0" — 1 F0202



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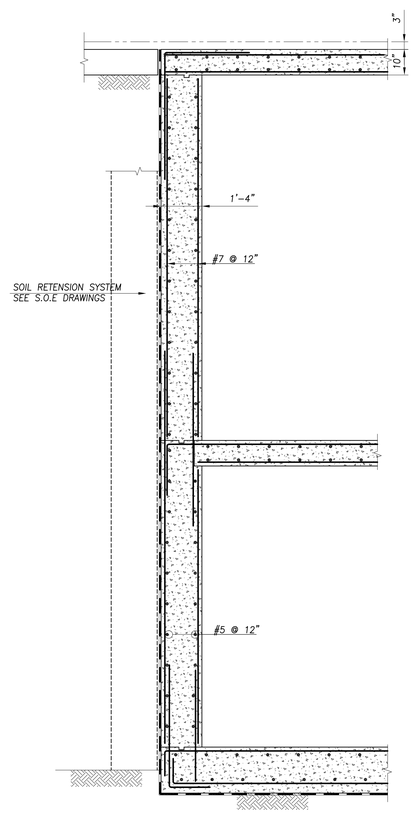

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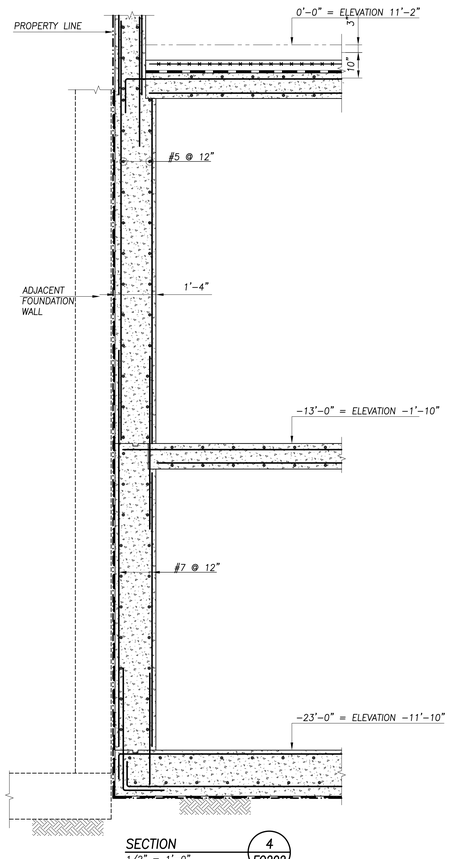

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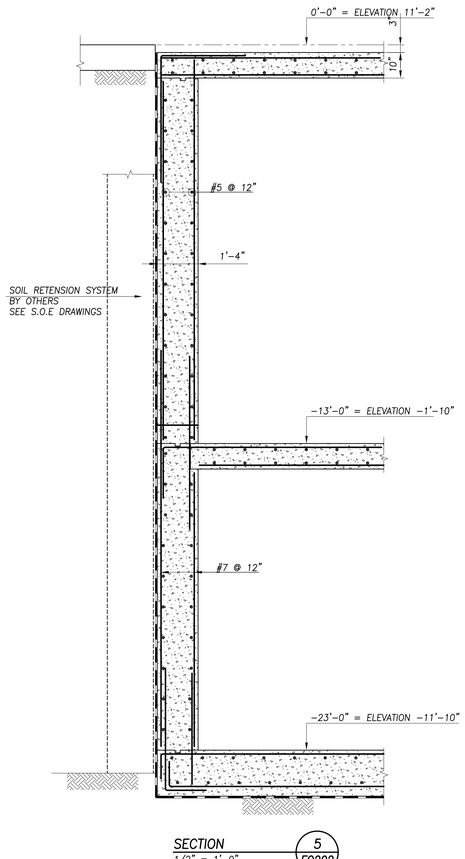

SECTION 1/2" = 1'-0" — 5 F0202

Figure A5-2
Composite Cover System

12-16 inch concrete floors and walls wrapped in vapor/barrier/ waterproofing from 8 feet below grade to base.
No penetrations of walls or floor slab below the water table

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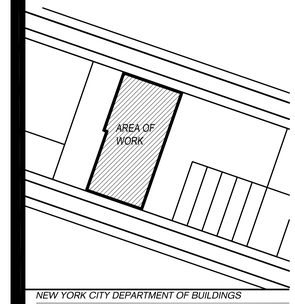
Revisions
1. 03/21/2014 ISSUED FOR FILING

Key Plan



NEW YORK CITY DEPARTMENT OF BUILDINGS

Project
530 WEST 28TH STREET
530 West 28th Street
New York NY
LOT 49

Drawing Title
FOUNDATION SECTIONS AND DETAILS 2

Drawing Number
FO-202.00

AS NOTED

Seal & Signature

Drawing Date	21 MARCH 2014
Project No.	14883
Drawn By	
Checked By	
Drawing No.	X of 18

Reserved for DOB

APPENDIX 6

Community Air Monitoring Plan

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

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

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

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

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

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

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

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

APPENDIX 7

CONSTRUCTION HEALTH AND SAFETY PLAN

SAFETY PROGRAM

AND

HANDBOOK

FOR

530 W 28th Street
New York, NY 10001

Prepared By
"Construction & Realty Safety Group, Inc."
June 2014

FORWARD

The following safety program and handbook is meant to serve as a guide to the implementation of safety procedures and administration for the project during the new building construction phase. During the environmental remediation / hazardous material removal phase's the HASP provided by The Chazen Companies should be adhered to.

Section 1 is meant to identify general 530 West 28th Street Policy and site requirements. Section 2 is meant to identify public and property safety requirements as represented in Chapter 33 of the NYC Building Code. Section 2 is also meant to outline qualifications and responsibilities of the CM and the contractor's respective safety manager and safety coordinator. Section 2 also gives guidelines for inspection and program administration.

Section 3 is to serve as a guide to OSHA CFR 1926.1 and its applicable provisions for the work to be conducted, as well as give some background into OSHA inspection and complaint procedures.

Prior to performing any work on the project all workers shall have successfully completed, within the previous five calendar years, a ten hour course approved by the United States Department of Labor Occupational Safety and Health Administration in construction industry safety and health, or by the commissioner covering substantially the same material. Successful completion of such training course shall be evidenced by (a) presentation of a bona fide course completion card, (b) copy of such card, (c) a training roster, attendance record or other documentation from the certified trainer pending the issuance of such card or (d) other valid proof which may be approved by the commissioner. Such evidence shall be readily available to the commissioner upon request.
All workers employed on the site will receive a site-specific safety orientation program. This program shall include a review of any hazardous activities of the job that are relevant to the tasks and activities to be performed. All workers must attend such a program no later than seven days after commencing their employment.

RIDER "S"
SAFETY ADDENDUM
530 West 28th Street

TRADE: MASTER

All work performed by this Contractor and its Subcontractors of every tier will be in accordance with all federal, state, and local laws and regulations. This Contractor shall employ the most up to date and advance safety methods, means and devices to insure a safe work environment for its workers, its subcontractor workers, workers of other trades, adjacent structures, and the public whether or not specifically stated in the Contract Document. Notwithstanding anything to the contrary, the Contractor will be responsible for maintaining a safe work environment. If there is a conflict between this Rider, any federal, state or local laws and regulations and any other Contract Document, then the more stringent requirement shall govern for the scope of work.

This Contractor agrees that compliance with the provision of this Rider will be a condition to processing of payment requisitions.

A. GENERAL REQUIREMENTS APPLICABLE TO ALL TRADES

1. SAFETY PLANS

a. The "530 West 28th Street Safety Guidelines" latest edition, are made part of the Contract. The Safety Guidelines are supplementary to all government rules, codes and regulations and do not negate, abrogate, alter, or otherwise change any provisions of these rules, codes and/or regulations. The safety guidelines are intended to supplement and enforce the individual program of each trade contractor and to coordinate the overall safety effort. Nothing contained in the Safety Guidelines shall relieve the Contractor of the sole and exclusive responsibility for safety in all phases of their work.

b. Contractor is aware of the requirements of the Site Safety Plan on file with the Building Department and that there is a Site Safety Management Contractor or Site Safety Manager or Coordinator employed by the Construction Manager, for the project and shall fully cooperate with same, and comply with the Site Safety Manager or Coordinator's direction. Contractor will comply with the requirements of the

Owner's Safety Plan. The Contractor shall closely adhere to the Construction Manager's Site Safety Requirements during all phases of its operations. The Contractor will conduct Project Safety Meetings with its own personnel on a regularly scheduled basis. The Contractor's foreman shall attend all Site Safety meetings. All of Contractor's personnel will be required to attend the Site Safety orientation meeting conducted by the Site Safety Manager or Coordinator. All costs associated with the foregoing are included in the Contract Price. In addition to the above, this Contractor shall provide its own safety program.

c. Job Box Safety Meetings (JBSM)

The Contractor will conduct weekly Job Box Safety Meetings on a regularly scheduled basis and New Employee Safety Orientations as required for its own personnel. The Contractor shall provide a written JBSM schedule to the Construction Manager, within two (2) weeks of contract award. The Construction Manager, at its option, shall be allowed to attend the JBSM. The Contractor shall keep copies of meeting minutes and attendance sheets of all JBSM and made available to the Construction Manager upon request. All relative Material Safety Data Sheets (MSDS) will be discussed weekly at the JBSM.

d. Health and Safety Plan (HASP)

The Contractor shall provide its own site-specific health and safety program (HASP), which is to be administered by this Contractor's competent person. The program shall be submitted prior to commencement of on-site work or initial progress payment will be withheld. The program shall address tasks to be completed on the project including describing the controls and safeguards to prevent injury an illness. This Contractor site specific safety program must include a detail fall protection plan and a job hazard analysis for each construction activity. This Contractor must also provide documentation verifying fall protection training for its workers. Contractor's safety program shall be subject to audit and review by the Construction Manager's Site Safety Manager. The Contractor shall revise the HASP as many times as projects conditions required at no additional cost.

e. Hazardous Communication Program (HAZCOM)

The Contactor is required by OSHA regulations to institute a hazard communication program which is to be administered by this Contractor's competent person. Under the hazard communication program, the Contractor must inform both the Construction Manager and all other Contractors on the site, of all hazardous materials being used by the Contractor. The Contractor shall provide the Construction Manger and all other Contractors on the site, with copies of Material Safety Data Sheets (MSDS), which will warn other Contractors of the presence of any hazardous materials. The program shall be submitted prior to commencement of on-site work or initial progress payment will be withheld. The Contractor must insure that any hazardous materials are appropriately labeled and properly stored. Contractor shall maintain a job site inventory of hazardous materials.

f. Fire Safety Plan

This Contractor shall provide its own site specific fire safety and evacuation plan in accordance with New York City Fire Department Fire Code, latest edition which is to

be administered by this Contractor's competent person. The program shall be submitted prior to commencement of on-site work or initial progress payment will be withheld. The plan shall include fire prevention measure specific to its work that include, but shall not be limited to, handling and storage of flammable materials, an evacuation plan**,** including a plan for accounting for all of the Contractor's workers post-evacuation, emergency action plan, list of work that requires NYC Fire Department certificate of fitness, designation of fire safety coordinators and deputy fire safety coordinator, and monthly fire drills. Fire Safety will be made part of Job Box Safety Meetings. The Contractors Fire Safety Plan must be incompliance with the Construction Mangers Emergency Evacuation Plan.

1. All flame-producing tools and devices shall have an adequate fire protection, a fire watch, and a Hot Work Permit and meet the requirements of the FDNY Fire Codes. All Contractors shall conduct a pre hot work inspection in accordance to FDNY fire code 2604 and secured a hot work permit for all torch operations from the Site Safety Manager/Coordinator prior to all torch use. The contractor shall maintain a log of said documentation at the torch use location and provide a copy to the Site Safety Manager/Coordinator

2 The fire watch shall ensure the area of concern, is inspected prior, during and at the conclusion of the operation for any fire and/or smoldering material. Fire Watch must have fire protection readily available during all torch operations and inspected the immediate and surrounding areas a minimum 90 minutes after final operation.

3. Welding blankets must be used to protect adjacent equipment material and equipment. Special care should be taken when welding/cutting around pipe risers and in/next shaft ways to prevent slag from falling to the area below.

4. Fire extinguishers should be inspected regularly/prior to use and kept clean and accessible. Hoses, horns, and dispensing components should be checked for blockage. All fire extinguishers must be checked every 30 days and noted on the extinguishers inspection tag.

5. A fuel storage permit must be secured and the FDNY storage codes must be complied with when applicable.

g. Emergency Action Plan

This Contractor shall provide its own site specific emergency action plan that includes telephone numbers and cell numbers of the Contractor's Ownership, project manager, superintendent, key foreman and workers, subcontractors, site safety managers, and any other personnel deem essential by the Construction Manger. The plan will outline procedures to be followed in an emergency by this Contractor's personnel. The program shall be submitted prior to commencement of on-site work or initial progress payment will be withheld.

2. CONTRACTOR'S PERSONNEL

a. This Contractor shall designate a competent person from its employ to execute all aspects of the Contractor's Safety plan and to act as a Contractor Safety Manager anytime the Contractor is performing work. The Contractor Safety Manager shall have satisfactory completed a minimum of 30 hour OSHA safety course from an approved program. No work shall occur unless the Contractor's Safety Manager is on site. The Contractor Safety Manager shall fully cooperate and comply with the Site Safety Manager or Coordinator and provide a daily report to the Site Safety Manger.

b. All construction workers must complete a 10 hour OSHA training class and a minimum 1 hour on-site project orientation prior to being allowed to work. The Contractor shall provide written documentation as part of the requisition process. The Contractor agrees that it is the sole responsibility of this Contractor to provide competent and trained individuals. Any person that fails to comply with the provisions of this Safety Rider shall be immediately removed from the project at no cost to the Construction Manager.

c. Prior to the start of each pre-scheduled major construction activity, this Contractor's Safety Manager will conduct pre-task meetings for this Contractor's Personnel to review all work that is schedule to be performed and discuss safe practices to be utilized. A sign-in sheet and list of items discuss must be kept by the Contractor and made available to the Construction Manager upon request. Failure to comply with this requirement will result in the Contractor being directed to stop work until the daily pre-task meeting has been conducted.

d. The Owner and Construction Manager have adopted a zero tolerance policy (Policy) with regard to the use of alcohol and illegal drugs on the Project. It is the responsibility of this Contractor to institute a Drug & Alcohol Program for it's on site employees, a copy of which is to be provided to the Construction Manager. Drug and Alcohol (including beer) use on the site or during off-site meal and coffee breaks, will not be tolerated. Any on site employee who is found to be under the influence of or ingesting Drugs or Alcohol (including beer) either on site or off-site during meal and coffee breaks must be immediately removed from the site. 530 West 28th Street discourages workers from patronizing establishments that serve alcohol during working hours.

e. All 530 West 28th Street projects are smoke free sites. The use of tobacco, whether smoke or chewing, is prohibited on the project site including jobsite trailers and shanties. Any on site employee who are found to be using tobacco will be immediately removed from the site. Since tobacco is a legal substance, the possession of tobacco products will not be grounds for the removal of an employee from the site.

f. Weapons of any kind, whether or not permitted by law, are not allowed on the project site. Any on site employee found with weapons must be immediately removed from the site.

g. All of the Contractor's workers, and subcontractor's workers of every tier, shall be

issued and required to wear OSHA and Contractor's HASP required safety devices that are to include, but are not limited to:

1. Hard Hats. All personnel will be required to comply with the Construction Manager's hardhat sticker program evidencing such participation in the site safety orientation meeting and commitment to the Construction Manager's safety program. Failure to wear a hardhat with the safety sticker shall be cause for removal of employee from the project site.
2. Body Harnesses with fall arrestor systems when a 6'-0" change in elevation exists. This includes all persons working on suspended scaffolds, rolling scaffolds, fixed scaffold systems, hydraulic lifts, or any work situation that presents a fall hazard.
3. Eye Protection
4. Hearing Protection in any work situation that presents a sound hazard.
5 Safety shoes
6. Long pants and long sleeve shirts.
7. Reflective safety vest when work occurs with heavy equipment, such as but not limited to, demolition, excavation, foundations, structural work, rigging and hoist, and any other operations that may warrant the need for this safety device.
8. No cell phones, portable media devices, radios, or other devices that limit hearing and attention shall be used while working on site.

3. CONTRACTOR'S EQUIPMENT (OTHER THAN CRANES AND HOISTS)

a. All equipment provided by this Contractor shall be new or like new condition. It is this Contractor's responsibility to develop and implement a written preventative maintenance, safety, and reconditioning program for all its equipment whether it is rented or owned. All diesels burning equipment shall comply with U.S. EPA tier III emission standards. Prior to any equipment with engines larger than 100 hp being delivered to the project, this Contractor shall furnish written certification from a 3rd party inspection agency paid for by this Contractor to confirm this Contractor's equipment is operating in accordance with parameters established by the manufacturer of the equipment. Certification from a 3rd party inspection agency is not required for hand tools or equipment with engines less than 100 hp.

4. CONTRACTOR'S CRANES AND HOISTING EQUIPMENT

a. If the work of this Contractor requires cranes or hoisting equipment, this Contractor shall provide state of the art, new or like new condition, equipment that meets or exceeds current regulatory standards and that is capable of providing the intended services on the project. It is this Contractor's responsibility to develop and implement a reconditioning and preventative maintenance program for all its equipment whether or not rented or owned. Records of maintenance and inspection shall be kept by this Contractor and copies shall be made available to the Construction Manager. All diesels burning equipment shall comply with U.S. EPA tier III emission standards.
   1. Mobile cranes provided by this Contractor will be less than 20 years old unless they have been certified by a corporate officer or chief engineer from the

manufacturer as being reconditioned to like new condition.

2. Tower cranes, including tower sections and booms, provided by this Contractor will be less than 10 years old unless they have been certified by a corporate officer or chief engineer from the manufacturer as being reconditioned to like new condition. In no case shall tower cranes, tower sections, and booms be over 20 years old.
3. Other hoisting equipment provided by this Contractor such as derricks, trolley beams, and any roped hoisting device whether mechanically or hand operated that is capable of lifting greater than 3 tons will be less than 20 years old unless they have been certified by a corporate officer or chief engineer from the manufacturer as being reconditioned to like new condition.
4. Personnel and Material Hoist, including mast and rack sections, back structures, scaffolding and all other structural components provide by this Contractor will be less than 5 years old unless they have been certified by a corporate officer or chief engineer from the manufacturer as being reconditioned to like new condition. In no case shall mast and rack sections, back structures, scaffolding and all other structural components be over 10 years old.

b. Written Program

This Contractor shall prepare and submit a written crane and hoisting equipment safety program which is to include suitable testing of critical components to the Construction Manager and a written rigging program a minimum of two weeks prior to the mobile crane and a minimum of four weeks prior to tower crane or other hoisting equipment arriving on site. The program shall also include a schedule of daily, weekly, monthly and other periodic inspections to be performed in accordance with the manufacturer's specifications and ASME B30.5 for mobile cranes or ASME B30.3 for tower crane.

c. Drawings

The Contractor shall retain the services of a Professional Engineer licensed to practice in the State where the project site is located to design the installation of the crane and hoisting equipment. Signed and sealed drawings from the licensed engineer to be furnished to the Construction Manager. As required by state or local law, drawings and calculations shall be approved by the local jurisdiction.

d. Equipment Foundations

The Contractor shall provide an inspection of the foundations by the Professional Engineer hired to design the equipment. The Engineer shall inspect the reinforcing bar prior to the concrete pour in cast-in-place foundations. The Engineer shall certify in writing the foundation has been built according to the signed and sealed drawings. A copy of this certification shall be submitted to the Construction Manager.

e. Surveys

The Contractor shall retain a New York State Licensed surveyor to monitor hoist tower, hoist back structures, scaffolding alignments, crane tower and crane tie backs as follows:

1. Baseline survey after initial installation.
2. Bi-weekly (Twice a Month) inspections concurrent with engineer of records

inspection.
3. After each jump or modification.

All surveys shall be forwarded to the Contractor's Engineer of Record and Peer Review Engineer for review and approval. The Construction Manager shall receive surveys for information only. All surveys shall be distributed within (2) two workdays after readings are taken.

f. Operators
All operators shall be licensed or certified to operate cranes as required by the federal, state or local jurisdiction. If there is no federal, state or local licensing requirement, the operator shall be certified by the National Commission for the Certification of Crane Operators (NCCCO).

G. Pre-task Meetings for Tower Cranes
Safety coordination meeting within 24 hours prior to tower crane erecting, jumping and dismantling to include 530 West 28th Street supervisory and safety personnel, contractor's field and supervisory and Crane Safety Coordinator, Contractor's Crane Engineer, Contractor's Licensed Master Rigger or Tower Crane Rigger or where no such requirement exists the equivalent competent person, Contractor's crane operator and oilier, and all involved with same determined to be involved with crane operations. A sign-in sheet and meeting minutes shall submitted to the Construction Manager.

h. Additional Insurance for Tower Cranes
This Contractor's Licensed Master Rigger or Tower Crane Rigger or where no such requirement exists the equivalent competent person shall provide liability and property damage insurance or letter of credit in the amount of $25,000,000 naming the Owner, Owner's Consultants, and Construction Manager as additional insured in additional to any other insurance furnish as part of this Contractor's insurance program or project wrap up (OCIP or CCIP) insurance programs.

i. Inspections
1. Prior to delivery to site:
   a. This Contractor shall provide to the Construction Manager from the crane and hoisting equipment owner a letter certifying that the crane and hoisting equipment has been periodically inspected in accordance with ANSI 10.4 for personnel hoists, ANSI 10.5 for material hoists, ASME B30.3 for tower cranes or ASME B30.5 for mobile cranes and that the crane and hoisting equipment is fully functioning in accordance with the manufacturer's operators and maintenance manuals and the above national standards, OSHA standards and all local jurisdictional requirements. The Contractor shall also provide a record of any maintenance performed on the crane as a result of the inspection.
   b. The Contractor shall provide access to the crane and hoisting equipment prior to delivery to site for a 3rd party inspector hired by the Construction Manager.

2. Prior to operation:
   This Contractor shall retain the services of a Professional Engineer licensed to practice in the State where the project site is located to perform an inspection prior to the operation of the crane and hoisting equipment and provide written certification that all equipment has been installed in accordance with the signed and sealed drawings.

3. This Contractor shall designate a competent individual under its direct employ as the Crane Safety or Hoist Coordinator responsible to both document that all the required safety and maintenance checks have been made and that safety rules are followed in the erection, operation, and dismantling of cranes and hoisting equipment. Records and logs of all required safety and maintenance checks will be maintained on site by this Contractor's Crane Safety or Hoist Coordinator.

4. Daily/Weekly Crane Inspections
   a. The Contractor's crane operator or oiler shall conduct a daily inspection and weekly inspection in accordance with the manufacturer's specifications and ASME B30.3 – Tower Cranes or ASME B30.5 – Mobile Cranes prior to the operation of the crane.
   b. Inspections shall be recorded in a daily log. The operator or oiler shall print their name and sign the log with each entry. Copies of the log shall be maintained by this Contractor's Crane Safety Coordinator and is to be submitted to the Construction Manager on a weekly basis.

j. Additional Inspections for Tower Cranes
   1. Licensed Engineer
      The Contractor shall retain the services of a Professional Engineer licensed to practice in the State where the project site is located to perform the following inspections and provide written certification that all lifting equipment has been installed and maintained as required.
      a. At initial installation, the engineer shall perform the following:
         i. Plumbness inspection
         ii. Pullout tests on embedded, epoxy or expansion bolts
         iii. Visual inspection of welds and bolted connections of the foundation and of the tie beams to the structure
         iv. Installation of foundation and of tie in accordance to design documents and manufacturer's recommendations.
      b. After each equipment jump, either up or down, the engineer shall inspect the following:
         i. Plumbness inspection
         ii. Pullout tests on embedded, epoxy or expansion bolts
         iii. Visual inspection of welds and bolted connections of the foundation and of the tie beams to the structure
         iv. Installation of foundation and of tie in accordance to design documents and manufacturer's recommendations.
      c. After modifications or repairs to the equipment, the engineer shall inspect the following:

i. Modifications or repairs are in accordance with the manufacturer's specifications
ii. If deemed necessary, non-destructive testing shall be performed on modifications or repairs

2. Certified Crane Inspector

The Contractor shall retain the services of a crane inspector certified by the crane manufacturer or approved training program to perform the following inspections and provide written certification that all lifting equipment has been installed and maintained as required.

a. At initial installation, the crane inspector shall perform the following:
   i. Visual inspection of welds and bolts. Additional visual inspection of the cathead or turntable assembly to look for unusual wear, cracks, fissures, bolt fatigue.
   ii. Testing of torque on bolts
   iii. Visual inspection of all boom, jib and mast sections for damage
   iv. Installation in accordance with design documents and manufacturer's recommendations.
   v. Initial inspection in accordance with manufacturer's recommendations
   vi. Wire rope inspection in accordance with OSHA and manufacturer's recommendations
   vii. Verify all controls, safety devices and operator's aids are functioning properly.
b. Bi-monthly inspection performed by the crane inspector shall include:
   i. Visual inspection of welds and bolts. Additional visual inspection of the cathead or turntable assembly to look for unusual wear, cracks, fissures, bolt fatigue.
   ii. Testing of torque on bolts
   iii. Visual inspection of all boom, jib and mast sections for damage
   iv. Monthly inspection items in accordance with manufacturer's recommendations
   v. Wire rope inspection in accordance with OSHA and manufacturer's recommendations
   vi. Verify all controls, safety devices and operator's aids are functioning properly.
c. After each equipment jump, either up or down, the crane inspector shall inspect the following:
   i. Visual inspection of welds and bolts. Additional visual inspection of the cathead or turntable assembly to look for unusual wear, cracks, fissures, bolt fatigue.
   ii. Testing of torque on bolts
   iii. Visual inspection of all boom, jib and mast sections for damage
   iv. Monthly inspection items in accordance with manufacturer's recommendations
   v. Wire rope inspection in accordance with OSHA and manufacturer's recommendations
   vi. Verify all controls, safety devices and operator's aids are functioning properly.

d. After modifications or repairs to the equipment, the crane inspector shall inspect the following:
    i. Modifications or repairs are in accordance with the manufacturer's specifications
    ii. All controls, safety devices and operator's aide are functioning properly.

k. The Construction Manager may, at its sole discretion, retain and pay for crane inspection and hoisting inspection agencies. This Contractor shall cooperate fully with the personnel of such inspection agencies and this Contractor shall provide at no additional cost to the Construction Manager, manpower, drawings, facilities, scaffolds, properly calibrated torque wrenches, etc., to reasonably assist the inspection agency personnel in their execution of their inspection of this Contractor's equipment on-site or off-site. Inspections by the Construction Manager's crane inspection and hoisting inspection agencies in no way relieves this Contractor of its responsibility to perform its Contract Work and provide properly operating and maintained equipment. The Construction Manager will provide copies of any inspections performed to this Contractor who will suspend operation of equipment deemed unsafe by the Construction Manager's inspection agencies until repairs are made and certified by this Contractor. Any equipment that cannot be repaired within one week shall be removed from the project. All cost for the repair, removal, and replacement of this Contractor's equipment for any reason are included in the Contract Price.

l. Use of Personnel and Material Hoists

1. Any alterations, including the removal of braces and ties, to the hoist, runback structure or common platform shall not allowed unless performed by the Hoisting Contractor under the direction of the Construction Manager. The Hoisting Contractor shall only modify the hoist, runback structure or common platform if the modification has been approved in writing by the licensed engineer responsible for the original design.
2. The Contractor shall not overload the hoist, runback structure or common platform. Equipment, material and debris shall not be left unattended on the runback structure or common platform.
3. Door interlocks shall not be disabled.
4. Cars shall not be operated with open doors.

5. RIGGING

a. This Contractor shall employ a Licensed Master Rigger or where no such licensure exists, the equivalent competent person to develop a written Rigging "Method of Procedure" (MOP) for the lifting and hoisting of all its material and equipment. All Rigging MOP's shall be in accordance with local, state, and federal regulations and ASME B30.9. Rigging MOP's are to be submitted to the Construction Manager a minimum of four weeks prior to the rigging of any material or equipment. Any modification or adjustment to the Contractor's rigging MOP required by the Construction Manager or any governmental agency are included in the Contract Price. The Rigging MOP will include the following items:

1. Name and documentation of training and certification of Licensed Master Rigger, designated foreman or where no such licensure exists, the equivalent competent person who will be present to supervise the pick(s)
2. A separate storage area for all rigging where this Contractor's workers can sign out the rigging daily or as needed. This Contractor is responsible for the proper storage of rigging, inspect rigging before and after each use, and identify the user and its location.
3. Ensure all workers using rigging are properly trained and certified where required.
4. Provide the inspection criteria for the rigging (guidelines).
5. Lift plan for all picks which shall include but is not limited to plan drawings indicating control access zones for workers and public and details of the rigging showing make, model, and size of slings and hardware and allowable capacities.
6. Designate pick areas. Pick areas to be marked by paint, cones, stakes or other means to physically mark pick location on the ground.
7. Complete a Job Hazard Analysis that corresponds to the Rigging MOP.

b. The Licensed Master Rigger or where no such licensure exists, the equivalent competent person employed by this Contractor shall supervise on-site all critical picks. Critical pick are rigging operations involving loads that:
   1. Are at or above 95% of the manufacturer's or regulatory agency approved, whichever is more sever, load chart or rigging equipment.
   2. Require multiple cranes or derricks (tandem picks).
   3. Are asymmetrical and are not supplied with standard lifting ears.
   4. Are fragile or of thin shell construction and are not supplied with standard lifting ears.
   5. Have a wind sail area exceeding 500 square feet.
   6. May present a problem because of clearance, drift, or other interference.
   7. Require out of the ordinary rigging equipment, methods or setup.
   8. Require rigging practices not given in ASME B30.9.

c. Rigging components will be in new or like new conditions in compliance with the Contractor's Rigging MOP and the following restrictions:
   1. Rigging components must be from The United States, Canada, or European Union sources. Not other sources will be allowed.
   2. Steel components greater in age than 2 years will not be used.
   3. Hoisting cables shall be at least ½ inch diameter plow steel grade
   4. Synthetic Slings must be new. Synthetic Slings greater than 6 months old will not be used.
   5. Slings in contact with edges, corners, or protrusions should be protected with a softener.
   6. Nylon slings shall not to be used in crane erection, jumping, or dismantling.

d. Inspections
   In accordance with OSHA 29 CFR 1910.184 and ASME B30.9, this Contractor's Rigging MOP will include the inspection of all rigging equipment, tools, materials, or accessories used for the purpose of hoisting, lifting, or handling materials or machinery prior to the use of such equipment and during use, as necessary, to ensure

that it is safe. Any defective item(s) found are to be removed from service and the project site. This Contractor will perform the following inspection under the supervision of this Contractor's Licensed Master Rigger or where no such requirement exists, the equivalent competent person:

1. All rigging (wire ropes, synthetic webbing and ropes, nylon web slings) must be inspected prior to use ON EACH SHIFT AND AS NECESSARY. Rigging shall not be loaded in excess of its recommended safe work load. The rigger and/or the competent person shall perform a detailed physical rigging inspection prior to its use and when scheduled as per the applicable standards.
2. Wire Ropes shall be inspected for damaged lines (kinked, crushed, birdcage or knotted), broken wires, heat damage, deformation, excess wear, cracks, and corrosions.
3. Synthetic Slings shall be inspected for damaged, heat damage, deformation, excess wear, broken or cut fibers, distortion of hardware, discoloration or rotting, cracks, and corrosions.
4. All slings shall be marked or coded in accordance with ASME B30.9 – Slings to show:
    i. Name or trademark of the manufacturer.
    ii. Rated capacities for the type of hitch.
    iii. Type of material.
5. Hooks to be inspected for cracks and twisting, wear or deformation, size of hook throat, properly operating safety latches in accordance with ASME 30.10 - Hooks.

e. The Contractor shall provide storage for all rigging where they will not be subjected to mechanical, chemical or ultraviolet damage or extreme temperatures in accordance with ASME B30.9. All costs for storage of slings shall be included in the Contract Price.

f. The Contractor shall include all costs required to provide all necessary protection, flagman, etc., to control vehicular and pedestrian traffic during all its delivery and hoisting operations.

g. In accordance with the New York City Building Code, any items hoisted or lowered outside an occupied building, including but not limited to hanging scaffolds, crane picks, and derrick picks, shall be supervised by a licensed rigger and the rigging crew/scaffold operators shall be trained in accordance with the code.

6. SCAFFOLD

a. Suspended Scaffolds
    1. All of the Contractor's workers using the suspended scaffold shall be trained in the rigging, proper use of the equipment, and fall hazards. All workers shall be trained in accordance with all OSHA and local jurisdiction requirements.
    2. The Contractor shall retain a Professional Engineer licensed to practice in the State the where the project site is located to design the installation of the

suspended scaffold. Signed and sealed drawings from the licensed engineer shall be furnished to the Construction Manager.

3. A Licensed Master or Special Rigger or where no such requirements exists, the equivalent competent person shall certify the installation is in accordance with the signed and sealed drawings. The written certification shall be furnished to the Construction Manager.
4. A Competent Person designated by the Licensed Master or Special Rigger or where no such requirements exists, the equivalent competent person shall inspect all suspended scaffolds, rigging and anchorage daily prior to use. A log of such inspections shall be maintained and a copy shall be submitted to the Construction Manager weekly.

b. Supported Scaffolds

1. All of the Contractor's workers erecting, modifying or dismantling a supported scaffold shall be trained. All workers shall be trained in accordance with all OSHA and local jurisdiction requirements.
2. All of the Contractor's workers using a supported scaffold shall be trained. All workers shall be trained in accordance with all OSHA and local jurisdiction requirements including electrical hazards, fall and falling object hazards, material handling on scaffolds, and the maximum loading of scaffolds.
3. The Contractor shall retain a Professional Engineer licensed to practice in the State the where the project site is located to design the installation of the supported scaffold. Signed and sealed drawings from the licensed engineer shall be furnished to the Construction Manager.
4. A Competent Person shall certify the installation is in accordance with the signed and sealed drawings prior to use of the scaffold. The written certification shall be furnished to the Construction Manager.
5. A Competent Person designated by the Contractor shall inspect all supported and anchorage daily prior to use. A log of such inspections shall be maintained and a copy shall be submitted to the Construction Manager weekly.

7. HOUSEKEEPING

a. This Contractor will develop a written project specific housekeeping program for its work to be submitted to the Construction Manager a minimum of 4 weeks prior to mobilization on site. The Contractor's housekeeping program will include the following items:

1. Designation of a Housekeeping Coordinator that has satisfactory completed a minimum of 30 hour OSHA safety course from an approved program.
2. Procedures for insuring that the Contractor's work areas on site are left in a broom clean condition at the end of each work shift. At the direction of the Construction Manager, this Contractor's debris will be center piled or placed in containers provided by the Construction Manger. The transportation of debris off the work floors will be by the Construction Manager.
3. Procedures for stockpiling and removing oversized debris that is defined as any item that cannot be lifted by an individual. This Contractor's oversized debris will be transported down to the ground and legally disposed of off-site by this Contractor as part of the Contract Price.

4. Storage of material will not be allowed within 15'-0" from either an open perimeter of the building or interior floor opening. (Storage is permitted after installation of wall systems)
5. In no case will material be allowed to cantilever over the perimeter edge of the building.
6. The housekeeping program will state the number or workers and hours assigned to housekeeping duties.

b. Equipment, debris and other material shall not be stored on top of the sidewalk shed unless approved by the Construction Manager. In no case shall equipment, debris or other material be stacked higher than the top of the parapet or in a manner that exceeds designed storage capacity of the shed as dictated by the Building Code.

c. The Contractor shall not store any equipment, debris or other material on the common platform or runback structure.

8. WIND PLAN

When the work of this Contractor occurs in an area of the project subject to wind, this Contractor will develop a wind plan to insure material does not become airborne. The plan shall include procedures for stabilizing the Contractor's materials during times of inclement weather such as thunderstorms. The Contractor shall designate a competent person to monitor weather reports and communications from the Building Department when high wind conditions are forecasted. The wind plan will be submitted to the Construction Manager 4 weeks prior to mobilization on site and be made part of this Contractor's overall site specific safety plan.

9. SAFETY FINES

a. Failure to comply with the safety requirements of the project may result, at the discretion of the Construction Manager, in the following amounts being deducted from the Contract Price for each specific non-compliance with a provision of the Safety Program:

Non-Serious – Initial, isolated, or rare instances of violations, which do not result in danger to the employee, property, or others, should be corrected through nondisciplinary discussion and instruction. Safety violations of less serious nature will be handled as follows:

1. First Offense: Warning – no monetary deduct.
2. Second Offense: $500
3. Third Offense: $1,000.00 and request for removal for the day
4. Further Offenses: $2,000.00 for each additional offense and the Employee/Contractor discharged from the project

Serious – One which could result in serious injury or loss or lost of life or serious loss of property shall be subject to:

1. First Offense: Employee and contractor given suspension and fine
2. Second Offense: Employee/Contractor discharged from the project

Deductions shall be non-cumulative for violation of multiple provisions of the site safety program. Safety fines are in addition to 10% Contract Price safety contingency and fines issued by government agencies.

b. The Contractor agrees requisition payments are conditional on this Contractor preparing and implementing the safety plans required for this project. The Contractor agrees that 10% of the Contractor Value will be set aside as a safety line item on the Schedule of Values of the payment requisitions and is contingent on the Contractor's compliance with the safety plan. Safety contingency will be released monthly subject to the satisfactorily compliance with safety plans as determined by the Construction Manager.

c. Any damages to the Owner or Construction Manger due to the failure of this Contractor or its workers to comply with project safety programs will be deducted from the Contract Price.

d. The Construction Manager reserves the right to stop all work if the Contractor is found to be working in an unsafe manner and/or in violation of OSHA or local jurisdictional laws. All costs related to the work stoppage will be borne by this Contractor.

10. On-Site Risk Analysis

a. Pre-Plan Meeting
A principle of the Contractor and the Contractor's Project Manager shall attend a Pre-Plan Meeting to be scheduled by the Construction Manager. The Pre-Plan Meeting shall be held 30-14 days prior to the commencement of work to discuss the scope of work, associated hazards, required permits and training, and hazard abatement. A schedule of anticipated dates for high hazard tasks should be noted and target dates for Job Hazard Analysis and Pre-Task Meeting should be identified by the Contractor.

b. Job Hazard Analysis (Job Safety Analysis)
A written Job Hazard Analysis (JHA) shall be prepared by the Contractor and submitted to the Construction Manager two weeks prior to the commencement of any/each high hazard task. High hazard tasks include but are not limited to crane installation/jump/disassembly, hoist installation/jump/disassembly, critical pick with crane, major utility tie-in, any work on the exterior of the building that could impact the public. The Job Hazard Analysis shall indentify each step of the task, identify all hazards associated with the step, and determine how to control the hazards.

c. Pre-Task Meeting
The Contractor shall conduct a Pre-Task Meeting. The Construction Manager, Site Safety Manager, the Contractor's Project Manager and all Contractor employees

involved in the task shall be in attendance. The Job Hazard Analysis for the task shall be reviewed and the Contractor shall keep a log of attendees and shall include the signatures of all attendees. The Contractor shall submit a copy of the log to the Construction Manager.

B. ADDITIONAL REQUIREMENTS FOR DEMOLITION CONTRACTOR

1. This Contractor shall employ a fulltime licensed third party site safety manager to implement this Contractor's safety program.

2. The Demolition Contractor will provide at its own cost a daily inspection of all demolition operations by a license professional engineer to insure that they comply with approved demolition methods, that structural stability is maintained, that the fire standpipe and sprinklers on floors not being demolished and remain operational, and that there is an elevator in readiness for emergency use, all of which is in accordance with applicable governmental regulations.

3. This Contractor will develop a written project specific Fire Standpipe Program for its work to be the submitted to the Construction Manager 4 weeks prior to mobilization on site. This program will detail measures to be taken to insure the standpipe is one floor below the demolition operations and can be utilized for fire fighting.

4. This Contractor shall paint all exposed portions of the standpipe red prior to demolition.

5. This Contractor shall file for permits with the Building Department for the cutting and capping of standpipes and sprinklers during demolition.

6. This Contractor shall provide a licensed plumber or fire suppression contractor to cut and cap the sprinkler and standpipe system during demolition.

7. This Contractor shall provide an air-pressurized standpipe alarm system, which has been designed by a Licensed Professional Engineer and filed for permit with the Building Department. The alarm system shall sound an audible alarm when a valve is opened or a breach occurs in the line.

8. All work to implement the Fire Standpipe Program is included in the Contract Price.

9. All workers operating torches must have proper certification from local, state and federal jurisdictions. The Contractor shall provide Fire Guards as required and certified by local, state and federal jurisdictions. All costs associated with Fire Guards are included in the Contract Price.

10. Inspection reports will be provided to the Construction Manager on a daily basis.

11. The Demolition Contractor shall maintain two, unobstructed means of egress at all times.

12. The Demolition Contractor shall maintain all enclosed stairs and fire rating of the stairs

except on the uppermost floor being demolished. All work on the uppermost floor shall be completed before the stair and fire enclosure are demolished on the floor below. All handrails and banisters shall be left in place until actual demolition of such floors is in progress. Any fire-rated stair enclosure or fire-proof self-closing door removed from the building prior to demolition, such as during abatement, shall be replaced and fully functional prior to the start of demolition.

13. This Contractor will develop a written Respiratory Protection Program in accordance with local, state and federal regulations to be submitted to the Construction Manager a minimum of 4 weeks prior to mobilization on site. All costs associated with the Respiratory Protection program are included in the Contract Price.

14. This Contractor will develop a written project specific Dust Control Program in accordance with local, state and federal regulations to be submitted to the Construction Manager a minimum of 4 weeks prior to mobilization on site. All costs associated with the Dust Control Program and its maintenance is included in the Contract Price.

C. ADDITIONAL REQUIREMENTS FOR EXCAVATION AND FOUNDATION CONTRACTOR

1. The Excavation Contractor will provide at its own cost a daily inspection of all temporary earth/rock support structures by a license professional engineer to insure that the earth/rock support structures are performing as designed. Duration of this inspection will commence from installation and end with the completion of permanent foundation structures.

2. Inspection reports will be provided to the Construction Manager on a weekly basis.

3. Any correction and or modification to the temporary earth/rock support structures required by this Contractor's licensed engineer or government agency will immediately be brought to the Construction Manager's attention, all of which are included in the Contract Price.

4. Contractor shall employ a fulltime licensed third party site safety manager to act as a Concrete Safety Manager who will implement this Contractor's safety program on both the forming and stripping operations. The Concrete Safety Manager must be present onsite at all times when concrete work is performed. The Concrete Safety Manager shall fully cooperate and comply with the Site Safety Manager and report any violations or incidents to the same

D. ADDITIONAL REQUIREMENTS FOR SUPERSTRUCTURE CONCRETE CONTRACTOR

1. This Contractor shall employ a fulltime licensed third party site safety manager to act as a Concrete Safety Manager who will implement this Contractor's safety program on both the forming and stripping floors on a concrete project and concrete placing floor on a structural steel project. The Concrete Safety Manager must be present onsite at all times when concrete work is performed. The Concrete Safety Manager shall fully cooperate and comply with the Site Safety Manager and report any violations or incidents to the same.

2. In addition to a licensed master rigger required for critical picks, this Contractor will employ a fulltime Safety Coordinator on the ground to implement this Contractor's safety programs and rigging MOP that has satisfactory completed a minimum of 30 hour OSHA safety course from an approved program.

3. This Contractor, as part of the Contract Price, will provide cantilever storage platforms with sides a minimum of 2'-0" higher than material stored for the placement of its equipment and materials required to be moved between work floors, designed by a licensed professional engineer. Signed and sealed drawings from the licensed professional engineer shall locate the column bay(s) where the cantilever platform(s) shall be located and copies shall be furnished to the Construction Manager. Work includes the furnishing, installation, relocation, maintenance and removal of cantilever storage platforms in locations acceptable to the Construction Manger. All cantilever platforms must be approved by NYCDOB in accordance with their applicable safety codes and standards.

4. Two means of egress from this Contractor's work area will be maintained by the use of OSHA compliant heavy duty temporary stairs provided by this Contractor.

5. Concrete embedded fall arresting systems must be installed in accordance with shop drawing approved by a licensed engineer. The shop drawing shall include the manufacturer type and name, instructions on proper installation and use, adequacy of the structure to sustain static and equivalent dynamic loads, list of occupational classifications allowed using this system, and instructions on testing and inspection. The Concrete Contractor shall be responsible for inspecting that the installation is in accordance with the signed and sealed drawings. Regular maintenance will be part of this Contractor's site specific safety plan. Once the system is no longer in use, this Contractor is responsible for proper removal of the embedded fall arresting system.

6. This Contractor shall provide full height vertical netting and guardrails on all reshore floors and vertical netting on the guardrails on the working deck. Vertical netting and guard rails shall be in accordance with local, state and federal regulations. All costs associated with installing and maintaining vertical netting and guardrails are included in the Contract Price.

7. This Contractor site specific safety program must include a detail fall protection plan for all workers on the stripping floor. This Contractor must also provide documentation verifying workers are wearing fall protection on the stripping floor.

E. ADDITIONAL REQUIREMENTS FOR STRUCTURAL STEEL CONTRACTOR

1. This Contractor shall employ a fulltime licensed site safety manager to implement this Contractor's safety program on the erecting deck, bolting floors and metal deck installation floors.

2. In addition to a licensed master rigger required for critical picks, this Contractor will employ a fulltime Safety Coordinator on the ground to implement this Contractor's safety programs and rigging MOP that has satisfactory completed a minimum of 30 hour OSHA safety course from an approved program.

3. Two means of egress from this Contractor's work area will be maintained by the use of OSHA compliant heavy duty temporary stairs provided by this Contractor.

4. The tips of TC bolts shall be collected and not allowed to fall. All equipment and procedures required to prevent the tips of TC bolts from falling are to be included in the Bid Price.

5. All welding/bolting suspended platforms commonly referred to as "floats" shall have a 12" toe board and a 4'-0" curtain to prevent debris from falling shall be included in the Contract Price.

F. ADDITIONAL REQUIREMENTS FOR ELECTRICAL CONTRACTOR

1. This Contractor will develop a written project specific Electrical Safety Program for its work and the work of other Contractor's that attach to either the temporary or permanent light and power system to be the submitted to the Construction Manager 4 weeks prior to mobilization on site.

2. This Contractor will employ a full time competent person to implement the Projects Electrical safety programs that has satisfactory completed a minimum of 30 hour OSHA safety course from an approved program.

3. This Contractor shall provide a 24-hour power circuit to the compressor and alarm panel on the fire standpipe alarm system.

4. This Contractor shall develop and implement an Assured Equipment Grounding Conductor Program (OSHA CFR 1926.404) and furnish a daily written report to the Construction Manager designated Site Safety Manager.

G. ADDITIONAL REQUIREMENTS FOR FIRE STANDPIPE CONTRACTOR

1. This Contractor will develop a written project specific Fire Standpipe Program for its work to be the submitted to the Construction Manager 4 weeks prior to mobilization on site. This program will detail measures to be taken to insure the standpipe is no greater than 45'-0" from the highest level of construction and can be utilized for firefighting prior to

completion of the system

2. All work to implement the Fire Standpipe Program is included in the Contract Price.

3. This Contractor is responsible to confirm, via a daily inspection of the fire standpipe, that the fire standpipe system is in functioning condition.

4. Inspection reports will be provided to the Construction Manager on a daily basis.

5. This Contractor shall design, furnish, install, maintain, and remove an air-pressurized standpipe alarm system, which has been designed by a Licensed Professional Engineer and filed for permit with the Building Department. The alarm system shall sound an audible alarm mounted on all streets at sidewalk level when a valve is opened or a breach occurs in the line. System will included all controls, alarms, remote alarm in the guard booth, safeties and devices to provide a fulltime monitoring of the Fire Standpipe System.

6. This Contractor shall paint all exposed portions of the standpipe red during installation.

H. ADDITIONAL REQUIREMENTS FOR HOISTING CONTRACTOR

1. This Contractor shall perform initial erection, monthly and post jump inspections.
   a. Initial erection inspections shall include:
      i. Verification cars are operating within the manufacturer's specifications.
      ii. Mast sections are not damaged, corroded, stable, plumb, and connected in accordance to manufacturer specifications.
      iii. Mast ties are installed in accordance with manufacturer's specifications
      iv. Common platform and runback structure is fully braced in accordance with design drawings.
      v. Guardrails, mesh and toe boards are installed on common platforms and runback structure.
      vi. Verify landing doors for personnel cars cannot be opened from landing.
      vii. Verify spider tie on common platform and runback structure is installed as per engineered drawings
      viii. Inspect joists to verify they are not damaged and they are connected to supports
      ix. Verify tiebacks to structure are installed as per engineered drawings
      x. Testing of torque of bolts and welds for attachment to structure
      xi. Pull-out tests for embedded, epoxy or expansion bolts
      xii. Plumbness of mast and supports for common platform and runback structure.
      xiii. In addition, initial erection inspections for personnel hoists shall include an acceptance inspection and test in accordance with city or state requirements or ANSI B10.4 whichever is more stringent.
   c. Monthly inspections shall include:
      i. Verification cars are operating within the manufacturer's specifications.
      ii. Common platform and runback structure is fully braced in accordance with design drawings.
      iii. Guardrails, mesh and toe boards are installed on common platforms and

runback structure

iv. No storage of debris or material on common platforms or runback structure.
v. Verify spider tie has not been removed or altered and bolted connections are tight.
vi. Inspect joists at the underside of landing to ensure they are not buckling and they are fastened to supports.
vii. Inspect legs for buckling
viii. Verify tiebacks to structure have not been removed or altered.

d. Post-jump inspections shall include:
i. Verification cars are operating within the manufacturer's specifications.
ii. Mast sections are not damaged, corroded, stable, plumb, and connected in accordance to manufacturer specifications.
iii. Mast ties are installed in accordance with manufacturer's specifications
iv. Common platform and runback structure is fully braced in accordance with design drawings.
v. Guardrails, mesh and toe boards are installed on common platforms and runback structure.
vi. Verify landing doors for personnel cars cannot be opened from landing.
vii. Verify spider tie on common platform and runback structure is installed as per engineered drawings
viii. Inspect joists to verify they are not damaged and they are connected to supports
ix. Verify tiebacks to structure are installed as per engineered drawings
x. Testing of torque of bolts and welds for attachment to structure
xi. Pull-out tests for embedded, epoxy or expansion bolts
xii. Plumbness of mast and supports for common platform and runback structure.
xiiii. In addition, post-jump inspections for personnel hoists shall include an acceptance inspection and test in accordance with city or state requirements or ANSI B10.4 whichever is more stringent.

2. This Contractor shall retain third party independent, licensed engineering consulting firm to perform for bi-weekly (Twice a Month) inspections of the runback structure and common platform and attachments including the ramps to verify compliance with signed and sealed drawings. This peer review does not relieve the Contractor from any of its responsibility under the terms of the Contract, nor make the Construction Manager responsible for hoist and scaffold design or other obligations of Contractor pursuant to this agreement. The third party independent consulting firm shall be approved by the Construction Manager and will work under the direction of the Construction Manager.

PROJECT SITE SAFETY PROGRAM

A. PROGRAM OBJECTIVES

Purpose

This Project Site Safety Program and Trade contractor's Safety Requirements is established by 530 West 28th Street in an attempt to exercise all available means of eliminating or controlling hazards and risks associated with the construction of the Project and thus (a) prevent personal injuries, (b) prevent property damage, (c) achieve greater efficiency and (d) provide for public safety, health and welfare. Each Subcontractor shall bear sole and exclusive responsibility for safety in all phases of their work. Nothing contained herein shall relieve such responsibility. The primary goal established for the Project is to safely construct the Project with "ZERO ACCIDENTS"; totally free from lost time injuries for the mutual benefit of the worker, environment, and community. The safety goals and objectives established for the Project can only be achieved when everyone commits to perform their tasks safely and efficiently. This commitment to achieve these goals will result in both increased productivity and the "PREVENTION" of job related injuries and illnesses.

1) To achieve the foregoing purpose, all trade contractors of shall formulate and administer their own written Site-Specific Safety and Health Programs, Hazard Communication Programs and Substance Abuse Programs for work at the project. At a minimum, the trade contractor's Safety and Health and Hazard Communications Programs shall incorporate the most stringent requirements of all referenced regulatory requirements and those of this Project Site

Safety Program, the requirements of Federal OSHA 29CFRI926 and the requirements all of the principles of the 530 West 28th Street Project Site Safety Program. The Project Site Safety Program (the "Program") incorporates the prevention of accidental injury, occupational illness and property damage. Each Subcontractor shall provide and maintain a safe hazard free work place for their employees, for fellow workers and the general public.

2) The Program shall ensure the involvement and active participation of all Project employees by requiring safety and health training which will promote recognition of unsafe acts, the exposure of hazardous chemicals, potential and actual hazards and the immediate corrective action to be taken. All employees shall be constantly aware of their responsibility to work in a safe manner.
3) To achieve the foregoing purpose, each trade contractor must recognize that it has a contractual obligation to perform their work using safe methods and to comply with The Program, the Occupational Safety and Health Administrative Standards, and *all* other Federal, State and Local Codes and Regulations.

4) The effectiveness of the Program will depend upon the active participation and wholehearted cooperation of *all* trade contractors, their sub-tier contractors and *all* supervisors and employees and the coordination of their efforts in carrying out the following basic procedures:

- ✓ Plan all work to prevent personal injury, property damage and loss of productive time and to provide for public safety,
- ✓ Maintain a system of prompt detection and correction of unsafe practices and conditions
- ✓ Establish and conduct an educational program to stimulate and maintain interest and cooperation of all employees through:
- ✓ Safety meetings
- ✓ Prompt investigation of all accidents to determine cause and to take necessary corrective action.
- ✓ Use of personal protective equipment and mechanical guards.
- ✓ Require the trade contractor and each trade contractor's superintendent and job foreman to be familiar with the provisions of the "Safety and Health Regulations for Construction" [Federal Register Title 29 Part 1926) and Local Codes, Laws, Orders, Rules and Regulations, in particular Chapter 33 of the Administrative Code of the City of NewYork.

B. BASIC PRINCIPLES

1) All Project employees shall comply with all applicable Federal, State and New York City Codes, Laws, Orders, Rules and Regulations.
2) All trade' contractors performing work on this Project shall submit their Company's Safety Program, Hazard Communications Program and Fall Protection Program in writing to the Site Safety Manager prior to the start of their work. As a minimum, the trade contractor's Safety Program shall incorporate all of the principles of the 530 West 28th Street Program and shall list the positive steps the subcontractor intends to utilize for the prevention of accidents to their employees, fellow workers, the general public and property of all concerned. All Trade contractors shall ensure that their employees know what is contained in and agree to comply with their Company Safety Program.
3) Each subcontractor shall ensure that their trade contractors and suppliers, regardless of tier, comply with the Subcontractor's Company Safety Program and all Federal, State and Local Codes and Rules and Regulations.
4) All costs and expenses incurred by or the Owner arising *out* of Federal, State or Local citations, fines, penalties and summonses resulting from the Trade contractor's operations shall be back charged to the responsible .trade contractor.
5) All trade contractors shall provide their employees with all appropriate safety and personal protective equipment and weather protective gear required for the performance. of their work and enforce their use.
6) Subcontractors will be monitored for compliance with the trade contractor's Safety Program and implementation and application of their respective safety programs at the work site. The Construction Manager and Site Safety Manager will have the

authority to stop work when either site conditions and or work practices present an imminent danger to life or health until those conditions and or practices are corrected For all other conditions the subcontractor will be notified of any non-compliance and corrective action required. This notice, when delivered to the subcontractor or their representative at the site of the work; shall be deemed' sufficient notice of noncompliance and corrective action required.

After receiving the notice, the subcontractor shall immediately take corrective action. If the subcontractor fails or refuses to take corrective action promptly, a stop work order may be issued. If corrective measures are not taken immediately, no part of the time lost due to any such Stop work' order shall be made the subject of a claim for extension of time or increased costs by the Subcontractor. The Construction Manager or Site Safety Manager shall not be liable for any damages experienced by the Subcontractor due to the work stoppage. *Also*, the Site Safety Manager may recommend that progress payments cease until, the Subcontractor is in full compliance with all applicable safety and health rules, standards and regulations.

7) Each Subcontractor shall be held responsible for all its lower-tier Subcontractor's compliance with the project safety requirements,
8) Each subcontractor(s) shall establish and enforce an effective disciplinary program. Subcontractors are required to discipline and/or dismiss' employees who violate the Program's regulations. This includes appropriate disciplinary action for serious violations such as fall protection or substance abuse, repeated violations, or the refusal to follow safety and health rules.
9) Any Competent Person who is assigned to identify existing and predictable hazards And authorized to eliminate them that fails to perform this duty shall be "subject disciplinary actions as outlined in this program.
10) The subcontractor shall not receive additional payment or reimbursement for safety items and procedures which have been identified as required by the trade contractor's Safety Program.
11) Failure to comply with the contract safety requirements will be considered as noncompliance with the contract and may result in remedial action including withholding of progress payments due the subcontractor and/or termination of the subcontractor from the site.
12) In the event the work or any portion thereof is shut down by either an outside agency or because of an unsafe condition as determined by the Construction Manager, the Subcontractor responsible for the shut down shall bear the total cost of the shut down.
13) In no case shall the Subcontractor be relieved of overall responsibility for compliance with the requirements of federal, state and local safety and health laws for all work to be performed under the contract.

C. PROJECT SAFETY ORGANIZATION AND RESPONSIBILITIES

1) Trade contractor's Safety Representatives - Each trade contractor shall appoint a responsible supervisory employee or competent person as its Project Safety Representative, who is acceptable to the owner and construction manager. The Project Safety Representative must possess at minimum, a **30 Hour OSHA** certificate of

completion valid within the previous 5 calendar years.

2) It is the responsibility of every trade contractor; superintendent, foreman, employee; subcontractor and vendor to carry out the policies, standards and procedures as outlined in the Program as follows:
3) Trade Contractor Superintendent and responsible supervisory employee responsibilities are as follows:

- ✓ Trade contractors shall designate a resident Safety Representative ~ (Competent Person as defined by OSHA) who shall, among other things:
- ✓ Ensure that their employees comply with their Company's Safety and Hazard Communication Program and all Federal, State and Local Codes, Laws, Orders, Rules and Regulations.
- ✓ Train their employees to perform their work in a safe manner and with the ability to recognize and correct potential and actual hazards and unsafe acts.
- ✓ Attend each Project Safety Meeting.
- ✓ Schedule and attend weekly Tool Box safety meetings to be chaired by Trade contractor's job foreman with written minutes copied to the Site Safety Manager.
- ✓ Meet on a weekly basis with the Site Safety Manager to ascertain that their Company is complying with Chapter 33 provisions; when applicable.
- ✓ Report all safety-related matters and give copies of all Permits, Licenses, Certificates of Fitness, etc. to the Site Safety Manager.
- ✓ Be responsible for the 530 West 28th Street Accident Reporting Requirements hereunder. Provide Superintendent's Incident Investigation Report for all accidents.
- ✓ Review the accident summary reports to keep informed of the project accident record and assist in appropriate action when accident trends are unfavorable.
- ✓ Review serious accidents personally to satisfy oneself that causes are being investigated and proper corrective action taken.
- ✓ Plan and execute all work so as to comply with the stated objectives of this Program and the Subcontractor's Safety Program.
- ✓ Provide and enforce the use at all times of the personal protective equipment specified in U.S. Department of Labor "Safety and Health Regulations for Construction" and any applicable State and Local Codes, Laws, Orders, Rules and Regulations such as hard hats, safety shoes, eye. protection, etc.
- ✓ Take immediate action to correct unsafe practices or conditions when discovered.
- ✓ Immediately report to the Site Safety Manager any unsafe conditions or practices or violations of job security which are not within the Subcontractor's jurisdiction.
- ✓ Review with Trade contractor's job foremen, periodically, their responsibilities.
- ✓ Obtain, maintain and deliver to Plaza Construction Corporation copies of all Material Safety Data Sheets for all hazardous substances delivered to the Project and otherwise supervise Trade contractor's Hazardous Communication Program in accordance with the Hazard Communication Standard set forth in OSHA regulation at 29 CFR 1910.1200 and 29 CFR 1926.59 (see Part Ill, C, 4.0).
- ✓ Familiarize· oneself with· the ·safety program and ensure its effective application on the project.
- ✓ Give leadership, direction and support in the administration of safety activities.
- ✓ Require trade supervisors to hold safety meetings as outlined in the program.
- ✓ Require supervisors to report the topics of each safety meeting.
- ✓ Tour project daily, if not more frequently to assure that safety conditions of the project are in compliance with Federal, State, and Local and Company policies.

- ✓ Review overall project performance in complying with the safety program.

4) Trade Contractor Foreman: In addition to the Trade Contractor's supervisory/superintendent responsibilities, it is the responsibility of the foreman who is in direct control of the employees on the job and is in frequent and close interaction with the employees to carry through on each of the following duties:

- ✓ Instruction to *employees* of safe work practices and work methods at the time the men are given work assignments.
- ✓ See that employees have and use the proper protective equipment and suitable tools for the job.
- ✓ Continuously check to see that no unsafe practices or conditions are allowed to exist on any part of their work.
- ✓ Acquaint employees with all applicable safety requirements and see that they are enforced.
- ✓ Make a full investigation of accidents to determine facts necessary to take corrective action and promptly complete the Supervisor's Accident Investigation Report.

- ▪ Hold weekly "tool box" safety meetings with his/her workers to:
- ✓ Discuss unsafe work practices or conditions
- ✓ Review the accident experiences of employees and discuss correction of the accident causes
- ✓ Encourage safety suggestions from employees.

- ✓ See that an injured person(s) receives prompt first-aid medical attention. See that all injuries are properly reported and treated.
- ✓ Correct or report immediately to job 530 West 28th Street superintendent any observed unsafe conditions, practices or violations of job safety.
- ✓ Provide an orientation to each employee prior to the start of work.
- ✓ Pre-plan non-routine work for safety.
- ✓ Attend, participate in safety meeting and initiatives.
- ✓ Teach each employee about the hazards on his job and how to avoid them.
- ✓ Teach employees that accidents are caused and can be prevented.
- ✓ Impart to each employee the understanding that a violation of an established safety rule will not be tolerated and disciplinary action will be taken if not adhered to.
- ✓ Ensure needed safety equipment/protective devices are provided and used for each job.
- ✓ Take prompt corrective action whenever unsafe conditions and acts are noted.
- ✓ Investigate and find the cause of all accidents even those that result in a minor injury.
- ✓ Continually conduct safety appraisals of one's work area including a careful check of all new equipment before it is placed into operation.
- ✓ Give full support to all safety activities and procedures.
- ✓ Continuously see that no unsafe practices or conditions are allowed to exist in the work zone.
- ✓ Set a good example to his/her fellow employees.
- ✓ Check first aid supplies located in shanties or gang boxes at least *weekly* and replace all expended items as needed.

5) **Employees:**

An employee's responsibility is primarily to work in a safe and efficient manner. Listed below are some of the principal duties of each employee:

- ✓ To follow all established safety regulations.
- ✓ To ask questions of his foreman to ensure he understands tasks given to him.
- ✓ To stay alert and free of injuries while working.
- ✓ To report any unsafe condition to his foreman when such a condition is encountered.
- ✓ To report the slightest injury to his foreman in person and to seek first Aid care immediately.

6) Trade Contractor's Responsibilities

- ✓ All Trade contractors are hereby notified that they are required to obey and implement the Site Safety Manager 's recommendations and directives relating to the Program.
- ✓ As a condition of their contract, all subcontractors shall submit to the Construction Manager's Site Safety Manager or designee:

- ➢ A site-specific safety plan within fifteen (15) days after receipt of Notification of Contract Award. *(Pre-work acceptance is required.)*
- ➢ The name and qualifications (resume) of dedicated on-site safety persons. *(Pre-work acceptance is required.* j.
- ➢ Copies of all weekly Tool Box meetings

- ✓ Pre-planning for high risk activities, as requested by the Construction Manager or Site Safety Manager , with input from the field staff that will be doing the work.
- ✓ A list of Hazardous Substances brought 10 the ·site. ·
- ✓ A copy of all citations and/or warning of safety violations received from any state or federal jurisdiction, agency, insurance company, or by any of its sub tier contractor organizations within the same workday that it is received.
- ✓ The Trade Contractor is responsible for the safety and health of employees, subcontractors, visitors, and vendors in accordance with State, Local and Federal regulations, and the Contract Documents. Each Subcontractor is required to establish and submit for review a written Safety and Health Plan that includes details commensurate with the Work to be performed. The Subcontractor's Safety and Health Plan must clearly describe the subcontractor's commitments for meeting its obligations to provide a safe and healthful work environment for its employees and subcontractor employees, to protect vendors; visitors, and members of the general public. The Subcontractor's Safety and Health Plan shall reference Federal OSHA standards, and any other rules or regulations applicable to construction activities.
- ✓ Each Subcontractor is required to designate an on-site Safety Representative who is charged with responsibility of on-site safety. management. At a minimum the safety representative shall meet the requirements of a "competent person" as defined by OSHA for all phases of construction. On-site safety representative must be approved by the Construction Manager.

- ✓ Each Trade contractor's designated Safety Representative shall be required to meet on a weekly basis with the Site Safety Manager to ascertain that the Trade contractors are complying with The Program.
- ✓ All Subcontractors shall require its trade contractors to comply with all requirements and responsibilities set forth in this Safety Program as to their respective operations the Subcontractor shall be responsible for their non-compliance herewith.
- ✓ Permanent records shall be maintained by the Subcontractor, as required by law, describing all Hazard Communication Program training.

7) Superintendent/Site Safety Manager

The following describes the activities of the Site Safety Manager**:**

- ✓ The Site Safety Manager shall personally inspect the site daily to determine that the Project meets the requirements of Chapter 33 and OSHA Standards.
- ✓ In the event that any violations of the Site Safety Program are discovered by the Site Safety Manager, the Site Safety Manager shall advise the person or persons responsible for creating the violations that corrections· of the observed violations must be made immediately,
- ✓ The Site Safety Manager shall provide advice and recommendations in maintaining compliance with the 530 West 28th Street Safety Program in the following activities:
- ➢ Plan and coordinate all work so as to comply with the stated objectives of this Program.
- ➢ Schedule safety meetings to be held weekly which all supervisory staff of the Subcontractors and trade contractors is required to be present.
- ➢ Cooperate with Safety Engineers, Insurance Company Loss Prevention Specialists, Municipal Compliance Officers and Authorized Consultants.
- ➢ Work to obtain authorization for action necessary to correct substandard safety conditions reported or observed.
- ➢ Monitor compliance with all Federal Occupational Safety and Health Standards and all applicable State and Local Laws.
- ➢ Review and provide guidance, as required, to advise subcontractors' personnel in the planning and execution of all work so as to comply with the stated objectives of the Program.
- ➢ Ascertain that permits for sidewalk sheds are in effect as required by Chapter 33 of the Building Code.
- ➢ Ascertain the approval of drawings of the sidewalk shed are at the site as required by Chapter 33 of the Building Code.
- ➢ Unless the designer and supplier of the sidewalk shed assumes such responsibility, ascertain that such sheds have been inspected by P.E. of record.
- ➢ Ascertain that certificates of approval, operation, and on-site inspection for all cranes derricks, or cableways have been obtained as required by Section 27-1057 [C26-1909.4] (b), (c) and (d) of the Building Code.
- ➢ Ascertain that sidewalk sheds remain in place until the structure is enclosed, all exterior work completed, the sash is glazed above the second story, the exterior of the facade is cleaned down, all outside handling of material, equipment and machinery is completed and dismantling of material hoist or tower or climber crane or the use of a derrick and their removal above the second story is completed.

- Ascertain that communication has been arranged among *all* responsible parties when crane and derrick loads are carried beyond the perimeter of the building, and when tower or climber cranes are being dismantled or erected.
- Ascertain that required permits have been obtained from Department of Transportation for any street obstructions or closings.
- Institute procedures for the preparation of supervisory investigation reports on all accidents. This form will be completed by Subcontractor's supervisory personnel.
- Review accidents and advise on ways to institute corrective action and discuss at scheduled Safety Meetings to prevent recurrence.
- Review toolbox meeting reports submitted by job foremen and take necessary action to see that required periodic group toolbox meetings are held by the job foremen.
- Coordinate activities of safety and loss prevention with engineers, consultants and trade contractors obtain approval to institute necessary steps to implement compliance with approved recommendations.
- Maintain the hot line number at the site for telephoning the Department of Buildings and the Department of Transportation when it is necessary to close off a street for safety purposes.
- Confirm that all Department of Buildings signage is prominently displayed at the construction site, as required by Section 27-1009 [C26-1900.3] of the Buildings Code.
- Notify the Department of Buildings when informed of an emergency.
- Assist in inspections of the jobsite with the New York City Fire Department.

The following regulations are listed for the purpose of advising subcontractors of other regulatory requirements that will be reviewed and monitored by the Site Safety Manager :

- ✓ Compliance with Local Law 61 Rules and Regulations pertaining to safety netting (horizontal and vertical), Section 27-1021 ((a) (6),).27-1021 (a) (7),), 27-1092 (a) (1), (2).
- ✓ Compliance with Local Law 61 pertaining to storage of materials defined by Section 27-1018 of the Administrative Code.
- ✓ Compliance with Local Law 61 pertaining to use of reshores.
- ✓ Compliance with the Hazard Communication Standard (aka Right to Know Law") as set forth in OSHA regulations at 29CFR 1910 1200 and 1926.59 including; (a) maintaining copies of all Material Safety Data Sheets in a central location and make same available for review and inspection to personnel exposed to hazardous substances on the Project (b) post required notices for all trade contractors, employees and personnel on the Project; (c) periodically survey work areas, containers and materials to determine that they are properly labeled and that MSDS's have been provided, if required; (d) maintain and post a list of known hazardous substances on the Project; *(e)* communicate information to all 530 West 28th Street employees and employees of other employers regarding known hazardous substances; and determine that other Subcontractors are complying with those reinforcements set forth in Part Ill, C, 4.0 here in after regarding the Hazardous Communication Standard.

TABLE OF CONTENTS

PART I

530 West 28th Street

PART 2

LOCAL COMPLIANCE
NYC DEPARTMENT OF BUILDINGS COMPLIANCE

PART 3

FEDERAL SAFETY REQUIREMENTS/COMPLIANCE

3.2 SAFETY COMPLAINTS
3.3 POSTING REQUIREMENTS
3.4 WORKPLACE HEALTH PROGRAM
3.5 COMPETENT PERSON
3.6 STAIRS, PASSAGEWAYS, LADDERS
3.7 ILLUMINATION
3.8 TORCH OPERATIONS
3.9 PERSONAL PROTECTION EQUIPMENT
3.10 ELECTRICAL GUIDELINES
3.11 HAND AND POWER TOOLS
3.12 HAZARD COMMUNICATION STANDARD
3.13 MASONRY
3.14 TOILETS
3.15 FALL PROTECTION
3.16 EQUIPMENT MAINTENANCE & PROTECTION
3.17 LOCK OUT BASICS
3.18 LOCK OUT - TAG OUT
3.19 CONCRETE HAZARDS
3.20 WORKING SAFETY WITH CONCRETE
3.21 FIRE PREVENTION AND FIRE FIGHTING
3.22 FIRE EXTINGUISHER
3.23 HOUSEKEEPING TIPS
3.24 CRANES AND DERRICKS
3.25 EXCAVATION & BACKFILLS
3.26 EXCAVATION
3.27 TRENCH EXCAVATION
3.28 CONCRETE PLACEMENT
3.29 STRUCUTRAL STEEL SAFETY
3.30 CONFINED SPACE ENTRY PROCEDURE
3.31 CONFINED SPACE HAZARDS
3.32 SCAFFOLDS
3.33 WELDING/CUTTING INFORMATION
3.34 FLOOR AND WALL OPENINGS
3.35 BLOOD BORNE PATHOGENS
3.36 FIRST AID

NOTE: THE PROCEEDING SECTIONS WILL BE UPDATED WITH "TRADE SPECIFIC" REFERENCES AND/OR SUBCONTRACTOR PROGRAMS AS FUNCTIONAL ASPECTS OF CONSTRUCTION ARE AUGMENTED AT SITE.

PART 4

530 West 28th Street
JOBSITE HAZARD ANALYSIS

4.1 PROJECT SCOPE
4.2 PROJECT HAZARD ANALYSIS
4.3 PROJECT SAFETY LOGISTICS PLAN
4.4 PROJECT ORGANIZTION CHART
4.5 PROJECT EMERGENCY EVACUATION AND NOTIFICATION PROCEDURES
4.6 ORIENTATION AND TRAINING

PART 5

REPORTING FORMS

5.1 Site Safety Manager's Log
5.2 A. Program Safety Audit
B. Daily Field Inspection
5.3 Safety Deficiency Notice
5.4 Form C-2 - Injury Report
5.5 Trade Contractor Safety Statement
5.6 Supervisor's Accident Investigation Report

PART 6

SAFETY TRAINING

PART 1

530 West 28th Street

1.1 530 West 28th Street, SAFETY POLICY

1.2 SITE APPEARANCE

PART 1

530 WEST 28TH STREET SAFETY POLICY SUPPLEMENTS

1.1 530 WEST 28TH STREET SAFETY POLICY

530 West 28th Street is firmly committed to provide all of its' employees with a safe and healthy work environment. It is a matter of company policy to provide our employees with information about OSHA regulations including but not limited to personal protection training and the Hazard Communication Standard.

As each contractor comes on to a site they will be required to provide their written safety program to 530 West 28th Street qualified person for approval as well as identify their own qualified safety person for the site. This qualified person designation will be incorporated into the Site Safety Manual. If the contractor does not posses an accepted and approved safety plan, they will comply with the provision of this program.

1.2 SITE APPEARANCE

Construction fences, sidewalk sheds, gates, roadways, sidewalks, etc. are to be cleaned and maintained on a daily basis. Specific provisions are to be made as follows:

- Fences, gates and entrances are to be constructed in a structurally sound and workmanlike manner. Wood or other non-finished materials are to be painted with appropriate "post no bills" stenciling. Surfaces are to be cleaned, scraped, and repainted as often as required not just at the beginning of the project.

- Sidewalk sheds are to be of metal construction whenever possible. All surfaces are to be cleaned and painted upon installation and to be re-done whenever required entrances and gates are to be of good quality appearances, aligned and plumbed. Storage of material on the sidewalk shed is prohibited unless its included in the design and approved permit is in place.

- Signs and graphics are widely varied by Owner's requirements; however, the following minimums should be maintained:

  - 530 West 28th Street sign (of largest size allowed by law, parapet size, etc.) on each elevation or street intersection around the perimeter. Signs are to be mounted on fences, shed parapets, building structure, trailers, etc. to attain maximum visibility.

  - 530 West 28th Street field office sign on trailer, shanty or at entrance to office. Also, several small signs placed at various locations around the site indicating the field office location.

  - Signs indicating location of temporary fire standpipe Siamese connection, location of fire pump and/or location fireman access to personnel hoist as required by local fire marshal.

  - Standpipe Siamese Connection must be illuminated with a red light 24 hours.

  - Various safety signs ("Caution Hard Hat Areas", Caution Truck Entrance", etc.) at gates and entrances or as required by code/insurance carriers.

- Arrangements are to be made in advance for snow removal and salting/sanding of sidewalks. It is expected that these arrangements would be automatically implemented by labor foremen or maintenance contractor whenever required (including) Saturdays, Sundays and holidays).

- Site lighting is to be provided at all sidewalk sheds (fluorescent fixtures are preferred). Lighting at gates and entrances is to be provided. Special lighting for graphics and security purposes is to be added as required.

- All 530 West 28th Street personnel (both field labor and supervisory) are to be issued and utilize 530 West 28th Street hard hats. Such hard hats are a means of identification to the trades, to tenants and to the public, thereby increasing our visibility and availability. In addition, the proper use of hard hats as well as other safety devices by 530 West 28th Street personnel will help to set and maintain proper safety standards. Safety Coordinators will wear hard hats.

- All 530 West 28th Street personnel (including field labor) are expected to maintain a clean appearance and dress in accordance with their duties on the project. Such work areas as public lobbies, exterior sidewalks, occupied tenant area, etc. are to be given special consideration in maintaining a clean and workmanlike image.

- Efforts are to be made to minimize congregation of workers before/after working hours 530 West 28th Street and during lunch or coffee breaks at sidewalks, public area, etc. The aid of contractor's foremen and supervisory personnel should be enlisted in these efforts. Provisions such as an exclusive construction entrance, larger interior shanty areas, a lunch area within site and a public telephone are within the site will help this effort.

PART 2

LOCAL SAFETY COMPLIANCE

2.1 GENERAL INFORMATION

2.2 SITE SAFETY MANAGER QUALIFICATIONS

2.3 CONSTRUCTION MANAGER/GENERAL CONTRACTOR/TRADE CONTRACTORS RESPONSIBILITES

2.4 CONTRACTORS SAFETY POLICY

2.5 CONTRACTOR SAFETY RESPONSIBILTY

2.6 SITE SAFETY MANAGERS RESPONSIBILITIES

2.7 GENERAL REQUIREMENTS FOR SITE SAFETY CONSTRUCTION SITES

2.8 DISCIPLINARY POLICY PROCEDURES

2.8.1 INCENTIVE PROGRAM

2.9 GENERAL REQUIREMENTS

PART 2
LOCAL SAFETY COMPLIANCE

2.1 GENERAL INFORMATION

PURPOSE

This document outlines the requirements of the site safety program for 530 West 28th Street. They are not intended, however, to supersede any requirements of the Local Building Code, or rules and regulations promulgated by the local Buildings Department or any other City, State or Federal agency, pertaining to site safety and other construction activity.

SCOPE

Site safety program requirements shall apply to the construction project where designated and applicable for the scope of work.

The project safety manager will be the individual designated by the CM to provide periodic inspection & audit compliance for contractor safety performance and adherence to this program.

DESIGNATION OF SITE SAFETY MANAGER AND CONTRACTOR SITE SAFETY MANAGER

530 West 28th Street has designated a construction site safety manager who must be present on the site for the project work.

2.2 SITE SAFETY MANAGER QUALIFICATIONS (Construction Manager/General Contractor/Trade Contractors designated representative)

Individuals eligible for designation as the project site safety manager shall meet one of the following requirements:
(1, 2, or 3).

1. (a) New York State Licensed Professional Engineer or Registered Architect, or a person with eight years of construction supervision experience including five years of such experience with major buildings, and

   (b) Certification that the person has satisfactorily completed an orientation course approved by the Department of Buildings of no less than 40 hours in duration and a written examination give by the N.Y.C. Department of Personnel covering Chapter 33/ Subchapter 19 (Article 19)* of the Building code and the duties of site safety manager as detailed in Local Law 45 of 1983 or;

2. (a) Satisfactory equivalent of experience and/or education, as determined by the N.Y.C. Department of Personnel, and

   (b) Certification that the person has satisfactorily completed a 40-hour course approved by the Department of Buildings and passed a written examination given by the N.Y.C. Department of Personnel covering Chapter 33 of the NYC Building Code/Subchapter 19 and the duties of a site safety manager; or

3. (a) Completion of an on-the-job training program under a currently certified site safety manager. Such training shall cover all aspects of site safety management and all phase of building construction, from the commencement of construction until the building is completely enclosed, and shall last a minimum of 18 months. Each month, the site safety manager shall summarize the trainee's activities in the site safety log or other record, and shall certify as to the trainee's satisfactory completion of the training program; and,

   (b) Certification that the person has satisfactorily completed a 40-hour course approved by the Department of Buildings, passed a written examination given by the N.Y.C. Department of Personnel covering Chapter 33and the duties of a site safety manager.

4. Site Safety Manager Certificates shall be issued by the NYC Department of Buildings in accordance with the regulations relating to the filing of site safety programs. A copy of the Site Safety Manager Certificate for the proposed site safety manager (and alternate manager, if any) shall be included with the contractor's submission of its site safety program. No proposed alternate manager shall have as his or her primary duty the job of site safety manager on any construction project.

2.3 CONSTRUCTION MANAGER/GENERAL CONTRACTOR/TRADE CONTRACTORS RESPONSIBILITIES

Through its on site superintendent and site safety manager the Construction Manager/General Contractor/Trade Contractor (CM) shall have a periodic inspection made of job contractor compliance to safety regulations and job specific program compliance.

- All new employees shall receive jobsite orientation, given by Site Safety Manager, and receive a sticker to be placed on hard hat to verify that said employee has successfully completed orientation.
- Safety meetings shall be held weekly.
- Perform accident investigation.
- Notify the CM of any unsafe act or potential hazard and offer remediation advice to stop work until hazard is abated.
- Perform job site record keeping as in Section 5.0 of this safety program.
- Update safety logistics plan in red upon inspection for changes in plan components.
- Identify muster point and emergency procedures.
- Identify worker's access to the job site.

2.4 STATEMENT OF SITE POLICY

- 530 West 28th Street shall appoint a qualified site safety manager who shall be assigned the responsibilities described in this site safety program. 530 West 28th Street shall notify all of its supervisory personnel and all of its subcontractors working on the construction site of the name and responsibilities of the site safety manager. 530 West 28th Street shall also notify their employees and all subcontractors that the safety manager is responsible for monitoring compliance with the local Buildings Department regulations dealing with site safety and that they are required to obey and implement all orders and directives relating to safety requirements.

- Should the site safety manager discover a violation of the site safety regulations, he or she shall immediately notify the person of persons responsible for creating the violation, whether these persons are employed by 530 West 28th Street or by subcontractors. If the site safety manager is unable to obtain the cooperation of these persons in correcting the violation, he or she shall inform his or her direct supervisor immediately and request that the supervisor order the necessary corrective action. If the supervisor of the site safety manager is not present at the site or otherwise unavailable, the site safety manager will notify any other supervisory personnel of 530 West 28th Street present on the job or any other responsible manager or officer.

2.5 CONTRACTOR'S RESPONSIBILITY

It shall be the responsibility of all contractors, and subcontractors engaged in building work to institute and maintain safety measures and provide all equipment or temporary construction necessary to safeguard the public and property affected by their operations and designate a competent person from their organization to be the person responsible for safety on their portion of the project.

2.6 SITE SAFETY MANAGER'S RESPONSIBILITY

- In addition to other safety duties assigned by the owner or contractor to meet Federal and State requirements, it shall be the responsibility of the site safety manager to monitor compliance with the local safety requirements. At a minimum, this requires that the manager, as a representative of the owner, his agent, the general contractor and/or Construction Manager/General Contractor/Trade Contractors, meet on a weekly basis with the designated representative of each subcontractor to ascertain that they are complying with the provisions of Chapter 33 when the scope of the subcontractor's work at that time falls within the Subchapter (Article).

- The site safety manager shall notify the CM and take appropriate action if he/she discovers any of the following in the routine performance of the job:

  - A person is operating a crane, derrick or hoisting equipment on the construction site without a permit and refuses to desist from operating the crane;

- An unlicensed operator is operating that crane and said unlicensed operator refuses to desist from operating the crane;

- No flagman present during crane operation where required.

- Construction equipment and temporary structures required by the site safety plan are not in place during construction activity;

- Proper permits have not been issued.

- The designer and/or supplier of construction equipment and temporary structures has not certified that the equipment have been erected in accordance with the approved plans;

- An accident involving the public, or private or public property has occurred.

- It shall be the responsibility of the site safety manager to inspect personally, on a regular basis, specific areas and items, identified below, and to notify responsible personnel employed by the general contractor, Construction Manager/General Contractor/Trade Contractor or any subcontractor when violations of their Program or applicable laws have occurred.

- The site safety manager shall ensure that all daily entries in the site safety log are completed. These entries must be recorded by 7:00 a.m. on the day following the activities.

- The site safety manager, or alternate, shall sign the log at the beginning of each day, and must be present at the job at all times during ongoing construction. If at any point during the day the site safety manager, shall be relieved of his/her responsibilities at the construction site, or leave the site for any reason he/she shall indicate this in the log, and an alternate shall sign in.

- The site safety manager shall make periodic inspections of the construction site in accordance with the schedule in the following chart to determine that the conditions at the site meet the public safety required of the Local Administrative Code for their appropriate work.

- Items to be recorded in Site Safety Log

  - Details of areas inspected by the site safety manager.

  - Companies and representatives met with weekly to ascertain their Subchapter 19 compliance.

  - Any unsafe acts and/or conditions (dates and locations)

  - Companies and representatives notified of unsafe acts and/or conditions.

  - Dates of notifications of unsafe acts and/or conditions.

  - Dates of correction of unsafe acts and/or conditions.

  - Any accident involving the public or damage to public or private property.

  - Any violations, stop work orders or summonses issued by the local Department of Buildings, including date issued and date lifted or dismissed.

  - Dates and location where horizontal and vertical netting has been installed, replaced and/or repaired.

- Date horizontal safety netting is removed

- Date when building reaches a height of 75 feet.

- Torch operations/hot work permits

Locations of fire protection equipment, fuel and combustible Storage.

Any equipment brought onto the job which requires permits, including a description of the equipment, where it is to be located, permit number, issue and expiration date of the permit, and certificate of inspection, if required, shall be entered on a Permit Log.

2.7 GENERAL REQUIREMENTS FOR SITE SAFETY INSPECTIONS AT CONSTRUCTION SITES

- When the building reaches a height greater than 75 feet, at least one elevator or personnel hoist with an emergency communication system shall be kept available for use at all times as per fire and building department requirements.
  (As appropriate)

- When the personnel hoist requires a jump, all necessary permits must be obtained and testing performed.
  (As appropriate)

- When the building reaches a height greater than 75 feet, a standpipe system shall be available and in readiness at all times for fire department use.
  (Daily)

- Valves shall be in place at each story below construction floor.
  (As appropriate)

- Standpipes shall be connected to water sources and Siamese connection.
  (As appropriate)

- Siamese hose connections shall be kept free from obstruction and shall be marked by a sign reading, "Standpipe Siamese connection," and by a red light.
  (Daily)

- The construction shed shall be constructed of noncombustible materials if located within 30' of building.
  (Once per shed)

- Interior and exterior guard rails and toe boards shall be provided and properly installed to meet the standards as described in the Building Code Section 27-1050 (C26-1907.9)
  (Daily)

- All openings and/or holes in the floor must be covered at all times. All floor hole covers must be identified with markings or paint with the word "HOLE" or "COVER" . Covers should be installed to prevent displacement.
  (Daily)

- All stairwells must have standard handrails.
  (Daily)

- Each sign as required in the local Building Code
  (Daily)

- Scaffolding must be inspected daily, have two means of egress, and fall protection must be used at a height of 6'-0" or greater.
  (Daily)

SAFETY NETTING

- Horizontal safety netting shall be maintained not more than two stories below the stripping operation floor on concrete structures or uppermost finished and walkable concrete floors on steel frame structures, providing that such floor is more than six stories or such floor is seventy five feet in height above the adjoining ground or adjoining roof level, whichever is applicable.
  (Daily)

- Horizontal safety netting shall project outward horizontally from the edge of the floor a minimum distance of ten feet.
  (Daily)

- The horizontal safety netting may be omitted in designated crane and derrick lifting areas as it is indicated and approved on the crane application and on the site safety plan.
  (Weekly)

- For steel frame construction where the steel frame extends more than eight stories above the walkable concrete floor, vertical safety netting shall be provided at all floors at and below the topmost working metal deck, where this deck is substantially completed and the required guard rails and toe boards are in place.
  (Daily)

- Vertical safety netting shall be provided at all floors below the floor on which horizontal netting is required.
  (Daily)

- Vertical safety netting shall be maintained at each story except for the story at grade, the story immediately above the sidewalk shed and the uppermost level.
  (Daily)

- Vertical safety netting shall be secured and kept closed at all times except during actual loading operations or perimeter construction operations.
  (Daily)

MAINTENANCE OF SITE AND ADJACENT AREAS

- Guards, shields or barricades shall surround all exposes, electrically charged, moving or otherwise dangerous parts of machines and construction equipment so as to prevent contact with the public.
  (Daily)

- There shall be no exposed hose lines, wire ropes etc., that may constitute a tripping hazard to the public. (Throughout day)

- Adjoining property shall be protected when the height of building exceeds that of adjoining property.
  (Daily)

- If the building is erected, enlarged or increased in height so that any portion of such building, except chimneys or vents, extends higher than the top of any previously constructed chimneys within 100 feet the chimneys must be made to conform with Section the administrative code.
  (As appropriate)

HOUSEKEEPING

- All areas used by the public shall be maintained free from ice, snow, grease, debris, equipment, materials, projections, tools or other items, substance or conditions that may constitute a slipping, tripping or other hazard.
  (Throughout day)

- Floors, roof and stairs shall be clean of excess debris.
  (Throughout day)

- When not in use, equipment and tools shall be kept away from edges or openings.
  (Throughout day)

- The roof of the sidewalk shed and street shall be cleaned of debris.
  (Daily)

- Sufficient containers for the storage of garbage and debris shall be in place.
  (Daily)

- Containers shall be covered when full and secured.
  (Daily)

REMOVAL AND STORAGE OF MATERIAL

- Combustible waste material or combustible debris shall be removed from the site.
  (Daily)

- Chutes, when used for the removal of debris, shall be installed and maintained, in accordance with the local Building code.
  (Weekly when installed)

- When exterior walls are not in place, stored material shall be kept at least ten feet back from the perimeter of the building. If the floor area is less than one thousand square feet, stored material may be kept not less than five feet back from the perimeter of the building.
  (Daily)

- Material stored on floors of a building shall be secured when not being used.
  (Daily)

- Material may be stored to within two feet of the edge of the building only on the upper working floors located not more than two stories below the stripping operation on concrete structures or on the uppermost concrete floor on steel structures.
  (Daily)

- No material shall hang over the edge of a building unless banded and braced preparatory to relocation prior to the end of the workday.
  (Daily)

- Where such material is so banded and braced it may overhang the floor of the stripping operation by not more than one-third of its length so long as it is relocated by the next workday for concrete operations.
  (Daily)

- Where the steel mill and lumber mill are located, material may overhang for relocation until the next workday. Maximum number of floors designated as steel mill or lumber mill is two.
  (Daily)

PROTECTION OF SIDEWALKS

- Permits for sidewalk sheds shall be in effect and posted in a central, visible area.
  (Periodic)

- Approved drawings of the sidewalk shed shall be at the construction site.
  (Periodic)

- The designer and/or supplier of sidewalk sheds shall certify that such sheds have been erected in accordance with the approved plans.
  (Once)

- Sidewalk sheds shall remain in place until the structure is enclosed all exterior work completed the sash is glazed above the second story, the exterior of the facade is cleaned down, all outside handling of material, equipment and machinery is completed and dismantling of a material hoist, tower or climber crane, or the use of a derrick in their removal above the second story.
  (Weekly)

- All openings in sidewalk sheds, fences and railing for adding purposes shall be kept closed, barricaded, protected or guarded at all times.
  (Throughout day)

- Sidewalks sheds shall extend the entire perimeter of the building.
  (Once)

- When the building exceeds 100 feet in height, sidewalk sheds shall extend 20' beyond the side property line.
  (Daily as appropriate)

- Sidewalk sheds shall be illuminated at night by the equivalent of 200 - watt bulbs spaced 15 feet apart at a minimum height of 8 feet above floor.
  (Daily)

- Any temporary footbridges and walkways for the public shall be maintained at a width of at least 5 feet.
  (Daily as appropriate)

WARNING SIGNS AND LIGHTS

- All dangerous and hazardous areas to the public or areas where work is performed near vehicular traffic shall be marked appropriately with warning signs and lights.
  (Daily)

- Other steps necessary to protect the public shall be taken, including provisions for flagmen whenever intermittent operations are conducted on or across areas open to the public or when dangerous operations such as blasting may affect such areas.
  (Throughout day as appropriate)

SCAFFOLDS, STRUCTURAL RAMPS, RUNWAYS AND PLATFORMS

- Where it poses a risk to the public all scaffolds, structural ramp runways and platforms shall be provided with standard rails, toe boards, screening, or nets, unless otherwise specified.
  (Daily)

MATERIAL HANDLING AND HOISTING EQUIPMENT

- Certificates of approval, operation and on site inspection for all derricks and/or cableways shall be obtained and available for inspection at the construction site.
  (As required)

- Permits for highway and street closings shall be available at the construction site.
  (As required)

- License of crane operators shall be available at the construction site.
  (Daily)

- Cranes shall be jumped, as needed in accordance with the schedule submitted by the professional engineer and approved by the Department of Buildings
  (Daily)

- A means of communication shall be arranged and put into effect between the responsible parties when the operator of hoisting machinery has no vision of the lift or loading areas.
  (Daily when operational)

- A program shall be established and operational for the control of pedestrian and/or vehicular traffic around the construction site during all lifting and hoisting operations.
  (Daily when operational)

- Flagman shall be required to stop pedestrian and/or vehicular traffic during the following intermittent operations.
  (As appropriate)

  - All lifting and hoisting operations

  - Trucks entering and exiting site

  - Materials being lifted over sidewalk shed

  - Dangerous operations, e.g. blasting

  - When sidewalk and/or street is temporarily closed

- In addition to the above schedule, the site safety manager shall use reasonable prudence to ensure that safety is maintained at the job site as job conditions and Contractor's Statement of Policy dictate.

2.8 DISCIPLINARY POLICY AND FINE PROGRAM PROCEDURES

All employees are expected to comply with job site safety rules and regulations, and to follow established operating procedures set forth by 530 West 28th Street. Violations will not be tolerated and superintendent/foreman will be held accountable for the conduct of their employees.

Superintendents and foreman are required to take action when a violation or unsafe work activity is observed. Immediate action to control or eliminate a hazard is required.

In the event a violation is observed, the following procedures shall be established to place an employee on notice.

Notice*	Action
First Offense	A written addressed to the employees with reference to the violation including location date and time of the occurrence. A copy of this warning will be given to the employee, the union shop steward, and another copy will be placed in the employee's file.
Second Offense	A written warning similar to the first notice will be prepared and distributed in the same manner. This warning will be followed by a meeting with the employee, union shop steward, foreman and/or project manager and senior management to determine whether the employee will be suspended without pay or terminated depending upon the nature of the violation.
Third Offense	Termination

*This policy is in effect unless there is a policy in our labor/management agreement.

Note: This program can be effectively implemented by discussing the procedures of the program in a safety toolbox meeting.

The above procedure has been prepared so that there is no question about how violations of safety rules, regulation and procedures will be handled by management and so that employees will know what to expect if they do not comply with the established safety rules, regulations and procedures. Management knowledge of unsafe behavior and lack of appropriate documented discipline may be a violation of federal and state laws and regulations.

With their consent and authorization the contractor's and owner's full time safety manager is authorized to stop any construction activity or task, which, in his judgment, constitutes an immediate or evolving situation of imminent danger. In the event of a conflict and/or ambiguity between safety provisions, the interpretations by the safety manager as to which provision applies or what is implied in a given provision will be final.

It is 530 West 28th Street requirement that all employees who do not

perform their work, by word or action refuse or attempt to refuse to comply with their safety contractual obligations be disciplined for these shortcomings.

Compliance with the rules and regulations set forth in their safety program and contractor orientation program as well as applicable OSHA standards is a condition of employment and a contractual obligation.

1. Contractor/Subcontractor: A contractor/subcontractor found to be in noncompliance with the project safety requirements, which are a part of the contract documents, will result in stoppage of work, supervisor and/or employee and/or employee dismissal and any willful or repeated noncompliance will result in Contractor/subcontractor dismissal.

2. Contractor/subcontractor's manager, supervisor, foreman or other person in charge of the work being performed who requires, requests, asks, threatens with their job, allows or condones employees to work in/or around unsafe acts or conditions shall be immediately and permanently removed from the Project.

3. Any employee, supervisor or manager who openly exhibits disregard, defiance or disrespect for the safety program be immediately and permanently removed from the project.

4. Any employee, supervisor or manager who knowingly falsifies any investigative documents or testimony involving an investigation is immediately and permanently removed from the project.

5. All parties involved in violent physical encounters (fighting) or threats of violence, theft or destruction of property is immediately and permanently removed from the Project.

6. Employees who violate established safety rules, regulations or codes that endanger themselves or other employees will be immediately and permanently removed from the Project

7. The Project Disciplinary Program will also consist of a Contractor/subcontractor Monetary Penalty Program to be used at the discretion of the Owner and its designees. .

   The monetary penalties/fine (see schedule) will be collected from the contractor violating the project, OSHA or other safety rules, codes and regulations. These monetary/penalties, fine will be paid by the respective contractor/subcontractor prior to the Construction Manager/General Contractor/Trade Contractor/general contractor/program manager releasing monies to the contractor for his monthly pay requisition. Collections will the

responsibility of the Construction Manager/General Contractor/Trade Contractor

Monetary Penalty Schedule	Fine
No hard-hat	$100
No hearing protection	$100
No or improper eye protection	$100
Not using respirator	$100
Improper footwear	$100
Improper clothing	$100
Using a ladder not in accordance with standards	$250
Using defective electrical cord/Missing GFCI	$500
Not elevating or protecting cords, hoses, leads	$100
Not using full body harness and required accessories	$1,000
Improper use of harness and required accessories	$200
Smoking	$200
Uncovered floor holes	$100
Unguarded or covered floor openings	$1,000
No fall protection	$1,000
Defective tools	$250
Unshared or sloped trenches/excavations	$1,000
No means of egress from trenches/excavations	$250
Materials stored within 6 ft. edge of trench/excavations	$250
Poor housekeeping	$250
Unguarded power tools	$250
Lock out tagging violation	$1,000
Confined space entry violation	$1,000
Noncompliance with assured grounding program	$250
Scaffolding violation – any type except guarding	$250
Unguarded platforms of scaffolding	$1,000
No fire watch/extinguisher	$200
Improper material storage	$200
Unsecured compressed gas cylinders/uncapped	$200
Failure to protect the public or employees	$500
Violation of equipment requirements	$200
Rigging violations	$500
Removal of guardrails without backup fall protection	$1,000
Removal of guardrails and not replacing	$1,000
No permit – scaffold, burning/welding, excavation etc.	$500
Not providing written reports required weekly and/or Monthly safety meeting reports, safety harness inspection, etc.	$100
Missing MSDS sheets	$100
Not possessing at minimum current 10 Hour OSHA cert	$200
Working on scaffold without current 4 hour Supported Scaffold user card	$200
Working on scaffold without current 16 hour Suspended Scaffold user card	$200
Missing/incomplete “task (job) Hazard Analysis” reports	$200
General Duty violations	Vary from $100 to $1,000

2.8.1 Incentive Program

To reward subs for their cooperation and full compliance an incentive program can be instituted as a way of showing appreciation.

2.9 GENERAL REQUIREMENTS

1. Contractor is aware of the requirements of the Site Safety Plan and that there is a site safety management contractor employed by the Construction Manager/General Contractor/Trade Contractor, for this project. Contractor shall fully cooperate with same, adhere to and comply with the site safety manager's direction and the site safety plan. Contractor shall also comply with the requirements of the owner's safety program. All of contractor's personnel will be required to attend a site safety orientation meeting conducted by the site safety manager.

2. This contractor shall provide its own site-specific safety and health program. The program shall be submitted before the commencement of on-site work. The program shall address tasks to be completed on the project including describing the controls and safeguards to prevent injury and illness. Contractor's safety program shall be subject to audit and review by the Construction Manager/General Contractor/Trade Contractor's site safety manager.

3. Failure to comply with the safety requirements of the project may result, at the discretion of the Construction Manager/General Contractor/Trade Contractor, in the following amounts being deducted from the contract price for each specific non-compliance with a provision of the safety program:

First Offense	Warning – no monetary deduction
Second Offense	$500
Third Offense	$1,000
Further Offenses	$2,000 for each additional offense

   Deductions shall be non-cumulative for violation of multiple provisions of the site safety program.

4. The contractor will conduct weekly job box safety meetings (JBSM) on a regularly scheduled basis and New Employee Safety Orientations as required for its own personnel. The contractor shall provide a written JBSM schedule to the Construction Manager/General Contractor/Trade Contractor within two (2) weeks of contract award. The Construction Manager/General Contractor/Trade Contractor, at its option, shall be allowed to attend the JBSM. The contractor shall provide copies of meeting minutes and attendance sheets of all JBSM to the Construction Manager/General Contractor/Trade Contractor as a condition to processing payment requisitions. Requisitions will not be processed without receipt of JBSM minutes for the requisition period.

5. The contractor shall designate a competent individual from its employ to act as a safety manager anytime the contractor is performing work. The safety manager shall have satisfactory completed a minimum 10 hour OSHA safety course from an approved program. No work shall occur unless the contractor's safety manager is on site.
6. It is the responsibility of the contractor to institute a drug and alcohol program for its on-site employees. Drug and alcohol (including beer) use on the site will not be tolerated. Any on-sit employee who is found to be under the influence of or ingesting drugs or alcohol (including beer) or carrying weapons must be immediately removed from the site.

7. All personnel are required to wear hard hats at all times. All personnel will be required to comply with the Construction Manager/General Contractor/Trade Contractor's hardhat sticker program evidencing such participation in the site safety orientation meeting and commitment to the Construction Manager/General Contractor/Trade Contractor's safety program. Failure to wear a hard hat with the safety sticker shall cause for removal of employee from the project site.

8. The contractor must submit its own site-specific health and safety plan (HASP) before commencing work on the site or initial progress payment will be withheld. The contractor shall revise the HASP, as many times as project conditions require at no additional cost.

9. Contractor is required by OSHA regulations to institute a hazard communications program. Under the hazard communication program, the contractor must inform both the Construction Manager/General Contractor/Trade Contractor and all other contractors on the site, of any hazardous chemicals being used by the contractor. The contractor shall provide the Construction Manager/General Contractor/Trade Contractor and all other contractors on the site, with copies of Material Safety Data Sheets (MSDS), which will warn other contractors of the presence of any hazardous materials. The contractor must insure any hazardous materials are appropriately labeled and properly stored. Contractor shall maintain a job site inventory of hazardous materials.

10. Contractor shall take all safeguards necessary for fire protection and fire prevention.

11. The contractor is aware that unless included, as part of the scope of this contract, perimeter and/or interior protection will be in place by others, including netting, toe guards and cables or railings. The contractor shall remove same if required, for installation of his work and shall replace such protection or provide a suitable substitute in accordance with OSHA or other jurisdictional requirements, when he is not working in the area. Should the contractor fail to replace the protection the contractor will be charged for the replacement work as well as all violations, penalties and legal costs.

2.10 SUPPORTED SCAFFOLD & SIDEWALK SHED REQUIREMENTS

When a Permit is Required:
A permit is required prior to erecting a sidewalk shed or supported scaffold over 40 feet in height. If a scaffold is on top of a sidewalk shed, the height of the scaffold must include the height of the shed and be taken from the top of the sidewalk. If the supported scaffold is located on a setback or roof of a building, and if the outer leg of the scaffold is located a distance less than half the height of the scaffold (from the top of roof or floor slab), the height of the scaffold for permitting purposes shall include the height of the building below.

NYC Building Code Design Requirements for Temporary Equipment & Constructions:
§27-1011(b): Temporary equipment and constructions shall be designed so that the allowable stress values prescribed in subchapter 10 are not exceeded.
§27-594: Provides load combinations which include dead, live, wind, and snow.

- Loads subscribed in subchapter 9 must be used for design, including wind
- Uplift forces from wind must be considered in design calculations
- Snow and ice loads must be included in design calculations during winter months
- Tieback design must include wind factors created when netting is used, as wind load can be significantly increased with netting and screens

Note: Wind forces are reversible and can impose a "suction" load away from the structure as well as towards the structure

§27-591: Minimum factor of safety for overturning and sliding is 1.5.

- Free-standing scaffolds and sidewalk sheds must meet code requirements for overturning and sliding

§27-1015: Design shall be executed by or under the supervision of a licensed engineer or an architect who shall sign and seal the drawings and specifications.

- If the scaffold is supported on a sidewalk shed or roof structure, you must verify that the base structure can support the concentrated loads imposed by the scaffold legs

- At points of anchorage, you must check the base building elements for local failure

§27-1042(b)(1): All scaffold members shall be designed to be capable of withstanding, without collapse, 4 times the maximum loads.
§27-1042(b)(3): Standard Scaffold Designations and Design Live Loads

a. Light duty scaffold – To be used for loads up to 25psf and is intended for use by carpenters, painters and other similar trades.

b. Medium duty scaffold – To be used for loads up to 50psf and is intended for use by bricklayers and plasters.

c. Heavy duty scaffold – To be used for loads up to 75psf and is intended for use by stone masons.

§27-1021(b)(1): Sidewalk sheds for buildings 100ft or more in height shall be designed for a live load of 300psf. For buildings under 100ft in height, the minimum sidewalk design live load is 150 psf and no storage is permitted.

- If the BSA approved sidewalk shed design is utilized, you must verify that the shed is within the scope of the design by ensuring that:

  – Height does not exceed maximum height

  – Width does not exceed maximum width

  – Parapet does not exceed the height limit

  – Details/connections are in full compliance

- If a scaffold is sitting on a sidewalk shed, the BSA design does not apply

- Sheds must be designed for live loads in addition to imposed loads from the scaffold

Federal Code Design Requirements for Scaffolding:
OSHA Subpart L §1926.452(d): A large area scaffold (common platform) shall be

designed for a minimum of 50psf.

Supported Scaffold Submitted Drawing Requirements:

§27-1042: Scaffolds over 40ft in height require a permit from the Department of Buildings. Submitted drawings for approval must include the following:

- Design loads including maximum live load capacity in accordance with §27-1042(b)(3)
- Intended use of scaffold
- Number of simultaneously planked levels
- Number of levels to be utilized simultaneously
- Details for tie-back to the building or structure
- Maximum spacing of ties both vertically and horizontally
- Specifications for equipment to be used
    - – Make and model of scaffold frames
    - – Type and minimum strengths of timber
- If scaffold is sitting atop a structure, the layout of the legs imposed on the existing structure below. (This is applicable to both buildings and sidewalk sheds.)

NYC Building Code Requirements for Sidewalk Shed Construction:
Sidewalk Sheds must be erected and utilized in accordance with §27-1021 of the NYC Building Code. §27-1021(a) provides when a sidewalk shed must be constructed. A shed is required when:

- New construction is over 40ft and the distance from the face of the building to the inner edge of the walkway is less than half the height of the new building
- The demolished structure is over 25ft and the distance from the face of the building to the inner edge of the walkway is less than half the height of the new building
- Material or debris is to be moved over a sidewalk by a crane or hoist
- A portion of a façade over 40ft from the sidewalk is being altered or repaired and the distance from the portion of the building being altered or repaired to the inner edge of the walkway is less than half the height of the building.

§27-1021(b)(10) gives the requirements for the lighting under a sidewalk shed.

- A permit for the lighting must be obtained by a licensed electrician

NYC Building Code Supported Scaffold Construction Requirements:
Supported scaffolds must be erected and utilized in accordance with Article 8 of Subchapter 19 of the New York City Building Code. Requirements include, but are not limited to:
§27-1042: Any supported scaffold over 40ft in height must have a permit
§26-204.1: Any person erecting, maintaining or modifying or dismantling a supported scaffold shall have a Certificate of Completion from an approved training course
§26-204.1: Any person using a support scaffold shall have a User's Certificate from an approved training course.
§27-1042(a)(4): The footing and anchorage for every scaffold shall be sound, rigid and secure against movement in any direction
§27-1042(b): Scaffolds must not be loaded in excess of the design loads
§27-1042(b): Loads must not be concentrated on a scaffold so as not to cause overstress
§27-1042(g): Guardrails must be provided on the open sides and ends of scaffolds
§27-1043: Free-standing scaffolds must have a minimum height to minimum base dimension ratio of 4 to 1
Federal Supported Scaffold Construction Requirements:
Supported scaffolds must be erected and utilized in accordance with OSHA §1926.451/452. Requirements include, but are not limited to:
§1926.451(c)(1): Ties must be installed at locations where horizontal members support both inner and outer legs
§1926.451(c)(3): Frames must be joined together vertically by coupling or stacking pins
§1926.451(c)(4): Where uplift can occur, frames must be locked together by pins or equivalent means

2.11 ADDITIONAL SITE SAFETY PERSONEL – CONCRETE SAFETY MANAGER

According to Chapter **3310.9** The following additional personnel shall be employed to oversee concrete operations at major buildings as defined in section 3310.2 and such other classes of buildings or operations as the commissioner may designate by rule. These personnel shall coordinate directly with the site safety manager or coordinator designated in accordance with section 3310.6. In all instances, the designated site safety manager or coordinator retains responsibility for ensuring compliance with the provisions of section 3310 of this code and all applicable rules, and for signing the site safety log. The name and contact information of the additional site safety personnel shall be recorded in the site safety log.

3310.9.1 Concrete safety manager. Beginning JULY 1, 2009, a concrete safety manager shall be designated by the concrete contractor at those sites where the concrete portion of the project involves the pouring of a minimum of 2,000 cubic yards of concrete or such lesser amount as the commissioner may determine by rule. Concrete safety managers shall have five years of experience in concrete operations and shall have satisfactorily completed, by July 1, 2009 or within the five calendar years prior to registration, a thirty hour course approved by the commissioner that is sufficient to qualify the individual as a competent person under OSHA standards to oversee concrete operations, including such topics as formwork design, construction and stripping operations, rebar handling, and rigging. Concrete safety managers shall register with the department in the same manner as construction superintendents, and shall provide evidence of meeting the eligibility requirements set forth herein. As of July 1, 2009, no person shall perform the duties of a concrete safety manager without being registered as such with the department. The commissioner shall promulgate rules establishing the duration that such registration shall be valid and the requirements for renewal of the registration. The concrete safety manager shall be present during all concrete operations. For purposes of this section, "concrete operations" shall mean the pouring of concrete and the construction and stripping of concrete forms and related activities as specified by the commissioner.

2.12 SITE SAFETY COORDINATOR

Effective July 1, 2008 a certified Site Safety Coordinator or a certified Site Safety Manager is required on all initial construction or demolition permits for major buildings that are 10-14 stories.

A Certified Site Safety Manager must be on-site at buildings above 14 stories where construction or demolition is being conducted. Site Safety Coordinators may not supervise buildings this height.

2.13 CONSTRUCTION NOISE MITIGATION PLAN

In accordance with Section 24-220 of the New York City Administrative Code, any individual or entity performing construction work in the city, shall adopt and implement a noise mitigation plan for each construction site when any device or activity is conducted as defined in Section 24-219. The attached sample form of a noise mitigation plan is intended to inform the user of the required plan elements that a responsible party must include when the listed devices are being used on site, and the mitigation strategies and best management practices that are being employed as defined in 15RCNY Section 28-102. Noise mitigation plans must be signed and notarized to be valid and must be updated as necessary.

Construction Noise Mitigation Plan
FORM
July 22, 2008*

It is not necessary to file this document with DEP
however; it must be accessible to inspectors.
The responsible party shall be liable for the accuracy of this document and compliance with all applicable rules in 15 RCNY Chapter 28.

I Contact Information

Name of Responsible Party as defined in 15 RCNY §28-109: ***Name of Company***

Work Site Location with Borough
BLOCK/LOT/Address: _____

Contact Phone Number for Responsible Party: _____

Approximate Distance to Closest Receptor (defined in §28-109 of Title 15 of The Rules of the City of New York (RCNY)): *60* feet

Demolition Construction Work is Taking Place from:
Month: _____ Year:_____ to Month: _____ Year: _____

Excavation Construction Work is Taking Place from:
Month: _____ Year:_____ to Month: _____ Year: _____

Foundation Construction Work is Taking Place from:
Month: _____Year:_____ to Month: _____ Year: _____

Superstructure Construction Work is Taking Place from:
Month: _____Year: _____to Month: _____ Year: _____

Finishing Construction Work is Taking Place from:
Month: _____Year: _____to Month: _____ Year: _____

Other Construction Work is Taking Place from:
Month: _____ Year: _____to Month: _____ Year: _____

Normal Work Hours (as defined in §24-222 of the Ad. Code): 7:00am -6:00pm

Dept of Transportation Permit Numbers:

Dept of Buildings Permit Numbers:

ite.

When the additional devices listed below each category are utilized, the use of barriers as set forth in section IV herein is not required unless the Dept. of Environmental Protection receives complaints as set forth in §28-102 of Title 15 of the RCNY for each device. If however, the specific device listed below each main category of devices are not checked, and you are using any of the main devices listed below, then the use of barriers set forth in Section IV herein shall be utilized. However, if you specified "other" in a category, you shall be required to utilize barriers as set forth in Section IV herein.

☐	**PILE DRIVERS**
☐	Vibratory Pile Driver or Hydraulic Impact Driver as defined in 102(a)(1)(B)(ii)
☐	Noise Bellows as defined in 102(a)(1)(B)(viii)
☒	No

☒	**JACKHAMMERS**
☒	Quieter makes and models as defined in 102(a)(1)(B)(i)
☐	No

☐	**HOE RAMS**
☐	Quieter makes and models as defined in 102(a)(3)(B)(i)
☐	Noise Shroud as defined in 102(a)(3)(B)(iii)
☒	No

☐	**BLASTING**

☐	**VACUUM EXCAVATORS**
☐	Smaller capacity vac-truck as defined in 102(b)(1)(B)(i)
☐	Silencer as defined in 102(b)(1)(B)(i)
☒	No

☒	**DUMP TRUCKS**
☐	US made EEL Equipment or equivalent as defined in 102(d)(1)(B)(iii)
☐	No

☒	**CRANES**
☒	Modern Hydraulic Crane as defined in 102(d)(1)(B)(ii)
☐	US made EEL Equipment or equivalent as defined in 102(d)(1)(B)(iii)
☐	No

☒	**CONCRETE SAWS**

☐	**SANDBLASTING**

☐	**AUGER DRILL RIGS**

☒	**HOIST**

☐	**CONCRETE PUMP TRUCKS**

☐	**CONCRETE TRUCKS**

☐	**BENDING MACHINES**

☒	**SCAFFOLD RIGS**

III Additional Construction Devices

List of additional applicable construction devices to be used at the site:
☒Generators
☒Compressors
☒Street Plates
☒Backup Alarms
☒Pumps

Note: DEP will utilize the Federal Highway Administration Roadway Construction Model as a means of identifying equipment either in section II or III, that may be the cause of a noise complaint, *see* §28-101(a) of Title 15 of the RCNY for compliance options.

IV Mitigation Barriers

Noise Mitigation Barriers Utilized: If required as set forth in §28-101(g) of Title of the RCNY.

Required to use the Perimeter Barrier/DOB Construction Fence Temporary/Movable Barrier
☒Yes☐No

Pile Drivers
☐Perimeter Barrier/DOB Construction Fence ☐Temp Barrier ☐Movable Barrier

Jackhammers
☒**Perimeter Barrier/DOB Construction Fence** ☐**Temp Barrier** ☐**Movable Barrier**

Hoe Rams
☐**Perimeter Barrier/DOB Construction Fence** ☐**Temp Barrier** ☐**Movable Barrier**

Blasting
☐**Perimeter Barrier/DOB Construction Fence** ☐**Temp Barrier** ☐**Movable Barrier**

Vacuum Excavators
☐**Perimeter Barrier/DOB Construction Fence** ☐**Temp Barrier** ☐**Movable Barrier**

Dump Trucks
☒**Perimeter Barrier/DOB Construction Fence** ☐**Temp Barrier** ☐**Movable Barrier**

Cranes
☒**Perimeter Barrier/DOB Construction Fence** ☐**Temp Barrier** ☐**Movable Barrier**

Auger Drill Rigs
☐**Perimeter Barrier/DOB Construction Fence** ☐**Temp Barrier** ☐**Movable Barrier**

Street Plates
☒**Perimeter Barrier/DOB Construction Fence** ☐**Temp Barrier** ☐**Movable Barrier**

Back up Alarms (01/01/08)
☒**Perimeter Barrier/DOB Construction Fence** ☐**Temp Barrier** ☐**Movable Barrier**

Concrete Saws
☒**Perimeter Barrier/DOB Construction Fence** ☐**Temp Barrier** ☐**Movable Barrier**

Hoist
☒**Perimeter Barrier/DOB Construction Fence** ☐**Temp Barrier** ☐**Movable Barrier**

Concrete Pump Trucks
☐**Perimeter Barrier/DOB Construction Fence** ☐**Temp Barrier** ☐**Movable Barrier**

Concrete Trucks
☐**Perimeter Barrier/DOB Construction Fence** ☐**Temp Barrier** ☐**Movable Barrier**

Bending Machines
☐**Perimeter Barrier/DOB Construction Fence** ☐**Temp Barrier** ☐**Movable Barrier**

Scaffold Rigs
☒**Perimeter Barrier/DOB Construction Fence** ☐**Temp Barrier** ☐**Movable Barrier**

***Use latest version of the plan which can be found on DEP Website at www.nyc.gov/dep/html/airnoise.html.**

I Name of Responsible Party of the Company herby certify the information contained in this form

is true and accurate.

Signature Date

NOTARY PUBLIC

2.14 New Protocols for Existing and New Concrete-Embedded Fall Arresting Systems

To ensure contractors protect their workers with reliable safety-harness systems to prevent falls, the Buildings Department is now mandating additional safety protocols for concrete-embedded Fall Arresting Systems. **These new protocols are required for all new and existing concrete embedded Fall Arresting Systems**. These new mandates are in addition to all existing requirements from the manufacturer, the NYC Building Code and all other applicable laws and regulations. The new requirements below are effective immediately.

New Concrete-Embedded Systems

Effective immediately, contractors must now obtain shop drawings, approved by a licensed engineer, for all concrete-embedded Fall Arresting Systems prior to installation. These shop drawings must be available at the site at all times and must include:

- Manufacturer type and name;
- Instructions on proper installation and use;
- Adequacy of the concrete structure to sustain static and equivalent dynamic loads;
- List of occupational classifications allowed to use this system; and
- Instructions on testing and inspection procedures.

In addition, the site's construction superintendent is now responsible for the proper installation of each piece of the concrete-embedded Fall Arresting System. The construction superintendent, or a competent person working directly under his or her supervision, must inspect the Fall Arresting System prior to and during its installation. (The competent person working under the construction superintendent must have three years of experience in concrete placement inspections and must be trained by the manufacturer or its authorized representative.) Subsequent to these inspections, the construction superintendent must prepare and sign a statement of the inspection's success and keep this statement at the construction site at all times.

Existing Concrete-Embedded Systems

Effective immediately and prior to any further use of Fall Arresting Systems currently embedded in concrete, contractors must now obtain a licensed engineer's approval. This approval must certify that the existing concrete-embedded Fall Arresting System was field-tested by a qualified testing entity according to a protocol acceptable to the engineer and that the system meets the manufacturer's expectations. The engineer's certification must be available at the site at all times and must include:

- Manufacturer type and name;
- Instructions on proper installation and use;
- Adequacy of the concrete structure to sustain static and equivalent dynamic loads; and
- List of occupational classifications allowed to use the system.

Maintenance and Removal

Effective immediately, contractors must regularly inspect Fall Arresting Systems for damage and must have a maintenance log on-site at all times. Contractors must not permit anyone to use the concrete-embedded Fall Arresting System on their site prior to full compliance with the above.

Once the system is no longer in use, the contractor is responsible for removing the system safely and properly.

2.15 Fire Safety Program

Construction & Realty Safety Group

FIRE SAFETY PROGRAM

FOR ALL PHASES
OF
CONSTRUCTION & DEMOLITION

DRAFT
May 2009

Objective
We propose to provide a 3rd party inspection to ensure Fire Safety compliance. Development of Fire Safety Checklists for every phase of construction modeled after the inspectional requirements set forth in article 19/ Chapter 33. To establish a standard fire safety program that deals with planning, education, inspection and compliance in preparation for FDNY inspections to assure the prompt reporting of fire, the response to fire alarms as designated, and the immediate initiation of fire safety procedures to safeguard life and contain fire until the arrival of the Fire Department.
In addition to the daily inspections, a wireless fire alarm system will be installed with detectors and pull alarms strategically placed with an alarmed standpipe, repeaters and a central monitoring station.

Each Day, a fire safety log must be kept making note of compliance to Fire Code in conjunction with Fire Safety Checklists during each phase of construction/demolition. Inspections must be made to ensure that all Standpipe and connections are fully operational, all wireless equipment is in place and operating as designed, all firefighting equipment is operational, proper signage is in place, permits are up to date, logistic plan is current and the NO Smoking Policy is being enforced.
The Fire Safety Manager will be on site each day to inspect and ensure compliance. Attached is a log for each phase and the following is a brief description of the Fire Safety Managers duties Standpipe (Inspected, alarmed and pressurized), Sprinkler Drawings are current, Logistics plan is up to date, Firefighting equipment is operational with pin and tag in place, all FDNY permits are current, all operations that require a hot works permit have one, Proper signage is in place, No smoking rule being enforced

As per Section 1404.1 of the new Fire Code (FC1404.1), effective July 1, 2008, smoking on any construction site is strictly prohibited. "Construction site" is defined by FC1402.1 to include any building under construction, alteration or demolition.

Fire Safety Manager

Name/Job Title: _____

Certificate of Fitness # and expiration date: _____

Regularly assigned location: _____

How is he/she notified when at regular location - include business or cell phone #s if

applicable: _____

How is he/she notified when not at regular location - include business or cell phone #s if applicable: _____

Normal working days and hours: _____

Duties of Fire Safety Warden –

Evacuation Drills

Frequency of drills- indicate start date and frequency: _____

How announced: _____

Participation. Who participated? _____

How? _____

Controls and supervision: _____

Where is current record of drills kept: _____?

Signs

Signs at elevator landing with Floor diagrams (Yes/No): _____

Floor numbering in stair enclosure (Yes/No): _____

Stairway identification on occupancy side of stair door (Yes/No): _____

Elevator identification– (where posted): _____

Stair Re-entry– (where posted – list re-entry floors): _____

_____

No obstructions shall be permitted in corridors or aisle spaces.

Necessary exit signs and lights where required, shall be lighted and in good condition.

All personnel shall know the location and operation of fire extinguishers.

Poor housekeeping is a fire breeder. All establishments shall avoid accumulation of combustible debris.

Permits:

During all phases of construction & demolition, the following documentation is required to be on site at all times:

- DOB issued permits, authorizing construction, demolition or alteration. It is unlawful to construct, alter, repair or demo any building without a DOB issued permit for specified operations.
- FDNY issued ORIGINAL permits and certificates.

Proper Signage:

During all phases of construction & demolition, the following signage is required to be prominently displayed on site at all times:

- Owner – 4'x6' sign in both English and Spanish listing the name of the owner, address, phone #, Contractors name, address, phone # as well as NYC emergency phone #'s such as BEST Squad, and 311.
- 4'x6' sign in English and Spanish stating "To Anonymously report unsafe conditions at this work site call 31".
- A metal sign that reads "Standpipe Siamese Connection" with a red light over the sign that must be lit at night.
- A metal sign that reads "Sprinkler Siamese Connection" with a red light over the sign that must be lit at night.
- No smoking signs with letters that are a minimum of 2 inches in height shall be prominently displayed throughout the site on each floor.

Fire Guards/ Watch Person Service:

- A FDNY Certificate of Fitness is required to be a fire guard
- A Fire Guard is required at all building greater than 75' in height or when the square footage exceeds 10,000 sq feet when the building fronts one street or 20,000 sq feet when

the building fronts 2 streets. Fire guards are required to be on site off hours when construction or demolition is NOT taking place. During hours of construction, a competent fire watch must be present. Logs must be kept by both.

- A Watch Person Service is conducted by a competent person. NO FDNY certificate of Fitness is required.
- A Watch Person shall be on duty during all hours when operations are not in progress and fire guards are not present.

Accumulation of Flammable Debris:

During all phases of construction & demolition, all debris and combustibles shall not be allowed to accumulate and must be removed regularly.

- The cellar and all floors shall be thoroughly cleared.
- All fixtures and equipment which could cause voids in the fill shall be removed.
- Combustible waste in excess of 15 cubic yards shall be removed daily.

Portable Heaters/Salamanders:

- Coke Salamanders – must be kept a minimum of 10' away from any combustibles. No certificate of fitness required. Escape hatch is required.
- Kerosene Salamanders – must be kept a minimum of 10' away from any combustibles. No certificate of fitness required. FDNY permit is needed only when the amount of kerosene stored on site (in approved metal safety cans) exceeds 10 gallons.
- Natural Gas Heater – must be kept a minimum of 10' away from any combustibles. FDNY permit required. Must be operated under the direct supervision of a licensed plumber or person w/FDNY certificate of fitness.
- LPG Heaters – must be kept a minimum of 10' away from any combustibles. Prohibited from use in occupied buildings. FDNY certificate of fitness is required. The person who holds the certificate of fitness must inspect the area where the LPG containers and heaters are located hourly. Logs must be kept and maintained.
- Electric Heaters - must be kept a minimum of 10' away from any combustibles.

Standpipe/Sprinkler:

During all phases of construction & demolition, an operational alarmed standpipe shall be in place at a height of 75'with a floor system in place.

- Standpipes shall be maintained as dry systems during both construction & demolition.
- During demolition, the standpipe riser shall be capped above the outlet on the floor below the demolition floor.

- As previously stated, a metal sign reading "Siamese Standpipe Connection must be displayed at Siamese connection with a red light above that will be lit at night.
- During demolition in buildings that have existing sprinklers, the system shall be maintained as a non-automatic system. The sprinkler riser shall be capped off one floor below the demo floor so that the sprinkler system will be operational on all lower floors.

Portable Fire Appliances:

- For each 2500 sq feet of construction or 5,000 sq feet of demolition of floor area, a 40 gallon water cask w/4 buckets or 2 ½ gallon fire extinguishers are required.
- Buildings permitted for alteration must comply w/more stringent requirements.
- Each construction shed must have at least 1 2 ½ gallon water type extinguisher.
- Wherever wood scaffold is erected at a height greater than 40 feet, provide an additional 2 ½ gallon water type extinguisher for each floor accessible to scaffold.

Stairwells/Shafts/Means of Egress:

During all phases of construction & demolition, all enclosed shafts and stairwells shall be maintained at all times.

- At all times, all stairwells, ladders, hallways and means of egress shall be kept clear and completely unobstructed.

- All temporary stairs shall not extend more than 4 stories or 60 feet, whichever is less.

- Every opening used for the removal of debris in every floor except the top working floor shall have a tight enclosure constructed from floor to floor.

- Chutes used for debris removal shall be braced throughout.

DEMOLITION

- Standpipe - During demolition, an operational alarmed standpipe shall be in place at a height of 75'with a floor system in place. The standpipe riser shall be capped above the outlet on the floor below the demolition floor. A metal sign reading "Siamese Standpipe Connection must be displayed at Siamese connection with a red light above that will be lit at night.

- Sprinkler - During demolition in buildings that have existing sprinklers, the system shall be maintained as a non-automatic system. The sprinkler riser shall be capped off one floor below the demo floor so that the sprinkler system will be operational on all lower floors.

- Wireless Fire Alarm System – A NYC DOB approved Material and Equipment Acceptance (MEA) 254-93-E Vol. II wireless fire alarm system using a series of Photoelectric smoke detectors, Manual fire alarm stations, repeaters and central monitoring station will be installed and will be monitored by Fire Safety Manager.

- Fire Guards - A FDNY Certificate of Fitness is required to be a fire guard. A Fire Guard is required at all building greater than 75' in height or when the square footage exceeds 10,000 sq feet when the building fronts one street or 20,000 sq feet when the building fronts 2 streets. Fire guards are required to be on site off hours when construction or demolition is NOT taking place. During hours of construction, a competent fire watch must be present. Logs must be kept by both.

- Watchmen - NO certificate of fitness is required to be watchmen. Watchmen can be a designated competent person.

- Fire Extinguishers/Water Barrels - For each 5,000 sq feet of demolition of floor area, a 40 gallon water cask w/4 buckets or 2 ½ gallon fire extinguishers are required.
  Buildings permitted for alteration must comply w/more stringent requirements.
  Each construction shed must have at least 1 2 ½ gallon water type extinguisher.
  Wherever wood scaffold is erected at a height greater than 40 feet, provide an additional 2 ½ gallon water type extinguisher for each floor accessible to scaffold.

- Proper Signage - Owner – 4'x6' sign in both English and Spanish listing the name of the owner, address, phone #, Contractors name, address, phone # as well as NYC emergency phone #'s such as BEST Squad, and 311.
  4'x6' sign in English and Spanish stating "To Anonymously report unsafe conditions at this work site call 31".
  A metal sign that reads "Standpipe Siamese Connection" with a red light over the sign that must be lit at night.
  No smoking signs with letters that are a minimum of 2 inches in height shall be prominently displayed throughout the site on each floor.

- Housekeeping - The cellar and all floors shall be thoroughly cleared. All fixtures and equipment which could cause voids in the fill shall be removed.
  Combustible waste in excess of 15 cubic yards shall be removed daily.

- Clear Paths/Means of Egress - At all times, all stairwells, ladders, hallways and means of egress shall be kept clear and completely unobstructed.

- Certificates of Fitness

- FDNY Permits for Storage

FOUNDATION

- Fire Guards - A FDNY Certificate of Fitness is required to be a fire guard. A Fire Guard is required at all building greater than 75' in height or when the square footage exceeds 10,000 sq feet when the building fronts one street or 20,000 sq feet when the building fronts 2 streets. Fire guards are required to be on site off hours when construction or demolition is NOT taking place. During hours of construction, a competent fire watch must be present. Logs must be kept by both.

- Watchmen - NO certificate of fitness is required to be watchmen. Watchmen can be a designated competent person.

- Fire Extinguishers/Water Barrels - For each 2500 sq feet of construction or 5,000 sq feet of demolition of floor area, a 40 gallon water cask w/4 buckets or 2 ½ gallon fire extinguishers are required.
  Buildings permitted for alteration must comply w/more stringent requirements.
  Each construction shed must have at least 1 2 ½ gallon water type extinguisher.
  Wherever wood scaffold is erected at a height greater than 40 feet, provide an additional 2 ½ gallon water type extinguisher for each floor accessible to scaffold.

- Proper Signage - Owner – 4'x6' sign in both English and Spanish listing the name of the owner, address, phone #, Contractors name, address, phone # as well as NYC emergency phone #'s such as BEST Squad, and 311.
  4'x6' sign in English and Spanish stating "To Anonymously report unsafe conditions at this work site call 31".

- Housekeeping - Combustible waste in excess of 15 cubic yards shall be removed daily.

- Clear Paths/Means of Egress - At all times, ladders, and means of egress shall be kept clear and completely unobstructed.

- Certificates of Fitness

- FDNY Permits for Storage

SUPERSTRUCTURE

- Standpipe - During Superstructure, an operational standpipe shall be in place at a height of 75'with a floor system in place. The standpipe riser shall be capped above the outlet on the floor below the demolition floor. A metal sign reading "Siamese Standpipe Connection must be displayed at Siamese connection with a red light above that will be lit at night.

- Fire Guards - A FDNY Certificate of Fitness is required to be a fire guard. A Fire Guard is required at all building greater than 75' in height or when the square footage exceeds 10,000 sq feet when the building fronts one street or 20,000 sq feet when the building fronts 2 streets. Fire guards are required to be on site off hours when construction or demolition is NOT taking place. During hours of construction, a competent fire watch must be present. Logs must be kept by both.

- Wireless Fire Alarm System – A NYC DOB approved Material and Equipment Acceptance (MEA) 254-93-E Vol. II wireless fire alarm system using a series of Photoelectric smoke detectors, Manual fire alarm stations, repeaters and central monitoring station will be installed and will be monitored by Fire Safety Manager.

- Watchmen - NO certificate of fitness is required to be watchmen. Watchmen can be a designated competent person.

- Fire Extinguishers/Water Barrels - For each 2500 sq feet of construction or 5,000 sq feet of demolition of floor area, a 40 gallon water cask w/4 buckets or 2 ½ gallon fire extinguishers are required.
  Buildings permitted for alteration must comply w/more stringent requirements.
  Each construction shed must have at least 1 2 ½ gallon water type extinguisher.
  Wherever wood scaffold is erected at a height greater than 40 feet, provide an additional 2 ½ gallon water type extinguisher for each floor accessible to scaffold.

- Proper Signage - Owner – 4'x6' sign in both English and Spanish listing the name of the owner, address, phone #, Contractors name, address, phone # as well as NYC emergency phone #'s such as BEST Squad, and 311.
  4'x6' sign in English and Spanish stating "To Anonymously report unsafe conditions at this work site call 31".
  A metal sign that reads "Standpipe Siamese Connection" with a red light over the sign that must be lit at night.
  No smoking signs with letters that are a minimum of 2 inches in height shall be prominently displayed throughout the site on each floor.

- Housekeeping - The cellar and all floors shall be thoroughly cleared. All fixtures and equipment which could cause voids in the fill shall be removed.
  Combustible waste in excess of 15 cubic yards shall be removed daily.

- Clear Paths/Means of Egress - At all times, all stairwells, ladders, hallways and means of egress shall be kept clear and completely unobstructed.

- Certificates of Fitness

- Elevator in Readiness – One elevator shall be kept in readiness at all times for use by the FDNY when the building reaches the height of 75 feet.

- FDNY Permits for Storage

FINISHES

- Standpipe - An operational standpipe shall be in place at a height of 75'with a floor system in place. The standpipe riser shall be capped above the outlet on the floor below the demolition floor. A metal sign reading "Siamese Standpipe Connection must be displayed at Siamese connection with a red light above that will be lit at night.

- Sprinkler - During demolition in buildings that have existing sprinklers, the system shall be maintained as a non-automatic system. The sprinkler riser shall be capped off one floor below the demo floor so that the sprinkler system will be operational on all lower floors.

- Wireless Fire Alarm System – A NYC DOB approved Material and Equipment Acceptance (MEA) 254-93-E Vol. II wireless fire alarm system using a series of Photoelectric smoke detectors, Manual fire alarm stations, repeaters and central monitoring station will be installed and will be monitored by Fire Safety Manager.

- Fire Guards - A FDNY Certificate of Fitness is required to be a fire guard. A Fire Guard is required at all building greater than 75' in height or when the square footage exceeds 10,000 sq feet when the building fronts one street or 20,000 sq feet when the building fronts 2 streets. Fire guards are required to be on site off hours when construction or

demolition is NOT taking place. During hours of construction, a competent fire watch must be present. Logs must be kept by both.

- Watchmen - NO certificate of fitness is required to be watchmen. Watchmen can be a designated competent person.

- Fire Extinguishers/Water Barrels - For each 2500 sq feet of construction or 5,000 sq feet of demolition of floor area, a 40 gallon water cask w/4 buckets or 2 ½ gallon fire extinguishers are required.
  Buildings permitted for alteration must comply w/more stringent requirements.
  Each construction shed must have at least 1 2 ½ gallon water type extinguisher.
  Wherever wood scaffold is erected at a height greater than 40 feet, provide an additional 2 ½ gallon water type extinguisher for each floor accessible to scaffold.

- Proper Signage - Owner – 4'x6' sign in both English and Spanish listing the name of the owner, address, phone #, Contractors name, address, phone # as well as NYC emergency phone #'s such as BEST Squad, and 311.
  4'x6' sign in English and Spanish stating "To Anonymously report unsafe conditions at this work site call 31".
  A metal sign that reads "Standpipe Siamese Connection" with a red light over the sign that must be lit at night.
  No smoking signs with letters that are a minimum of 2 inches in height shall be prominently displayed throughout the site on each floor.

- Housekeeping - The cellar and all floors shall be thoroughly cleared. All fixtures and equipment which could cause voids in the fill shall be removed.
  Combustible waste in excess of 15 cubic yards shall be removed daily.

- Clear Paths/Means of Egress - At all times, all stairwells, ladders, hallways and means of egress shall be kept clear and completely unobstructed.

- Certificates of Fitness

- Elevator in Readiness - – One elevator shall be kept in readiness at all times for use by the FDNY when the building reaches the height of 75 feet.

- FDNY Permits for Storage

OCCUPIED BUILDING

- **EGRESS**

  INDIVIDUAL FLOOR PLANS SHOW EGRESS PATHS TO STAIRWAYS.

  TEMPORARY SIGNAGE & LIGHTING TO BE PROVIDED FOR TENANT EMERGENCY EVACUATION IN ADDITION TO POSTED EVACUATION DRAWINGS.

  CERTIFIED FIREWATCH PERSONNEL WILL DIRECT TENANTS IN AN EMERGENCY AND IN THE SEARCH OF EACH FLOOR DURING ALL PERMITTED CONSTRUCTION AND DELIVERY HOURS.

- **FIRE SAFETY AND EMERGENCY OPERATIONS**

  ALL FIRE SAFETY DEVICES ARE INSPECTED DAILY BY CERTIFIED FIREWATCH PERSONNEL AND TESTED MONTHLY BY THE CERTIFIED PERSONNEL AS REQUIRED BY LAW.

  ALL CERTIFIED FIREWATCH PERSONNEL ON DUTY WILL RADIO COMMUNICATORS.

  TENANTS ARE WARNED AND COMMUNICATED TO EVACUATE BY VIRTURE OF GONG SIGNALS. TENANTS WILL BE ABLE TO FOLLOW POSTED EVACUATION PLANS IN A CENTRAL LOCATION.

  CERTIFIED FIREWATCH PERSONNEL WILL CONDUCT FLOOR SEARCHES AND DIRECT TENANTS OUT OF THE BUILDING.

  ALL ELEVATORS WILL BE BROUGHT TO THE LOBBY FOR FIRE DEPARTMENT USE.

  THE FIRE SAFETY DIRECTOR WILL TAKE DIRECTION FROM THE FIRE DEPARTMENT IN THE EVENT OF AN EMERGENCY.

  STANDPIPE IS IN PLACE, MAINTAINED, AND VISUALLY INSPECTED DAILY.

- **MAINTENANCE OF FIRE SAFETY INSPECTION CONTRACT**
  ALL CONTRACTORS HAVE BEEN INFORMED THAT FIRE RATING NEEDS TO BE MAINTAINED AT ALL TIMES. ANY DISTURBANCE TO RATING (I.E. NEW CORRIDOR PENETRATIONS) NEEDS TO BE PATCHED WITH ASSEMBLY OF APPROPRIATE CONSTRUCTION TO MAINTAIN FIRE RATING OF ADJACENT WALL. THESE AREAS MUST BE REPAIRED (WITH RATED PATCH) DURING ALL NON-PERMITTED HOURS.

  THERE MUST BE A FIREWATCH AND FIRE FIGHTING EQUIPMENT AT ALL WORK LOCATIONS WHERE CUTTING AND WELDING ARE BEING PERFORMED. A WORK PERMIT PROCESS IS IN PLACE, IN COORDINATION, THROUGH THE SAFETY MANAGER AND CONTRACTS.

  NO STORAGE OF HAZARDOUS MATERIALS IS PERMITTED AT THE SITE.

  ALL ACTIVITY INSPECTED BY SITE SAFETY MANAGER ON A REGULAR BASIS DURING PERMITTED HOURS.

  ANY WORK ON OCCUPIED FLOORS REQUIRING A PROPER PROTECTION PLAN TO BE SUBMITTED BY CONTRACTOR TO SAFETY MANAGER FOR APPROVAL AND MAY INVOKE ADDITIONAL PROTECTION EFFORTS.

- **DEBRIS**
  ALL DEBRIS WILL BE REMOVED FROM CORRIDORS. FLOORS SHOULD BE SWEPT CLEAN AT THE END OF EACH DAY (BROOM CLEAN).

- **MATERIAL STORAGE**
  ALL MATERIALS WILL BE PROPERLY STAGED AND STORED TO PREVENT INTERFERENCE WITH EMERGENCY EVACUATION AND NORMAL EGRESS.

- **PLANS**
  ATTACHED PLANS PROVIDE EGRESS, SIGNAGE, FIRE SAFETY DEVICES. EACH PLAN WILL BE POSTED ON THE APPROPRIATE FLOOR ALONG WITH INDIVIDUAL TENANT HANDOUTS AND QUARTERLY EMERGENCY DRILLS.

  THE SPONSOR WILL REPLACE ALL BATTERIES IN SMOKE DETECTORS THAT ARE REPORTED TO THE FRONT DESK TO BE BEEPING WITHIN THREE HOURS. (PER CONSTRUCTION PROTOCOL MEMO AS SUBMITTED TO THE ATTORNEY GENERALS OFFICE)

FIRE SAFETY/LIFE SAFETY/EVACUATION CHECKLIST

YES/ NO/N/A

☐ ☐ ☐ **LOCAL FIRE DEPARTMENT HAS BEEN CONTACTED TO ESTABLISH ACCESS TO ELEVATOR AND READINESS.**
COMMENTS -

☐ ☐ ☐ **A FIRE SAFETY PLAN HAS BEEN IMPLEMENTED & HAS BEEN UPDATED REGULARY TO CURRENT PHASE OF CONSTRUCTION.**
COMMENTS -

☐ ☐ ☐ **NEW EMPLOYEES RECEIVE JOBSITE ORIENTATION IN A TIMELY FASHION.**
COMMENTS -

☐ ☐ ☐ **WEEKLY SAFETY MEETINGS ARE HELD.**
COMMENTS -

☐ ☐ ☐ **EMERGENCY EVACUATION PLAN IS IN PLACE & APPROPRIATE SIGNS ARE DISPLAYED.**
COMMENTS -

☐ ☐ ☐ **EXIT SIGNS AND ROUTES ARE CLEARLY MARKED.**
COMMENTS -

☐ ☐ ☐ **STAIRWELLS AND ALL MEANS OF EGRESS ARE KEPT CLEAR AND A SECONDARY MEANS OF EGRESS IS MAINTAINED AT ALL TIMES.**
COMMENTS -

☐ ☐ ☐ **A DESIGNATED ELEVATOR OR PERSONNEL HOIST W/ AN EMERGENCY COMUNICATION SYSTEM IS AVAILABLE FOR EMERGENCIES FOR BUILDINGS AT A HEIGHT OF 75' OR GREATER.**
COMMENTS -

☐ ☐ ☐ **STANDPIPE IS OPERATIONAL, CLEARLY MARKED & NO MORE THAN 30' OR 2 FLOORS FROM CURRENT FLOOR – WHEN WAS THE LAST INSPECTION MADE BY THE FDNY? _____**
COMMENTS -

☐ ☐ ☐ **SIAMESE CONNECTIONS ARE FREE FROM OBSTRUCTION, ARE MARKED "STANDPIPE SIAMESE CONNECTION" AND BY A RED LIGHT.**
COMMENTS -

☐ ☐ ☐ **FIRE EXTINGUISHERS ARE AT A DESIGNATED LOCATIONS AS REQUIRED.**
COMMENTS -

☐ ☐ ☐ **STORAGE & USE PERMTIS ARE CURRENT AND IN PLACE.**
COMMENTS -

☐ ☐ ☐ **WHEN NOT IN USE, COMPRESSED FUEL AND OXYGEN CYLINDERS ARE TO BE CAPPED, SECURED AND SEPERATED BY AT LEAST 20'.**
COMMENTS -

☐ ☐ ☐ **CONTRACTORS HAVE CAGES FOR COMPRESSED FUEL STORAGE.**
COMMENTS -

☐ ☐ ☐ **DESIGNATED AREAS FOR COMBUSTIBLE STORAGE.**
COMMENTS -

☐ ☐ ☐ **ONLY METAL SAFETY CANS FORE FUEL STORAGE ARE USED.**
COMMENTS -

☐ ☐ ☐ **ALL FUELS AND COMBUSTIBLES ARE KEPT 25' FROM SOURCES OF HEAT AND OR IGNITION.**
COMMENTS -

☐ ☐ ☐ **HOUSEKEEPING – DEBRIS PILES ARE CLEARED REGULARY.**
COMMENTS -

EMPLOYEE NAME: _____JOB ADDRESS: _____
EMPLOYEE SIGNATURE: _____DATE: _____

PART 3

FEDERAL SAFETY REQUIREMENTS/COMPLIANCE

3.1 OSHA INSPECTION/FOCUSED INSPECTION

3.2 SAFETY COMPLAINTS
3.3 POSTING REQUIREMENTS
3.4 WORKPLACE HEALTH PROGRAM
3.5 COMPETE6NT PERSON
3.6 STAIRS, PASSAGEWAYS, LADDERS
3.7 ILLUMINATION
3.8 TORCH OPERATIONS
3.9 PERSONAL PROTECTION EQUIPMENT
3.10 ELECTRICAL GUIDELINES
3.11 HAND AND POWER TOOLS
3.12 HAZARD COMMUNICATION STANDARD
3.13 MASONRY
3.14 TOILETS
3.15 FALL PROTECTION
3.16 EQUIPMENT MAINTENANCE & PROTECTION
3.17 LOCK OUT BASICS
3.18 LOCK OUT – TAG OUT
3.19 CONCRETE HAZARDS
3.20 WORKING SAFETY WITH CONCRETE
3.21 FIRE PREVENTION AND FIRE FIGHTING
3.22 FIRE EXTINGUISHER
3.23 HOUSEKEEPING TIPS
3.24 CRANES AND DERRICKS
3.25 EXCAVATION & BACKFILLS
3.26 EXCAVATION
3.27 TRENCH EXCAVATION
3.28 CONCRETE PLACEMENT
3.29 STRUCTURAL STEEL SAFETY
3.30 CONFINED SPACE PROCEDURE
3.31 CONFINED SPACE HAZARDS
3.32 SCAFFOLDS
3.33 WELDING/CUTTING INFORMATION
3.34 FLOOR AND WALL OPENINGS
3.35 BLOOD BORNE PATHOGENS
3.36 FIRST AID

NOTE: The proceeding areas of program identify the general areas of concern for the CM/GC. As subcontractors are added to site their programs will be added to site program to cover their operations.

PART 3

FEDERAL SAFETY REQUIREMENTS/COMPLIANCE

3.1 OSHA INSPECTION

This guide is merely a brief interpretation of the Occupational Safety and Health Act and Regulations to help Project Managers and Superintendents understand their employer's rights during an OSHA inspection. Most circumstances allow sufficient time to determine what rights exist in a given situation before any action is taken which may affect those rights. Unfortunately, this Act expressly denies such time. It requires surprise inspections without delay. So, the representative of an employer must know and understand these rights beforehand. When the inspector knocks, the time to learn has expired.

Without previous instruction, the Project Manager or Superintendent may find himself frustrated and confused as to what he can and should do in representing his employer. As a result, the rights of any employer may be waived simply because the Project Manager or Superintendent did not know what to do.

TYPE OF INSPECTION

This guide explains the procedures for a General type inspection. Special circumstances may require OSHA to make other types of inspection. All of the procedures applicable to a General type inspection are applicable to the others, except that normally those inspections will be limited to the particular circumstances under investigation. However, in the course of such an inspection, the inspector may determine that conditions are such that a complete inspection of the establishment should be made. Before expanding the scope of one of these inspections, the inspector should phone his supervisor for permission and should also notify the Construction Manager/General Contractor/Trade Contractor of his intentions.

The following other types of inspections may be made:

1. Fatality/Catastrophe - Employers are required to report to OSHA all accidents resulting in a single fatality or the hospitalization of five or more employees. OSHA is required to investigate all such reports.

2. Follow Up - Citations issued for imminent danger, serious, willful, or repeated violations require mandatory follow up inspection to determine the employer's compliance with abatement as called for in the citations, follow up inspections for non-serious violations are at the discretion of OSHA.

3. Complaint - The Act provides that employee or their representatives may report violations of OSHA Safety and Health Regulations to OSHA and request an inspection by signing a written complaint. At the opening conference, the inspector is required to delivery a copy of the complaint to the appropriate employer and to the Construction Manager/General Contractor/Trade Contractor. Since the Act entitles the complainant to anonymity if he so desires, his name may be deleted from the employer's copy of the complaint.

   However, it may be important to know whether outside interests are attempting to use the complaint right to disrupt the project or as harassment. In this connection, the Construction Manager/General Contractor/Trade Contractor's Superintendent should ask the inspector whether the complaint was filed by one of his employees, by an employee of a subcontractor, or by an outside party.

4. Federal or State - the Act authorizes individual States to adopt their own OSHA plan and enforcement procedures. Generally, there is little difference between State and Federal plans affecting rights and procedures. This guide is based on the Federal plan.

ATTITUDES AND CONDUCT

Since there may be a tendency by superintendents, managers, or foremen to resent an outsider who attempts to interfere with or question the running of his project, it is imperative for them to control their emotions, conducting themselves in a businesslike manner at all times. Hostile attitudes and attempts to delay or interfere with the inspection will only result in the employer losing precious rights during the inspection and receiving maximum fines and penalties for violations. The atmosphere of the inspection should be that of cooperation.

The Act provides special fines and penalties for any physical force, oral abuse or threat directed against an inspector. There are similar provision for any act or statement which be interpreted as an attempt to reward or influence the inspector's performance of his duty by offering favors, gifts, loans, services or any other gratuity.

On the other hand, inspectors must adhere to all rules of conduct prescribed for Federal employees in general, which emphasize the tactful and courteous discharge of duties as representatives of the government. Any deviation from this code of conduct, or any attempt to menace, intimidate, insult or abuse employers should be carefully noted by the Construction Manager/General Contractor/Trade Contractor.

ADVANCE NOTICE

The Act prohibits advance notice of OSHA inspections to employers. Therefore, most inspections are conducted on a surprise basis. In special cases, where advance notice is necessary for the conduct of any effective inspection, the Act permits notice to be given by telephone not more than 24 hour in advance of the inspection. In such cases, the employer should cooperate fully, making whatever reasonable advance arrangements are requested for the conduct of this inspection.

ENTRY BY THE INSPECTOR

The Act provides that OSHA inspectors "upon presenting appropriate credentials to the Owner, operator, or agent in charge, is authorized to enter without delay and at reasonable time" any work place covered in the Act.

This means that on construction projects the Construction Manager/General Contractor/Trade Contractor's Superintendent, or in his absence his designated alternate, must receive the inspector and is entitles to see and read the identification papers to determine whether this person is a bona fide OSHA inspector before he has to allow him to inspect the job site. Although the U.S. Supreme Court has decided that employers may demand a search warrant from an OSHA inspector, to do so is to only delay the inevitable since an inspector may easily obtain a warrant in a matter of hour. The employer must then find that he has to deal with an irate inspector who may not be as tolerant and understanding as may have been expected. Therefore, do not ask OSHA inspectors for a search warrant.

No attempt should be made to ban or delay the entry of an inspector into the job site beyond asking him to wait a few minutes while the Superintendent or his alternate is located and brought to receive the inspector.

OSHA defines "reasonable time" by specifically providing that "Inspections shall be made during the regular working hours of the establishment, except as special circumstances may require". "Special circumstances" may require inspection of work performed on second or third shifts or on weekends.

Inspectors are not required to sign any release or waiver for entry into the job site.

Specialists, such as industrial hygienists, may accompany an inspector to provide expert assistance for the conduct of the inspection. They have the same official status as a regular OSHA inspector.

FINAL SAFETY CHECK

As soon as possible before the start of the walk around inspection, the Superintendent should notify his assistant and foremen that an inspection is about to take place. He should instruct them to make a final check of all OSHA records, job site conditions, methods, materials, and equipment to determine that all are in compliance with OSHA regulations. Any violations found should be corrected promptly. This activity may continue before and during the inspection. Assistant Superintendents shall notify subcontractors to do the same in their areas of responsibility.

OPENING CONFERENCES

Before beginning the actual walk around inspection, the inspector is required to conduct an opening conference with each employer (subcontractor) present at the job site. The Superintendent shall comply promptly with the inspector's request to provide a list of subcontractor's and supervisor's names, and assemble the highest-ranking supervisor of each subcontractor (including second and third tier contractors) at an appropriate on-site facility for the conducting of the conference.

During the conference the inspector will explain the nature, purpose, and scope of the inspection, and call for the selection of employer and employee representatives to accompany him during the actual inspection. He will also ask information of each employer present, required for the completion of inspection report forms.

The Superintendent should cooperate with the inspector and assist him in setting the "ground rules" for an efficient, orderly and fair inspection.

There is no provision in the Act for attendance at the conference by persons other than employer and their authorized representatives. Employees or their representatives need not be included.

SELECTION OF EMPLOYER REPRESENTATIVES

On construction projects, the highest-ranking supervisor of each employer (contractor) is that employer's representative. Each employer has the right to have his representative accompany the inspector during the physical inspection of any work place. Since there are numerous employers on a construction site, if all employers' representatives accompany the inspector, the group would be so large that work on the job site might be disrupted and the effectiveness of the inspection diminished. Therefore, the inspector may urge that employers select a limited number or representatives to accompany him, or to select the Construction Manager/General Contractor/Trade Contractor's Superintendent to represent them during the walk around inspection. Thereafter, if any matter arises during the inspection affecting any employer, the representative of the appropriate employer could be called to participate in the phase of the inspection.

In every case, the Construction Manager/General Contractor/Trade Contractor's Superintendent should insist upon exercising his employer's right to accompany the inspector during the inspection. He will be the spokesman for his employer during the inspection, and the eyes and ears of management for any contest proceeding later on.

SELECTION OF EMPLOYEE REPRESENTATIVES

The Act also provides the right for a representative authorized by the employees of each employer to accompany the inspector during the physical inspection of any work place. The purpose for the selection of the employee representative is to provide an appropriate degree of involvement of employees themselves in the physical inspection of their own places of employment, and to aid in the inspection. Employee representatives have the right to point out hazards to the inspector during the inspection.

Employers are not permitted to designate an employee representative.

On unionized projects, the inspector will normally request the Construction Manager/General Contractor/Trade Contractor's Superintendent to assemble the Shop Stewards of each trade to enable them to select employee representatives from among themselves.

WALK AROUND INSPECTION

After the opening conference, the inspector will begin the walk around inspection, which may vary in duration from a few hours to a few weeks, depending on the type of inspection, the size of the project, an the complexity of its operations. The employer representatives shall accompany the inspector and remain with him at all times during the inspection.

The Act gives the inspector the right to go "fishing" for violations. The inspector will visit all areas in the work place, checking for compliance with OSHA regulations. He will inspect posting, record keeping, equipment, atmospheric and noise level tests. He may take samples, photos, and data on work sheets. During the inspection, employees may make oral or written complaints about job safety conditions to the inspector. The inspector is authorized to interview employees and may do so in private if necessary.

Since an employer has the right to defend himself against any alleged violation for which he believes he has been unjustly cited, the employer's representative should make notes of the inspection activity. Notes about violation, or inspector's action, comments, and observations should include the following:

- Description of methods, materials, equipment, or machinery involved.
- Exact location by floor, room or column lines.
- Date and time of day.
- Provide diagrams where helpful.
- Distances and heights.
- Weather conditions.
- Identify employees affected by hazards or involved in violations. Describe type of work being done, employer, location and number of employees.
- Identify employees interviewed by inspector. Specify nature of discussion or complaint, trade, and employer.
- Describe all hazards or violations corrected during the inspection and how corrected.
- Description of all instrument tests and readings.

FOCUSED INSPECTION

At the outset of his/her visit to the site the OSHA inspector will ask if there is an onsite safety program and on site safety manager. If both these components exist the inspection may initiate a: focused" rather than a walk around inspection, focusing on the complaint

and or accident rather than a complete review of the site.
Record of all samples taken.

- Description of all photos taken including subject, location of photographer, and direction facing.

Similar notes should be taken during the opening and closing conferences.

Persons authorized to participate in the inspection consist of employer and employee representatives, inspectors, employees making a complaint, and employees interviewed by the inspectors. Employer representatives should register their objections to the attempt of any outside party to interfere with the conduct of the inspection, with the inspector.

CLOSING CONFERENCE

Upon completion of the inspection, the inspector is required to confer with the representatives of each employer to advise them of apparent safety and health violations disclosed by the inspection. For this purpose, the supervisors of each employer at the project should be re-assembled as they were at the opening conference.

Supervisors may freely question the inspector about alleged violations and acceptable corrective actions. If they wish to raise any defense or objection regarding alleged violations, they may do so within reasonable limits. The inspector should be asked to state the applicable section numbers of the standards, which may have been violated, and these should be carefully noted.

To aid in setting abatement time limits for violations in forthcoming citation, the inspector will inquire as to the employer's estimates as to the extent and cost of any correction measures, and the employer's estimate of the time period required for abatement. The supervisor should think the matter over carefully before answering since his answer will largely determine the time allowed for abatement. He should be certain to allow enough time to complete the correction properly, stating any extenuating circumstances, heavy expenses, or special equipment or material required.

Persons other than employer's representatives, supervisors and inspectors should be excluded from the closing conference. The inspector may conduct a separate conference with the employee representatives if they so request.

GOOD FAITH

OSHA citation procedures provide for the reduction of penalties for violations where the employer demonstrates "good faith". Good faith is established by the degree of employer effort expended toward voluntary compliance with OSHA regulations.

Employer attitudes and cooperation during the inspection demonstrate good faith. One important way to insure recognition of good faith is to point out to the inspector any special efforts to comply with or exceed OSHA regulations. The inspector should be told of any outstanding features of the safety program, safety meetings, employee education, safety equipment or installations, internal inspection procedures, etc.

Another way to establish good faith is to correct immediately any safety hazard or violation pointed out by the inspector. When feasible, the Superintendent or employer representative should order such corrections at once, and show them to the inspector before he leaves the site.

IMMINENT DANGER

An imminent danger is any condition or practice which could reasonably be expected to cause death or serious physical harm immediately. When an inspector discovers an imminent danger, he will inform the employer representative and request that affected employees be removed from the affected area until the dangerous condition or practice can be eliminated.

If abatement cannot be immediately accomplished or is refused, the inspector is authorized to issue an Imminent Danger Citation on the spot, and post a copy of the citation in the affected area. He will then proceed to obtain an immediate court order restraining the imminent danger.

ISSUANCE OF CITATIONS

Normally, citations are not issued during the inspection. The inspector is required to review the finding of his inspection with his supervisor and citations are usually mailed to employers several days or weeks after the inspection. In some cases, certain inspectors are authorized to issue "on site" citations during the course of an inspection.

AFTER THE INSPECTION

Immediately after the inspector leaves compile a report for management from the notes. Record any deviation from the inspection procedures by the inspector. Provide a record of all persons attending the opening and closing conferences, walk around inspection and alleged violations.

If the identity on any complainant is learned, take no action, which may be regarded, as discriminatory, as this may result in additional fines and penalties.

An employer has a limited time period of fifteen days in which to initiate a contest of any citation. Therefore it is important that copies of any citation received be forwarded at once to Project Manager and Project Executive, along with a notation of the date received.

Read carefully any instructions appearing on the citation and comply with all posting requirements.

The law requires that a copy of the Citation and Notification of Penalty be posted immediately in a prominent place at or near the location of the violation(s), or, if it is not practicable because of the nature of the employer's operations, where it will be readily observable by all affected employees. This Citation must remain posted until the violation(s) has (have) been abated, or for 3 working days (excluding weekends and Federal holidays), whichever is longer.

Proceed at once to comply with abatement instructions and report the details of corrections made to Project Manager and Project Executive. If abatement of any violation takes more than one week to complete, make weekly progress reports. Keep in mind that follow up inspections are made to determine an employer's compliance with abatement orders, and that the Act provides fines and penalties for any person making false reports about abatements.

3.2 SAFETY COMPLAINTS

OSHA gives employees the right to notify the Federal/State Department of Labor and request an inspection if they believe that unsafe and unhealthful conditions exist at their work site. OSHA gives a high priority to employee complaints and a large percentage of inspections are of this type.

Unsafe acts and conditions frequently occur on construction projects without the supervisor's knowledge. The employee safety complaint is usually an effort to call these to the supervisor's attention. Since most safety complaints are made in good faith, they should be welcomed as an opportunity to correct some previously unknown safety hazard before it results in any injury. Disgruntled employees will sometimes use the OSHA complaint right as a means of harassing an employer. In either case, the complaint must be properly investigated and disposed of before the situation gets out of hand and results in an injury or an OSHA inspection.

Superintendents should follow this procedure in handling employee safety complaints:

1. Instruct assistants and foremen to pass along all employee safety complaints to the Superintendent.

2. The Superintendent shall contact the complainant without delay and hear the details of the complaint.

3. Assure the complainant that the matter will be investigated immediately and any required corrective action taken.

4. Fully investigate the item of complaint. Order immediate corrective action for any violation, to the "controlling contractor", in writing.

5. Make a written record of the details of the complaint, including corrective actions taken and file for future reference in the event of a complaint inspection by OSHA (i.e., copy of speed memo to file).

6. If you are advised in writing of a safety deficiency, investigate the complaint promptly and notify the "controlling contractor" (the contractor responsible for correcting the deficiency) verbally and in writing, to correct the problem.

3.3 POSTING REQUIREMENTS

OSHA regulations require the posting of several types of notices at each job site.

Notices to be posted are as follows:

- OSHA Poster: (Copy attached)

- OSHA Annual Summary: A summary of the date recorded on the OSHA Log of Occupational Injuries and Illnesses (OSHA Form No. 200) for the last year must be posted no later than February 1, and must remain posted until March 1. (Copy attached).

- Emergency Phone Number: (Police, Fire and local hospital and emergency phone numbers).

EMERGENCY NUMBERS

Hospital

Ambulance

911

Police

Fire Department

NOTE: Advice 530 West 28th Street field Office whenever an ambulance has been summoned.

*** The Workers' Compensation law provides an injured employee with free choice of physician for his worker's compensation injury.**

JOB SAFETY AND HEALTH PROTECTION (insert)

OSHA NO. 300 FORM (insert)

3.4 WORKPLACE HEALTH PROGRAM AS REQUIRED BY OSHA

GUIDELINE FOR A WORK PLACE HEALTH PROGRAM

- The workplace must comply with OSHA Standards.

- Employers and employees should endorse and actively support the program. Employees should provide the necessary resources for it's' operation; employees should participate actively in the program.

- The plan for the workplace health program should include, in writing, statements of the goals and objectives, policies and procedures; plans for implementation and provisions for periodic evaluation of the effectiveness of the operating programs to ensure that the program is applied according to the plan and that the plan is revised to reflect changes in the work environment.

- The program should include a plan for hazard anticipation, recognition, evaluation and abatement, including such provisions as material inventory, regular internal inspection and environmental monitoring, complaint investigation, and emergency procedures.

- The program should include an employee safety and health training and education program focusing to the extent needed on specific hazards and on the employers and the employee's roles in work practices and the use of personal protective equipment, and other topics related to prevention of injuries and illness.

- The program should provide for access to and use industrial hygiene monitoring, as appropriate, for the potential health risks of the worksite and with board certified or other professional overview.

- Records necessary for the proper monitoring and assessment of occupational hazards should be established and returned for a reasonable period of time as required by OSHA Standards or as established as a prudent practice for hazards not addressed by specific standards.

- Employees should be informed about potential hazards and they should have access to data as provided for in the act and as required by specific OSHA Standards, or as established as a prudent practice for hazards not addressed by specific standards.

- The program should prescribe appropriate work practice procedures.

- The program should require the application of technology - feasible and cost-effective engineering controls, and should provide for a comprehensive program of personal protective equipment until such controls are technology - feasible or cost effective

    - Tank trucks or other vehicles used for transporting and/or dispensing flammable or combustible liquids

        . One fire extinguisher rated not less than 20 -B: C: units on all tank trucks or other vehicles
        . Tank trucks shall comply with requirements covered in the standards for tank vehicles for flammable and combustible liquids NFPA No. 385-1966
        . Service and refueling areas

            i. Shall be stored in approved, closed containers

                a. Tanks located underground - shall not be abandoned
                b. Above ground portable tanks

            ii. Fire protection

                a. At least one fire extinguisher having a rating of not less than 20 -B: C and located within 75 feet of each:

                    - Pump
                    - Dispenser
                    - Underground fill pipe opening
                    - Lubrication area
                    - Service area

        . Dispensing nozzle shall be an approved, automatic closing type without a latch-open device

        . Dispensing hose shall be an approved type

        . Power switch(es) to all dispensing devices shall be

        All containers used to stored flammable liquids must be labeled as to what they contain.

i. Clearly identified
ii. Easily accessible
iii. Remote from dispensing device (to shut off the power to all dispensing devices in the event of an emergency

. Smoking or open flames prohibited in areas used for:

i. Fueling
ii. Servicing fuel systems for internal combustion engines
iii. Receiving or dispensing flammable or combustible liquids

. Signs shall be posted in service and refueling areas prohibiting smoking

i. Shall be conspicuous
ii. Shall be legible

. Motors of all equipment being fueled shall be shut off during the fueling operation

• Supplementary technical information - what to look for in creation of hazards:

- Struck by:

. Number of pieces
. Size
. Horsepower
. General condition of equipment
. Weather conditions
. Speed of operations
. Noise or other distractions
. Activity and work assignment of employee
. Conditions of the work surface
. Proximity of employee to hazard - distance
. Time of day
. Illumination
. Any other situation affecting possible probability
. Any protection offered to the employees

- Falls:

    . Size of equipment
    . Work surface
    . Condition and construction of equipment
    . Stability of equipment
    . Weather conditions
    . Distractions on work area
    . Proximity and number of employees
    . Activity and work assignment of employees
    . Any protection offered to employees
    . Any other condition related to hazard

- Burns:

    . Equipment involved - refueling areas
    . Condition of the equipment
    . Type of container
    . Ignition point of product
    . Ignition source
    . Air floe or ventilation
    . Egress for employees
    . Proximity and number of employees to hazard
    . Any protection offered (personal, mechanical such as fire extinguishes, emergency numbers, etc.)

OSHA NO. 101 FORM (insert)

3.5 "COMPETENT PERSON" - AS DEFINED BY OSHA

OSHA defines a competent person as, "one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and has authorization to take prompt corrective measures to eliminate them. Currently, there is not "competent person" certification process but many firms have conducted either a 10 hour or 30 hour OSHA training program for their employees which has resulted in the applicable certification for their personnel. This is an excellent means by which to ensure documentation of a competent person.

3.6 STAIRS, PASSAGEWAYS AND LADDERS

There shall be a designated means of access and egress from work areas.

All other means shall be entirely closed off at all times.

STAIRS AND GUARDRAIL REQUIREMENTS

Stairs will be provided with guardrail when having 4 or more risers.

Standard Guardrail Definition

Top Rail	2 x 4
Mid Rail	1 x 6
Toe Board	1 x 6 or 1 x 4 must be at least 4" high
	posts 2 x 4 not spaced more than 8' apart

* NOTE: the above must be able to withstand 200 lbs of pressure

- Stairway less than 44" with both sides enclosed: one handrail 34" to 30" in height.
- Stairway less than 44" with one side open: one standard guardrail on open sides
- Stairway less than 44" with both sides open: a standard guardrail for each open side.
- Stairway more than 44" but less than 88": standard guardrail on both sides regardless of sides being open or closed.
- Stairways 88" or more: standard guardrail on both sides regardless of sides being opened or closed and one standard guardrail midway.

LADDERS

Where permanent or temporary stairways or suitable ramps or runways are not provided, ladders shall be used according to the following guidelines:

- Pre-manufactured portable wooden ladders will be in accordance with ANSI.

- Pre-manufactured portable metal ladders will be in accordance with ANSI.

- Ladders are prohibited from being used as platforms, runways and scaffolds.

- Ladders must extend at least 36" above landings. Ladders must be secured against displacement by the following means:

    - Tied or blocked
    - Metal ladders shall not be used when danger of electrical shock is present.

3.7 ILLUMINATION

Any area where employees have access shall be illuminated.

The basic rule of thumb, as a minimum requirement, will be if it is possible to read newsprint in any such area - there is sufficient light.

Obviously, stairs, ladders and passageways are key areas where illumination is a must. The competent person shall check these areas periodically. Housekeeping will be enforced as necessary.

PLATFORMS, RAMPS AND RUNWAYS

Platforms 6' or more above ground will be guarded by a standard guardrail system.

Ramps and runways 4' or more above ground will be guarded by a standard guardrail system.

A standard system shall be used regardless of height when hazards exist below.

SCAFFOLDING

No scaffold may be erected, moved, dismantled, or altered except under the supervision of a competent person.

Scaffolds and their components shall be capable of supporting without failure at least 4 times the maximum intended load.

Scaffolds 10' or more in height will be provided with a standard guardrail system with the top rail at 42". Where persons can pass under any such scaffold a screen between guardrail and toe board will be provided (18 gauge 1/2" wire mesh or equivalent).

Overhead protection shall be provided for men on a scaffold exposed to overhead hazards.

Light Duty Scaffold	25 P.S.F
Medium Duty Scaffold	50 P.S.F.
Heavy Duty Scaffold	75 P.S.F.

NYC DEPARTMENT OF BUILDINGS
NEW RIGGING REGULATIONS
EFFECTIVE MAY, 2001

As per Mr. Leo Lee, Director of Cranes & Derricks Division, NYC Department of Buildings

As stated in Section 1 Title one of the rules of the City of New York Chapter 9 in part reads as follows:

For Occupied Buildings:

Rigging crew who perform work on a suspended scaffold must:

- Be employees on the payroll of the licensed rigger or the payroll of the same company as the licensed rigger.
- Hold a certificate of completion from a recognized scaffold safety training course, or:

    - be an apprentice in a recognized program

    or

    - hold a challenge examination Certificate from a recognized administrator or challenge examinations

- Be issued a Certificate of Fitness

Unoccupied building (under construction or alteration)

All personnel working on a suspended scaffold most posses:

- A Certificate of Completion from a NYC Recognized Scaffold Safety Training Course or a Challenge Exam Certificate.
- Workers must carry a copy of the Certificate of ID with them while they are working.

It is the responsibility of the superintendent of construction to ensure he maintains written records of such training.

- **Always Verify the name of the Director of Cranes and Derricks Division**

3.8 TORCH OPERATIONS

Compressed gas cylinders can be found throughout a construction work site. Too often they are taken for granted as being safe. In fact, they are better known as the sleeping giant. This is due to them being pressurized at 2,200 pounds per square inch (psi). They are safe as long as they are not in use, they must be secured in an upright position at all times to prevent the cylinders from being knocked over when not in use, their regulators shall be removed and valve protection cap put in place. When in storage oxygen cylinders shall be separated from fuel-gas cylinders and combustible materials. The cylinders shall be separated by a minimum of 20 feet or have a non-combustible firewall with a fire resistance rating of one half hour at least five feet high separating them.

In addition, all employees performing welding, cutting or brazing, connecting and/or disconnecting gauges from compressed gas cylinders must posses a Certificate of Fitness issued by the NYC Fire Department.

A Hot Works Permit must be used for all torch operation

A fire watch who must posses a Certificate of Fitness must be utilized during the above operation and must remain at site of the welding cutting or brazing for one hour after the operation is completed.

Faulty Cylinders shall not be used, but tagged and removed from the work area.

No welding, cutting or heating shall be done where the application of flammable paints or the presence of other flammable compounds, or heavy dust concentrates creates a hazard.

Suitable fire extinguishing equipment shall be immediately available in the work area and shall be maintained in a state of readiness for instant use.

When welding, cutting or heating is performed or walls, floors and ceilings, since direct penetration of sparks or heat transfer may introduce a fire hazard to an adjacent area, the same precautions shall be taken on the opposite sides as are taken on the side on which the welding is being performed.

FIRE AND EMERGENCY PROCEDURES

Each jobsite must have a proposed fire and emergency evacuation plan specific to the site (incorporated into the onsite Health and Safety Plan).

Examples: existing streets and cross streets for workers to congregate in the event of such emergency with designated means of egress as back up.

FIRE TRIANGLE

HEAT

FUEL O 2

Recommendation: Multipurpose ABC Fire Extinguisher Types: 1-Stored Pressure, 2-Cartridge Operated

All fire fighting equipment shall be maintained at all times.

All fire fighting equipment provided by the employer shall be conspicuously located.

3.9 PERSONAL PROTECTION EQUIPMENT

As an employer you are responsible for requiring the wearing of appropriate personal protective equipment in all operations where there is an exposure to hazardous conditions or where hazards with equipment may be reduced.

Types

Head Protection: employees working in areas where there is a possible danger of head injury from impact or from falling or flying objects, or from electrical shocks or burns, shall be protected by protective helmets.

Hearing Protection: wherever it is not feasible to reduce the noise levels or duration of exposures to OSHA Permissible Noise Exposures, ear protective devices shall be provided and used. Plain cotton is not an acceptable protective device.

Eye and Face Protection: employees shall be provided with eye and face protection equipment when machines or operations present potential eye or face injury from physical or chemical agents.

Respiratory protection is required when performing certain "hazardous" environmentally suspect operations (i.e., lead, asbestos abatement). Potential "suspect" operations should be identified and the relevant subcontractors should address particular respiratory protection action. Respiratory protection must be in compliance with OSHA 1910.132

3.10 ELECTRICAL GUIDELINES

All electrical work shall be done in accordance with the New York City Electrical Code.

In accordance with OSHA regulations the following shall be adhered to:

LOCKOUT/TAGOUT STANDARD

The lockout/tagout rule sets requirements for properly disconnecting and locking or tagging energized equipment. The rule is designed to prevent equipment from being turned on accidentally or releasing stored energy so that workers can safely service it.

Example: 2 electricians are both working on the same energized line that runs from a box and the 21st floor to another box on the 22nd floor. Electrician #1 on the 22nd floor "locks" the power off with his own key, he must also put a tag on the box so electrician #2 on the 21st floor knows who to go to in order to restore power.

If the first electrician did not lock the energized system, an unknowing electrician (#2) could have been killed while working with a live system.

ASSURED GROUNDING PROGRAM

The employer shall establish and implement an assured grounding conductor program covering all cord sets, receptacles which are not part of the building and equipment connected by cord and plug which are available for use or used by employees.

This program shall comply with the following minimum requirements:

- A written description of the program, including the specific procedures adopted by the employer, shall be available at the jobsite for inspection and copy by the Assistant Secretary and any affected employee.

- The employer shall designate one or more competent persons to implement the program.

- Each cord set, attachment cap, plug and receptacle of cords sets, and any equipment connected by cord and plug, except cord sets and receptacles which are fixed and not exposed to damage, shall be visually inspected before each day's use for external defects, such as deformed or missing pins or insulation damage, and for indications of possible internal damage. Equipment found damaged or defective shall not be used until repaired.

- The following tests shall be performed on all cord sets, receptacles which are not a part of the permanent wiring of the building or structure, and cord-and plug-connected equipment required to be grounded:

- All equipment grounding conductors shall be tested for continuity and shall be electrically continuous.

- Each receptacle and attachment cap or plug shall be tested for correct attachment of the equipment-grounding conductor. The equipment grounding conductor shall be connected to its proper terminal.

- All required tests shall be performed:

- Before first use;

- Before equipment is returned to service following any repairs;

- Before equipment is used after any incident which can be reasonably suspected to have caused damaged (for example, when a cord set is run over); and

- At intervals not to exceed 3 months, except that cord sets and receptacles, which are fixed and not exposed to, damaged shall be tested at intervals not exceeding 6 months.

- The employer shall not make available or permit the use by employees of any equipment, which have not met such requirements.

- Test performed shall be recorded. This test record shall identify each receptacle, cord set, and cord-and plug-connected equipment that passed the test and shall indicate the last date it was tested or the interval for which it was tested. This record shall be kept by means of logs, color-coding, or other effective means and shall be maintained until replaced by a more current record. The Assistant Secretary and any affected employee shall make the record available on the jobsite for inspection.

In lieu of an Assured Grounding Program, a Ground Fault Circuit Interrupter program may be implemented.

Such program will be all 120-volt, single-phase, 15- and 20- ampere receptacle outlets on construction sites, which are not a part of the permanent wiring of the building or structure and which are in use by employees, shall have approved ground fault circuit interrupters for personnel protection. Receptacles on a two-wire, single-phase portable or vehicle-mounted generator rated not more than 5kW, where the circuit conductors of the generator are insulated from the generator frame and all other grounded surfaces, need not be protected with ground-fault circuit interrupters.

3.11 HAND AND POWER TOOLS

POWER TOOL PRECAUTIONS

Power tools can be hazardous when improperly used. There are several types of power tools, based on the power source they use: electric, pneumatic, liquid fuel, hydraulic, and power-actuated.

Employees should be trained in the use of all tools--not just power tools. They should understand the potential hazards as well as the safety precautions to prevent those hazards from occurring.

Power tool users should observe the following general precautions:

- Never carry a tool by the cord or hose.
- Never yank the cord or the hose to disconnect it from the receptacle.
- Keep cords and hoses away from heat, oil, and sharp edges.
- Disconnect tools when not in use, before servicing, and when changing accessories such as blades, bits and cutters.
- All observers should be kept at a safe distance away from the work area.
- Secure work with clamps or a vise, freeing both hands to operate the tool.
- Avoid accidental starting. The worker should not hold a finger on the switch button while carrying a plugged-in tool.
- Tools should be maintained with care. They should be kept sharp and clean for the best performance. Follow instructions in the user's manual for lubricating and changing accessories.

- Be sure to keep footing and maintain good balance.

- The proper apparel should be worn. Loose clothing, ties, or jewelry can become caught in moving parts.

- All portable electric tools that are damaged shall be removed from use and tagged "Do Not Use".

GUARDS

Hazardous moving parts of a power tool need to be safeguarded. For example, belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating, or moving parts of equipment must be guarded if such parts are exposed to contact by employees.

Guards, as necessary, should be provided to protect the operator and others from the following:

- point of operation,

- in-running nip points,

- rotating parts, and

- flying chips and sparks.

Safety guards must never be removed when a tool is being used. For example, portable circular saws must be equipped with guards. An upper guard must cover the entire blade of the saw. A retractable lower guard must cover the teeth of the saw, except when it makes contact with the work material. The lower guard must automatically return to the covering position when the tool is withdrawing from the work.

SAFETY SWITCHES

The following hand-held powered tools must be equipped with a momentary contact "on-off" control switch: drills, tapers, fastener drivers, horizontal, vertical and angle grinders with wheels larger than 2 inches in diameter, disc and belt sanders, reciprocating saws, saber saws, and other similar tools. These tools also may be equipped with a lock-on control provided that turnoff can be accomplished by a single motion of the same finger or fingers that turn it on.

The following hand-held powered tools may be equipped with only a positive "on-off" control switch: platen sanders, disc sanders with discs 2 inches or less in diameter; grinders with wheels 2 inches or less in diameter; routers, planers, laminate trimmers, nibblers, shears, scroll saws and jigsaw with blade shank 1/4-inch wide or less.

Other hand-held powered tolls such as circular saws having a blade diameter greater than 2 inches, chain saws, and percussion tolls without positive accessory holding means must be equipped with a constant pressure switch that will shut off the power when the pressure is released.

ELECTRIC TOOLS

Employees using electric tools must be aware of several dangers; the most serious is the possibility of electrocution.

Among the chief hazards of electric-powered tools are burns and slight shocks which can lead to injuries or even heart failure. Under certain conditions, even a small amount of current can result in fibrillation of the heart and eventual death. A shock also can cause the user to fall off a ladder or other elevated work surface.

To protect the user from shock, tools must either have a three-wire cord with ground and be grounded, be double insulated, or be powered by a low-voltage isolation transformer. The wire cords contain two current-carrying conductors and a grounding conductor. One end of the grounding conductor connects to the tool's metal housing. The other end is grounded through a prong on the plug. Anytime an adapter is used to accommodate a two-hole receptacle, the adapter wire must be attached to a known ground. The third prong should never be removed from the plug.

Double insulation is more convenient. The user and the tools are protected in two ways: by normal insulation on the wires inside, and by a housing that cannot conduct electricity to the operator in the event of a malfunction.

These general practices should be followed when using electric tools:

- Electric tools should be operated within their design limitations.
- Gloves and safety footwear are recommended during use of electric tools.
- When not in use, tools should be stored in a dry place.

- Electric tools should not be used in damp or wet locations.

- Work areas should be well lighted.

POWERED ABRASIVE WHEEL TOOLS

Powered abrasive grinding, cutting, polishing, and wire buffing wheels create special safety problems because they may throw off flying fragments.

Before an abrasive wheel is mounted, it should be inspected closely and sound - or ring-tested to be sure that it is free from cracks or defects. To test, wheels should be tapped gently with a light non-metallic instrument. If they sound cracked or dead, they could fly apart in operation and so must not be used. A sound and undamaged wheel will give a clear metallic tone or "ring".

To prevent the wheel from cracking, the user should be sure it fits freely on the spindle. The spindle nut must be tightened enough to hold the wheel in place, without distorting the flange. Follow the manufacturer's recommendations. Care must be taken to assure that the spindle wheel will not exceed the abrasive wheel specifications.

Due to the possibility of a wheel disintegrating (exploding) during start-up, the employee should never stand directly in front of the wheel as it accelerates to full operating speed.

Portable grinding tools need to be equipped with safety guards to protect workers not only from the moving wheel surface, but also from flying fragments in case of breakage.

In addition, when using a powered grinder.

- Always use eye protection.

- Turn off the power when not in use.

- Never clamp a hand-held grinder in a vise.

PNEUMATIC TOOLS

Pneumatic tools are powered by compressed air and include chippers, drills, hammers, and sanders.

There are several dangers encountered in the use of pneumatic tools. The main one is the danger of getting hit by one of the tool's attachments or by some kind of fastener the worker is using with the tool.

Pneumatic tools that shoot nail, rivets, or staples, and operate at pressures more than 100 pounds per square inch, must be equipped with a special device to keep fasteners from being ejected unless the muzzle is press against the work surface.

Eye protection is required and face protection is recommended for employees working with pneumatic tools.

Noise is another hazard. Working with noisy tools such as jackhammers requires proper, effective use of ear protection. (For more information on noise, see ARTICLE 19/OSHA publication 3074, HEARING CONSERVATION).

When using pneumatic tools, employees must check to see that they are fastened securely to the hose to prevent them from becoming disconnected. A short wire or positive locking device commonly known as an Anti Whipping device attaching the air hose to the tool will serve as an added safeguard.

Airless spray guns that atomize paints and fluids at high pressures (1,000 pounds or more per square inch) must equipped with automatic or visual manual safety devices that will prevent pulling the trigger until the safety device is manually released.

If an air hose is more than one-half inch in diameter, a safety excess flow valve must be installed at the source of the air supply to shut off the air automatically in case the hose breaks.

In general, the same precautions should be taken with an air hose that are recommended for electric cords, since the hose is subject to the same kind of damage or accidental striking and present tripping hazards.

A safety clip or retainer must be installed to prevent attachments, such as chisels on a chopping hammer, from being unintentionally shot from the barrel.

Screens must be set up to protect nearby workers from being struck by flying fragments around chippers, riveting guns, staplers, or air drills.

Compressed air guns should never be pointed toward anyone. The user should never "dead-end" it against him or herself or anyone else.

Heavy jackhammers can cause fatigue and strains; heavy rubber grips reduce these effects by providing a secure handhold.

Workers operating a jackhammer must wear safety glasses and safety shoes, which protect against injury if the hammer slips or falls. A face shield should also be used.

LIQUID-FUEL TOOLS

A third type of tool is fuel-powered, usually by gasoline. The most serious hazard with-fuel-powered tools come from fuel vapors that can burn or explode and give off dangerous exhaust fumes.

The worker must be careful to handle, transport, and store the gas or fuel only in approved flammable liquid containers, according to proper procedures for flammable liquids.

Before the tank for a fuel-powered tool is refilled, the user must shut down the engine and allow it to cool to prevent accidental ignition of hazardous vapors.

If a fuel-powered tool is used inside a closed area, effective ventilation and/or personal protective equipment is necessary to avoid breathing carbon monoxide. Fire extinguisher must be available in the area.

POWDER-ACTUATED TOOLS

Powder-actuated tools operate like a loaded gun and should be treated with the same respect and precautions. In fact, they are so dangerous that they must be operated only by specially trained employees. NYC Fire Regulations requires the operator of a powder actuated tool to posses a Certificate of Fitness.

Safety precautions to remember include the following:

- These tools should not be used in an explosive or flammable atmosphere.
- Before using the tools, the worker should inspect it to determine that it is clean, that all moving parts operate freely, and that the barrel is free from obstructions.

- The tool should never be pointed at anybody.

- The tool should not be loaded unless it is to be used immediately. A loaded tool should not be left unattended, especially where it would be available to unauthorized persons.

- Hands should be kept clear of the barrel end. To prevent the tool from firing accidentally, two separate motions are required for firing: one to bring the tool into position, and another to pull the trigger. The tools must not be able to operate until they are pressed against the work surface with a force of at least 5 pounds greater than the total weight of the tool.

If a powder-actuated tool misfires, the employee should wait at least 30 seconds, then try firing it again. If it still will not fire, the user should wait another 30 seconds so that the faulty cartridge is less likely to explode, then carefully remove the load. The bad cartridge should be put in water.

Suitable eye and face protection are essential when using a powder-actuated tool.

The muzzle end of the tool must have a protective shield or guard centered perpendicularly on the barrel to confine any fly fragments or particles that might otherwise create a hazard when the tool is fired. The tool must be designed so that it will not fire unless it has this kind of safety device.

All powder-actuated tools must be designed for varying powder charges so that the user can select a powder level necessary to do the work without excessive force.

If the tool develops a defect during use it should be tagged and taken out of service immediately until it is properly repaired.

FASTENERS

When using powder-actuated tools to apply fasteners there are some precautions to consider. Fasteners must not be fired into material that would let them pass through to the other side. The fastener must not be driven into materials like brick or concrete any closer than 3 inches to an edge or corner. In steel the fastener must not come any closer than one-half inch from a corner or edge. Fasteners must not be driven into very hard or brittle materials which might chip or splatter, or make the fastener ricochet.

An alignment guide must be used when shooting a fastener into an existing hole. A fastener must not be driven into a spalled area caused by an unsatisfactory fastening.

HYDRAULIC POWER TOOLS

The fluid used in hydraulic power tools must be an approved fire-resistant fluid and must retain its operating characteristics at the most extreme temperatures to which it will be exposed.

The manufacturer's recommended safe operating pressure for hoses, valves, pipes, filters, and other fitting must not be exceeded.

JACKS

All jacks--lever and ratchet jacks, screw jacks, and hydraulic jacks--must have a device that stops them from jacking up too high. Also, the manufacturer's load limit must be permanently marked in a prominent place on the jack and should not be exceeded.

A jack should never be used to support a lifted load. Once the load has been lifted, it must immediately be blocked up.

Use wooden blocking under the base is necessary to make the jack level and secure. If the lift surface is metal, place a 1-inch-thick hardwood block or equivalent between the metal jack head to reduce the danger of slippage.

To set up a jack, make certain of the following:

- the base rests on a firm level surface,
- the jack is correctly centered,
- the jack head bears against a level surface, and
- the lift force is applied evenly.

Proper maintenance of jacks is essential for safety. All jacks must be inspected before each use and lubricated regularly. If a jack is subjected to abnormal load or shock, it should be thoroughly examined to make sure it has not been damaged.

Hydraulic jacks exposed to freezing temperatures must be filled with an adequate antifreeze liquid.

3.12 THE HAZARD COMMUNICATION STANDARD

The United States Department of Labor announced in the February 16, 1989 edition of the Federal Register that the Occupational Safety and Health Administration (ARTICLE 19/OSHA) would begin enforcing the Hazard Communication Standard (HCS) effective March 17, 1989.

The HCS is a "Right to know" law. What this means is that you, the employee, has a right to know about the dangers and health hazards associated with the chemicals used on the construction site. The Standard requires all employers to educate and inform all employees about the hazardous chemicals they are exposed to on the worksite and the methods necessary to protect themselves.

FOUR COMPONENTS OF THE STANDARD

The HCS, as stipulated in section 19100.1200 of the Code of Federal Regulations, is comprised of four (4) basic areas that must be complied with by the contractor:

- The program must be written.
- A chemical Inventory and Material Safety Data Sheets (MSDS) of all chemicals used on the site must be made available to employee and ARTICLE 19/OSHA officials.
- All containers and pipes must be properly labeled.
- Employees must be trained on aspects of the HCS program.

The following pages of this Hazard Communication program manual will explain and describe the employee all the aspects of the standard. The manual should be used in two ways:

- To inform the employee of the contractor's responsibilities and obligations pursuant to the Standard.
- To inform the employee about hazards encountered on the jobsite and how to take precautionary methods against them.

THE WRITTEN PROGRAM: AN OVERVIEW (NOTE: A SAMPLE HAZARD COMMUNICATION PROGRAM IS INCLUDED IN APPENDIX A)

The purpose of the Hazard Communication Program is to document how you, the employer will provide for the education and safety of the employees on each job site.

In addition to the requirement that the HCS program be written, the program must also contain the following three components:

- Chemical Inventory and MSDS file.
- Labeling.
- Employee Training

Each of these components of the program will now be described in detail.

CHEMICAL INVENTORY AND MATERIAL SAFETY DATA SHEETS

One of the requirements of the HCS is that employers must make available to all employees information and data regarding all the chemicals found on the site.

The following is necessary:

- A Chemical Inventory listing indicating all chemicals that can be found on the site.
- A Material Safety Data Sheet (MSDS) for each chemical used on the site.

These documents must be kept on each site Field Office.

CHEMICAL INVENTORY LIST

The Chemical Inventory List will be used for documenting the various chemical substances that are used on the site and for locating within the MSDS file the appropriate MSDS.

INSTRUCTIONS ON HOW TO USE THE CHEMICAL INVENTORY LIST

The Chemical Inventory List is to be used basically in two ways:

- To locate and MSDS for a particular chemical in the MSDS file;
- To document the many various chemicals that are used on a construction site.

Listed below you will find the specific instructions:

CHEMICAL NAME: This is the name given to the product by the manufacturer and/or distributor. The chemical name should be the first name that you look up when researching a chemical because it will be the name most likely present on the label of the container.
Sometimes a chemical name may not be given, therefore, a product must be researched using the Trade Name.

TRADE NAME: This is the name given to the product by the trade that uses it. Trades may have their own name for a product for various reasons. If the chemical name cannot be obtained or is not listed, you should look for the trade name.

TRADE: This is the name of the trade that uses the corresponding chemical(s). If you are working in the same area as another trade and you would like to know the chemicals that are being used, you can look up the trade and see what hazards you may be exposed to.

MSDS NUMBER: This is the reference number that should be used to locate any specific Material Safety Data Sheet. For example, if you wish to research the hazards associated with acetylene you would first look up the MSDS Number that corresponds with the acetylene and then cross reference it to the MSDS file.

The Chemical Inventory List will be indexed in three ways:

- Chemical Name
- Trade Name
- Trade

This cross-indexing of the Chemical Inventory List will facilitate the process of researching any particular chemical.

MATERIAL SAFETY DATA SHEETS (MSDS)

The Material Safety Data Sheet (MSDS) is the document which describes the physical and chemical properties of products, their physical and health hazards and precautions for safe handling and use.

Manufacturing, importers, distributors, and suppliers are required to provide the buyer an MSDS for each of their hazardous chemicals. Contractors are required to maintain a file of MSDS's for all hazardous chemicals used on the construction site. According to OSHA, you will be able to determine the hazards associated with any chemical by referring to the corresponding MSDS as well as the label on the container. The HCS specifies the information required on each data sheet, and all information must be written in English.

An MSDS must precede or accompany the initial shipment but does not have to be physically attached to it.

OSHA does not prescribe the format of the MSDS but does require that certain information must be contained on it. Regardless of the MSDS format, the OSHA standard requires certain information to be supplied. The following is a section-by-section explanation of the type of MSDS information required by the OSHA standard (29 CFR 1910.1200 (g)):

Each contractor on site shall identify to Lehr who their Safety Representative is for the project.

Each Safety Representative shall be responsible for obtaining and having on file copies of all MSDS sheets. They shall give a copy of the Site Safety Manager who in turn will keep all MSDS sheets in the field office.

CHEMICAL IDENTITY

If the chemical is a single substance, it should have the chemical, trade, and common name(s).

The chemical identity on the MSDS should be crossed referenced to an identifier found on the label.

HAZARDOUS INGREDIENTS

If the hazardous chemical is a mixture which has been tested as a whole to determine its hazards, the chemical and common names of the ingredients that are associated with the hazards, and the common name of the mixture itself must be listed.

If the chemical is a mixture which has not been tested as a whole (most probable since very few mixtures are tested), all ingredients that are not carcinogens, but are health or physical hazards and

and comprise 1 percent or more of the mixture.

Carcinogens (e.g. OSHA list, IARC Monographs, NTP list) must be listed if they are present in the mixture at levels of 0.1 percent or greater.

PHYSICAL AND CHEMICAL CHARACTERISTICS

The physical and chemical characteristics of the hazardous substance reflect the properties of the compound. These include such items as boiling and freezing points, density, vapor pressure, specific gravity, solubility, volatility, and the product's general appearance and odor.

PHYSICAL HAZARDS

The compound's potential for fire and explosion must be described. This section explains the fire hazards of how the product could ignite and explode. Most MSDS's also provide information on recommended extinguishing agents and fire fighting.

This section also presents information about other chemicals and substances with which the chemical is incompatible, or with which it reacts. Information on decomposition products such as carbon monoxide, in included.

HEALTH HAZARDS

The health hazards of the chemical together with signs and symptoms of exposure must listed. In addition, any, medical conditions which are generally associated with exposure to the compound can aggravate, must be included. The specific types of health hazards defined in the standard include carcinogenicity, corrosives, toxicity, irritants, sensitizes, mutagenicity, teratogenicity, and target organ effects, such as liver, kidneys, nervous system, and blood, lung, mucous membranes, reproductive, skin and eye effects.

The route of entry section describes the primary pathway by which the chemical enter the body. These are three principle routes of entry: inhalation, skin, and ingestion.

This section of the MSDS supplies the OSHA Permissible Exposure Level (PEL, the ACGIH Threshold Limit Value (TLV), as well as other exposure levels used or recommended by the chemical manufacturer.

If the compound is listed as a carcinogen by OSHA, NTP or IARC, it must be so indicated on the MSDS.

SPECIAL PRECAUTIONS, SPILLS, LEAKS, AND CLEANUP PROCEDURES

The standard requires the prepare to describe applicable precautions for safe handling and use which are known. These include recommended industrial hygiene practices, precautions to be taken during repair and maintenance of equipment, and procedures for cleaning up spills and leaks. Some companies also use this section to include useful information not specifically required by the standard, such as EPA waste disposal methods and State and Local requirements.

CONTROL MEASURES

The standard requires the preparer of the MSDS to list any generally applicable control measures. These include engineering controls, safe handling procedures, and personal protective equipment. Information on the use of goggles, gloves, body suits, respirators, face shields is often included.

EMERGENCY AND FIRST AID PROCEDURES

This part of the MSDS deals with actions that should be taken in the event of an accidental overexposure. Different procedures are usually given to deal with inhalation, ingestion, and skin or eye exposure.

RESPONSIBLE PARTY

The standard requires that MSDS preparation date or the date of the last change be provided. In addition, the name, address, and telephone number of the chemical manufacturer, importer, or other responsible party preparing or distributing the MSDS must be included.

TRADE SECRETS

The Hazard Communication Standard contains provisions which allow a chemical manufacturer, importer, or employer to withhold chemical identity information from the MSDS to protect a "bona fide" trade secret (29 CFR 1910.1200 (i). However, the MSDS still must disclose the properties and hazards of any chemical for which a trade secret claim is made. The standard also prescribes procedures for disclosure of trade secret chemical identities to health professionals who provide occupations health services to exposed employees, or designated representatives. Individuals to whom trade secret information is provided must be able to demonstrate a "need-to-know" the information and the means to maintain its confidentiality.

EMPLOYEE ACCESS TO MSDS'S

Copies of MSDS's must be readily accessible to employees during each work shift when they are in their work areas. Employee representatives also have a right to access MSDS's. Under the standard, alternative formats to the MSDS may be used.

The information on an MSDS is extremely technical in nature and should be used as a reference or as a backup to the information contained on a label.

LOCATION OF CHEMICAL INVENTORY LIST/MSDS FILE

The MSDS's for all the chemical used on this site will be found in two places: 1. The CHEMICAL INVENTORY LIST/MSDS FILE. 2. The Hazard Communication Program Manual.

The CHEMICAL INVENTORY LIST/MSDS FILE will actually be contained in binders. The first section of the binder will be the Chemical Inventory List as described above. The second will be the MSDS's. The MSDS's will be cross indexed in two ways: 1. by MSDS Number; and 2. by Trade. This will be done in order to make it easy to find an MSDS for any specific chemical.

An employee should read the label and/or MSDS for any and all chemicals that he or she will be handling or exposed to. This should include chemicals exposed to that are being used by an employee of another trade who is working in the same vicinity.

Once you have read the label and MSDS, you should follow all precautionary advise such as the wearing of prescribed personal protection such as respirators and goggles. You should also need any instructions given in case of accidents.

LABELING

The standard requires that all containers of hazardous chemicals by properly labels. Each container must be properly labeled using the following guidelines:

- The label must identify the hazardous chemical.
- The label must contain the appropriate hazard warning.

- The label must contain the name and address of the manufacturer, importer, or other responsible party.

- Precautions regarding the use of the chemical.

The label must be in English, easily understandable and not defaced. The product label will essentially be a synopsis of the MSDS but should not be considered a substance for the MSDS. The label will be the employee's immediate source of information, with the MSDS as a backup.

The Rule Is: IT MUST BE PERFECTLY CLEAR TO THE EMPLOYEE WHAT IS IN THE CONTAINER.

If the chemical has to be transferred to a secondary container, the secondary container does not need to be labels provided the chemical is going to be used immediately. The chemical cannot be left unlabeled through lunch or at the end of the work shift. The secondary container label should have as a minimum, the name of the chemical as it appears on the original container.

Pipes must also be labeled, particularly in demolition or renovation projects.

It is the responsibility of the HCC to ensure that each container on this site is properly labeled as per the provisions of the standard. The HCC will conduct periodic inspections of the site in order to make sure that all containers are labeled. Unmarked pipes will be tagged or labeled to identify the contents. Labels will be reviewed to determine if they contain the required information as detailed above. They will also be reviewed to ensure that they contain symbols and terminology that will be understood by the employee. In essence, the label must clearly tell the employee what to do in the event of an emergency and also how to protect himself/herself during normal use.

If it is determined that containers are improperly labeled, the following actions will be taken to bring the into compliance:

- Employees and employer will be notified if a label is defaced or removed and advised that they are violating the rules pursuant to the Hazard Communication Standard.

- Manufacturer or supplier will be informed if label is missing or does not confirm to the standard. Reiterated, the label must contain the four prescribed items of information, in English, and in a manner clearly understandable to the employee. ARTICLE 19/OSHA may also be informed of any violations, depending on severity of the situation.

- Unidentifiable pipes will be labeled or tagged on each floor.

AN OVERVIEW

The training will cover the following topics:

- An overview of the Hazard Communication Requirements.
- A review of the chemicals present in the workplace operations.
- The location and availability of our written program, the Chemical Inventory List and the MSDS binder.
- Methods and observation techniques that may be used to detect the presence or release of hazardous chemicals in the work area.
- Physical and health hazards associated with the chemicals used on the workplace.
- How to lessen or prevent exposure to hazardous chemicals by using good work practices and personal protective equipment.
- Emergency procedures to follow if employees are exposed to hazardous chemicals.
- An explanation of our Hazard Communication Program, including how to read labels and MSDS's to obtain appropriate hazard information.
- Employees will be trained to perform non-routine tasks. Prior to starting work on such projects, each affected employee will be informed about hazards to which they may be exposed and appropriate protective measures that should be taken.

HAZARDOUS MATERIALS
EMPLOYEES RIGHT TO KNOW PROGRAM

INTRODUCTION

The two part "hazard communication" program which follows has been drafted to comply with Federal regulation 1910.1200 requiring:

- firms have a written program in place which highlights substance in use.
- firms develop a work force which is informed about substances which are in the workplace.
- firms develop a workplace properly trained to handle substances in a safe manner.

Part One of this program contains general information pertaining to the regulation, and focuses upon what the regulation states employers must do to comply with 1910.1200.

Part Two of the program is our specific program to:

1. Identify substances in the plant.
2. Obtain information, MSDS's regarding the substances.
3. Ensure that proper labels are in place on the containers.
4. Train employees in substance location and the proper handling methods.

Following these four steps will ensure that the company has complied with the regulation, and has in place a work force capable of handling substances in a safe manner.

HAZARDOUS MATERIALS
EMPLOYEES RIGHT TO KNOW PROGRAM

TABLE OF CONTENTS

SECTION

Part Two

C. The written Hazard Communication Program

-Company Policy Statement

-Compliance Action Plan

1. Data Collection & Evaluation
2. Proper Labeling
3. Employee Training

D. Sample Letter to Vendors

E. Sample Bulletin Board Notice to Employees

Part Three Training Manual

A. General

B. Specific Hazards

C. List of Hazardous Chemicals

SUBPART D - OCCUPATIONAL HEALTH/ENVIRONMENTAL CONTROLS

1926.59(e)(1) - 3819 - Employers shall develop, implement, and maintain at the workplace, a written hazard communication program for their workplaces which at least describes how specified criteria for labels and other forms of warning, MSDS, and employee information will be met and which also includes the following:

(i) A list of the hazardous chemicals known to be present, using an identity that is referenced on the appropriate MSDS.

(ii) The methods the employer will use to inform employees of the hazards of non-routine tasks and the hazards associated with chemicals contained in unlabeled pipes in their work areas.

59(h)-3112 - Employers shall provide employees with information and training on hazardous chemicals in their work areas at the time of their original assignment, and whenever a new hazard is introduced to their work areas.

59(g)(1) - 1679 - Employers shall have a material safety data sheet (MSDS) for each hazardous chemical which they use.

59(g)(8) - 1263 - The employer shall maintain copies of required MSDS for each hazardous chemical in the work place, and shall ensure that they are readily accessible during each work shift to employees when they are in their work area(s).

59(f)(5)(i) - 193 - Except as otherwise provided, the employer shall ensure that each container of hazardous chemicals in the workplace is labeled, tagged, or marked with the identity of the hazardous chemical(s) contained therein.

A) FEDERAL REGULATION

29 CFR 1910.1200

On Monday, August 24, 1987 the Occupational Safety and Health Administration revised and health standard entitled "HAZARD COMMUNICATION" (29 CFR 1910.1200)

This original standard required all employers in Standard Industrial Classifications (SIC) codes 20 through 39, to provide information to employees concerning program. The revision extended the scope to include all employers with employees exposed to chemicals in their work place.

This program must provide employees information on:

- labels
- material safety data sheets
- training in safe materials handling
- access to written records

It is the belief of the Federal Government that implementation of this final rule will reduce the occurrence of chemically related occupational illnesses and injuries.

It is also felt that increased availability of information on hazards will assist employers in developing protective measures and provide employees the information they require to take steps to protect themselves.

HAZARD DETERMINATION

Chemical importers and manufacturers are required to evaluate the chemicals that they import or make to determine if they are hazardous.

Employers <u>are not required</u> to evaluate chemicals unless they opt not to rely upon the above performed evaluation.

* Chemical manufacturers and importers MUST:

1. Consider available scientific evidence regarding hazards.

2. Must refer to the following sources for hazard determination:

    a. 29 CFR Part 1910, Subpart Z, Toxic and Hazardous Substance, Occupational Safety and Health Administration (ARTICLE 19/OSHA): or,

    b. Threshold Limit Values of Chemical Substances and Physical Agents in the Work Environment, American Conference of Governmental Industrial Hygienists ACGIH) (latest editions): or,

3. Must refer to the following sources to establish that a chemical is a potential carcinogen or a know carcinogen.

    a. National Toxicology Program (NTP), Annual Report on Carcinogens (latest edition);

    b. International Agency for Research on Cancer (IARC) Monographs (latest edition);

4. Chemical manufactures, importers, or employers Evaluating chemicals shall describe in writing the procedures they use to determine the hazards of the chemical they evaluate. The written procedures are to be made available, upon request, to employees, their designated representatives, the Assistant Secretary and the Director. The written description may be incorporated into the written hazard communication program.

HAZARD DETERMINATION FOR MIXTURES

The responsibility for hazard determination is to be made by the chemical importer or manufacturer. As follows:

1. If a mixture has been tested as a whole to determine it
   hazards, the results of this testing will be used to determine whether the mixture is hazardous.

2. If a mixture has been tested as a whole the mixture shall be assumed to present the same health hazards as do the components which comprise one percent (by weight or volume) or greater of the mixture, except that the mixture shall be assumed of greater of the mixture, except that the mixture shall be assumed to present a carcinogenic hazard if it contains a component in concentrations of 0.1 percent or greater which is considered to be a carcinogen.

3. If a mixture has not been tested as a whole to determine whether the mixture is a physical hazard, the chemical manufacturer, importer, or employer may use whatever scientifically valid data is available to evaluate the physical hazard potential of the mixture.

B) EMPLOYEE REQUIREMENTS FOR COMPLIANCE

1) REQUIREMENTS OF 1910.1200

The "HAZARD COMMUNICATION" final rule outlined in the November 24, 1983 Federal Register, Vol.28, No. 228, set forth effective dates for compliance for firms in the manufacturing division SIC codes 20 through 39. The "Hazard Communication" final rule outline in the Federal Register, August 24, 1987, Vol.52, set forth the effective date of compliance for all employers in the non manufacturing sector (Regional Offices.)

These deadlines for compliance are:

September 23, 1987- All importers and manufacturers of hazardous chemicals are required to place labels on containers and provide customers with material safety data sheets with first shipment after this date.

November 25, 1985- All distributors of hazardous chemicals are to be in a position to transmit information on hazards to purchasers.

May 25, 1986- All employers in SIC codes 20-39 must have completed employee training, obtained MSDS's, have a written communication program, labels and other forms of warning on containers.

May 23, 1988- All employers in the non-manufacturing sector are to be in compliance with all provisions of the standard by May 23, 1988.

2) HAZARD COMMUNICATION PROGRAM

The final hazard communication ruling requires that each employer establish a comprehensive WRITTEN communication program containing the following and make it available to employees, their designated representatives, the Assistant Secretary for OSHA and the Director of NIOSH:

1. Mandated container labeling.
2. Material safety data sheets.
3. An employee training program.
4. A listing of all hazardous chemicals in each work area.
5. Methods employer will use to inform employees of hazards associated with non-routine tasks.
6. Methods employer will use to inform employees of hazards associated with chemicals contained in unlabeled pipes, if present.

3) SUBSTANCES AND CATEGORIES

EXEMPT FROM THESE REGULATIONS

Section Four and Five of 1910.1200 detail the following exemptions from the LABELING REQUIREMENTS of this regulation. These exemptions apply to:

- Pesticides as defined in the Federal Insecticide, Fungicide, and Rodenticide Act.
- Any food, food additive, color additive, drug or cosmetic, including flavors and fragrances.
- Any distilled spirits, wine, or malt beverage intended for non-industrial use.
- Consumer products which are subject to the consumer product safety standards.

Substances which are exempt from this regulation, as outlined in Section Five of 1910.1200 are:

- Any hazardous waste as defined by the Resource Conversation and Recovery Act of 1976 as amended.
- Tobacco or tobacco products.
- Wood or wood products.
- Articles (see definition on page 53340 of this act).
- Foods, drugs, or cosmetics intended for personal consumption in the workplace.

4) REQUIREMENTS FOR LABELS AND OTHER

FORMS OF WARNING

The final OSHA ruling outlined in 1910.1200 requires that each container in the workplace be labeled, tagged or marked with:

1. The identity of the hazardous chemicals contained therein.

2. Hazard warnings appropriate for employee protection. This warning can be any type of message, words, pictures, or symbols which convey the hazard.

3. Labels are to be legible, in English. Other languages may be added, as long as the message also appears in English.

4. Labels on incoming containers of hazardous chemicals can not be removed or defaced.

5) LABELING EXEMPTIONS

1. Pipes are exempted altogether from the labeling requirements. (Section F).

2. Employers are not required to label portable containers into which hazardous chemicals are transferred. This exemption only applies, however, if the chemical is to be used within the work shift by the employee performing the transfer.

3. If there are a number of stationary containers within a work area which have similar contents the hazards, the employer may post signs on placards which convey the hazard information required rather than individually labeling each piece of equipment.

4. Employers may also use various types of standard operating procedures, process sheets, batch tickets, blend tickets, or other such written materials as substitutes for individual container labels on stationary process equipment. However, these written materials must contain the same information as is required on the labels.

6) REQUIREMENTS FOR MATERIAL SAFETY DATA SHEETS

The final ruling 1910.1200 requires chemical manufacturers and importers to develop material safety data sheets (MSDS's) for each chemical they produce.

Under this regulation an employer's responsibilities are:

1. To obtain or develop a material safety data sheet for each hazardous chemical used in the workplace.

2. Copy's of MSDS's for chemicals in each work area are to be readily accessible to employees in that work area during each shift.

3. MSDS's are to be made available to:

    a. employees

    b. employee designated representatives

    c. assistant secretary

    d. director

4. Must be maintained in a current fashion.

5. Must be retained for the time period required by the employee access to exposure and medical records rule, 29 CFR 1910-20, which is 30 years.

SPECIFIC INFORMATION REQUIRED ON MATERIAL SAFETY

Section G of this regulation details specific information which must be provided on an MSDS. This section requires:

1. Information must be in English and contain-

    a. the material identity

    b. chemical and common names

    c. such physical and chemical characteristics as reactivity, explosion potential, vapor pressure, flash point.

    d. detail acute and chronic health hazards: listing signs and symptoms of exposure and detailing magical conditions which might be aggravated due to chemical exposure.

    e. exposure limits.

    f. routes of entry into body.

    g. any chemical which has been determined to be a carcinogen if present in quantities of .1% or greater.

    h. precautions to be used to ensure safe employee use.

    i. first aid procedures.

    j. emergency clean up and handling procedures.

    k. dates or preparation of MSDS.

    l. name, address and phone number(2) of persons who can be reached in case of emergency for details pertaining to emergency procedures.

7) EMPLOYEE INFORMATION AND TRAINING REQUIREMENTS

Section H of this regulation mandates that employers establish an information and training and program for employees exposed to chemical hazards.

1. Training is to be provided at the time of initial assignment.

2. Training must be provided whenever a new hazard is introduced.

3. Records of completion of training for each employee must be on file.

SPECIFICS OF WHAT MUST BE COVERED

1. Employees are to be informed of the requirements of this regulation:

   a. that this law exists

   b. that employers must have such a program

   c. components of the official program

2. Employees must be informed or operations in their work area where hazardous chemicals are present.

3. The location of the WRITTEN HAZARD EVALUATION COMMUNICATION PROGRAM

4. The location of the HAZARD EVALUATION WORK SHEETS

5. The location of the CHEMICALS IN THE REGIONAL OFFICE

6. The location of the MATERIAL SAFETY DATA SHEETS

7. Employees must be trained in methods of detecting the presence of a hazardous chemical in their work area. Example: by smell or visual appearance.

8. Employees must be trained specifically about the hazards of chemicals in their work area by reviewing material safety data sheets.

9. Employees must be trained in methods and equipment they must use to protect themselves.

    a. proper work practices

    b. use of personal protective equipment

10. Employees must know how to read and interpret information on labels and material safety data sheets.

11. Employees must know how they may obtain and use available hazard information.

530 West 28th Street- LETTERHEAD

SAMPLE

WRITTEN HAZARD COMMUNICATION POLICY
530 West 28th Street

The total management of 530 West 28th Street is deeply committed to the safety of all its employees. We believe that the well being of our employees requires.

- A constant surveillance of the operation to either eliminate hazards or identity them so proper cautions are exercised.

- A well-informed work force alert to the safety hazards inherent in their jobs.

- Employees trained to handle the various emergencies typical to our types of business.

It is to those ends that this New Hazard Communication Program is directed.

It shall be the responsibility of our management and supervisors to ensure that proper information is obtained from suppliers and disseminated to the appropriate employees. It shall remain the employee's responsibility to follow all safe work practices as outlined in the Material Safety Data Sheets and 530 West 28th Street Safety guidelines.

This Hazard Communication Program is intended to supplement our normal safety activities. Current safety policies remain in effect.

The effectiveness of this new Hazard Communication Program, as with our normal Safety Program, depends upon the active support and involvement of all personnel.

NAME:
TITLE:
DATE:

C) THE WRITTEN HAZARD COMMUNICATION PROGRAM

COMPANY POLICY STATEMENT

In the daily conduct of our lives at work and at home, we use materials that require specific precautions be taken to protect our health and safety.

All persons who are, or may be exposed to hazardous chemicals, have a RIGHT TO KNOW what these chemicals are, what the potential hazards are, and what to do to protect themselves from harm.

This RIGHT TO KNOW has now been made a law and the regulations have been published by the Department of Labor in 29 CFR 1910.1200.

It has been, and remains the policy of 530 West 28th Street to communicate hazards associated with handling hazardous material to all employees.

It is also the policy of this company that all regulations be complied with strictly. Therefore, all personnel in departments where exposure to chemicals is possible shall be acquainted with the following:

1. The requirements of this new law.

2. Our written hazard communication program.

3. The location of our program and material safety data sheets.

4. The contents of the material safety data sheets for chemicals used in their work areas.

5. The types of and required contents for labels on chemicals in use.

All affected personnel will receive training to familiarize them with the above information, and their completion of this training will be documented. A briefing paper/training manual will be used in the training of newly hired personnel.

Regional Office Managers will be responsible for ensuring that all persons working at their site have received this training. All purchase orders for outside service will contain a stipulation that personnel to be sent onto the site will receive, and understand the information contained in the manual as it pertains to the areas in which they will be working.

RIGHT TO KNOW COMPLIANCE PLAN

A review of employer requirements, as outlined in Section B of this manual, indicates that three major areas must be completed for a firm to achieve compliance with Federal Regulation 1910-1200. These are:

1. Data Collection & Evaluation
2. Proper Labeling of Containers
3. Employee & Contractor Training

To ensure that all three areas are properly completed, and compliance achieved, each area will be covered in a step by step approach.

DATA COLLECTION & EVALUATION

STEP ONE-Inspect the entire site area.

a. Using the supplied HAZARD COMMUNICATION WORK SHEET FORM, list all chemicals used at each site. Notes will be made of the condition and type of each container. Each label must:

   I. IDENTIFY THE CHEMICAL

   II. IF THE CHEMICAL IS HAZARDOUS IT MUST GIVE THE APPROPRIATE HAZARD WARNING

   III. GIVE THE NAME AND ADDRESS OF THE MANUFACTURER, IMPORTER, OR COMPOUNDER

Step two-Obtain MSDS for each chemical used at each site. If they are not on hand, request them from the Central Office or suppliers, using the provided form. Each MSDS must be complete and contain all necessary information. If you are not certain, contact the Central Office or supplier to obtain additional information.

STEP THREE-Obtain necessary labels for those containers not properly labeled and affix them to the respective containers.

STEP FOUR-Identify and/or dispose of all unlabeled materials.

EMPLOYEES RIGHT TO KNOW

LABELING OF CHEMICAL CONTAINERS

As outlined in Section B, chemical manufactures and importers are required, by September 23, 1987, to have labels in place on all containers of hazardous chemicals, and to send firms a material safety data sheet with the first shipment after this date.

The final standard requires employers to ensure that each container in the workplace is labeled, tagged or identified with the identity of the container's contents, and that the appropriate hazard warnings are fixed.

These labels must include:

- identity of the substance in the container
- hazard warnings for the substance
- name and address of the chemical manufacturer
- legible type matter, "in English"

If an employee transfers chemicals from the original container into a portable vessel, he/she must ensure that a label meeting the above criteria is applied to this vessel.

The only exception to this requirement is if the substance transferred i to be used within the shift by this employee. If this condition is met, no label is needed.

EMPLOYEES RIGHT TO KNOW

TRAINING PROGRAM/M

STEP ONE-Establish a schedule for a training program to inform all personnel of the following:

a. The requirements of 29 CFR 1910.1200.

b. The locations of;

I. The repository of the MSDS's
II. The written hazard communication program
III. The listing of all hazardous chemicals in the facility

c. The information contained on an MSDS, and how to use it

d. How to read and interpret information on labels

e. How employees can obtain and use the available hazard information

f. Methods employees must use to protect themselves and others from different types of chemicals

I. Work practices
II. Use of proper protective clothing and equipment

g. Meanings of exposure information, TLV, TWA, etc.

STEP TWO-Document the completion of the training program by all employees and add this to employees personnel file.

STEP THREE-Use the "Employees and Contractors Training Manual" which will contain the information outlined in the training program. This will be used as a background document for training new employees. Regional managers will be responsible for assuring
that all company employees have read, and are familiar with the contents of this manual as it applies to the general information and that information specific to his/her requirements.

530 West 28th Street- LETTERHEAD

HAZARDOUS MATERIALS

EMPLOYEES RIGHT TO KNOW

SAMPLE LETTER (sent to all vendors)

Dear ( ):

It is the policy of 530 West 28th Street to assure that all chemicals used in our workplace are evaluated for potential hazards which they might pose to our employees. Therefore, it is necessary to require that all suppliers provide us with a material safety data sheet for all chemicals sold to our firm.

This information is to be provided on an OSHA Form 20 Material Safety Data Sheet or a suitable equivalent, and your compliance is expected by ( ).

We thank you in advance for your cooperation in providing our firm with this valuable information.

Sincerely,

530 West 28th Street Project Supt.

To Be Posted

NOTICE TO EMPLOYEES

COMPANY

HAZARD COMMUNICATION POLICY

530 West 8th Street

The total management of 530 West 28th Street is deeply committed to the safety of all its employees. We believe that the well being of our employees requires:

- A constant surveillance of the operation to either eliminate hazards or identify them so proper cautions are exercised.

- A well informed work force alert to the safety hazards inherent in their jobs.

- Employees trained to handle the various emergencies typical to our types of business.

In this regard, a Hazard Communication Program is being implemented to ensure that all workers whose jobs involve the handling of hazardous materials involved, but that they are thoroughly trained to perform their jobs safely.

NAME:
TITLE:
Hazard Communication Coordinator
DATE:

U.S. DEPARTMENT OF LABOR PROGRAM HIGHLIGHTS (insert)

MOST FREQUENTLY CITED VIOLATIONS (insert)

SUBPART D - OCCUPATIONAL HEALTH (insert)

3.13 MASONRY/CONCRETE GUIDELINES

The competent person shall oversee the following:

Prohibit construction loads from being placed on a concrete structure or part of one, unless determination has been made by a qualified person knowledgeable in the field of structural design that the structure is capable of supporting the load, parapet walls for scaffolds.

Requiring the bending over or covering of all protruding reinforcing steel or sharp lentils to prevent impalement should a worker fall onto or against them.

Prohibit all employees not essential to the operation from being behind the jack during-post-tensioning and post signs and barriers to limit such access.

Require protective head and face equipment for all employees applying cement, sand and water through a pneumatic hose. Employees placing or tying reinforcing steel more than 6' above an adjacent working surface, must wear safety belts or equally protective devices.

- Proper Personal Protection Equipment to be worn during re-pointing operations. Gloves, safety goggles, dust mask.

- No masonry material to be stored on any scaffolds, unless in use. Do not over load scaffolds.

- Dust control must be maintained during any heavy scraping or grinding.

3.14 TOILETS AT CONSTRUCTION SITE

The Employer will ensure the following:

FEDERAL REGULATIONS

- Number of Employees: Minimum Number of Facilities

  20 or Less 1 Toilet Seat and 1 urinal per 40 Workers
  200 or More 1 Toilet Seat and 1 Urinal per 50 Workers

- State Regulations:

  Facilities shall be located no more than 4 stories or 60 feet above a below, nor more than 500 feet travel or the same level, form the work location of any person.

  In no case shall toilet facilities be located more than 1,000 feet from any work location.

  Where any female is employed on a construction, demolition or excavation job site separate, clearly marked toilet facilities shall be provided and maintained in a sanitary condition.

- Drinking Water:

  - An adequate supply of potable water shall be provided in all places of employment.

  - Potable drinking water containers shall be capable of tightly closed and equipped with a tap.

  - The common drinking cup is prohibited.

  - Unused disposable cups shall be kept in sanitary containers, an a receptacle shall be provided for used cups.

- Washing Facilities:

  - The employer shall provide adequate washing facilities for employees engaged in operations involving harmful substances.

  - Washing facilities shall be in near proximity to the work site and shall be so equipped
    as to enable employees to remove all harmful substances.

3.15 FALL PROTECTION

The new Federal Fall Protection Standard designates requirements for a project fall Hazard Analysis and a Fall Protection Plan.

At the site the major component of the fall protection system in the existing pipe scaffold is the inclusion of a guardrail system on the scaffold.

A fall protection system must be utilized when any individual is exposed to a fall hazard of 6 feet or greater at which time a system of guardrails, safety nets or fall arrest system must be employed.

Fall arrest systems will be available at the site for each employee and the contractor will evaluate his schedule of operation each morning to assess the potential hazard outside the realm of the guardrail system and an alternative method will be employed to allay the hazard.

Each employee will be trained in the use of full arrest systems and it will be incorporated as a component of weekly tool box meetings on the ongoing safety inspection.

3.16 EQUIPMENT MAINTENANCE & PROTECTION

1. Proper maintenance of construction equipment is necessary to prevent serious INJURIES, large property LOSSES, and unnecessary EXPENSE. Often, accidents are caused by improper maintenance.

2. The selection and training of operators is very important. Misuse of construction equipment contributes greatly to maintenance problems.

3. **Follow these safety rules for maintenance of equipment:**

   - Most manufacturers of heavy construction equipment have maintenance and inspection manuals. When these procedures are followed, accidents are often preventable. Normal maintenance procedures include lubrication of equipment at the jobsite and in the shop.
   - Inspect regularly according to the manufacturer's instructions.

     - For example, a periodic check of a crane would include, but would not be limited to, the condition of sheaves, bearings, cables, brakes, clutches, drums, tracks, boom stops, boom section bolts, welds and other items.

     - The checklist for a scraper should include the hydraulic system, bowl, ejector, tires, tire pressure, steering, brakes, and back-up alarm.

     - Dozers should be checks for track adjustment, pins and bushings, rails, pad, brakes, clutches, blade control, and back-up alarm.

   - Maintain accurate logs and records on inspection programs for all equipment.

4. **Follow these safety rules for the protection of equipment on and off the job:**

   - Protect equipment from weather, fire, blasting, and vandalism.

   - At night, store equipment indoors if possible. This would include welding equipment, mechanics' trucks, and similar equipment.

   - Store equipment away from any source of fire, such as gasoline tanks, oil and grease containers, and flammable and explosive gases.

- Store equipment away from dry grass, brush areas, old wooden forms, and oily rags.

- Do not store equipment near blasting activities.

- Place fire extinguishers in the maintenance shop, field office, mechanics' trucks, and fuel and grease trucks. Employees are to be trained on how to use the extinguishers.

- Make emergency phone numbers readily accessible.

REMINDER - PROPERLY MAINTAIN AND PROTECT EQUIPMENT TO PREVENT INJURY AND PROPERTY LOSS.

3.17 LOCK OUT BASICS

1. **A machine may be harmful when:**

   - It is coasting to a stop.
   - Moving parts turn by gravity.
   - The on/off switch is bypassed by an electrical wire.
   - Air or hydraulic pressure lines have not been bled.

2. **To make a machine safe for adjustment or repair, you should SHUT IT OFF and:**

   - Wait until it stops.
   - Block elevated rams or other mechanisms so they cannot operate.
   - Bleed air and hydraulic pressure lines.
   - Lock out the main switch.
   - Attach a tag with your name, date and the reason for taking the machine out of service.

3. **Lockout procedures will vary from job to job and from machine to machine. However, here are some basic rules:**

   - Disconnect and tag the main control of the entire unit to be worked on.
   - Padlock the controls. Each employee who works on the machine should have his or her own padlock and key.
   - Disconnect the plug of a portable unit and attach your tag.
   - Bleed air and hydraulic lines.
   - Perform the necessary adjustment or repair.
   - Replace all guards and safety devices.

- If more than one worker is working on a machine, **REMOVE ONLY YOUR LOCK AND TAG.** This is very important.

- When **all is clear**, restore power and test-run the equipment.

- If operation is still unsatisfactory, repeat all lockout steps again.

<u>REMINDER</u> - REMEMBER TO MAKE A MACHINE SAFE FOR ADJUSTMENT OR REPAIR.

3.18 LOCK OUT - TAG OUT

1. If you are required to repair or maintain any machinery or equipment, or any electrical power source, start the job by **LOCKING OUT AND TAGGING OUT ALL ENERGY SOURCES!**

2. Locking out is the only sure way to prevent other employees from **ACCIDENTALLY ACTIVATING** the system. The tag identifies **WHO** installed the lock.

3. **Your employer should already have an established plan. Take these steps to PROTECT YOURSELF AND OTHERS:**

    - **FIRST**, contact your supervisor to schedule a shut down and to help you in locating all switches and power sources.

    - **SECOND**, install your lock on all power sources with a tag attached stating your name, employer, data and time installed. If equipment can be activated from more than one location, then additional locks and tags must be used as required.

    - **THIRD**, test the lock-out by trying all operating controls.

    - **FOURTH,** remove your lock and tag after your work is complete. **NEVER** remove a lock or tag that has been installed by someone else.

<u>REMINDER</u> - BE SMART. LARGE JOB OR SMALL, LOCK IT OUT FIRST!

3.19 CONCRETE HAZARDS

1. The most common chemical ingredient in concrete is cement. When combined with water, cement produces an alkaline chemical called calcium hydroxide. Upon contact with skin, this chemical can cause irritation, burns, drying and cracking, which can open the door to **SERIOUS INFECTION**.

2. There are also countless **CHEMICAL ADDITIVES** commonly added to concrete mixes that you should know about. Your employer is require to inform you of all such chemicals in the workplace by instruction from individual chemical product Material Safety Data Sheets (MSDSs).

3. **Follow these safety rules to avoid chemical and personal injury hazards with concrete:**

   - Whenever you're working, wheeling, dumping, shoveling or handling concrete, **USE GOOD LIFTING TECHNIQUES.**

   - Be alert for overhead wires whenever, concrete pump, or conveyor system.

   - Be on guard to prevent metal bull float handles from contacting electrical wiring and light bulbs.

   - Wet concrete conduits electricity. Make sure all cords and tools are grounded.

   - All protruding reinforcing steel should be guarded to eliminate the hazard of impalement or puncture wounds.

<u>REMINDER</u> - ALTHOUGH CONCRETE HAS BECOME A COMMON BUILDING MATERIAL, DON'T IGNORE THE DANGERS.

3.20 WORKING SAFETY WITH CONCRETE

1. **Don't make the job back-breaking--sacks of cement weigh 94 pounds. Use proper lifting techniques.**

    - Keep your legs bent, with the sack as close to the body as possible.
    - Do not twist at the waist while lifting or carrying cement sacks.
    - Get help if necessary.

2. Use goggles or other protective devices to protect eyes from contact with foreign objects.

3. **Avoid contact with fresh concrete, IT COULD BURN YOU.**

    - Prolonged direct skin contact with fresh concrete may reduce skin moisture, resulting in irritation or burning.
    - Following such contact, wash affected areas thoroughly with fresh water.
    - Mild irritation can be relieved by applying a lanolin cream.
    - Clothing saturated with fresh concrete should be rinsed with clean water.

4. **Persons working with concrete should begin each day with CLEAN CLOTHING.**

    - When working with fresh concrete, wear waterproof gloves and a long-sleeved shirt.
    - Wear full-length trousers and waterproof leather or rubber boots.
    - Boots should be high enough to prevent fresh concrete from flowing into them.
    - Use waterproof pads between fresh concrete surfaces and knees, elbows and hands when finishing concrete.

5. Always maintain a clean worksite.

<u>REMINDER</u> - ACCIDENTS CAN HAPPEN WHEN WORKERS IGNORE THE COMMON SENSE RULES OF MIXING, HANDLING AND FINISHING CONCRETE.

3.21 FIRE PREVENTION AND FIRE FIGHTING

1. Always obey smoking regulations. These regulations are made for your protection and the protection of other workers. Often, the "No Smoking" sign indicates that there are flammable materials in the area. **FLAMMABLE VAPORS CANNOT BE SEEN, BUT LIGHTING A MATCH COULD IGNITE A FIRE.**

2. Dispose of all flammable wastes quickly and appropriately. Flammable scraps, rags, and rubbish are to be placed in appropriate containers. Gasoline, kerosene, oils, and flammable liquids are to be stored in appropriate safety containers, which are clearly labeled. **NEVER POUR FLAMMABLE LIQUIDS DOWN DRAIN OR SEWERS.**

3. **Know where and how to activate a fire alarm.**

    - All fire extinguisher are labeled for a specific use. Know the locations and the appropriate uses of fire extinguisher in your area.

    - Know which fire exit you would use in an emergency.

4. If your clothes get soiled with oil, kerosene, naphtha or any flammable liquid, get clean immediately. A change of clothing will prevent skin irritation and fire hazards.

<u>REMINDER</u> - THE BEST WAY TO FIGHT A FIRE IS TO PREVENT ONE.

3.22 FIRE EXTINGUISHER

1. Have you inspected your fire extinguisher lately? Are they labeled, fully charged, strategically located, accessible and ready to use? Or are they covered with dust, hidden in some corner providing a false sense of security?

2. **Often, fire extinguisher are brought for a vital need, but because they are not regularly used, they are forgotten until an emergency occurs. Fire extinguisher are our FIRST LINE OF DEFENSE in case of fire.**

    - Fire extinguisher should be inspected regularly.
    - Fire extinguisher must be kept clean.
    - Fire extinguisher must be kept accessible.
    - Rubber hoses, horns or other dispensing components must be checked periodically for blockage.

3. **The following is a brief description of fire classifications and the recommended extinguisher to use on each:**

    - **CLASS "A" FIRES:** These are ordinary, combustible fires caused by rubbish, paper, rags, scrap lumber, etc. Recommended extinguisher for type "A" fires include: water; soda-acid, and carbon dioxide extinguisher.
    - **CLASS "B" FIRES:** These are fires caused by flammable liquids, oils, and grease. Recommended extinguisher are: carbon dioxide, dry chemical, and foam.
    - **CLASS "C" FIRES:** These are fires caused by electrical equipment. They are fires that require a non-conducting extinguishing agent. Recommended extinguisher are: carbon dioxide, and dry chemical.

<u>REMINDER</u> - WATER CONDUCTS ELECTRICITY, DO NOT USE WATER ON ELECTRICAL FIRES.

3.23 HOUSEKEEPING TIPS

1. **MATERIAL STORAGE**

   - Neat and orderly material piles protect against damage.
   - All material should be stacked, blocked, and limited in height. This will allow the pile to be stable and safe from collapsing and/or sliding.
   - Material should be separated and stored so that materials of similar sizes and types will be in the same pile. This makes it easier to keep track of material and to select it when needed.
   - Scrap materials for disposal should be in orderly piles and should not interfere with construction work.

2. **TOOLS - TAKE CARE OF THEM AS IF THEY BELONGED TO YOU.**

   - Do not use defective tools. Use tools only for the purpose for which they were designed.
   - When finished with tools, return them to the proper storage location.
   - Never leave a tool lying around where it can cause accidents, especially when workers are working below you.
   - Remember: tools are expensive, so do not lose them.

3. **MOVEMENT - KEEP TRAFFIC LANES AND WORK AREAS OPEN FOR SAFE MOVEMENT.**

   - Always keep ramps, ladders, runways, stairways, scaffolds, and all paths of travel clear.
   - Avoid running hoses, power cords, welding leads, ropes, and other tripping hazards across traffic areas.

4. **SALVAGE - CONSTANTLY CLEAN UP SCRAP, REMOVE OR BEND NAILS, AND STORE GREASY OR OILY RAGS IN APPROPRIATE CONTAINERS.**

- Clean up as work progresses; this reduces fire and accident potential.

- Prevent nail punctures by removing nails from reusable material or by bending the nails over.

- Keep greasy and oily rags and other flammable waste material in appropriate storage containers. Dispose of the contents of these containers frequently - they are an **EXTREME FIRE HAZARD.**

REMINDER

1. Good housekeeping improves operating efficiency and helps to prevent accidental injuries.

2. Each worker is responsible for housecleaning in their work area. **THIS MEANS YOU!**

3. A clean job is a safe and efficient job. Do your part to keep the job clean, safe and efficient.

4. "Clean up time" is **ALL THE TIME** in construction.

3.24 CRANES AND DERRICKS

As determined by 530 West 28th Street at least one competent person will oversee crane, derrick and personnel/material hoist operations.

In accordance with New York City regulations, the following permits will be obtained for the use of cranes and derricks:

- Certificate of Occupancy
- Certificate of Approval
- Certificate of Operation

The competent person shall coordinate with the crane hoist operators to assure safety measures are being enforced and all permits and licenses are approved typed and up to date.

Operators must have appropriate license for crane on site:

- Class A License – Boon up to 200 feet
- Class B License – All types
- Class C License – Cherry pickers only

When required cranes and derricks shall be inspected at:

- Frequent Intervals – daily to monthly
- Periodic Intervals – 1 to 12 months

Or as specifically recommended by the manufacturer.

Although all crane, derrick and hoist way operations are under the responsibility of the operator. The competent person will ensure that the operator practices food safety measures. E.G., no crane or derrick operation shall start an operation when the wind speed exceed 30 mph or when the wind is predicted to reach 30 mph before the operation can be completed. The U.S. weather bureau data from the nearest reporting station may be used for the determination of wind speed.

For personnel/material hoist, including elevators, at least one competent person will ensure operations are being performed in accordance with all Federal, State and Local regulations. The C.P. will ensure all testing and inspection records are available on site and ensure an emergency fire evacuation plan is coordinated with the hoist operators.

The competent person will be responsible for the following:

- Complying with the manufacturer’s specifications and limitations where available.

- Rated load capacities, recommended operating speeds, and special hazard warnings or instruction shall be conspicuously posted on all equipment. Instructions or warnings shall be visible from the operator's station.

- Equipment shall be inspected before each use and during use and all deficiencies corrected before further use.

- Accessible areas within the swing radius of the rear of the rotating superstructure shall be properly barricaded to prevent employees from being struck or crushed by the crane.

- Records maintained as required by government or private agencies.

MOTOR VEHICLES, MECHANIZED EQUIPMENT CHECKLIST

GENERAL REQUIREMENT

- Equipment in use or unattended for identifying location adjacent to a highway.

  - Barricades
  - Lights
  - Reflectors

- Maintenance of jobsite equipment.

  - Wheels

- Equipment similar to ditch – quich (tradename)
- Motorized Georgia buggies (Scoot-Crete, etc)

Obstructed view to the rear (prohibited movement unless) reverse signal alarm is issued.

1. Distinguishable from surrounding noise level.
2. Or an employee signals that it is safe to do so.

Scissor Point

Front end loaders

1. Which constitute a hazard to the operator (under normal operations) shall be guarded.

Lift trucks, stackers, etc

- Meet all requirements of CFR 1926 Subpart N and O and the following
- Equipped with overload guards meeting requirements of ANSI B56.1-1969
- Rated capacity clearly posted
- Modifications or additions affecting capacity or safe operation must have manufacturer's written approval

1. Instruction plates, tags, or decals must be changed accordingly.
2. Prohibit reducing original safety factor of the equipment.

3.25 EXCAVATION & BACKFILLS

1. Trench and excavation cave-ins account for a number of fatalities and serious injuries within the construction industry. For this reason, many serious considerations must be made while trenching or excavating.

2. What are the major causes of cave ins? Inadequate shoring, improper slopes on banks, poor analysis of soil conditions, defective shoring materials, nearby loads, vibrations and weather conditions.

3. Several precautions can and must be taken to help eliminate excavation hazards.

   - The first step is to check for and locate any underground utilities or other buried items. Then, the soil conditions must be carefully evaluated to determine the protective systems needed.

   - Wear your hard hat at all times. Also wear rugged shoes or boots.

   - Excavate trench banks to their proper slope ratios. Where necessary, straight banks should be shored.

   - Avoid dangerous overhangs.

   - Weather conditions can greatly affect sloping and shoring.

   - Material stock – piled nearby can increase the pressure or trench or excavation walls. Keep heavy equipment and materials such as pipe, and timbers well away from the excavation site. Maintain a minimum of two feet between any material, including the spoils pile, and the edge of the excavation.

   - Vibrations from equipment passing by can contribute to cave-ins by loosening the soil. Any soil, vibration can endanger a shoring system. Compaction operations can cause vibration; therefore check soil conditions before during and after compaction.

   - A competent person is to inspect shoring systems at least daily.

3.26 EXCAVATION

1. Every year workers are KILLED by collapsing excavations.

2. There are several questions you should ask about excavations.

   - What are the soil conditions? Classify the soil and act accordingly.
   - What is the depth of your excavation? This will assist you in determining your protective system.
   - Are they any overhead hazards? Are there any lifts or materials being handled over the excavation in which the work is being performed.
   - How near are you to prior excavations and heavy equipment? Previously disturbed soil or heavy equipment use may cause a new excavation to collapse.
   - What protection is required? Protection includes shoring, sloping, or shielding.

3. Follow these guidelines when using ladders in excavations:

   - Ensure that workers are never more than 25 feet from exit ladders or steps.
   - Make sure that ladders extend at least 36" above the landing being served and are secured at the top and bottom.
   - If ladders are job-built, make sure they are constructed accordingly to safety regulations. (When in doubt, check the requirements).
   - Do not use metal ladders, which are conductors of electricity, where the excavation is near underground or overhead power sources.
   - Make sure that ladders are in good condition. Ladders with broken cleats should be repaired, tagged out of service or replaced. Inspect ladders before they are used.

REMINDER – WORK SAFELY IN EXCAVATIONS.

   - Excavated areas must be roped off, barricaded and marked with lights at night.
   - Keep open trenches free from water and debris.
   - When excavations are located near a road, keep the road clear of debris.
   - Never work alone

REMINDER - DON'T PLAY GUESSING GAMES WITH A TRENCH EXCAVATION.

3.27 TRENCH EXCAVATION

1. Trench excavations can change quickly with variations in soil, weather, adjacent loading, ground water, vibrations, varying depths, etc. As changes happen your judgement becomes very important. If you are uncertain about the safety of the trench, then KEEP OUT!

2. OSHA required that employers protect their workers by using one of the following procedures.

   - Using allowable sloping or benching systems.
   - Selecting allowable support, shield or other protective systems.
   - Using tabulated data approved by a registered professional engineer.
   - Using designs or plans approved by a registered P.E.

3. It is essential that persons involved with trench design, planning and installation be familiar with all local, state and federal trenching regulations, including OSHA's.

4. Trench cave ins are often caused by overloading bank edges. Always keep stockpiled materials, including excavated soil, TWO FEET OR MORE away from excavation edges.

5. In trenches four deep or more, an exit ladder or steps must be provided within 25 feet of every employee.

REMINDER – WORKING IN EXCAVATION CAN BE SAFE.

3.28 CONCRETE PLACEMENT

1. Concrete is a mixture of small and large aggregate, usually sand and gravel, bonded together with cement. There are also a variety of chemical additives used to improve or change the mix for special applications. When water is combined with cement, an alkaline chemical called calcium hydroxide is produced, WHICH WILL BURN YOUR SKIN. IN ADDITION TO THIS CHEMCIAL HAZARD, YOU SHOULD BE AWARE OF ANY OTHER CHEMICALS IN THE MIX AND UNDERSTAND THEIR DANGERS.

2. Follow these safety rule when working with concrete:

    - Wear a hard hat, safety glasses or goggles, long pants, a shirt with long sleeves, high boots, and chemical-resistant gloves. CONCRETE BURNS ARE ALWAYS DANGEROUS.
    - Immediately after working with concrete, wash yourself with water.
    - At approximately two tons per cubic yard, the weight of concrete can be dangerous.

        - When positioning loaded concrete trucks, be alert for underground structures, loosely backfilled areas and excavation banks.
        - When using a crane and bucket, always make a TEST LIFT to ensure that the crane can handle the load at the maximum reach.
        - When placing concrete on suspended form work, avoid off balance and impact loading.
        - Good lifting techniques are important when welding, dumping and shoveling concrete to avoid injuries.

    - Never get underneath or ride on a concrete bucket.
    - Stay clear of tight locations where a swinging bucket could cause crushing.
    - Make sure that all tools and cord are properly grounded.

3.29 STRUCTURAL STEEL SAFETY

You must take all necessary safety precautions - whether you are working in the steel gang, or just working nearby.

_ For the benefit of everyone, crane and rigging safety must be taken seriously. Before making any lifts, make a crane safety check to insure that no defects exist in its boom, cables and accessories, including chokers and hooks.

_ Crane safety demands that you:

- **ALWAYS** check for overhead power lines.
- **NEVER** ride on any suspended loads.
- **ALWAYS** know the weight of the lift and the capacity of the crane.
- **NEVER** drag cable over obstacles.
- **ALWAYS** use tag lines to control suspended loads.
- **NEVER** release hoist lines until all connections are properly secured to the structure.

_ Before going up on iron, make sure that your shoes are clean of grease, oil, mud, snow, ice, etc.

_ Be sure not only to **WEAR** your safety belt, but also to **USE IT**.

_ Be alert - unexpected wind gusts can throw you off balance and cause suspended loads to swing.

_ Take precautions to avoid tripping on tools, air hoses, extension cords, etc.

_ Those working near structural steel erection areas must be extremely cautious.

- Stay out of areas where loads are swinging overhead.
- To prevent being hit by falling objects such as nuts, bolts, tools, cords, etc., never work underneath steel erection crews.
- When working close by, watch out for sparks and molten metal from overhead welding, burning, or grinding.

REMINDER - ALWAYS ALLOW ENOUGH ROOM FOR THE UNEXPECTED.

1. Permanent Flooring – shall be installed as soon as practical following the erection of structural members. At no time shall there be more than 2 floors or 24 feet of unfinished bolting or welding above the foundation or uppermost secured floor.

   Temporary Flooring

   a. The erection floor shall be solidly planked over its entire surface except for access openings. Planking shall not be less than 2 inches thick, full size undressed, and shall be laid tight and secured against movement. Access openings will be guarded with standard guard rail.

   b. A safety railing shall be installed, approximately 47 inches high, around the periphery of all temporary planked or decked floors during structural steel erection. A midrail meeting the safety manual's requirements will also be installed during this operation. A single safety railing is not acceptable for steel erection. Both railing shall be a t least ½" wire rope with at least 3 j-type wire rope fist grip clamps at connection. Eyes and thimbles will be used to make all connections with turnbuckles installed every feet.

   c. With the A/E's approval, all exterior steel will be punched by the fabricator at the above guard able heights during fabrication. Holes will be punched on the interior flange of all columns.

   General Requirements

   a. When setting structural steel, each piece shall be secured with not less than two bolts at each connection and drawn up wrench tight before the load is released.

   b. Material shall not be hoisted to a structure unless it is ready to be put into place and secured.

   c. The fall protection requirement is six feet (72') for all work performed. At no time shall any employee be exposed to the potential of a fall exceeding six feet (6') without required fall protection – NO EXCEPTIONS.

      Appropriate work platforms with required guardrails, static lines, or the use of safety nets which remove such fall exposure shall be considered adequate. Exterior nets are required when nets are used. Nets will be installed at each level so as not to allow steel between the employee and the net.

   d. When loads are being hoisted, walking under the lift or permitting an employee to be exposed to the swing of the lift is prohibited. No one shall

be permitted to ride the load under any circumstances.

e. A tag line shall be used to control all loads.

f. For the protection of other crafts on the project, barricades (red barricade tape) an designs shall be posted around the erection area, "danger – keep Out – Men Working Overhead".

g. CHRISTMAS TREEING OF IRON IS PROHIBITED

3.30 CONFINED SPACE ENTRY PROCEDURE

Purpose: To establish a procedure which governs the identification and control of confined space entries; required training for entries and emergency rescue; and provide assurance that all mechanical, physical, electrical and chemical hazards have been controlled and/or monitored.

Responsibilities:

Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager and Contractor's are responsible for insuring adherence to the elements of this procedure where confined space entry may be required. More specifically, those elements are to include the following:

A. Identification of tasks, which may involve worker entry into a confined space, and ensures all proper permits are obtained as contained with this procedure.

B. Insurance that maintenance of a current classification file to all confined spaces, which may be potentially occupied throughout the course of the Project, will be accomplished.

Site Safety Representative: The designated safety representative and the Contractor's supervisors are responsible for the overseeing of the technical aspects of this procedure with support provided by Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager/530 West 28th Street Corporation. The technical elements to which these individuals are to be held accountable include the following:

A. Classifies each confined space relative to the need for an entry permit.

B. Trains supervisors and competent persons relative to their responsibilities and duties in connection with the confined space entry program.

C. Reviews and approves the selection of all safety personnel protective equipment and instrumentation.

D. Audits confined space entry program execution.

Competent Person: One who is capable of identifying existing, and predictable, hazards in the

surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. The responsibilities assumed by the competent person are those related to the actual execution of the task. As such, this individual's principal duties include the following:

A. Prior to entry evaluates each confined space for existing or potential hazards.

B. Monitors the atmosphere of the confined space with an acceptable analyzer. Ensures that instruments are properly maintained and calibrated.

C. Notifies the Project Safety Manager of any tasks to be performed within a confined space, which could create a hazardous atmosphere.

D. Obtains an entry permit.

E. Reviews provisions of the entry permit with employees entering the confined space prior to entry.

F. Instructs employees and directs the execution of the confined space entry according to established procedures.

G. Ensures that required personal protective equipment is provided, and used, as required.

H. Designates a trained attendant for each confined space.

I. Trains all personnel involved in confined space entry and emergency rescue.

J. When the entry has been completed, verifies that all personnel and equipment have been removed from the confined space and signifies that the space may be prepared for return to service.

All Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager employees and Contractor's are responsible for adherence to the provisions of the procedure. Additional responsibilities include:

A. Never Enter a confined space without proper authorization.

B. Use all safety and personal protective equipment in accordance with the training provided.

C. Follow all 530 West 28th Street confined space requirements in addition to the Project Safety Guideline.

Definitions:

Attendant:

An attendant is the person assigned to remain immediately outside the entrance of the confined

space during the time the space is occupied. This person is to maintain visual and/or voice contact with persons in the confined space at all times. The attendant must also have an immediate, and direct, means of communication by which rescue or other emergency assistance may be summoned. The attendant is not to enter the confined space unless appropriately trained and equipped and another qualified attendant is present.

Confined Space:

A confined space is considered any enclosure that (a) is not designed for normal occupancy by humans, (b) contains an actual or potential safety and/or health hazard, and (c) restricts egress to such an extent that personnel would have difficulty in escaping in the event of an emergency.
EXAMPLES of spaces fitting this description include the following this list is only an example:

Reactor vessels
Tanks and bins
Air Handling Units
Vats
Piping
Boilers
Duct
Vaults
Trenches
Manholes

Sumps and open-top pits have a depth in excess of three feet.

No authorization is to be given for entry into confined spaces that are considered immediately dangerous to life and health (IDLH) or where the potential exists for the generation of such.

An area where there is a potential of a non-respiratory atmosphere.

An area where there is a potential of an engulfment by loose particles, bulk materials or liquids.

An area where there is a potential of an explosive, flammable or toxic atmosphere.

An area where an entrance and/or exit are restricted (limited access or egress),

An area where work generated hazards such as welding, cutting, burning, painting, chemical handling, or any type of work which would create a toxic or non-respiratory atmosphere which could create a hazard, shall constitute a confined space.

Entry Permit

The confined space entry permit provides a checklist of pre-entry precautions, which shall be taken. Documentation of monitoring and authorization of entry shall then be provided by the appropriate manager. A copy of the permit shall be conspicuously posted at the site of entry.

The permit shall provide a record of the date of entry, monitoring requirements, relative location of entry and a description of the work to be performed.

Entry Requirements:
Preparation prior to entry of a confined space requiring a permit requires that the following be accomplished:

1. Determine any unusual conditions which may require a special procedure unique to the area or the task to be conducted i.e., welding.

2. Purge, drain and/or evacuate process materials, chemicals and air.

3. Isolate the confined space from al external piping, process systems, affluent systems, utilities. And ducts that could cause materials to enter the confined space. This may be accomplished by inserting blanks and skillets, disconnection and capping of lines, double blocking and bleeding valves and/or physical disconnection of equipment.

4. Immobilize all mechanical services such as agitators, mixer paddles, fan blades, etc., through recognized lockout procedures and/or through physical disconnection of the drive mechanism from the power source.

   PROVIDE VENTILATION FOR THE CONFINED SPACE BY USING FORCED AIR SUPPLY (BREATHING AIR QUALITY) AND/OR AIR EXHAUST EQUIPMENT, VENTILATION IS TO CONTINUE AS LONG A SPERSONNELL AR EIN THE CONFINED WORK SPACE.

5. Once the area has been opened and the ventilation initiated, the following parameters are to be evaluated:

   Oxygen level – at least 19.5% but less than 25%

   Lower explosive level (LEL) – potentially explosive vapors and dust shall be at 0% before personnel may enter the proposed work area, insuring the appropriate PPE is being worn.

   Toxic material concentrations – the atmosphere within the confined space shall not contain concentrations of toxic materials which exceed established exposure levels. Every effort shall be made to reduce airborne concentrations of hazardous materials to levels, which are lower than established exposure limits.

   Continuous monitoring – the need for continuous monitoring of these parameters shall be determined on a case-by-case basis by the Project Safety Manager.

   Next shift monitoring – the need for continuous monitoring of these parameters shall be determined on a case-by-case basis by the Project Safety Manager.

Next shift monitoring – in the event that the work in the confined space is to continue past the initial shift, the atmosphere shall be remonitored at the beginning of each subsequent work shift.

6. The following safety equipment will be required to be used during confined space entry:

   Body harnesses with attached connections for chain or rope hoist.

   Self Contained Breathing Apparatus (SCBA), two unit's minimum.

   20# ABC fire extinguisher when flammable materials are involved.

   Emergency escape breathing apparatus. Requirements for use shall be determined on a case-by-case basis.

   Equipment (hoist, hand lines, etc.) for removing an incapacitated individual during an emergency.

   Access Ladder.

   Atmospheric monitoring instrumentation.

7. When the us of special protective equipment (respirators, gloves, clothing, eye-protection, etc.) is required, their use shall be specified in the entry permit and all associated training requirements shall be met.

<u>Requirements and Procedures for a Permit Entry into a Confined Space:</u>

1. No person shall enter a confined space until all the preparations for entry have been completed, the permit has been approved, all conditions of this Standard Operating Procedure have been met, and the entry is authorized.

2. No person shall enter a confined space until an attendant is at the entry. The attendant shall maintain visual and/or voice contact at all times with personnel in the confined space.

3. In the event of an emergency, the attendant shall summon assistance and shall not enter the confined space unless he/she has received emergency rescue training and another trained attendant is present.

4. All personnel entering confined spaces and all attendants for such entries shall receive confined space entry training and emergency rescue training at least annually.

5. Personnel using monitoring equipment shall be trained in its use and calibration.

6. All electrical shock hazards shall be attenuated by use of low voltage systems and/or ground fault protection.

7. Explosion-proof electrical equipment shall be required for entry into those spaces where

the potential for fire and/or explosion exists.

8. When all of the above conditions have been met, protective equipment specified for the job, the access ladder secured, lock-outs verified, and the permit completed both the Construction Manager/General Contractor/Trade Contractor/General Contractor/Program/Manager and the competent person shall sign the permit, which shall be posted in a conspicuous location at the site of entry.

9. Whenever conditions in the confined space change, personnel shall be removed, the changes investigated, lock-outs re-verified, and the area re-monitored.

10. In the event that the work in the confined space is to continue past the initial shift, the Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager and the competent person on the next shift shall sign the permit, re-verify the lockouts, re-monitor the atmosphere and record the data on the permit, verify that all other requirements of this procedure have been met, and inherit all of the responsibilities associated with the entry. This process shall be repeated at the beginning of each subsequent shift.

11. When the job has been completed, the competent person shall verify that all personnel and equipment have been removed from the confined space. The competent person signifies that the work is completed and that the confined space may be prepared for return to service by signing the permit in the appropriate place and returning it to the Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager. The completed permit is then retained by the Construction Manager/General Contractor/program Manager for the duration of the Project.

    The responsibility for issuing confined spaces entry permits is that of the Construction Manager/General Contractor/Program Manager. The Contractor/subcontractor or other persons are responsible to complete all information required and apply for the permit. The emergency plan of the Project, when initiated will automatically cause all permits to be null and void and will require all personnel in the confined space to immediately evacuate the work area.

    Persons for whom the Construction Manager/General Contractor/Program Manager issues confined space permits will abide by the requirements of OSHA and this procedure.

12. <u>PROCEDURE</u>

    (a) No one will enter a confined space without having a permit. Violations will be cause for dismissal and employees being forbidden re-entry on the Project. The Project Safety Manager shall identify all confined spaces by sign, placard or other appropriate means. He will also identify person(s) as necessary to be the permit issuer, hereafter referred to as the "permitter". Only an authorized permitter may issue a permit. The permitter will personally inspect, examine and

evaluate the confined space before entry and will assure himself that all hazards have been identified before allowing entry. Before entry is allowed by the permitter, he will quiz all involved to ensure they are knowledgeable of (a) what is to take place inside the confined space, (b) who will be entering, (c) who will be standing by, (d) what will betaken inside, (e) what will be necessary in case of an emergency, and (f) how to report an emergency.

(b) The permitter will discuss with all personnel involved the following:

1. What will happen if an emergency occurs.

2. What the emergency – standby person must do.

3. All permits are null and void in case of an emergency.

4. How to request a re-check of the permit.

5. What the permit authorizes and does not authorize. The duration of the permit – one shift (or the duration of the entry, whichever, is shorter).

6. The duration of the permit – one shift (or the duration of the entry, whichever, is shorter).

7. The posting of the permit.

(c) The permitter shall ensure the posting of the permit as follows:

The original – at the point of entry.

The second copy – Contractor's office.

The third copy – in the safety Office.

(d) The Contractor, at the end of the work shift or at the completion of the entry, shall:

(i) collect the original and middle copy of the permit,
(ii) complete the all clear portion on both permits and
(iii) return the permit to the Safety Office.

A new permit shall be issued for further entry. Any and all equipment required by the permitter and/or the Project Safety Manager shall be available for use.

Equipment that may be required includes, but is not limited to, the following:

A. Lifelines
B. Full Body Safety Harness
C. Self-Contained Breathing Apparatus

D. Airline Respirators
E. Rescue Harness and Ropes
F. Ropes, Pulleys, and other rescue Equipment
G. Horns, Whistles, Telephones, Radios, Etc. For Communication
H. Fire Fighting Equipment
I. Explosion Proof Lighting and Electrical Equipment

13. The confined space may be continuously monitored by monitoring equipment. The Contractor is solely responsible for providing the care and protection of this equipment while in use and expressly accepts liability for the damage or loss of the equipment, including replacement of the equipment. The contractor further understands that the permitter may stop work at anytime he suspects the permit is being violated, conditions have changed inside the confined space, or:

Conditions have significantly changed outside the confined space. The contractor is responsible for the safety and health of his employees and shall not allow his employees to enter any confined space, he or his employees, feel is unsafe.

The cost of any additional inspection, evaluation, or consultation provided by the Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager, for the benefit of the Contractor concerning the safety of the confined space, shall be borne by the Contractor. 530 West 28th Street Project employee, engineer, architect, visitor, vendor or the person who enters a controlled confined space shall abide by this procedure. The Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager, or persons under the Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager's control shall abide by 530 West 28th Street Corporation Project confined space requirements when entry is made in a confined space under the owner's control.

Additional monitoring equipment shall be available as determined by the Project Safety Manager. Every Contractor shall ensure that all employees, visitors, vendors, consultants or other persons under their charge or assisting them are thoroughly trained and orientated to these requirements before they are allowed to enter a confined space. Any person required to wear, use or in any way be involved with, respiratory protection shall be properly trained in the wearing of the respiratory equipment and shall be covered by a respirator program.

14. The following work rules are unconditionally and automatically the requirements for confined space entry procedures:

A. Ventilation shall be of adequate volume to safely maintain the airflow within the confined space. (It is the responsibility of the Contractor to prove the calculations of the airflow volume).

B. It is the responsibility of the contractor, or person supervising the work, to report immediately any unsafe conditions.

C. A flashlight shall be carried by each person entering a confined space.

D. Lighting used must be explosion proof, 12 volt system or flashlight.

E. Welding, cutting, brazing, and purging operations specific requirements – consult with the permitter.

F. Chemicals utilized or transported inside the confined space require specific requirements – consult with the permitter.

G. Certain tools such as grinders, drills, sanders, etc., require specific requirements – consult with the permitter.

15. The Project Safety Manger or permitter shall stop all work, including confined space entry, during an emergency and shall not allow re-entry until the emergency is over.

The Contractor and the permitter shall determine all sources of power, fluids, gases, ventilation and other means of disturbing the work area within the confined space. The Contractor is responsible to lock, tag and secure these potential disturbances prior to allowing entry. All Contractor's shall be able to identify the location of any purge gas release and where the gas is being vented. At no time shall purge gas be vented inside a building or into a confined space. Hearing protection shall be provided if the noise level inside the confined space is greater than 85dB.

3.31 CONFINED SPACE HAZARDS

1. Inspection task, maintenance work, remodeling, or new construction activities may lead you into a confined space. It may be a CONFINED SPACE if it meets the following:

    - If the area is not designed for continuous human habitation.
    - If there is a lack of, or little natural ventilation.
    - If the area has limited or difficult means for entry or exit.

2. A few common examples of confined space area are storage tanks, process vessels, bins, silos, ship holds, boilers, ducts, pipelines, tunnels , shafts, utility, sewers, manholes, sewage digester tanks, pump rooms or structures, and an open top pit over four feet deep.

3. Some dangers in confined space include:

    - Lack of oxygen.
    - Presence of toxic dust, vapors or gases.
    - Possibility of flammable or explosive atmospheres.
    - Danger of equipment activation that could drown, suffocate, or otherwise injure of kill anyone within the confined space.

4. Follow these safety rules when working around a confined space:

    - Never enter a confined space until you supervisor gives approval.
    - Before entering a confined space, know the hazards involved, the precautions to take and use of all protective and emergency equipment required.
    - NEVER TRUT YOUR SENSES - they cannot detect odorless gases or lack of oxygen.
    - Always consider a confined space dangerous until it has been tested by a competent person using the required properly – calibrated testing instruments.

REMINDER – CONFINED SPACES PRESENT UNIQUE CONDITIONS THAT CAN BECOME LIFE THREATENING.

    - A list of employees expected to participate in confined space entries should be obtained complete with their documentation of their training from the responsible contractor.

Confined space compliance and procedure is the responsibility of each subcontractor during their respective operations and such programmatic procedures and requirements shall be included in their respective safety programs.

3.32SCAFFOLDS

- -Types of scaffolds

    1. Mobile scaffolds
    2. Welded frame scaffolds
    3. Swing stage scaffolds

- -Most Common Deficiencies

    1. No guardrails on scaffolds
    2. No pins to prevent uplifts on scaffolds
    3. Unsafe access to scaffolds
    4. Poor footing for scaffolds

- -Major Points

    1. Guardrails required on welded frame, mobile and swing stage scaffolds at 10 feet.
    2. Planking failures have resulted in many falls.
    3. The four to one height to width ratio is important for both mobile and other freestanding scaffolds.
    4. Interior stairs can often be the safest access to scaffold as opposed to climbing scaffold cross-bracing.

<u>Scaffolding</u>

Inadequate scaffolding is responsible for many construction incidents. Scaffolds shall be designed, built, and inspected by competent persons. To avoid the use of makeshift platforms, each application will be carefully planned to ensure that scaffolding is used where required and that such scaffolding conforms to the applicable scaffolding erection requirements.

1. Lean-to scaffolds and makeshift platforms are prohibited.

2. Scaffolds shall not be used for the storage of material except material for immediate use. Materials will only be placed over cross members.

3. All scaffolds shall be adequately designed to carry, without failure, four (4) times the maximum intended load. At no time shall scaffold be overloaded.

4. All scaffolds shall be maintained in safe condition and scaffolds damaged or weakened, from any cause, shall be immediately replaced.

5. Scaffolding or staging more than six (6) feet above the ground or floor,

suspended from an overhead support, or erected with stationary supports, and mobile scaffolds shall have standard guardrails and toeboards properly attached.

6. Guardrails shall be two inches by four inches (2" x 4") or the equivalent, approximately 42 inches high with midrail. Supports shall be at intervals not to exceed eight feet (8"). Toeboards shall be a minimum of eight inches (8") in height. Planking shall be cleated or otherwise secured to prevent displacement. All platforms will be the complete width of the scaffold being erected. Scaffolds shall be braced and tied off both horizontally and vertically at intervals specified in the pertinent regulations.

7. Scaffolding with any dimension of less than 45 inches will be equipped with outriggers, and guarded with standard railing at a height of four feet (4').

8. Mobile scaffolding will be equipped with outriggers, all caster will be locked, and mobile scaffolding will be guarded with standard railing regardless of height. Also, no mobile scaffolding will be constructed or used where there is a change of elevation in the floor level.

No employee will be transported or moved on a mobile scaffold.

9. The Project 6' (Six) Foot Fall Protection requirements will be followed without exception:

   - While erecting, dismantling or altering scaffolding
   - On scaffolding not meeting guarding requirements

10. The wording **"accepted practices"** in the industry of not using fall protection while erecting, dismantling or altering scaffolding is not recognized on this Project.

11. All scaffolding shall be equipped with a ladder for access to the work platform and all work platforms guarding will be equipped with a self closing gate to ensure easy and safe entry onto the work platform.

12. All employees will be trained in the use of scaffolding in accordance with OSHA regulations and requirements.

3.33 WELDING, CUTTING AND BURNING

1. No welding, cutting, burning or other spark or flame producing operation shall be permitted until a flame/spark permit has been issued by the owner/Construction Manager/General Contractor/Trade Contractor/general contractor/program manager. This permit will be

required for each and every welding and cutting operation. Each separate cutting and welding operation will be required to have, within easy reach, a proper fire extinguisher provided by the contractor performing the work of a size and type to extinguish any fire that may ignite on materials being cut or welded.

2. A suitable cylinder truck with chain shall be used to keep cylinders from being knocked over while in use. An acceptable wrench shall be installed on each cylinder truck.
3. Cylinders of oxygen shall not be stored closed to cylinder of acetylene or other fuel gas. They shall be separated by a minimum of 20 feet or by a non combustible barrier with at least a two (2) hour fire rating.
4. Oxygen cylinders, cylinder valves, couplings, regulators, hose and apparatus shall be kept free from oil and grease. Oil and grease in the presence or oxygen under pressure may ignite violently. Employees shall be prohibited from handling oxygen cylinders or apparatus with oily hands or gloves.
5. Cylinders in storage shall be kept away from sources of heat and shall be protected against the direct rays of the sun.
6. Empty cylinders shall have their valves closed.
7. When moving cylinders by a crane or derrick, a cradle, boat or suitable platform shall be used. Slings, hooks or electric magnets not to be used.
8. Compressed gas cylinders shall be secured in an upright position at all times except for short periods of time while cylinders are actually being hoisted or carried. Empty cylinders shall be marked EMPTY. If a cylinder is not equipped with a valve wheel, a key will be kept on the valve stem while in use.

9. All hoses shall be frequently inspected for leaks, worn places , and loose connections. All hoses shall be elevated at least 8 feet above the work area so as not to prevent the safe passage of workers and equipment.

10. Approved lash arresters shall be provided in both oxygen and acetylene hoses at the regulator connection.

11. Compressed gas cylinders and accessories shall not be taken into or stored in closed or confined areas.

12. Compressed gas cylinders will not be stored inside o f any structure – this includes gang boxes, storage trailers and similar closed spaces.

13. Compressed gas cylinders will be stored only in properly construction storage racks. The racks will be constructed of rugged nonflammable materials.

14. Welding current return circuits or grounds shall current without hot or sparking contacts and without passage of current through equipment or structures which might be damaged or made unsafe by the welding current or its voltage. Specifically, welding current must not be allowed to pass through any of the following materials:

    (a) Acetylene, fuel gas, oxygen or other compressed gas cylinders or accessories.
    (b) Tanks or containers used for gasoline, oil or other flammable or combustible material.

(c) Pipes carrying compressed air, steam, gases or flammable or combustible liquids.
(d) Conduits carrying electrical conductors.
(e) Chains, wire ropes, metal hand railings or ladders, machines, shafts, bearings, or weighing scales.

15. All arc welding and cutting operations shall be shielded by noncombustible or flame-proof screens.

16. The ground for the welding circuit shall be mechanically strong and electrically adequate for the service required.

17. Electrode and ground cables shall be elevated at least 8 feet above the work area and supported to prevent obstructions from interfacing with the safe passage of workers and equipment.

18. Where it is necessary to couple, or uncouple, several lengths of cable for use as a welding circuit, insulated cable connectors shall be used on both the ground line and the electrode holder line.

19. All electrical holder (Stinger) of adequate rated current capacity insulated to protect the operator against possible shock, and to prevent a short or flash when laid on grounded material, shall be used.

20. Cables with worn or damaged insulation may not be used.

21. All connection lugs on welding machine will be insulated.

Personnel Protection

1. Protective measures for welders and helpers are:

   a. Combination hard-hats – Welding helmets shall be worn while welding. No soft caps allowed.

   b. For overhead work, fire-resistant Hard Hats and shoulder covers will be worn.

   c. Clothing will be free of oil, grease , and other flammable material. Collars and cuffs will be buttoned and pant cuffs shall be turned inside pants. Pockets should be covered with flaps and buttoned or eliminated from the vests, shirts, and aprons.

   d. Gloves will be worn to protect the welder/helper.

   e. Welder helper will be protected with proper eye protection in addition to

safety glasses.

2. Workers engaged in oxy-acetylene welding or cutting shall wear a welding helmet and safety goggles equipped with suitable filter lenses. Dark safety glasses are not acceptable.

3. Workers engaged in electric arc welding will use shields equipped with suitable filter lenses that will not fit on hard hat.

4. Eye protection in the form of approved safety glasses or goggles shall be worn under the hood.

5. Face shields or goggles will be worn along with approved safety glasses during grinding operations.

6. No welding, burning, or open flame work shall be performed on any staging suspended by means of fiber or synthetic rope.

7. A 10 lb. ABC fire extinguisher, provided by the Contractor, shall be placed within easy reach of welding, burning and cutting operations. In some locations, a fire watch will be required to stand by with an extinguisher.

8. Either general mechanical or local exhaust ventilation, meeting applicable regulations, shall be provided whenever welding, cutting, or heating is performed in a confined or closed space or any area needing ventilation as specified by the Project Safety Manager.

9. All employees performing welding, cutting or brazing, connecting and/or disconnecting gauges from compressed gas cylinders must posses a Certificate of Fitness issued by the NYC Fire Department.

10. A fire watch, who must posses a Certificate of Fitness must be utilized during the above operation and must remain at site of the welding cutting or brazing for one hour after the operation is completed.

3.34 FLOOR AND WALL OPENINGS

All conditions shall be controlled where there is a danger of employees or materials falling through floor or roof openings, holes or where there is a danger of employees or materials falling through wall openings or from the floor or roof perimeter edges. Specific attention to be paid to this section of the program. The requirements are the ABSOLUTE MINIMUMS.

Guarding and/or covers shall only be removed after other means of fall protection are in place. The perimeter protection and floor and wall opening protection is to be maintained at all times – notification of violations that are not rectified immediately shall result in removal of supervisor responsible for the activity. Further violation may result in removal

of supervisor responsible for the activity. Further violation may result in more severe contractual action.

THE PERIMETER, FLOOR AND WALL OPENINGS PROTECTION WILL INCLUDE THE INSTALLATION OF ORANGE 4' HIGH VERTICAL DEBRIS NETE ALONG WITH PERIMETER, FLOOR AND WALL OPENING FALL PROTECTION. VERTICAL DEBRIS NETS ARE REQUIRED IN LIEU OF TOE BOARDS AND IS A PART OF THE GUARDING SYSTEM AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

The phrase "leading edge" as some times used in decking practices and the phrase "accepted practice" in the construction industry as sometimes used in the erection of scaffolding are not recognized on this Project.

1. A standard railing shall consist of a top rail, intermediate (midrail) rail, and 4' high
vertical debris nets and posts.

    a. The top rail will be approximately 42 inches from the upper surface of the rail to the floor, platform, or ramp level. The top rail shall be ½" wire rope with at least 3-type fist grip wire rope clamps at each connection. All connections will be made with eyes and thimbles and turn-buckler installed every 100 feet.

    b. The midrail shall be halfway between the top rail and the floor, runway, platform, or ramp. The midrail shall be ½" wire rope with 3 J-type fist grip wire rope clamps at each connection. All connections will be made with eyes and thimbles and turn buckler installed every 100 feet.

    c. The toe board, 8-inch minimum height, shall be securely Fastened in place and have not more than ¼ inch gap between it and the floor level where vertical debris nets cannot be installed. This determination will be made by the Project Safety Manager.

2. Other types, sizes, and arrangements of railing construction are acceptable only by written approval from the Project Safety Manager.

3. <u>Stair Railings</u>

A stair railing shall be constructed similar to a standard railing, but the vertical height shall not be more than 36 inches, nor less than 34 inches, from the top rail to the surface tread in line with the face of the riser at the forward edge of the riser. All hand rails shall be provided with a minimum clearance of 3 inches between the hand rail and any other surface or object.

4. <u>Covered Floor Openings</u>

Floor opening covers shall be capable of supporting the maximum intended load and so

installed as to prevent accidental displacement. Covers shall be distinctively labeled with a stencil (floor opening below) with fluorescent paint and as anchored. All floor openings more than 3 feet square shall be protected by a cover and standard railing with vertical 4' high debris nets.

5. During construction, stairs shall be provided on al structures that are two or more floors or more than 20 feet in height. Prior to the installation of permanent stairways, temporary stairs will be provided as access. Ladder access to all elevated platforms and upper levels will be held to a minimum and only used until temporary stairways are provided. Ladder way openings will be guarded.

   a. Permanent stairway placement will follow other construction activities.

   b. All parts of stairways shall be free of hazardous Projections. Debris and other loose material shall not be allowed to accumulate on stairways. No materials will be stored or left under stairways.

   c. Permanent steel stairways having hollow pan type treads and landings that are to be used prior to concrete placement, shall have the pans filled with solid material to the level of the nosing.

   d. Temporary stairs shall have a landing not less than 30 inches wide, in the direction of travel, for every 12 feet of vertical rise. Wooden treads for temporary service shall be full width.

   e. Riser height and tread width shall be uniform throughout any flight of stairs.

6. Runways and openings

   a. Wall openings, from which there is a drop of more than 3 feet shall be guarded.

   b. Runways shall be guarded by a standard railing or the equivalent on all open sides 19 inches or more above the floor or ground level. Whenever tools, machine parts or materials are likely to be used in the runway a toe board shall provided on each exposed side.

   c. Regardless of height, open side floors, walkways, platforms or runways above or adjacent to dangerous equipment and similar hazards shall be guarded with a standard railing and 4' high debris net.

3.35 BLOOD BORNE PATHOGENS

HOLDING THE LINE ON CONTAMINATION

Keeping work areas in a clean and sanitary condition reduces employees' risk of exposure to blood borne pathogens. Each year about 8,700 health care workers are infected with hepatitis B virus, and 200 die from contracting hepatitis B through their work. the change of contracting human immune deficiency virus (HIV), the blood borne pathogen which causes AIDS, from occupational exposure is small, yet a good housekeeping program can minimize this risk as well.

Every employer whose employees are exposed to blood or other potentially infectious materials must develop a written schedule for cleaning each area where exposures occur. The methods of decontaminating different surfaces must be specified, determined by the type of surface to be cleaned, the soil present and the tasks or procedures that occur in that area.

Employees must decontaminate working surfaces and equipment with an appropriate disinfectant after exposure to blood.

Employees also must clean (1) when surfaces become obviously contaminated; (2) after any spill of blood or other potentially infectious materials; and (3) at the end of the work shift if contamination might have occurred.

PERSONAL PROTECTIVE EQUIPMENT CUTS RISKS

Personal protective clothing and equipment must be suitable. This means the level of protection must fit the expected exposure. For example, gloves would be sufficient for a demolition contractor.

The key is that blood or other infectious materials must not reach an employee's work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions for the duration of exposure.

Employers must provide the PPE and ensure that their workers wear it.

Employees must remove personal protective clothing and equipment before leaving the work area or when the PPE becomes contaminated. If a garment is penetrated, workers must remove it immediately or as soon as feasible. Used protective clothing and equipment must be placed in designated containers for storage, decontamination, or disposal.

REPORTING EXPOSURE INCIDENTS

OSHA's new blood borne pathogens standard includes provisions for medical follow-up for workers who have an exposure incident. The most obvious exposure incident includes sharp object/wood/nails. But any specific eye, mouth, or other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious, materials is considered an exposure incident and should be reported to the employer.

Reporting an exposure incident right away permits immediate medical follow-up. Early action is crucial. Immediate intervention can forestall the development of hepatitis B or enable the affected worker to track potential HIV infection. Prompt reporting also can help the worker avoid spreading blood borne infection to others. Further, it enable the employer to evaluate the circumstances surrounding the exposure incident to try to find ways to prevent such a situation from occurring again.

Reporting is also important because part of the follow-up includes testing the blood of the source individual to determine HBV and HIV infection if this is unknown and if permission for testing can be obtained. The exposed employee must be informed of the results of these tests.

Employers must tell the employee what to do if an exposure incident occurs.

Medical records must remain confidential. They are not available to the employer. The employee must give specific written consent for anyone to see the records. Records must be maintained for the duration of employment plus 30 year in accordance with OSHA's standard on access to employee exposure and medical records.

3.36 ON-SITE FIRST AID

A first aid kit will be positioned in the subcontractor trailers during working hours. First aid may be administered on-site for injuries, including the following:
Animal Bite: Dangerous infection can develop from a minor bite. If there is not heavy bleeding, wash wounds well with soap and water; then cover them with a clean dressing, bandage them and seek medical help. Do not try to clean a wound that is bleeding heavily. Control the bleeding. Once it stops, cleaning might make it start again. Leave the dressing in place. A serious would should be cleaned only by trained medical personnel.

Rabies is an extremely serious illness transmitted to people through the saliva of diseased animals. Since there is no proven cure for rabies, a person who is bitten by an animal that may be raid must get medical help. If the animal is rabid, a series of shots (vaccines) must be given to the victim in order to build up body immunity in time to prevent the disease.

Insect Sting: Remove wasp or bee stinger if present by scraping it off to the side. Keep affected part below level of heart. Apply ice or a cold pack if swelling occurs. Apply anesthetic spray or soothing lotion. Get immediate emergency medical attention if redness and swelling extend beyond sting site or if victim's breathing becomes difficult.

Snake Bite: Keep victim still to slow down absorption of the snake venom. Keep the bitten area below the level of the heart. If the bite is on the arm or leg, splint. Transport victim to medical care as soon as possible.

Minor Burns: Apply cold water until pain decreases. Apply anesthetic spray and cover with a clean dry gauze dressing. Apply ice pack. Do not break blisters. If pain continues, seek medical attention from the hospital.

Minor Cuts and Lacerations: Apply pressure with a sterile gauze dressing or pad. Elevate affected part if direct pressure is not effective. Apply anesthetic and antiseptic spray. Cover with a band-aid or bandage.

Object in Eye: Flush eyes with running water for several minutes until particles are washed out. Get medical attention if irritation persists or object cannot be removed.

Minor Sprains: Keep affected part elevated and apply ice or cold packs. Seek medical attention from the hospital if pain or swelling persist.

Fractures: Do not move victim unless absolutely necessary. Do not move affected part. Get immediate emergency medical attention.

Shock: If no head or neck injuries or leg fractures are suspected, place the victim on back and elevate the feet and legs 8 to 12 inches. If a head or neck injury is suspected, keep the victim lying flat and wait for EMS. Do not move the victim unless there is immediate danger from extreme hazards such as fire, toxic fumes, heavy traffic, electrical wires or deep or swiftly

moving water. If you must move the victim, try not to bend or twist the body. In either case, maintain the victim's body temperature.

Fainting: Keep victim lying down with feet elevated. Loosen tight clothing. Bathe face with cool water or wipe with cool towel. Get immediate emergency medical attention.

PART 4

JOB SPECIFIC SAFETY PROGRAM
530 West 28th Street

4.1 SCOPE OF WORK
4.2 HAZARD ANALYSIS
4.3 SITE SPECIFIC SAFETY PLAN
4.4 SAFETY ORGANIZATION CHART
4.5 EVACUATION EMERGENCY PLAN
4.6 ORIENTATION & TRAINING

PART 4

530 West 28th Street SPECIFIC JOB SITE SAFETY PLAN

4.1 SCOPE OF WORK

The attached scope of work for 530 West 28th Street includes

PHASE I

- Protection of site & establishment of public & property protection.
- Excavate
- Pour concrete foundation
- Under Pinning.
- Underground plumbing, sewer, utilities
- Repair and/or replace curb line, fencing, utilities etc.
- Masonry work.

4.2 JOB SPECIFIC HAZARD ANALYSIS

530 West 28th Street

The contractor shall undertake his work in recognition of the following hazards and at times protecting the public and adjacent private property:

Vehicular Traffic	Flagman will be present at all times for trucks & equipment entering and leaving site.
Utilities	• All electric, gas, water, steam sewer and other service lines shall be utilized when applicable and controlled within and outside the building line during the exterior rehabilitation work. • Utility company which is involved shall be notified in advance when there will be modifications.
Hazardous Chemicals	• It shall be determined if any type of hazardous chemicals, gases, explosive flammable materials or similarly dangerous substances have been

used in any pipes, tanks or other equipment on the property. MSDS sheets musts be provided to CM.

Combustible materials

- All areas shall be thoroughly cleared of combustible materials and debris each day from the site.

Protection of sidewalk and public

- Entrances to the site shall be completely protected by sidewalk sheds.

Although there may be pedestrian traffic proposed in and around the building, it is imperative all protection (fence/sidewalk shed) be complete and free of debris. All areas should be well lit and the site inaccessible to the public. It will be the responsibility of the contractor to ensure all safety precautions are exercised in accordance with Article 19 and ARTICLE 19/OSHA Part 1926 as it involves the preparation and completion of the exterior window replacement and interior electric work.

Stairs, passage-ways and ladder

- Only those stairways, passageways and ladders designated as means of access to the roof of a building shall be used. Other access ways shall be closed to the public at all times. There shall be at least two means of egress off floors and site. These points of egress should be clearly marked and visible. Ladders must conform to ARTICLE 19/OSHA requirements and extend 3 feet above landings.

Oxygen and Acetylene tanks

- Shall be stored in a proper manner. Different gases 20 feet apart.
- Proper P.P.E. shall be utilized when cutting or burning.

Use of materials through floor openings

- Any opening cut in a floor for the introduction of materials shall be no larger in size than 25 percent of the aggregate of the total floor area unless the lateral supports of the removed flooring remain in place.
- Openings shall be enclosed with barricades not less than 60 inches high and not less than 6 feet back from the projected edges of the opening above or roof.
- Warning signs of the hazard of falling material shall be posted at each level.

Storage of material	•	Storage spaces shall not interfere with access to any stairway or passageway and suitable barricades shall be provided so as to prevent material from sliding or rebounding into any space accessible to the public. All material shall be safely piled.
Debris	•	Shall be removed in a timely manner. There will be no excessive storage of debris at any time.
Dust	•	Dust producing operations shall be wet down to the extend necessary to lay the dust. Grinding of any masonry must not create too much dust or else it must be wet down to control dust.
Personal Protective Equipment	•	Shall be utilized as job task dictates i.e. gloves/safety goggles when cutting, grinding or glazing. Work boots must be worn, no sneakers. Hardhats must be worn at all times. No short sleeves or shorts can be worn.
Fire Watch	•	Any burning/weld or torch operations must be done in safe and controlled manner. License fire watch must be present when this is to occur. Its is important that all areas of job have fire extinguishers especially during roofing operations.
Scaffolding	•	The use of any scaffold whether it be stationary or hanging must have a midrail, top rail, toe board and cocoon in debris netting when masonry operations occur. Any heights over 6 feet must have fall protection measures.
Fall Protection	•	Any elevation must have fall protection. Life lines or lanyards are mandatory on hanging scaffold stationary scaffolds must have guardrail system.

Sidewalk Shed

Erection	•	Protection of public.

- Material handling and storage
- Control of pedestrian traffic
- Fall protection/tie off
- Hoisting & lifting of material

- Debris removal

- Final inspection to eliminate all public hazards protruding nuts, bolts.
- Inspection for structural stability and conformance to plan.
- Material delivery and use of flagman.

PHASE 11

- Protection of site and establishment of public and property protection and jobsite 1926 and Chapter 33protection
- Form and pour concrete – 58 stories
- Masonry
- Windows
- Roofing
- Clean down of building exterior and interior trade work
- Repair and/or replace curb line, fencing, utilities etc.

The New Building @ 530 West 28th Street project involves the construction of one high rise residential buildings. Construction is cement and masonry.

Personal Protective Equipment

- Shall be utilized as job task dictates gloves/safety goggles when cutting, grinding or glazing. Work boots must be worn, no sneakers. Hardhats must be worn at all times. No short sleeves or shorts can be worn.

Fire Watch

- Any burning/weld or torch operations must be done in safe and controlled manner. License fire watch must be present when this is to occur. Its is important that all areas of job have fire extinguishers especially during roofing operations.

Scaffolding

- The use of any scaffold whether it be stationary or hanging must have a midrail, top rail, toe board and cocoon in debris netting when masonry operations occur. Any heights over 6 feet must have fall protection measures.

Fall Protection

- Any elevation must have fall protection. Life lines or lanyards are mandatory on hanging scaffold stationary scaffolds must have guardrail system.

Sidewalk Shed

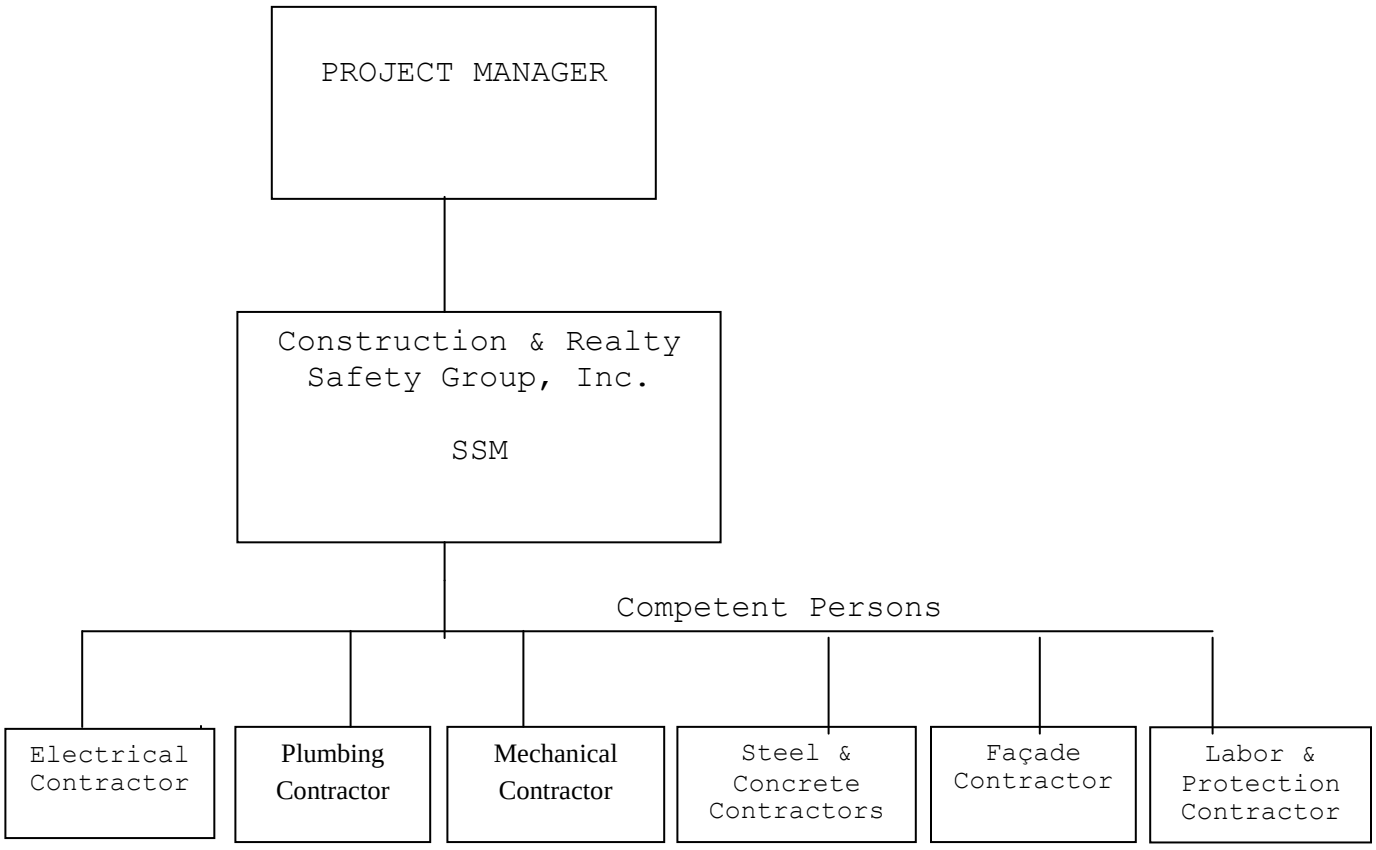
Erection

- Protection of public.
- Material handling and storage
- Control of pedestrian traffic
- Fall protection/tie off
- Hoisting & lifting of material
- Debris removal
- Final inspection to eliminate all public hazards protruding nuts, bolts.
- Inspection for structural stability and conformance to plan.
- Material delivery and use of flagman.

4.3 SITE SAFETY PLAN

See attached logistics and Site Safety Plans for each work phase.

4.4 JOB SPECIFIC ORGANIZATIONAL CHART



4.5 EVACUATION/EMERGENCY PLAN

Coordination and approval of this plan is imperative and will be first component that is addressed by the site safety manager.

A site logistic plan of the Project is included which identifies exits, emergency communication devices and fire fighting equipment. Plans should be utilized in the Trade Contractors orientation for new employees and will be a component of the employee orientation training class.

Emergency Notification/Evacuation

- Contractor to identify a "designated" person responsible for coordinating emergencies with their crews each day (safety coordinator).
- In event of emergency, "designated" person to follow Emergency Procedures.
- "Emergency" assembly area to be identified prior to start of work. Employees are to congregate at the predetermined assembly area when notified of an emergency and are to follow the direction of the "designated" person.

DEFINITIONS

A. Call List – The approved list of individuals appointed to be the designated coordinator of emergency response for each contractor/sub contractor. These are people designated as persons who know their employee's whereabouts.

B. The Construction Manager/General Contractor/Trade Contractor/general contractor/program manager's emergency response coordinator.(CMERC)

C. Notification – of any emergency will be made to the Construction Manager/General Contractor/Trade Contractor/general contractor/program manager's emergency response coordinator or by 530 West 28th Street. Project Manager. This will initiate the emergency response procedure.

(CMERC) will notify all groups on site via the "Call List" and relay appropriate instructions.

D. ALL CLEAR – When the emergency situation is over, the emergency response coordinator will notify all contractors per "call list"

GENERAL PROCEDURES

A. All emergencies are to be handled by the ranking person from that building team with whomever is available to assist

B. Ranking persons shall ensure notification of site medical personnel

C. Emergency site communications

1. Radio
2. Telephones
3. Physical notification
4. Plant fire alarm horns

D. This and Brawn Made Construction's emergency evacuation procedure will be followed.

E. Emergency phone numbers shall be placed in conspicuous locations throughout the job site and at all telephones

INCIDENTS INVOLVING SERIOUS INJURY OR DEATH

A. Provide immediate, necessary first aid and then notify the site Safety Manager
B. The site Medical Personnel will contact outside medical assistance when needed:

1. Only in life-threatening situations will anyone other than site medical Staff call an ambulance.

C. The Building Team will remove and/or keep away all non-essential personnel.

D. All site personnel will provide assistance to rescue personnel as needed.

E. Make no comments to media representatives. Refer all inquiries to 530 West 28th Street.

F. No on-site photographs are to be taken except with the approval of Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager.

G. The responsible Contractor will make a full investigation and will file an Incident/Injury Report with the Safety Department within 24 hours of the occurrence.

H. Within the immediate area of an incident scene nothing is to be disturbed or removed, after proper evacuation of the injured employee, without the permission of the Safety Department.

FIRE

A. Make a safe attempt to extinguish. Do not endanger your life. At the same time, notify the Project Safety Office.

1. If it is deemed by the person on the scene that the fire cannot be extinguished by site personnel, they will state in their message to the Safety Office, when reporting the emergency, that assistance is needed.

2. The Safety Office will normally notify the Fire Department or other responsible parties.

B. Corporation Security will meet the Fire Company at the site entrance to direct them to the fire location.

C. The Building Team will keep all non-essential employees away from the fire.

D. If explosive-type materials are involved, or other hazards may exist, it is the responsibility of all Building Teams to ensure (after direction by the Safety Department or other responsible parties) that all affected personnel are immediately evacuated to their assigned assembly location.

E. Once evaluation is complete, each Contractor and subcontractor will account for EVERY employee to C.M.E.R.C. If an employee is missing, the safety Department will be notified immediately.

F. The Contractor responsible or affected will make a full investigation of the incident and file a written report with the Safety Department within 24 hours.

PROPERTY DAMAGE

A. Notify the Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager and the Project safety Officer immediately.

B. The appropriate Building Team will protect against further damage where possible.

C. Keep al non-essential employees back and/or away from the area.

D. Make no comments to Media representatives. Refer all inquiries to 530 West 28th Street.

E. No on-site photographs are to be taken except on approval of the Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager.

F. Make a full investigation and file a written Property Damage Report to the Safety office within 24 hours of the occurrence.

SEVERE WEATHER

The Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager's Emergency Response Coordinator or his designs upon notification by a responsible agency or party of a tornado watch, or other severe weather, shall notify the Call List contact of the watch condition.

A. The following actions will be taken during the watch condition:

1. All loose material or materials that can become displaced will be secured.

2. All crane operators will be notified to be prepared to lower booms at a moment's notice.

3. All employees will be notified of escape routes and evacuation locations.

NOTE: It is recommended that the Call List contact person for all groups maintain contact with the Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager's Emergency response Coordinator or his designees in the event that conditions escalate to the warning state.

Upon notification of a tornado or other severe weather <u>warnings</u>, the Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager's Emergency Response Coordinator or his designee will immediately notify the Call List contact for each group to take the appropriate actions.

B. The contact persons for each group, Contractor/subcontractor will, upon notification, notify all of their employees of the weather <u>warning</u>:

1. Operators to lower crane boons without delay.

2. All site personnel will immediately seek shelter in assigned/designated

locations.

NOTE: Preferably in the basement or lower levels of buildings. If this is not possible, shelter should be sought in the center of the buildings or near the strongest supported section of the building.

C. If a tornado or other severe weather has hit the site, the following actions are to be taken when conditions permit:

1. Establish communication between The Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager's Emergency Response Coordinator or his designee and all groups.

2. If possible, contact the appropriate off-site agencies for assistance.

3. The first qualified person capable of forming a search and rescue will do so for the purpose of locating trapped survivors, giving first aid and directing personnel to assembly areas.

4. All site, Contractor/subcontractor, vehicles will be made immediately available to The Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager's Emergency Response Coordinator, if needed.

5. All members of management will meet when conditions permit to establish and direct the appropriate actions to start site recovery.

BOMB THREAT

When a bomb threat is received, the site will be evacuated to designated assembly areas immediately.

Local police, Fire department, or bomb disposal authorities will be notified by the Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager. The evacuation will be of all Project personnel. Once evacuation is complete, each contractor and Subcontractor will account for every employee and if an employee is missing, the Safety Department will be notified immediately.

Make no comments to media representatives.

If repeated threats occur within a short period of time, the Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager will evaluate the situation and take appropriate action; this action may include the shutting down of the Project for the remainder of the day.

A Bomb Threat Report Form will be completed by the party receiving the call.

EVACUATION

(C.M.E.R.C.) or his designee will determine whether and when evacuation of occupied buildings and site structures is required.

The Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager's Emergency Response Coordinator or his designee, with the assistance of security or other responsible parties will determine the route of evacuation and the final destination whether it will be the basement of an on-site building or off-site.

Evacuees will leave affected location by designated route and proceed calmly to the designated evacuation area, whether on or off site.

The Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager's Emergency Response Coordinator or this designee will stay in the affected area, as long as it is safe, to ensure that all personnel have evacuated.

All site management, after reaching the evacuation area, will report to the Emergency Response Coordinator for casualty assessment and action planning.

FIRST AID PROCEDURES

It is the policy of the Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager and 530 West 28th Street to provide for first aid, medical and to ensure emergency transportation is provided for employees who sustain occupational injuries or illnesses.

4.6 ORIENTATION AND TRAINING

PURPOSE AND SCOPE: To establish and implement basic training and instruction activities, which the Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager and Contractors/subcontractors are, required to perform while working on the Project.

OBJECTIVES: To ensure that all personnel are properly trained in hazard recognition, and are informed of their individual responsibilities in carrying out their assignments in efficient and incident-free manner and to assist Contractors in complying with the specific requirements and the contents of these guidelines.

RECORDS AND MINUTES: Records and minutes of safety meetings are mandatory. Lack of recording and prompt, proper distribution shall indicate non-compliance with Project requirements. A list of attendees will always be part of these records and minutes.

BASIC ELEMENTS: Attention must be afforded the following basic areas of instruction and safety communication:

- Orientation
- Work Assignments
- Hazard Recognition
- Meetings
- Personal Contact
- Specific Instruction

- Promotional Material

PROCEDURES: The Project Safety Manager will assist Contractors requiring aid in carrying out his responsibilities in this as well as any other accident prevention activity. The Project Safety Manager will not take over the Contractor's responsibilities.

Orientation: Newly employed, promoted, and/or transferred personnel shall be fully instructed in the safety practices required by their assignments. All employees will receive orientation prior to starting work. Visitors will receive orientation prior to leaving the office areas or be escorted while on the site. Initial instructions for the new Project personnel will include discussion of the site's basic safety regulations. The initial indoctrination is to be performed by the Project Safety Manager as a part of the initial Project orientation.

Work Assignment: All work assignments, regardless of the level of activity, will include specific attention to safety.

Meetings. Regular scheduled safety meetings will be held for all personnel.

A. Contractor's Meetings – Accident prevention will have a prominent place on the agenda, and the record of these meetings will reflect the specific items discussed.

B. Tool Box Training Meetings – Each supervisor will hold a weekly safety training meeting in their work area with their entire crew. These meetings, "toolbox meetings". Are to be held on Monday morning. Subject matter will cover specific safety procedures pertinent to the crew's activity for the coming week. The meeting provides an opportunity to point out any hazardous conditions, or unsafe work practices that have been noticed. In addition, safety rules and regulations, safe working procedures, analysis of accidents and potential hazards will be discussed.
   Following these meetings, a "Report of Safety meeting" form shall be completed signed by each employee and sent to the Project safety manager. One copy shall be kept on file by the Contractor. The Project Safety Manager will periodically attend these meetings.

C. Safety Supervisor Meetings – Contractor safety Supervisors will attend, as a minimum, one meeting per week with the Project Safety Manager. Items of discussion will include, but not be limited to, coordination of site safety activities, training, problems, incidents, and incident/injury status.

D. Special Meetings - The Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager may call such special safety meetings as deemed necessary. Attendees will be notified verbally or in writing. Attendance will be mandatory. Failure to attend will result in immediate contractual action. The Construction Manager/General Contractor/Trade Contractor/General Contractor/Program Manager may, for any reason of clarification, corrective measure or training, conduct an immediate safety meeting with Contractor supervisors and employees. Attendance will be mandatory. Failure to attend will result in immediate disciplinary action.

Personal Contacts – All levels of supervision shall make a specific effort to continually call to the attention of individuals under their direction, pertinent safety items relative to the work at hand. This personalized "on-the-spot" instruction is an extremely valuable training technique, as well as a continuing indication of management's commitment to Project safety.

Specific Instruction – Each Contractor is required to provide regular and continuing training for their employees. They will also monitor the training activities of subcontractors under their direction. The following areas of training are required by OSHA. Each Contractor shall instruct their employees in:

Name (Print)		Employer	
Cell #		Emergency Contact	
Trade		Local Union	
OSHA 10/30 Cert#		Orientation Sticker #	
Certificate(s) of Fitness/ License(s) (provide copies)			

This Safety Orientation is not intended to replace Subcontractor Safety Programs, nor does it relieve the Subcontractor from obligations to follow applicable Federal, State, and local requirements. It is intended to supplement these programs. In case of conflict, the more stringent standard applies. All workers are held accountable for job site safety. Life-threatening actions will result in immediate removal from The project. Non-life threatening actions will result in a one-day removal And the second offense will result in removal from the project.
No smoking on jobsite at any time. Subject to termination.

Staircases and Fire Extinguishers:
The staircases on this site are located on the North & South sides of the foundation.
Fire extinguishers are located on top of stair towers on each Side.
These extinguishers are for emergency use only and should not be tested fired.

Emergency Evacuation Plan:
Emergency evacuation routes are posted on the site. Emergency notification will be conducted as follows:
One (1) long air horn/siren blast: Stop work remain silent
One (1) long blast with two (2) short blasts: Resume Work
Three (3) short blasts of air horn/siren: immediately evacuate site
Following evacuation, we are all to meet at _____for attendance.
Please do not leave the site until attendance has been taken.

ALL 530 West 28th Street personnel and subcontractor employees must adhere to the following safety rules while working on the project:

- ✓ All workers are required to supply a valid 10 HOURS OSHA certificate of completion, to SSM at time of orientation as per DOB Local Law 41 of 2008.
- ✓ Regardless of their nature, all incidents resulting in injury or property damage **Must** be immediately reported to 530 West 28th Street field personnel.
- ✓ Smoking is prohibited anywhere on site per NYC Fire Code, that means bathrooms and shanty's as well.
- ✓ At a minimum, all workers on site must wear hard hat, work boots, long pants (no shorts), and short sleeve shirt (no tank tops).
- ✓ Fighting and Horseplay is strictly prohibited.
- ✓ Adequate lighting is required in all work areas. If you observe a problem with lighting, please contact 530 West 28th Street field personnel.
- ✓ Power saws, grinders and other power tools must have the proper guard installed at all times.

PPE

HEAD PROTECTION

- ✓ Workers shall wear hard hats where there is a potential for: Objects falling from above, bumps to their heads from fixed Objects, or accidental head contact with electrical hazards.
- ✓ Routinely inspect hard hats for dents, cracks or deterioration.
- ✓ Replace hard hats after a heavy blow or electrical shock.
- ✓ Maintain hard hats in good condition.

EYE & FACE PROTECTION

- ✓ Safety glasses or face shields must be worn anytime work Operations can cause foreign objects to get into the eye, Such as during welding, cutting, grinding, nailing, or when working with concrete and/or harmful chemicals or when exposed to flying particles.
- ✓ Select eye and face protectors based on anticipated hazards.
- ✓ Wear safety glasses or face shields when exposed to any electrical hazards including work on energized Electrical systems.

FOOT PROTECTION

- ✓ Construction workers should wear work shoes or boots with slip-resistant and puncture-resistant soles.
- ✓ Safety-toed footwear should be worn to prevent crushed Toes when required.

HAND PROTECTION

- ✓ Gloves should fit snugly.
- ✓ Workers should wear the right gloves for the job (for example, Heavy-duty rubber gloves for concrete work, Welding gloves for welding, insulated gloves and sleeves When exposed to electrical hazards.

ALCOHOL/DRUGS

- ✓ Use or possession of Alcohol, Drugs or related paraphernalia is strictly prohibited. Anyone found to be in violation of this requirement will be subject to Disciplinary action, up to and including dismissal from the site.

HOUSEKEEPING

- ✓ Containers will be provided for the removal of Construction debris.
- ✓ Combustible scrap and debris will be removed at Regular intervals.
- ✓ Keep all work areas, stairs and passageways clear from debris and material.

FIRE PROTECTION

- ✓ Provide proper number of fire extinguishers for the project.
- ✓ All hot work will be performed by a qualified person with an Independent fire watch as part of the operation.
- ✓ Fire extinguishers must be inspected and maintained in Operating condition.
- ✓ No smoking permitted at any construction site.
- ✓ Personnel who will be performing hot work are required to have the applicable FDNY Certificate of fitness (i.e. Burner, Welder, Fire Guard, etc . A dedicated fire guard is to be present during hot work with a charged fire extinguisher immediately available. Where possible, burn blankets should be utilized to prevent sparks and slag from traveling to the floors below. Where this isn't feasible, combustible materials/liquids should be removed from the lower floors, a controlled access zone established and the fire guard assigned to watch this zone. Persons engaged in hot work must wear the proper protective clothing (i.e. burn jacket, face mask, gloves, etc.) Compressed gas cylinders (i.e. oxygen, acetylene, propane, etc.) in use must be secured in carts. Cylinders (as well as flammable liquid containers) not in use need to be capped and caged and differing gas/liquid cages need to be separated by 25 feet. Cylinders are not to be picked by crane or heavy equipment unless the proper transporting holder is utilized.

PUBLIC PROTECTION

- ✓ Coordinate with trades working above or below you. Be sure to anticipate exposure to the public and adjacent property. Sidewalk sheds are to be closed to pedestrian traffic when Materials are lifted over same.
- ✓ Construction materials and debris are to be kept back 10 feet from the building perimeter. Lightweight materials are to be tied down to keep them from becoming airborne.
- ✓ Always escort materials being transported through public areas.
- ✓ Keep all gates and access doors closed.
- ✓ Do not store material on sidewalks, streets or other areas where public safety may be affected.
- ✓ Immediately clean debris from sidewalks and walkways.
- ✓ Do not block fire hydrants or siamese connections for any Reason.

SCAFFOLDING

- ✓ Scaffold may only be erected, moved, dismantled or altered under the supervision and dally inspection of a competent person.
- ✓ Scaffold must be sound, rigid and sufficient to carry its own Weight plus four times the maximum intended load without Setting or displacement it must be erected on solid footing.
- ✓ Unstable objects must not be used to support scaffolds or planks.
- ✓ Scaffolds over 6 feet high must be equipped with guardrails, mid rails and toe boards.
- ✓ Scaffold accessories that are damaged or weakened must be immediately repaired or replaced.
- ✓ Scaffold platforms must be tightly planked with scaffold plank grade Material or equivalent
- ✓ Scaffold must be accessed by using ladders or stairwells.
- ✓ Wheeled scaffolds must not be moved horizontally while Workers are on them.
- ✓ Ladders, boxes, barrels, buckets or other makeshift platforms Must not be used to raise work height
- ✓ Planks to be tied down on all exterior scaffolds.

FALL PROTECTION

- ✓ Fall protection is required for all workers on all walking/working surfaces with an unprotected side, edge, hole or shaft, Which is 6feet or more above a lower level. Fall protection includes guardrails, safety nets, hole covers, barricades, or Personal fall arrest systems (body harness with shock absorbing lanyard). Personnel performing work on a ladder within 6 Feet of the building perimeter must tie off.
- ✓ Workers exposed to a fall must be protected by some means of fall protection. Personal fall arrest systems (body harness and Proof of training), guardrails or other means of fall protection Must be installed (refer to subpart M or R where applicable).
- ✓ Aerial lifts and scissor lifts must be used to provide safe Elevated working surfaces. Workers using aerial lifts are required to use a body harness and be tied-off. Proof of Training is required.
- ✓ Erect guardrail systems with toe boards or warning lines Systems (6 feet from leading edge) to protect workers near Edges of floors and roofs.
- ✓ Cover floor holes (secure and mark "hole" or "cover").
- ✓ Any protection that is removed must be replaced prior to leaving the work area. If you observe a problem with any protection, please notify 530 West 28th Street field personnel. Also, do not remove any more protection than is necessary to perform the Work at hand.

ELECTRICAL SAFETY

- ✓ Work on new and existing energized (hot) electrical circuits is prohibited until all power is shut off and grounds are attached.
- ✓ An effective Lockout/Tagout procedure must be in place.
- ✓ Do not use damaged electrical cords.
- ✓ All extension cords must have grounding prongs.
- ✓ All Electrical tools and equipment must be maintained in safe Condition and checked regularly for defects and taken out of Service if a defect is found.
- ✓ Do not bypass any protective system or device designed to protect employees from contact with electrical energy.
- ✓ Overhead electrical power sources must be located and identified.
- ✓ Ensure that ladders, scaffolds, equipment or materials never come within 10 feet of electrical power lines.
- ✓ All electrical tools must be properly grounded unless they are double insulated.
- ✓ Use GFCI protection for all electrical tools.
- ✓ When using extension cords avoid contact with water, Equipment and paths of travel.

STAIRWAYS

- ✓ Stairways and walkways must be free of debris and materials.
- ✓ Slippery conditions on stairways and walkways must be corrected immediately. Make sure that treads cover the entire Step and landing.
- ✓ Stairways having four or more risers or rising more than 30 Inches must have at least one handrail.

LADDERS

- ✓ Use the correct ladder for the task.
- ✓ All ladders must be type 1-A.
- ✓ Prior to each use, visually inspect ladders for structural Damage; split/bent side rails; broken or missing Rungs/steps/cleats; missing or damaged safety devices; Grease, dirt or other contaminants that could cause slips or Falls; paint or stickers (except warning labels) that could hide Possible defects.
- ✓ Mark or tag ("Do Not Use") damaged or defective ladders for Repair or replacement, or destroy them immediately.
- ✓ Be sure the load rating can support the weight of the user, Including materials and tools.
- ✓ Avoid using ladders with metallic components near electrical Work and overhead power lines.
- ✓ Do not stand on the top two steps of a stepladder.

- ✓ Do not straddle the top of a stepladder.
- ✓ All straight ladders must be on a solid foundation, a 4:1 ratio, Extended three feet above the landing and secured.

CRANES & RIGGING

- ✓ Before each use inspect wire rope, nylon slings, chains and Hook for any damage.
- ✓ Broken, worn or damaged wire rope must be removed from service.
- ✓ Know the weight of the load that the crane is to lift.
- ✓ Ensure that the load does not exceed the cranes rated Capacity.
- ✓ Raise the load a few inches to verify balance and the Effectiveness of the brake system.
- ✓ Do not move a load over workers.
- ✓ Watch for overhead electrical distribution and transmission Lines and maintain a safe working clearance of at least 10 Feet from energized electrical lines.
- ✓ Post and make visible to the operator, rated load capacities, Operating speed and instructions.
- ✓ Inspect crane machinery daily prior to use to make sure that it is in good condition.
- ✓ Barricade accessible areas within the crane's swing radius.
- ✓ Use tag lines to prevent dangerous swing or spin of materials when raised or lowered by a crane or derrick.
- ✓ Ensure the signal Person is properly trained.
- ✓ Extend crane outriggers fully when required.
- ✓ Make load testing reports/certifications available.
- ✓ Perform initial and annual inspections of all hoisting and Rigging equipment and maintain reports.
- ✓ Allow only properly trained and qualified operators to work With hoisting and rigging equipment

HAZARD COMMUNICATION

- ✓ Maintain a Material Safety Data Sheet (MSDS) for each Chemical at the project and make this information accessible to employees.
- ✓ Train employees on how to read and use the MSDS.
- ✓ Follow manufacturer's MSDS instructions for handling Hazardous chemicals.
- ✓ Provide proper personal protective equipment and enforce its use.
- ✓ Store chemicals safely and securely.
- ✓ Maintain a list of hazardous substances used in the Workplace and make it readily available at the worksite.
- ✓ Provide a written hazard communication program Addressing Material Safety Data Sheets (MSDS), labeling and Employee training.
- ✓ Label each container of a hazardous substance (vats, Bottles; storage tanks) with product identity and a hazard Warning (communicating the specific health hazards and Physical hazards).
- ✓ Make Material Safety Data Sheets readily available at all Times for each hazardous substance used.

Provide an effective employee-training program for all Potential hazards within all materials.

Violation of any of the above rules is subject to monetary fines, disciplinary action, including dismissal from the site.

Acknowledgement:

I have read the above project safety rules and understand them.

Signature		Date	

SECTION 5

REPORTING FORMS

5.1 Site Safety Manager's Log

5.2 a) Program Safety Audit
b) Daily Field Inspection

5.3 Safety Deficiency Notice

5.4 Form C-2 - Injury Report

5.5 Trade Contractor Safety Statement

5.6 Supervisor's Accident Investigation Report

FORM NO. 5.1

SITE SAFETY MANAGERS LOG

SS MANAGER:	**SSM No:**
CLIENT NAME:	**DATE:**
530 West 28th Street	**LUNCH:**
PROJECT #:	**WEATHER:**
LOCATION :	**HOURS:**

GENERAL INFORMATION

Companies, Representatives and Work Activities

Site Contractors:

Work Activities:

Manpower: APPROX.

Any accidents/incidents: NONE

Any violations, stop work orders or summonses: NONE

Noise Mitigation Plan (Notarized):

Watchperson leaves site

Watchperson on site

Pictures

.		

Building Status	YES	NO	N/A
Date Building Reached 75’			
Date Building Reached 100’			
Standpipe installed and active to the____floor			
Hoist (elevator in readiness) to the_____floor			
Horizontal netting installed to the_____floor			
Vertical netting installed to the _____floor			
Two means of egress in place from the sub cellar to the____floor			
Stored Material is Secured			
Housekeeping satisfactory			
Site safety plan up to date			

Site Information	YES	NO	N/A
Proper signage in place			
All permits are current and properly posted			
Sidewalks and pedestrian walkways clean and clear-yes			
Sidewalk shed has approved drawings on site			
Side walk shed in place and properly lighted and free from debris			
Street checked for debris and maintained			
Site fence in place and maintained			
Barricades in place and maintained with reflectors or lights			
Flagmen provided as required-yes			
Watchman and guard service in place and maintained 24 hrs as			

required			
Separate Permit Log Has been Updated			

Job Safety Recommendation Log

Client:
Job Address:
Job #

Item# (Date/No.)	Item Description	Code Reference	Responsible Contractor	Compliance Date	Comment	Deficiency Notice	Manager

COMMENTS

1.) **SSM arrives on site at 7:00am. Full inspection of site**

2.)

3.)

4.)

5.)

6.)

7.)

8.)

9.)

10.)

11.)

12.)

13.)

14.)

15.)

16.) **SSM Leaves site at**

SIGNATURE(S) OF SITE SAFETY MANAGER/ALTERNATE/RELIEF: (to be signed at beginning of day and whenever manager is relieved)

Signature of SSM

AREAS INSPECTED: ACCIDENTS:

FLOORS:_____ TO _____ ALL_____AM **NONE REPORTED_____YES_____(see attached report)**

FLOORS:_____ TO _____ ALL _____PM

SAFETY METTING_____ON_____AT_____ VIOLATIONS/STOP WORK ORDER SUMMONSES:

NETTING INSPECTION_____NONE REPORTED_____YES_____(see attached report)

INSPECTION LIMITED TO REQUIREMENTS FOR CONSTRUCTION SITE SAFETY COORDINATOR AS SET FORTH IN 27-1099 (D) OF THE CITY OF NEW YORK BUILDING CODE AND RULES AND REGULATION PROMULGATED THEREUNDER.

FORM NO. 5.2a

PROGRAM SAFETY AUDIT

DATE: _____ **SAFETY AUDIT #:**

Trade Contractor:

PERSON CONTACTED:

GENERAL

	SAT	UNSAT	N/A	ADD'L COMMENTS
Posting Requirements				
OSHA Poster (required languages)				
Equal Employment Opportunity				
Wage Information				
Authorized Physicians Listing				
Emergency Information				
Emergency Phone Numbers				
Procedure Established				
Conveyed to Employees				
Medical				
First Aid Kit(s) on Site				
Adequately Stocked/Maintained				

Physicians Review										
First-Aid Personnel										
Eye Wash Station										
Record Keeping										
Accident/Incident Reports										
OSHA 300 Form										
Safety Meetings										
New Hire Orientation										
Specific Training										
Hazard Material Training										
Training Certificates										
OSHA/Scaffold										

Equipment											
Certification											
Annual Inspection											
Monthly Inspection											
Proof-Test											
Operation Qualification/Training											
Maintenance Records											
Employee Facilities											
Drinking Water											
Toilet											
Wash Station											
Eating											

FORM NO. 5.2b

	DAILY REQUIREMENT	
	GENERAL INSPECTIONS	
1	When a building is being constructed or demolished at a height greater than 75 feet (22.86 m), verify that at a standpipe system is available and in readiness at all times for use by the Fire Department.	
(i)	Verify that valves are in place at each story below the construction floor.	
(ii)	Verify that standpipes are connected to a water source and siamese connection.	
(iii)	Verify that siamese hose connections are free from obstruction and are marked by a red light and a sign reading, "Standpipe Siamese Connection."	
2	Verify that interior and exterior guardrails and toe boards are provided and properly installed to meet the standards described in section 3307.8 of the building code.	
3	Verify that all openings and/or holes in the floor are covered at all times.	
4	Verify that all stairwells have standard handrails.	
	SAFETY NETTING INSPECTIONS	
5	Verify that horizontal safety netting is maintained not more than two stories below the stripping operation floor on concrete structures or the uppermost finished and walkable concrete floor on steel frame structures, provided that such floor is more than six stories of 75 feet (22.86 m) in height above the adjoining ground or adjoining roof level, whichever is applicable.	
6	Verify that horizontal safety netting projects outward horizontally from the edge of the floor a minimum of 10 feet (3.048 m).	
7	For steel frame construction, where the steel frame extends more than eight stories above the walkable concrete floor, verify that the vertical safety netting is provided on the floors at and below the topmost working metal deck where this deck is substantially completed and that the required guardrails and toeboard are in place.	
8	Verify that vertical safety netting is provided on all floors below the floor on which horizontal netting is required.	
9	Verify that vertical safety netting is secured and kept closed at all times, except during actual loading operations or perimeter construction operations.	
	MAINTENANCE OF SITE & ADJACENT AREA INSPECTIONS	
10	Verify that guards, shields or barricades surround all exposed, electrically charged, moving or otherwise dangerous parts of machines and construction equipment so as to prevent contact with the public.	
11	Verify that adjoining property is protected when the height of the building exceeds that of the adjoining property.	

	HOUSEKEEPING INSPECTIONS	
12	Verify that the roof of the sidewalk shed and the street are free of debris.	
13	Verify that sufficient containers for the storage of garbage and debris are provided.	
14	Verify that containers are covered and secured when full.	
	REMOVAL & STORAGE OF MATERIAL INSPECTIONS	
15	Verify that combustible waste material and combustible debris have been removed from the site.	
16	Verify that material stored on floors of a building is secured when not being used.	
17	When exterior walls are not in place, verify that stored material is kept at least 10 feet (3.048 m) back from the perimeter of the building, or at least 5 feet (1524 mm) back from the perimeter of the building if the floor area is less than 1,000 square feet (304.8 m), or at least 2 feet (609.6 mm) back from the perimeter of the building on upper working floors located not more than two stories below the stripping operation on concrete structures or the uppermost concrete floor on steel structures.	
18	Verify that no material hangs over the edge of a building unless banded and braced for relocation by the end of the workday, except on the floor of the stripping operation and o n floors designated as the lumber or steel mill.	
(i)	On the floor of the stripping operation, verify that material that overhangs the floor is banded and braced, overhangs by not more than one-third of its length, and is relocated by the next workday for concrete operations.	
(ii)	Where the steel mill and lumber mill are located, verify that any material that overhangs is relocated by the next workday.	
	PROTECTION OF SIDEWALKS INSPECTIONS	
19	Verify that sidewalk sheds are illuminated at night by the equivalent of 100-watt bulbs spaced 15 feet (4.572 m) apart at a minimum height of 8 feet (2.44 m) above the sidewalk.	
20	Verify that temporary footbridges and walkways for the public are at least 5 feet (1.524m) in width.	
	WARNING SIGNS & LIGHTS INSPECTIONS	

21	Verify that all areas that are dangerous or hazardous to the public or areas where work is performed near vehicular traffic are appropriately marked with warning signs and lights.	
	SCAFFOLDS, STRUCTURAL RAMPS, RUNWAYS & PLATFORM INSPECTIONS	
22	Verify that where they pose a risk to the public that all structural ramps, scaffolds, runways and platforms are provided with guardrails, toeboard, screening, or nets, unless otherwise specified by the building code.	
	MATERIAL HANDLING & HOISTING EQUIPMENT INSPECTIONS	
23	Verify that licenses of crane operators are available at the construction site.	
24	Verify that a means of communication exists between the responsible parties when the operator of hoisting machinery has no vision of the lift or loading areas.	
25	Verify that a program has been established and is operational for the control of pedestrian and/or vehicular traffic around the construction site during all lifting and hoisting operations.	
	WEEKLY REQUIREMENTS	
	GENERAL INSPECTIONS	
3- (iv)	Verify that no breach exists by visually tracing standpipe risers, cross connections and siamese connections.	
	SAFETY NETTING INSPECTIONS	
26	Verify that omitted horizontal safety netting in designated crane and derrick lifting areas is indicated and approved on the crane application and the site safety plan.	
	REMOVAL & STORAGE OF MATERIAL INSPECTIONS	
27	Verify that chutes used for the removal of debris are installed and maintained in accordance with section 3303.5.5 of the building code.	
	PROTECTION OF SIDEWALKS INSPECTIONS	
28	Verify that required sidewalk sheds remain in place until the structure is enclosed, all exterior work completed, the sash is gazed above the second story, the exterior façade is cleaned down, all outside handling of material equipment and machinery is completed, and dismantling of a hoist, crane, or the use of a derrick in their removal above the second story has been completed.	
	PERIODIC - REQUIREMENTS	

	PROTECTION OF SIDEWALKS INSPECTIONS	
29	Verify that valid permits for sidewalk sheds have been obtained, have not expired, and are posted in a central, visible area.	
30	Verify that approved drawings of sidewalk shed are at the construction site.	
	AS APPROPRIATE- REQUIREMENTS	
31	When a building is being constructed or demolished at a height greater than 75 feet (22.86 m), verify that at least one elevator or personal hoist with an emergency communication system is in place.	
32	When a personnel hoist requires a jump, verify that all necessary permits are obtained and testing performed.	
	MAINTENANCE OF SITE & ADJACENT AREA INSPECTIONS	
33	When the building is extended, enlarged or increased in height so that any portion of such building, except chimneys or vents, extends higher than the top of any previously constructed chimneys within 100 feet (30.48 m), verify that the chimneys conform to section 801 of the New York City mechanical code.	
	PROTECTION OF SIDEWALKS INSPECTIONS	
34	Verify that temporary footbridges and walkways for the public are at least 5 feet (1.524 m) in width.	
	MATERIAL HANDLING & HOISTING EQUIPMENT INSPECTIONS	
35	When a crane is to be jumped, verify that it is in accordance with the schedule submitted by the professional engineer and approved by the department.	
36	Verify that flagmen/women are present to stop pedestrian and/or vehicular traffic during the following intermittent operations:	
(i)	During all lifting and hoisting operations;	
(ii)	When trucks enter and exit the site;	
(iii)	When materials are being lifted over the sidewalk shed;	
(iv)	When dangerous operations, e.g., blasting, occur;	
(v)	When the sidewalk and/or street is temporarily closed.	
	ONCE PER SHED/SIGN - REQUIREMENTS	
	GENERAL INSPECTIONS	
37	If a construction shed is located within 30 feet (9.144 m) of the building, verify that the construction shed is constructed of noncombustible materials.	
38	Verify that all signs required by section 3301.9 of the building code are installed and contain the required information.	
	ONCE - REQUIREMENTS	
	PROTECTION OF SIDEWALKS INSPECTIONS	

39	Verify that the designer and/or supplier of the sidewalk shed has certified that such shed has been erected in accordance with the approved plans and that the proper forms have been filed with the department.	
40	Verify that sidewalk sheds extend the entire perimeter of the building.	
41	Verify that when the building exceeds 100 feet (30.48 m) in height, the sidewalk sheds extend 20 feet (6.096 m) beyond the property line.	
	THROUGHOUT THE DAY - REQUIREMENTS	
	HOUSEKEEPING INSPECTION	
42	Verify that floors and stairs are clean from excess debris.	
43	Verify that tools and equipment not in use are kept away from edges or openings.	
	PROTECTION OF SIDEWALKS INSPECTIONS	
44	Verify that all openings in sidewalk sheds, fences and railings for loading purposes are kept closed, barricaded, protected, or guarded at all times.	
	WARNING SIGNS & LIGHT INSPECTIONS	
45	Verify that steps necessary to protect the public are taken, including provisions for flagmen/flagwomen whenever intermittent operations are conducted on or across areas open to the public or when dangerous operations, such as blasting, may affect such areas.	
	MAINTAINENCE OF SITE & ADJACENT AREA INSPECTIONS	
46	Verify that all areas used by the public are maintained free from ice, snow, grease, debris, equipment, materials, protections, tools, or other items, substance, or conditions that may constitute a slipping, tripping or other hazard.	
47	Verify that there are no exposed hose lines, wire, rope, or other items that may constitute a tripping hazard to the public.	
	AS REQUIRED - REQUIREMENTS	
	MATERIAL HANDLING & HOISTING EQUIPMENT INSPECTIONS	
48	Verify that all certificates of approval, operation, and onsite inspection for all cranes, derricks, and/or cableways have been obtained and are available for inspection at the construction site.	
49	Verify that all permits for highway and street closings are available for inspection at the construction site.	

FORM NO. 5.3

SAFETY DEFICIENCY NOTICE

Notice No.:

Date: _____ **Time:** _____ **Contract No.:**

Trade Contractor:

Trade Contractor Representative:

Subcontractor:

Subcontractor Representative:

Work Location:

Work Activity:

Safety Deficiency/Reference:

Written Response is Required By: _____ _____**Originator**

Corrective Action Taken:

Trade Contractor Representative

Corrective Action Acceptable and Confirmed

_____

Confirmed By **Date**

C2 FORM (INSERT)
FORM NO. 5.4

FORM NO. 5.5

TRADE CONTRACTOR SAFETY STATEMENT

On behalf of _____ under 530 West 28th Street Contract # _____
(Company) (Contract #)

for _____ in regard to the
(Scope)

Project, we have read the Safety Plan dated _____

We understand and will adhere to its contents for the project duration.

Our designated competent person for the projects is _____ SS# _____

_____
(Name and Title of Company Representative) Date

FORM NO. 5.6

SUPERVISOR'S ACCIDENT INVESTIGATION REPORT

CONTRACTOR:

ACCIDENT DATE:

TIME:

CONTRACT NUMBER:

ACCIDENT LOCATION (SPECIFIC):

WHAT HAPPENED?
(Describe operation, activity, conditions and how accident or loss occurred. Use separate sheet and diagram if necessary)

PRIMARY CAUSE
(Condition or act that caused the accident)

Recommended correction action

Equipment involved #

Employee involved

Employee Injury (Describe)

Medical Referral

Company, Property Damage or Loss (Describe)

Property, Damage or Injury to Others (Describe)

Injured (Name, address, phone)

Witness (Name, address, phone)

Policy Report?

Agency

Photos? _____ **Taken By:**

Foreman/Supervisor

Date

Contractor Project Manager/Supervisor Approval

_____ **Date:**

Part 6

SAFETY TRAINING

CR Safety Group, Inc is an approved training school by the NYC department of buildings (NYC DOB). We are also authorized to conduct Occupational Safety and Health Administration (OSHA) training.

Safety training is required by regulation and is a smart investment for employers who want to minimize injuries. On-the-job accidents result in lost time, employee dissatisfaction, high workers compensation premiums and possible fines imposed by OSHA or local authorities. These training classes are designed to promote safety and health in the workplace using local and national compliance standards.

What OSHA does:

OSHA, a division of the US Department of Labor is a regulatory agency. OSHA periodically develops and updates its compliance standards to provide employees a safe work environment. OSHA levies fines in cases of non-compliance and workplace accidents resulting in injuries or death, which also often result in litigation.

OSHA 10 Hour Course

NYC Int. 790-A of Local Law 48 of 2008 requires ALL workers to complete an OSHA approved 10 hour course within in the previous 5 calendar years.

The OSHA 10 hour course is the minimum OSHA standard for all workers. It introduces workers to safety standards and makes them able to recognize hazards, avoid dangerous situations and prevent accidents. OSHA mandates that instructors dedicate 1 full hour to 3 specific topics (intro to OSHA, Fall Protection, and Electricity); the 7 remaining hours are discretionary and can be tailored to the audience's specific needs. Each employee who completes the course will receive a certificate of completion and will be issued a certificate authorized by OSHA.

OSHA 30 Hour Course

This course is geared for construction foremen, supervisors and management personnel. It covers OSHA policies, procedures, and standards, as well as construction safety and health principles. Topics include scope and application of the OSHA construction standards. Special emphasis is placed on those areas that are the most hazardous, using OSHA standards as a guide. Upon successful course completion, the student will receive an OSHA construction safety and health 30-hour course completion card.

4 Hour Supported Scaffold Course (Local Law 52)

Anyone who uses a supported scaffold on any height in the erection, dismantling, repair, maintenance or modification of any building or structure must complete a training program of four hours.

32 Hour Supported Scaffold Course (Local Law 52)

Anyone who erects, dismantles, repairs, maintains or modifies any supported scaffold over 40 feet must complete a training program of thirty-two hours.

40 Hour NYC Site Safety Manager Course

The 40 hour program is designed for qualified construction professionals applying to take the site safety manager license exam or registering with the NYC DOB as a Registered Construction Superintendent (RCS), Certified Site Safety Coordinator (SSC), or Licensed Site Safety Manager (SSM). The course is

designed to give you a clear understanding of the new NYC Codes, existing Federal and State standards and applicable local laws to promote sound and code compliant construction practices.

7 Hour NYC Site Safety Manager Refresher Course

The NYC Site Safety Manager Refresher program provided by CR Safety Group, Inc is an all inclusive course that allows you to complete the 7 hours of continuing education that is required every three years when renewing your license.

NYC Superintendent Training

CR Safety Group, Inc is approved to teach all classes required by the City of New York to become a construction superintendent.

WC-W28th Street Realty

526-532 WEST 28th STREET

525-531 WEST 27th STREET

MANHATTAN, NEW YORK 10001

Block 699, Lot 49

VCP SITE: 14CVCP241M

CONSTRUCTION HEALTH AND SAFETY PLAN

June 2014

Prepared for:

WCW28th St Realty, LLC

CONSTRUCTION HEALTH AND SAFETY PLAN

Table of Contents

FIGURES

APPENDICES

STATEMENT OF COMMITMENT

This site-specific Health and Safety Plan (HASP) has been prepared consistent with applicable U.S. Occupational Health and Safety Administration requirements found at 29 CFR1910.120, to protect the health and safety of on-site personnel and the surrounding community during the excavation and removal of impacted soil and groundwater. The provisions included in this document are in addition to the general health and safety obligations consistent with OSHA 1926 and applicable laws of the City of New York.

This HASP, applies to all persons present at the site that are actually or could potentially be exposed to hazardous materials, describes emergency response procedures for actual and potential chemical hazards.

The purpose of the HASP is to specify the methods and procedures to be used to ensure that workers are not exposed to risks from hazardous materials during the performance of the Remedial Action Work Plan (RAWP) phase of the planned redevelopment of the WC-W28th Street Site Street. The HASP identifies known chemicals of concern at the Project Site and includes material safety data sheets for each chemical compound group or chemical of concern.

This HASP is also intended to inform and guide personnel entering the Site. All persons entering the Site beyond the designated support zone for any purpose are to acknowledge that they have read and understand the potential site-related hazards and the contents of this Health and Safety policy. An executed acknowledgement will be retained on site for the duration of the project. An individual copy of this document will be supplied as requested.

All contractors, subcontractors, and suppliers providing on-site services are responsible for ensuring the health and safety of their own employees and must submit a health and safety plan as needed for their specifically contracted work. All contractor/subcontractor specific safety plans must, at a minimum, conform to the provisions of this document and to the Master CHASP for the project.

1 INTRODUCTION

This document describes the health and safety guidelines to protect on-site personnel, visitors, and the public from physical harm and exposure to hazardous materials or wastes during subsurface investigation 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, handling, management, transportation and disposal of potentially hazardous soils while conducting of the Remedial Action Work Plan for the Site.

The HASP may be revised upon receipt of new information regarding site conditions. Changes will be documented by written amendments executed by the designated project manager, site safety officer and/or health and safety consultant.

1.1 Scope

This HASP addresses the site-specific hazards associated with performance of the OER approved RAWP for the Site. The RAWP activities are as described below:

- Excavate historic fill to bedrock surface with off-site transport and disposal;
- Excavate bedrock with off-site transport and disposal as necessary for installation of new building's foundation.
- Dewatering with treatment and discharge to City combined sewer

1.2 Application

The HASP applies to all personnel involved in the above tasks who wish to gain access to active work areas, including but not limited to:

- Designated contractor and subcontractors employees;
- Client representatives; and
- Federal, state or local representatives.

1.3 Site Safety Plan Acceptance, Acknowledgment and Amendments

The project superintendent and the site safety officer are responsible for informing all personnel 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 HASP. Amendments to the CHASP are acknowledged by completing forms included in **Appendix B**.

1.4 Key Personnel - Roles and Responsibilities

Personnel responsible for implementing this Construction Health and Safety Plan are:

Name	Title	Address	Contact Numbers
Larry Greenberg Construction Properties	OWNER's REPRESENTATIVE	580 Fifth Ave., 32nd Fl. New York, NY 10036	(212) 308-4443 x 9 (917) 656-9321
Joe Cenzoprano Pay-Lak Contracting	PROJECT MANAGER	325 Marcus Blvd. Hauppauge, NY 11788	(631) 434-7300 (917) 312-2860
Tom Ricci Pay-Lak Contracting	DESIGNATED SITE SUPERVISOR	325 Marcus Blvd. Hauppauge, NY 11788	(631) 434-7300 (516) 319-7606
Tom Zografos Pay-Lak Contracting	DESIGNATED SITE-SAFETY OFFICER	325 Marcus Blvd. Hauppauge, NY 11788	(631) 434-7300 (516) 523-7680

The project manager is responsible for overall project administration and, with guidance from the site safety officer, for supervising the implementation of this HASP. 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:

1. Educating personnel about information in this HASP 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 at least 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 HASP.
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.

2 SITE BACKGROUND AND SCOPE OF WORK

2.1 Location

The Site is located at 525-531 West 27th Street & 526-532 West 28th Street, Manhattan in the Highline/West Chelsea District in Manhattan, New York and is identified as Block 699and Lot 49 on the New York City Tax Map. A Site Location Map is included as **Figure 1a**.

2.2 Current Use

The Site is currently a vacant lot.

2.3 Historic Use

The Site was originally built in 1916 and occupied by E.R. Merrill Spring Company, a manufacturer of automobile springs/parts and parts for Sherman Tanks. Historical site uses included a truck terminal garage, warehouse and foundry. After E.R. Merrill-Spring Co. and various subsequent subsidiaries (1980), the Site was occupied as a warehouse for storage and construction of theatrical props and scenery and was reportedly used as a studio for filming. From 1998 to 2002 the building was used as a warehouse for a packaging supply company. In 2002, the Site was renovated and used as a night club/Cabarets. All on-site structures were recently demolished to grade level.

2.4 Prior Investigations

Investigations performed to date on-site include:

- Foster-Wheeler; *"Phase I Environmental Site Assessment, 530 W28th Street",* August 1997;
- EBI; *"Phase I Environmental Site Assessment, 526-532 W 28th Street"*, October 2010;
- The Chazen Companies; *"Phase I Environmental Site Assessment, RN Realty L.L.C. Property"*, April 2013;.
- Chazen; *"Phase II-RIR Work Plan"*, August 2013;
- Chazen; *"Remedial Investigation Report, WC-W28th St",* January 2014;
- Chazen; *"Remedial Action Work Plan, WC-W28th St"*; February 2014;

- Chazen; *"Supplemental XRF Delineation Report"* , May 2014 and,
- Chazen; *"Groundwater Treatment Discharge Pilot Test",* June 2014.

2.4.1 Remedial Investigation and Supplemental XRF Reports

Potential Contaminants of Concern (COCs) for the site include all compounds identified in the on-site soils at concentrations that exceed the Track 1 Soil Clean-up Objectives of 6 NYCRR Part 375 6.8(a) or the Ambient water Quality Standards in TOGS 1.1.1. The individual compounds are listed and discussed in **Section 3.2: Chemical Hazards**.

The Remedial Investigation identified the Areas of Concern (AOCs) for the Site. The AOCs include:

- Historic urban fill to a depth of at least 8 feet below grade elevation containing elevated concentrations of regulated metals;
- An historic fuel oil spill from approximately 9 feet to 11 feet below grade in the soils beneath the half-basement sub-level in the northwest corner of the site; and,
- Chlorinated solvents in excess of water quality standards in the Groundwater beneath the Site.

The supplemental XRF Survey identified the following AOCs;

Concentrations of Lead and Mercury in near surface soils that exceed hazardous waste criteria by TCLP analysis.

2.5 Redevelopment Plans

The proposed future use of the Site will consist of high-rise town home/condominium style residential use building with floor level and sub-grade commercial uses. Layout of the proposed site development is presented in Figure 2 in the RAWP. The current zoning designation is C6-3 (see Zoning Map, Section 8b). The proposed use is consistent with existing zoning for the property.

Redevelopment plans for the property includes the demolition of the buildings (already completed) and the excavation and removal of all on-site spoils from grade to the top of bedrock at 22-24 feet below grade. Two to four feet of bedrock will also be removed.

2.6 Description of Remedial Action

The full Scope of the remedial Action is included in the RAWP. The specific site related activities identified in

RAWP that could result in exposure to potentially hazardous materials include:

1. Installation of a groundwater recovery sump to dewater the site during the excavation and construction phases of the project;
2. Operation of the groundwater recovery and treatment system;
3. Additional delineation of impacted soils using X-Ray Fluorescence for quantification of selected heavy metals to further characterize materials for proper segregation, handling, and off-site disposal;
4. Excavation and removal of soil/fill exceeding Track 1 Unrestricted Use SCOs;
5. Screening of excavated materials for visual or olfactory evidence of impacts and/or sampling for laboratory analysis; and,
6. Transportation and off-Site disposal of all impacted soil/fill material.

3 HAZARD ASSESSMENT

This section identifies the hazards associated with the proposed scope of work. Every reasonable 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

The general physical hazards that can be expected at most excavation/construction sites are listed below. These are included in the Master CHASP and not reiterated herein.

Lip, Trip, Fall
Climbing Hazards
Cuts and Lacerations
Lifting Hazards
Utility Hazards
Traffic Hazards
Weather and Temperature

Heavy Equipment (Operation and proximity)

Excavation Safety

3.2 Chemical Hazards

Soil samples collected from the site contained elevated concentrations of volatile organic compounds VOCs, SVOCs and metals. The following chemicals of concern were detected in the on-site soils in one or more samples at a concentration that exceeded the unrestricted residential use criteria in 6 NYCPP Part 375-6.8

Analyte		Unrestricted Use SCO (mg/kg)	Maximum Detection	**Analyte**		Unrestricted Use SCO (mg/kg)	Maximum Detection
VOCs	Acetone	0.05	0.084	**TAL-Metals**	Arsenic	13	**384**
	Naphthalene	12	0.052		Barium	350	957
					Cadmium	2.5	6.02
SVOCs	Benzo(a)anthracene	1	5.5		Chromium	30	65.8
	Benzo(a)pyrene	1	4.59		Copper	50	440
	Benzo(b)fluoranthene	1	3.65		Lead	63	**13400**
	Benzo(k)fluoranthene	0.8	4.52		Nickel	30	42.5
	Chrysene	1	5.52		Zinc	109	1900
	Indeno(1,2,3-cd)pyrene	0.5	0.611		Mercury	0.18	**10.1**

Concentrations of COCs greater than the Unrestricted Use Criteria were restricted to samples of the urban fill from 0-8 feet below grade. Total concentrations of Arsenic, Lead, and Mercury in near surface soils exceed the 6 NYCRR Part 375-6.8(b) Industrial Use SCOs.

TCLP analysis of the soils identified LEAD at concentrations that exceed RCRA Hazardous Waste Criteria.

Analyte	Hazardous Waste Criteria	Maximum Reported (mg/l)

		(mg/l)	
TAL-Metals	Arsenic	5	ND @ 0.1
	Lead	5	**62.9**
	Mercury	0.2	ND @ 3.9E-4

The hazardous a soils appear to be restricted to the interval from 0-4 feet below grade in a small area of the site estimated at 600 ft². It is believed to be the result of surficial impacts to the site during its use as a foundry in the late 1800's.

Groundwater samples collected from the site as part of the investigations performed at the site contained elevated concentrations of volatile organic compounds VOCs and metals.

COC		AWQS	GW
VOCs	1,1-Dichloroethane	5	6.2
	cis-1,2-Dichloroethylene	5	120
	Methyl tert-butyl ether (MTBE)	10	15
	Vinyl Chloride	2	3.0 J
Dissolved Metals	Magnesium	35	140
	Manganese	0.3	3.82
	Selenium	0.01	0.014
	Sodium	20	235

3.2.1 Potential Chemical Hazard Exposure

The primary routes of exposure to the identified contaminants in soil and groundwater to on-site investigation and remediation workers is through the inhalation of dust or vapors, ingestion of soils or groundwater, and absorption through direct contact.

Inhalation: Respirable dust generated during the excavation activities represent the highest potential source of exposure to workers and the community.

Ingestion: Ingestion of soils and groundwater is a relatively minor source of potential exposure on-site workers only. The risk to off-site receptors is considered nil.

Absorption: Direct contact with soils (including dust) and or groundwater is a moderate potential source of exposure to on-site workers. The risk to off-site receptors is considered nil. Soil (and dust) exposure could occur during excavation and soil management activities. Direct contact with groundwater could occur during system maintenance or accidental release from the groundwater recover and treatment system.

Each of these potential exposures can be reduced or eliminated through the use of personal protective equipment, engineering and/or administrative controls, and monitoring of site conditions with appropriate corrective measures.

Appendix C includes information sheets for each of the known chemicals of concern that may be encountered on-site at hazardous concentrations.

4 PERSONAL TRAINING AND CERTIFICATIONS

HAZWOPER is an acronym which stands for Hazardous Waste Operations and Emergency Response. HAZWOPER training is covered under OSHA standard 29 CFR Part 1910.120. According to OSHA, the HAZWOPER standard applies to five groups of employers and their employees and specifically includes any employees who are exposed to hazardous substances and who are engaged in several operations including clean-up, treatment, storage and disposal of hazardous waste. Consequently, 29 CFR 1910.120 would apply to any workers actively engaged in the remediation of soil containing hazardous or potentially hazardous concentrations of lead. This is in addition to any rules or regulations regarding potential lead exposures to workers.

All on-site workers performing work within the exclusion zone as established by the site safety officer must provide evidence of current certification of OSHA 40 Hazardous Waste Operations and Emergency Response Operations training. This applies to all workers who enter the exclusion zone (s) until such a time as all hazardous materials have been removed.

All other persons entering the exclusion zone to perform actions with minimal or no potential for direct exposure to hazardous materials should have 24-hour or 10-hour OSHA training at a minimum. No person without the minimal required training will be allowed inside the exclusion zone.

The designated Site Safety Officer and Site Superintendent must ALSO have OSHA 8-hour supervisor training.

Copies of all training certificates for on-site personnel will be maintained on-site for the duration of the removal action.

5 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.

5.1 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 clothes, 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.

5.2 Level C

Level C PPE shall be donned when sustained concentrations of measured total organic vapors in the breathing zone exceed background concentrations (using a portable OVA, or equivalent), by more 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.

5.3 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.

Level C protection will be required for persons working in the delineated exclusion zone during the excavation of soils containing known concentrations of lead that exceed the RCRA Hazardous Waste Criteria that may come in direct contact with impacted soils. Equipment operators in enclosed cabs will not be required to use Level C protection unless vapor levels exceed threshold criteria or exit the vehicle inside exclusion zone. The number of individuals allowed inside the exclusion zone during excavation will be held to the minimum required to complete this activity.

Level C protection is required for workers performing maintenance on the groundwater recovery and treatment system until no compounds that exceed ambient water quality standards remain in raw water influent samples to the system. Maintenance for this purpose is defined as any activity requiring the opening of any vessel or disconnection of hoses, piping, etc. that could result in a release of untreated water from the system.

It is expected that most 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 excavations, active venting, etc.) will be implemented before requiring the use of respiratory protection.

The level of personal protection required will be determined by the Site Safety Officer.

6 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.

6.1 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.

6.2 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

Periodic monitoring of VOCs, explosive vapor potential, and particulates will be provided throughout the active excavation process. 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.

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, Sustained 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 or 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).

7 SITE CONTROL

7.1 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(s), it is expected that the exclusion zone will include the entire area of the Site located within the sheet pile barrier walls. The construction entrance and area between the barrier wall and the 27th Street construction fence will serve as the decontamination zone and the support zone (if needed).

Gross decontamination (as determined by the site Health and Safety Officer) of equipment and/or personnel is conducted in the exclusion zone; all other decontamination is performed in the decontamination zone or support trailer, if provided.

Once the u r b a n fill materials have been removed, a general excavation contractor may excavate/grade as needed for basement excavation, shoring, and other building requirements as deemed necessary by the Remedial Action Work Plan and/or Project Manager.

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 and smoking are NOT permitted on-site or within the limits of the construct ion fences. Drinking (water or other hydrating fluids) is permissible within the support zone.

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. If a separate decontamination trailer is not provided, the portable eye wash unit and first aid equipment will be kept at location designated by the site safety officer.

8 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.

8.1 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.

8.2 Emergency Telephone Numbers

General Emergencies	911
NYC Police	911
NYC Fire Department	911
Roosevelt Hospital Center	1-212-523-4000
NYSDEC Spills Hotline	1-800-457-7362
NYSDEC Project Manager	1-718 482-4909
NYC Department of Health	1-212-676-2400
National Response Center	1-800-424-8802
Poison Control	1-800-222-1222

Project Manager	1-917-312-2860
Site Safety Officer	1-631-434-7300

8.3 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 — Mr. Joe Cenzoprano (917) 312-2860
- Construction Superintendent — Mr. Tom Ricci (516) 319-7606
- Site Safety Officer — Mr. Tom Zagrafos (516) 523-7680

8.4 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 follow the directions to the hospital on the Hospital route Map included in **Appendix D** and information on the chemical(s) to which they may have been exposed included in **Appendix C**.

8.5 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.

8.6 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.

8.7 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.

8.8 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.

FIGURE A7-1
Hospital Route Map

APPENDIX 8

Example RCR Deliverable Requirements

Waterproofing/Vapor Barrier Membrane

Detailed certified drawings prepared by a PE or RA of Record depicting the extent of the proposed waterproofing/vapor barrier membrane and the installation details (penetrations, joints, etc.) with respect to the proposed building foundation, footings, slab, and sidewalls, and product specification sheets are provided.

The Remedial Closure 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.