ATTACHMENT I

NEW YORK STATE DOL
REGULATORY NOTIFICATION
Asbestos Project Notification

Project Reference Number: 25434
Type: Amended
Status: Complete

Notification Date: 01/03/2008

Contractor Information
FEIN: 11-3167874

PAL ENVIRONMENTAL SAFETY CORPORATION
11-02 QUEENS PLAZA SOUTH
LONG ISLAND CTY, NY 11101-0000

Duly Authorized Representative
SALVATORE J. DILORENZO, PRESIDENT
Phone Number: (718) 349-0900 Ext. 303
Email: adomozick@palcorp.com

Asbestos License Number: 99-0690

Mailing Address

Project Location
County: New York
Building Name: Fitelman Hall
Room/Location: entire bldg.
Address: 30 West Broadway
City: NY
State: New York
Zip: -

Building Information
Current Use: Unoccupied
Building Age (yrs): 47
Prior Use: Classroom Building
Building Size (sq ft): 361000

Site Contact
Name: Rich Dalessio
Phone Number: (212) 273-5098

Work to be Performed for
Name: DASNY
Address: 515 Broadway
City: Albany
State / Province: New York
Postal Code: 12207-
Contract Amount: $ 16,313.00

Project Details
Start Date: 05/01/2007
Completion Date: 06/30/2008
Do you anticipate doing any of the following? Yes
Night Work
Shift Work
Weekend Work
Details: 8am - 5pm. New Start Date 05/01/2007. New Completion Date 06/30/2008.

Is work being done under a variance? Yes
Variance Numbers: 0852

https://wpa.labor.state.ny.us/wpa/showEPrinterView.do?method=showPage&notificationId... 1/3/2008
### Equipment & Ventilation Systems
- Hepa Vacuums, Negative Air Ventilation Machines, Airless Sprayers, Collapsible Showers, Respirators

### Monitoring & Testing
- **Air monitoring firm:** Airtek Environmental
- **Asbestos License Number:** 99-0589
- **Lab performing the analysis:** ATC Associates
- **ELAP Registration Number:** 10879

### Type of Asbestos Work
- Pipe related
- Roofing/flashing
- Caulking/mastic
- VAT
- Other (specify)
  - WTC Dust, Spandrel Mastic, Kneewall Tar

### Type and Amount of Material Containing Asbestos
- **Friable Linear Feet:** 636
- **Friable Square Feet:** 48780
- **Non-friable Linear Feet:** 0
- **Non-friable Square Feet:** 0
- **Total linear feet:** 636
- **Total square feet:** 48780

### Fee Schedule
- **Linear Feet Fee:** $200.00
- **Square Feet Fee:** $1,000.00

### Remarks
PAL Project No. 06-6500. New Start Date 05/01/2007. New Completion Date 06/30/2008. Scaffold erection is being performed under NYS DOL Variance (File No. 06-0652). Please note that the DOL online form cannot accept certain amounts related to this project because the fields will not support large enough numbers. Please see below for actual figures for fields where this occurs: 1) Actual contract amount is $16,313,000.00 2) Total quantity of Friable Square Feet is 48,780,800

### Phases
<table>
<thead>
<tr>
<th>Start Date</th>
<th>End Date</th>
<th>Location</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>05/01/2007</td>
<td>01/31/2008</td>
<td>Building Exterior</td>
<td>Scaffold Erection</td>
</tr>
<tr>
<td>02/01/2008</td>
<td>06/30/2008</td>
<td>Entire Building</td>
<td>Remediation &amp; Decontamination</td>
</tr>
</tbody>
</table>

### Subcontractors
This project is not using subcontractors.
ATTACHMENT II
NEW YORK STATE DOL
VARIANCE DECISION
STATE OF NEW YORK
DEPARTMENT OF LABOR
STATE OFFICE BUILDING CAMPUS
ALBANY, NEW YORK 12240-0100

Variance Petition

of

PAL Environmental Safety Corporation
Petitioner's Agent

On Behalf Of

DASNY
Petitioner

in re

Premises: Fitterman Hall
30 West Broadway
Manhattan, New York

Interior Friable and Non-friable ACM
Removals, Exterior Non-friable ACM
Removals, and Interior/Exterior WTC
Dust/Residue Removals and Cleanup

File No. 07-1004
DECISION
Cases 1-26
ICR 56

The Petitioner, pursuant to Section 30 of the Labor Law, having filed Petition No. 07-1004 on December 3, 2007 with the Commissioner of Labor for a variance from the provisions of Industrial Code Rule 56 as hereinafter cited on the grounds that there are practical difficulties or unnecessary hardship in carrying out the provisions of said Rule; and the Commissioner of Labor having reviewed the submission of the petitioner dated November 30, 2007 along with several submittal replacements, all finalized in the March 7, 2008 submittal replacement; and

Upon considering the merits of the alleged practical difficulties or unnecessary hardship and upon the record herein, the Commissioner of Labor does hereby take the following actions:
Work Area Preparation, Abatement, Cleaning
Case No. 1 ICR 56-7.5(d) limited
Case No. 2 ICR 56-7.5(f)(2) limited
Case No. 3 ICR 56-7.8(a)(5)
Case No. 4 ICR 56-7.9(a)
Case No. 5 ICR 56-7.10
Case No. 6 ICR 56-7.11(a) gash area
Case No. 7 ICR 56-7.11(f)(1)(i) gash area
Case No. 8 ICR 56-7.11(b)(2)
Case No. 9 ICR 56-7.11(d)
Case No. 10 ICR 56-7.11(e)
Case No. 11 ICR 56-11.4(b)(1, 2, 4)

Air Monitoring
Clearance Criteria
Case No. 12 ICR 56-4.6
Case No. 13 ICR 56-4.11(b)

Backgrounds
Case No. 14 ICR 56-6

Work Stoppages
Case No. 15 ICR 56-7.1(d)
Case No. 16 ICR 56-8.1(b)(2)
Case No. 17 ICR 56-9.2(b)(2)

Number & Location of Air Samples
Case No. 18 ICR 56-4.9(d) Stair C
Case No. 19 ICR 56-4.11(b) Stair C
Case No. 20 ICR 56-7.1(c) tents & e.closets
Case No. 21 ICR 56-8.1(b)(1) tents & e.closets
Case No. 22 ICR 56-9.2(b)(1) tents & e.closets
Case No. 23 ICR 56-9.2(d) tents, e.closets & Stair C

Dailies for Clearance
Case No. 24 ICR 56-4.9(d) exterior areas
Case No. 25 ICR 56-4.11(b) exterior areas
Case No. 26 ICR 56-9.2(d) exterior areas
VARIANCE GRANTED. The Petitioner's proposal for removal and cleanup of ACMs and WTC dust/residue including contaminated components with quantities and locations as listed by the petitioner at the subject premises, in accordance with the attached 47-page stamped copy of the Petitioner's submittal, is accepted; subject to the Conditions noted below:

THE CONDITIONS

1. The Department will not grant or deny approval for proposed work procedures or air monitoring requirements related to contaminants other than asbestos. These details must be submitted to the appropriate regulatory agency for their review and approval as necessary.

General Building Access Restrictions

2. Any firm and their employees may access the cleaned and decontaminated portions of the building to complete their work.

3. Firms and their employees that require occasional access to the contaminated portions of the building for maintenance of building systems, and related work may enter as building owner authorized visitors/representatives. Entry to and exit from the contaminated portions of the building shall proceed using the established procedures within the petitioner's proposal and the building owner's Health and Safety Plan (HASP). Copies of all documents referenced within the HASP shall be posted on-site in the immediate vicinity of the personal decontamination enclosure. No disturbance to ACM or WTC dust/residue is allowed by these authorized visitors/representatives.

4. Any firm requiring routine access to the contaminated portions of the building to perform maintenance of building systems shall be a NYS DOL licensed asbestos contractor and their employees accessing the contaminated portions of the building shall be a minimum of NYS DOL/NYC DEP restricted asbestos handler (allied trades) certified. Entry to and exit from the contaminated portions of the building shall proceed using the established procedures within the petitioner's proposal and the building owner's HASP. No disturbance to ACM or WTC dust/residue is allowed by individuals with restricted asbestos handler certification.

Work Area Preparation and Handling During Abatement

5. (Pre-cleaning) The floors, walls, ceilings, fixtures, and movable and fixed objects contaminated with asbestos debris shall be either removed or cleaned (non-porous materials only) as part of this abatement project. Prior to removal of Debris (ACM materials) necessary for preparation work, installation of negative air systems followed by limited
cleaning for installation of critical barriers shall be completed. Critical barriers and isolation barriers shall then installed.

6. Personal Protective Equipment shall be provided and utilized in accordance with OSHA regulations for the contaminants being abated. Contractor shall furnish all authorized visitors with appropriate PPE.

7. Power tools used to drill, cut or otherwise disturb ACM or WTC dust/residue within the work area, shall be manufacturer equipped with HEPA filtered local exhaust ventilation. The only exception to this requirement is for powered floor buffers using low abrasion pads at speeds lower than 300 rpm to aid with chemical mastic removal.

8. Torch cutting is not allowed within any negative pressurized containment enclosure.

9. Use of a pressure washer for gross removal of ACM or asbestos-contaminated materials is not allowed.

10. Dry removals of ACM materials will not be allowed. Amended water shall be used to thoroughly wet the asbestos-containing materials during the abatement process. Materials removed shall be bagged/containerized within 6-mil ACM waste bags, non-porous cleanable hardwalled containers, or immediately wrapped in 6 mil plastic sheeting and secured air tight prior to passing through the waste decontamination facility where they shall be cleaned and containerized again as applicable, then labeled and prepared for waste transport. No uncontainerized ACM waste or asbestos contaminated waste is allowed to remain within the regulated abatement work area at the end of the workday.

11. Encapsulation of any asbestos removal surfaces shall not be performed, until satisfactory clearance air sample results have been obtained.

**Air Monitoring**

12. Acceptable TEM clearance criteria shall be as per the petitioner's proposal for each work area.

13. All air monitoring for contaminants other than asbestos shall be performed in accordance with appropriate federal, state and local regulations. Clearance criteria for contaminants other than asbestos shall also be in accordance with appropriate regulations.

14. Usage of this variance is limited to those asbestos removals identified in this variance or as outlined in the Petitioner's proposal.
In addition to the conditions required by the above specific variances, the Petitioner shall also comply with the following general conditions:

**GENERAL CONDITIONS**

1. A copy of this DECISION and the Petitioner's proposals shall be conspicuously displayed at the entrance to the personal decontamination enclosure.

2. This DECISION shall apply only to the removal of asbestos-containing materials from the aforementioned areas of the subject premises.

3. The Petitioner shall comply with all other applicable provisions of Industrial Code Rule 56-1 through 56-12.

4. The final say as to interpretation of this variance rest solely with the NYS Dept of Labor Engineering Services Unit. Any deviation from variance conditions shall render this variance Null and Void pursuant to 56-12.2.

5. This DECISION shall terminate on March 31, 2009.

Date: March 7, 2008

By

M. PATRICIA SMITH
COMMISSIONER OF LABOR

Christopher Alonge, P.E.
Associate Safety and Health Engineer

PREPARED BY: Christopher G. Alonge, P.E.
Associate Safety and Health Engineer

REVIEWED BY: Edward Smith, P.E.
Senior Safety and Health Engineer
### Remediation Activities (Continued)

<table>
<thead>
<tr>
<th>ICR 56 Section</th>
<th>Relief Requested</th>
<th>Reason/Hardship</th>
<th>Public Health &amp; Safety Measures*</th>
</tr>
</thead>
<tbody>
<tr>
<td>56-7.11(e)</td>
<td>To install modified full containment without poling floor, wall &amp; ceiling surfaces</td>
<td>All interior surfaces assumed contaminated requiring remediation</td>
<td>Criticals over operable window sections and penetrations to exterior, engineering controls, wet methods, OEC NYS Project Monitor inspection</td>
</tr>
<tr>
<td>56-11.4(b)(1)&amp;(2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56-7.11(f)(1)(i)</td>
<td>To construct tent enclosures containing more than 160 SF of assumed contaminated surface area in the Gash</td>
<td>All gash surfaces assumed contaminated. Tents must be constructed to allow sufficient working space</td>
<td>Engineering controls, wet methods, OEC NYS Project Monitor inspection</td>
</tr>
<tr>
<td>56-7.11(d)</td>
<td>Not to isolate elevator cars from regulated work area</td>
<td>Elevator cars to be used as means of transport for personnel and waste within the regulated work area</td>
<td>Air pushed up shafts by piston effect is being filtered at the elevator machine rooms by micro traps</td>
</tr>
<tr>
<td>56-11.4(b)(4)</td>
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### Air Monitoring Activities

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<tr>
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</thead>
<tbody>
<tr>
<td>General</td>
<td>Relief from Background Sampling</td>
<td>As the entire structure is contaminated and is to be cleaned, background levels are irrelevant. Clearance criteria will not be referenced to background levels.</td>
<td>Clearance criteria of &lt; 70 s/mm² in all samples will be enforced.</td>
</tr>
<tr>
<td>56-6</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Work Stoppages</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56-7.1(d)</td>
<td>Use of 70s/mm² as the trigger for work stoppages as opposed to 0.01f/cc.</td>
<td>Per regualtory agreement, TEM air sampling is the methodology being employed for ACM sampling.</td>
<td>Clearance criteria of &lt; 70 s/mm² in all samples will be enforced.</td>
</tr>
<tr>
<td>56-8.1(b)(2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56-9.2(b)(2)</td>
<td></td>
<td></td>
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### Air Monitoring Activities (Continued)

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<tr>
<td><strong>Air Sampling</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56-7.1(c)</td>
<td>Number of samples - Tents and Electrical Closet work areas</td>
<td>As the entire structure is contaminated, all surfaces of each containment are included in the calculation of &quot;Quantity of ACM.&quot; This would result in &quot;Large Project&quot; sampling requirements for de minimus dust cleaning (i.e., electrical closets, gash tents in some cases).</td>
<td>Sample quantities will be determined by the Project Monitor based on the amount of material to be removed from the enclosure. For example, if up to 250 ft of contaminated fiberglass pipe insulation is to be abated from a tent, Minor Project sampling guidelines will be applied, and so on for other quantities. See note below.</td>
</tr>
<tr>
<td>56-8.1(b)(1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56-9.2(b)(1)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Air Clearance</strong></td>
<td></td>
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</tr>
<tr>
<td>56-4.6</td>
<td>All clearance samples must be &lt;70/s.mm2.</td>
<td>Per regulatory agreement, the averaging of final air samples allowed under AHERA will not be applied to this project.</td>
<td>The proposed clearance criteria is more stringent than the statutory criteria.</td>
</tr>
<tr>
<td>56-4.11(b)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56-6.2(d)</td>
<td>Number of samples - Tents and Electrical Closet work areas.</td>
<td>As the entire structure is contaminated, all surfaces of each containment are included in the calculation of &quot;Quantity of ACM.&quot; This would result in &quot;Large Project&quot; sampling requirements for de minimus dust cleaning (i.e., electrical closets, gash tents in some cases).</td>
<td>Sample quantities will be determined by the Project Monitor based on the amount of material to be removed from the enclosure. For example, if up to 250 ft of contaminated fiberglass pipe insulation is to be abated from a tent, Minor Project sampling guidelines will be applied, and so on for other quantities. See note below.</td>
</tr>
<tr>
<td>56-4.9(d)</td>
<td>Number and location of clearance IWA samples. Location of OWA samples - &quot;Stair C&quot; Work Area</td>
<td>The &quot;Stair C&quot; work area is a vertical work area of stairs and landings. The space configuration requires a vertical array of clearance samples.</td>
<td>Although arrayed vertically, more than the required number of IWA samples (one per each of fifteen floors, or a minimum of ten) will be collected.</td>
</tr>
<tr>
<td>56-5.11(b)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56-5.2(d)</td>
<td>Use of last daily air samples as clearance samples for gash area focused cleaning, gash area roof removal and roof level work areas.</td>
<td>These exterior work areas have been subject to multiple prior cleanings and years of weather exposure. Cleaning is a precaution as WTC Dust impact has not been noted.</td>
<td>Wet methods will be employed. In addition, ACM sampling and Community Monitoring will be conducted in the vicinity of this work.</td>
</tr>
</tbody>
</table>

Note* - Health & Safety Procedures are presented in detail in Regulatory Submittal Part I (R) - Remediation Work Plan - 03/07/2008
<table>
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</thead>
<tbody>
<tr>
<td>56-7.5(d)</td>
<td>To utilize remote decon for tent procedure, and focused cleaning in Gash Area, electrical closets and roof levels.</td>
<td>To limit the installation of facilities that restrict or otherwise impede emergency personnel access on Gash Area</td>
<td>Engineering controls, wet methods, OEC NYS Project Monitor inspection, remote decon</td>
</tr>
<tr>
<td>56-7.5(f)(2)</td>
<td>Not to construct combined wash room/air locks on tent enclosures, focused cleaning, electrical closet and roof level work areas</td>
<td>To limit the installation of facilities that restrict or otherwise impede emergency personnel access, and due to space limitations.</td>
<td>Engineering controls, wet methods, OEC NYS Project Monitor inspection, remote decon</td>
</tr>
<tr>
<td>56-7.8(a)(5)</td>
<td>Negative air unit exhaust hoses in excess of 25' in length</td>
<td>To establish negative pressure in the basement it is necessary to install machines throughout the entire space. The exhaust hoses have to run up to the 1st Floor to exhaust exterior to the building</td>
<td>Compliance with AV-A-2</td>
</tr>
<tr>
<td>56-7.9(a)</td>
<td>Not to isolate HVAC system except where barriers are required to segregate work areas from non-work areas.</td>
<td>HVAC system assumed to be contaminated and will be subject to remediation</td>
<td>Environmentally controlled decontamination/removal/disposal</td>
</tr>
<tr>
<td>56-7.10</td>
<td>Not to pre-clean the regulated work area/objects</td>
<td>All interior surfaces and objects are assumed contaminated requiring remediation.</td>
<td>All surfaces and objects will be subject to remediation cleaning inside containment. Engineering controls, wet methods, OEC NYS Project Monitor inspection.</td>
</tr>
<tr>
<td>56-7.11(a)</td>
<td>Not to install critical barriers over openings to Gash Area on each floor.</td>
<td>To provide access onto the Gash Area</td>
<td>Air lock system installed exterior to the building on the Gash Area for the passage of personnel and waste.</td>
</tr>
<tr>
<td>56-7.11(b)(2)</td>
<td>No hardwall containment isolation barriers to be installed</td>
<td>FDNY request</td>
<td>Barriers to be constructed of metal studs and poly or low adhesive tape around existing fire doors</td>
</tr>
</tbody>
</table>
March 7, 2008

Mr. Chris Alonge
New York State Department of Labor
Department of Safety & Health
Engineering Services Unit
State Office Building Campus - Bldg. 12
Albany, NY 12240

Re: Petition for Variance
Fiterman Hall - 30 West Broadway
Remediation and Decontamination

Dear Mr. Alonge:

The Dormitory Authority of the State of New York (DASNY), through Airtelk Environmental Corp. (Airtelk, Owner's Environmental Consultant, OEC) as its representative, is requesting a site-specific variance from New York State Department of Labor (NYS DOL, DOL) Industrial Code Rule 56 (ICR56) as amended on March 21, 2007 in order to perform interior and exterior remediation and decontamination to prepare the Fiterman Hall for deconstruction. PAL Environmental Safety Corp. (Contractor) (DOL Asbestos Handling License No. 28675, File No. 99-0690) is the contractor selected to perform the remediation and decontamination. All access to the Building is permitted only under the conditions of the site Health & Safety Plan (HASP). This variance petition is being submitted as Attachment II of Regulatory Submittal Part I(R) – Remediation Operations Work Plan. To view diagrams for the work procedures described in this variance application please refer to the attachments to Regulatory Submittal Part I(R) – Remediation Operations Work Plan. PAL Environmental Safety Corp. requests variance approval to perform the remediation and decontamination of Fiterman Hall by the procedures outlined in the petition.

General

Existing Conditions:

Fiterman Hall is a fifteen-story, three hundred seventy thousand square foot classroom building owned by DASNY and operated prior to 9/11 by City University of New York (CUNY)/Borough of Manhattan Community College (BMCC). The Building was physically damaged by the collapse of 7 World Trade Center, and impacted by the environmental effects of the World Trade Center Collapse.

Remediation and Decontamination Concept:

This project has been designed in response to the existing condition of Fiterman Hall. The overall concept of the remediation operations is for the entire interior of the Building to be placed under one comprehensive negative pressure containment for the removal of non-fixed items, building components, partition walls, ceiling systems and asbestos containing materials. In order to accomplish these removals a Clean Zone will be established on the First Floor to provide an area free of contamination for logistical operations in support of remediation activities. Fine cleaning activities will follow upon completion of removals. In order accomplish the post-removals cleaning, the one containment will then be divided into separate three floor blocks. Each three floor block will be segregated from the neighboring three floor blocks via the installation of environmental barriers on all vertical means of air transfer. Cleaning activities will not begin on any floors until all remediation and abatement activities have been completed on all levels (interior & exterior) throughout the entire building. Barriers dividing the three floor blocks will remain in place until adjacent three floor blocks have been cleaned and cleared. Once the building has passed clearance, the
electrical closets will be decontaminated as the last phase of the remediation project by modified full containment.

Personal Protective Equipment & Personnel Certification

All personnel entering the Building during remediation operations are required to utilize the proper personal protective equipment (PPE) at all times. No personnel will be allowed to enter the Building without proper PPE. The minimum PPE required for remediation operations is as follows:

- Disposable coverall suits with hoods
- Respirators (Half-Face APR, Full Face APR, PAPR)*
- Nitrile gloves
- Safety goggles
- Work boots
- Rubber boots or rubber boot covers
- Hard hats
- Hearing Protection (only if noise will exceed OSHA decibel limits)**

*Any work exterior to the building will be performed utilizing half-face APR. Full face APR will be utilized during the first three days of interior work in order to gather enough data from OSHA personal sampling to perform a negative exposure assessment for asbestos. Respirator type will then be determined based on the results of this assessment.

**Noise in remediation work area will be monitored by the designated site safety manager utilizing a decibel meter.

Personnel performing the remediation and decontamination will be NYS DOL and New York City Department of Environmental Protection (NYC DEP, DEP) certified asbestos handlers. Any activities that require occasional work by specialized trades will be performed by personnel with asbestos awareness certification. Any specialized trades performing work in the Building on a regular basis will have NYS DOL allied trades handler certification.

If changes to the level of PPE are determined, the regulators will be notified and documentation provided in support of the determination.

The personal and waste decontamination facilities referenced in this variance will remain functional for the remediation work only. Any decontamination facilities to be installed during the deconstruction will be detailed in the deconstruction phase variance petition to be submitted under separate cover.

Please note that all items and components defined as porous or non-porous, non-fixed and exposed are the same for all work, on all levels of the Building under the remediation operations.

Remediation work processes will be controlled by the Contractor so that directly after Gaylord boxes are full and sealed they will be moved from the work area, decontaminated and loaded into asbestos waste trailers. All full boxes will be moved out of the work area by the end of every day.

In the event of an emergency where waste trailers are unavailable and boxes of debris will remain in the work area the Contractor will immediately cease generation of further waste. Remaining boxes of debris will be organized in a manner that does not impede egress. The Contractor will notify the FDNY immediately and inform the FDNY's designated representatives of the situation and the location and quantity of all boxes of debris in the building. The Contractor will work diligently to resolve the emergency in an expeditious manner so that waste flow can resume.
All personnel working in the Building will comply with the remediation Health and Safety Plan and the PPE requirements outlined above.

Establishment of the Clean Zone

A Clean Zone will be established on the First Floor of the Building in order to provide interior areas for staging, material storage and project administration. Additionally, the Clean Zone will include the Stairwell C to provide clean access to the upper floors once they are cleared. The Clean Zone will be comprised of all areas of the first Floor with the exception of the Building core (including Elevator Banks A, B, C) and the East Side Lobby. Remediation of the core and Stairwells A & B will not take place at this time because it will be necessary to utilize the elevators and stairwells during remediation operations on the upper floors. The core and Stairwells A & B will be incorporated into the modified full containment of the Basement and all upper interior floors. Modified full containment refers to a containment consisting of negative pressure ventilation equipment and critical barriers installed on windows and openings or penetrations leading to the outdoor environment. In order to leave access for either decontamination or disposal as asbestos containing material at a minimum or in accordance with waste characterization results, plastic will not be installed on interior surfaces and other building components which have been deemed contaminated. The East Side lobby will not be cleaned at this time so that access to the upper floors will be available via the elevators. All remediation activities related to the establishment of the Clean Zone will be performed by NYS DOL and NYC DEP certified asbestos handlers.

The Clean Zone shall include:

- Existing Loading Dock
- Entrance Area at the corner of Greenwich Street and Park Place
- The northeast corner
- The West Broadway Lobby Area
- The southeast corner
- C Stairwell (Floors: One through Fifteen)

Entry to the area will be restricted to allow access only to certified personnel while decontamination activities are in progress on the First Floor Clean Zone. The established decontamination facility at the northwest entrance to the Building will remain in place and will serve as the personal decontamination facility for the remediation of the First Floor Clean Zone. The existing waste decontamination facility outside the building at the entrance to the Loading Dock on the western sidewalk (Greenwich Street) will be utilized during the remediation of the First Floor Clean Zone.

NYS DOL and NYC DEP certified asbestos handlers will install a modified full containment enclosing the First Floor Clean Zone areas listed above. Prior to the installation of critical barriers, NYS DOL and NYC DEP certified asbestos handlers will install negative air filtration equipment, and then will clean the interior surfaces of all windows in the First Floor Clean Zone Work Area by HEPA vacuuming and wet-wiping. Following cleaning, all windows, openings and building penetrations will be sealed with two layers of six-mil poly (poly, poly sheeting or plastic sheeting). It is not anticipated that any selective demolition will be required to complete the installation of critical barriers to completely isolate the work area from the exterior environment. If selective demolition is determined to be necessary to complete the installation of critical barriers, it will be performed at the conclusion of work area preparation, including the establishment of negative pressure and the installation of the remainder of the critical barriers in that area. In order to clean and decontaminate all building surfaces and components, floor, wall and ceiling surfaces will not be plasticized. Environmental barriers constructed of five layers of poly (arranged two layers of 6mil fire retardant poly/one layer 6mil reinforced fire retardant poly / two layers of 6mil fire retardant poly) and metal studs spaced sixteen inches on center with a thirty-six inch wide by eighty inch high emergency cut away panel will be installed on the west side of the elevator lobbies on the First Floor in order to seal them off during the remediation work. Existing structural walls will form the remainder of the boundaries of the
First Floor Clean Zone work area. All stairwells, with the exception of the cleaned and cleared Stairwell C, will be sealed off from the Clean Zone with low adhesive tape around the seams between the doors and the frames from the stair side. Stairwell C will provide a clean area to install electrical panels and provide clean access to the upper floors. The electrical closet adjacent to Stairwell C will be sealed off with a critical barrier consisting of two layers of film poly and duct tape installed over the door of each electrical closet. The shredder area will be established on the north side of the First Floor Clean Zone, (Park Place). This area will be cleaned and decontaminated at this time to allow for the installation of an industrial grade shredding machine. The north side of the First Floor is open to the mezzanine tiers of the two floors above (Second & Third Floors). These openings will be sealed off prior to the commencement of remediation activities on the First Floor Clean Zone. The shredder area will be cleared to its full height. Workers will utilize frame scaffolding to perform the remediation in this area.

Negative pressure ventilation equipment (micro traps) will be installed to establish negative pressure within the First Floor Clean Zone work area and the C Stairwell. Air volume shall be changed four times per hour in the First Floor Clean Zone work area and negative air pressure differential of point zero two inch (0.02") water column maintained. Evidence of negative air pressure shall be demonstrated by manometers in the First Floor Clean Zone work area. One manometer will be installed in the First Floor Clean Zone. The locations of this manometer will be outside the work area at the entrance to the personal decon at the northwest entrance. The hose of this manometer will be run into the work area. The Owner's Environmental Consultant NYS DOL certified Project Monitor will perform regular smoke testing inside the C Stairwell and First Floor Clean Zone work areas to ensure that negative pressure is maintained at all times. The calculation to determine the number of micro traps required to achieve four air changes per hour within the C Stairwell and First Floor Clean Zone work areas is (cubic footage x number of air changes per hour/sixty minutes/capacity of negative air ventilation unit = number of negative air ventilation units required). Additionally, one back up negative air filtration unit will be installed for each five units on a floor. The calculation for the C Stairwell work area is 38,902 x 4 / 60 / 1,500 (2,000 x .75 safety factor) = 1.7. With one back up negative air unit added, the minimum number of micro traps that will be installed in the C Stairwell work area to implement four air volume changes per hour is 3 units. The calculation for the First Floor Clean Zone work areas is: 323,690 x 4 / 60 / 1,500 (2,000 x .75 safety factor) = 14.38. With four back up negative air units added, the minimum number of micro traps that will be installed in these areas to implement four air volume changes per hour is 18 units.

Cleaning and Clearance of Stairwell C

The construction of Stairwell C is of the following materials:

- Painted Masonry Block Walls
- Concrete Floor Landings
- Concrete Deck
- Steel Stairs
- Steel Handrails
- Stand Pipe
- Light Fixtures
- Light Bulbs
- Electrical Conduit

Prior to the cleaning and clearance of the First Floor Clean Zone, PAL will commence the cleaning and clearance of Stairwell C. It is necessary to clear the Stairwell C at the beginning of the remediation operations in order to install electric panels for the remediation work on the upper floors of the Building. All electrical power to the Stairwell C will be shutdown prior to the commencement of Cleaning and Clearance activities. Electrical power will be shutdown in the adjacent electrical closets situated south of the Stairwell C on each floor. A worker and waste decontamination facility will be constructed exterior to the Building on the ground level on the south side in the Gash Area. NYS DOL and NYC DEP certified asbestos handlers will construct an access tunnel from the decontamination facility into the Building via the
Gash Area. The tunnel will extend from floor to deck and will be constructed of three layers of poly and metal studs on each side. The access tunnel will remain in place for the duration of the establishment of the First Floor Clean Zone. The tunnel will meet the Stairwell C at the south side of the First Floor landing. The existing painted sheetrock wall into the Stairwell C will be demolished by NYS DOL and NYC DEP certified asbestos handlers in order to create and opening from the south side. The access tunnel will be fully connected to this opening so that there is no air transfer into the tunnel from the First Floor. In order to connect the tunnel to the opening into Stairwell C it will also be necessary to demolish a masonry block wall that is in the path of the tunnel. Localized negative pressure machines exhausted to the exterior of the Building will be installed and operated as a means of dust control in the area while the demolition of the existing painted sheetrock wall and masonry block wall take place. Prior to commencing the demolition of the painted sheetrock and masonry block walls, the surfaces will be wetted down with amended water to control dust. The painted sheetrock and masonry block walls will not be fully saturated with water during demolition. Water will be applied continuously as a means of dust control prior to and during the removal of painted sheetrock and masonry block walls required to connect the access tunnel to Stairwell C. The painted sheetrock and masonry block walls will be demolished using a combination of manual and mechanical means. Any power tools used to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust ventilation. Debris generated from the painted sheetrock and masonry block walls will be handled and disposed of as asbestos waste or in accordance with any waste characterization results. The doors in Stairwell C will be closed and sealed with one layer of low adhesive tape around the seam between the door and the frame installed on the stair side. All other openings and penetrations into Stairwell C be sealed with two (2) layers of poly. Four (4) air changes with negative pressure differential of point zero two inch (0.02") water column will be established within the Stairwell C and the attached access tunnel. Pressure differential will be demonstrated by a manometer installed on the First Floor level at the entrance to Stairwell C. Make up air will be drawn from the decontamination unit. Negative air units will be installed in the stairwell on the Fifteenth Floor and vented onto the main roof level via the existing doorway.

The southern wall on each landing in Stairwell C is shared with an adjacent electrical closet on each floor. The electrical closets are situated immediately south of the Stairwell C. After the Stairwell C is placed under negative pressure, NYS DOL and NYC DEP certified asbestos handlers will perform the removal of a portion of the masonry block wall to create an approximately six inch (6") by six inch (6") opening on the south side of each landing opening the Stairwell C to the adjacent electrical closets on each floor. Prior to commencing the removal of a portion of the masonry block walls, the surface at each location will be wetted down with amended water to control dust. The portion of masonry block wall on each landing will not be fully saturated with water during demolition. Water will be applied continuously as a means of dust control prior to and during the removal of the portion of masonry block wall required to open the southern walls of Stairwell C to the adjacent electrical closets. The masonry block wall will be demolished using a combination of manual and mechanical means. Any power tools used to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust ventilation. Debris generated from the masonry block walls will be handled and disposed of as asbestos waste or in accordance with any waste characterization results. Prior to access by electricians, NYS DOL and NYC DEP certified asbestos handlers will clean all surfaces and electrical components within the Stairwell C and adjacent electrical closets by HEPA vacuuming to remove residual dust that may be present. After an opening is created between the Stairwell C and the adjacent electrical closets and the openings and components are cleaned in a given location, electricians, holding NYS DOL allied trades handler certification and utilizing the proper PPE as outlined above will mobilize into the Stairwell C via the decon and access tunnel. Electricians holding NYS DOL allied trades handler certification will connect electrical cables to the electrical power panel in each electrical closet. The electrical cable will be run from the power panel through the approximately six inch (6") by six inch (6") opening and into the Stairwell C on the landing of each floor within the stairwell. After an electrical cable is connected to the power panel in the electrical closet on a given floor, NYS DOL and NYC DEP certified asbestos handlers will seal the approximately six inch (6") by six inch (6") openings air tight with two layers of poly and fire stop caulk around the electrical cable leaving a length of cable on each landing in the Stairwell C for the future connection of OFCI electrical panels following clearance in the Stairwell. After the approximately six inch (6") by six inch (6") openings are sealed, NYS DOL and NYC DEP certified asbestos handlers will seal the doors to
the electrical closets from the floors with critical barriers consisting of two layers of 6mil poly attached with duct tape. These critical barriers will isolate the electrical closets from each floor. The electrical closets will remain isolated for the duration of removals, cleaning and clearance on the Basement and upper floors. The cleaning and clearance of the electrical closets will be performed separately as the final activity in the remediation operations after the cleaning and clearance of the Basement and upper floors is completed.

Please note that at this time electrical power into Stairwell C and the adjacent electrical closets shall remain shutdown. Electrical power required to perform the cleaning and clearance of Stairwell C will be obtained from the exterior temporary electrical service and the roof level elevator machine rooms.

All light bulbs and fixtures will be detached. Light bulbs and fixtures will be handled and disposed of as universal waste. All interior surfaces of the stairwell and the attached access tunnel will be HEPA vacuumed and wet wiped to remove any residual dust and debris. The installed electrical cables on each landing will also be cleaned at this time via wet wiping. All used cleaning materials generated during the remediation in the C Stairwell and access tunnel will be double bagged, properly labeled, processed through the waste decontamination facility and disposed of as asbestos waste or in accordance with any waste characterization results. Please note that there are no asbestos containing materials present within Stairwell C. Wall, ceiling and floor surfaces will remain in place within the Stairwell C once remediation activities have been completed. After cleaning activities are completed one twelve hour settling/drying period will then be observed in order to allow all surfaces to dry. At the end of this settling/drying period, the contractor NYS DOL and NYC DEP certified asbestos supervisor will conduct a visual inspection of the work area. Once the work area conditions are acceptable to the contractor NYS DOL and NYC DEP certified asbestos supervisor the Owner's Environmental Consultant NYS DOL certified project monitor will perform a visual inspection of the C Stairwell work area. After the area has passed visual inspection by the Owner's Environmental Consultant NYS DOL certified project monitor, the regulators will be contacted to perform a regulatory visual inspection. Twenty-four (24) hour notice will be provided prior to the regulatory visual inspection. After the Stairwell C work area has passed regulatory visual inspection, aggressive clearance air sampling will be performed by the Owner's Environmental Consultant NYS DOL certified air sampling technician. Prior to sampling, pre-sampling agitation will be performed by the OEC NYS DOL certified air sampling technician. Before starting the air sampling pumps, the exhaust of forced air equipment (i.e., leaf blowers) will be directed at all walls, ceilings, floors, ledges, and other surfaces in the room(s). This will continue for at least five (5) minutes per 1000 sq ft of floor space The C Stairwell work area is 3,705 square feet. Pre-sampling agitation will be performed for 20 minutes prior to the activation of sampling pumps. Ongoing agitation will be maintained during sampling. At least a 20-inch fan will be placed in the center of each area. One fan per 10,000 cubic feet of room space will be used. The fan will be operated on slow speed and pointed toward the ceiling. The total cubic feet of the Stairwell C work area is 38,902. In order to maintain ongoing agitation, 4 20-inch box fans will be installed in this work area.

Sampling will be performed as follows: 1 TEM asbestos air sample per floor or a minimum of 10 TEM asbestos air samples will be run as Inside Work Area (IWA) clearance samples for the entire C Stairwell. Sample locations will be evenly distributed vertically through the stairwell. As the entire building is contaminated at this point in the project, decon samples, critical barrier samples and negative air exhaust samples will be used for Outside Work Area (OWA) clearance samples. The work areas will be considered cleared and can be removed from containment when area air measurements, performed using aggressive air sampling procedures which re-suspend residual settled dusts, are below the seventy structures per square millimeter TEM standard for asbestos in every sample.

Once successful clearance is achieved the negative air machines in Stairwell C will be shutdown. The doors to Stairwell C will remain closed and sealed with duct tape from the stair side. After decontaminated floors have been cleared the tape on the doors into Stairwell C will be removed to provide clean access to clean areas. All doors into Stairwell C from cleared floors will remain closed.

After the Stairwell C has been cleared GFCI equipped electrical panels will be installed on each floor level within the stairwell by licensed electricians holding NYS DOL allied trades handler certification. Power
will be restored to the electrical closets in order to provide power via the GFCI electrical panels to the upper floor levels for performed during the remediation of the upper floors.

The following list of items will remain in Stairwell C after cleaning and clearance has been completed:

- Steel Structural
- Metal Hangers and Attachment Mechanisms
- Steel Stairs
- Steel Handrails
- Stand Pipe
- Concrete Deck
- Concrete Slab
- Masonry Walls
- Installed Electrical Cable
- Installed GFCI Electrical Panels

Please note that all masonry surfaces that will remain will have been cleaned by HEPA vacuuming and wet wiping during remediation operations. These surfaces will have passed visual inspection and final air clearance and been encapsulated after receiving satisfactory clearance air sample results.

First Floor Clean Zone Removals (Non-Fixed Items)

All non-fixed items will be removed from the First Floor Clean Zone work area. All non-porous items, including furniture and construction materials will be transported to the wash room of the waste decontamination facility. Asbestos handlers will use wet washing methods to clean all non-porous, non-fixed items. Once these items have been cleaned of all residual dust and debris and visually inspected by the Owner’s Environmental Consultant NYS DOL certified project monitor, they will be transported out of the waste decontamination facility for disposal as conventional waste. Conventional waste shall refer to any non-asbestos containing non-porous material that is free of any dust or debris. During the First Floor Clean Zone remediation activities, all conventional waste will be live-loaded into compactor trucks or loaded into conventional waste dumpsters on the Greenwich Street side of the Building. Below is a list of non-fixed items that are non-porous and that are suitable to be cleaned and disposed of as conventional waste:

- Metal Furniture (chairs, filing cabinets, desks)
- Unused Non-Porous Construction Materials (duct work, metal items, piping, rebar)

Any non-porous items with inaccessible voids shall be wrapped in two layers of poly, properly labeled and processed through the waste decontamination facility for disposal as asbestos waste or in accordance with any waste characterization results. Non-porous items with voids that are capable of being opened for access to perform cleaning may be opened by manual and/or mechanical means and cleaned by HEPA vacuuming and wet-wiping. Any power tools used to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust filtration. Opened and decontaminated non-porous items will be visually inspected by the Owner’s Environment Consultant NYS DOL certified project monitor. Once visual inspection is passed these items will be disposed of as conventional waste. If attempts to clean the above listed non-fixed items are not successful or possible due to compromised condition or inaccessible void spaces within the items/components, they will be wrapped in two layers of poly, properly labeled, processed through the waste decontamination facility and disposed of as asbestos waste or in accordance with waste characterization results.

Any non-fixed items that are porous or otherwise incapable of being cleaned will be wrapped in two layers of poly, properly labeled, processed through the waste decontamination facility and disposed of as asbestos waste or in accordance with any waste characterization results. During the First Floor Clean Zone remediation, asbestos waste will be live-loaded into waste trucks on the Greenwich Street side of the Building. All trucks transporting asbestos waste will have valid permits to transport this material. Below is
a list of non-fixed items that will be wrapped and disposed of as asbestos waste or in accordance with any waste characterization results:

- Carpeting
- Chalk Board
- Unused Porous Construction Materials (Sheetrock, Floor Tile)
- Artwork
- Wooden Furniture
- Raised Flooring
- Cubicle Partitions
- Construction Equipment (Hand Tools, Power Tools)
- Radiator covers (with applied ACM mastic)

First Floor Clean Zone Removals (Exposed Building Components)

Any exposed building components will be manually or mechanically dismantled and detached. Water will be applied continuously as a means of dust control prior to and during the removal of interior sheetrock walls, ceiling systems and other non-asbestos materials that do not absorb water. Any power tools used to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust ventilation. Once detached, building components, with the exception of light fixtures, will be transported to the wash room of the waste decontamination facility where they will be either steam cleaned or wet washed by NYS DOL and NYC DEP certified asbestos handlers. Below is a list of items that are capable of being cleaned:

- Duct Work
- Doors
- Radiator Covers (no ACM mastic present)

Once clean of all residual dust and debris, these components will be transported out of the waste decontamination facility and live-loaded into compactor trucks or loaded into conventional waste dumpsters for disposal as conventional waste. If attempts to clean these building components are not successful, they will be wrapped in two layers of poly, properly labeled, processed through the waste decontamination facility and disposed of as asbestos waste or in accordance with any waste characterization results. Additionally, please note that it is not possible to clean the following items:

- Radiator Coil
- Electrical Conduit
- Piping
- Any wood doors and/or wood radiator covers.

These items will be manually or mechanically detached, wrapped in two layers of poly, properly labeled, processed through the waste decontamination facility and disposed of as asbestos waste or in accordance with any waste characterization results. If found in the building during remediation operations these items will be handled and disposed of as asbestos waste at a minimum and depending on any final waste characterization. Any porous materials existing on exposed building components will be removed by manual methods, loaded into plasticized Gaylord boxes, sealed, wrapped in poly, properly labeled and processed through a waste decontamination facility for disposal as asbestos containing waste or in accordance with any waste characterization results. Any power tools used to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust ventilation.

An inspection and inventory of existing light ballasts has been performed. Potting material in some ballasts throughout the Building have tested positive for PCBs. As a precautionary measure, all ballasts will be disposed of as PCB waste. Detached ballasts will be cleaned of exterior dust by HEPA vacuuming and wet wiping and containerized in drums for proper disposal as PCB Waste. Drums for ballast disposal will be
fifty-five gallon metal drums. Full drums will be sealed and processed through the waste decontamination facility. Once they have been decontaminated drums will be removed from the Building to the exterior waste storage facility. Within two weeks or when a full truckload of PCB Waste has accumulated, whichever occurs first, the drums of ballasts will be live loaded onto trucks for disposal. All vehicles transporting PCB Waste will have valid permits to transport these items. Fluorescent light bulbs are considered Universal Waste. Bulbs will be disposed of as such in accordance with all applicable regulations. Bulbs will be removed from fixtures and cleaned of all surface dust via wet-wiping and HEPA vacuuming. Cleaned bulbs will be containerized in drums for proper disposal as Universal Waste. Full drums will be sealed and processed through the waste decontamination facility. Once they have been decontaminated drums will be removed from the Building to the existing exterior waste storage facility. When a full truckload of Universal Waste has accumulated the drums of bulbs will be live loaded onto trucks for disposal. All vehicles transporting Universal Waste will have valid permits to transport these items.

All exposed building components in the First Floor Clean Zone work area will be removed in accordance with this procedure leaving interior walls and ceiling systems remaining in place.

First Floor Clean Zone Removals (Interior Walls and Ceiling Systems)

Cardboard Gaylord boxes will be brought to the First Floor Clean Zone Work Area. The boxes will range from a half cubic yard to one and a half cubic yards in size. Prior to use, each Gaylord box will be made leak tight by lining the interior with either fitted plastic inserts or two layers of poly. Gaylord boxes will be sealed by securing fitted lids into place on each box with duct tape. The exterior surface of full and sealed Gaylord boxes will be wrapped in two layers of poly or fitted plastic sleeves to render the outer surface cleanable. The interior walls throughout the Building are composed of sheetrock that has painted finished surfaces. The ceiling systems are consist of tiles, made from non-asbestos composite materials, suspended from metal grid systems that are attached to the decking. The sheetrock and ceiling tiles are porous materials. The surface of interior walls and ceilings will be HEPA vacuumed and wet wiped to remove all residual dust and debris. The painted sheetrock walls and ceiling tiles throughout the Building are not asbestos containing. Please note that it is not possible to fully saturate painted sheetrock, ceiling systems or other materials that do not absorb water. These items will not be fully saturated with water during removal. Water will be applied continuously as a means of dust control prior to and during the removal of interior sheetrock walls, ceiling systems and other non-asbestos materials that do not absorb water. Sheetrock walls will be demolished and ceiling system components will be disassembled using a combination of manual and mechanical means. Shaft walls between the First Floor and Basement will be opened at this time by manual and mechanical means. Manifolds constructed of ply-wood with two layers of 6mil poly attached to each side will be installed horizontally in the shafts between the First Floor and Basement where negative air machine exhaust hoses will be run from the Basement to the building exterior. The manifold will have ports for the hoses to be run through. Refer to the section entitled “Preparation of the Basement and Upper Levels for Remediation and Decontamination” for details regarding the installation of engineering controls in the Basement. Sheetrock and ceiling system debris will be loaded into plasticized Gaylord boxes. The exterior surface of full and sealed Gaylord boxes will be wrapped in two layers of poly to render the outer surface cleanable. Full, sealed and plasticized boxes will be properly labeled, processed through the waste decontamination facility and disposed of as asbestos waste or in accordance with any waste characterization results. Metal studs and ceiling grid will be separated from the sheetrock and ceiling tile debris. Studs will be stacked and wrapped in two layers of poly. Wrapped studs will be properly labeled, processed through the waste decontamination facility and disposed of as asbestos waste or in accordance with any waste characterization results. Ceiling grid will be transported to the waste decontamination facility wash room where it will be cleaned by wet washing. Once clean of all residual dust and debris and inspected by the Owner’s Environmental Consultant Industrial Hygienist/NYS DOL certified Inspector/NYS DOL certified Project Monitor, ceiling grid will be transported out of the waste decontamination facility and loaded into compactor trucks or conventional waste dumpsters for disposal as conventional waste. If attempts to clean ceiling grid are not successful, it will be wrapped in two layers of poly, properly labeled, processed through the waste decontamination facility and disposed of as asbestos waste or in accordance with any waste characterization results. Any building components existing behind
interior walls or within ceiling systems, such as duct work or sprinkler pipes, will be manually or mechanically dismantled and detached. Any porous materials existing within interior walls and ceiling systems will be removed by manual methods, loaded into plasticized Gaylord boxes, sealed, wrapped in poly or plastic sleeves, properly labeled and processed through a waste decontamination facility for disposal as asbestos containing waste or in accordance with any waste characterization results. Any power tools used to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust ventilation. Detached components and their corresponding supports will be transported to the waste decontamination facility wash room where they will be cleaned of residual dust and debris by wet washing. Once cleaned these remaining components will be transported out of the decontamination facility and loaded into compactor trucks or conventional waste dumpsters for disposal as conventional waste. Below is a list of building components that are capable of being cleaned and disposed of as conventional waste:

- Duct Work
- Ceiling Grid
- Doors

Please note that if attempts to clean any items or components are not successful, the items will be wrapped in two layers of poly, properly labeled, processed through the waste decontamination facility and disposed of as asbestos waste at a minimum or in accordance with waste characterization results. This applies to all materials listed above. Additionally, please note that it is not possible to clean the following items:

- Radiator Coil
- Electrical Conduit
- Piping
- Any Wood Doors and/or Wood Radiator Covers

These items will be manually or mechanically detached, wrapped in two layers of poly, properly labeled, processed through the waste decontamination facility and disposed of as asbestos waste or in accordance with any waste characterization results. If found in the building during remediation operations these items will be handled and disposed as asbestos waste at a minimum and depending on any final waste characterization. Any power tools used to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust ventilation.

To the extent possible, workers will not disturb asbestos containing materials during the removal of non-ACM systems. If it becomes necessary to remove ACM to access non-ACM systems, the ACM removal will be performed as outlined below prior to removal of the affected non-ACM systems.

**First Floor Clean Zone Removals (Asbestos Containing Materials)**

There is assumed asbestos containing floor tile present in various locations in the First Floor Clean Zone and minor quantities of asbestos containing pipe insulation in various locations around this level. There is a minor quantity of window caulking in the First Floor Clean Zone. There is also non-friable ACM tar on the perimeter of the wall in the First Floor Clean Zone. Once all non-fixed items, interior walls, ceiling systems and building components have been removed, abatement activities will take place. All critical and environmental barriers previously installed will remain in place. The First Floor Clean Zone work area will be pre-cleaned by HEPA vacuuming and wet wiping to remove any residual dust and debris that may be present. In areas where both friable and non-friable ACM are present within the same, immediate working area, all of the friable ACM in that area will be removed first. Following the removal of the friable ACM, the immediate working area will be cleaned by HEPA vacuuming and wet wiping. After this intermediate cleaning, the non-friable ACM in that immediate working area will be removed.

Any power tools used to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust ventilation. NYS DOL and NYC DEP certified asbestos handlers will thoroughly wet down the tile and pipe insulation at each location on the First Floor Clean Zone where it
exists with amended water using airless and/or pump sprayers. Removal of asbestos pipe insulation will be performed by manual methods utilizing hand held cutting tools. Removed pipe insulation will be placed into plasticized Gaylord boxes directly upon detachment from the substrate. Removal of the assumed asbestos tile will be performed by manual methods utilizing hand held scraping tools. Removed tiles will be placed into plasticized Gaylord boxes upon detachment from the floor surface. Removal of caulking will be performed by manual means with a poly drop cloth below the affected surface.

Once full, each box will be sealed by placing a fitted lid onto it and securing the lid with duct tape. The exterior surface of full and sealed Gaylord boxes will be wrapped in two layers of poly or fitted plastic sleeves to render the outer surfaces cleanable. Full, sealed and plasticized boxes will be properly labeled, processed through the waste decontamination facility and disposed of as asbestos waste.

Kneewall tar will be left in place for removal during the structural deconstruction phase. The procedure for the removal of kneewall tar is outlined in Regulatory Submittal Part I(D) - Deconstruction Work Plan. Aside from this non-friable kneewall tar there will be no other asbestos containing materials remaining in the First Floor Clean Zone after the completion of asbestos abatement in this area.

Cleaning and Clearance of the First Floor Clean Zone

All surfaces of the First Floor Clean Zone work area, including environmental barriers, will be subject to HEPA vacuuming and wet wiping upon completion of asbestos abatement. The exterior surface of the access tunnel constructed to Stairwell C will be cleaned by HEPA vacuuming and wet-wiping at this time. The access tunnel will remain in place during the establishment of the First Floor Clean Zone in order to maintain clean access to Stairwell C. At the end of this settling period, the contractor NYS DOL and NYC DEP certified asbestos supervisor will conduct a visual inspection of the work area. Once the work area conditions are acceptable to the contractor NYS DOL and NYC DEP certified asbestos supervisor the Owner's Environmental Consultant NYS DOL certified project monitor will perform a visual inspection of the First Floor Clean Zone work area. The Owner's Environmental Consultant NYS DOL certified project monitor will make a determination as to whether or not the area passes visual inspection. Once the work area has passed the OEC NYS DOL certified project monitor visual inspection, an OEC representative will contact the regulators to schedule a regulatory visual inspection of the work area. Twenty-four (24) hour notice shall be provided to the regulators prior to the date of inspection. After the area has passed regulatory visual inspection, aggressive clearance air sampling will be performed by the Owner's Environmental Consultant NYS DOL certified air sampling technician.

Aggressive Sampling Techniques:

The following aggressive sampling techniques will be utilized for clearance of every work area:

Pre-Sampling Agitation: Before starting the air sampling pumps, the exhaust of forced air equipment (i.e., leaf blowers) will be directed at all walls, ceilings, floors, ledges, and other surfaces in the room(s). This will continue for at least five (5) minutes per 1,000 sf of floor space. The First Floor Clean Zone work area is 23,120 square feet. Pre-sampling agitation will be performed for 120 minutes prior to the activation of sampling pumps.

Ongoing Agitation: At least a 20-inch fan will be placed in the center of each room. One fan per 10,000 cubic feet of room space will be used. The fan will be operated on slow speed and pointed toward the ceiling. The First Floor Clean Zone work area is 323,690 cubic feet in volume. The number of fans to be installed to maintain ongoing agitation is 33.

Begin Sampling: The sampling pumps will then be turned on.

End Sampling: When the sampling has been completed, the sampling pumps will be turned off first, followed by the fan(s).
After the area has been cleared, all surfaces will be encapsulated. Once successful clearance is achieved the modified full containment on the First Floor Clean Zone will be broken down leaving in place the barrier walls isolating the Clean Zone from the Elevator Banks. At this time the Shredder Area will be sealed off from the rest of the First Floor Clean Zone with environmental barriers consisting of three layers of poly with metal studs and airlocks as it will be incorporated into the containment of the upper floors.

**Clean Zone Clearance Criteria**

The clearance criteria to be applied to the First Floor Clean Zone work area will consist of visual inspection by the Contractor’s NYS DOL and NYC DEP certified asbestos supervisor, visual inspection by the Owner’s Environmental Consultant NYS DOL certified project monitor and visual inspection by the regulators and aggressive air sampling for asbestos as follows:

After visual inspection of the First Floor Clean Zone by the Contractor NYS DOL and NYC DEP certified asbestos supervisor the Owner’s Environmental Consultant NYS DOL certified project monitor will be contacted to perform OEC visual inspection. Upon notification by the Contractor that a Remediation Phase work area is clean and ready for visual inspection, the Owner’s Environmental Consultant NYS DOL certified project monitor will conduct a thorough visual inspection of all surfaces and areas of the subject work area. If the visual inspection reveals that dust and debris remain, these specific areas will be identified by marking and logged for future reference. The Contractor will be required to re-clean the identified areas. When work area conditions are acceptable to the Owner’s Environmental Consultant NYS DOL certified project monitor, the regulators will be contacted to perform visual inspection. Twenty-four (24) hour notice will be provided to the regulators when a work area is ready for regulatory visual inspection. Once the work area has passed regulatory visual inspection then aggressive air sampling will be conducted the OEC NYS DOL certified air sampling technician.

The work areas will be considered cleared and can be removed from containment when area air measurements, performed using aggressive air sampling procedures which re-suspend residual settled dusts, are below the seventy structures per square millimeter TEM standard for asbestos in every sample. Air testing for asbestos shall be in accordance with applicable regulations and variances for this project. If any one sample is above the limit the clearance of the work area will be considered incomplete, and the affected areas shall be re-cleaned and re-tested until the airborne concentrations are at or below the levels noted for asbestos.

Clearance sampling will be conducted in the First Floor Clean Zone work area as follows:

Five inside work area (IWA) asbestos samples will be collected from the First Floor Clean Zone work area. A minimum of two out of the five IWA samples will be collected in the vicinity of stairwells inside work area. Five outside work area (OWA) asbestos samples will be collected for the First Floor Clean Zone work area from areas outside the work area (ground level building exterior).

All samples will be collected using aggressive sampling techniques in compliance with applicable clearance sampling criteria. All clearance samples for the First Floor Clean Zone work area will be run simultaneously.

**First Floor Clean Zone and Stairwell C Post Clearance Activities**

With clearance achieved in the Clean Zone it will not be necessary to utilize a decontamination facility or PPE to access this area. After the remediation and abatement work on the First Floor Clean Zone and C Stairwell is completed and cleared, the decontamination facility at the northwest corner of the First Floor Clean Zone and the waste decontamination facility at the existing loading dock will be dismantled. The waste decontamination facility at the existing loading dock will be dismantled when the Primary Waste Decontamination Facility is fully operational. The access tunnel connected to Stairwell C will also be broken down at this time. Two layers of poly on the First Floor Clean Zone side of the five layer environmental barriers segregating the First Floor Clean Zone from the East Side elevator lobbies will be
removed at this time leaving environmental barriers consisting of one layer of 6mil reinforced fire retardant poly on the First Floor Clean Zone side and two layers of 6mil fire retardant poly and metal studs on the elevator lobby side, in place to maintain segregation between the First Floor Clean Zone and the elevator lobbies. These environmental barriers sealing off the elevator lobbies and the environmental barrier on the electrical closet will remain in place. The elevator barriers will function as containment barriers for the interior remediation on Floors Two through Fifteen.

At the completion of Remediation Operations on the First Floor Clean Zone, the following items will be remaining:

- Steel Structural
- Metal Hangers and Attachment Mechanisms
- Masonry Walls
- Concrete Deck
- Concrete Floor Slab
- Glass Window Wall
- Steel & Masonry Columns
- Cables

Please note that all masonry surfaces that will remain will have been cleaned by HEPA vacuuming and wet wiping during remediation operations. These surfaces will have passed visual inspection and final air clearance and been encapsulated after receiving satisfactory clearance air sample results.

Once cleared, the northeast corner (Park Place and West Broadway) of the First Floor Clean Zone will be used as the Project Command Center. All documents, permitting and project records will be stored in this area. Administrative and communications equipment will be located in the Command Center. This area will serve as a security checkpoint. All personnel entering the Building must first check in at the Command Center and present valid identification and licensing (if necessary) before being granted access. The southeast corner (West Broadway and Barclay Street) will serve as a staging area. The north side of the First Floor Clean Zone will become the Shredder Area. A waste storage facility will be established on the outside of the building on the northeast side of the site. The waste storage facility will be constructed of plywood with wood studs and will be equipped with lockable doors. The waste storage facility will be segmented into chambers with solid wall barriers in order to store different classifications of waste individually prior to removal from the site. Different classifications of waste will not be stored together in the same chamber. Prior to loading any waste into the waste storage facility, the wall and floor surfaces of all chambers will be plasticized and made water tight with two layers of poly. All waste moved to the waste storage facility will first be fully decontaminated.

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**Restoration of Electrical Power (In the Event of Power Failure During Remediation)**

In the event of a power failure or other electrical problem where it becomes necessary to perform repairs within the electrical closets adjacent to Stairwell C, all work in the affected areas will be stopped. Remediation work will be prohibited in the affected areas until the electrical repairs are complete and the closets are re-isolated from the work area. The power to the affected closet or closets will be shut down from the Basement level electrical control switch. Power to a floor with the affected electrical closet will be provided from an upper or lower floor on which electrical power will remain active by running electric cables or extension cords down or up the C Stairwell and onto the affected floor. After electrical power has been shut down to the affected electrical closet or closets, NYS DOL and NYC DEP certified asbestos handlers will remove the critical barrier from the door of the affected closet or closets and open the door to the closet or closets. Prior to access by electricians, NYS DOL and NYC DEP certified asbestos handlers will clean all surfaces and electrical components within the electrical closets by HEPA vacuuming to
remove residual dust that may be present. Please note that at this time both the affected electrical closet and the floor will be in a contaminated condition. Once clearance is achieved in the interior work area air locks will be installed at the entrances to the electrical closets so the closets can be accessed from cleared areas in the event electrical repair work is required. HEPA vacuums for negative air will be installed in the closets during any post-clearance access. Licensed electricians holding NYS DOL allied trades handler certification will then enter the affected closet or closets and perform the necessary electrical repairs. After the electrical repairs are complete, NYS DOL and NYCDP certified asbestos handlers will close the door of the affected closet and install a critical barrier of two layers of 6mil poly attached with duct tape over the door, re-isolating the affected electrical closet or closets from the floor. Once the critical barrier is installed on the affected electrical closet or closets, power will be restored to that electrical closet or closets from the Basement level electrical control switch. After power is restored to the affected closet or closets, the power to the floor will be provided from the repaired and restored electrical closet or closets.

Preparation of the Basement and Upper Levels for Remediation and Decontamination

Upper Level and Basement Access

This section details how access to the interior upper levels and Basement Level shall be obtained during the Remediation Operations. In order to maintain access to the upper floors and Basement Level via the elevators, the East Side Lobby and Elevator Banks A, B and C will not be decontaminated as part of the establishment of the First Floor Clean Zone. This area will be separated from the Clean Zone by structural walls and the environmental barriers installed to establish the modified full containment of the Clean Zone work area. All openings between the Clean Zone work area and the East Side Lobby/Elevator Banks will be sealed air tight. A personal decontamination facility will be constructed under the overhang at the south entrance to the East Side Lobby on West Broadway. This decontamination facility will be designated as the Primary Personal Decontamination Facility. A waste decontamination facility will be constructed at the northern entrance to the East Side Lobby. Access to the upper levels and Basement Level will be established simultaneously with the commencement of remediation operations on the First Floor Clean Zone. Please note that there is an existing elevator shaft adjacent to the high rise cars. This shaft runs from the Second Floor to the Fifteenth Floor. An elevator has not been installed in this shaft. PAL will install a construction hoist in this shaft in order to provide an additional means to move materials, equipment and waste from the upper levels to the Second Floor. The hoist will be properly equipped to securely stop at every level between the Second and Fifteenth Floors. Throughout this Work Plan this hoist will be referred to as the construction hoist. Additionally, a secondary personal decontamination facility will be installed in the First Floor Clean Zone at the west side stairwell that runs between the First Floor and the Basement Level only. The purpose of this secondary decontamination facility is to provide an additional means of access for personnel to the Basement Level.

Establishment of Secondary Loading Dock

In order to implement the most efficient waste removal procedure it is necessary to establish a secondary loading dock. The secondary loading dock will be created in the existing lounge area immediately north of the existing loading dock on the Greenwich Street side of the Building. The secondary loading dock area is included within the First Floor Clean Zone and will have been cleaned with the rest of the First Floor Clean Zone, passed inspections and final clearance prior to the establishment of the Secondary Loading Dock. Once the Clean Zone is established, PAL will remove part of the curtain wall to open the lounge area to the street. There are no exterior ACMs present at the west side curtain wall. This area of the Building is double height and was previously a loading dock when the Building was built. The lounge area will require only the removal of the curtain wall to convert it back to a loading dock. Both the existing loading dock and the secondary loading dock will be located inside the Clean Zone. The existing loading dock will be used as the location for one hundred yard asbestos waste trailers that will be parked on Site for the disposal of waste as asbestos during the remediation and abatement of the Basement Level and the upper floors (Two through
Fifteen). The secondary loading dock will be used as a docking bay for compactor trucks and conventional waste dumpsters that will be loaded with conventional waste during the remediation of the Basement Level and upper floors (Two through Fifteen). Please note that access to the loading docks from outside will only be allowed once the First Floor Clean Zone has been cleared. All vehicles entering the loading docks will be entering clean areas that will be free of all environmental contaminants and documented in clearance testing results performed by the Owner’s Environmental Consultant NYS DOL certified Air Sampling Technician. Loading docks will be equipped with chain link fence gates at the perimeter of the high bridge sidewalk shed on the Greenwich Street side of the Building.

Establishment of Interior Containment (Basement Level & Second Floor through Fifteenth Floor)

The containment of the Basement Level and upper floors will take place simultaneously with the establishment of the Clean Zone. All interior areas on the Basement Level and upper floors, including Stairwells A & B, will be incorporated into one modified full containment.

The construction of Stairwells A & B are of the following materials:

- Painted Masonry Block Walls
- Concrete Floor Landings
- Concrete Deck
- Steel Stairs
- Steel Handrails
- Stand Pipe
- Light Fixtures
- Light Bulbs
- Electrical Conduit

Modified full containment refers to a containment consisting of negative pressure ventilation equipment and critical barriers installed on windows and openings or penetrations leading to the outdoor environment. Plastic will not be installed on interior surfaces and other building components which have been deemed contaminated and will either be decontaminated or disposed of as asbestos waste at a minimum or in accordance with waste characterization results. Negative air filtration equipment will be installed and functional prior to the start of any work area preparation. It is not anticipated that any selective demolition will be required to complete the installation of critical barriers to completely isolate the work area from the exterior environment. If selective demolition is determined to be necessary to complete the installation of critical barriers, it will be performed at the conclusion of work area preparation, including the establishment of negative pressure and the installation of the remainder of the critical barriers in that area.

The barrier walls erected on the west side of the elevator lobbies during the establishment of the First Floor Clean Zone containment will remain in place and function to isolate the East Side Lobby, which shall serve as the means of access to the Basement Level and upper floors. The Primary Personal Decontamination Facility installed at the south entrance to the East Side lobby will be used during the Basement Level and upper floors containment installation until the First Floor Clean Zone and Shredder Area have been established. The waste decontamination facility installed at the north entrance to the East Side lobby will be utilized during the Basement Level and upper floors containment installation until the First Floor Clean Zone and Shredder Area have been established. These decontamination facilities will remain in place until the Clean Zone is established, at which time a waste decontamination facility for the Basement Level and upper level access will be established within the Building. The Primary Personal Decontamination Facility will remain in place for the duration of work on the upper floors.

Negative pressure ventilation equipment (micro traps) will be installed to establish negative pressure within the Basement Level and Floors 2 through 15 work area. Air volume shall be changed four (4) times per
hour in the work area and negative air pressure differential of point zero two inch (0.02") water column maintained. Evidence of negative air pressure shall be demonstrated by manometers in the Basement Level and Floors 2 through 15 work area. For the Basement Level one manometer will be installed outside the work area at the Secondary Personal Decontamination Facility located in the First Floor Clean Zone at the west side basement stairwell. The hose of the manometer will be run down the basement stairwell into the work area. For the upper levels work area, manometers will be installed inside the cleaned and cleared Stairwell C. The hose of each manometer will be run into the work area. The Owner's Environmental Consultant NYS DOL certified project monitor will perform regular smoke testing inside the containment to ensure that negative pressure is maintained at all times. The calculation to determine the number of micro traps required to achieve four air changes per hour on each floor is (cubic footage x number of air changes per hour/sixty minutes/capacity of negative air ventilation unit = number of negative air ventilation units required). Please note that all calculations will be rounded up. Additionally, one back up negative air filtration unit will be installed for every five units required on a floor. Below is a list of the calculations for each floor as determined by size and the minimum number of negative air units to be installed on each floor:

**Basement:** 317,904 x 4 / 60 / 1,500 (2,000 x .75 safety factor) = 14.13 + 3 back up units = 18 units. ICR 56 Applicable Variance AV-A-2 will be followed for the venting of negative air units from the Basement to the building exterior where exhaust hose lengths exceed twenty-five feet (25’) in length.

**Shredder Area:** 55,200 x 8 / 60 / 1,500 (2,000 x .75 safety factor) = 4.9 + 1 back up units = 6 units

Second Floor through Fifth Floor: 317,904 x 4 / 60 / 1,500 (2,000 x .75 safety factor) =14.13 + 3 back up units = 18 units

Sixth Floor through Fourteenth Floor: 252,732 x 4 / 60 / 1,500 (2,000 x .75 safety factor) =11.24 + 3 back up units = 15 units

**Fifteenth Floor:** 210,216 x 4 / 60 / 1,500 (2,000 x .75 safety factor) = 9.34 + 2 back up units = 12 units

**Elevator Machine Room:** 18,144 x 8 / 60 / 1,500 (2,000 x .75 safety factor) = 1.61 + 1 back up unit = 3 units

In the Basement Level, negative air ventilation units will be installed around the perimeter of the floor. The units will be vented outside of the work area by running exhaust hoses up shaftways to the first floor through the manifolds installed in the shafts during the establishment of the First Floor Clean Zone. The basement is part of the modified full containment of the entire building interior and the shafts where exhaust hoses will be run are in the First Floor Clean Zone. The manifolds installed in the shafts will function as environmental barriers to prevent any contamination from migrating from the work area to the First Floor Clean Zone. The manifolds will be installed leaving enough room in these shafts to allow for cleaning of the shaft surfaces and the manifold surfaces by HEPA vacuuming and wet wiping around the exhaust hoses. For details regarding the cleaning of shafts please refer to the below section regarding ventilation shafts. In the event that negative air exhaust hoses exceed twenty-five feet (25’) in length, metal expander attachments shall be installed on the affected negative air machine exhaust vents to increase the diameter of the exhaust vents to correspond with the length of the exhaust hose required to reach the building exterior. Negative air unit exhaust will be expanded two inches for every successive twenty-five feet (25’) in length above the first twenty-five feet (25’). Negative air machine exhaust expansion will be performed in compliance with ICR56 Applicable Variance AV-A-2. In locations where exhaust hoses pass through cleared areas daily abatement barrier air sampling will be collected by the Owner’s Environmental Consultant NYS DOL certified air sampling technician. On the upper floors, negative air ventilation units will be installed at the perimeter of the Building on the east side of each floor. The units will be vented at the northeast, east and southeast sides of each floor. Negative air ventilation units will not be exhausted within fifty (50) feet of other building air intakes or subway vents or grates. Manifolds will be installed over two windows on the northeast, east and southeast sides of a floor. The windows will be directly adjacent to the northeast, east and southeast side stair towers on the exterior scaffolding system in order to provide access to the vent locations for air monitoring to be performed by the Owner’s Environmental Consultant. The Owner’s Environmental Consultant NYS DOL certified air sampling technician will run one air sample at each manifold exhaust location. When all negative air units in the work area are in place, air intakes will be installed to provide adequate make up air.
The Basement Level will draw make up air from the Primary Personal Decontamination Facility and the Secondary Decontamination Facility. Air intakes will not be required on the Basement Level to provide make up air. A minimum of two air intakes will be installed on the west side of each upper floor to provide additional make up air. Negative air machines will be used to force make up air through the air intakes and into the work area. Negative pressure units will be installed directly adjacent to the make up air intakes. Manifolds will be installed over the intake side of the negative pressure units to allow for the attachment of non-collapsible flexible hose to this side of the units. Non-collapsible flexible hose will be attached to the intake manifold on the adjacent negative air unit. The negative air units providing forced make up air to the work area will be equipped with HEPA filters with the filter flow direction facing out of the work area so that in the event that the work area becomes positively pressured due to negative pressure system shut down any air pushed out of the work area will be filtered by passing through the forced make up air negative pressure units before transfer to the exterior environment. Once the negative pressure system is in place the negative air units will be activated. Once the negative pressure system is activated, the air intake assemblies will be activated. Contractor NYS DOL and NYC DEP certified asbestos supervisor will regularly inspect the filters on the air intake assemblies and change them as needed. If HEPA filters need to be replaced, remediation activities will be prohibited on the floors while replacement is performed. Negative air units will continue to operate during filter replacement. HEPA filters will be replaced from the inside of the building. Remediation activities will only resume on that floor when the filter replacement is completed.

The modified containment of the Basement Level and upper floors shall be established as follows:

- All elevator shafts will be inside of the containment.
- Prior to the installation of critical barriers, NYS DOL and NYC DEP certified asbestos handlers will clean the interior surfaces of all windows on each floor by HEPA vacuuming and wet-wiping.
- Windows, openings, vents and penetrations will plasticized with two layers of six-mil poly and made air tight.
- Walls, ceiling and floor surfaces will not be plasticized because these surfaces must be cleaned, decontaminated and removed.
- Negative pressure will be established. The Owner's Environmental Consultant NYS DOL certified Project Monitor will perform regular smoke tests within the containment to ensure negative pressure is maintained at all times.
- Elevator machine rooms will remain under negative pressure with sufficient number of micro traps installed to provide for eight air changes in these areas.

Shredder Installation

In order to facilitate the remediation operation, a one hundred horse power, thirty-five thousand pound, electrically powered, industrial grade shredder manufactured by Protoworks Inc. will be installed on the north side of the Building in the double height area along Park Place directly under the Second Floor Mezzanine Tier after final clearance of the First Floor Clean Zone has been achieved. To support the weight of the shredder it will first be necessary to shore the floor underneath the First Floor Clean Zone Shredder Area. Shoring plans will be signed off by the engineer of record for the shredder installation prior to installation activities. The required engineering will be submitted to NYC Department of Buildings for review and permitting prior to the installation of the shredder. Work practices and conditions of the shredder installation will be monitored by the Owner's Environmental Consultant NYS DOL certified project monitor.

The modified containment and engineering controls will be in place in the Basement Level prior to the installation of shoring in support of the shredder machine and shall remain in place until the Basement Level has been cleared. Lolly columns and steel beams will be installed on the Basement Level to shore the floor. Access to the Basement for the shredder shoring installation will be through the Primary Personal Decon attached to the East Side Lobby. Access to the Basement will be provided via the elevators or via Stairwells A & B. All shredder shoring installation activities will be monitored by an NYS DOL certified project monitor. The required shoring will be performed by scaffold/shoring installation personnel who
have valid medical examination, fit test documents and are equipped with remediation operations abatement work area PPE. The primary waste decontamination unit will be used for the decontamination of waste generated during the shredder shoring installation. Shoring to be installed will be made of steel. The exact location and layout of shoring will be determined by the engineer of record for the shredder installation. NYS DOL and NYC DEP certified asbestos handlers equipped with abatement work area PPE will perform pre-cleaning of the surfaces at each location where the shoring will be installed. Pre-cleaning activities to be performed will include HEPA vacuuming and wet-wiping. In addition, depending on the exact location of the shoring, minor removals of raised flooring, ceiling tiles, and/or ceiling grid may be necessary prior to installation. Any waste generated will be containerized, properly labeled and decontaminated for disposal as asbestos waste at a minimum, and in accordance with any waste characterization testing deemed necessary by the Owner’s Environmental Consultant. Limited ACM removal (i.e. VAT) if necessary, will be performed at shoring installation areas only at this time. Should limited abatement be necessary, NYS DOL and NYC DEP certified asbestos handlers will wet down the ACM with amended water and remove it by manual means. Any asbestos waste generated will be containerized, properly labeled and decontaminated for disposal as asbestos waste at a minimum, or in accordance with any waste characterization testing deemed necessary by the Owner’s Environmental Consultant. Any ACM abated areas will be cleaned by HEPA vacuuming and wet-wiping. After pre-cleaning and removals are complete, the installation areas will be visually inspected by the Owner’s Environmental Consultant NYS DOL certified project monitor. The visual inspection will be performed by the NYS DOL certified project monitor. The project monitor will verify that the installation areas have been properly cleaned and are free of bulk debris, dust and/or residue. If limited ACM abatement is performed, the Contractor NYS DOL and NYC DEP certified asbestos supervisor will perform a visual inspection. Once the conditions are satisfactory to the Contractor NYS DOL and NYC DEP certified asbestos supervisor, the Owner’s Environmental Consultant NYS DOL certified project monitor will also visually inspect all abated areas. Once the installation areas have passed OEC NYS DOL certified project monitor visual inspection, the steel shoring will be installed based on the engineer of record for the scaffolding specifications by shoring installation personnel equipped with abatement work area PPE. Shoring installation personnel will be instructed that disturbance of ACM is prohibited during the installation procedure. The shoring will be installed in, and remain in, non-cleaned areas until the Final Cleaning and Clearance of the Remediation Operations reaches the Basement Level where the shredder shoring is installed.

Once the floor is shored, a sixteen foot wide by twelve foot high segment of the north side curtain wall will be removed. There are no exterior ACMs present at the north side curtain wall. This area of the Building is double height with no kneewall present. Window stops will be disconnected from the framing. Window panes will be manually detached using suction methods. Removed panes will be sealed in cardboard and disposed of as conventional waste. The exposed framing will be dismantled by mechanical means and the disposed of as conventional waste. The shredder will be moved into position inside the Building directly adjacent to the Second Floor Mezzanine tier by a heavy duty forklift. Once in place the shredder will be extended to its maximum height of twelve feet, six inches. PAL will install a barrier constructed of a wood alternative such as gypsum, fiberglass or concrete over the opening made in the curtain wall and seal it airtight with a fire retardant expanding foam material. The inside of this barrier will be plasticized to its full height with two layers of poly during the installation of the interior containment in the Shredder Area. After the modified containment is established on all floors, shreddable materials will be loaded into the top of the shredder hopper from the Second Floor level. At this point, the environmental barrier sealing off the First Floor Clean Zone Shredder Area from the Second Floor mezzanine tier will remain in place. The shredder will be equipped with a wet misting system for dust control. The misting system consists of a plastic attachment for a water hose. The attachment spreads water from the hose in an even and repetitive manner across the shredder loading hopper. The misting system shall be running continuously at all times while the shredder is being operated. Materials processed through the shredder shall be wetted before and during shredding operations and during packaging for disposal. The shredder area will be placed under negative pressure as part of the containment of the upper levels. Shredded materials will be loaded into plasticized Gaylord boxes. Boxes will be sealed, wrapped in poly or fitted plastic sleeves, properly labeled, decontaminated and moved to an asbestos waste container that will be parked in the existing loading dock.
Materials that will be shredded during the remediation are as follows:

- Sheetrock
- Duct Work
- Ceiling Tile
- Wood
- Metal Studs
- Black Iron
- Porcelain
- Ceiling Grid

The above list of items will be referred to collectively as shreddable material in this Work Plan. Once the shredder is in place the area will be designated as the First Floor Clean Zone Shredder Area. It will be sealed off from the First Floor Clean Zone and incorporated into the containment of the upper floors. The Shredder Area will remain under negative pressure for the duration of shredder usage in the remediation operations. The contractor will install sufficient negative air ventilation equipment, as calculated according to the micro trap efficiency field test conducted under DOL variance re-opening (File No. 06-0852, approved Oct 19, 2007) to provide eight (8) air volume changes per hour in the Shredder Zone. One manometer shall be installed, outside of the work area at the north side perimeter wall in the shredder zone to document pressure differential in this area. The hose of the manometer will be run inside the work area.

Only NYS DOL and NYC DEP certified asbestos handlers, and the Owner's Environmental Consultant NYS DOL certified monitoring and inspection staff will have access to the Shredder Area. The area from which items will be loaded into the shredder shall be equipped with a guard rail system. Individuals operating the shredder will be properly trained in its usage. OSHA air sampling will be performed as required.

Should any non-porous, non-asbestos materials be encountered that cannot be processed through the shredder, they will be cleaned for disposal as conventional waste after inspection by the Owner's Environmental Consultant Industrial Hygienist/NYS DOL certified Inspector/NYS DOL certified Project Monitor or otherwise disposed of as asbestos waste or in accordance with any waste characterization results. Should any porous, non-asbestos materials be encountered that cannot be processed through the shredder, they will be disposed of as asbestos waste or in accordance with any waste characterization results.

Please note that neither asbestos-containing materials, lead-painted items, Universal Waste, nor any regulated waste (i.e., assumed PCB ballasts) will be shredded at any time during the remediation operations. Only non-ACM, non-regulated materials will be placed into the shredder. Even though all items within the Building are assumed to be asbestos-contaminated due to the infiltration of WTC dust, they are not considered ACM as defined by law and may be processed through the shredder. Manufactured items with asbestos content of one percent or greater shall not be subject to shredding. All waste generated by shredding operations will be disposed of as asbestos waste at a minimum or in accordance with waste characterization results.

**Simultaneous Work Procedures**

In order to implement the most efficient work procedures, it will be necessary to perform work on several floors within the Building simultaneously. While work continues on the establishment of the Clean Zone, PAL will proceed with the removal of non-fixed items utilizing the Primary Personal Decontamination Facility and the waste decontamination facility at the north entrance of the East Side Lobby once the containment of the Basement Level and upper floors has been completed. Remediation operations on the Basement Level and upper floors will be performed simultaneously with the establishment of the Clean Zone work area. Sufficient shower facilities will be provided for all abatement personnel performing the remediation operations.
With the clearance achieved in the Clean Zone it will not be necessary to utilize a decontamination facility to access this area. The Primary Personal Decontamination Facility will remain in place for use during the remediation work on the Basement Level and upper floors. A waste decontamination facility will be constructed west of Elevator Bank A. The waste decontamination facility will have three entrances. One entrance will be through the existing doorway leading to the Shredder Area. The second entrance will be established at the western barrier isolating Elevator Bank A from the Clean Zone. The third entrance will be from the existing doorway to the B Stairwell. The waste decontamination facility will be constructed with a large wash room in order to accommodate the large quantity and size of materials to be decontaminated. The dimensions of the waste decontamination facility wash room will be approximately forty feet wide by fifteen feet long. This waste decontamination facility will be known as the Primary Waste Decontamination Facility. Once the Primary Waste Decon is fully operational, the waste decontamination facility at the existing loading dock on Greenwich Street, which was utilized for the remediation of the Clean Zone, will be broken down. Additionally, the waste decontamination facility on the East Side of the Building for Basement Level and upper floor waste out will be broken down. Once all openings and penetrations area sealed and both the Primary Personal Decontamination Facility and the Primary Waste Decontamination Facility are operational, the environmental barrier isolating the Second Floor mezzanine tier will be removed to open it to the First Floor Clean Zone Shredder Area below. At this time, the First Floor Clean Zone Shredder Area will become part of the modified containment of the Basement Level and upper floors. The First Floor Clean Zone Shredder Area will no longer be considered a clean area and will remain separated from the First Floor Clean Zone by barrier walls and airlocks. All access to the Shredder Area will be from inside of the containment. The Second Floor mezzanine tier loading area will be designated as the Shredder Processing Area.

Work procedures for the remediation operations on the upper floors are separate operations and are designated as follows:

- First procedure will be the removal of non-fixed items
- Second procedure will be the removal of exposed building components
- Third procedure will be the removal of interior walls and ceiling systems (including the removal of the building components existing within such systems and the opening of ventilation shafts for cleaning and component removal)
- Fourth procedure will be the abatement of asbestos containing materials. Asbestos waste will be processed through the Primary Waste Decontamination Facility separately from all other types of waste.

Interior work procedures will be performed from the uppermost floor downwards and simultaneously in the Basement Level. Remediation operations on the upper floors will be performed in three floor blocks. Remediation on the Basement Level will be performed individually and will not be part of any three floor block. The above sequence of work procedures will not occur simultaneously on any individual floor. However, the sequence may overlap in different blocks within the containment. For instance, after all non-fixed items have been removed from floors Fifteen, Fourteen and Thirteen, the removal of exposed building components will begin on those floors while the removal of non-fixed items will begin on the next three floor work block (which in this example would be Twelve, Eleven and Ten). These two different procedures will occur simultaneously in different three floor blocks, but not within the same three floor work zone block. Remediation of Stairwells A & B will occur simultaneously with the remediation of the upper floors. More detail on the procedures for the decontamination and abatement of the upper floors is outlined below.
Remediation and Decontamination of Basement & Upper Levels

Removal of Non-Fixed Items

Non-fixed item removal operations will begin on the Basement Level and on the Fifteenth Floor and will proceed downward block by block. On each floor the first procedure to take place will be the removal of all non-fixed items including furniture and construction materials. All personnel performing the cleaning and removal of non-fixed items and building components will have valid NYS DOL asbestos handling licenses and NYC DEP asbestos handling licenses. All personnel will be required to present their license prior to being granted access to the work area.

Shreddable Material

Any non-fixed shreddable materials present on Basement Level and Floors Two through Fifteen will be manually loaded into wheeled carts. The carts will be constructed of a cleanable material such as heavy duty plastic or metal. All carts used for transport of ACM or potentially contaminated materials will be water tight and have doors or tops that will be closed and secured during transport. Full carts will be transported to the Second Floor level via the elevator cars and construction hoist. Once on the Second Floor, carts will be brought to the Shredder Processing Area on the north side of the floor and queued for shredding. Shreddable materials will be wet down with amended water and loaded into the hopper of the shredder. All loading of materials into the shredder will be performed by NYS DOL and NYC DEP certified asbestos handlers. Once the materials have been shredded, these materials will be released from the shredder hopper directly into plasticized Gaylord Boxes. The Gaylord Boxes will be capable of holding a half cubic yard to one and a half cubic yards of shredded waste. The boxes are made of durable cardboard material and made water tight via the insertion of poly liners or two layers of poly. Boxes have fitted tops that will be sealed prior to their decontamination. The exterior surface of full and sealed Gaylord boxes will be wrapped in two layers of poly or fitted plastic sleeves to render the outer surfaces cleanable. Wrapped boxes will be properly labeled. Decontamination of full boxes will occur after the boxes have been wrapped. Full, sealed and wrapped boxes will be processed through the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby. Once decontaminated, boxes of shredded waste will be loaded into an asbestos waste trailer parked in the existing loading dock. Individual Gaylord boxes will be transported in the building and loaded onto trailers utilizing pallet jacks. If it is necessary to move Gaylord boxes between floors, the elevator cars shall be used. Pallet jacks will be used inside of the work area and in the First Floor Clean Zone. Workers inside the work area will load a full, sealed Gaylord box onto a pallet jack. The pallet jack will then be moved via the elevators to the Primary Waste Decontamination Facility on the First Floor.

Gaylord boxes will be loaded into the wash room of a decon and fully decontaminated. After decontamination, the Gaylord box will be transported into the air lock between the wash room and the holding area of the Primary Waste Decontamination Facility and moved off of the pallet jack. Workers with pallet jacks in the First Floor Clean Zone will enter the Primary Waste Decontamination Facility holding area from the Clean Zone, enter the air lock from the holding area and load the decontaminated Gaylord box onto the pallet jack. The box will then be transported out of the Primary Waste Decontamination Facility, into an asbestos waste trailer in the Primary Loading Dock. Pallet jacks used inside of the work area are made of a cleanable, metal material. All pallet jacks will be fully cleaned and decontaminated before being removed from the work area.

Non-fixed items comprised of any of the following materials may be processed through the shredder:

- Wood
Mr. Christopher Alonge – NYSDOL
Fiterman Hall Variance Petition – March 7, 2008

- Metal
- Upholstered
- Plastic
- Glass
- Any other non-ACM material determined to be uncleanable by the Owner’s Environmental Consultant Industrial Hygienist/NYS DOL certified Inspector/NYS DOL certified Project Monitor.

**Non-Porous, Cleanable Material**

All non-fixed items on the Basement Level and Floors Two through Fifteen that are not shreddable but capable of being cleaned will be transported to the wash room of the either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby. These items will be cleaned and decontaminated by either steam cleaning or wet washing. Any items with interior cavities, such as duct work, will be cut open by mechanical means and subject to both interior and exterior decontamination. Any power tools used to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust ventilation. Once cleaned these items will be visually inspected by the Owner’s Environmental Consultant NYS DOL certified project monitor. After passing OEC NYS DOL certified project monitor visual inspection, cleaned items will be moved out of the waste decontamination facility and live-loaded into compactor trucks or loaded into conventional waste dumpsters that will dock in the Secondary Loading Dock or within the West Broadway lane closure for disposal of as conventional waste. If attempts to clean any items are not successful, they will be wrapped in two layers of poly, properly labeled, processed through the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby and transported to an asbestos waste trailer in the Primary Loading Dock or to an asbestos waste trailer within the West Broadway lane closure for disposal as asbestos waste or in accordance with any waste characterization results. Any items with inaccessible, uncleanable voids, such as hollow core doors, shall be either processed through the shredder or wrapped in poly for disposal as asbestos waste or in accordance with any waste characterization results.

Non-Porous, Cleanable items anticipated to be encountered during the remediation operations are:

- Metal Furniture (chairs, filing cabinets, desks)
- Unused Non-Porous Construction Materials (duct work, metal items, piping, rebar)
- Any other non-porous, non-ACM material determined to be cleanable by the Owner’s Environmental Consultant Industrial Hygienist/NYS DOL certified Inspector/NYS DOL certified Project Monitor.
- If any non-porous, non-fixed items that are not capable of being shredded and not capable of being cleaned are discovered in the Building, they will be wrapped in 2 layers of poly for disposal as asbestos waste as a minimum, or according to waste characterization analysis.

**Porous Items for Disposal**

If it is more practical to shred porous items for disposal then these items will be shredded and containerized in Gaylord boxes for disposal as asbestos waste at a minimum and in accordance with any waste characterization results. If it is more practical to dismantle porous items for disposal then these items will be manually or mechanically dismantled. Any power tools used to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust ventilation. Dismantled components of porous items will then be containerized in Gaylord boxes or wrapped in two layers of poly for disposal as asbestos waste at
a minimum and in accordance with any waste characterization results. Any porous items
encountered that are not practical to shred or to manually dismantle for disposal will be wrapped
in two layers of six-mil poly, properly labeled, processed through the either the Primary Waste
Decontamination Facility or the waste decontamination facility at the east side lobby and loaded
into an asbestos waste trailer parked in the existing loading dock or an asbestos waste trailer
parked within the West Broadway lane closure for disposal of as asbestos waste or in accordance
with any waste characterization results. The wrapping of these items will take place on the floor
on which they are found. They will be wrapped prior to transportation to the Primary Waste
Decontamination Facility via the elevators and/or construction hoist.

Exposed Building Components (Basement Level & Floors Two through Fifteen)

After all non-fixed items within the Basement Level and/or a three floor block have been removed; any
exposed building components (duct work, electrical conduit, doors, light fixtures) will be manually or
mechanically dismantled and detached. Any power tools used to disturb asbestos containing material or
potentially contaminated material will be equipped with HEPA filter exhaust ventilation. Once detached,
shreddable building components such as duct work, electrical conduit and doors will be transported to the
Shredder Processing Area for shredding, boxing, decontamination and disposal as asbestos containing
waste at a minimum and depending on any final waste characterization.

The following list of materials are considered shreddable:

- Any Metal (Duct Work, Supports, Hangers)
- Any Plastic
- Any Wood
- Wiring

Please note that fluorescent light bulbs and light ballasts will not be subject to shredding. Fluorescent light
bulbs are considered Universal Waste. Bulbs will be disposed of as such in accordance with all applicable
regulations. Bulbs will be removed from fixtures and cleaned of all surface dust via wet-wiping and HEPA
vacuuming. Cleaned bulbs will be containerized in drums for proper disposal as Universal Waste. Full
drums will be sealed and processed through the Primary Waste Decontamination Facility or the waste
decontamination facility at the east side lobby. Once they have been decontaminated drums will be
removed from the Building to the exterior waste storage facility. When a full truckload of Universal Waste
has accumulated the drums of bulbs will be live loaded onto trucks for disposal. All vehicles transporting
Universal Waste will have valid permits to transport these items. Potting material in some ballasts
throughout the Building have tested positive for PCBs. As a precautionary measure, all ballasts will be
disposed of as PCB waste. Detached ballasts will be cleaned of exterior dust by HEPA vacuuming and wet
wiping and containerized in drums for proper disposal as PCB Waste. Drums for ballast disposal will be
fifty-five gallon metal drums. Full drums will be sealed and processed through the Primary Waste
Decontamination Facility or the waste decontamination facility at the east side lobby. Once they have been
decontaminated drums will be removed from the Building to the exterior waste storage facility. Within two
weeks or when a full truckload of PCB waste has accumulated, whichever occurs first, the drums of ballasts
will be live loaded onto trucks for disposal. All vehicles transporting PCB waste will have valid permits to
transport these items.

Non-shreddable building components that are capable of being cleaned will be manually or mechanically
detached and transported to the wash room of either the Primary Waste Decontamination Facility or the
waste decontamination facility at the east side lobby where they will be cleaned and decontaminated by
steam cleaning or wet washing. Any power tools used to disturb asbestos containing material or potentially
contaminated material will be equipped with HEPA filter exhaust ventilation. Depending on the type of
material, items will be either steam cleaned or wet washed depending on which methodology proves more
effective at decontaminating that particular material. In situations where it is more practical to shred
cleanable items, such items will be shredded and disposed as ACM waste at a minimum or in accordance
with any waste characterization results. Once clean of all residual dust and debris, components will be
inspected by the Owner's Environmental Consultant NYS DOL certified project monitor in either the Primary Waste Decontamination Facility or in the waste decontamination facility at the east side lobby. After components pass OEC NYS DOL certified project monitor visual inspection, they will be transported out of the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby and live-loaded into compactor trucks or loaded into conventional waste dumpsters docked at the Secondary Loading Dock or within the West Broadway lane closure for disposal as conventional waste. No material shall be loaded until it has passed visual inspection by the Owner's Environmental Consultant NYS DOL certified project monitor. If attempts to clean building components are not successful or possible due to compromised condition or inaccessible voids, they will be wrapped in two layers of poly, properly labeled, processed through the either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby and disposed of as asbestos waste or in accordance with any waste characterization results.

If any non-porous exposed building components that are not capable of being shredded, have inaccessible voids and/or are not capable of being cleaned are discovered in the Building, they will be wrapped in two layers of poly upon detachment for disposal as asbestos waste at a minimum or in accordance with any waste characterization results.

If any porous, non-asbestos exposed building components are discovered during the remediation operations, they will be processed through the shredder and loaded into Gaylord boxes or wrapped in two layers of poly upon detachment for disposal as asbestos waste at a minimum or in accordance with any waste characterization results. If porous, non-asbestos insulation materials are found on non-porous exposed building components, the insulation will be stripped off of the affected components and disposed of as asbestos waste at a minimum or in accordance with any waste characterization results. The affected non-porous components will then be detached and either cleaned for disposal as conventional waste after passing visual inspection by the Owner's Environmental Consultant NYS DOL certified project monitor, processed through the shredder and loaded into Gaylord boxes for disposal as asbestos waste at a minimum or in accordance with any waste characterization results or wrapped in two layers of poly for disposal as asbestos waste at a minimum or in accordance with any waste characterization results.

All exposed building components will be removed in accordance with this procedure leaving interior walls and ceiling systems remaining on the upper floors.

**Interior Walls and Ceiling Systems (Basement Level & Floors Two through Fifteen)**

Gaylord boxes will be brought to the Basement Level and upper floor work areas. Prior to use, each Gaylord box will be made leak tight by lining the interior with either fitted plastic inserts or two layers of poly. Gaylord boxes will be sealed by securing fitted lids into place on each box with duct tape. The exterior surface of full and sealed Gaylord boxes will be wrapped in two layers of poly or fitted plastic sleeves to render the outer surface cleanable. Some interior walls on the Basement Level are comprised of sheetrock and some of masonry block. Sheetrock walls will be removed as outlined below. Masonry block walls shall be decontaminated and remain in place for removal during the deconstruction phase. The interior walls on the upper floors are composed of painted sheetrock. The ceiling systems are composed of tiles, made from composite material, suspended from metal grid systems that are attached to the structural decking. The sheetrock and ceiling tiles are considered porous materials. The surface of interior sheetrock walls and ceilings will be HEPA vacuumed and wet wiped to remove all residual dust and debris. These items will not be fully saturated with water during removal. Water will be applied continuously as a means of dust control prior to and during the removal of interior sheetrock walls, ceiling systems and other non-asbestos materials that do not absorb water. Sheetrock walls will be demolished and ceiling system components will be disassembled using a combination of manual and mechanical means. Any power tools used to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust ventilation.

Two methods will be employed during the removal of interior sheetrock walls and ceiling systems on the upper floors. In the first method, sheetrock and ceiling tile debris will be loaded into plasticized Gaylord
boxes. Full boxes will be sealed, wrapped in poly or fitted plastic sleeves, properly labeled and processed through either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby for disposal as asbestos waste or in accordance with any waste characterization results. In the second method, sheetrock and ceiling tile debris will be loaded into carts and transported to the Shredder Processing Area. All carts used for transport of ACM or potentially contaminated materials will be water tight and have doors or tops that will be closed and secured during transport. The debris will be shredded and loaded into plasticized Gaylord boxes. Full boxes will be sealed, wrapped in poly, properly labeled and processed through either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby for disposal of as asbestos waste or in accordance with any waste characterization results. Metal studs and ceiling grid will be separated from the sheetrock and ceiling tile debris. Studs will be stacked and wrapped in two layers of poly. Wrapped studs will be properly labeled, processed through the either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby and disposed of as asbestos waste or in accordance with any waste characterization. Ceiling grid will be transported to the wash room of either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby where it will be cleaned by a combination of steam cleaning and/or wet washing. Once clean of all residual dust and debris, ceiling grid will be visually inspected by the Owner’s Environmental Consultant NYS DOL certified project monitor to verify that all potential contaminants have been remediated prior to disposal as conventional waste. Once cleaned, ceiling grid will be transported out of the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby and loaded into compactor trucks or conventional waste dumpsters docked in the Primary Loading Dock or within the West Broadway lane closure for disposal as conventional waste. If attempts to clean ceiling grid are not successful, it will be wrapped in two layers of poly, properly labeled, processed through either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby and disposed of as asbestos waste or in accordance with any waste characterization results.

Any Building components existing behind interior walls or within ceiling systems, such as duct work, radiator covers and piping will be dismantled and detached. Detached components will be transported to the wash room of either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby where they will be cleaned of residual dust and debris by a combination of steam cleaning and/or wet washing. Once cleaned these remaining components will be visually inspected by the Owner’s Environmental Consultant NYS DOL certified project monitor and then transported out of the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby and loaded into compactor trucks or conventional waste dumpsters docked in the Primary Loading Dock or the West Broadway lane closure for disposal as conventional waste. If attempts to clean any components are not successful, they will be wrapped in two layers of poly, properly labeled, processed through either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby and disposed of as asbestos waste or in accordance with any waste characterization results. Additionally, please note that it is not possible to clean the following items:

- Radiator Coil
- Electrical Conduit
- Piping

These items will be manually or mechanically detached, wrapped in two layers of poly, properly labeled, processed through the either the Primary Waste Decontamination facility or the waste decontamination facility at the east side lobby and disposed of as asbestos waste or in accordance with any waste characterization results. Any power tools to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust ventilation.

Any porous building components and/or materials existing behind interior walls or within ceiling systems will be handled and disposed of as asbestos waste at a minimum, and depending on any final waste characterization results

Any...
To the extent possible, workers will not disturb asbestos containing materials during the removal of non-ACM systems. If it becomes necessary to remove ACM to access non-ACM systems, the ACM removal will be performed as outlined below prior to removal of the affected non-ACM systems.

Ventilation Shafts

There are several ventilation shafts present within the Building. Concurrent with the removal of interior walls and ceiling systems, NYS DOL and NYC DEP certified asbestos handlers will also demolish openings into the ventilation shafts on each floor including the Basement Level. Debris from the demolition of openings will be processed through the shredder and disposed of as asbestos waste or in accordance with any waste characterization results. Any porous materials existing within ventilation shafts will be removed by manual methods, loaded into plasticized Gaylord boxes, sealed, wrapped in poly or fitted plastic sleeves, properly labeled and processed through either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby for disposal as asbestos containing waste or in accordance with any waste characterization results. Any building components existing within ventilation shafts, such as duct work, piping and electrical conduit will be dismantled and detached. Detached duct work components will be transported to the wash room of either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby where they will be cleaned of residual dust and debris by a combination of steam cleaning and wet washing. Once clean of all residual dust and debris, components will be inspected by the Owner’s Environmental Consultant in the either the Primary Waste Decontamination Facility or the decontamination facility at the east side. After components pass OEC NYS DOL certified project monitor visual inspection, they will be transported out of the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby and live loaded into compactor trucks or loaded into conventional waste dumpsters docked at the Secondary Loading Dock or in the West Broadway lane closure for disposal as conventional waste. If attempts to clean duct work are not successful, they will be wrapped in two layers of poly, properly labeled, processed through either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby and disposed of as asbestos waste or in accordance with any waste characterization results. Additionally, please note that it is not possible to clean the following components that may be present in ventilation shafts:

- Electrical Conduit
- Piping

These items will be manually or mechanically detached, wrapped in two layers of poly, properly labeled, processed through either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby and disposed of as asbestos waste or accordance with any waste characterization results. Any power tools used to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust ventilation.

Abatement, cleaning and clearance of ventilation shafts will occur simultaneously with the abatement, cleaning and clearance of the Basement Level and upper floors. When the upper floors are divided into three floor blocks for cleaning, the shafts will be segmented at every three floors with isolation barriers. Ventilation shafts will be cleaned and decontaminated from the top down on each block of floors. Solid wood barriers will be installed in each vent shaft at three floor intervals (top of third floor in a block and bottom first floor in a block) in order to segment the vent shafts. Ventilation shafts in the Basement will be sealed off at the Basement Level and cleaned separately from the rest of the ventilation shafts.

The ventilation shafts with the installed manifolds for the negative air exhaust from the basement to the building exterior will be decontaminated at this time by HEPA vacuuming and wet wiping. The manifolds will be installed leaving enough room in these shafts to allow for cleaning of the shaft surfaces by HEPA vacuuming and wet wiping around the exhaust hoses.

Workers performing the decontamination of interior shaft surfaces will utilize proper fall protection as defined in Part III(R) Remediation Operations HASP. Open shafts will be equipped with guardrails. All interior shaft surfaces will be subject to wet cleaning methods in order to remove all residual debris. Run
off water will be collected in basins at the bottom level of each shaft work area. Basins used to collect excess water will be either portable metal shower pans or will be constructed of poly. Collected water will be absorbed utilizing mops and rags. All used water collection materials will be loaded into plasticized Gaylord boxes, sealed, wrapped in poly or fitted plastic sleeves, properly labeled and processed through either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby for disposal as asbestos containing waste or in accordance with any waste characterization results. Barriers will remain in place until the remediation activities inside the entire span of all vent shafts have been completed.

Please note that at no time and under no circumstances during remediation activities will any material, equipment, debris or items be dropped down or allowed to fall down any ventilation shaft for any distance.

Asbestos Abatement

There is assumed asbestos containing floor tile present throughout the Basement Level and upper floors of the Building. Additionally, there is a thin coating of non-friable asbestos containing mastic applied to the surface of block kneewall around the interior perimeter of all floors. There is also a minor quantity ACM caulking present on the upper floors, and a minor quantity of ACM TSI on the 5th floor. Once all non-fixed items and building components have been removed, abatement of the assumed and asbestos containing materials will take place. The Basement Level and upper floor work areas will be pre-cleaned by HEPA vacuuming and wet wiping to remove any residual dust and debris that may be present. In any areas where both friable and non-friable ACM are present within the same, immediate working area, all of the friable ACM in that area will be removed first. Following the removal of the friable ACM, the immediate working area will be cleaned by HEPA vacuuming and wet wiping. After this intermediate cleaning, the non-friable ACM in that immediate working area will be removed.

Any power tools used to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust ventilation. NYS DOL and NYC DEP certified asbestos handlers will thoroughly wet down ACM and assumed ACM at each location where it exists with amended water using airless and/or pump sprayers. Removal of the assumed asbestos tile and caulking will be performed by manual methods utilizing hand held scraping tools. Removed ACM and assumed ACM will be placed into plasticized Gaylord boxes upon detachment from the substrate.

Once full, each box will be sealed by placing a fitted lid onto it and securing the lid with duct tape. Sealed boxes will be wrapped in poly or fitted plastic sleeves, clearly labeled, processed through the either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby and disposed of as asbestos waste in an asbestos trailer docked in the Primary Loading Dock or an asbestos waste trailer within the West Broadway lane closure.

Clearance testing on the Basement Level and upper floors will not be performed at this time. It will first be necessary to decontaminate the elevator shafts and A & B Stairwells before any clearance sampling can be run. See section on “Final Clearance of the Basement & Upper Levels” below.

Asbestos mastic on block kneewall will be removed during the deconstruction operations. The removal procedure for this material will be detailed in Part I (D) – Deconstruction Operations Work Plan which will be submitted to the regulators for review under separate cover.

Remediation of the Gash Area

Results of the Owner’s Environmental Consultant NYS DOL certified project monitor visual inspection of all scaffold attachment façade openings will be applied to work procedure planning. The scaffold attachment is substantially completed and visual inspections have not found Gash Area brick impacted with
suspect WTC dust requiring environmentally-controlled handling and removal. Further, seven additional façade openings were created at the request of the OEC in Gash Area locations where it was not required to create openings in the brick for scaffold attachment. These additional openings were made so that further visual inspection of the façade could be performed by the Owner’s Environmental Consultant NYS DOL certified project monitor. The seven additional openings did not reveal any areas requiring special treatment. Visual inspections will continue to be performed during the remediation of the Gash Area by the Owner’s Environmental Consultant NYS DOL certified project monitor. Should suspect WTC dust be discovered, the affected brick surface in the immediate impacted area shall be removed by one of the procedures outlined below. The exact location and removal procedure to be utilized shall be determined and the regulators notified if a condition requiring environmentally controlled handling and removal is discovered. Exact scope, procedure and sequence for this work will be developed and submitted to the regulators for approval as an amendment to the Remediation Operations Work Plan.

The following list of surfaces, items, components and materials have been documented as existing in various locations throughout the Gash Area on the south façade of the Building:

- Fiberglass Pipe Insulation
- Fiberglass Duct Insulation
- Non-ACM Spray or Trowel Applied Fireproofing Material
- VAT
- Brick
- Windows
- Concrete Floor Slab/Deck
- Concrete/Masonry Block Columns
- Plaster
- Metal Hangers/Attachment Mechanisms
- Wooden Barriers
- Steel Spandrel
- Non-Friable Asbestos Mastic (Applied to Spandrel Web)

Please note that the Gash Area was subject to two previous cleaning efforts performed by others. Any friable and/or porous items, components or materials listed above (as determined by a detailed inspection conducted by the OEC) are assumed to be contaminated by WTC dust and will be subject to environmentally controlled removal as outlined in this Section.

The Contractor and OEC NYS DOL certified project designers have determined the procedures to be used to remediate the Gash Area based on the concentration of surfaces, items, components and materials in relation to the size and layout of the areas where they are present. Given that the conditions in the Gash Area vary from level to level, the below set of procedures will be implemented as deemed necessary by the Contractor and OEC NYS DOL certified project designers to address the removal of impacted surfaces, items, components and materials that are not capable of being cleaned. For instance areas where there is a large concentration of the above listed surfaces, items, components and materials that are not capable of being cleaned in close proximity to each other the interior containment will be extended. In areas where the above listed surfaces, items, components and materials that are not capable of being cleaned are spread sporadically making the extension of the interior containment inefficient, the remediation will be performed by tent procedures. In areas where there are only surfaces, items, components and materials that are non-porous and capable of being cleaned, the focused cleaning procedure will be performed. All penetrations between floors in the Gash Area will be sealed with either two (2) layers of poly or fire retardant expanding foam.

Please note that on some levels in the Gash Area it will be necessary to perform multiple remediation procedures. Which procedures to be implemented will be decided by the Contractor and OEC NYS DOL certified project designers.
Extension of Interior Containment

The extension of the interior containment to incorporate the Gash Area will be performed on the First, Fourth, Seventh and Eighth Floors of the Gash Area.

On these floors in the Gash Area there are large quantities of the above listed items, components and materials present in close proximity to one another. The interior containment on these floors will be extended to include these areas. During the installation of the modified full containment on these floors, NYS DOL and NYC DEP certified asbestos handlers will install additional solid wall containment barriers on the Gash Area façade in order to enclose the materials within the interior of the Building. These additional solid wall barriers will be installed from the exterior scaffolding platforms on the affected floors and will be exterior to the existing wooden barriers installed to isolate the interior of the Building from the Gash Area. The focused cleaning procedure outlined below in the section entitled “Gash Focused Cleaning Procedure” will be performed in areas where walls will be installed to remove any dust that may be present prior to installation of the barriers. The additional barriers will be sealed air tight with fire retardant expanding foam so that there is no air transfer between the interior of the Building and the outside environment. No removals or abatement work will be performed on affected floors where the interior containment will be extended before the exterior solid wall barriers are secured in place. On the First Floor south side double height area the barriers will be installed up to the underside of the Third Floor slab in order to fully enclose this area within the interior containment. The stairwell between the 1st and 2nd Floors in the Gash Area will be incorporated in the extension of the interior containment on the First Floor. The Stairwell will be sealed off from the Second Floor level with critical barriers. Once the additional barriers on the affected floors are in place, NYS DOL and NYC DEP certified asbestos handlers working on the installation of the modified containment inside the Building will remove the existing wooden barriers (which at this point will be interior to the Building) on these floors. The wood from these existing barriers will be wrapped in poly for disposal as asbestos waste or in accordance with any waste characterization results. Once the existing barriers are removed, the Gash Area on the affected floors will be placed under modified full containment by the same procedures as outlined above for all other interior floors. The abatement of impacted materials interior to the modified containment in the Gash Area will be performed by the same procedure as the rest of the items, components, systems and materials within the Building as outlined above. Cleaning and clearance of Gash Area sections within the extended modified full containment of the interior of the Building will be performed as outlined below in the section entitled “Final Cleaning & Clearance – Basement Level & Upper Floors.”

Tent Procedures

In areas of the Gash where impacted materials are not extensive and not localized (making the extension of the interior containment inefficient), or where there location makes extension of the interior containment unsafe, the remediation will be performed by tent procedures.

Tent procedures will be performed on the following floors in the Gash Area:

First Floor, Second Floor, Third Floor, Fifth Floor, Sixth Floor, Ninth Floor, Tenth Floor, Eleventh Floor, Twelfth Floor, Thirteenth Floor, Fourteenth Floor and Fifteenth Floor.

Air locks will be installed by NYS DOL and NYC DEP certified asbestos handlers at locations to be determined based on field conditions on each floor of the Gash Area at the existing barrier to the Building interior. Once an air lock is in place on a floor NYS DOL and NYC DEP certified asbestos handlers will remove a section of the existing barrier by manual and/or mechanical means to allow access from the interior of the Building into the air lock. Access onto the Gash area will be obtained from the interior of the Building through the air locks and onto the Gash Area for the tent procedures. The Primary Personal Decontamination Facility will be utilized by NYS DOL and NYC DEP certified asbestos handlers performing the tent procedure remediation on the Gash Area.

Access onto the Gash Area for the remediation operation will be obtained as follows:
NYS DOL and NYC DEP certified asbestos handlers wearing proper PPE will enter the Basement and Upper Floors work area via the Primary Personal Decontamination Facility. These personnel will utilize the interior elevators to gain access to an upper floor where tent procedures will be performed on the Gash Area. Once on the affected floor, the NYS DOL and NYC DEP certified asbestos handlers will pass through the opening created in the existing barrier and enter the air lock. Once in the air lock, the NYS DOL and NYC DEP certified asbestos handlers will remove one (1) layer of disposable overall suit and place it in an asbestos bag located within the air lock. After one (1) layer of disposable overall suit has been removed, the NYS DOL and NYC DEP certified asbestos handlers will utilize HEPA vacuums to clean the surface of the one (1) layer of disposable overall suit that they are still wearing. Once full, bags of suits will be sealed with duct tape and left in the tent enclosure for disposal with waste generated during the tent procedures. After completing the cleaning of their disposable overall suits, NYS DOL and NYC DEP certified asbestos handlers will exit the air lock onto the Gash Area. Once on the Gash Area, NYS DOL and NYC DEP certified asbestos handlers will proceed to a tent location.

At each location where porous surfaces, items, components and materials are present NYS DOL and NYC DEP certified asbestos handlers will perform the focused cleaning procedure outlined below in the Section entitled “Gash Focused Cleaning Procedure” on non-porous surfaces to remove any residual dust in areas where tent enclosures will be constructed. NYS DOL and NYC DEP certified asbestos handlers will then construct tent enclosures of two layers of poly and metal studs fully enclosing the affected impacted items, components and materials. Tents shall have double folded seams which shall be duct taped sirtight and then duct taped flush to the adjacent tent wall. Tent enclosures on the First Floor south/southeast side will be constructed up to the underside of the Third Floor slab to fully enclose this area within the tent. Airlocks will be constructed at the entrance to each tent enclosure. Variance approval is requested to not construct wash rooms at each tent airlock. The Primary Waste Decontamination Facility will be utilized to decontaminate waste generated during the tent procedure. Access to each tent and airlock constructed in the Gash Area shall be restricted to allow only NYS DOL and NYC DEP certified asbestos handlers within twenty-five (25) feet of the enclosures. NYS DOL and NYC DEP certified asbestos handlers on the Gash Area will enter an air lock attached to a tent enclosure and don a second layer of disposable overall suit. Once double suited, the NYS DOL and NYC DEP certified asbestos handlers will enter the tent enclosure.

Prior to removal of items, components and materials, the tent enclosures will be placed under negative pressure with HEPA vacuums or negative air units depending on the size of an individual tent enclosure. The installation procedure for negative pressure engineering controls in tent enclosures will be determined by the NYS DOL and NYC DEP certified asbestos supervisor based on field conditions in the Gash Area. Affected items, components and materials shall be wet down with amended water before and during removal. NYS DOL and NYC certified asbestos handlers will remove the affected items, components and materials by manual and mechanical means. Removed items will be double bagged and the bags sealed with duct tape. Sealed bags will be placed in the air lock attached to the tent enclosure. NYS DOL and NYC DEP certified asbestos handlers will then enter the air lock. The exterior surface of sealed bags will be cleaned in the air lock by HEPA vacuuming. Once all bags in the air lock are cleaned the NYS DOL and NYC DEP certified asbestos handlers will remove one (1) layer of disposable overall suit and place it in an asbestos bag located within the air lock. Once full, bags of suits will be sealed with duct tape and disposed with waste generated during the tent procedures. Personnel and waste will not pass through the air locks at the same time. Once all bags of waste are sealed and decontaminated, the NYS DOL and NYC DEP certified asbestos handlers will pass the bags to NYS DOL and NYC DEP certified asbestos handlers outside of the air lock on the Gash Area. Only after all bags of waste have been passed out of a tent enclosure air lock, the NYS DOL and NYC DEP certified asbestos handlers inside the tent enclosure air lock will clean their PPE and remove one suit and then exit onto the Gash Area. NYS DOL and NYC DEP certified asbestos handlers receiving the bags of waste from the tent enclosure air lock will transport them to the entrance to the interior of the Building on that level and place them inside the air lock connected to the entrance. These NYS DOL and NYC DEP certified asbestos handlers will then enter the air lock at the entrance and remove one (1) layer of disposable overall suit and place it in an asbestos bag located within the air lock at the entrance to the Building. After one (1) layer of disposable overall suit has been removed, the NYS DOL and NYC DEP certified asbestos handlers will utilize HEPA vacuums to clean the
surface of the one (1) layer of disposable coverall suit that they are still wearing. Once full, bags of suits will be sealed with duct tape. Once all bags of waste are sealed, NYS DOL and NYC DEP certified asbestos handlers inside of the air lock at the entrance to the Building will pass the bags of waste to NYS DOL and NYC DEP certified asbestos handlers on the inside of the Building. Only after all bags of waste have been passed out of the air lock at the entrance to the building will the NYS DOL and NYC DEP certified asbestos handlers don a second layer of disposable coverall suit and exit the air lock into the interior of the Building. Once in the Building, waste will be transported in wheeled carts and/or on pallet jacks. NYS DOL and NYC DEP certified asbestos handlers will utilize the elevators to transport the waste to the First Floor east side lobby. All carts used for transport of ACM or potentially contaminated materials will be water tight and have doors or tops that will be closed and secured during transport. Bags of waste generated during the tent procedures and suit removal will be processed through either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby for disposal as asbestos waste or in accordance with any waste characterization results. Once abatement activities are completed within a tent work area, the Contractor NYS DOL and NYC DEP certified asbestos supervisor will perform a visual inspection of the tent area. Once the conditions of a tent work area are satisfactory to the Contractor NYS DOL and NYC DEP certified asbestos supervisor, the tent work areas will then be visually inspected by the Owner’s Environmental Consultant NYS DOL certified project monitor. After the tent work area passes OEC visual inspection, air clearance tests will be run for asbestos.

Air clearance of gash area tents will be conducted according to the amount of material (ACM or WTC Dust-contaminated) that is removed from the work area, as determined by the OEC Project Monitor. If a minor (<10sf<25lf) quantity of material is removed, sampling will be performed as follows: 1 inside the work area (IWA) TEM asbestos air sample and 1 outside the work area (OWA) TEM asbestos air sample per tent work area. A tent work area will be considered cleared once TEM results are less than seventy (70) structures per millimeter squared (mm²). An equal number of metals samples will be collected IWA. No OWA metals samples will be collected. If a small (<160sf<260lf) quantity of material is abated from the tent, small project sampling (3 IWA ACM/5 OWA ACM plus 3 IWA metals) will be performed. Similarly, if a large (>160sf<260lf) quantity of material is abated from the tent, large project sampling (5 IWA ACM/5 OWA ACM plus 5 IWA metals) will be performed.

Once successful clearance is achieved in a Gash Area tent work area, that work area will be broken down.

Gash Focused Cleaning Procedure

The Gash Area focused cleaning procedure will be performed on the following floors:

First Floor, Second Floor, Third Floor, Fourth Floor, Fifth Floor, Sixth Floor, Seventh Floor, Eighth Floor, Ninth Floor, Tenth Floor, Eleventh Floor, Twelfth Floor, Thirteenth Floor, Fourteenth Floor and Fifteenth Floor.

Access to Gash Area focused cleaning work areas will be obtained via the air locks installed on the existing barrier wall between the Gash Area and the Building interior. Please refer to the above Section entitled “Tent Procedures” to review the procedure to be followed for Gash Area access.

NYS DOL and NYC DEP certified asbestos handlers will utilize the Primary Personal Decontamination Facility to access the Gash Area focused cleaning work areas. Please note that all surfaces within the Gash Area where the above listed impacted materials do not exist or are being removed by the tent procedure will be cleaned by the following focused cleaning procedure. Focused cleaning will be performed on all surfaces slab to slab on any exposed, non-porous Building components that are present in the gash area including the external facing surface of the solid wall barriers that are sealing the Building interior. The external facing surface of existing solid wall barrier will not be cleaned by the focused cleaning procedure in areas where they will be incorporated into the interior containment. On containment extension floors, the focused cleaning procedure will be performed in areas where barrier walls will be extended to extend the interior containment. Cleaning will be performed manually by HEPA vacuuming and wet wiping utilizing a
combination of rags, mops and/or sponges. The progression of focused cleaning activities will be from the top floor downward in order to prevent potential cross contamination of previously cleaned areas. Run off water will be controlled to prevent the migration of residual dust from the Gash Area into the exterior environment. Only minor amounts of run off water are anticipated to be generated by Gash Area focused cleaning activities. Used cleaning materials will be double bagged or otherwise wrapped in 6mil poly, clearly labeled, processed through either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby for disposal as asbestos waste or in accordance with any waste characterization results.

Once the focused cleaning is completed, a visual inspection will be performed by the NYS DOL and NYC DEP certified asbestos supervisor. Once the focused cleaning work areas are acceptable to the Contractor NYS DOL and NYC DEP certified asbestos supervisor the Owner’s Environmental Consultant NYS DOL certified project monitor will perform a visual inspection of the work area to determine if the area is dry and free of visible asbestos debris and/or residue. Once the work area has passed OEC NYS DOL certified project monitor visual inspection the regulators will be contacted to perform regulatory visual inspection. Twenty-four (24) hour notice will be provided to the regulators prior to the visual inspection. Once the work area has passed regulatory visual inspection and the most recent daily abatement air sample results meet ICR 564111 clearance criteria, the work area shall be dismantled to allow access by other trades.

Gash Area Roofing

In Gash Areas on all affected roof levels, WTC impact is assumed for the edge of the roof system at the Gash only. The rest of the roof levels are sealed and non-porous. The contractor shall observe a ten foot (10') demarcation from the Gash Area on all affected roof levels. Due to the fact that the physical damage to the building included certain areas of roof on the Fifth, Fourteenth and Fifteenth floors, it was decided by the Owner’s Environmental Consultant to assume that some contamination of roof components such as roof membrane and insulation was possible. It was decided that the wet removal of all roofing system components down to the roof slab would be advisable at the gash area edge of the roofs. It was decided based on site inspection that these removals to a distance of ten feet from the roof edge at the gash area would be sufficient to ensure the abatement of all suspect WTC-contamination that might have infiltrated the edge of the roofing system. The roofing materials in these areas were tested for their integral asbestos content, and are non-asbestos. The purpose of the demarcation area is to provide a remediation zone for the assumed WTC impact based on the condition of the compromised roof areas. All ballast in the demarcation area will be cleaned in conjunction with The Office of the City Medical Examiner inspection operations on all affected roof levels as detailed below. Cleaned ballast will be removed from the ten foot (10') demarcation area onto adjacent areas of the roof levels where it will remain for disposal during the deconstruction phase. All roofing membrane in the ten foot (10') demarcation area will be removed, handled and disposed as asbestos waste or in accordance with any waste characterization results. ACM roofing material will be bagged on detachment from the roof surface. Once full, bags will be placed inside a second bag, sealed and properly labeled. The exterior of the bags will be decontaminated and removed from the area via the exterior pipe scaffolding system. Once at ground level, bags of ACM roofing will be live-loaded into asbestos waste trucks waiting at the site. Upon completion of roofing removal from the demarcated area in all Gash Area roof levels, an additional visual inspection by the Owner’s Environmental Consultant NYS DOL certified project monitor will be conducted at the edge of the roofing that remains. This inspection will be conducted and documented in a similar manner to the scaffold tie-in inspections conducted during the Scaffold Erction Operation. If it is determined that WTC dust/debris exists at any of the subject locations, additional abatement by wet methods will be conducted of an additional demarcated area out to a distance to be determined in consultation with the regulators.

After removals and cleanings are complete and a minimum drying period has elapsed, a visual inspection of the work area will be performed by the Contractor NYS DOL and NYC DEP certified asbestos supervisor. After the conditions are satisfactory to the Contractor NYS DOL and NYC DEP certified asbestos supervisor the Owner’s Environmental Consultant NYS DOL certified project monitor will perform a visual inspection of the work area to determine if the area is dry and free of visible asbestos debris and/or
residue. Once the work area has passed OEC NYS DOL certified project monitor visual inspection the regulators will be contacted to perform regulatory visual inspection. Twenty-four (24) hour notice will be provided to the regulators prior to the visual inspection. Once the work area has passed regulatory visual inspection and the most recent daily abatement air sample results meet ICR 56-4.11 clearance criteria, the work area shall be dismantled to allow access by other trades.

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**Remediation of the Roof Levels**

The Building Roof Levels consist of the following:

- Cooling Tower Roof
- Main Roof
- Fourteenth Floor Set Back
- Fifth Floor Set Back

Remediation operations on the Roof levels shall be performed from the uppermost roof down to the lowest level roof. Workers will access the Cooling Tower Roof, Main Roof and Fourteenth Floor Set Back Roof levels through the C Stairwell. A personal decontamination facility will be installed on the Main Roof at the entrance into the C Stairwell. Once on the Main Roof, workers will access the upper Cooling Tower roof via the mechanical room stairway located west of the C Stairwell. Workers will access the Fourteenth Floor Set Back Roof via an extension ladder from the north side of the Main Roof. Access to the Fifth Floor Set Back Roof will be gained from a doorway on the west side of the Sixth Floor. Workers will take the elevator cars up to the Sixth Floor. There is a layer of quarry stone ballast on the surface of all roof levels. The cleaning of this stone will be the first procedure performed on any roof level in conjunction with the NYC Office of the City Medical Examiner (OCME) search activities. Critical barriers will be installed over all roof drains in each area where OCME activities will be performed prior to the commencement of search and cleaning activities on that level. Only drains in the immediate working area will be sealed leaving others open to handle rainwater. As the search and cleaning procedure progresses, drains in the immediate search and cleaning area will be sealed. Drains in areas where search and cleaning activities have been completed will be unsealed to handle rainwater.

**Loose Stone (Ballast) Re-Cleaning & OCME Operations**

OCME has indicated that it will be necessary to perform search operations on the various roof levels of the Building. OCME will be supported by NYS DOL and NYC DEP certified asbestos handlers during their operations. The surface of the roof levels at the Building have been previously cleaned by others during WTC recovery operations. The contractor shall re-clean the ballast and surface of the membrane in conjunction with the Office of the City Medical Examiner investigation as outlined below. After cleaning and OCME inspection, the ballast material will be loaded into bags. Full bags of ballast will be left in place on the roof levels in order to provide weight to hold the membrane in place. Bags of ballast will be removed during the deconstruction operations and disposed of as conventional waste.

The following procedure will be used during OCME inspection of roof levels:

- A screen filtration system consisting of a heavy duty rectangular screen laid flat over four cinder blocks leaving space of approximately one foot to the surface of the roof will be established.
- A decontamination unit will be installed on each roof level where OCME inspection will take place.
- NYS DOL and NYC DEP certified asbestos handlers will move sections of stone ballasts and accompanying fines onto the filtration screen.
- OCME personnel will inspect ballast and fines on the screen as well as the surface of roof membrane for the presence of human remains.
• Once directed by OCME personnel, NYS DOL and NYC DEP certified asbestos handlers will clean the ballast and fines on the screen with water. The surface of roof membrane where ballast and fines were removed from will also be cleaned by HEPA vacuuming and wet wiping.
• Run off water will be collected in basins set up below the screen. Collected water will be absorbed on a regular basis utilizing mops and rags or otherwise containerized in drums. Drummed water will be tested for NYC Sewer discharge parameters and eventual filtration to the NYC Sewer if analytical results allow. All used water collection materials will be double bagged, properly labeled, processed through the decontamination facility and removed from each roof level via the exterior pipe scaffolding system for disposal as asbestos waste or in accordance with any waste characterization results.
• Once cleaned ballast and fines will be moved from the screen and placed into bags and put back onto the roof surface.
• After the cleaning of stone ballast and roof surfaces in conjunction with OCME, the Contractor NYS DOL and NYC DEP certified asbestos supervisor will perform a visual inspection of the roof levels. Once the conditions on the roof levels work areas are satisfactory to the Contractor NYS DOL and NYC DEP certified asbestos supervisor the Owner’s Environmental Consultant NYS DOL certified project monitor will then perform a visual inspection of the roof levels to verify the cleaning has been fully completed. Once the work area has passed OEC NYS DOL certified project monitor visual inspection the regulators will be contacted to perform regulatory visual inspection of the work area. Twenty four (24) hour notice will be provided to the regulators prior to the visual inspection. The stone ballast and roof surface cleaning procedure in conjunction with OCME inspection will be complete after all stone ballast and roof surface work areas have passed regulatory visual inspection.
• This procedure will be repeated until OCME has completed their inspections on the roof levels.

With the exception of the Gash Area, the functionality of the roof levels has not been compromised and the roof systems effectively prevent water incursion to the building interior. The sub-surface of the roof levels, with exception to the Gash Area, will not be cleaned as they are effectively sealed by the membrane allowing no transfer for contaminants to migrate to the subsurface of the roofs.

Fifth Floor Set Back Roof

There is no asbestos material present on the Fifth Floor Set Back Roof. The remediation procedures on this roof will be the loose stone removal and decontamination of the underlying roof membrane surface. Once decontaminated, the surface of the Fifth Floor Set Back Roof will be left intact for removal during the structural deconstruction phase.

Cooling Tower

The cooling tower is located on the uppermost roof level of the Building. The tower contains non-asbestos plastic fill material. A waste decontamination facility will be established in an area directly adjacent to the cooling tower unit. Panels will be removed from the tower in order to gain access to the plastic fill. The cooling tower panels are made of metal and will be cleaned by HEPA vacuuming and wet wiping. Once cleaned the panels will be placed on the roof surface adjacent to the cooling tower and secured. The panels will be removed during the structural deconstruction phase and disposed of as conventional construction and demolition (C&D) waste. The fill material will be manually loaded into asbestos waste bags, double bagged, properly labeled and disposed of as asbestos waste or in accordance with any waste characterization results since it is not possible to effectively clean. The interior and exterior surfaces of the cooling tower will be decontaminated by HEPA vacuuming and wet wiping. Once cleaned, the tower structure will be left in place, to be removed during the structural deconstruction phase with other heavy machinery and equipment. If it is not possible to effectively clean the cooling tower unit while it is intact, NYS DOL and NYC DEP certified asbestos handlers will dismantle the tower and clean all the components
which will be left where the tower was located for removal during the deconstruction phase. All detached cooling tower components will be secured to the roof to prevent from being blown off prior to disposal during the deconstruction phase. Any components that cannot be cleaned will be removed from the tower, double bagged or wrapped in two layers of poly, processed through the waste decontamination facility and disposed of as asbestos waste or in accordance with any waste characterization results during the Remediation Phase.

Main Roof

The first remediation procedures on this roof will be the loose stone removal and decontamination of the underlying roof membrane surface as outlined above. Once decontaminated, the surface of the Main Roof Level will be left intact for removal during the structural deconstruction phase.

There is asbestos containing window caulking on one window to the Elevator Machine Room bulkhead on the Main Roof Level. NYS DOL and NYC DEP certified asbestos handlers will install a critical barrier consisting of two layers of poly on the inside surface of the affected window. NYS DOL and NYC DEP certified asbestos handlers will then install two layers of poly on the surface of the Main Roof directly underneath the affected window opening. The asbestos caulking material will be wet down with amended water and manually removed with handheld scraping tools. Caulking material will be placed into asbestos bags directly upon detachment from the window frame. Once full, bags will be placed inside a second bag, sealed and properly labeled. The exterior of the bags will be decontaminated and removed from the area via the exterior pipe scaffolding system. Once at ground level, bags of ACM caulking will be live-loaded into asbestos waste trucks waiting at the site.

ACM air sampling in support of this operation will be in full compliance with the air sampling requirements of the NYC DEP EC (Exterior Caulk) Method. One “During Abatement” sample will be collected both inside and outside the window being abated, along with the daily decon and barrier samples being run on a daily basis at the site.

Fourteenth Floor Set Back Roof

The first remediation procedures on this roof will be the loose stone removal and decontamination of the underlying roof membrane surface. These activities will be performed as outlined above. Once decontaminated, the non-ACM surface on the west side of the Fourteenth Floor Set Back Roof Level will be left intact on this for removal during the structural deconstruction phase.

There is asbestos containing roof membrane on the north side of the Fourteenth Floor Set Back Roof. Upon the completion of loose stone removal and roof surface decontamination on this level, workers will begin the removal of the asbestos containing roofing. A decontamination facility will be installed on the Fourteenth Floor Set Back Roof level adjacent to the section of ACM roofing membrane. Critical barriers installed during interior remediation operations on all openings within twenty feet (20’) of the Fourteenth Floor Set Back Roof will remain in place. The surface of ACM roofing membrane will be wetted down with amended water. NYS DOL and NYC DEP certified asbestos handlers will utilize manual scraping tools to perform the removal. ACM roofing material will be bagged on detachment from the roof surface. Once full, bags will be placed inside a second bag, sealed and properly labeled. The exterior of the bags will be decontaminated and removed from the area via the exterior pipe scaffolding system. Once at ground level, bags of ACM roofing will be live-loaded into asbestos waste trucks waiting at the site.

Clearance of Roof Work Areas

After removals and cleanings are complete and a minimum drying period has elapsed, a visual inspection of the work area will be performed by the Contractor NYS DOL and NYC DEP certified asbestos supervisor. After the conditions are satisfactory to the Contractor NYS DOL and NYC DEP certified asbestos supervisor the Owner’s Environmental Consultant NYS DOL certified project monitor will perform a
visual inspection of the work area to determine if the area is dry and free of visible asbestos debris and/or residue. Once the work area has passed OEC NYS DOL certified project monitor visual inspection the regulators will be contacted to perform regulatory visual inspection. Twenty-four (24) hour notice will be provided to the regulators prior to the visual inspection. Once the work area has passed regulatory visual inspection and the most recent daily abatement air sample results meet ICR 56-4.11 clearance criteria, the work area shall be dismantled to allow access by other trades.

Remediation of Elevator Shafts

After all remediation removal activities have been completed on the interior floors above the Basement Level, the decontamination of all elevator shafts within the Building will be performed. The existing Primary Waste Decontamination Facility will be utilized for during the remediation of the elevator shafts. Elevator cars will no longer be used for the duration of the project and they will be dismantled at this time. The work area for the dismantling of the elevator cars shall be the Basement Level. Workers will access the Primary Waste Decontamination Facility via the Stairwell B. Elevator Machine Rooms shall remain under negative pressure with eight air changes during the remediation of the elevator shafts and dismantling of the elevator cars. Prior to the start of elevator shaft decontamination activities, all elevator cars will be brought to the bottom of the shafts and secured in the elevator pits at the Basement Level. The elevator cars will be dismantled within the one modified full containment work area of the entire Building interior. This will be the last gross removal operation.

Critical barriers and engineering controls installed in the Basement Level shall remain in place during the dismantling of the elevator cars. NYS DOL and NYC DEP certified asbestos handlers will employ mechanical and manual means to dismantle the cars using saws and hammers, prying tools. Any power tools used to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust ventilation. Elevator car components will wrapped in two layers of poly or containerized in plasticized Gaylord boxes, properly labeled, processed through the waste decontamination facility and disposed of as asbestos waste or in accordance with any waste characterization results. The construction hoist will be manually dismantled. Hoist components will be transported to the wash room of the waste decontamination facility. These items will be cleaned and decontaminated by either steam cleaning or wet washing. At this time access to all floors will be obtained through the A & B Stairwells. An exterior emergency and readiness hoist will be installed on the exterior of the Building at the northeast corner (corner of Park Place and West Broadway) before elevator access is eliminated during the dismantling of the elevator cars.

Elevators shafts on the upper floors will be cleaned and decontaminated from the top down in three floor blocks. The elevator shafts will be sealed off in three floor intervals (top of the third floor in a block and the bottom of the first floor in a block) corresponding with the segmentation of the floors during the remediation and abatement. Temporary support beams will be installed across existing structural supports at each floor level within each elevator shaft. Supports will be made of a durable material that will be capable of sustaining the load of workers decontaminating the interior of the elevator shafts. Solid wood work platforms will be secured to the support beams in the elevator shafts on each floor in order to provide access to the interior surfaces to perform decontamination. Workers performing the decontamination of interior shaft surfaces will utilize proper fall protection as defined in Regulatory Submittal Part III(R) - Remediation HASP when working off of the platforms within the elevator shafts. Guardrails will be installed at open elevator shafts. The elevator shafts in the Basement Level will be cleaned separately from the elevator shafts on the upper floors.

Please note that there are no asbestos containing materials present within the elevator shafts. All interior shaft surfaces, including elevator cables will be subject to a combination of steam and wet cleaning methods in order to remove all residual grease, dust and debris. Run off water will be collected in basins at the bottom level of each shaft work area. Collected water will be absorbed utilizing mops and rags. All used water collection materials will be loaded into plasticized Gaylord boxes. Boxes will be sealed,
wrapped in poly or fitted plastic sleeves, properly labeled and processed through a waste decontamination facility for disposal as asbestos containing waste or in accordance with any waste characterization results. Once the decontamination of all shafts is complete, the working platforms will be removed leaving only the three floor barriers in place.

Please note that at no time and under no circumstances during remediation operations will any material, equipment, debris or items be dropped down or allowed to fall down any elevator shaft for any distance. All required permitting for the decommissioning of the elevators will be obtained and maintained by the Contractor.

For purposes of work area clearance, the shafts noted will be part of the three-floor clearance blocks. Details on the clearance of these three-floor blocks is included below in "Final Cleaning and Clearance of Basement & Upper Floors."

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**Provision of Access from Exterior Readiness Hoist**

Prior to the dismantling of the last active elevator car, an exterior readiness hoist will be provided for use by emergency personnel to gain access to the building interior during the remediation operation. The readiness hoist will not be used to transport remediation personnel, materials or equipment. The readiness hoist will be located at the northeast corner of the site where two bays of scaffolding have been left out on each floor to allow for the hoist installation.

The exterior readiness hoist will be equipped to stop at every floor. At the hoist landing point on each floor, a section of window will be removed and replaced with an emergency kick-away panel constructed of plywood and attached over the window opening from the outside with screws. NYS DOL and NYC DEP certified asbestos handlers will mobilize to each hoist landing point interior to the Building and perform the following remediation procedure in order to install the kick-away panels.

The Primary Personal Decontamination Facility will be used by NYS DOL and NYC DEP certified asbestos handlers working interior to the Building during the provision of hoist access remediation activities. NYS DOL and NYC DEP certified asbestos handlers will remove the existing critical barrier that was installed during the installation of the modified full containment for remediation activities. The window will remain closed but will be left unlatched for cleaning from the exterior of the building. Once the barrier is removed from the affected window, NYS DOL and NYC DEP certified asbestos handlers will clean the surface of the window by HEPA vacuuming and wet wiping. After the window surface has been cleaned, a frame constructed of wood studs and poly will be installed interior to the Building around the entire section of window to be removed. The frame will be installed so that approximately three to four inches (3” to 4”) of space remains between the poly on the frame and the window surface. The frame barrier will seal around the affected window so that there is no air transfer between the building interior and the affected window.

NYS DOL and NYC DEP certified asbestos handlers outside of the Building will mobilize to a suspended scaffolding system installed at the roof level and accessed from the ground level. The suspended scaffold system will be operated in the area on the northeast corner of the site where the scaffold bays have been left out for the hoist installation. All remediation personnel utilizing the suspended scaffolding system will hold valid certification to operate the system. The Owner’s Environmental Consultant NYS DOL certified air sampling technician will run asbestos air sampling on the suspended scaffold platform during the window removal work exterior to the Building. NYS DOL and NYC DEP certified asbestos handlers will move the suspended scaffolding system to the affected window. The window will be opened from the outside and cleaned by HEPA vacuuming and wet wiping. The poly frame barrier will also be cleaned at this time by HEPA vacuuming and wet wiping. The NYS DOL and NYC DEP certified asbestos supervisor will then perform a visual inspection of the affected window work area. Once the work area is acceptable to the NYS DOL and NYC DEP certified asbestos supervisor, the Owner’s Environmental Consultant NYS
DOL certified project monitor will perform a visual inspection of the affected window work area. Once the work area passes OEC visual inspection, the window will be removed.

Prior to the window removal, NYS DOL and NYC DEP certified asbestos handlers will prepare kick out panels for installation. The panels will be made of three-eighth inch (3/8") plywood and scored with circular saws to allow them to be breeched in the event that emergency personnel require access to the Building interior from the readiness hoist. The surface of the scored panels that will be installed facing the Building interior will be plasticized with two layers of 6mil poly to render this surface cleanable. Once prepared, the panels will be stored on site until installation.

After the affected window has passed visual inspections, NYS DOL and NYC DEP certified asbestos handlers will access it from the outside via the suspended scaffolding system. NYS DOL and NYC DEP certified asbestos handlers will use manual and mechanical means to remove the window. Any power tools used to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust ventilation. Once removed the affected window will be wrapped in two layers of 6mil poly and lowered to the ground level on the suspended scaffold system for disposal as asbestos waste or in accordance with any waste characterization results. NYS DOL and NYC DEP certified asbestos handlers will then install the prepared kick-away panels over the removed windows. The prepared panels will be installed with the poly side facing in to the Building and the scored side facing out of the Building. Panels will be fastened directly to the mullions with screw guns sealing the window opening. Once installed, the exterior surface of the kick-away panels will be marked with fluorescent paint for identification by emergency personnel. After all kick away panels are installed, NYS DOL and NYC DEP certified asbestos handlers will enter the interior of the Building and remove the poly frame barriers from the kick-away panel locations. The barriers will be broken down and containerized in Gaylord boxes or 6mil asbestos bags for disposal as asbestos waste or in accordance with any waste characterization results.

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**Anticipated Waste Generation**

It is anticipated that remediation operations will generate seven thousand cubic yards of asbestos waste.

After asbestos waste has been decontaminated, it will be brought directly to asbestos waste trailers parked in the Primary Loading Dock or the West Broadway lane closure.

Remediation work processes will be controlled by the Contractor so that directly after Gaylord boxes are full and sealed they will be moved from the work area, decontaminated and loaded into asbestos waste trailers. All full boxes will be moved out of the work area by the end of every day.

In the event of an emergency where waste trailers are unavailable and boxes of debris will remain in the work area the Contractor will immediately cease generation of further waste. Remaining boxes of debris will be organized in a manner that does not impede egress. The Contractor will notify the FDNY immediately and inform the FDNY’s designated representatives of the situation and the location and quantity of all boxes of debris in the building. The Contractor will work diligently to resolve the emergency in an expeditious manner so that waste flow can resume.

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**Final Cleaning and Clearance of the Basement & Upper Levels**

Although the interior of the Building will be one large containment area, the Contractor will clear floors in blocks of three at a time. It is our belief that this measure of clearance is more stringent than clearing the entire containment at once.
Negative air ventilation units will continue to operate in all locations until successful air clearance is achieved. All access throughout the Building will be via the Stairwells A & B. Cleaning activities will begin on the uppermost floor and progress downward in three floor block intervals. The cleaning and clearance of Stairwells A & B will occur simultaneously with the cleaning and clearance of the upper levels in blocks of three floors. All surfaces and all barriers will be subject to HEPA vacuuming and wet wiping including all surfaces within Stairwells A & B and the interior surfaces of the kick-away panels installed for access from the readiness hoist as the cleaning activities progress downward. All residual dust and debris that remains on all floors, including the Basement and Stairwells A & B will be cleaned by these methods. All used cleaning materials generated during the final cleaning throughout the entire Building will be double bagged, properly labeled, processed through either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby and disposed of as asbestos waste or in accordance with any waste characterization results.

Cleaning activities will be performed by NYS DOL and NYC DEP certified asbestos handlers utilizing the PPE outlined above. All decontamination facilities to be installed during the final cleaning procedure will be equipped with emergency Fire Department access doors in the equipment rooms. These access doors will be utilized only in the event of any emergency. Access to the interior of the Building for cleaning will be obtained as follows. After the completion of removals on all floors, a decontamination unit will be installed on the main roof level at the entrance to Stairwell A. Workers will access the main roof level by either the exterior scaffolding system or by Stairwell C from the First Floor Clean Zone. Once the decontamination facility is in place at the main roof level entrance to Stairwell A, workers will proceed down to the 13th Floor level and install critical barriers at all points of vertical air transfer. Critical barriers for work area segregation during final cleaning activities shall be constructed of three layers of poly and metal studs. Low adhesive tape installed around the seams of doors into Stairwell C on Floors 15 through 13 during the establishment of the interior containment will remain in place. The environmental barriers to be installed in Stairwells A & B to segregate the interior containment into three floor blocks for cleaning shall be made in two parts. The stairwell barrier shall be installed down the railing from the ceiling to the stairs and across the landing to segregate the work area from the stairs going down. After all critical are in place at the 13th Floor Level cleaning activities will commence. After the uppermost block of floors (15 through 13) have been cleaned, passed visual inspection by the Contractor NYS DOL and NYC DEP certified asbestos supervisor, passed visual inspection by the Owner's Environmental Consultant NYS certified project monitor and passed visual inspection by the regulators and passed air clearance, as outlined below, cleaning activities will progress to the adjacent three floor block (floors 12 through 10). Critical barriers segregating cleaned and cleared Floors 15 through 13 shall remain in place until the adjacent three floor block (12 through 10) has passed clearance. After clearance is achieved on Floors 15 through 13 the low adhesive tape around the doors to the C Stairwell will be removed on these floors to provide clean access to the cleaned and cleared floors from the First Floor Clean Zone. The decontamination facility at the roof level entrance to Stairwell A will be broken down. A decontamination facility will then be installed inside the building at the 13th Floor entrance to Stairwell B. Once this decontamination facility is in place workers will install another environmental barrier across the stairs going up and attached directly to the existing barrier across the landing and up the railing to segregate the cleaned and cleared work area above from the block of floors to be cleaned (Floors 12 through 10 in this example). After the barrier over the stairs going up is installed, the barrier on the landing will be breached, leaving the barrier up the railing in place and opening up access to the stairs going down to the work area below. Workers will then proceed down to the 10th Floor level and install critical barriers at all points of vertical air transfer. Low adhesive tape installed around the seams of the doors into Stairwell C on Floors 12 through 10 during the establishment of the interior containment will remain in place. After all environmental barriers are in place at the 10th Floor Level cleaning activities will commence. After this block of floors (12 through 10) has been cleaned, passed visual inspection by the Contractor NYS DOL and NYC DEP certified asbestos supervisor, passed visual inspection by the Owner's Environmental Consultant NYS certified project monitor and passed visual inspection by the regulators and passed air clearance, as outlined below, cleaning activities will progress to the adjacent three floor block (floors 9 through 7). Environmental barriers segregating cleaned and cleared Floors 12 through 10 shall remain in place until the adjacent three floor block (9 through 7) has passed clearance. After clearance is achieved on Floors 12 through 10 the low adhesive tape around the doors to Stairwell C will be removed on these floors to provide clean access to the
cleaned and cleared floors from the First Floor Clean Zone. The decontamination facility at the 13th Floor entrance to the B Stairwell will be broken down. A decontamination facility will then be installed inside the building on the 10th Floor at the entrance to Stairwell B. Once this decontamination facility is in place workers will install a barrier across the stairs going up and remove the part of the critical barrier across the landing, leaving the barrier up the railing in place to open up access to the stairs going down into the work area. This access procedure will be repeated as the cleaning activities progress downward until the entire Building has been cleaned and cleared.

Shoring in support of the scaffolding on the 5th & 14th Floor Setback Roofs will be decontaminated by HEPA vacuuming and wet-wiping once cleaning activities progress down to those areas. The Primary Waste Decon will be utilized during the decontamination of shoring. After cleaning, the shoring beneath the Setback Roof Levels will remain in place since the scaffold must remain in place for the deconstruction. As the deconstruction activities proceed down the Building, the scaffolding will be taken down level by level by deconstruction personnel. Once the deconstruction activities reach a Setback Roof Level and the exterior scaffolding on that Roof Level has been removed, the deconstruction personnel will remove the shoring beneath the affected level.

When cleaning activities reach the shredder area, the shredder will be cleaned of all residual dust and debris that may accumulate during its operation. NYS DOL and NYC DEP certified asbestos handlers will HEPA vacuum and wet-wipe the shredder. This cleaning will coincide with the cleaning activities in the First Floor Clean Zone Shredder Area. Once the shredder has been cleaned, the Owner’s Environmental Consultant certified project monitor will perform a visual inspection of the machine to ensure all residual dust and debris has been removed. The machine will remain in place until the Shredder Area has passed final air clearance at which time it will be removed by the same heavy duty forklift operation used for installation. Please note that the engine unit on the shredder is fully sealed.

Since the cleaning procedure will progress from the top floor downward, the last area where cleaning activities will commence be the Basement Level. Critical barriers and engineering controls installed in the Basement shall remain in place until clearance is achieved on this level. All means of vertical air transfer between the Basement and cleared areas above will remain sealed with critical barriers. After the Shredder Zone on the First Floor has been cleared and the shredder removed, the shoring in Basement in support of the machine will be dismantled. Shoring installed in the Basement to support the shredder will be decontaminated by HEPA vacuuming and wet-wiping. Any adjustable shoring for the shredder will be dismantled so that the individual sections can be decontaminated. The structural surfaces where shredder shoring had been installed will be cleaned by HEPA vacuuming and wet-wiping. Structural surfaces remaining in the Basement Level will be cleaned via HEPA vacuuming and wet wiping. The Primary Waste Decon will be utilized during the decontamination of the shredder shoring and the cleaning of the Basement Level.

Upon completion of final cleaning activities in each work area, a visual inspection of the subject block of floors will be performed by the Contractor NYS DOL and NYC DEP certified asbestos supervisor. Once the subject block of floors is deemed satisfactory to the Contractor NYS DOL and NYC DEP certified asbestos supervisor a visual inspection will be performed by the Owner’s Environmental Consultant certified project monitor. These visual inspections will also include visual inspection of cleaned shoring. Once a three floor block has passed the Owner’s Environmental Consultant’s NYS DOL certified project monitor visual inspection, the regulators will be contacted to perform regulatory visual inspection of the subject block of floors. Twenty-four (24) hour notice will be provided to the regulators prior to the date of regulatory visual inspection. After the subject block of floors has passed regulatory visual inspection, final aggressive air clearance will be run by the Owner’s Environmental Consultant NYS DOL certified air sampling technician.

**Aggressive Sampling Techniques:**

The following aggressive sampling techniques will be utilized for clearance of every work area:
Pre-Sampling Agitation: Before starting the air sampling pumps, the exhaust of forced air equipment (i.e., leaf blowers) will be directed at all walls, ceilings, floors, ledges, and other surfaces in the room(s). This will continue for at least five (5) minutes per 1000 sf of floor space. The following is a list of pre-sampling agitation durations by floor:

The Basement is 26,492 square feet. Pre-sampling agitation will be performed for 135 minutes prior to the activation of sampling pumps in this area.

The Shredder Area is 1,840 square feet. Pre-sampling agitation will be performed for 10 minutes prior to the activation of sampling pumps in this area.

Each floor in the range from the Second Floor to Fifth Floor is 26,492 square feet. Pre-sampling agitation will be performed for 135 minutes prior to the activation of sampling pumps in these areas.

Each floor in the range from the Sixth Floor to Fourteenth Floor is 21,061 square feet. Pre-sampling agitation will be performed for 110 minutes prior to the activation of sampling pumps in these areas.

The Fifteenth Floor is 17,518 square feet. Pre-sampling agitation will be performed for 90 minutes prior to the activation of sampling pumps in this area.

Elevator Machine Room is 1,512 square feet. Pre-sampling agitation will be performed for 10 minutes prior to the activation of sampling pumps in this area.

Ongoing Agitation: At least a 20-inch fan will be placed in the center of each room. One fan per 10,000 cubic feet of room space will be used. The fan will be operated on slow speed and pointed toward the ceiling. The following is a list of the number of fans to be installed throughout the building in order to maintain ongoing agitation:

The Basement is 317,904 cubic feet. The number of fans to be installed in this area to maintain ongoing agitation is 32.

The Shredder Area is 55,200 cubic feet. The number of fans to be installed in this area to maintain ongoing agitation is 6.

Each floor in the range from the Second Floor to Fifth Floor is 317,904 cubic feet. The number of fans to be installed in these areas to maintain ongoing agitation is 32.

Each floor in the range from the Sixth Floor to Fourteenth Floor is 252,732 cubic feet. The number of fans to be installed in these areas to maintain ongoing agitation is 32.

The Fifteenth Floor is 210,216 cubic feet. The number of fans to be installed in this area to maintain ongoing agitation is 21.

Elevator Machine Room is 18,144 cubic feet. The number of fans to be installed in this area to maintain ongoing agitation is 2.

Begin Sampling: The sampling pumps will then be turned on.

End Sampling: When the sampling has been completed, the sampling pumps will be turned off first, followed by the fan(s).

Clearance sampling will be conducted in blocks of a maximum of three floors as follows:
Five inside work area (IWA) asbestos samples will be collected from each floor (fifteen total for a block of three floors). A minimum of two out of the five IWA samples will be collected in the vicinity of stairwells inside work area. Five outside work area (OWA) asbestos samples will be collected for each block of three floors from areas outside the block of floors (roof, scaffold, negative air exhaust, previously cleared areas, etc.).

After successful clearance is achieved lockdown encapsulant will be applied. After encapsulation, the modified full containment on the subject three floor block will be broken down. This procedure will be repeated until all floors have passed visual inspection, successful air clearance has been achieved on all floors, all floors have been encapsulated and all critical barriers and barrier walls have been removed. Upon completion of the final clearance of all floors the Primary Personal Decontamination Facility and the Primary Waste Decontamination Facility will be dismantled.

The following items will remain on the upper floors in the Building after the completion of removals, cleaning and clearance:

- Steel Structural
- Metal Hangers and Attachment Mechanisms
- Masonry Walls
- Concrete Deck
- Concrete Floor Slab
- Glass Window Wall
- Steel & Masonry Columns
- Cables

The following asbestos containing materials will remain on the upper floors in the Building after the completion of removals, cleaning and clearance:

- Non-friable ACM mastic on interior masonry block knee wall surfaces
- Non-friable ACM mastic on exterior spandrel beam web surfaces

The following items will remain in Stairwells A & B after the completion of removals, cleaning and clearance:

- Steel Structural
- Metal Hangers and Attachment Mechanisms
- Steel Stairs
- Steel Handrails
- Stand Pipe
- Concrete Deck
- Concrete Slab
- Masonry Walls

Please note that all masonry surfaces that will remain will have been cleaned by HEPA vacuuming and wet wiping during remediation operations. These surfaces will have passed visual inspection and final air clearance and been encapsulated.

**Cleaning and Clearance of the Electrical Closets**

The cleaning and clearance of the electrical closets will be performed from the uppermost floor downwards. A small modified full containment will be installed at each closet location. This containment will be comprised of an air lock installed at the entrance to each electrical closet and localized negative
pressure ventilation equipment. Since all surfaces of the electrical closets require remediation, poly sheeting will not be installed on these surfaces. The Building electrical system is equipped with the capability to shut down the electricity from the Basement level electrical control switch. Prior to the cleaning and clearance of an electrical closet the power to that closet will be shut down from the Basement Level electrical control switch. Power required to complete the cleaning and clearance of the affected electrical closet will be run up the Stairwell C from a lower floor with cables or extension cords. A remote personal decontamination facility will be used for the remediation of the electrical closets. This remote decontamination facility will be exterior to the Building on the west side of the site. Access into the electrical closets via the air locks will be achieved by the same procedure outlined above in the section entitled Tent Procedures. After the clearance of the Basement Level and Upper Floors NYS DOL and NYC DEP certified asbestos handlers will install enclosure large air locks on each floor connected directly to the electrical closets. The air locks will be sized to allow the decontamination of the minimal amount of waste to be generated during the cleaning and clearance of the electrical closets. Due to the small area of these work areas, HEPA vacuums will be installed at each electrical closet modified full containment to provide negative air pressure. When the exterior remote decontamination facility is in place and operational NYS DOL and NYC DEP certified asbestos handlers will enter the air locks and remove the critical barrier over the electrical closet where cleaning and clearance will be performed. All electrical panels, components and conduits will be removed by manual or mechanical methods. Any power tools used to disturb asbestos containing material or potentially contaminated material will be equipped with HEPA filter exhaust ventilation. After all electrical components have been removed from within a closet, all of the interior surfaces will be HEPA vacuumed and wet wiped to remove all residual dust and debris. All waste generated during the remediation of electrical closets will be double bagged, properly labeled, processed through the exterior remote decontamination facility for disposal as asbestos waste or in accordance with any waste characterization results.

After cleaning activities are completed in an electrical closet work area, one twelve hour settling/drying period will then be observed in order to allow all surfaces to dry. At the end of this settling/drying period, the contractor NYS DOL and NYC DEP certified asbestos supervisor will conduct a visual inspection of the electrical closet work area. Once the work area conditions are acceptable to the contractor NYS DOL and NYC DEP certified asbestos supervisor the Owner’s Environmental Consultant NYS DOL certified project monitor will perform a visual inspection of an electrical closet work area. Smaller work areas (e.g., tents and small enclosures) may be cleared without regulator visual inspection based on OEC visual inspection and asbestos clearance air testing. After an electrical closet work area has passed OEC visual inspection, aggressive clearance air sampling will be performed by the Owner’s Environmental Consultant NYS DOL certified air sampling technician. Prior to sampling, pre-sampling agitation will be performed by the OEC NYS DOL certified air sampling technician. Before starting the air sampling pumps, the exhaust of forced air equipment (i.e., leaf blowers) will be directed at all walls, ceilings, floors, ledges, and other surfaces in the room(s). This will continue for at least five (5) minutes per 1000 sf of floor space. An electrical closet work area is work area is 25 square feet. Pre-sampling agitation will be performed for five (5) minutes prior to the activation of sampling pumps. Ongoing agitation will be maintained during sampling. One 20-inch fan will be placed in each electrical closet. One fan per 10,000 cubic feet of room space will be used. The fan will be operated on slow speed and pointed toward the ceiling. The total cubic footage of an electrical closet work area is 250 cubic feet. In order to maintain ongoing agitation, one 20-inch box fan will be installed in each electrical closet work area.

Air clearance of electrical closets will be conducted according to the amount of material (ACM or WTC Dust-contaminated) that is removed from the work area, as determined by the OEC Project Monitor. If a minor (<10sf/25ft) quantity of material is removed, sampling will be performed as follows: 1 inside the work area (IWA) TEM asbestos air sample and 1 outside the work area (OWA) TEM asbestos air sample per electrical closet work area. An electrical closet work area will be considered cleared once TEM results are less than seventy (70) structures per millimeter squared (μm²). An equal number of metals samples will be collected IWA. No OWA metals samples will be collected. If a small (<160sf/260ft) quantity of material is abated from the closet, small project sampling (3 IWA ACM/3 OWA ACM plus 3 IWA metals) will be performed. It is not anticipated that large project quantities will be removed from electrical closets.
Once successful clearance is achieved in an electrical closet work area, that work area will be broken down.

The DOL will be notified of any changes must be made to the procedures outlined in this variance petition. Requests to re-open this variance petition will be made as necessary. All materials to be removed under this petition request have been notified to the DOL previously. A copy of the most recent notification has been attached to this petition request.

Please contact me if I may provide any further information on this variance request. Thank you for your time and consideration.

Sincerely,
Aric Domozik
Compliance Manager
NYS Project Designer, Certification No. 07-02183
ATTACHMENT III

UNITED STATES EPA
REGULATORY NOTIFICATION
USEPA
290 BROADWAY
NY, NY
NOTIFICATION OF DEMOLITION AND RENOVATION
PAL JOB # 06-6500

<table>
<thead>
<tr>
<th>Operator Project #</th>
<th>Postmark</th>
<th>Date Received</th>
<th>Notification #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10/19</td>
<td>OCT 25 2007</td>
<td></td>
</tr>
</tbody>
</table>

**TYPE OF NOTIFICATION (O-Original, R-Received, C-Cancelled):** Revise: NEW COMPLETE: 06/30/2008

**FACILITY INFORMATION (Identify Owner, Removal Contractor and Other Operator):**

**OWNER NAME:** Dormitory Authority of the State of New York (D.A.S.N.Y.)
Address: 515 Broadway
City: Albany State: NY Zip: 12207
Contact Name: Rich Dalessio Telephone: 212-273-5098

**REMOVAL CONTRACTOR:** PAL Environmental Safety Corp.
Address: 11-02 Queens Plaza South
City: Long Island City State: NY Zip: 11101
Contact Name: Ari Domozick Telephone: 718-349-0900

**OTHER CONTRACTOR:** Tishman /Liro
Address: 666 5th Avenue
City: New York State: NY Zip: 10103
Contact Name: Ken Molloy Telephone: 212-399-3600

**TYPE OF OPERATION (O-Demo, O-Ordered Demo, R-Renovation, E-Emergency Renovation):** D

**IS ASBESTOS PRESENT? (YES NO) YES**

**FACILITY DESCRIPTION (Include Building Name, Number and Floor or Room Number):**

Building Name: Fiterman Hall
Address: 30 West Broadway
City: New York State: NY Zip: 10007

Site Location: Entire Building
Building Size: 361,000 # of Floors: 15 Age in Years: 46
Present Use: Unoccupied Prior Use: Educational Facility

**Procedure, Including Analytical Method, If Appropriate, Used to Detect the Presence of Asbestos Material:**
Polarized Light Microscopy

<table>
<thead>
<tr>
<th>Approximate amount of asbestos , Including</th>
<th>R. ACM to be removed</th>
<th>Non-Friable Asbestos Material not to be removed</th>
<th>Indicate Unit of Measurement Below</th>
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<td>1. Regulated ACM to be removed</td>
<td>CAT I</td>
<td>CAT II</td>
<td>UNIT</td>
</tr>
<tr>
<td>2. Category I ACM not removed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Category II ACM not removed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pipe Insulation, Caulking 636 Linear Feet: X Ln M:
Surface Area (WTC Dust, VAT, Kneewall Tar, Spandrel Mastic, Roofing) 48,780,800 Square Feet: X Square Meter:
Volume RACM off Facility Component

Scheduled Dates Asbestos Removal (mm/dd/yy) New Start: 05/01/2007 New Complete: 06/30/2008
Scheduled Dates Demo/Renovation (mm/dd/yy) Start: Complete:
**DESCRIPTION OF PLANNED DEMOLITION OR RENOVATION WORK, AND METHOD(S) TO BE USED:**

**DESCRIPTION OF WORK PRACTICES AND ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE DEMOLITION AND RENOVATION SITE:**
HEPA Vacs, Micro Traps (Negative Air Pressure) and amended water will be utilized for emissions control.

**WASTE TRANSPORTER #1**
Name: Tri State Transfer Associates  
Address: 1199 Randall Avenue  
City: Bronx  
State: NY  
Zip: 10474  
Contact Name: Jimmy Byrne  
Telephone: 718-617-0771

**WASTE TRANSPORTER #2**
Name: ATC  
Address: 2 Moriches Middle Island Road  
City: Shirley  
State: NY  
Zip: 11967  
Contact Name: Kenny Smith  
Telephone: 631-924-5050

**Disposal Facility #1**
Name: Minerva Enterprises  
Location: 9000 Minerva Road  
City: Waynesburg  
State: OH  
Zip: 44688

**Disposal Facility #2**
Name:  
Location:  
Title:  
City:  
State: 

**FOR EMERGENCY RENOVATIONS**
Date and Hour of Emergency (mm/dd/yy):  
Description of the Sudden, Unexpected Event:  
Explanation of how the event caused unsafe conditions or would cause equipment damage or an unreasonable financial burden:

**DESCRIPTION OF PROCEDURE TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NONFRIABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERIZED OR REDUCED TO POWDER.** Any ACM, which is discovered unexpectedly, or non-friable ACM, which becomes crumbled, will be immediately wet with amended water and cleared up with HEPA Vacs, to be put in 6 mil poly bags for proper disposal.

I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF THIS REGULATION (40 CFR PART 61, SUBPART M), WILL BE ON-SITE DURING THE DEMOLITION OR RENOVATION AND EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS (required 1 year after promulgation)

Signature of Owner/Operator  
Date: 10/19/07

I certify that the above information is correct  
Signature of Owner/Operator  
Date: 10/19/07
ATTACHMENT IV
NEW YORK CITY DEP
REGULATORY NOTIFICATION
I. FACILITY

2. Address 30 West Broadway

3. Block 127

5. Type of Facility Former Classroom Building

6. Name of Building Fireman Hall

II. BUILDING OWNER

7. Name Dormitory Authority State of New York (DASNY)

8. Contact Person Richard Dalessio

9. Tel. # (212) 273-5098

10. Address 515 Broadway

11. Name

12. Tel. #

III. GENERAL CONTRACTOR

13. Name PAL Environmental Safety Corp.

14. Federal Employer ID. # 11-3167874

15. Tel. # (718) 349-0900

16. Address 11-02 Queens Plaza South

17. Name Airtek Environmental

18. Contact Person Benn Lewis

19. Federal Employer ID. # 11-2963986

20. Tel. # (212) 768-0516

21. Address 39 West 38th Street

22. Sample Analysis Laboratory ATC Associates

23. NYS DOH ELAP # 10879

IV. ASBESTOS ABATEMENT CONTRACTOR

13. Contact Person Aric Domozick

15. Fax # (718) 349-2800

16. City Long Island City

21. City New York

22. Sample Analysis Laboratory ATC Associates

23. NYS DOH ELAP # 10879

V. THIRD PARTY AIR MONITOR

18. Contact Person Benn Lewis

20. Fax # (212) 768-0759

21. City New York

22. Sample Analysis Laboratory ATC Associates

VI. PROJECT INFORMATION

24. Starting date for this portion of work 5/1/07

25. Projected completion date 1/31/08

Asbestos work schedule: ☑ Monday ☑ Tuesday ☑ Wednesday ☑ Thursday ☑ Friday ☑ Saturday ☑ Sunday

Shift From: 7:00 am ☑ pm to 3:30 pm ☑ am ☑ pm

If other, specify

Access to inspect the premises must be provided during the work schedule indicated in this item.

25. Total amount of asbestos-containing material to be abated during this work 48,780 Square Feet, and/or 636 Linear Feet
ASBESTOS INSPECTION REPORT (continued)

26. Asbestos Hauler: TST/ATC  
Disposal Site(s): Minerva Enterprises - Waynesburg, OH

27. This asbestos abatement is part of a (Item a through g requires filling of this form with the NYC Department of Buildings)

- Demolition
- Boiler Replacement
- Sprinkler Replacement
- Fireproofing Replacement
- Other (Describe): Environmental Remediation

28. TYPE OF ABATEMENT (Check all appropriate boxes)

- Removal
- Enclosure
- Encapsulation
- Repair
- Clean up

29. ABATEMENT PROCEDURE (Check all appropriate boxes)

- Full Containment
- Glovebag
- Tent
- NYS DOL
- Deep Variance Application

30. LOCATIONS OF ABATEMENT

<table>
<thead>
<tr>
<th>Floor(s)</th>
<th>SECTION OF FLOOR</th>
<th>AFFECTED SURFACES CONTAINING ACM</th>
<th>AMOUNT OF ACM</th>
<th>DESCRIPTION OF WORK BEING PERFORMED</th>
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<tbody>
<tr>
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<td>Set Back Roof</td>
<td>Roofing Ballast</td>
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<td>Decontamination</td>
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31. I hereby declare that the information provided herein is true and complete to the best of my knowledge. I am familiar with Federal, State and NYC laws and regulations applicable to asbestos related work.

Airstek Environmental  
Print Name of Air Monitor: [Signature]  
4/11/07

PAL Environmental Safety  
Print Name of Abatement Contractor: [Signature]  
4/11/07

PAL Environmental Safety  
Print Name of Air Monitor: [Signature]  
4/11/07

32. I understand that as the owner of a building where asbestos abatement activity occurs, I am responsible for the performance of the asbestos abatement activities in accordance with the Asbestos Control Program Rules. I have contracted the third party air monitoring who is completely independent of all parties involved in the asbestos project. I hereby declare that I have authorized the filing of this notification for the work specified herein.

DORMITORY AUTHORITY: [Signature]  
4/11/07

A STAMPED COPY OF THIS FORM INCLUDING AMENDMENTS MUST BE AVAILABLE AT THE WORK SITE.
<table>
<thead>
<tr>
<th>Floor(s)</th>
<th>SECTION OF FLOOR</th>
<th>AFFECTED SURFACES CONTAINING ACM (e.g. Floor tiling, ceiling, plenum, ducts, storage tanks, decking, etc.)</th>
<th>AMOUNT OF ACM SQUARE FEET</th>
<th>AMOUNT OF ACM LINEAR FEET</th>
<th>DESCRIPTION OF WORK BEING PERFORMED (e.g. running caulk, installing fire sprinklers, removing and replacing boilers, etc.)</th>
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<td>10</td>
<td>Entire</td>
<td>VAT</td>
<td>16,800</td>
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<td>Asbestos Abatement</td>
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<tr>
<td>11</td>
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<td>VAT</td>
<td>16,800</td>
<td></td>
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</tr>
<tr>
<td>12</td>
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<td>VAT</td>
<td>16,800</td>
<td></td>
<td>Asbestos Abatement</td>
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<td>13</td>
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<td>VAT</td>
<td>16,800</td>
<td></td>
<td>Asbestos Abatement</td>
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<tr>
<td>14</td>
<td>Entire</td>
<td>VAT</td>
<td>16,800</td>
<td></td>
<td>Asbestos Abatement</td>
</tr>
<tr>
<td>14</td>
<td>Set Back Roof</td>
<td>Roofing Ballast</td>
<td>12,000</td>
<td></td>
<td>Asbestos Abatement</td>
</tr>
<tr>
<td>14</td>
<td>Set Back Roof</td>
<td>Roofing Membrane</td>
<td>6,950</td>
<td></td>
<td>Asbestos Abatement</td>
</tr>
<tr>
<td>15</td>
<td>Entire</td>
<td>VAT</td>
<td>15,000</td>
<td></td>
<td>Asbestos Abatement</td>
</tr>
<tr>
<td>Roof</td>
<td>Main Roof</td>
<td>Roofing Ballast</td>
<td>7,500</td>
<td></td>
<td>Decontamination</td>
</tr>
<tr>
<td>Roof</td>
<td>15th Fl. Bulkhead</td>
<td>Window Caulking</td>
<td></td>
<td></td>
<td>Asbestos Abatement</td>
</tr>
<tr>
<td>Roof</td>
<td>Cooling Tower Roof</td>
<td>WTC Dust</td>
<td>1,000</td>
<td></td>
<td>Remediation</td>
</tr>
<tr>
<td>All</td>
<td>Perimeter KneeWall</td>
<td>ACM Tar</td>
<td>28,755</td>
<td></td>
<td>Asbestos Abatement</td>
</tr>
<tr>
<td>All</td>
<td>Spandrel Beams</td>
<td>ACM Mastic</td>
<td>28,755</td>
<td></td>
<td>Asbestos Abatement</td>
</tr>
<tr>
<td>All</td>
<td>Entire Interior</td>
<td>WTC Dust</td>
<td>48,402,840</td>
<td></td>
<td>Remediation</td>
</tr>
</tbody>
</table>

\[Thu 06/4/98\]
ATTACHMENT V

REMEDIATION OPERATIONS
LOGISTICS PLANS
Set Back Roof
14th Floor
Cooling Tower Roof

Refer to Remediation Operations Work Plan Section 6.13.3
NOTE: To view a diagram of the configuration of the Waste Storage Facility please refer to Attachment XV.
ATTACHMENT VI

ASBESTOS CONTAINING MATERIAL LOCATION DIAGRAMS
ATTACHMENT VII

SHREDDER MANUFACTURER SPECIFICATIONS
### SPECIFICATIONS
Fig 70 Schred Max™ Options

**SCHREDD MAX SPECS MODEL 56 SD**

<table>
<thead>
<tr>
<th>Spec</th>
<th>Diesel</th>
<th>Electric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>50 HP or 100 HP</td>
<td>50 HP or 100 HP</td>
</tr>
<tr>
<td>Power</td>
<td>CAT Diesel</td>
<td>Electric Motor</td>
</tr>
<tr>
<td>Method</td>
<td>3.50 cu.yd.</td>
<td>3.50 cu.yd.</td>
</tr>
<tr>
<td>Roll Off Container Size Range</td>
<td>12' 0&quot;</td>
<td>12' 0&quot;</td>
</tr>
<tr>
<td>Length</td>
<td>5' 6&quot;</td>
<td>5' 6&quot;</td>
</tr>
<tr>
<td>Width</td>
<td>5' 7&quot;</td>
<td>5' 7&quot;</td>
</tr>
<tr>
<td>Height</td>
<td>18,500 lbs.</td>
<td>18,500 lbs.</td>
</tr>
<tr>
<td>Weight</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Legal Load</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Easily Transportable</td>
<td>32&quot; x 12&quot;</td>
<td>32&quot; x 12&quot;</td>
</tr>
<tr>
<td>Mainframe Tubes</td>
<td>4' 8&quot;</td>
<td>4' 8&quot;</td>
</tr>
<tr>
<td>Hopper Loading Height Range</td>
<td>5' 6&quot;</td>
<td>5' 6&quot;</td>
</tr>
<tr>
<td>Hopper Width</td>
<td>4' 2&quot;</td>
<td>4' 2&quot;</td>
</tr>
<tr>
<td>Hopper Depth</td>
<td>4 cu. yd.</td>
<td>4 cu. yd.</td>
</tr>
<tr>
<td>Level Hopper Capacity</td>
<td>1 end</td>
<td>1 end</td>
</tr>
<tr>
<td>Removable Loading Door</td>
<td>1 - Bi-rotational</td>
<td>1 - Bi-rotational</td>
</tr>
<tr>
<td>Shredder Shafts</td>
<td>9&quot; Solid Hardened</td>
<td>9&quot; Solid Hardened</td>
</tr>
<tr>
<td>Shredder Shaft Diameter</td>
<td>5&quot;</td>
<td>5&quot;</td>
</tr>
<tr>
<td>Number of Cutters</td>
<td>23 sq. ft.</td>
<td>23 sq. ft.</td>
</tr>
<tr>
<td>Exposure Shredder Area</td>
<td>Level</td>
<td>Level</td>
</tr>
<tr>
<td>Under Shredder Discharge Height</td>
<td>Level</td>
<td>Level</td>
</tr>
<tr>
<td>Hydraulic System</td>
<td>Axial Piston</td>
<td>Axial Piston</td>
</tr>
<tr>
<td>Hydraulic Pump</td>
<td>1 Variable</td>
<td>1 Variable</td>
</tr>
<tr>
<td>Hydraulic Shaft Drive</td>
<td>Piston Motor</td>
<td>Piston Motor</td>
</tr>
<tr>
<td>Harsh Environmental Controls</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td>Control Panel</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td>Anti-jamming / Auto-Reversing</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td>Auto overload protection</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td>Remote Control</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td>Audio / Visual Troubleshooting</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td>Diesel Auto Shutdown System</td>
<td>Standard</td>
<td>N/A</td>
</tr>
<tr>
<td>Electric Motor Starter Panel</td>
<td>N/A</td>
<td>Standard</td>
</tr>
<tr>
<td>HD Wear Package</td>
<td>Liner Plates</td>
<td>Liner Plates</td>
</tr>
<tr>
<td>Outtrigger Legs to Elevate</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>Mobile Running Gear</td>
<td>Optional</td>
<td>Optional</td>
</tr>
</tbody>
</table>

**THE MULTI-MATERIAL PRIMARY REDUCER**

- **Small Footprint Elevated To Height**
  - 5' x 6' x 6' hopper - 4 cubic yards
  - 50 HP CAT diesel or electric motor standard, 100 HP optional
  - Skid frame with optional tags or to walling running gear

**EASY SERVICE**
- Excellent access and serviceability
- Severe duty construction, vandal resistant
- Simple design, K.I.S.S.
- Remote control and auto-operation

**MOBILE OR STATIONARY**
- Simple, reliable, efficient
- Severe duty alloy steel rebuildable cutter table
- Reversible cracker jaw plates
- Variable geometry shear points action
- Open grid design
- Low operating costs
- Oil filled bearing

**AGGRESSIVE DURABLE**
- Solid 9" severe duty alloy cutter shaft
- High torque 1 Stage speed
- Bi-rotational hydraulic drive
- 3 bar thick alloy steel long life replaceable cutters
- Auto-release and anti-jamming
ENGINE DATA

Electrical service information for the 56 Schred Max installation, we offer the following:

Motor Spec: 100 HP, 460 VAC, 3 phase, 60 Hz
Full load current 118.0 Amps

Suggested Electrical Service: 460 VAC, 3 phase, 60 Hz

Circuit Breaker: 225 Amp

Fuses: 250 Amp if non time delay
225 Amp if time delay

Minimum Conductor Ampacity: 150 Amp

Conductor Type: Copper in a raceway

Conductor Insulation: 75°C or 90°C

Conductor Size:
-470 ft run or less, max 3 conductors in a single raceway, Size #1/0
-471 ft. to 594 ft., maximum 3 conductors in a single raceway, Size #2/0

Ground Wire: Size #4

Shutoffs are set at critical levels for the following items: operating temperature and oil pressure. The reset button will need to be pushed before motor will re-start if a failure is detected or indicated.

7.1 BOLT TORQUE

CHECKING BOLT TORQUE

The tables shown below give correct torque values for various bolts and cap screws. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

*Torque figures indicated below are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or cap screws unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

IMPORTANT
Anti-seize compound must be applied to the threads, on cracker jaw plates.
ENGLISH TORQUE SPECIFICATIONS (NATIONAL COARSE)

<table>
<thead>
<tr>
<th>Bolt Diameter</th>
<th>Bolt Torque*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SAE 3</td>
</tr>
<tr>
<td>A'</td>
<td>N.m</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>17</td>
</tr>
<tr>
<td>5/16&quot;</td>
<td>36</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>63</td>
</tr>
<tr>
<td>7/16&quot;</td>
<td>100</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>155</td>
</tr>
<tr>
<td>9/16&quot;</td>
<td>220</td>
</tr>
<tr>
<td>5/8&quot;</td>
<td>305</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>540</td>
</tr>
<tr>
<td>7/8&quot;</td>
<td>880</td>
</tr>
<tr>
<td>1&quot;</td>
<td>1320</td>
</tr>
</tbody>
</table>

7.2 KEY MACHINE TORQUE SPECIFICATIONS

1. Wedge Block Torque

2. Torque Arm/Torque Pin

3. Shrink Disk
   See Section 3.6 for Torque procedure

4. Motor Mount Bolts

5. Cracker Jaw Bolts
ATTACHMENT VIII
ASBESTOS SURVEY TABLE
# 6.0 ASBESTOS QUANTITY SCHEDULE:

Approximate asbestos quantity schedules are presented on the following table:

<table>
<thead>
<tr>
<th>PROPOSED WORK</th>
<th>SUSPECT ACM THAT MAY BE AFFECTED</th>
<th>LAB RESULTS</th>
<th>APPROXIMATE ACM QUANTITY</th>
<th>NOTES/SPECIFIC LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elbow drain insulation of water tower</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Roof shingle of water tower</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Louvers of cooling tower</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Silicone caulk</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Glazing</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Gypsum wallboard</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Condenser gasket</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
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<tr>
<td>Radiator backing</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
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<tr>
<td>Hard wall plaster</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Pyrobar building block</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Deck patch on I-beam above women's bathroom</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Cove moulding with glue</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Wall joint compound</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Adhesive on duct-fiberglass</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Patch on duct insulation</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
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<tr>
<td>Trowelled on cement on duct</td>
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<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
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<tr>
<td>Mastic/Glue paper</td>
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<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
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<tr>
<td>White speckled 9×9 VFT</td>
<td>Non ACM</td>
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<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Grey speckled 9×9 VFT</td>
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<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
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</tr>
<tr>
<td>Blue speckled 9×9 VFT</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Pipe wrapping in cage</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Mudded joint fitting elbow</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>White 12×12 VFT/mastic</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Beige 12×12 VFT/mastic</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>PROPOSED WORK</td>
<td>SUSPECT ACM THAT MAY BE AFFECTED</td>
<td>LAB RESULTS</td>
<td>APPROXIMATE ACM QUANTITY</td>
<td>NOTES/SPECIFIC LOCATION</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------------</td>
<td>-------------</td>
<td>--------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Acoustical ceiling tile 4×2 and 2×2</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Spray-on fireproofing</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Blue 12×12 VFT/mastic</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
<td></td>
</tr>
<tr>
<td>Light grey 12×12 VFT/mastic</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Confirmed by Applied Technology Services Inc. Aug. 1996</td>
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<tr>
<td>Tar materials on interior perimeter walls</td>
<td>ACM</td>
<td>26,843 SF</td>
<td>1st-15th Floor</td>
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<tr>
<td>Spandrel/Lintel/Relieving Angle flashing mastic (Exterior Side)</td>
<td>ACM</td>
<td>28,755 SF</td>
<td>1st-15th Floor</td>
<td></td>
</tr>
<tr>
<td>Paper materials on perimeter walls</td>
<td>ACM</td>
<td>26,793 SF</td>
<td>2nd-15th Floor</td>
<td></td>
</tr>
<tr>
<td>Fiber glass materials on perimeter walls</td>
<td>ACM contaminated</td>
<td>26,793 SF</td>
<td>2nd-15th Floor</td>
<td></td>
</tr>
<tr>
<td>Felt materials on perimeter walls</td>
<td>ACM contaminated</td>
<td>1,962 SF</td>
<td>1st Floor</td>
<td></td>
</tr>
<tr>
<td>Flashing mastic on beams</td>
<td>ACM</td>
<td>25 SF</td>
<td>Loading dock entrance</td>
<td></td>
</tr>
<tr>
<td>Black cloth materials on beams</td>
<td>ACM contaminated</td>
<td>25 SF</td>
<td>Loading dock entrance</td>
<td></td>
</tr>
<tr>
<td>Roof materials</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Elevator machine room roof</td>
<td></td>
</tr>
<tr>
<td>Flashing</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Elevator machine room roof</td>
<td></td>
</tr>
<tr>
<td>Coping caulk</td>
<td>Non ACM</td>
<td>0 LF</td>
<td>Elevator machine room roof</td>
<td></td>
</tr>
<tr>
<td>Cap flashing</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Elevator machine room roof</td>
<td></td>
</tr>
<tr>
<td>Screed</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Elevator machine room roof</td>
<td></td>
</tr>
<tr>
<td>Flashing</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Fan room roof</td>
<td></td>
</tr>
<tr>
<td>Roof materials</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Stair roof</td>
<td></td>
</tr>
<tr>
<td>Flashing</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Stair roof</td>
<td></td>
</tr>
<tr>
<td>Side window caulking</td>
<td>ACM</td>
<td>8 LF</td>
<td>Stair roof</td>
<td></td>
</tr>
<tr>
<td>Top window caulking</td>
<td>ACM</td>
<td>4 LF</td>
<td>Stair roof</td>
<td></td>
</tr>
<tr>
<td>Window glazing</td>
<td>Non ACM</td>
<td>0 LF</td>
<td>Stair roof</td>
<td></td>
</tr>
<tr>
<td>Screed</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>Stair roof</td>
<td></td>
</tr>
<tr>
<td>Roof materials</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>New elevator mechanical room roof</td>
<td></td>
</tr>
<tr>
<td>Flashing</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>New elevator mechanical room roof</td>
<td></td>
</tr>
<tr>
<td>Coping stone caulk</td>
<td>Non ACM</td>
<td>0 LF</td>
<td>New elevator mechanical room roof</td>
<td></td>
</tr>
<tr>
<td>Side window caulking</td>
<td>ACM</td>
<td>8 LF</td>
<td>New elevator mechanical room roof</td>
<td></td>
</tr>
<tr>
<td>Top window caulking</td>
<td>ACM</td>
<td>4 LF</td>
<td>New elevator mechanical room roof</td>
<td></td>
</tr>
<tr>
<td>Screed</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>New elevator mechanical room roof</td>
<td></td>
</tr>
<tr>
<td>Roof materials</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>15th Floor roof</td>
<td></td>
</tr>
<tr>
<td>Flashing</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>15th Floor roof</td>
<td></td>
</tr>
<tr>
<td>Flashing</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>14th Floor roof</td>
<td></td>
</tr>
<tr>
<td>Screed</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>14th Floor roof</td>
<td></td>
</tr>
<tr>
<td>Roof membrane under screed</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>14th Floor roof</td>
<td></td>
</tr>
<tr>
<td>Flashing</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>5th Floor roof</td>
<td></td>
</tr>
<tr>
<td>Roof membrane</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>5th Floor roof</td>
<td></td>
</tr>
<tr>
<td>Screed</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>5th Floor roof</td>
<td></td>
</tr>
<tr>
<td>Brick wall mortar</td>
<td>Non ACM</td>
<td>0 SF</td>
<td>6th &amp; 15th Floor</td>
<td></td>
</tr>
<tr>
<td>PROPOSED WORK</td>
<td>SUSPECT ACM THAT MAY BE AFFECTED</td>
<td>LAB RESULTS</td>
<td>APPROXIMATE ACM QUANTITY</td>
<td>NOTES/SPECIFIC LOCATION</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------------------</td>
<td>-------------</td>
<td>--------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Expansion joint caulking</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>6th &amp; 15th Floor</td>
</tr>
<tr>
<td>Marble mortar &amp; sealant</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>1st Floor exterior of the building</td>
</tr>
<tr>
<td>Marble caulking</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>1st Floor exterior of the building</td>
</tr>
<tr>
<td>Window frame caulking</td>
<td>ACM</td>
<td>600 LF</td>
<td></td>
<td>1st Floor exterior of the building</td>
</tr>
<tr>
<td>Column caulking</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>1st Floor exterior of the building</td>
</tr>
<tr>
<td>Column mortar</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>1st Floor exterior of the building</td>
</tr>
<tr>
<td>Floor covering materials</td>
<td>Assumed ACMs</td>
<td>288,000 SF</td>
<td></td>
<td>Throughout the building</td>
</tr>
<tr>
<td>Glue daub</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>NW entrance exterior ceiling</td>
</tr>
<tr>
<td>Interior spandrel flashing</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>1st – 15th Floor</td>
</tr>
<tr>
<td>Black tar on concrete</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>3rd floor south side ceiling</td>
</tr>
<tr>
<td>Black tar</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>3rd floor south side ceiling</td>
</tr>
<tr>
<td>Black roof tar/paper</td>
<td>ACM</td>
<td>6,950 SF</td>
<td></td>
<td>14th floor setback roof N. side</td>
</tr>
<tr>
<td>Brown roof insulation</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>14th floor setback roof N. side</td>
</tr>
<tr>
<td>Black roof membrane</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>14th floor setback roof N. side</td>
</tr>
<tr>
<td>Brown roof paper</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>14th floor setback roof N. side</td>
</tr>
<tr>
<td>Red brick material</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>14th floor setback roof N. side</td>
</tr>
<tr>
<td>Brown roof cloth</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>14th floor setback roof N. side</td>
</tr>
<tr>
<td>Black roof insulation</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>14th floor setback roof N. side</td>
</tr>
<tr>
<td>Brown roof insulation</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>14th floor setback roof N. side</td>
</tr>
<tr>
<td>Black roof paper</td>
<td>Non ACM</td>
<td>0 SF</td>
<td></td>
<td>16th floor water tank</td>
</tr>
<tr>
<td>White pipe insulation</td>
<td>ACM</td>
<td>12 LF</td>
<td></td>
<td>5th floor column S. side</td>
</tr>
<tr>
<td>Black roof shingle</td>
<td>ACM</td>
<td>80 LF</td>
<td></td>
<td>Cooler roof walls</td>
</tr>
<tr>
<td>Black roof tar</td>
<td>ACM</td>
<td>80 LF</td>
<td></td>
<td>Cooler roof walls</td>
</tr>
</tbody>
</table>

**Total Approximate Quantity of ACM**

406,146 SF

796 LF
ATTACHMENT X

MAKE UP AIR INTAKE ASSEMBLY
ATTACHMENT XI

CONFIGURATION OF FINE CLEANING WORK AREAS
STAIRWELL ‘A’&’B’ ENVIRONMENTAL BARRIER DETAIL

GENERAL NOTES:

1. CLEARED STAIR C UNIMPEDED FROM TOP TO BOTTOM AT ALL TIMES DURING CLEANING PHASE.

2. ALL ENVIRONMENTAL BARRIERS ARE VERTICAL IN ORIENTATION AND BUILT OF 3 LAYERS OF FIRE RETARDANT POLY NA AD METAL STUDS. 36” WIDE EMERGENCY CUT-AWAY PANEL WILL BE BUILT INTO EVERY ENVIRONMENTAL BARRIER IN STAIR WELLS.

3. ENVIRONMENTAL BARRIER LOCATION INDICATED BY

DECON ON ROOF LEVEL TO PROVIDE ACCESS TO WORK AREA FOR CLEANING

TOP OF STAIR A

FDNY EMERGENCY DOOR INSTALLED ON DECON

CONFIGURATION OF STAIR A+B FOR CLEANING PHASE (FLOORS 12, 11, 10)

AT COMPLETION OF CLEANING ON THE 15, 14, AND 13TH, THE DECON WILL MOVE DOWN TO THE 13TH FLOOR AT ENTRANCE TO STAIR B.

VERTICAL-ENVIRONMENTAL BARRIER ON LANDING/RAILING AT BOTTOM OF CLEANING WORK AREA.

DOOR CLOSED WHEN NOT IN USE.

FDNY EMERGENCY DOOR INSTALLED ON DECON

STAIR GOING UP IS SEALED BY VERTICAL ENVIRONMENTAL BARRIER ATTACHED TO EXISTING BARRIER ON STAIR B LANDING/RAILING

ONCE STAIR GOING UP IS SEALED THE BARRIER ON LANDING WILL BE BREACHED TO PROVIDE ACCESS DOWN INTO 12, 11, AND 10TH FLOORS.

STAIR A CONFIGURATION ON 13TH FLOOR REMAINING AS SHOWN ON DIAGRAM NO. 3 DURING CLEANING PHASE

VERTICAL-ENVIRONMENTAL BARRIER ON LANDING/RAILING AT BOTTOM OF CLEANING WORK AREA.

DOOR CLOSED WHEN NOT IN USE.

FDNY EMERGENCY DOOR INSTALLED ON DECON
ATTACHMENT XII
DECON FACILITY DIAGRAMS
TYPICAL UPPER FLOORS DECON FOR FINE CLEANING PROCEDURES

TYPICAL ROOF LEVEL DECON
To prevent potential trip,
NOTE: CABLES WILL BE SECURED

FALL, OR ELECTRICAL HAZARDS

EXISTING

ELEC. PANEL

LANDING

DOOR CLOSED

NEC AIR UNITS

ELEC. PANEL

GFCI

ELEC. PANEL

CRITICAL BARRIER

ABOVE WALL

CRITICAL BARRIER

ELEC. PANEL

LANDING
Fall or electrical hazards.

To prevent potential trip,

Note: cables will be secured.
ATTACHMENT XIV
GASH AREA DIAGRAMS
ATTACHMENT XV
WASTE STORAGE FACILITY
Detail of Exterior Waste Storage Facility

NOTES:

1. Exterior to the building
2. Constructed of plywood & wood studs
3. Six sided construction
4. Lined with 6-mil poly on interior
5. Equipped with lockable door for each chamber

WSF-01
ATTACHMENT XVI
FDNY KICK-OUT PANEL DETAIL